

DS 5001: Programming for Data Science

Spring 2023

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Table of contents

I Welcome	23
1 Syllabus	25
1.1 Welcome	25
1.2 Learning Goals	26
1.3 Assessments	28
1.3.1 Homework Assignments	28
1.3.2 Lateness Policy	28
1.3.3 In-Class Activities	28
1.3.4 Quizzes	29
1.3.5 Course Project	29
1.3.6 Spirit of the Course	29
1.3.7 Submission of Assignments	29
1.4 Grading	30
1.4.1 Model	30
1.4.2 Scale	30
1.5 Texts	30
1.5.1 Core Texts	30
1.5.2 Other Texts	30
1.5.3 Access to materials	31
1.5.4 Websites	31
1.5.5 Cheatsheets	32
1.5.6 Books to Broaden Your Horizons	32
1.6 Resources	32
1.7 Academic Integrity	32
2 Setting Up O'Reilly	34
II M01 Getting Started	37
Topics	38
Outcomes	38
3 About Rivanna	39
3.1 Introduction	39

3.2 Tools	39
3.3 Interactive Apps	40
3.4 For More Information	41
4 Using Unix	42
4.1 Introduction	42
4.2 Basic Commands	42
4.3 Text file commands	43
4.4 Miscellaneous	43
4.5 Command Line Cool	43
5 SSH for GitHub	46
5.1 Overview	46
5.2 Steps	46
5.2.1 Part A	46
5.2.2 Part B	47
5.3 Information Sources	48
6 Git and GitHub	49
6.1 Introduction	49
6.2 Using Git and GitHub Together	49
6.3 To Learn More	53
7 Activity: Using Rivanna	54
8 Activity: Using Git and GitHub	56
8.1 Going Forward	59
III M02 Introducing Python	60
Topics	61
Outcomes	61
Readings	61
Required	61
Optional	61
9 Data and Code	62
9.1 Simplicity of code follows from the structure of data	62
9.2 Supporting References	62
10 Python Object Types	64
11 Activity: Hello, World!	65
11.1 The Python Interactive Shell	65

11.2 Python Files	65
12 Activity: Jupyter Lab	66
13 NB: Data Types, Operators, and Expressions	67
14 Getting the type of a value	69
15 Assignment	70
16 Deleting variables with del()	71
17 Get Object Identity with id()	72
18 Convert Types with Casting Functions	73
18.1 int()	73
18.2 ord()	74
19 Operators	76
19.1 Arithmetic Operators	76
19.1.1 floor division //	76
19.1.2 modulus %	77
19.1.3 exponentiation **	77
19.2 String Operators	77
19.2.1 concatenation +	77
19.2.2 repetition *	78
19.3 Assignment Operator =	78
19.4 Comparison Operators	79
19.4.1 equality ==	79
19.4.2 inequality !=	79
19.5 Logical Operators	79
19.5.1 Conjunctions and, or, not	80
19.5.2 Identity is	80
19.5.3 Negation not	81
20 Unary Operators	82
21 Expressions	83
22 NB: Numbers	85
22.1 pow() Power	85
22.2 abs() Absolute value	85
22.3 round() Round	85

23 Math library functions	86
23.1 <code>math.sqrt()</code> Square root	86
23.2 <code>math.log()</code>	87
24 The Random library	88
24.1 <code>random.random()</code>	88
24.2 <code>random.randint()</code>	88
25 NB: Booleans	89
26 NB: Strings	90
26.1 Quote prefixes	90
26.1.1 <code>r</code> strings	90
26.1.2 <code>f</code> strings	90
27 Printing <code>print()</code>	92
28 Comments	94
29 Run-time User Input	95
30 Some String Functions	96
30.1 <code>.lower()</code> , <code>.upper()</code>	96
30.2 <code>.split()</code>	96
30.3 <code>.strip()</code> , <code>.rstrip()</code> , <code>lstrip()</code> Strip methods	96
30.4 <code>.replace()</code>	97
30.5 <code>.format()</code>	97
30.6 <code>.zfill()</code>	98
31 Strings are Lists	99
31.1 <code>len()</code> Length	99
31.1.1 Indexing	99
31.1.2 Slicing	99
32 NB: Structures	101
32.1 Constructing	101
32.2 Indexing	101
32.3 Slicing	102
32.4 Multiply lists by a scalar	102
32.5 Concatenate lists with <code>+</code>	102
32.6 Lists can mix types	103
32.7 Lists can be nested	103
32.8 Lists can concatenated with <code>+</code>	103

33 Dictionaries dict	104
33.1 Constructing	104
33.2 Retrieve a value	104
33.3 Print list of keys, values, or both	105
34 Tuples	106
34.1 Constructing	106
35 Common functions and methods to all sequences	108
35.1 Membership with <code>in</code>	108
36 Sets	109
37 Ranges	111
38 Collections and defaultdict	112
38.1 Try with <code>dict</code>	112
38.2 Use <code>try</code> and <code>except</code>	113
38.3 Or use <code>.get()</code>	113
38.4 Use <code>collections.defaultdict</code>	113
IV M03 Control Structures	114
Topics	115
Outcomes	115
Readings	115
Required	115
Optional	115
39 NB: Control Structures	116
39.1 Introducing Control Structures	116
39.2 Indentation	116
39.3 Conditions	117
39.3.1 <code>if</code> and <code>else</code> can be used for conditional processing.	117
39.3.2 <code>elif</code>	117
39.3.3 <code>else</code>	117
39.3.4 <code>if</code> and <code>else</code> as one-liners	118
39.3.5 Using multiple conditions	118
39.4 Loops	119
39.4.1 <code>while</code>	119
39.4.2 <code>break</code> to exit the loop altogether	119
39.4.3 <code>continue</code> to stop the current iteration	119
39.4.4 <code>for</code>	120
39.5 <code>while</code> vs <code>for</code>	120

40 NB: Iterables and Iterators	122
41 Defining Iterables and Iterators	123
42 Lists	124
42.1 iterating using <code>for</code>	124
42.2 iterating using <code>iter()</code> and <code>next()</code>	124
43 Sequences and Collections	127
44 Sets	128
45 Strings	129
46 Tuples	130
47 Dictionaries	131
48 Ranges	133
49 Get iteration number with <code>enumerate()</code>	134
50 Nested Loops	135
51 NB: Comprehensions	136
52 List Comprehensions	137
52.1 Check if Odd	137
53 Comprehensions in General	139
54 More examples	140
54.1 Stop Word Remover	140
54.2 Select Tokens Containing Units	141
55 Dictionary Comprehensions	142
V M04 Functions	143
Topics	144
Outcomes	144
Readings	144
Required	144
Optional	144

56 NB: Importing Functions	145
56.1 Importing	145
56.2 Importing Specific Functions	146
56.3 Aliasing	146
57 NB: Introduction to Functions	148
57.1 Introduction	148
57.2 Benefits	149
57.3 Built-in Functions	149
57.4 Imported Functions	149
57.5 User-Defined Functions	150
57.5.1 About the docstring	151
57.5.2 Let's test our function	151
57.5.3 Users can print the docstring	151
57.6 Passing Parameters	152
57.6.1 Parameter Order	153
57.6.2 Weirdness Alert	153
57.7 Unpacking List-likes with *args	154
57.8 Default Arguments	155
57.9 Returning Values	155
57.10 Function Design	157
58 NB: Lambda Functions	158
58.1 Introduction	158
58.2 Assigned to a Variable	159
58.3 Using Lambda	160
59 NB: Recursion	161
59.1 Introduction	161
59.1.1 A Formal Definition	161
59.1.2 As Seen in Nature	162
59.1.3 Infinite Loops and Stack Overflows	162
59.1.4 A Note of Caution	162
59.2 Example: Computing Factorials	162
59.2.1 Recursive Function	162
59.2.2 As a while loop	163
59.2.3 As a for loop	163
59.2.4 Compare functions as n increases	164
59.3 Example: The Fibonacci sequence	164
59.3.1 As a for loop	165
59.4 Aside: A General Sequence Function	166

60 NB: Variable Scope	168
60.1 Overview	168
60.2 Lutz on Scoping	168
60.3 The Tinted Glass Metaphor	170
60.4 Example 1	170
60.5 Example 2	170
60.6 Example 2a	171
60.7 Example 3	172
60.8 Local / global conflicts	173
60.9 Nonlocal	174
60.10Namespaces	175
60.11Some Visualizations	176
61 NB: Functions Calling Functions	177
61.1 Basic Insight	177
61.2 Example 1: Converting Temperatures	177
61.2.1 A More Pythonic Solution	179
61.3 Example 2: Counting Vowels	179
61.3.1 A More Pythonic Solution	180
61.4 Example 3: Calculating Tax	180
61.5 Concluding Observations	185
VI M05 NumPy	186
Topics	187
Readings	187
Required	187
Optional	187
62 Metadata	188
63 Using time	189
64 Using timeit	190
65 Using Magic	192
66 Metadata	194
67 Open Files with open()	195
68 Use a with block	198
69 Convert into a 2D list	199

70 Using a list comprehension	200
71 Converting to Numpy	201
72 Array Slices	203
73 Converting Data Types	204
74 Some Difficulties	206
75 Metadata	207
76 NumPy	208
77 The ndarray	209
77.1 About Dimensions	210
78 Creating ndarrays	211
78.1 Data Types for ndarrays	212
78.2 Arithmetic	214
79 Basic Indexing and Slicing	216
79.1 Indexing with slices	220
79.2 Boolean Indexing	221
79.3 Fancy Indexing	224
79.4 Transposing Arrays and Swapping Axes	226
80 Universal Functions	229
81 Metadata	232
82 Quick Refresher on Shape	233
82.1 Reshaping	234
82.2 Use Case	234
83 Array-Oriented Programming	237
84 Expressing Conditional Logic as Array Operations	238
84.1 np.where()	238
85 Mathematical and Statistical Methods	240
85.1 .mean()	240
85.2 .sum()	240
85.3 .cumsum()	241

86 Methods for Boolean Arrays	242
86.1 <code>.sum()</code>	242
86.2 <code>.any()</code>	242
86.3 <code>.all()</code>	242
87 Sorting	243
87.1 <code>.sort()</code>	243
88 Unique and Other Set Logic	244
88.1 <code>np.unique()</code>	244
88.2 <code>np.in1d()</code>	244
89 File Input and Output with Arrays	245
89.1 <code>np.save()</code>	245
89.2 <code>np.load()</code>	245
89.3 <code>np.savetxt()</code>	245
89.4 <code>np.savez()</code>	245
90 Linear Algebra	247
90.1 <code>.dot()</code>	247
90.2 <code>np.linalg.inv()</code>	248
91 Pseudorandom Number Generation	249
91.1 <code>np.random.normal()</code>	249
91.2 Example: Random Walks	249
91.3 Simulating Many Random Walks at Once	250
VII M06 Pandas	252
Topics	253
Readings	253
Required	253
Optional	253
92 Metadata	254
93 Pandas DataFrames	255
94 Series Objects	256
94.1 Axis Labels (Indexes)	256
94.2 Some visuals to help	257
95 DataFrames Constructors	258
96 Naming indexes	261

97 Copying DataFrames with <code>copy()</code>	262
98 Column Data Types	264
98.1 With <code>.types</code>	264
98.2 With <code>.info()</code>	264
99 Column Renaming	265
100 Column Referencing	266
101 Column Selection	268
102 Adding New Columns	270
103 Removing Columns with <code>del</code> and <code>.drop()</code>	271
103.1 <code>del</code>	271
103.2 <code>.drop()</code>	271
104 Load Iris Dataset	273
104.1 See the first and last records with <code>.head()</code> and <code>.tail()</code>	273
104.2 Inspect metadata	274
104.3 Get it all with <code>.info()</code>	275
105 The Index	276
106 Row Selection (Filtering)	277
106.1 <code>iloc[]</code>	277
106.2 Combining Filtering and Selecting	277
106.3 <code>loc[]</code>	278
106.4 <code>loc[]</code> with MultiIndex	279
106.5 Another Example	282
107 Boolean Filtering	284
107.1 Masking	285
108 Working with Missing Data	287
108.1 <code>dropna()</code>	287
108.2 <code>fillna()</code>	288
109 Sorting	289
109.1 <code>.sort_values()</code>	289
109.2 <code>.sort_index()</code>	289
110 Statistics	291
110.1 <code>describe()</code>	291

110.2.value_counts()	292
110.3.mean()	293
110.4.max()	294
110.5.std()	294
110.6.corr()	294
111 Styling	296
112 Visualization	297
113 Save to CSV File	300
114 Read from CSV File	301
115 Metadata	302
116 Set Up	303
117 Apply Lambda Functions with .apply()	304
118 Aggregation	306
118.1.groupby()	306
118.2pd.pivot_table()	306
119 Stacking and Unstacking	307
119.1.unstack()	307
119.2.stack()	308
120 Combining DataFrames	310
120.1pd.concat()	310
120.2.merge()	311
120.3.join()	313
120.4Summary	315
121 Reshape with .reshape()	316
122 Categoricals	318
122.1get_dummies()	318
123 Metadata	320
124 Narrow vs Wide Tables	321
125 Hot Encoding	325
126 Metadata	327

127Method Chaining	328
VIII M07 Classes	334
Topics	335
Readings	335
128What is OOP?	336
128.1The Basic Idea	336
128.2Relationship to Coding	338
128.3Another Way to Look at It	338
128.4The Trinity	338
129Metadata	340
130Concepts	341
131Introduction	342
132The <code>__init__()</code> method	345
133The Meaning of <code>self</code>	347
134Summary	348
135Metadata	349
136Set Up	350
137Method 1: Nothing Special	351
137.1Define Functions	351
137.2Create Instances	351
137.3Doing it all at once	353
138Method 2: With Globals	355
138.1Define a Shared Data Structure	355
138.2Define Methods	355
138.3Populate Config	356
138.4Call Main Function	356
139Method 3: As Class	360
140Conclusions	365
141Metadata	366

142	Fun Facts about Python Classes	367
143	Anatomy of a Python Class	368
144	Privacy	370
145	Static Classes	372
146	Importing Your Own Classes	373
147	Metadata	375
148	A Simple Example	376
149	A Cool Trick	378
150	Mutable Statics	379
IX	M08 Testing	383
	Topics	384
	Readings	384
	Required	384
151	Testing and Verification	385
152	Metadata	388
153	Topics	389
154	Overview	390
155	Tools and Concepts for Testing	391
156	Python's Tools	392
157	Errors and Exceptions	393
158	Some Common Built-in Exceptions	394
158.1	ZeroDivisionError	394
158.2	Syntax Error	394
158.3	NameError	395
158.4	IndexError	395
159	Exception Handling with try/except	396

160	Assert Statements	397
161	raise()	399
162	Further Reading	400
163	Metadata	401
164	Unit Testing	402
165	Benefits of Unit Testing	403
166	The unittest Framework	404
167	The Basic Idea	405
168	The Basic Pattern	406
169	Assert Methods	407
169.1	.assertTrue()	407
169.1.1	Negative Test Case	407
169.1.2	Positive Test Case	408
169.2	.assertFalse()	409
169.2.1	Negative Test Case	409
169.2.2	Positive Test Case	410
169.3	.assertEqual()	410
169.3.1	Negative Test Case	410
169.3.2	Positive Test Case	411
170	Example with User-defined Function	413
171	Example with External Class	415
172	Further Reading	417
X	M09 Modules	418
Topics	419
Readings	419
Required	419
173	Metadata	420
174	Packages, modules, and imports	421
175	Modules	422

176	Aside on Namespaces	424
177	Packages	427
178	Packages and Namespaces	429
179	Importing Packages and Modules	430
180	The module search path	431
181	More Info	432
182	Metadata	433
183	Class and Globals	434
184	Try with Imports	436
184.1	Imported Function	436
184.2	Imported Static Method	437
184.3	Imported Instance Method	437
185	Metadata	439
186	Building Your Own Package	440
187	Some Examples	441
188	Why Build a Package?	442
189	What is a Package?	443
190	What does it mean to build your Package?	444
191	About setup.py	445
192	Example Setup Files	446
192.1	Example 1	446
192.2	Example 2	446
192.3	Example 3	447
193	A Summary of Keys	448
193.1	Python packaging tools	448
193.2	Summary of fields	448
194	Quick Demo	449
194.1	Directory	449

194.2Setup file	449
194.3__init__.py	450
194.4funniest.py	450
194.5Install	450
194.6Try it out	451
195Many Ways to Install	452
196Testing Code	453
197A More Complex Package Structure	454
198More Info	455
199Metadata	456
200Demo 1: Empty __init__.py	457
201Demo 2: Edited __init__.py	458
202Review	459
XI M10 Basic R	461
Topics	462
Readings	462
Required	462
Optional	462
203Getting Started	463
203.1Preliminaries	463
203.1.1 Installing and Loading Packages	463
203.1.2 R's Design	463
203.1.3 R Syntax	463
203.2R Data Types	464
203.2.1 Numeric	464
203.2.2 Integers	465
203.2.3 Logical (Boolean)	467
203.2.4 Characters	468
203.3R Data Structures	470
203.3.1 Vectors and c()	471
203.3.2 Lists	477
203.3.3 Data Frames	479

203.4Extra	491
203.4.1Plots with <code>plot()</code>	491
203.4.2Value Counts with <code>table()</code>	497
204Topic: Control Structures and Functions	500
204.1 <code>if/else</code> Statements	500
204.2Control Structures	501
204.2.1 <code>for</code> Loops	501
204.2.2 <code>seq_along()</code>	502
204.2.3Nested <code>for</code> loops	503
204.3 <code>while</code> Loops	504
204.4 <code>repeat</code> Loops	505
204.5 <code>next</code> and <code>break</code>	505
204.6Functions	506
204.7Using conditions in functions	507
204.8 <code>%%</code> is mod operator (returns remainder)	507
204.9Scoping Rules	508
XII M11 Dplyr	510
Topics	511
Readings	511
Required	511
Optional	511
205Errata and Addenda	512
206Static Weirdness Explained	513
207Narrow vs Wide Tables	515
208Introducing Tibbles	519
208.1The Tidyverse	519
208.2Dplyr	520
208.3Piping with <code>%>%</code>	521
209Tibbles	523
209.1Creating tibbles	523
209.2Tribbles	524
209.3Non-syntactic names	526
210Tibbles vs. <code>data.frame</code>	527
210.1Printing	527
210.2Using <code>View()</code>	529

210.3Extracting variables	530
210.4Subsetting	532
211The dplyr package	533
211.1dplyr Grammar	533
211.2Common dplyr Function Properties	534
211.3Installing the dplyr package	534
211.4Getting a dataset	535
212select()	698
213filter()	1184
214arrange()	1191
215rename()	1354
216mutate()	1355
217group_by()	1518
218Summary	1522
XIIIM12 Visualization	1523
Topics	1524
Readings	1524
Required	1524
Optional	1524
219GGPlot2	1525
219.1Introduction	1525
219.2Learning Goal	1525
219.3The Grammar of Graphics	1525
219.4A Layered Model	1527
219.5The Bare Minimum	1528
219.6The + operator	1533
220Examples	1534
220.1Add Title, X and Y axis labels with <code>labs()</code>	1538
220.2Change color of all text with <code>theme()</code>	1539
220.3Change title, X and Y axis label and text size	1540
220.4Change title face, color, line height	1541
220.5Change point color	1542
220.6Adjust X and Y axis limits	1543

220.7Change X and Y axis labels	1546
220.8Flip X and Y Axis	1548
220.9Grid lines and panel background	1549
220.10Plot margin and background	1550
221Legend	1552
221.1Hide legend	1552
221.2Change legend title	1552
221.3Change legend and point color	1554
221.4Change legend position	1555
221.5Change order of legend items	1556
221.6Legend title, text, box, symbol	1556
222Plot text and annotation	1558
222.1Add text in chart	1558
223Multiple plots	1560
223.1Multiple chart panels	1560
223.2Arrange multiple plots	1560
224Geom layers	1562
224.1Add smoothing line	1562
224.2Add horizontal / vertical line	1563
224.3Add bar chart	1563
224.4Distinct color for bars	1566
224.5Change color and width of bars	1567
224.6Change color palette	1568
225Line chart	1570
225.1Line chart from timeseries	1571
226Ribbons	1573
226.1Area	1575
227Boxplot and Violin	1577
228Density	1579
229Tiles	1580
230R Markdown	1581
230.1Introduction	1581
230.2Varieties of R Markdown outputs	1581
230.3Knitting	1582

230.4 Publishing	1582
230.5 Outputting	1582
230.5.1 Output options	1583
230.6 How It Works	1584
230.7 The RMarkdown Spec	1584
231 Metadata	1585
232 qplot	1586
232.1 Gotchas	1590
233 GGPlot in Python	1592
234 Plotly in R	1593
234.1 GGPlotly	1595
235 Using :: in R	1597
236 Metadata	1599
237 GGPlot in Python	1600
238 A Simple Bar Chart	1601
239 Faceting	1604
240 The Pandas Way	1606
XIV M13 Agile	1608
Topics	1609
Readings	1609
Required	1609
241 Project Management	1610
242 Agile Development	1616
243 User Stories	1618

Part I

Welcome

Welcome to website for DS 5100 Programming for Data Science, Spring 2023.

Note

This site contains all the content needed to complete the course. All graded coursework is hosted on the [Canvas website](#).

In this course, you will develop skills in Python and R Programming, as well as how to use the command line and GitHub.

The objective of this course is to introduce essential programming concepts, structures, and techniques.

You will gain confidence in not only reading code, but learning what it means to write good quality code.

Additionally, essential and complementary topics are taught, such as testing and debugging, exception handling, and an introduction to visualization.

1 Syllabus

1.1 Welcome

Welcome to DS 5100 Programming for Data Science! In this course, we will develop skills in Python and R Programming, as well as the command line and GitHub. The objective of the course is to introduce essential programming concepts, structures, and techniques from a data science perspective. You will gain confidence in not only reading code, but learning what it means to write good quality code. Additionally, essential and complementary topics are taught, such as testing and debugging, exception handling, and an introduction to visualization.

This course is designed to teach the programming knowledge and skills necessary to become an effective data scientist. The focus will be on code fluency – the ability to both write and read code, as well as to understand the nature of high quality code. Code fluency encompasses a variety of skills, from the ability to write functions and classes to testing and debugging to packaging and visualizing the results of coding.

Code fluency is important because code is the primary medium through which we represent and express our most basic and complex ideas in data science. These ideas include everything from the structure of web pages to the process of back propagation in a neural network. Code is the language with which we represent data and the models that process and interpret data, as well as the data products that make use of our data and the analytical results from it.

This course is specifically focused on your ability to read and write code in Python and R. It is not a course in computer science or in data wrangling or in software development. Each of those elements will obviously play into our work, but our focus is on the fundamental knowledge of programming – the building blocks from which you can build complex (but not complicated) code to solve real world problems.

The guiding philosophy of the course is that coding is a practice like many other practices – such as the ability to speak a non-native human language, or to play a musical instrument, or to play a sport, or to perform such as in singing, acting, or dancing. These are all complex practices that involve higher forms of cognitive representation but are also embodied practices. This means that they have to be practiced, physically and repetitively, in order for you to be successful at them. Programming languages are like that.

Put another way, programming is like cooking, carpentry, and other forms of material creation. Again, in each case high level cognition is involved, but so are the hands and eyes, and an appreciation of the subtle qualities of materials and ingredients is essential to successfully using

them to create effective work – a sturdy and beautiful building or a satisfying and exquisite meal.

All of these practices, some of which I am sure each of you has had experience in, are based on the ideas of imitation and drilling which develop into generalization and integration and finally into excellence and mastery of design and execution. Therefore, this course will require the student to observe principles and imitate examples (though writing) on the path to generalization and fluency.

1.2 Learning Goals

Upon completion of this course, you are expected to be able to do the following. In all cases, unless specified, both Python and R are included. In truth, you'll probably learn more than this. :-)

Understand the importance of data and programming for data science

Understand the relationship between data and data science.

Understand how data is related to programming.

Know broadly what kinds of data exist.

Confidently work in an appropriate programming environment

Basic operations with Git and GitHub to manage and share your code.

Confidently write code in Jupyter Lab, Visual Studio Code, and RStudio.

Understand which editor is appropriate to which task.

Find and use documents, data, and code online.

Identify and use data types and data structures

Know the elementary data types for each language:

booleans, integers, floats, strings, etc.

Know the elementary data structures for each language:

Python: set, list, dictionary, and tuple.

R: vectors, list, matrix, factor.

Know some of the advanced data structures for each language:

Python: Numpy arrays and Pandas series and dataframes.

R: dataframes and Tidy tibbles.

Know and perform basic operations for each data type and structure.

Select and apply an appropriate data structure based on the problem requirements.

Read and Write to and from various data formats

Read text and data files from disc

Import data into a Pandas and R dataframes

Confidently call and write functions and methods

Understand the structure and use of functions for programming.

Use built-in and import functions to perform fundamental tasks.

Correctly pass parameters and retrieve function output(s).

Use built-in object methods for data types and structures, e.g. string methods and dataframe methods.

Know what vectorized functions and methods are.

Confidently write a class and call its methods

Understand role of classes in organizing code.

Understand how classes group together variables as attributes and functions as methods into encapsulated components.

Understand how classes can inherit the variables and methods of other classes.

Use packages to augment existing data structures

In Python, NumPy and Pandas essentials (e.g. simple queries and small ML computation)

In Python and R, use a program API to utilize existing functions (e.g. assert statements.)

In R, apply the Tidyverse verbs, such as: select(), filter(), arrange(), mutate(), summarize()

In R, apply the Tidyverse Pipe operator to aggregate data

Write your own modules of classes in Python

Write classes and organize them into modules to make your more modular.

Make your modules sharable so that others can install them with Python's setup and install functions.

Write documentation for your modules so that others can make sense of them.

Write test scripts to go with your modules.

Write robust code by implementing the basic principles of program testing and debugging in Python

Catch errors in your code with exception handling and print statements.

Read error messages produced by the interpreter.

Fix and harden broken code.

1.3 Assessments

1.3.1 Homework Assignments

Homework assignments will be given throughout the semester, typically one for each module.

You are encouraged to first try to complete the homework by yourself. If you work with others, be sure you understand all of the work, and that your final submission is your own work.

When submitting homework assignments, don't forget to write the assignment title, your name, your UVA computing ID, and date at the top of each assignment.

Typically, homework assignments that involve Jupyter Notebooks will be submitted through GradeScope as PDFs. However, in some cases the assignment will be submitted through Canvas. In either case, your assignment will be listed in the week's module.

1.3.2 Lateness Policy

Please submit HW assignments on time.

If an issue will prompt late submission, email the TA in advance to explain the situation.

If the HW is submitted late and it is not an excused lateness, 10% of the assignment total points will be deducted per day it is late.

1.3.3 In-Class Activities

During each class, there will be practice scripts and notebooks made available to you. These are designed to exemplify the concepts conveyed in reading and dialog. Although the results of this work are not graded, you will be graded on your effort to complete them. This will count toward your participation grade.

1.3.4 Quizzes

There will be several quizzes throughout the semester that will assess your knowledge of the various topics. Quizzes are based on the topics and code covered in the readings and activities.

All quizzes are mandatory for all students to take.

Quizzes typically have ten questions and are worth 10 points each.

Although they can be completed in less time, you have one hour to finish and submit your work.

The quizzes should be done closed book: please do not consult any resources including notes, books, the web, devices, or other external media.

Making up missed quizzes is not advised — their timing is part of their value. However, if you know in advance that you will miss any of the scheduled quizzes, you must make arrangements in advance with the instructor. At least one week in advance if possible, or as soon as you are able if an unforeseen event occurs preventing you from taking the quiz.

1.3.5 Course Project

The final project will focus on creating a module in Python. This module will address a data science problem and be sharable on GitHub (in principle) and installable by others. It will have proper documentation and a testing file.

Project deliverables are due on the last day of course. See Collab for submission details.

More information on the project will be forthcoming.

1.3.6 Spirit of the Course

Students must attend each class and participate in group work.

For the programming assignments and quizzes, you must submit your own work.

1.3.7 Submission of Assignments

All assignments must be submitted through Canvas or Gradescope by the specified due dates and times. It is crucial to complete all assigned work—failure to do so will likely result in failing the class.

1.4 Grading

1.4.1 Model

1.4.2 Scale

We follow the 3-4-3 model of grading. That is, within each letter range, the + and - each span 3 values ([0, 1, 2] and [7, 8, 9] respectively), whereas the uninflected grade spans the middle 4 values ([3, 4, 5, 6]).

Note that it is by convention that we treat 0 as standing for the initial value of a grade span, which leads to the anomaly of A having 11 values, since it includes both 90 and 100. Past experience shows that treating 90 as a B+ is considered an outrage by students, so we accept the weirdness.

1.5 Texts

1.5.1 Core Texts

Many of our readings will draw from these texts. We will try to stick with some core texts to provide continuity. These will often be supplemented by shorter sources of information drawn from the web.

Lutz, 2013, Learning Python, 5th Edition, O'Reilly Media.

McKinney, 2017, Python for Data Analysis: Data Wrangling with Pandas, NumPy, and IPython, 2nd Edition. O'Reilly Media.

Wickham and Grolemund, 2017, R for Data Science: Import, Tidy, Transform, Visualize, and Model Data, 1st Edition. O'Reilly Media.

Other Texts

1.5.2 Other Texts

We occasionally draw from the following texts. They are listed here as supplementary resources that you may want to use later on.

For R

Parts of some of these more be included in various modules.

Cotton, 2013, Learning R, O'Reilly Media.

Rodríguez, 2021, Introducing R, Princeton University faculty website. This a concise website that may want to refer to in your Linear Models course.

Douglas, et al 2022, An Introduction to R, self published.

Peng, 2020, R Programming for Data Science, self published.

For Python

Once you get the hang of Python, you will want to embark on becoming a more effect data science software developer. These books can help.

Brett Slatkin, 2019, Effective Python: 90 Specific Ways to Write Better Python, 2nd Edition, Addison-Wesley.

Katz, Philipp and David Katz, 2019, Learn Python by Building Data Science Applications, Packt Publishing.

Lee Vaughan, 2020, Real-World Python, No Starch Press.

1.5.3 Access to materials

This course uses a number of books from the O'Reilly Media's online library. This is a commercial site, but as students of UVA, you have free access to it. To access the collection, first you must create an account on the site. See the document [Setting up a student account on O'Reilly's Site](#) for help.

1.5.4 Websites

Python's official documentation

Python's official tutorial

R's official documentation

W3Schools Python Tutorial

W3Schools R Tutorial

GeeksForGeeks on Python

GeeksForGeeks on R

Tutorialspoint on Python

Tutorialspoint on R

1.5.5 Cheatsheets

Python Cheatsheets

RStudio Cheatsheets

1.5.6 Books to Broaden Your Horizons

Graham, 2010, Hackers & Painters: Big Ideas from the Computer Age

Brooks, 1995, The Mythical Man Month

Shetterly, 2016, Hidden Figures: The American Dream and the Untold Story of the Black Women Mathematicians Who Helped Win the Space Race

1.6 Resources

Students have three choices for participating in coding exercises and completing coding assignments in the course:

Rivanna, UVA's High Performance Computing Cluster. This may be access through the web or by SSH (don't worry if you don't know what that means yet). More information about this resource may be found [here](#).

CEDS, the Computational Environment for Data Science. This is a web-hosted and Windows-based virtual environment. You can access the site [here](#). Here are step-by-step instructions for how to access this service.

Your own computer. Please note that if you choose this option it will be harder to trouble-shoot any system level problems that may arise.

1.7 Academic Integrity

The School of Data Science relies upon and cherishes its community of trust. We firmly endorse, uphold, and embrace the University's Honor principle that students will not lie, cheat, or steal, nor shall they tolerate those who do. We recognize that even one honor infraction can destroy an exemplary reputation that has taken years to build. Acting in a manner consistent with the principles of honor will benefit every member of the community both while enrolled in the School of Data Science and in the future.

Students are expected to be familiar with the university honor code, including the section on academic fraud.

Each assignment will describe allowed collaborations, and deviations from these will be considered Honor violations. If you have questions on what is allowable, ask! Unless otherwise noted, exams and individual assignments will be considered pledged that you have neither given nor received help. (Among other things, this means that you are not allowed to describe problems on an exam to a student who has not taken it yet. You are not allowed to show exam papers to another student or view another student's exam papers while working on an exam.) Sending, receiving or otherwise copying electronic files that are part of course assignments are not allowed collaborations (except for those explicitly allowed in assignment instructions).

Assignments or exams where honor infractions or prohibited collaborations occur will receive a zero grade for that entire assignment or exam. Such infractions will also be submitted to the Honor Committee if that is appropriate. Students who have had prohibited collaborations may not be allowed to work with partners on remaining homework assignments.

If you have been identified as a Student Disability Access Center (SDAC) student, please let the Center know you are taking this class. If you suspect you should be an SDAC student, please schedule an appointment with them for an evaluation. I happily and discretely provide the recommended accommodations for those students identified by the SDAC. Please contact your instructor one week before an exam so we can make appropriate accommodations. Website: <https://www.studenthealth.virginia.edu/sdac>

If you are affected by a situation that falls within issues addressed by the SDAC and the instructor and staff are not informed about this in advance, this prevents us from helping during the semester, and it is unfair to request special considerations at the end of the term or after work is completed. So we request you inform the instructor as early in the term as possible your circumstances. If you have other special circumstances (athletics, other university-related activities, etc.) please contact your instructor and/or TA as soon as you know these may affect you in class.

2 Setting Up O'Reilly

O'Reilly for Higher Education contains books on all aspects of computers, programming and the Web from such publishers as O'Reilly, Sams, New Riders, Adobe. Students can access content for free.

Follow these instructions to set up your account:

Go to <https://www.oreilly.com/library/view/temporary-access/>.

You should see this dialog box:



Welcome! Get instant access
through your library.

Select your institution



[Institution not listed?](#)

We will use your personal data in accordance with our [Privacy Policy](#).

Click on **Institution not listed?** This will produce the following dialog box:



Welcome! Get instant access through your library.

Your academic email:

username@institutionname.edu

[Already a user?](#)

We will use your personal data in accordance with our [Privacy Policy](#).

[Let's Go](#)

If you are first time user, enter your UVA email address and click on the big red button.

This should produce the following message:



Welcome to the O'Reilly Learning Platform!

Your institution provides you free access to our 35K+ books, 30K+ hours of video, curated learning paths, case studies, interactive tutorials, audio books, and O'Reilly conference videos!

[Got It](#)

Now you can access all the books in the collection. When you return, click on **Already a user?** in the second dialog box.

Part II

M01 Getting Started

Topics

- Introduce the course
- Access Rivanna
- Explore the Unix command line
- Explore use of Git and GitHub

Outcomes

- Become familiar with UVA's compute resources Rivanna
- Become familiar with the command line, e.g. bash
- Know the difference between Git and GitHub
- Know how to fork and clone a repository for personal use
- Know how to push content to a repository that you own
- Know how to make a pull request to a repository that you don't own

3 About Rivanna

3.1 Introduction

A useful infrastructural resource for this course is Rivanna, UVA’s high-performance computing (HPC) cluster. Each student has an account on Rivanna and access to resources there based on participation in this course. We will use Rivanna in our class for both Python and R.

This page describes some of the tools available for your use in this course. For information about Rivanna, see this introduction. Resources for getting help, including a knowledge base and ticket system, are found at [the Support Option’s Page](#) on UVA’s Research Computing website.

You may need to use VPN to access Rivanna from an off-grounds location. To install VPN on your computer, go to the ITS VPN page for instructions. Note that you should connect to “UVA Anywhere,” not to any of the higher security options. Course Allocation

This course has been allocated compute and space resources on Rivanna. The names of the resources are given below. The allocation ID needs to be entered to access certain tools. The storage path is accessible to you on the remote server.

- Allocation ID: `msds_ds5100`
- Storage path: `/project/MSDS_DS5100` (Don’t use unless directed to.)

3.2 Tools

UVA Research Computing provides you with a suite of tools to access Rivanna. These tools are accessible through the menu on the UVA OpenOnDemand Dashboard page. Below are some brief descriptions of the tools.

File Explorer. A web-based GUI to access the file system of the remote server. Can be used to create, move, and delete directories and files, and to edit the contents of files (see Editor). You can also upload and download files through this interface. The File Explorer is useful to view your remote content and manage files and directories without having to use the command line. Note that not all operations can be performed through this interface.

Find under “Files” in the menu.

Editor. A web-based text editor launched from the File Explorer to view and edit text files on the remote server. Although not as sophisticated as VS Code (below), this is very useful for editing data and code files without having to use a command line editor. One advantage over VS Code is that it does not need to be launched – which means it does not time out like the Interactive Apps listed below.

The Editor is launched from the File Explorer.

SSH Shell Access (Terminal). Access to the command line of the remote server. Use this to open a terminal window to perform Linux commands directly. Note that It is necessary to use a terminal to install and run certain programs on the remote server.

Find under “Clusters” in the menu.

You can also access the remote command line via SSH on your local computer. Just enter the following on the command line of either a PC or Mac:

```
ssh -Y <userid>@hpc.rivanna.virginia.edu
```

Replace <userid> with your UVA Net ID, e.g. abc2x.

Be suer to be running VPN if you are accessing Rivanna from an off-grounds location.

3.3 Interactive Apps

These tools must be launched by specifying a set of parameters, including the allocation you are using. They are also timed and will close when time is up. Be sure to give yourself enough time when launching these, and to be aware of how much time you have when working.

Note also that you should allocate the fewest resources necessary to do the work you plan to do. This saves resources on the remote host, but also allows your app to launch more quickly. If you ask for an excessive amount of resources, you may wait a long time (e.g. hours) to have your app launched.

Desktop. Access to a GUI desktop to the remote server. This provides a access to various applications on the server, including a web browser, a file explorer, and terminal windows. Using this is not necessary if you can get by with the tools listed above.

Find under “Interactive Apps > Desktop” in the menu.

VS Code. Access to Visual Studio Code on the remote server. This is a fully functional instance of the IDE.

Find under “Interactive Apps > Code Server” in the menu.

Jupyter. Access to Jupyter Lab on the remote server. Find under “Interactive Apps > Jupyter Lab” in the menu.

RStudio. Access to Jupyter Lab on the remote server.

Find under “Interactive Apps > RStudio Server” in the menu.

3.4 For More Information

UVA’s Research Computing unit provides resources for learning how to use Rivanna. Here are two slide decks that you may find useful:

- Introduction to Rivanna
- Using Rivanna from the Command Line

4 Using Unix

4.1 Introduction

The Unix family of operating systems provide users with a command line interface (CLI) to execute commands and get things done. They also, typically provide GUIs but we won't go into those here.

The Unix family includes all varieties of Linux and the Mac OS (which is based on FreeBSD).

The command line that you actually interact with – the set of commands available to you – is called a shell, and there are several shells that you can run on your system. The most typical shell in use today is called bash which stands for Bourne Again Shell, since it is an improved version of bsh (The Bourne Shell). New versions of MacOS use the Z shell (zsh). The commands in these two shells are mostly similar, but there are subtle differences.

Windows has shells too for its command line interface. The default shell is DOS, but is also has PowerShell as an advanced (and very capable) option.

For more information, check out these resources:

- UVA Research Computing's [Unix tutorial](#).
- Newham, 2005, [Learning the bash Shell](#), O'Reilly Media.
- Jeroen Janssens, 2021, [Data Science From the Command Line](#), O'Reilly Media.
- Neal Stephenson, 1999, [In the Beginning Was The Command Line](#). ([PDF version](#).)

4.2 Basic Commands

In this course, you don't need to know very many Unix shell commands, but you should be comfortable working from the command line to perform basic tasks. This is because some things can only be performed from the command line, such as installing some essential software. Here is a list of basic commands.

Navigating filesystems and managing directories:

- `cd` – change directory
- `pwd` – show the current directory
- `ln` – make links and symlinks to files and directories

- `mkdir` – make new directory
- `rmdir` – remove directories in Unix

Navigating filesystem and managing files and access permissions:

- `ls` – list files and directories
- `cp` – copy files (work in progress)
- `rm` – remove files and directories (work in progress)
- `mv` – rename or move files and directories to another location
- `chmod` – change file/directory access permissions
- `chown` – change file/directory ownership

4.3 Text file commands

Most of important configuration in Unix is in plain text files, these commands will let you quickly inspect files or view logs:

- `cat` – concatenate files and show contents to the standard output
- `more` – basic pagination when viewing text files or parsing Unix commands output
- `less` – an improved pagination tool for viewing text files (better than more command)
- `head` – show the first 10 lines of text file (you can specify any number of lines)
- `tail` – show the last 10 lines of text file (any number can be specified)
- `grep` – search for patterns in text files

4.4 Miscellaneous

- `clear` – clear screen
- `history` – show history of previous commands

4.5 Command Line Cool

Although we will not be using the command line to this degree, you should know that it is a powerful environment for doing data science work. The book [Data Science from the Command Line](#) makes the case for using the command line to perform many tasks that we often perform with more resource intensive (i.e. bloated) tools such as Python and R. At some point in your early DS career, you may want to look at this. The book itself is also a great introduction to data science!

O'REILLY®

Second
Edition

Data Science at the Command Line

Obtain, Scrub, Explore, and Model Data
with Unix Power Tools



Jeroen Janssens
Foreword by Tim O'Reilly

One last thing – for fun you may want to read Neal Stephenson’s “[In the Beginning Was The Command Line](#)”, a kind of cyberpunk history of the topic. Stephenson, by the way, is the author who coined the term “metaverse” in the novel *Snowcrash*.

5 SSH for GitHub

5.1 Overview

- This method will allow you to interact with your repos hosted on GitHub without having to enter your login credentials each time.
- You will create an SSH key on your local machine. By “local machine,” we mean the machine where you will be working and pulling to, e.g your laptop or Rivanna. In other words, it’s local relative to GitHub.
- SSH keys have a public and private component. These are hash strings that are stored in files. Both will be generated on your machine.
- You will copy and paste the generate public key to your GitHub account.
- Going forward, you will clone from your account using the SSH protocol.

5.2 Steps

5.2.1 Part A

On your local machine

Get to the command line (i.e. the shell).

1. On a Mac, open Terminal.
2. If you are on Windows and you have admin rights, first install `git-bash`. Otherwise follow [this tutorial from Microsoft](#).
3. On [Rivanna](#), either connect via SSH or use Rivanna Shell Access (under Clusters).

Move into your root directory and enter `cd`.

Generate the key.

1. Enter: `ssh-keygen -t ed25519 -C "your_email_id@example.com"`, using your email address.
2. Be sure to use the email address associated with your GitHub account in the above command.

At the prompt, type in a secure passphrase.

- You don't have to do this, but it is advised.
- Create a memorable sentence.
- A good passphrase should have at least 15, preferably 20 characters and be difficult to guess. It should contain upper case letters, lower case letters, digits, and preferably at least one punctuation character.

Add the key to `ssh-agent`.

1. Enter: `eval "$(ssh-agent -s)"`
2. Enter: `ssh-add ~/.ssh/id_ed25519`

If you're using macOS Sierra 10.12.2 or later, you will need to modify your `~/.ssh/config` file to automatically load keys into the ssh-agent and store passphrases in your keychain. Follow the instructions [here](#) (at step 2).

5.2.2 Part B

On your GitHub account

Get the public key that was just generated.

1. Enter: `more ~/.ssh/id_ed25519.pub`
2. Copy the result to your clipboard (e.g. by blocking off the line and entering Ctrl-C).
3. The key should begin `ssh-ed25519` and end with the email address you used in generating the key. In between it will have a long string of alphanumeric characters.

On GitHub, go to your account settings and select “SSH and GPG Keys” from the side menu.

- A link to your account settings can be found in the drop-down list produced by clicking on your user icon in the upper right of the website.

Under “SSH keys,” press the “New SSH Key” button.

1. Add a brief title describing the context of the key, i.e. the local machine where it was generated, e.g. Rivanna.
2. Choose “Authentication Key” as the Key type.
3. Paste the key into the Key text area.
4. Submit the form by pressing “Add SSH key.”

You are now good to go. Whenever you clone a site from your GitHub account, choose the SSH link.

5.3 Information Sources

The GitHub site has lots of excellent documentation. Here are some pages you may find useful.

- [About SSH](#)
- [Generate the key](#)
- [About pass phrases](#)
- [Adding the key to GitHub](#)
- [Updating repos with SSH](#)

6 Git and GitHub

6.1 Introduction

Git and GitHub are two tools that work together, but it is important to understand what each does and how they are different to each other.

Here are some basic things to know:

1. Git is a stand-alone version control system that runs on a variety of platforms, including Linux, MacOS, and Windows.
2. GitHub is a company that offers a cloud-based Git repository hosting service that makes it easy to use Git for version control, collaboration, and sharing code. This service is offered through a website.
3. There are other Git hosting services out there, including GitLab, and open source tool that can be installed on a local server.
4. GitHub builds on top of Git and adds some functionality to it, while Git can interact with GitHub through actions like cloning, pushing, and pulling. However, Git does not require GitHub to function.
5. Git does not have a fork command. GitHub (and other hosting services such as GitLab) have added this command as a convenient way to copy repositories.

6.2 Using Git and GitHub Together

[Source](#)

A basic series of actions one continually makes with Git are the following:

THIS IS GIT. IT TRACKS COLLABORATIVE WORK
ON PROJECTS THROUGH A BEAUTIFUL
DISTRIBUTED GRAPH THEORY TREE MODEL.

| COOL. HOW DO WE USE IT?

NO IDEA. JUST MEMORIZIZE THESE SHELL
COMMANDS AND TYPE THEM TO SYNC UP.
IF YOU GET ERRORS, SAVE YOUR WORK
ELSEWHERE, DELETE THE PROJECT,
AND DOWNLOAD A FRESH COPY.



Figure 6.1: XKCD #1597

Action	Description	Command
Fork	Forking a repo makes a copy of someone else's repo in your GitHub account, which you can now modify. Note: Forking does not have to be performed if you are not interested in altering the code. You can clone it directly.	This is done through GitHub's web interface by clicking on the Fork button.
Clone	Cloning the repo to a workspace to which you have access, whether a local machine or a remote resource (e.g. Rivanna).	<code>git clone <repo></code>
Add	Creating or editing a file locally and then adding it to the list of files git will keep track of.	<code>git add <filename></code> Note that you may use wildcards here, e.g. *, to add more than one file at a time.
Commit	Committing the changes made to the file by adding them to the repo's database of changes. This is accompanied by a brief, descriptive message of the changes made.	<code>git commit -m "What you did"</code>
Push	Pushing the changes to the remote repo that you cloned from. This uploads both the files and the database changes to the repo.	<code>git push</code>
Pull	Pulling, i.e. downloading, any changes that have been made to the remote repo to your local repo. This usually happens if you are working in teams on the same project.	<code>git pull</code>
Pull Request	This is a request made to the owner of the original repo to pull in the changes you've made to your forked copy.	This is done through GitHub's web interface. Read the Pull requests docs .

Action	Description	Command
Fetch Upstream	This refreshes the content of your forked repo with the content from the original repo.	This is done through GitHub's web interface. Read the Sync fork docs .

i Note

This is not the only pattern to use with Git. Here is another — [the Git Fork-Branch-Pull Workflow](#)

Here is a visualization of the process:

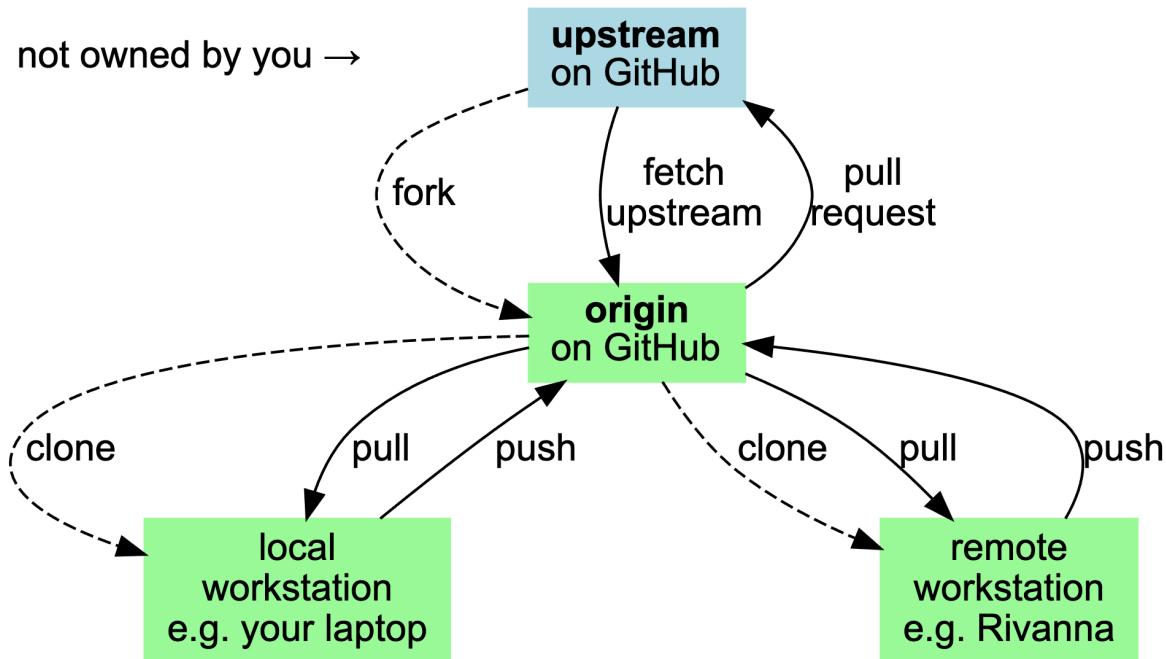


Figure 6.2: Diagram of common git workflow

In this diagram, the dashed lines refer to actions performed only once for a given repo. Forking and cloning are done to acquire a repo, while fetch upstream (aka sync fork) and pull requests on the GitHub server, and pull/push on your local machine, are done repeatedly as you develop and share code.

Note also that the here “Remote workstation” may be confusing; it means remote relative to your laptop, e.g. Rivanna, which we sometimes call local relative to the GitHub repo. In any case, note that these two copies of the same repo do not communicate with each other directly, but rather through their common relationship with the GitHub hosted instance of the repo.

6.3 To Learn More

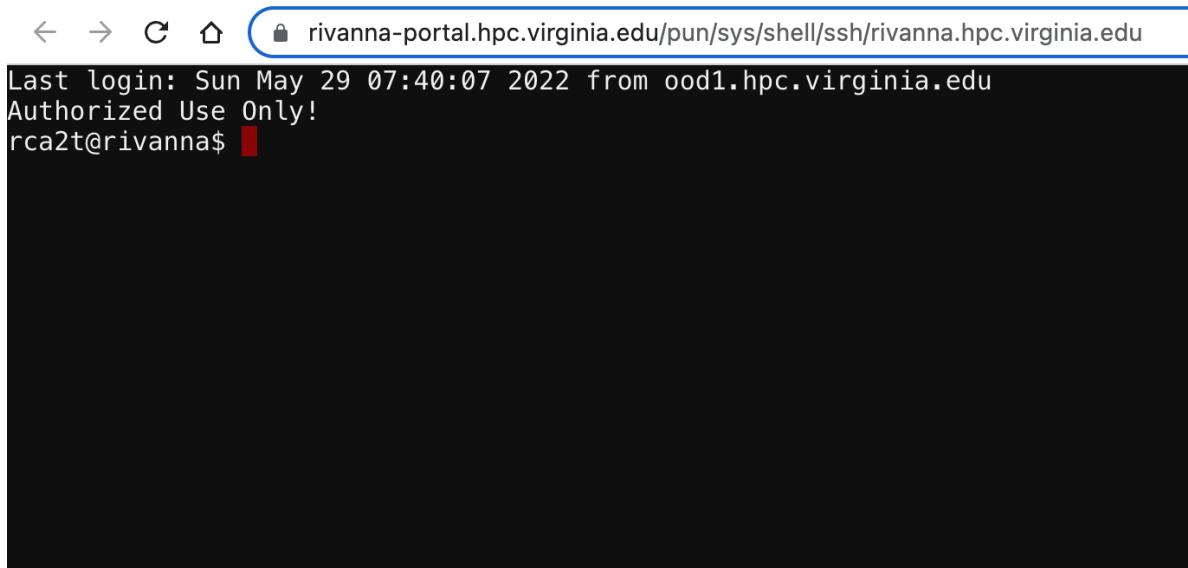
- [Videos](#)
- [Book](#)

7 Activity: Using Rivanna

After reading the previous documents on [Rivanna](#) and [Unix](#), try to complete this activity before class.

To get started, go to [OpenOnDemand Dashboard page](#) and from the main menu select Clusters → Rivanna Shell Access.

This should open a terminal to what is called the “shell” of the operating system.



The screenshot shows a terminal window with a black background and white text. At the top, there is a header bar with icons for back, forward, refresh, and home, followed by a URL field containing "rivanna-portal.hpc.virginia.edu/pun/sys/shell/ssh/rivanna.hpc.virginia.edu". Below the header, the terminal displays a login message: "Last login: Sun May 29 07:40:07 2022 from ood1.hpc.virginia.edu" and "Authorized Use Only!". A prompt "rca2t@rivanna\$" is visible at the bottom left, with a red cursor bar extending to its right. The rest of the screen is blank black space.

Figure 7.1: Screenshot of Rivanna shell

Rivanna uses Linux, a member of the Unix family of operating systems. Many cloud resources use Linux.

Understanding how to do work from the command line on such systems is an essential skill of the data scientist.

If you have never used the command line, have no fear! Just enter the commands exactly as shown and ask questions in the Teams chat if you are stuck.

Now, create a directory for your course and this course by entering the following commands:

```
cd Documents  
mkdir MSDS  
cd MSDS  
mkdir DS5100  
cd DS5100
```

If the **Documents** directory does not exist, create that first using the `mkdir` command.

- `cd` means “change directory,” and is a basic Unix command.
- `mkdir` means “make directory.” It’s also a basic Unix command.

Note that you can use the tab key to complete path and command names as you type.

You don’t have to, but it would be a good idea to create subdirectories for any of your courses that use Rivanna.

More information about Unix shell commands can be found the document [Unix Shell Commands](#).

8 Activity: Using Git and GitHub

During the technical orientation, you set up a GitHub account.

You also spent a little time browsing a sample repository, which you may wish to revisit:

- <https://github.com/UVADS/orientation-technical>

You also should be able check off the following items:

- Understand the difference between Git and GitHub.
- Understand the purpose of Git and GitHub for data science work.
- Ensure Git is installed on your computer.
- Understand how to find a repository on GitHub.

Let's apply and extend this knowledge now with our course repo.

Be sure you are inside the course directory we created earlier.

Also, we assume you have already created a GitHub account. **Now fork the course GitHub hosted repository (“repo”) to your GitHub account.**

Go to <https://github.com/ontoligent/DS5100-2023-07-R> in your web browser.

 Note

This is the course repo — all of the course notebooks and other code will be available here. Each week, you will access your course materials here.

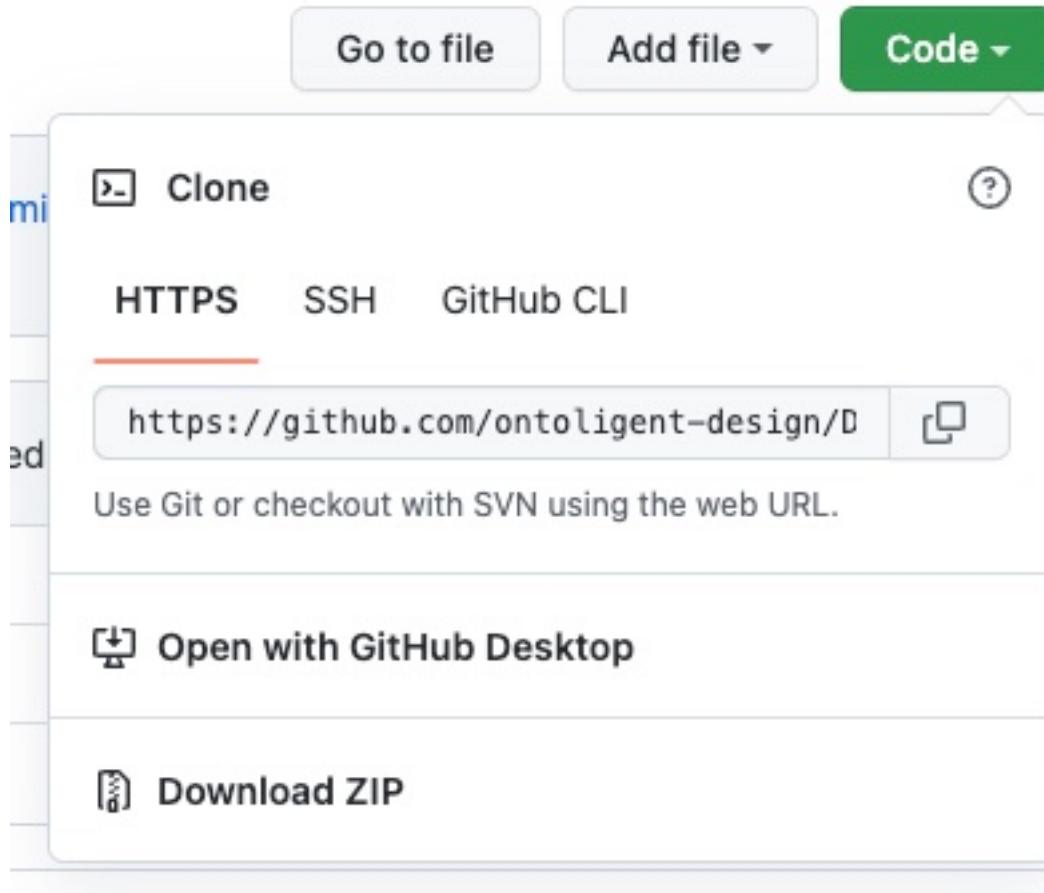
Click on the Fork icon in the upper right and follow the prompts to finish the process.

You should end up at the web page of your newly forked repo.

You will now have a copy of the repo in your GitHub account.

Clone the forked repo for this course inside of your course directory on Rivanna.

Find the green Code button and click on it. You should see something like this:



Make sure you have selected the SSH option.

! Important

Note: This requires that you have SSH set up.

Then click on the copy icon and paste the value into the following command:

```
git clone https://github.com:<github_user_name>/DS5100-2023-07-R.git
```

! Important

Be sure to clone the repo from *your* GitHub account, replacing <github_user_name> with your GitHub user name. Do not just cut-and-paste the line above!

You now have a copy the course repo to your account on Rivanna.

This will be the directory you created in your pre-class activities under Documents/.

Create a new file in your newly cloned repo.

Go to your command line window on Rivanna.

Use `cd` to move into the directory just created by the clone operation.

Move into the directory `lessons/M01_GettingStarted/hello`

! Important

Make sure you are in this directory before proceeding.

If you get lost – for example if you moved around the file system before this step – you can `cd` to the absolute path:

```
cd ~/Documents/MSDS/DS5100/DS5100-2023-07-R/lessons/M01_GettingStarted/hello
```

Note that the tilde sign `~` stands for the path to your home directory.

Using the file editor on Rivanna, create and save new file called `<userid>.hello.txt`, replacing `<userid>` with your actual user ID, e.g. `rca2t.hello.txt`.

In the file, introduce yourself by answering the question: What is the most recent film you watched and enjoyed?

Save the file.

Add and commit the changes you made.

Now do the following:

```
git add <userid>.hello.txt  
git commit -m "Created file for class"
```

Push your new file to the repo on GitHub.

Since you have SSH set up, you can issue the following command without having to enter a password:

```
git push
```

Create a Pull Request

Finally, make a pull request to have your file added to the original site. To do this, follow these steps:

Click on the “Pull requests” menu item (see image below) on the web page for your repo.

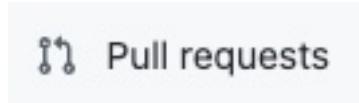


Figure 8.1: Image of pull request button on GitHub

Click on the green “New pull request” button.

Click on the green “Create pull request” button.

Give the request the title “In-class activity” and then press the green “Create pull request” button at the bottom of the form.

Now the ball is in the instructor’s court to merge the request with the original. If you put your file in the right place and named it properly, it will be merged.

8.1 Going Forward

During the semester, you will not be making pull requests to submit your work. We do it here to demonstrate the concept since it is so basic to working with GitHub in the real world.

Instead of making pull requests, you will be using a separate repository for your work So, you will be working with two repositories going forward:

1. **The Course Repo**, which is where you will get course materials.
2. **Your Assessments Repo**, which is where you will be your finished work as assigned.

Part III

M02 Introducing Python

Topics

- Running Python code.
- Python's basic data types.
- Python's primary operators associated with each data type.
- Python's built-in data structures.

Outcomes

- Run Python from the command line on Rivanna.
- Create and run a Jupyter Notebook on Rivanna.
- Describe the difference between data from the perspective of data science versus computer science.
- Know the primary data types in Python and their basic operators.
- Know the built-in list-like data structures in Python and the basic methods and functions associated with them.

Readings

Required

Katz and Katz 2019, Section 1, Preparing the Workspace

Lutz, Learning Python, Part I: Getting Started, Chapter 2

Lutz, Learning Python, Part I: Getting Started, Chapter 3

Lutz, Learning Python, Part II: Types and Operations, Chapters 4–9

Optional

Katz and Katz 2019, Section 1, First Steps in Coding - Variables and Data Types

Built-in Types (Official)

Python Data Types (GFG)

Python Operators (W3S)

Immutable vs Mutable Data Types in Python (Medium)

9 Data and Code

An important principle for writing effective and intelligible code is that code should be simple — to quote Einstein, as simple as possible but no simpler.

- A contributing factor to code simplicity is how it is related to the data it is designed to process.
- This relationship depends largely on how the data are structured.
- A program is always written with data in mind — what kind of data it is and how it is structured.

9.1 Simplicity of code follows from the structure of data

There is a view among programmers which, although not orthodoxy, is commonplace.

- It is the idea that the complexity of a program — its algorithms — is a function of the quality of the data structure it processes.
- If a data structure is not well designed, algorithms may be excessively complex and hard to understand.
- However if a data structure is well designed, the algorithms that process them are more robust and intelligible.

9.2 Supporting References

Consider these quotes cited in an essay on [Data Structures](#). by Igor Budasov, reproduced here:

Here's a quote from Linus Torvalds in 2006:

I'm a huge proponent of designing your code around the data, rather than the other way around, and I think it's one of the reasons git has been fairly successful . . . I will, in fact, claim that the difference between a bad programmer and a good one is whether he considers his [sic] code or his data structures more important. Bad programmers worry about the code. Good programmers worry about data structures and their relationships.

Which sounds a lot like [Eric Raymond's "Rule of Representation" from 2003](#):

Fold knowledge into data, so program logic can be stupid and robust.

Which was just his summary of ideas like [this one from Rob Pike in 1989](#):

Data dominates. If you've chosen the right data structures and organized things well, the algorithms will almost always be self-evident. Data structures, not algorithms, are central to programming.

Which cites [Fred Brooks from 1975](#):

Representation is the Essence of Programming

Beyond craftsmanship lies invention, and it is here that lean, spare, fast programs are born. Almost always these are the result of strategic breakthrough rather than tactical cleverness. Sometimes the strategic breakthrough will be a new algorithm, such as the Cooley-Tukey Fast Fourier Transform or the substitution of an $n \log n$ sort for an n^2 set of comparisons.

Much more often, strategic breakthrough will come from redoing the representation of the data or tables. This is where the heart of your program lies. Show me your flowcharts and conceal your tables, and I shall be continued to be mystified. Show me your tables, and I won't usually need your flowcharts; they'll be obvious.

10 Python Object Types

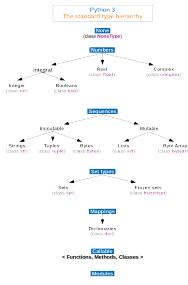
Python is organized into a hierarchy of object types. Sometimes, these are just call **types**.

Objects are the basic unit out of which the language is constructed.

We'll learn about objects later – what they are and how to create your own – but for now just understand that they have two main things associated with them:

- First, they can contain **data**.
 - Second, they can have **behaviors**, frequently in relation to the data they contain.

Data types and data structures are kinds of objects.



11 Activity: Hello, World!

11.1 The Python Interactive Shell

Log onto the Rivanna shell and move into in the course directory you created for this class.

From the command line, enter python

You should get the Python Shell:

```
rca2t@rivanna$ python
Python 3.8.8 | packaged by conda-forge | (default, Feb 20 2021, 16:22:27)
[GCC 9.3.0] on linux
Type "help", "copyright", "credits" or "license" for more information.
>>> █
```

This is also called the Python standard REPL, which stands for “Read-Eval-Print Loop”.

Make sure you see that you are using version 3 of Python.

If you see Python 2, exit the shell by entering `quit()` and try again by entering `python3` at the command line.

At the `>>>` prompt type `print("Hello, World!")` and press return.

If you’ve never used Python, you’ve just completed an important ritual. If you have used Python, well, you did it again :-)

To exit the Python Shell, enter `quit()` or `exit()` and hit return.

11.2 Python Files

Now create a file called `hello.py` using the command line editor `nano`.

Then run it from the command line by directly invoking the Python interpreter `python`.

12 Activity: Jupyter Lab

Now that we have run Python on Rivanna from the command line, let's try it using a Jupyter Notebook.

Go the OnDemand site to access Rivanna. As a reminder, the URL is <https://rivanna-portal.hpc.virginia.edu/>.

From the Interactive Apps menu, select JupyterLab and fill out the form to initiate a new session.

Remember to select just the resources needed and to enter our course allocations (`msds_ds5100`).

Once the session is ready, launch the notebook.

Once you are in the notebook, use file system tab on the left to get to the directory of your personal assessments repo. Remember, you created two repos for this class – one for course content from the instructor, and one for your own course work. Use the latter for this exercise.

In a code cell in the notebook, enter the code to print "Hello, World!", and run the cell.

Save your notebook as `hello-world.ipynb`.

13 NB: Data Types, Operators, and Expressions

We declare a number of variables with different value types.

By ‘type’ we mean object type.

Data types and data structures are both types of object.

Data types are created by the way they are written or as keywords ...

Here is a series of literal values (called **literals**):

Integers

10

10

FLOATS (decimals)

3.14

3.14

Strings

Type of quote does not matter, but they must be straight quotes, not “smart quotes” that some word processors use.

Note that there is no explicit **character** type as in Java and other languages.

"foo"

'foo'

```
'foo'
```

```
'foo'
```

Boolean

```
True, False
```

```
(True, False)
```

Nothing

It evaluates to nothing!

```
None
```

```
print(None)
```

```
None
```

Complex

For the physicists and signal processors.

```
5+0j
```

```
(5+0j)
```

14 Getting the type of a value

You can always find out what kind of type you are working with by calling the `type()` function.

```
type(3.14)
type("foo")
type('foo')
type(True)
type(None)

<class 'float'>
<class 'str'>
<class 'str'>
<class 'bool'>
<class 'NoneType'>
```

15 Assignment

Data are assigned to **variables** using the assignment **operator =**.

The variable is always on the **left**, the value assigned to it on the **right**.

This is not the same as mathematical equality.

Variables are assigned types **dynamically**.

This is in contrast to static typing, where you have define variables by asserting what kind of data values they can hold.

Python figures out what type of data is being set to the variable and implicitly stores that info.

```
integerEx = 8
longIntEx = 22000000000000000000000000000000
floatEx = 2.2
stringEx = "Hello"
booleanEx = True
noneEx = None
```

Note that `type()` returns the type of the value that a variable holds, not the type “variable”.

```
type(integerEx)
```

```
<class 'int'>
```

16 Deleting variables with `del()`

```
x = 101.25
```

```
x
```

```
NameError: name 'x' is not defined
```

```
del(x) # delete the variable x
```

```
x
```

```
NameError: name 'x' is not defined
```

You can't delete values!

```
del("foo")
```

```
SyntaxError: cannot delete literal (1397139688.py, line 1)
```

17 Get Object Identity with `id()`

This function returns the identity of an object.

The identity is a number that is guaranteed to be unique and constant for this object during its lifetime (during the program session).

You can think of it as the address of the object in memory.

```
print(id(integerEx))
```

```
4329876032
```

18 Convert Types with Casting Functions

It is possible to convert between types (when it makes sense to do so).

Sometimes conversions are “lossy” – you lose information in the process

18.1 int()

```
int?
```

```
Init signature: int(self, /, *args, **kwargs)
Docstring:
int([x]) -> integer
int(x, base=10) -> integer
```

Convert a number or string to an integer, or return 0 if no arguments are given. If x is a number, return x.__int__(). For floating point numbers, this truncates towards zero.

If x is not a number or if base is given, then x must be a string, bytes, or bytearray instance representing an integer literal in the given base. The literal can be preceded by '+' or '-' and be surrounded by whitespace. The base defaults to 10. Valid bases are 0 and 2-36. Base 0 means to interpret the base from the string as an integer literal.

```
>>> int('0b100', base=0)
4
Type:           type
Subclasses:    bool, IntEnum, IntFlag, _NamedIntConstant
```

Float to Int

```
val = 3.8
print(val, type(val))
```

```
3.8 <class 'float'>
```

```
val_int = int(val)
print(val_int, type(val_int))
```

```
3 <class 'int'>
```

String to Float

```
val = '3.8'
print(val, type(val))
```

```
3.8 <class 'str'>
```

```
val_int = float(val)
print(val_int, type(val_int))
```

```
3.8 <class 'float'>
```

Converting string decimal to integer will fail:

```
val = '3.8'
print(val, type(val))
```

```
3.8 <class 'str'>
```

```
val_int = int(val)
print(val_int, type(val_int))
```

```
ValueError: invalid literal for int() with base 10: '3.8'
```

18.2 ord()

Converting a character to it's code point

```
ord?
```

```
Signature: ord(c, /)
Docstring: Return the Unicode code point for a one-character string.
Type:      builtin_function_or_method
```

```
ord('a'), ord('A')
```

```
(97, 65)
```

19 Operators

If variables are **nouns**, and values **meanings**, then operators are **verbs**.

In effect, they are **elementary functions** that are expressed in sequential syntax.

`a + b` could have been expressed as `add(a, b)`.

Basically, **each data type is associated with a set of operators** that allow you to manipulate the data in way that makes sense for its type. Numeric data types are subject to mathematical operations, booleans to logical ones, and so forth.

There are also **operations appropriate to structures**. For example, list-like things have membership.

The relationship between types and operators is a microcosm of the relationship between data structures and algorithms. **Data structures imply algorithms and algorithms assume data structures**.

The w3schools site has [a good summary](#).

Here are some you may not have seen.

19.1 Arithmetic Operators

19.1.1 floor division //

```
5 // 2
```

2

```
-5 // 2
```

-3

```
5.5 // 2
```

2.0

19.1.2 modulus %

Returns the remainder

```
5 % 2
```

1

odd integers $\% 2 = 1$
even integers $\% 2 = 0$

Look at this ...

```
5.5 / 2, 5.5 // 2, 5.5 % 2
```

(2.75, 2.0, 1.5)

19.1.3 exponentiation **

```
5**3
```

125

19.2 String Operators

19.2.1 concatenation +

The plus sign is an **overloaded** operator in Python.

```
myString = 'This: '
my2ndString = myString + ' Goodbye, world!'
my2ndString
'This: Goodbye, world!'
```

19.2.2 repetition *

```
myString*2  
  
'This: This: '  
  
myString * 5  
  
'This: This: This: This: This: '  
  
bart_S1E3 = 'I will not skateboard in the halls'  
  
print((bart_S1E3 + '\n') * 5)  
  
I will not skateboard in the halls  
  
print('-' * 80)
```

See them all :-)

19.3 Assignment Operator =

We've used this already, but it too is an operator.

```
epoch = 20  
print('epoch:', epoch)  
  
epoch: 20
```

19.4 Comparison Operators

Comparisons are questions.

They return a boolean value.

19.4.1 equality ==

```
0 == (10 % 5)
```

True

```
'Boo' == 'Hoo'
```

False

Can we compare strings

```
'A' < 'B'
```

True

```
ord('A'), ord('B')
```

(65, 66)

19.4.2 inequality !=

```
5/9 != 0.5555
```

True

19.5 Logical Operators

Python uses words where other languages will use other symbols.

19.5.1 Conjunctions and, or, not

Note the we group comparisons with parentheses.

```
x = 10  
(x % 10 == 0) or (x < -1)
```

True

```
(x % 10 == 0) and (x < -1)
```

False

```
not x == 5
```

True

19.5.2 Identity is

The `is` keyword is used to test if two variables refer to the same object.

The test returns `True` if the two objects are the same object.

The test returns `False` if they are not the same object, even if the two objects are 100% equal.

Use the `==` operator to test if two variables are equal.

– from [W3Schools on Identity Operators](#)

`is`

```
x = 'fail'
```

```
x is 'fail'
```

```
<>:1: SyntaxWarning: "is" with a literal. Did you mean "=="?
```

```
<>:1: SyntaxWarning: "is" with a literal. Did you mean "=="?
```

```
/var/folders/14/rnyfspnx2q131jp_752t9fc80000gn/T/ipykernel_53814/1139635342.py:1: SyntaxWarning:
```

```
    x is 'fail'
```

```
True
```

```
is not
```

```
    x is not 'fail'
```

```
<>:1: SyntaxWarning: "is not" with a literal. Did you mean "!="?
```

```
<>:1: SyntaxWarning: "is not" with a literal. Did you mean "!="?
```

```
/var/folders/14/rnyfspnx2q131jp_752t9fc80000gn/T/ipykernel_53814/1754352910.py:1: SyntaxWarning:
```

```
    x is not 'fail'
```

```
False
```

```
    x = 'foo'
```

```
    y = 'foo'
```

```
    x is y
```

```
True
```

```
    x = ['a']
```

```
    y = ['a']
```

```
    x is y
```

```
False
```

19.5.3 Negation not

```
not True, not False, not 0, not 1, not 1000, not None
```

```
(False, True, True, False, False, True)
```

20 Unary Operators

Python offers a short-cut for most operators. When updating a variable with an operation to that variable, such as:

```
my_var = my_var + 1 # Incrementing
```

You can do this:

```
my_var += 1
```

Python supports many operators this way. Here are some:

```
a -= a
a \= a
a \\= a
a %= a
a *= a
a **= a
```

21 Expressions

Variables, literal values, and operators are the building blocks of expressions.

For example, the following combines three operators and four variables:

```
1 + 2 * 3 / 2
```

4.0

Python employs **operator precedence** when evaluating expressions:

P - Parentheses
E - Exponentiation
M - Multiplication
D - Division
A - Addition
S - Subtraction

You can use parentheses to group them to force the order of operations you want:

```
(1 + 2) * (3 / 2)
```

4.5

Variables and literal values can be combined:

```
y = 5
m = 2.5
b = 10
```

```
y = m * 10 + b
y
```

35.0

```
y = m * 5 + b  
y
```

22.5

Expression can be very complex.

Expressions evaluate to a value, just as single variables do.

Therefore, they can be put anywhere a value is accepted.

```
int((y + 10) ** 8)
```

1244706300354

22 NB: Numbers

These are built-in mathematical functions for numbers.

22.1 pow() Power

```
pow(2,3) # 2 raised to 3 = 8
```

22.2 abs() Absolute value

```
abs(-2) # returns 2, the absolute value of its argument
```

22.3 round() Round

Rounding up or down its argument (to closest whole number).

```
round(2.8) # rounds up to 3.0
```

3

```
round(1.1) # rounds down to 1.0
```

1

23 Math library functions

See the Python docs on [the math library](#).

```
import math
```

23.1 math.sqrt() Square root

```
math.sqrt?
```

```
Signature: math.sqrt(x, /)
Docstring: Return the square root of x.
Type:      builtin_function_or_method
```

```
# sqrt(intOne)
```

```
math.sqrt(12) # using the square-root function from the math library
```

```
3.4641016151377544
```

```
print(math.floor(2.5)) # returns largest whole number less than the argument
print(math.floor(2.9))
print(math.floor(2.1))
```

```
2
```

```
2
```

```
2
```

23.2 math.log()

```
math.log?
```

```
math.log(100, 10)
```

```
math.log(256, 2)
```

24 The Random library

See [random — Generate pseudo-random numbers](#) for more info.

```
import random
```

24.1 random.random()

```
random.random?  
  
print(random.random()) # using random() function in random library  
# will return a number between 0 and 1
```

24.2 random.randint()

```
random.randint?  
  
print(random.randint(1,100)) # specify a range in the parenthesis  
# this will return a random integer in the range 1-100
```

25 NB: Booleans

A `boolean` value takes one of `True` or `False`, which are built-in values
check if `cache` is `True`, using `if` statement
`if` statement using a `bool` evaluates to `True` or `False`

```
cache = True

if cache:
    print('data will be cached')
```

```
data will be cached
```

```
print(type(cache))

<class 'bool'>
```

Booleans are frequently used in `if/then` statements.

We'll cover these later.

```
cache = True
oome = False

if cache or oome:
    print('condition met!')
else:
    print("No dice.")
```

AND statements will short circuit if an early condition fails.

```
if oome and cache:
    print('condition met!')
```

In this case, since `oome` is `False`, the check on `cache` never happens.

26 NB: Strings

Strings are signified by quotes.

Single and double quotes are identical in function.

They must be “straight quotes” though – cutting and pasting from a Word document with smart quotes won’t work.

```
'hello world!' == "hello world!"
```

26.1 Quote prefixes

26.1.1 r strings

Prefixing a string causes escape characters to be uninterpreted.

```
print("Sentence one.\nSentence two.")  
  
print(r"Sentence one.\nSentence two.")
```

26.1.2 f strings

Prefixing a string with `f` allows variable interpolation – inplace evaluation of variables in strings.

```
ppl = 'knights'  
greeting = 'Ni'  
  
print(f'We are the {ppl} who say {greeting}!') # Output: We are the knights who say Ni!
```

The brackets and characters within them (called format fields) are replaced with the passed objects.

```
print(b"This is a sentence.")  
  
print("This is a sentence.")
```

27 Printing print()

Python uses a print function.

```
print("This is a simple print statement")
```

Python supports special “escape characters” in strings that produce effects when printed.

```
\\\ Backslash (\\  
\' Single quote (')  
\\" Double quote (")  
\n ASCII Linefeed, aka new line
```

Note that these are not unique to Python. They are part of almost all languages.

```
# Tab character ( \t )  
print("Hello,\tWorld! (With a tab character)")  
  
# Inserting a new line (line feed) character ( \n )  
print("Line one\nLine two, with newline character")  
  
# Concatenation in strings:  
# Use plus sign ( + ) to concatenate the parts of the string  
print("Concatenation," + "\t" + "in strings with tab in middle")  
  
# If you wanted to print special characters  
# Printing quotes  
print('Printing "quotes" within a string') # mixing single and double quotes  
  
# What if you needed to print special characters like (\) or (') or (")  
print('If I want to print \'single quotes\' in a string, use backslash!')  
print("If I want to print \"double quotes\" in a string, use backslash!")  
print('If I want to print \\the backslash\\\\ in a string, also use backslash!')
```

The print function puts spaces between strings and a newline at the end, but you can change that:

```
print("This", "is", "a", "sentence")  
  
print("This", "is", "a", "sentence", sep="--")  
  
print("This", "is", "a", "sentence")  
print("This", "is", "a", "sentence")  
  
print("This", "is", "a", "sentence", end=" | ")  
print("This", "is", "a", "sentence")
```

28 Comments

Comments are lines of code that aren't read by the interpreter.

They are used to explain blocks of code, or to remove code from execution when debugging.

```
# This is single-line comment
```

These following are multiline strings that can serve as comments:

```
'''  
This is an  
example of  
a multi-line  
comment: single quotes
```

```
"""  
Here is another  
example of  
a multi-line  
comment: double quotes
```

Note that multiline comments also evaluate as values.

29 Run-time User Input

```
answer = input("What is your name? ")  
print("Hello, " + answer + "!")
```

30 Some String Functions

Built-in string methods and functions.

See [Common String Operations] (<https://docs.python.org/3/library/string.html>) for more info

30.1 .lower(), .upper()

```
'BOB'.lower().upper()
```

30.2 .split()

Parse a string based on a delimiter, which defaults to whitespace.

NOTE: This does *not* use regular expressions.

This returns a list.

```
montyPythonQuote = 'are.you.suggesting.coconuts.migrate'  
  
'are.you.suggesting.coconuts.migrate'.split('.')  
  
montyPythonQuote  
  
montyPythonQuote.split('.') # split by the '.' delimiter. Result: a list!
```

30.3 .strip(), .rstrip(), lstrip() Strip methods

Strip out extra whitespace using strip(), rstrip() and lstrip() functions

```
.strip() removes white space from anywhere  
.rstrip() only removes white space from the right-hand-side of the string  
.lstrip() only removes white space from the left-hand-side of the string
```

```
str1 = ' hello, world!'      # white space at the beginning  
str2 = ' hello, world! '    # white space at both ends  
str3 = 'hello, world! '     # white space at the end
```

```
str1, str2, str3
```

```
str1.lstrip(), str1.rstrip()
```

```
str2.strip(), str2.rstrip()
```

```
str2.lstrip(), str3.rstrip()
```

```
status.startswith('a')
```

```
status.endswith('s')
```

30.4 .replace()

```
"latina".replace("a", "x")
```

30.5 .format()

Variable values can be embedding in strings using the `format()` function.
Place {} in the string in order from left to right. followed by `.format(var1, var2, ...)`

```
epoch = 20  
loss = 1.55  
  
print('Epoch: {}, loss: {}'.format(epoch, loss))
```

This breaks, as three variables are required based on number of {}

```
print('Epoch: {}, loop: {}, loss: {}'.format(epoch, loss))
```

30.6 .zfill()

Basic usage of the str.zfill() method (pads a numeric string on the left with zeros) It understands about plus and minus signs

```
print('12'.zfill(5))      # Output: 00012
print('-3.14'.zfill(7))    # Output: -003.14
print('3.141592'.zfill(5)) # Output: 3.141592
```

31 Strings are Lists

Actually, they are list-like.

Here are some functions applicable to strings because they are lists.

31.1 `len()` Length

This is built-in length function tells us how many characters in the string.

It also applies to any list-like object, including strings, lists, dicts, sets, and dataframes.

```
len?  
  
my_new_tring = 'This is a string'  
  
len(my_new_tring)
```

31.1.1 Indexing

Since strings are sequences in Python, each character of the string has a unique position that can be indexed.

Indexes are indicated by suffixed brackets, e.g. `foo[]`

```
my_new_tring[0] # displays the first character of the string  
                 # first position is position zero. Will display 'h'  
  
my_new_tring[-1] # displays the last character. Negatives count backwards.
```

31.1.2 Slicing

We can use the colon to ‘slice’ strings (and lists)

```
my_new_tring[0:4] # First four characters (index positions 0-3)

my_new_tring[:4] # Beginning (0) to (n-1) position

my_new_tring[4:] # Fifth character and onwards until the end of the string
```

it is NOT possible to reassign elements of a string. Python strings are **immutable**.

```
status = 'success'
status[0] = 't'
```

Add strings and handle pathing

32 NB: Structures

In contrast to primitive data types, data structures organize types into structures that have certain properties, such as **order**, **mutability**, and **addressing scheme**, e.g. by index.

A list is an ordered sequence of items.

Each element of a list is associated with an integer that represents the order in which the element appears.

Lists are indexed with **brackets []**.

List elements are accessed by providing their order number in the brackets.

Lists are **mutable**, meaning you can modify them after they have been created.

They can contain mixed types.

32.1 Constructing

They can be **constructed** in several ways:

```
list1 = []
list2 = list()
list3 = "some string".split()
numbers = [1,2,3,4]
```

32.2 Indexing

Zero-based indexing

Python uses zero-based indexing, which means for a collection `mylist`

`mylist[0]` references the first element

`mylist[1]` references the second element, etc

For any iterable object of length N :

`mylist[:n]` will return the first n elements from index 0 to $n-1$

`mylist[-n:]` will return the last n elements from index $N-n$ to $N-1$

```
numbers[0] # Access first element (output: 1)

numbers[0] + numbers[3] # doing arithmetic with the values (output: 5)

numbers[len(numbers)]
```

32.3 Slicing

```
numbers[0:2] # Output: [1, 2]

numbers[1:3] # Output: [2, 3]

len(numbers) # use len() function to find the size. Output: 4

numbers[2:] # Output: [3, 4]
```

32.4 Multiply lists by a scalar

A scalar is a single value number.

```
numbers * 2
```

32.5 Concatenate lists with +

```
numbers2 = [30, 40, 50]

numbers + numbers2 # concatenate two lists
```

32.6 Lists can mix types

```
myList = ['coconuts', 777, 7.25, 'Sir Robin', 80.0, True]  
myList
```

What happens if we multiply a list with strings?

```
# myList * 2
```

32.7 Lists can be nested

```
names = ['Darrell', 'Clayton', ['Billie', 'Arthur'], 'Samantha']  
names[2] # returns a *list*  
names[0] # returns a *string*
```

cannot subset into a float, will break

```
names[2][0]
```

32.8 Lists can concatenated with +

```
variables = ['x1', 'x2', 'x3']  
response = ['y']  
  
variables + response
```

33 Dictionaries dict

Like a hash table.

Has key-value pairs.

Elements are indexed using brackets [] (like lists).

But they are constructed used braces {}.

Key names are unique. If you re-use a key, you overwrite its value.

Keys don't have to be strings – they can be numbers or tuples or expressions that evaluate to one of these.

33.1 Constructing

```
dict1 = {  
    'a': 1,  
    'b': 2,  
    'c': 3  
}  
  
dict2 = dict(x=55, y=29, z=99) # Note the absence of quotes around keys  
  
dict2  
  
dict3 = {'A': 'foo', 99: 'bar', (1,2): 'baz'}
```

33.2 Retrieve a value

Just write a key as the *index*.

```
phonelist = {'Tom':123, 'Bob':456, 'Sam':897}
```

```
phonelist['Bob']
```

33.3 Print list of keys, values, or both

Use the `.keys()`, `.values()`, or `.items()` methods.

Keys are not sorted. For example, they are not ordered in order in which they were added.

```
phonelist.keys() # Returns a list
```

```
phonelist.values() # Returns a list
```

```
phonelist.items() # Returns a list of tuples
```

```
phonelist # note the data returned is not the same as the data entered
```

34 Tuples

A tuple is like a list but with one big difference: **a tuple is an immutable object!**

You can't change a tuple once it's created.

A tuple can contain any number of elements of any datatype.

Accessed with brackets [] but constructed with parentheses () .

```
numbers
```

34.1 Constructing

Created with comma-separated values, with or without parenthesis.

```
letters = 'a', 'b', 'c', 'd'  
  
letters  
  
numbers = (1,2,3,4) # numbers 1,2,3,4 stored in a tuple
```

A single valued tuple must include a comma , , e.g.

```
tuple0 = (29)  
  
tuple0, type(tuple0)  
  
tuple1 = (29,)  
  
tuple1, type(tuple1)  
  
len(numbers)
```

```
numbers[0] = 5 # Trying to assign a new value 5 to the first position
```

35 Common functions and methods to all sequences

```
len()  
in  
+  
*  
  
[1, 3] * 8  
  
(1, 3) * 8
```

35.1 Membership with in

Returns a boolean.

```
'Sam' in phonelist
```

36 Sets

A **set** is an unordered collection of unique objects.

They are subject to set operations.

```
peanuts = {'snoopy', 'snoopy', 'woodstock'}
```

```
peanuts
```

Note the set is deduped

Since sets are unordered, they don't have an index. This will break:

```
peanuts[0]
```

```
for peanut in peanuts:
    print(peanut)
```

Check if a value is in the set using `in`

```
'snoopy' in peanuts
```

Combine two sets

```
set1 = {'python', 'R'}
set2 = {'R', 'SQL'}
```

This fails:

```
set1 + set2
```

This succeeds:

```
set1.union(set2)
```

Get the set intersection

```
set1.intersection(set2)
```

37 Ranges

A range is a sequence of integers, from `start` to `stop` by `step`. - The `start` point is zero by default.

- The `step` is one by default.
- The `stop` point is NOT included.

Ranges can be assigned to a variable.

```
rng = range(5)
```

More often, ranges are used in iterations, which we will cover later.

```
for rn in rng:  
    print(rn)
```

another range:

```
rangy = range(1, 11, 2)  
for rn in rangy:  
    print(rn)
```

38 Collections and defaultdict

Very often you will want to build a dictionary from some data source, and add keys as they appear. The `dict` type in Python, however, requires that the key exists before you can mutate it. The `defaultdict` type in the `collections` module solves this problem. Here's an example.

```
source_data = """
Lorem Ipsum is simply dummy text of the printing and typesetting industry.
Lorem Ipsum has been the industry's standard dummy text ever since the 1500s,
when an unknown printer took a galley of type and scrambled it to make a type
specimen book. It has survived not only five centuries, but also the leap
into electronic typesetting, remaining essentially unchanged. It was
popularised in the 1960s with the release of Letraset sheets containing
Lorem Ipsum passages, and more recently with desktop publishing software
like Aldus PageMaker including versions of Lorem Ipsum.
"""\[1:-1].split()

# source_data
```

38.1 Try with dict

```
words = {}
for word in source_data:
    words[word] += 1
```

38.2 Use try and except

```
for word in source_data:  
    try:  
        words[word] += 1  
    except KeyError:  
        words[word] = 1  
  
words
```

38.3 Or use .get()

```
for word in source_data:  
    words[word] = words.get(word, 0) + 1
```

38.4 Use collections.defaultdict

```
from collections import defaultdict  
  
words2 = defaultdict(int) # Note the type must be set  
  
for word in source_data:  
    words2[word] += 1  
  
words2
```

Part IV

M03 Control Structures

Topics

- More on Statements and Syntax
- Control Structures and Loops
- Iterators
- Comprehensions

Outcomes

- Recognize primary control structures available in Python and their basic use cases
- Write comprehensions for each of Python's list-like data structures
- Recognize when iterators are used by Python functions (such as open())
- Understand basic conditional logic statements and their role in designing data flow in a program

Readings

Required

Lutz, 2019, Part III, Chapter 10. Introducing Python Statements

Lutz, 2019, Part III, Chapter 11. Assignments, Expressions, and Prints Read only up to and including “The Python 3.X print Function.”

Lutz, 2019, Part III, Chapter 12. if Tests and Syntax Rules

Lutz, 2019, Part III, Chapter 13. while and for Loops

Lutz, 2019, Part III, Chapter 14. Iterations and Comprehensions

Lutz, 2019, Part III, Chapter 15: The Documentations Interlude

Optional

Variables, Expressions, Statements, Types (Python Notes)

More Control Flow Tools (Python Docs)

If ... Then (W3S)

Iterators (GFG)

39 NB: Control Structures

Topics:

- conditional statements
- if, else, elif
- for-loop
- while-loop
- break
- continue
- iteration

39.1 Introducing Control Structures

Python includes structures to control the flow of a program:

- **conditions** (if, else)
- **loops**
 - **while-loop**
Execute statements while a condition is true
 - **for-loop**
Iterates over a iterable object (list, tuple, dict, set, string)

39.2 Indentation

This is where Python differs from most languages. To define control structures, and functional blocks of code in general, most languages use either characters like braces { and } or key words like IF ... END IF.

Python uses tabs – spaces, actually – to signify logical blocks off code.

It is therefore imperative to understand and get a feel for indentation. For more information, see [Lutz 2019, “A Tale of Two Ifs.”](#)

39.3 Conditions

39.3.1 if and else can be used for conditional processing.

```
val = -2

if val >=0:
    print(val)
else:
    print(-val)
```

39.3.2 elif

elif is reached when the previous statements are not.

```
val = -2

if -10 < val < -5:
    print('bucket 1')
if -5 <= val < -2:
    print('bucket 2')
elif val == -2:
    print('bucket 3')
```

39.3.3 else

else can be used as a catchall

```
val = 5

if -10 < val < -5:
    print('bucket 1')
elif -5 <= val < -2:
    print('bucket 2')
elif val == -2:
    print('bucket 3')
else:
    print('bucket 4')
```

39.3.4 if and else as one-liners

```
x = 3
print('odd') if x % 2 == 1 else print('even')
```

Notice `==` for checking the condition `x % 2 == 1`.

both `if` and `else` are required. This breaks:

```
print('odd') if x % 2 == 1
```

39.3.5 Using multiple conditions

If statements can be complex combinations of expressions.

Use parentheses carefully, to keep order of operations correct.

```
## correct

val = 2

if (-2 < val < 2) or (val > 10):
    print('bucket 1')
else:
    print('bucket 2')

## incorrect - misplaced parenthesis

if (-2 < val) < 2 or val > 10:
    print('bucket 1')
else:
    print('bucket 2')
```

and this is because `True < 2`, as `True` is cast to integer value 1

this is not the desired result...but does it make sense?

39.4 Loops

39.4.1 while

What does this print?

```
ix = 1
while ix < 10:
    ix = ix * 2
print(ix)
```

39.4.2 break to exit the loop altogether

sometimes you want to quit the loop early, if some condition is met.
uses **if-statement**

```
ix = 1
while ix < 10:
    ix = ix * 2
    if ix == 4:
        break
print(ix)
```

The **break** causes the loop to end early

39.4.3 continue to stop the current iteration

sometimes you want to introduce skipping behavior in the loop.
uses **if-statement**

```
ix = 1
while ix < 10:
    ix = ix * 2
    if ix == 4:
        print('skipping 4...')
        continue
    print(ix)
```

The **continue** causes the loop to skip printing 4

39.4.4 for

iterate over an iterable

```
cities = ['Charlottesville', 'New York', 'SF', 'BOS', 'LA']

for city in cities:
    city = city.lower()
    print(city)
```

quit early if SF reached, using **break**

```
cities = ['Charlottesville', 'New York', 'SF', 'BOS', 'LA']

for city in cities:
    if city == 'SF':
        break
    city = city.lower()
    print(city)
```

skip over SF if reached, using **continue**

```
cities = ['Charlottesville', 'New York', 'SF', 'BOS', 'LA']

for city in cities:
    if city == 'SF':
        continue
    city = city.lower()
    print(city)
```

39.5 while vs for

For loops are used to loop through a list of values or an operation in which the number of iterations is **known** in advance.

While loops are when **you don't know** how many interations it will take – you are depending on some condition to be met.

It is possible for while loops to be unending, for example:

```
while 1:  
    print("This is so annoying")
```

40 NB: Iterables and Iterators

Purpose - Define iterables and iterators - Using two methods, show how iterators can be used to return data from sets, lists, strings, tuples, dicts: - `for` loops
- `iter()` and `next()`

Specific Topics - iterable objects or iterables - iterators - iteration - sequence - collection

41 Defining Iterables and Iterators

Iterable objects or **iterables** can return elements one at a time.

An **iterator** is an object that iterates over iterable objects such as sets, lists, tuples, dictionaries, and strings.

Iteration can be implemented: - with a `for` loops - with the `next()` method

Next, we show examples for various iterables.

42 Lists

42.1 iterating using for

```
tokens = ['living room', 'was', 'quite', 'large']

for tok in tokens:
    print(tok)
```

```
living room
was
quite
large
```

42.2 iterating using iter() and next()

`iter()` gets an iterator. Pops out a value each time it's used.

`next()` gets the next item from the iterator

```
tokens = ['living room', 'was', 'quite', 'large']
myit = iter(tokens)
print(next(myit))
print(next(myit))
print(next(myit))
print(next(myit))
```

```
living room
was
quite
large
```

Calling `next()` when the iterator has reached the end of the list produces an exception:

```
    print(next(myit))
```

StopIteration:

Next, look at the type of the iterator, and the documentation

```
type(myit)
```

```
list_iterator
```

```
help(myit)
```

Help on list_iterator object:

```
class list_iterator(object)
| Methods defined here:
|
|   __getattribute__(self, name, /)
|       Return getattr(self, name).
|
|   __iter__(self, /)
|       Implement iter(self).
|
|   __length_hint__(...)
|       Private method returning an estimate of len(list(it)).
|
|   __next__(self, /)
|       Implement next(self).
|
|   __reduce__(...)
|       Return state information for pickling.
|
|   __setstate__(...)
|       Set state information for unpickling.

help(next)
```

Help on built-in function `next` in module `builtins`:

```
next(...)  
    next(iterator[, default])
```

Return the next item from the iterator. If default is given and the iterator is exhausted, it is returned instead of raising `StopIteration`.

Note that `for` implicitly creates an iterator and executes `next()` on each loop iteration. This is best way to iterate through a list-like object.

43 Sequences and Collections

We iterated over a list. Next we will illustrate for other iterables: `str`, `tuple`, `set`, `dict` lists, tuples, and strings are **sequences**. Sequences are designed so that elements come out of them in the same order they were put in.

Sets and dictionaries are not sequences, since they don't keep elements in order. They are called **collections**. The ordering of the items is arbitrary.

NOTE: This has changed for dictionaries in Python 3.7: > the insertion-order preservation nature of dict objects has been declared to be an official part of the Python language spec.

– [What's New in Python 3.7](#)

44 Sets

iterating using `for`

```
princesses = {'belle', 'cinderella', 'rapunzel'}  
  
for princess in princesses:  
    print(princess)
```

```
cinderella  
belle  
rapunzel
```

iterating using `iter()` and `next()`

```
princesses = {'belle', 'cinderella', 'rapunzel'}  
  
myset = iter(princesses) # note: set has no notion of order  
print(next(myset))  
print(next(myset))  
print(next(myset))
```

```
cinderella  
belle  
rapunzel
```

45 Strings

iterating using for

```
strn = 'data'  
  
for s in strn:  
    print(s)
```

```
d  
a  
t  
a
```

iterating using iter() and next()

```
st = iter(strn)  
  
print(next(st))  
print(next(st))  
print(next(st))  
print(next(st))
```

```
d  
a  
t  
a
```

46 Tuples

iterating using for

```
metrics = ('auc','recall','precision','support')

for met in metrics:
    print(met)
```

```
auc
recall
precision
support
```

iterating using iter() and next()

```
metrics = ('auc','recall','precision','support')

tup_metrics = iter(metrics)
print(next(tup_metrics))
print(next(tup_metrics))
print(next(tup_metrics))
print(next(tup_metrics))
```

```
auc
recall
precision
support
```

47 Dictionaries

iterating using for

```
courses = {'fall':['regression','python'], 'spring':['capstone','pyspark','nlp']}

# iterate over keys
for k in courses:
    print(k)
```

```
fall
spring
```

```
# iterate over keys, using keys() method
for k in courses.keys():
    print(k)
```

```
fall
spring
```

```
# iterate over values
for v in courses.values():
    print(v)
```

```
['regression', 'python']
['capstone', 'pyspark', 'nlp']
```

```
# iterate over keys and values using `items()`
for k, v in courses.items():
    print(f'{k}:\t{v}')
```

```
fall: regression, python
spring: capstone, pyspark, nlp
```

Alternatively, keys and values can be extracted from the dict by:

- looping over the keys
- extract the value by indexing into the dict with the key

```
# iterate over keys and values using `key()` .
for k in courses.keys():
    print(f'{k}:\t{courses[k]}') # index into the dict with the key
```

```
fall: regression, python
spring: capstone, pyspark, nlp
```

48 Ranges

iterating using for

If you just want to iterate for a known number of times, use `range()`.

```
for i in range(10):
    print(str(i+1).zfill(2), (i+1)**2 * '|')
```

```
01 |
02 ||||
03 |||||||||
04 |||||||||||||
05 |||||||||||||||
06 |||||||||||||||||
07 |||||||||||||||||
08 |||||||||||||||||
09 |||||||||||||||||
10 |||||||||||||||||
```

49 Get iteration number with enumerate()

Very often you will want to know iteration number you are on in a loop.

This can be used to name files or dict keys, for example.

`enumerate()` will return the index and key for each iteration.

```
courses
```

```
{'fall': ['regression', 'python'], 'spring': ['capstone', 'pyspark', 'nlp']}
```

```
for i, semester in enumerate(courses):
    course_name = f"{str(i).zfill(2)}_{semester}:\t'.join(courses[semester])}"
    print(course_name)
```

```
00_fall: regression-python
01_spring: capstone-pyspark-nlp
```

50 Nested Loops

Iterations can be nested!

This works well with nested data structures, like dicts within dicts.

This is basically how JSON files are handled, BTW.

Be careful, though – these can get deep and complicated.

```
for i, semester in enumerate(courses):
    print(f"{i+1}. {semester.upper()}:")
    for j, course in enumerate(courses[semester]):
        print(f"\t{i+1}.{j+1}. {course}")
```

1. FALL:
 - 1.1. regression
 - 1.2. python
2. SPRING:
 - 2.1. capstone
 - 2.2. pyspark
 - 2.3. nlp

iterating using `iter()` and `next()`

51 NB: Comprehensions

Purpose - Explain the benefit of list comprehensions - Illustrate the use of list comprehensions
- Explain the benefit of dict comprehensions - Illustrate the use of dict comprehensions

Concepts - list comprehension - dict comprehension - iterators

52 List Comprehensions

Consider this task: check if each integer in a list is odd.

Without list comprehensions, you might do this:

52.1 Check if Odd

```
vals = [1,5,6,8,12,15]
is_odd = []

for val in vals:
    if val % 2: # if remainder is one, val is odd
        is_odd.append(True)
    else:        # else it's not odd
        is_odd.append(False)

is_odd
```

```
[True, True, False, False, False, True]
```

The code loops over each value in the list, checks the condition, and appends to a new list.

The code works, but it's lengthy compared to a list comprehension.

The approach takes extra time to write and understand.

Let's solve with a list comprehension:

```
is_odd = [val % 2 == 1 for val in vals]
is_odd
```

```
[True, True, False, False, False, True]
```

Much shorter, and if you understand the syntax, quicker to interpret.

Note the in-place use of an expression.

Now let's discuss the syntax.

53 Comprehensions in General

Comprehensions provide a concise method for iterating over any list-like object to a new list like object.

There are comprehensions for each list-like object:

- * List comprehensions
- * Dictionary comprehensions
- * Tuple comprehensions
- * Set comprehensions

Comprehensions are essentially very concise `for` loops. They are compact visually, but they also are more efficient than loops.

All comprehensions have the form:

```
listlike_result = [ expression + context]
```

The type of comprehension is indicated by the use of enclosing pairs, just like anonymous constructors:

- List comprehensions `[expression + context]`
- Dictionary comprehensions `{expression + context}`
- Tuple comprehensions `(expression + context)`
- Set comprehensions `{expression + context}`

Expression defines what to do with each element in the list. This has the structure of the kind of comprehension. So, dictionary comprehension expressions take the form `k:v` while sets use `v`.

Context defines which list elements to select. The context always consists of an arbitrary number of `for` and `if` statements.

54 More examples

54.1 Stop Word Remover

Create list of words, and list of stop words.
Filter out the stop words (considered not important).

```
stop_words = ['a', 'am', 'an', 'i', 'the', 'of']
words      = ['i', 'am', 'not', 'a', 'fan', 'of', 'the', 'film']

clean_words = [wd for wd in words if wd not in stop_words]
clean_words

['not', 'fan', 'film']
```

placing the color-coding on the list comprehension:

```
[ wd  for wd in words  if wd not in stop_words]
```

- the expression is very simple: **wd**. keep the word if meets condition
- the condition does the work: if the word isn't in list of stop words, keep it

Side note: This task can also be done with sets, if you are not concerned with multiple instances of the same word:

```
s1 = set(stop_words)
s2 = set(words)
s3 = s2 - s1

s3

{'fan', 'film', 'not'}
```

54.2 Select Tokens Containing Units

Given a list of measurements, retain elements containing mmHg (millimeters of mercury)

```
units = 'mmHg'  
measures = ['20', '115mmHg', '5mg', '10 mg', '7.5dl', '120 mmHg']  
meas_mmhg = [meas for meas in measures if units in meas]  
  
meas_mmhg
```

```
['115mmHg', '120 mmHg']
```

Filtering on two conditions

```
units1 = 'mmHg'  
units2 = 'dl'  
meas_mmhg_dl = [meas for meas in measures if units1 in meas or units2 in meas]  
  
meas_mmhg_dl
```

```
['115mmHg', '7.5dl', '120 mmHg']
```

This can be written differently for clarity:

```
[meas  
for meas in measures  
if units1 in meas  
or units2 in meas]  
  
['115mmHg', '7.5dl', '120 mmHg']
```

55 Dictionary Comprehensions

Dictionary comprehensions provide a concise method for iterating over a dictionary to create a new dictionary.

This is common when data is structured as key-value pairs, and we'd like to filter the dict.

```
# various deep learning models and their depths

model_arch = {'cnn_1': '15 layers', 'cnn_2': '20 layers', 'rnn': '10 layers'}

# create a new dict containing only key-value pairs where the key contains 'cnn'

cnns = {key:model_arch[key] for key in model_arch.keys() if 'cnn' in key}
cnns

{'cnn_1': '15 layers', 'cnn_2': '20 layers'}
```

We build the key-value pairs using `key:model_arch[key]`, where the key indexes into the dict `model_arch`

Part V

M04 Functions

Topics

- Built-in functions
- User-defined functions
- Variable scope
- Lambda functions
- Design of functions
- Recursion

Outcomes

- Be able to use Python's native and imported functions
- Be able to write your own functions
- Understand concept of variable scope
- Be able to write lambda functions and understand their use cases
- Grasp basic principles of function design
- Implement simple recursion functions

Readings

Required

Lutz 2019, Part IV, Chapter 16: Function Basics

Lutz 2019, Part IV, Chapter 17: Scopes Non-local is for advanced users

Lutz 2019, Part IV, Chapter 18. Arguments

Lutz 2019, Part IV, Chapter 19: Advanced Function Topics

Optional

McKinney, Python for Data Analysis, Appendix A: Python Language Essentials

Read section on Functions

Functions (W3S)

Global and Local Variables (GFG)

Lambda Functions (Real Python)

56 NB: Importing Functions

56.1 Importing

Calling a function from the “math” library is straightforward:

1. Import Python’s Math library with the command `import math`
2. Call methods from the imported `math` object using “dot” notation, that is, `.(any parameters)`.

For example:

```
math.sqrt(12)
```

Put all of your import statements at the very top of your code, before anything else, other than any header comments (which you should have).

Here are some example math functions:

```
import math # Typically best to put this line of code at the TOP of the file
```

```
math.sqrt(12)
```

```
3.4641016151377544
```

```
math.floor(2.5) # returns largest whole number less than the argument
```

2

Here’s an example using the random library (a class).

```
import random # Typically best to put this line of code at the TOP of the file
```

```
random.random()# will return a number between 0 and 1
```

```
0.3599068479674543
```

```
random.randint(1, 100) # this will return a random integer in the range 1-100
```

18

56.2 Importing Specific Functions

If you know what specific function you are going to use from a library, you can import them directly, like so:

```
from math import sqrt
```

This has two effects: 1. It reduces the memory used by the library in your program. 2. It allows you to call the function directly, with the object dot notation.

```
from math import sqrt
```

```
sqrt(99)
```

```
9.9498743710662
```

56.3 Aliasing

To avoid having the function name conflict with an existing function in your program, you can alias the imported function like so:

```
from math import sqrt as SquareRoot
```

```
SquareRoot(65000)
```

```
254.95097567963924
```

```
def square(number):
    return number * number # square a number
```

```
def addTen(number):
    return number + 10 # Add 10 to the number

def numVowels(string):
    string = string.lower() # convert user input to lowercase
    count = 0
    for i in range(len(string)):
        if string[i] == "a" or string[i] == "e" or \
           string[i] == "i" or string[i] == "o" or \
           string[i] == "u":
            count += 1 # increment count
    return count
```

57 NB: Introduction to Functions

Objectives - Explain the benefits of functions - Illustrate how to use built-in functions - Illustrate how to create and use your own (user-defined) functions - Demonstrate the scope and lifetime of a variable - Illustrate global and local nature of variables through functions - Demonstrate function parameter use - Provide recommendations on how to create and document functions - Show how to print and write docstrings

Concepts - functions - built-in functions - user-defined functions - variable scope - global versus local variables - default arguments - *args - function call - docstring

57.1 Introduction

A function is piece of source code, separate from the larger program, that performs a specific task. This section of code is given a name and can be called from the main program. It is called by using its given name.

Functions are the **verbs** of a programming language. They signify action, and take subjects and objects (as it were).

Functions take **input** and produce **output**.

- Function inputs are called both **parameters** and **arguments**.
- Outputs are called **return** values

Functions are always written with parentheses at the end of their names, e.g.

```
len(some_list)
```

Internally, they contain a block of code to do their work.

Often they produce a **transformation** ... from simple to complex.

When you use a function, we say you **call** a function. Programmers speak of “function calls” and “callbacks”.

57.2 Benefits

Reduce complex tasks into simpler tasks.

Eliminate duplicate code – no need to re-write, reuse function as needed.

Code reuse. Once function is written, you can reuse it in any other program.

Distribute tasks to multiple programmers. For example, each function can be written by someone.

Hide implementation details, i.e. abstraction.

Increase code readability.

Improve debugging by improving traceability. Things are easier to follow; you can jump from function to function.

57.3 Built-in Functions

Python provides many **built-in** functions. See [Python built-in functions](#).

We've looked at many of these already.

These are functions that are available to use any time your are running Python.

To take one simple example, this is a built-in function: `bool()`.

Takes an argument *x* and returns a boolean value, i.e. `True` or `False`.

```
bool(0), bool(500)
```

57.4 Imported Functions

Python is meant to be a highly modular language.

It is not designed to have a lot of special purpose functions built into it.

These keeps it light and highly customizable.

Many functions (and other stuff) can be imported into a program to add to the functions that you can call in a script.

There are also many **packages** to bring in additional functions.

Packages and Libraries

57.5 User-Defined Functions

Python makes it easy for you to write your own functions. These are called **user-defined** functions.

Let's write a function to compare the list against a threshold.

```
def vals_greater_than_or_equal_to_threshold(vals, thresh):  
    '''
```

```
    This is the "docstring" of a function. It is optional but expected. It describes it's  
    purpose and the nature of the input and return values, as well as a sense of what it d  
    More elaborate information should appear in external documentation packages with the f
```

```
PURPOSE: Given a list of values, compare each value against a threshold
```

```
INPUTS
```

```
vals    list of ints or floats  
thresh  int or float
```

```
OUTPUT
```

```
bools   list of booleans  
'''
```

```
bools = [val >= thresh for val in vals]
```

```
return bools
```

Let's break down the components

The function definition starts with **def**, followed by name, one or more arguments in parenthesis, and then a colon.

Next comes a **docstring** to provide information to users about how and why to use the function.

The function **body** follows.

Mostly is a **return** statement

The **function call** allows for the function to be used.

It consists of function name and required arguments:

```
vals_greater_than_or_equal_to_threshold(arg1, arg2) where arg1, arg2 are arbitrary  
names.
```

57.5.1 About the docstring

A **docstring** m occurs as first statement in module, function, class, or method definition

Internally, it is saved in `__doc__` attribute of the function object.

It needs to be indented.

It can be a single line or a multi-line string.

57.5.2 Let's test our function

The function body used a `list comprehension` for the compare:

```
[val >= thresh for val in vals]

## validate that it works for ints

x = [3, 4]
thr = 4

vals_greater_than_or_equal_to_threshold(x, thr)

## validate that it works for floats

x = [3.0, 4.2]
thr = 4.2

vals_greater_than_or_equal_to_threshold(x, thr)

## vals_greater_than_or_equal_to_threshold("foo", "bar")
```

This gives correct results and does exactly what we want.

57.5.3 Users can print the docstring

```
print(vals_greater_than_or_equal_to_threshold.__doc__)

print the help

help(vals_greater_than_or_equal_to_threshold)
```

```
?vals_greater_than_or_equal_to_threshold
```

Let's test our function

The function body used a `list comprehension` for the comparison:

```
[val >= thresh for val in vals]
```

```
## validate that it works for ints
```

```
x = [3, 4]
thr = 4
```

```
vals_greater_than_or_equal_to_threshold(x, thr)
```

```
## validate that it works for floats
```

```
x = [3.0, 4.2]
thr = 4.2
```

```
vals_greater_than_or_equal_to_threshold(x, thr)
```

This gives correct results and does exactly what we want.

Print the docstring

```
print(vals_greater_than_or_equal_to_threshold.__doc__)
```

Print the help

```
help(vals_greater_than_or_equal_to_threshold)
```

Use the `?` prefix ...

```
?vals_greater_than_or_equal_to_threshold
```

57.6 Passing Parameters

Functions need to be called with correct number of parameters.

This function requires two params, but the function call includes only one param.

```
def fcn_bad_args(x, y):
    return x + y
```

```
fcn_bad_args(10)
```

57.6.1 Parameter Order

When calling a function, **parameter order matters**.

```
def fcn_swapped_args(x, y):
    out = 5 * x + y
    return out
```

```
x = 1
y = 2
```

```
fcn_swapped_args(x, y)
```

```
fcn_swapped_args(y, x)
```

Generally it's best to keep parameters in order.

You can swap the order by putting the parameter names in the function call.

```
fcn_swapped_args(y=y, x=x)
```

57.6.2 Weirdness Alert

Note that the same name can be used for the parameter names and the variables passed to them.

The names themselves have nothing to do with each other!

In other words, just because a function names an argument `foo`, the variables passed to it don't have to name `foo` or anything like it. They can even be named the same thing – it does not matter.

57.7 Unpacking List-likes with *args

The * prefix operator can be passed to avoid specifying the arguments individually.

```
def show_arg_expansion(*models):

    print("models          :", models)
    print("input arg type : ", type(models))
    print("input arg length:", len(models))
    print("-----")

    for mod in models:
        print(mod)
```

We can pass a tuple of values to the function ...

```
show_arg_expansion("logreg", "naive_bayes", "gbm")
```

You can also pass a list to the function.

If you want the elements unpacked, put * before the list.

```
models = ["logreg", "naive_bayes", "gbm"]
show_arg_expansion(*models)
```

This approach allows your function to accept an arbitrary number of arguments.

```
show_arg_expansion('a b c d e f g'.split())
```

The reverse is true, too.

You can use the * prefix to pass list-like objects to a function that specifies its arguments.

```
def arg_expansion_example(x, y):
    return x**y

my_args = [2, 8]
arg_expansion_example(*my_args)
```

But, the passed object must be the right length.

```
my_args2 = [2, 8, 5]
arg_expansion_example(*my_args2)

## **my_dict
```

57.8 Default Arguments

Use default arguments to set the value of arguments when left unspecified.

```
def show_results(precision, printing=True):
    precision = round(precision, 2)
    if printing:
        print('precision =', precision)
    return precision

pr = 0.912
res = show_results(pr)
```

The function call didn't specify `printing`, so it defaulted to True.

NOTE: Default arguments must follow non-default arguments. This causes trouble:

```
def show_results(precision, printing=True, uhoh):
    precision = round(precision, 2)
    if printing:
        print('precision =', precision)
    return precision
```

57.9 Returning Values

Functions are not required to have `return` statement.

If there is no `return` statement, a function returns `None`.

Functions can return no value (`None`), one value, or many.

Many values are returned as a tuple.

Any Python object can be returned.

```

## returns None, and prints.

def fcn_nothing_to_return(x, y):
    out = 'nothing to see here!'
    print(out)

fcn_nothing_to_return(x, y)

r = fcn_nothing_to_return(1, 1)
print(r)

## returns three values

def negate_coords(x, y, z):
    return -x, -y, -z

a, b, c = negate_coords(10, 20, 30)
print('a =', a)
print('b =', b)
print('c =', c)

```

If you don't need an output, use the dummy variable `_`

```

d, e, _ = negate_coords(10, 20, 30)
print('d =', d)
print('e =', e)

```

Note: It's generally a good idea to include return statements, even if not returning a value.

This shows that you did not forget to consider the return value.

You can use `return` or `return None`.

Functions can contain multiple return statements.

These may be used under different logical conditions.

```

def absolute_value(num):
    if num >= 0:
        return num
    return -num

```

```
absolute_value(-4)
```

```
absolute_value(4)
```

For non-negative values, the first `return` is reached.

For negative values, the second `return` is reached.

57.10 Function Design

A function is not just a bag of code!

Some good practices for creating and using functions:

- design a function to do one thing

Make them as simple as possible, which makes them:

- more comprehensible
- easier to maintain
- reusable

This helps avoid situations where a team has 20 variations of similar functions.

Give your function a good name.

- It should reflect the action it performs.
- Be consistent in your naming conventions.
- A name like `compute_variances_sort_save_print` suggests the function is overworked!

If the function `compute_variances` also produces plots and updates variables, it will cause confusion.

Always give your function a docstring - Particularly important since indicating data types is not required.

- As a side note, you can include this information by using **type annotation**.

Finally, at some point you may be interested to learn some of the formatting languages that have been developed to write docstrings. See [Lutz 2019](#) and this web page about [Documenting Python Code](#) for more info.

58 NB: Lambda Functions

58.1 Introduction

Python lambda functions are small, informal functions. They don't get a name.

The are "anonymous."

From Lutz 2019:

Besides the `def` statement, Python also provides an expression form that generates function objects. Because of its similarity to a tool in the Lisp language, it's called `lambda`. Like `def`, this expression creates a function to be called later, but it returns the function instead of assigning it to a name. This is why lambdas are sometimes known as anonymous (i.e., unnamed) functions. In practice, they are often used as a way to inline a function definition, or to defer execution of a piece of code.

The general form of a lambda function is:

```
lambda x: x  
  
<function __main__.<lambda>(x)>
```

You can call the function like this:

```
(lambda x: x)(2)
```

2

`increment x`

```
(lambda x: x+1)(5)
```

6

```
sum two variables
```

```
lambda x, y: x + y
```

```
<function __main__.<lambda>(x, y)>
```

58.2 Assigned to a Variable

Even though they don't get a name, they can be assigned to variables.

Here, a lambda function gets assigned to `sum_two_vars`.

```
sum_two_vars = lambda x, y: x + y
```

```
sum_two_vars(2, 4)
```

Check if a value is non-negative

```
is_non_negative = lambda x: x >= 0
```

```
is_non_negative(-9)
```

```
is_non_negative(0)
```

Package first element and all data into tuple

```
pack_first_all = lambda x: (x[0], x)
```

```
casado = ('rice', 'beans', 'salad', 'plaintain', 'chicken') # a typical Costa Rican dish
```

```
pack_first_all(casado)
```

Check for keyword “dirty”

```
is_dirty = lambda txt: 'dirty' in txt
```

```
kitchen_inspection = 'dirty dishes'  
is_dirty(kitchen_inspection)
```

```
kitchen_inspection = 'pretty clean!'  
is_dirty(kitchen_inspection)  
  
**pass *args for unspecified number of arguments**  
  
(lambda *args: sum(args))(1,2,3)
```

58.3 Using Lambda

Lambda functions are often used in Pandas. We will discuss there use in more detail when we get to that topic.

59 NB: Recursion

Concepts - recursion - recursive function - stack - stack overflow

59.1 Introduction

A recursive function is **a function that calls itself**.

This is weird, since it does not seem possible. How can a definition refer to itself?

In philosophy, this is expressed in the Barber's Paradox:

The barber is the one who shaves all those, and those only, who do not shave themselves. Does the barber shave himself?

Formally, it is a type of [self-reference](#), like `This sentence is false.`

A Cute Definition

recursion - the art of defining something (at least partly) in terms of itself, which is a naughty no-no in dictionaries but often works out okay in computer programs if you're careful not to recurse forever (which is like an infinite loop with more spectacular failure modes).

Source: *PerlDoc*

59.1.1 A Formal Definition

In mathematics and computer science, a class of objects or methods exhibits *recursive behavior* when it can be defined by two properties:

A simple base case (or cases): a terminating scenario that does not use recursion to produce an answer.

A recursive step: a set of rules that reduces all successive cases toward the base case.

59.1.2 As Seen in Nature

Recursion occurs naturally when a process applies a rule to itself successively.

We see this in fractals.

59.1.3 Infinite Loops and Stack Overflows

Every recursive function must have a base condition that stops the recursion or else the function calls itself infinitely.

The Python interpreter limits the depths of recursion to help avoid infinite recursions, resulting in stack overflows.

The **call stack** is where information is stored relating to the active subroutines in a program.

The call stack has a limited amount of available memory. When excessive memory consumption occurs on the call stack, it results in a **stack overflow error**.

59.1.4 A Note of Caution

So, Recursion is cool, but is expensive and complicated.

Recursive functions can usually be implemented by traditional loops.

59.2 Example: Computing Factorials

Source

The factorial of a number n is the product of all the integers from 1 to n .

For example, the factorial of 5 (denoted as $5!$) is $1 \times 2 \times 3 \times 4 \times 5 = 120$.

Let's implement this in code using a recursive function.

59.2.1 Recursive Function

```
n = 5

##| tags: []
def factorial(x):
    "Finds the factorial of an integer using recursion"
```

```
if x == 1: # Base condition
    return 1
else:
    return x * factorial(x-1)

##| tags: []
%time factorial(n)
```

59.2.2 As a while loop

```
def factorial_while(x):
    "Finds the factorial of an integer using a while loop"
    f = x
    while x > 1:
        x -= 1
        f *= x
    return f

%time factorial_while(n)
```

59.2.3 As a for loop

```
def factorial_for(x):
    "Finds the factorial of an integer using a for loop"
    f = x
    for i in range(1, x):
        x -= 1
        f *= x
    return f

%time factorial_for(n)
```

59.2.4 Compare functions as n increases

59.2.4.1 Increase n to 50

```
n = 50  
%time factorial(n)  
  
%time factorial_while(n)  
%time factorial_for(n)
```

59.2.4.2 Increase n to 500

```
n = 500  
  
%time factorial(n)  
  
%time factorial_while(n)  
  
%time factorial_for(n)
```

59.2.4.3 Increase n to 5000

```
n = 5000  
%time factorial(n)  
  
factorial_while(n)  
  
%time factorial_while(n)  
  
%time factorial_for(n)
```

59.3 Example: The Fibonacci sequence

$\text{Fib}(0) = 0$ (base case 1)

$\text{Fib}(1) = 1$ (base case 2)

For all integers $n > 1$, $\text{Fib}(n) = \text{Fib}(n - 1) + \text{Fib}(n - 2)$

```
def Fibonacci(n):
    "Compute a Fibonacci Sequence using recursion"

    # If n is negative
    if n < 0:
        print("Incorrect input. Value must be 0 or greater.")

    # If n is 0
    elif n == 0:
        return 0

    # If n is 1 or 2
    elif n == 1 or n == 2:
        return 1

    else:
        return Fibonacci(n - 1) + Fibonacci(n - 2)

n = 9

Fibonacci(9)
```

```
for n in range(100):
    if n > 0: print(", ", end="")
    print(Fibonacci(n), end="")
```

59.3.1 As a for loop

```
def fibber(r:int = 10):
    """
    Computes a Fibonacci Sequence using a for loop.
    Parameter r must be an integer > 3. Defaults to 10.
    Returns a string as a comma-limited series.
    """
    seq = [1,1,2]
    kernel = lambda x, i: x[i-1] + x[i-2]
```

```

for n in range(3, r):
    seq.append(seq[n-1] + seq[n-2])
return ', '.join([str(x) for x in seq])

fibber(20)

```

59.4 Aside: A General Sequence Function

Recursive functions are often used to produce mathematical sequences, but since they have limits on depth, they are of limited use for this purpose.

Here is a function that can combine many sequences using two sequence parameters:

- * The initial state of the sequence, represented as the list `seq`.
- * For example, in the Fibonacci sequence, `seq` is `[1, 1, 2]`
- * The function to apply to the sequence at each iteration, represented as a `lambda` function with the arguments `x` and `i` for the the sequence list `seq` and the iteration number respectively.
- * For example, in the Fibonacci sequence the kernel function is `lambda x, i: x[i-1] + x[i-2]`

```

##| tags: []
def sequencer(n:int = 10, seq=[1, 1, 2], kernel=lambda x, i: x[i-1] + x[i-2]):
    """
    Computes a Sequence using a for loop.

    Parameter n in integer which must be > 3. Defaults to 10.
    Parameter seq is as list in the initial state of the sequence. Must have at least one
    Parameter kernel is the kernel function applied to the series at each iteration. x sta
    Returns a string as a comma-limited series.
    """

    for i in range(len(seq), n): seq.append(kernel(seq, i))
    return ', '.join([str(x) for x in seq])

n = 8

%time sequencer(n, [0], lambda x, i: i)

```

The series of positive integers

```
sequencer(n, [1], lambda x, i: x[i-1] + 1)
```

The series of even numbers

```
sequencer(n, [2], lambda x, i: x[i-1] + 2)
```

The series of odd numbers

```
sequencer(n, [1], lambda x, i: x[i-1] + 2)
```

The series of Fibonacci numbers

```
sequencer(n, [1,1,2], lambda x, i: x[i-1] + x[i-2])
```

The series of Squares

```
sequencer(n, [2], lambda x, i: x[i-1]**2)
```

60 NB: Variable Scope

60.1 Overview

A variable's **scope** is the part of a program where it is **visible**.

- Scope refers to the **coding region**, such as a function block, from which a particular Python object is accessible.
- Visible means available or **usable** to the code block in question.
- If a variable is **in scope** to a function, it is visible the function.
- If it is **out of scope** to a function, it is not visible the function.

When a variable is defined **inside** of a function, is is not visible outside of the function. * We say such variables are **local** to the function. * They are also removed from memory when the function completes.

When a variable is defined **outside** of any function in a script, it is visible to any function inside of the script * We say such variables are **global** to the functions in the file or context in which the variables are defined. * A function can replace a global variable with local variable by defining that variable. In this case, a variable can have global and local versions in the same program.

Sometimes variable scope is called **lexical** scope.

It is helpful to have a good understanding of scope to avoid surprises and confusion.

The concept is easier than it may look in the abstract. Let's look at some examples where we vary the use of local and global definitions of `x`.

60.2 Lutz on Scoping

Here's an excerpt from [Lutz, Chapter 17](#). Please read the whole thing.

The enclosing module is a global scope. Each module is a global scope—that is, a namespace in which variables created (assigned) at the top level of the module file live. Global variables become attributes of a module object to the outside world after imports but can also be used as simple variables within the module file itself.

The global scope spans a single file only. Don't be fooled by the word "global" here—names at the top level of a file are global to code within that single file only. There is really no notion of a single, all-encompassing global file-based scope in Python. Instead, names are partitioned into modules, and you must always import a module explicitly if you want to be able to use the names its file defines. **When you hear "global" in Python, think "module."**

Assigned names are local unless declared global or nonlocal. By default, all the names assigned inside a function definition are put in the local scope (the namespace associated with the function call). If you need to assign a name that lives at the top level of the module enclosing the function, you can do so by declaring it in a global statement inside the function. If you need to assign a name that lives in an enclosing def, as of Python 3.X you can do so by declaring it in a nonlocal statement.

All other names are enclosing function locals, globals, or built-ins. Names not assigned a value in the function definition are assumed to be enclosing scope locals, defined in a physically surrounding def statement; globals that live in the enclosing module's namespace; or built-ins in the predefined built-ins module Python provides.

Each call to a function creates a new local scope. Every time you call a function, you create a new local scope—that is, a namespace in which the names created inside that function will usually live. You can think of each def statement (and lambda expression) as defining a new local scope, but the local scope actually corresponds to a function call. Because Python allows functions to call themselves to loop—an advanced technique known as recursion and noted briefly in Chapter 9 when we explored comparisons—each active call receives its own copy of the function's local variables. Recursion is useful in functions we write as well, to process structures whose shapes can't be predicted ahead of time; we'll explore it more fully in Chapter 19.

And here is a nice visualization of scopes:

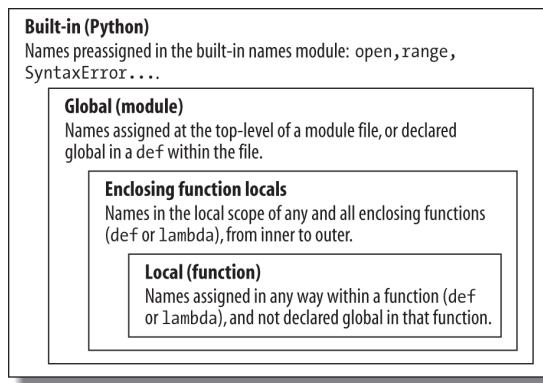


Figure 60.1: Car with tinted glass

Please read [Lutz, Chapter 17](#) for a good overview of scoping.

60.3 The Tinted Glass Metaphor

So, code regions within a program are like vehicles with tinted glass:
* Passengers can see outside, but outsiders can't see inside.
* Passengers in a vehicle can let outsiders look in by lowering the window.

Or something. Like models, all metaphors are wrong, but some are useful. :-)

60.4 Example 1

x defined outside a function but used inside of it

In the code below: * x is **global** and seen from inside the function.
* a is **local** to the function. trying to print outside function throws error.

Note that arguments are essentially locally defined variables.

```
x = 10

def scope_func1(a):
    out = x + a
    return out
```

The following works because x is global and functions can access globals so long as they don't reassign the variable name.

```
y = scope_func1(6)
print(y)
```

The following fails because a local and not visible outside the function.

```
print(a)
```

60.5 Example 2

x defined both outside and inside function, and used inside the function

This function reassigned x, so it becomes local.

Note that a variable becomes local once it is used in an assignment statement within a function, or if it the name of an argument.

```

x = 10 # Global

def scope_func2(a):

    x = 20 # Local
    print('x from inside:', x)

    out = x + a

    return out

y = scope_func2(6)
print(y)
print('x from outside:', x)

```

60.6 Example 2a

Here we define `x` as an argument.

This has the same effect as defining it in the body of the function.

```

x = 10 # Global

def scope_func2a(a, x=20): # Argument variables are local

    print('x from inside:', x)

    out = x + a

    return out

print('x from outside before function:', x)
y = scope_func2a(6)
print(y)
print('x from outside before function:', x)

```

As an argument, though, it can be assigned the value of the global.

Nevertheless, only the value is being passed between the global and local versions of `x`.

```

x = 10 # Global

def scope_func2a(a, x=20):

    print('x from inside before increment:', x)
    x += 10
    print('x from inside after increment:', x)

    out = x + a

    return out

print('x from outside before function:', x)
y = scope_func2a(6, x)
print(y)
print('x from outside after function:', x)

```

60.7 Example 3

x defined both outside and inside function, and used inside the function in both global and local modes

This one is interesting. It fails, but it's not clear why at first.

```

x = 10

def scope_func3(a):
    print('x from fcn, before local definition:', x) # Global use of x
    x = 20 # Local use of x
    print('x from fcn, after local definition:', x)
    out = x + a
    return out

print('x from outside before local definition:', x)
scope_func3(6)
print('x from outside after local definition:', x)

```

The error can be fixed by referencing x as `global` inside function.

```

x = 10

def scope_func4(a):
    global x

    print('x from inside, before local definition:', x)
    x = 20
    print('x from inside, after local definition:', x)

    out = x + a
    return out

print('x from outside, before local definition:', x)
y = scope_func4(6)
print(y)
print('x from outside, after local definition:', x)

```

Note that the two instances of the variable `x` coexist in the same script because of the rules of scoping.

60.8 Local / global conflicts

What will calling `guess()` do?

Hint: “If you assign a name in any way within a def, it will become a local to that function by default.” (Lutz)

```

x = 10

def guess():
    x += 10
    print(x)

guess()

```

Consider the following expression, which is the same as the unary operation inside of the function `guess()`.

```
x = x + 10
```

The `x` on the left is **local**, since it is being *defined* inside the function.

However, the `x` on the right is assumed to already be defined, and so is `global`.

In effect, Python is presented with a contradiction and so throws an error.

We will see that R does not do this; it just goes with the `global`.

60.9 Nonlocal

If a variable is assigned in an enclosing `def`, it is `nonlocal` to nested functions.

The `nonlocal` keyword is similar to `global`, except that it refers to the scope of the enclosing function, not the script that contains the funtions.

```
x = 10 # Global
def func1(): # Enclosing function
    x = 20 # Local to function; "Nonlocal" to nested function
    def func1a():
        x = 30 # Local to nested function
        print(x)
    func1a()
    print(x)

print(x)
func1()
print(x)

x = 10
def func2():
    x = 20
    def func2a():
        nonlocal x
        x = 30
        print(x)
    func2a()
    print(x)

print(x) # 1
func2()
print(x) # 4
```

```
x = 10
def func3():
    x = 20
    def func3a():
        global x
        x = 30
        print(x)
    func3a()
    print(x)
```

```
print(x)
func3()
print(x)
```

60.10 Namespaces

Definitions of scope make reference to **namespaces**. Scope and namespaces are closely intertwined concepts. Sometimes it is assumed that the reader knows what this means.

If you've never heard of namespaces, or are unsure of what they are, here's a brief explanation.

A namespace is a system that allows for **a unique name** to be associated with each and **every object** in a Python program. * Remember that **an object can be anything** in Python, not just variable, e.g. a function or a class. * Python maintains namespaces internally as **dictionaries**.

A good **analogy** to a namespace system is the **file system** on a computer. You can have files of the same name so long as they are in different folders. The complete name of the file is actually the filename and the names of its parent folders, i.e. the path to the file in the file system.

Another analogy is in **human names** – personal names and family names, i.e. first and last names in European countries. These in turn might be contained by larger social groupings.

Finally, another analogy is **home addresses** – house numbers and street names can be reused based on their “path” in the tree of geographic entities that include cities, states, nations, etc.

Similarly, Python understands what exact method or variable one is trying to point to in the code, depending upon the namespace.

Note that in each of these cases, **the data structure is a directed acyclic graph (DAG)**, which is universal structure for organizing unique names.

60.11 Some Visualizations

The same object name can be present in multiple namespaces as isolation between the same name is maintained by their namespace.

Source: “Namespaces and Scope in Python” (GFG).

61 NB: Functions Calling Functions

Purpose: * Illustrate concept of function design * Demonstrate how functions can break down a process into simple components * Demonstrate how component functions build on each other * Introduce idea of functional groups * Motivate use of classes (to be introduced later)

61.1 Basic Insight

Functions contain any code, so they can contain functions. * Functions can call other functions
* Functions can define new functions

We create functions that call functions in order to break a complex process into components.
* Some functions focus on simple component processes * Other functions combine these into higher order processes * Some functions may be focused on computation, while others may be focused on interacting with users or data sources * We can think of this a division of labor, or “separation of concerns,” among functions

When you create groups of functions, they often form natural groups that associated with a common process or task. * These function groups often share variables in addition to calling each other

Let's look at some examples to illustrate these points.

61.2 Example 1: Converting Temperatures

Here are three functions that work together to make a temperature converter.

Notice how the last function integrates the first two.

```
def f_to_c(temp):
    """
    Converts F to C and returns a rounded result.
    Expects an integer and returns an integer.
    """
    return round((temp - 32) * (5/9))
```

```

def c_to_f(temp):
    """
    Converts C to F and returns a rounded result.
    Expects an integer and returns an integer.
    """
    return round(temp * (9/5) + 32)

def convert(temp, scale):
    """
    Combines conversion functions into a two-way converter.
    Expects a source temp (int) and a target scale ('f' or 'c').
    """
    if scale.lower() == "c":
        return f_to_c(temp) # function call to f_to_c
    else:
        return c_to_f(temp) # function call to c_to_f

```

Now, here is a function that combines the above functions into a **user-facing interface** to the other functions.

```

##| tags: []
def convert_app():
    """
    Provides a user-interface to the conversion functions.
    """

    # Get user input
    temp = int(input("Enter a temperature: "))
    scale = input("Enter the scale to convert to: (c or f) ")[0].lower()

    # Infer source scale, to be used in the output message
    if scale == 'c':
        current_scale = 'f'
    else:
        current_scale = 'c'

    # Do the conversion
    converted = convert(temp, scale)

    # Print results for user
    print(f"{temp}{current_scale.upper()} is equal to {converted}{scale.upper()}.")

```

```
convert_app()
```

61.2.1 A More Pythonic Solution

We replace if/then statements with dictionary logic.

```
## Put your logic in the data structure
converters = {
    'c': lambda t: (t - 32) * (5/9),
    'f': lambda t: t * (9/5) + 32
}

def convert_app2():

    # Input from user
    source_temp = int(input("Enter a temperature: "))
    target_scale = input("Enter the scale to convert to: (c or f) ")

    # Internal computations
    target_temp = converters[target_scale](source_temp)
    # source_scale = list(set(converters.keys()) - set(target_scale))[0]
    source_scale = (set(converters.keys()) - set(target_scale)).pop()

    # Output to user
    print(source_temp, source_scale, "converted becomes:", round(target_temp), target_sca

convert_app2()
```

61.3 Example 2: Counting Vowels

```
## Predicate functions - often used as helper functions that return True or False

def is_vowel(l):
    if l == "a" or l == "e" or l == "i" or l == "o" or l == "u":
        return True # if the letter is a vowel, return True
    else:
        return False # else, return False
```

```

def num_vowels(my_string):
    my_string = my_string.lower()
    count = 0
    for i in range(len(my_string)): # for each character
        if is_vowel(my_string[i]): # call function above
            count += 1           # increment count if true
    return count

def vcounter():
    my_str = input("Enter a string: ")
    vcount = num_vowels(my_str)
    print(f"There are {vcount} vowels in the string.")

vcounter()

```

61.3.1 A More Pythonic Solution

We can use a lambda function with a comprehension to replace the first two functions above.

```

vowel_count = lambda x: len([char for char in x.lower() if char in "aeiou"])

test_str = "Whatever it is, it is what it is."

vowel_count(test_str)

```

61.4 Example 3: Calculating Tax

We write two related functions:

- * One to compute the **tax** based on a **gross pay** and a **tax rate**.
- * One to compute the **net pay** using the previous function.

In addition, we want to write some functions that use these functions to interact with a user.

- * One to get the input value of the gross pay and print the tax.
- * One to print the net pay based on the previous function.

Note the division of labor, or “separation of concerns”, in these functions:

- * Some do calculative work
- * Some do interactive work

To compute tax, we have these data:

gross_pay	tax_rate
<hr/>	
0 - 240	0%
241 - 480	15%
481 - more	28%

This time, we want to create a group of functions that expect some global variables to exist and use these instead of return statements.

In the code below, we globalize any variables that are assigned in our functions. This allows them to be shared by all the other functions.

Note
that
this is
effec-
tive
when
our
global
envi-
ron-
ment
– the
con-
tain-
ing
script
– con-
tains
only
these
func-
tions.
Later
in this
course,
we
will
look
at
mech-
a-
nisms
to seg-
ment
our
code
in this
way.

```

def compute_tax():
    """
    Computes tax rate and applies to gross pay to get tax.
    Expects gross_apy to be defined globally.
    Adds tax_rate and tax to globals for use by other functins.
    """

    global tax_rate, tax

    # Get rate by lower bound
    if gross_pay > 480:
        tax_rate = .28
    elif gross_pay > 240:
        tax_rate = .15
    else:
        tax_rate = 0

    tax = gross_pay * tax_rate

def compute_net_pay():
    """
    Computes net pay based on globals produced by compute_tax().
    Expects gross_pay and tax to be defined globally.
    Adds net_pay to to globals.
    """

    global net_pay

    net_pay = gross_pay - tax

def get_tax():
    """
    Computes and prints tax based on user input.
    Essentially a wrapper around compute_tax().
    Adds gross_pay to globals.
    """

    global gross_pay

    gross_pay = int(input("Enter your gross pay in dollars: "))

```

```

compute_tax()

print(f"Based on a tax rate of {round(tax_rate * 100)}%, the tax you owe on ${gross_pa

def get_net_pay():
    """
    Computes and prints net pay based on globals.
    """

    compute_net_pay()

    print(f"Your take home (net) pay is ${round(net_pay)}.")

def do_all():
    "Runs both user-facing functions."
    get_tax()
    get_net_pay()

get_tax()

get_net_pay()

do_all()

```

61.5 Concluding Observations

- Notice how each example has functions that build on each other.
- These functions share both data and a general goal.
- The fact that data and functions go together is the motivation for creating classes.

Part VI

M05 NumPy

Topics

- Numpy and its role in the Python data science ecosystem
- Numpy Arrays
- Array indexing, slicing, and broadcasting
- Aggregation
- Timing the difference between NumPy and plain old Python

Readings

Required

McKinney 2017, Chapter 4: Numpy Basics

Optional

McKinney 2017, Appendix A. Advanced NumPy: A.4 Broadcasting

NumPy for Beginners (Official)

62 Metadata

Course: DS 5100
Module: 05 NumPy
Topic: Python Timing Experiment
Author: R.C. Alvarado (adapted)
Date: 26 June 2022 (revised 13 September 2022)

Purpose: * Show simple tools to determine execution time of a piece of code * Look at the `time` and `timeit` functions * Look at the magic command versions for Jupyter

63 Using time

One way to get the runtime of a code block is to use the `time` module.

About time

The `time` module provides a number of functions to get and compute time.

The simplest function is `time()`, which just returns the number of seconds elapsed since the Epoch.

The Epoch is 00:00:00 UTC on 1 January 1970, excluding leapseconds.

It corresponds roughly to when Unix was invented.

```
from time import time

t0 = time()

for i in range(10):
    print(i, end=' ')

t1 = time()

delta_t = t1 - t0
```

0 1 2 3 4 5 6 7 8 9

```
print('t0 =', t0)
print('t1 =', t1)
print('runtime:', delta_t)
```

```
t0 = 1663428793.540521
t1 = 1663428793.541329
runtime: 0.0008080005645751953
```

64 Using `timeit`

To get a better measure of runtime, we can use `timeit`, which measures timing across many runs.

Note that `timeit()` will return the runtime across ALL runs. To get the mean runtime, you need to divide by the number of runs.

`timeit()` works by evaluating code blocks written as strings.

```
from timeit import timeit

NUM_RUNS = 100
```

Define code blocks to compare.

```
loop_code = '''
vals = []
for i in range(1, 100001):
    if i % 2 == 1:
        i *= -1
    vals.append(i)
'''

listcomp_code = '''
vals = [i*-1 for i in range(1,100001) if i % 2 == 1 ]
'''
```

Pass code block strings to `timeit` functions.

```
loop_mean_time = timeit(stmt = loop_code, number = NUM_RUNS) / NUM_RUNS
listcomp_mean_time = timeit(stmt = listcomp_code, number = NUM_RUNS) / NUM_RUNS
```

Print the results

```
t_diff = loop_mean_time / listcomp_mean_time
print('loop =', loop_mean_time)
```

```
print('comp =', listcomp_mean_time)
print('loop/list =', t_diff)
print('list/loop =', 1/t_diff)
```

```
loop = 0.011182495189999885
comp = 0.00927148506000009
loop/list = 1.2061169400190757
list/loop = 0.8291070018336566
```

65 Using Magic

Instead of calling `time` and `timeit` directly, we can use the so-called magic commands.

Magic commands are `%` or `%%` prefixed commands that work in Jupyter notebooks and other IPython environments.

`%` commands apply to **single lines**; they go at the beginning of the line.

`%%` commands apply to **cell blocks**; they go at the top of the cell.

Magic commands can take arguments. For more info, see * Chapter 3 in Wes McKinney's *Python for Data Analysis*. * The [official documentation](#)

Placing `%%timeit` or `%%time` at the top of a cell will apply these functions to the cell block.

Placing `%timeit` or `%time` as the first item on a line of code will apply the to a single line.

Types of Time

- **Wall clock time** measures how much time has passed, as if you were looking at the clock on your wall.
- **CPU time** refers to how many seconds the CPU was actually busy.

```
imax = 10000
```

Using `time` to compare loop and comprehension

```
%%time

vals = []
for i in range(1, imax+1):
    if i % 2 == 1:
        i *= -1
    vals.append(i)
```

```
CPU times: user 1.69 ms, sys: 35 µs, total: 1.72 ms
Wall time: 1.73 ms
```

```
%time vals = [i*-1 if i % 2 == 1 else i for i in range(1,imax+1)]
```

```
CPU times: user 940 µs, sys: 32 µs, total: 972 µs
Wall time: 975 µs
```

Using **timeit** to compare loop and comprehension

```
%%timeit
```

```
vals = []
imax = 10000
for i in range(1, imax+1):
    if i % 2 == 1:
        i *= -1
    vals.append(i)
```

```
1.08 ms ± 88 µs per loop (mean ± std. dev. of 7 runs, 1,000 loops each)
```

```
vals[:10]
```

```
[-1, 2, -3, 4, -5, 6, -7, 8, -9, 10]
```

```
%timeit vals = [i*-1 if i % 2 == 1 else i for i in range(1,imax+1)]
```

```
749 µs ± 3.32 µs per loop (mean ± std. dev. of 7 runs, 1,000 loops each)
```

66 Metadata

Course: DS 5100
Module: 05 Numpy (Numerical Python)
Topic: Basic File I/O in Python
Author: R.C. Alvarado
Date: 26 June 2022 (revised 13 September 2022)

Objectives - Demonstrate use of Python's `open()` function - Show pattern using loops, comprehensions, and string operations to import a CSV - Show how to parse an imported CSV into a 2D list - Show how to convert a 2D list into a 2D Numpy array - Describe the difficulties associated with this importing CSV files using basic Python

67 Open Files with `open()`

Let's open a sample CSV file, `biostats.csv`.

- This has some biometric statistics for a group of office workers.
- There are 18 records, recording Name, Sex, Age, Height, Weight
- There is an initial header line.
- This file was downloaded from <https://people.sc.fsu.edu/~jburkardt/data/csv/csv.html> and modified slightly.

```
src_file_name = "./sample_data_files/biostats.csv"
```

We call the `open()` function and pass it two parameters:

- * The name of the file we want to open.
- * The mode in which the file is opened. It defaults to `r` which means open for reading in text mode. Other common values are:
- * `w` for writing (truncating the file if it already exists)
- * `x` for creating and writing to a new file
- * `a` for appending

The returns a file object whose type depends on the mode and through which the standard file operations such as reading and writing are performed. So, to read from the file, you need to have specified type `r` and to write you need to have specified `w`.

The file object is an iterator.

For more info, check out [the Python docs](#) or run `open?` from a code cell.

Note, we sometimes call the file object a file “handle.”

```
# open?  
  
file_handle = open(src_file_name, 'r')
```

`.read()` reads in the file as one long string.

```
file_as_big_string = file_handle.read()  
  
file_as_big_string[:1000]
```

```
'"Name",      "Sex", "Age", "Height (in)", "Weight (lbs)"\n"Alex",      "M",    41,    74,
```

Since the file object is an iterator, we can't get the string again from the object.

```
file_as_big_string = file_handle.read() # Try reading from the handle again
file_as_big_string[:1000] # Nothing there since the iterator is exhausted
```

```
..
```

So, let's create a new handle, read in the contents again, and then parse our string by newlines using `.split("\n")`.

```
file_handle = open("./sample_data_files/biostats.csv", 'r')
file_as_big_string = file_handle.read()
file_as_big_string.split("\n")
```

```
['"Name",      "Sex", "Age", "Height (in)", "Weight (lbs)"',
'"Alex",      "M",    41,    74,    170',
'"Bert",      "M",    42,    68,    166',
'"Carl",      "M",    32,    70,    155',
'"Dave",      "M",    39,    72,    167',
'"Elly",      "F",    30,    66,    124',
'"Fran",      "F",    33,    66,    115',
'"Gwen",      "F",    26,    64,    121',
'"Hank",      "M",    30,    71,    158',
'"Ivan",      "M",    53,    72,    175',
'"Jake",      "M",    32,    69,    143',
'"Kate",      "F",    47,    69,    139',
'"Luke",      "M",    34,    72,    163',
'"Myra",      "F",    23,    62,    98',
'"Neil",      "M",    36,    75,    160',
'"Omar",      "M",    38,    70,    145',
'"Page",      "F",    31,    67,    135',
'"Quin",      "M",    29,    71,    176',
'"Ruth",      "F",    28,    65,    131]
```

A short-cut to this process is to call the `.readlines()` method, which returns a pre-made list of lines.

Note that the newlines are preserved in this case.

```
file_handle = open(src_file_name, 'r')
file_as_list_of_strings = file_handle.readlines()

file_as_list_of_strings

['"Name", "Sex", "Age", "Height (in)", "Weight (lbs)"\n',
 '"Alex", "M", 41, 74, 170\n',
 '"Bert", "M", 42, 68, 166\n',
 '"Carl", "M", 32, 70, 155\n',
 '"Dave", "M", 39, 72, 167\n',
 '"Elly", "F", 30, 66, 124\n',
 '"Fran", "F", 33, 66, 115\n',
 '"Gwen", "F", 26, 64, 121\n',
 '"Hank", "M", 30, 71, 158\n',
 '"Ivan", "M", 53, 72, 175\n',
 '"Jake", "M", 32, 69, 143\n',
 '"Kate", "F", 47, 69, 139\n',
 '"Luke", "M", 34, 72, 163\n',
 '"Myra", "F", 23, 62, 98\n',
 '"Neil", "M", 36, 75, 160\n',
 '"Omar", "M", 38, 70, 145\n',
 '"Page", "F", 31, 67, 135\n',
 '"Quin", "M", 29, 71, 176\n',
 '"Ruth", "F", 28, 65, 131']
```

File objects should be closed when you are done with them.

```
file_handle.close()
```

68 Use a with block

... to automatically open and close the file i/o object

There is a better way to handle objects that need to be closed.

Other examples of such objects are database handles.

`with` will automatically open and close the file handle.

```
with open(src_file_name, 'r') as infile:  
    file_as_list = infile.readlines()  
  
file_as_list  
  
[['Name", "Sex", "Age", "Height (in)", "Weight (lbs)"]  
["Alex", "M", 41, 74, 170],  
["Bert", "M", 42, 68, 166],  
["Carl", "M", 32, 70, 155],  
["Dave", "M", 39, 72, 167],  
["Elly", "F", 30, 66, 124],  
["Fran", "F", 33, 66, 115],  
["Gwen", "F", 26, 64, 121],  
["Hank", "M", 30, 71, 158],  
["Ivan", "M", 53, 72, 175],  
["Jake", "M", 32, 69, 143],  
["Kate", "F", 47, 69, 139],  
["Luke", "M", 34, 72, 163],  
["Myra", "F", 23, 62, 98],  
["Neil", "M", 36, 75, 160],  
["Omar", "M", 38, 70, 145],  
["Page", "F", 31, 67, 135],  
["Quin", "M", 29, 71, 176],  
["Ruth", "F", 28, 65, 131]]
```

69 Convert into a 2D list

Let's convert our list of strings to a list of lists, the former being the rows of data table and the latter the cells.

```
# %%time
list_2d = []
with open(src_file_name, 'r') as infile:
    for line in infile.readlines():
        row = line.rstrip().split(',') # Note the use of rstrip()
        list_2d.append(row)

list_2d
```

Name	Sex	Age	Height (in)	Weight (lbs)
Alex	M	41	74	170
Bert	M	42	68	166
Carl	M	32	70	155
Dave	M	39	72	167
Elly	F	30	66	124
Fran	F	33	66	115
Gwen	F	26	64	121
Hank	M	30	71	158
Ivan	M	53	72	175
Jake	M	32	69	143
Kate	F	47	69	139
Luke	M	34	72	163
Myra	F	23	62	98
Neil	M	36	75	160
Omar	M	38	70	145
Page	F	31	67	135
Quin	M	29	71	176
Ruth	F	28	65	131

Note that we now have do something with the column names and handle formating and casting each cell.

70 Using a list comprehension

We can replace the entire code block above nested list comprehensions.

Remember, you can put any expression into the first part of a comprehension, even another comprehension.

```
list_2d = [[cell.strip() for cell in line.rstrip().replace(' ', '').split(",")]
           for line in open(src_file_name, 'r').readlines()]

list_2d

[['Name', 'Sex', 'Age', 'Height (in)', 'Weight (lbs)'],
 ['Alex', 'M', '41', '74', '170'],
 ['Bert', 'M', '42', '68', '166'],
 ['Carl', 'M', '32', '70', '155'],
 ['Dave', 'M', '39', '72', '167'],
 ['Elly', 'F', '30', '66', '124'],
 ['Fran', 'F', '33', '66', '115'],
 ['Gwen', 'F', '26', '64', '121'],
 ['Hank', 'M', '30', '71', '158'],
 ['Ivan', 'M', '53', '72', '175'],
 ['Jake', 'M', '32', '69', '143'],
 ['Kate', 'F', '47', '69', '139'],
 ['Luke', 'M', '34', '72', '163'],
 ['Myra', 'F', '23', '62', '98'],
 ['Neil', 'M', '36', '75', '160'],
 ['Omar', 'M', '38', '70', '145'],
 ['Page', 'F', '31', '67', '135'],
 ['Quin', 'M', '29', '71', '176'],
 ['Ruth', 'F', '28', '65', '131']]
```

71 Converting to Numpy

```
import numpy as np
```

Numpy arrays must be of the same data types, and it also has no concept of column names, so we remove this row from our data.

```
col_names = list_2d[0]
```

```
col_names
```

```
['Name', 'Sex', 'Age', 'Height (in)', 'Weight (lbs)']
```

```
np_matrix = np.array(list_2d[1:])
```

```
np_matrix
```

```
array([['Alex', 'M', '41', '74', '170'],
       ['Bert', 'M', '42', '68', '166'],
       ['Carl', 'M', '32', '70', '155'],
       ['Dave', 'M', '39', '72', '167'],
       ['Elly', 'F', '30', '66', '124'],
       ['Fran', 'F', '33', '66', '115'],
       ['Gwen', 'F', '26', '64', '121'],
       ['Hank', 'M', '30', '71', '158'],
       ['Ivan', 'M', '53', '72', '175'],
       ['Jake', 'M', '32', '69', '143'],
       ['Kate', 'F', '47', '69', '139'],
       ['Luke', 'M', '34', '72', '163'],
       ['Myra', 'F', '23', '62', '98'],
       ['Neil', 'M', '36', '75', '160'],
       ['Omar', 'M', '38', '70', '145'],
       ['Page', 'F', '31', '67', '135'],
```

```
['Quin', 'M', '29', '71', '176'],
['Ruth', 'F', '28', '65', '131]], dtype='<U4')
```

Here we demonstrate slicing along both dimensions.

72 Array Slices

```
np_matrix[:2, :2]  
  
array([['Alex', 'M'],  
       ['Bert', 'M']], dtype='<U9')
```

73 Converting Data Types

Let's try to convert the data types of the numeric columns from strings to integers. One thing we might do is the following:

```
np_matrix[:, 2:5].astype(int)
```

```
array([[ 41,  74, 170],
       [ 42,  68, 166],
       [ 32,  70, 155],
       [ 39,  72, 167],
       [ 30,  66, 124],
       [ 33,  66, 115],
       [ 26,  64, 121],
       [ 30,  71, 158],
       [ 53,  72, 175],
       [ 32,  69, 143],
       [ 47,  69, 139],
       [ 34,  72, 163],
       [ 23,  62,  98],
       [ 36,  75, 160],
       [ 38,  70, 145],
       [ 31,  67, 135],
       [ 29,  71, 176],
       [ 28,  65, 131]])
```

We see that the strings are converted to integers.

So, let's try to save the conversion results to the original array:

```
np_matrix[:, 2:5] = np_matrix[:, 2:5].astype(int)
```

```
np_matrix
```

```
array([['Alex', 'M', '41', '74', '170'],
```

```
['Bert', 'M', '42', '68', '166'],
['Carl', 'M', '32', '70', '155'],
['Dave', 'M', '39', '72', '167'],
['Elly', 'F', '30', '66', '124'],
['Fran', 'F', '33', '66', '115'],
['Gwen', 'F', '26', '64', '121'],
['Hank', 'M', '30', '71', '158'],
['Ivan', 'M', '53', '72', '175'],
['Jake', 'M', '32', '69', '143'],
['Kate', 'F', '47', '69', '139'],
['Luke', 'M', '34', '72', '163'],
['Myra', 'F', '23', '62', '98'],
['Neil', 'M', '36', '75', '160'],
['Omar', 'M', '38', '70', '145'],
['Page', 'F', '31', '67', '135'],
['Quin', 'M', '29', '71', '176'],
['Ruth', 'F', '28', '65', '131]], dtype='<U4')
```

What happened?

74 Some Difficulties

It is pretty easy to import CSV files this way, but there are many difficulties you are likely to encounter if you use this as your default pattern for importing data. Here are just a few:

- **Not all sources are well-formed.** They may have delimiters that are complex to parse, and the data themselves may be hard to parse.
- **You have to keep the column names in a separate list or vector** and then associate them with the data if and when necessary.
- **You have to convert each column vector into its appropriate data type yourself.** Or, you have to create separate 2D arrays for each collection of columns with a common data type. This process also involves human inspection of the file, as opposed to have a program try to figure it out for you.

For these reasons, other tools such as Pandas were created to make the work of a data scientist a bit easier and more productive.

75 Metadata

Course: DS 5100
Module: M05 NumPy
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Author: R.C. Alvarado (adapted)
Date: 26 June 2022 (revised 13 September 2022)

76 NumPy

A new data structure

Essentially, NumPy introduces a new data structure to Python – the **n-dimensional array**. Along with it, it introduces a collection of function and methods that take advantage of this data structure.

The data structure is designed to support the use of **numerical methods**: algorithmic approximations to the problems of mathematical analysis.

New Functions

It also provides a new way of applying functions to day made possible by the data structure – **vectorized functions**. Vectorized functions replace the use of loops and comprehensions to apply a function to a set of data.

In addition, given the data structure, it provides a library of **linear algebra** functions.

New Data Types

NumPy also introduces a bunch of new **data types**.

Python for Science

Finally, because **numerical methods** are so important to so many sciences, NumPy is the basis of what is called **the scientific “stack”** in Python, which consists of SciPy, Matplotlib, SciKitLearn, and Pandas. All of these assume that you have some knowledge of NumPy.

Let's take a look at it.

```
import numpy as np
```

NumPy is by widespread convention aliased as np.

77 The ndarray

The ndarray is a multidimensional array object.

Let's explore it some.

First, let's generate some fake data using NumPy's built-a random number generator.

```
data = np.random.randn(2, 3)

data

array([[-0.38644818, -0.86647565, -1.28487769],
       [-0.34157097,  0.15993769, -1.02030098]])

data * 10

array([[ -3.86448179,   -8.66475646,  -12.84877686],
       [ -3.41570969,    1.5993769 ,  -10.20300981]])

data + data

array([[ -0.77289636,  -1.73295129,  -2.56975537],
       [-0.68314194,   0.31987538,  -2.04060196]])

data.shape

(2, 3)

data.dtype

dtype('float64')
```

77.1 About Dimensions

The term dimension is ambiguous. * Sometimes refers to the dimensions of things in the world, such as space and time. * Sometimes refers to the dimensions of a data structure, independent of what it represents in the world.

NumPy dimensions are the latter, although they can be used to represent the former, as physicists do.

The dimensions of data structures are sometimes called **axes**.

Consider this: Three-dimensional space can be represented as three columns in a two-dimensional table OR as three axes in a data cube.

78 Creating ndarrays

```
data1 = [6, 7.5, 8, 0, 1]
arr1 = np.array(data1)
arr1
```

```
array([6., 7.5, 8., 0., 1.])
```

```
data2 = [[1, 2, 3, 4], [5, 6, 7, 8]]
arr2 = np.array(data2)
arr2
```

```
array([[1, 2, 3, 4],
       [5, 6, 7, 8]])
```

```
arr2.ndim
```

```
2
```

```
arr2.shape
```

```
(2, 4)
```

```
arr1.dtype
```

```
dtype('float64')
```

```
arr2.dtype
```

```
dtype('int64')
```

```
np.zeros(10)

array([0., 0., 0., 0., 0., 0., 0., 0., 0., 0.])

np.zeros((3, 6))

array([[0., 0., 0., 0., 0., 0.],
       [0., 0., 0., 0., 0., 0.],
       [0., 0., 0., 0., 0., 0.]])  
  
np.empty((2, 3, 2))

array([[[0.0000000e+000, 2.96439388e-322],
        [0.0000000e+000, 0.0000000e+000],
        [0.0000000e+000, 1.16095484e-028]],
       [[1.14568603e+243, 5.53289000e-048],
        [8.93168689e+271, 4.98131536e+151],
        [1.94920670e-153, 4.05411346e-317]]])  
  
np.arange(15)

array([ 0,  1,  2,  3,  4,  5,  6,  7,  8,  9, 10, 11, 12, 13, 14])
```

78.1 Data Types for ndarrays

Unlike any of the previous data structures we have seen in Python, ndarrays must have a single data type associated with them.

```
arr1 = np.array([1, 2, 3], dtype=np.float64)
arr1.dtype  
  
dtype('float64')
```

```

arr2 = np.array([1, 2, 3], dtype=np.int32)
arr2.dtype

dtype('int32')

arr = np.array([1, 2, 3, 4, 5])
arr.dtype

dtype('int64')

float_arr = arr.astype(np.float64)
float_arr.dtype

dtype('float64')

arr = np.array([3.7, -1.2, -2.6, 0.5, 12.9, 10.1])
arr

array([ 3.7, -1.2, -2.6,  0.5, 12.9, 10.1])

arr.astype(np.int32)

array([ 3, -1, -2,  0, 12, 10], dtype=int32)

numeric_strings = np.array(['1.25', '-9.6', '42'], dtype=np.string_)
numeric_strings.astype(float)

array([ 1.25, -9.6 , 42. ])

int_array = np.arange(10)
calibers = np.array([.22, .270, .357, .380, .44, .50], dtype=np.float64)
int_array.astype(calibers.dtype)

array([0., 1., 2., 3., 4., 5., 6., 7., 8., 9.])

```

```
empty_uint32 = np.empty(8, dtype='u4')
empty_uint32

array([ 0, 1075314688, 0, 1075707904,
       0, 1075838976, 0, 1072693248], dtype=uint32)
```

NumPy Data Types

```
i - integer
b - boolean
u - unsigned integer
f - float
c - complex float
m - timedelta
M - datetime
O - object
S - string
U - unicode string
V - fixed chunk of memory for other type ( void )
```

78.2 Arithmetic

```
arr = np.array([[1., 2., 3.], [4., 5., 6.]])
arr

array([[1., 2., 3.],
       [4., 5., 6.]])

arr.shape

(2, 3)

arr * arr

array([[ 1.,  4.,  9.],
       [16., 25., 36.]])
```

```
arr - arr

array([[0., 0., 0.],
       [0., 0., 0.]])  
  
1 / arr  
  
array([[1.        , 0.5        , 0.33333333],
       [0.25      , 0.2        , 0.16666667]])  
  
arr ** 0.5  
  
array([[1.        , 1.41421356, 1.73205081],
       [2.        , 2.23606798, 2.44948974]])  
  
arr2 = np.array([[0., 4., 1.], [7., 2., 12.]])
arr2  
  
array([[ 0.,  4.,  1.],
       [ 7.,  2., 12.]])  
  
arr2 > arr  
  
array([[False,  True, False],
       [ True, False,  True]])
```

79 Basic Indexing and Slicing

```
foo = np.zeros((4,6))
foo.shape
foo[2:,:1].shape

(2, 1)

arr = np.arange(10)
arr

array([0, 1, 2, 3, 4, 5, 6, 7, 8, 9])

arr[5]

5

arr[5:8]

array([5, 6, 7])

arr[5:8] = 12

arr

array([ 0,  1,  2,  3,  4, 12, 12, 12,  8,  9])
```

Notice that if we assign a scalar to a slice, all of the elements of the slice get that value. This is called **broadcasting**.

Also, notice that changes to slices are changes to the arrays they are slices of. They are **views**, not copies.

```

arr_slice = arr[5:8]
arr_slice

array([12, 12, 12])

arr_slice[1] = 12345
arr

array([ 0,      1,      2,      3,      4,      12, 12345,      12,      8,
       9])

arr_slice[:] = 64
arr

array([ 0,  1,  2,  3,  4, 64, 64, 64,  8,  9])

arr_slice

array([64, 64, 64])

```

As NumPy has been designed with large data use cases in mind, you could imagine performance and memory problems if NumPy insisted on copying data left and right.

If you want a copy of a slice of an ndarray instead of a view, you will need to explicitly copy the array; for example `arr[5:8].copy()`.

Higher Dimensional Arrays

```

arr2d = np.array([[1, 2, 3], [4, 5, 6], [7, 8, 9]])

arr2d[2]

array([7, 8, 9])

arr2d[0][2]

```

3

Simplified notation

```
arr2d[0, 2]
```

```
3
```

A nice visual of a 2D array

Two-Demensional Array Slicing

3D arrays

```
arr3d = np.array([[ [1, 2, 3], [4, 5, 6]], [[7, 8, 9], [10, 11, 12]]])
```

```
arr3d.shape
```

```
(2, 2, 3)
```

```
arr3d
```

```
array([[[ 1,  2,  3],
       [ 4,  5,  6]],
      [[ 7,  8,  9],
       [10, 11, 12]])
```

If find NumPy's way of show the data a bit difficult to parse visually.

Here is a way to visualize 3 and higher dimensional data:

```
[ # AXIS 0                      CONTAINS 2 ELEMENTS (arrays)
  [ # AXIS 1                      CONTAINS 2 ELEMENTS (arrays)
    [1, 2, 3], # AXIS 3          CONTAINS 3 ELEMENTS (integers)
    [4, 5, 6] # AXIS 3
  ],
  [ # AXIS 1
    [7, 8, 9],
    [10, 11, 12]
  ]
]
```

Each axis is a level in the nested hierarchy, i.e. a tree or DAG (directed-acyclic graph).

- Each axis is a container.
- There is only one top container.
- Only the bottom containers have data.

Omit lower indices

In multidimensional arrays, if you omit later indices, the returned object will be a **lower-dimensional ndarray** consisting of all the data contained by the higher indexed dimension.

So in the $2 \times 2 \times 3$ array `arr3d`:

```
arr3d[0]
```

```
array([[1, 2, 3],
       [4, 5, 6]])
```

Saving data before modifying an array.

```
old_values = arr3d[0].copy()
arr3d[0] = 42
arr3d
```

```
array([[[42, 42, 42],
        [42, 42, 42]],

       [[ 7,  8,  9],
        [10, 11, 12]]])
```

Putting the data back.

```
arr3d[0] = old_values
arr3d

array([[[ 1,  2,  3],
        [ 4,  5,  6]],

       [[ 7,  8,  9],
        [10, 11, 12]]])
```

Similarly, `arr3d[1, 0]` gives you all of the values whose indices start with $(1, 0)$, forming a 1-dimensional array:

```
arr3d[1, 0]

array([7, 8, 9])

x = arr3d[1]
x
```

```
array([[ 7,  8,  9],
       [10, 11, 12]])
```

```
x[0]
```

```
array([7, 8, 9])
```

79.1 Indexing with slices

```
arr
```

```
array([ 0,  1,  2,  3,  4, 64, 64, 64,  8,  9])
```

```
arr[1:6]
```

```
array([ 1,  2,  3,  4, 64])
```

```
arr2d
```

```
array([[1, 2, 3],
       [4, 5, 6],
       [7, 8, 9]])
```

```
arr2d[:2]
```

```
array([[1, 2, 3],
       [4, 5, 6]])
```

```
arr2d[:2, 1:]  
  
array([[2, 3],  
       [5, 6]])  
  
arr2d[1, :2]  
  
array([4, 5])  
  
arr2d[:2, 2]  
  
array([3, 6])  
  
arr2d[:, :1]  
  
array([[1],  
       [4],  
       [7]])  
  
arr2d[:2, 1:] = 0  
arr2d  
  
array([[1, 0, 0],  
       [4, 0, 0],  
       [7, 8, 9]])
```

79.2 Boolean Indexing

This a crucial topic – it applies to Pandas and R.

You can pass a boolean representation of an array to the array indexer (i.e. `[]`) and it will return only those cells that are `True`.

This is like replace IF statements with a `dict`.

Let's assume that we have two related arrays: * `names` which is the rows (observations) of a table * `data` which holds the data associated with each feature

There are 7 observations and 4 features.

```
names = np.array(['Bob', 'Joe', 'Will', 'Bob', 'Will', 'Joe', 'Joe'])
names

array(['Bob', 'Joe', 'Will', 'Bob', 'Will', 'Joe', 'Joe'], dtype='<U4')

data = np.random.randn(7, 4)
data

array([[ 0.72645805, -0.56018644, -0.02850689, -0.34258849],
       [ 0.08356218,  1.55733948, -0.05742818,  0.22044621],
       [ 0.48555556,  0.62554909,  1.53878618,  0.79301804],
       [-0.25832437,  0.08506926, -0.28992256, -0.94928641],
       [ 0.2242655 ,  0.32470258,  0.59138963,  0.46460051],
       [ 2.44728205, -1.72271191,  1.1130361 , -1.29616365],
       [-2.43837713, -0.63412397, -0.32796264, -0.68093127]])

names.shape, data.shape

((7,), (7, 4))
```

A comparison operation in an array returns an array of booleans.

```
names == 'Bob'

array([ True, False, False,  True, False, False, False])
```

This array can be passed to an array indexer:

```
data[names == 'Bob']

array([[ 0.72645805, -0.56018644, -0.02850689, -0.34258849],
       [-0.25832437,  0.08506926, -0.28992256, -0.94928641]])
```

Along the second axis, we can use a slice to select data.

```
data[names == 'Bob', 2:]

array([[ -0.02850689, -0.34258849],
       [-0.28992256, -0.94928641]])
```

```
data[names == 'Bob', 3]  
  
array([-0.34258849, -0.94928641])
```

If you know SQL, this is like the query:

```
SELECT col3, col4 FROM data WHERE name = 'Bob'
```

Here are some examples of boolean operations being applied.

Note that we don't use `not` but instead the tilde `~` sign to negate (flip) a value.

```
names != 'Bob'  
data[~(names == 'Bob')]  
  
array([[ 0.08356218,  1.55733948, -0.05742818,  0.22044621],  
      [ 0.4855556 ,  0.62554909,  1.53878618,  0.79301804],  
      [ 0.2242655 ,  0.32470258,  0.59138963,  0.46460051],  
      [ 2.44728205, -1.72271191,  1.1130361 , -1.29616365],  
      [-2.43837713, -0.63412397, -0.32796264, -0.68093127]])  
  
cond = names == 'Bob'  
data[~cond]  
  
array([[ 0.08356218,  1.55733948, -0.05742818,  0.22044621],  
      [ 0.4855556 ,  0.62554909,  1.53878618,  0.79301804],  
      [ 0.2242655 ,  0.32470258,  0.59138963,  0.46460051],  
      [ 2.44728205, -1.72271191,  1.1130361 , -1.29616365],  
      [-2.43837713, -0.63412397, -0.32796264, -0.68093127]])
```

Similarly, we don't use `and` and `or` but `&` and `|`.

Also, expressions join by these operators need to be in parentheses.

```
mask = (names == 'Bob') | (names == 'Will')  
mask  
data[mask]
```

```

array([[ 0.72645805, -0.56018644, -0.02850689, -0.34258849],
       [ 0.4855556 ,  0.62554909,  1.53878618,  0.79301804],
       [-0.25832437,  0.08506926, -0.28992256, -0.94928641],
       [ 0.2242655 ,  0.32470258,  0.59138963,  0.46460051]])
```

```

data[data < 0] = 0
data
```

```

array([[0.72645805, 0.          , 0.          , 0.          ],
       [0.08356218, 1.55733948, 0.          , 0.22044621],
       [0.4855556 , 0.62554909, 1.53878618, 0.79301804],
       [0.          , 0.08506926, 0.          , 0.          ],
       [0.2242655 , 0.32470258, 0.59138963, 0.46460051],
       [2.44728205, 0.          , 1.1130361 , 0.          ],
       [0.          , 0.          , 0.          , 0.          ]])
```

```

data[names != 'Joe'] = 7
data
```

```

array([[7.          , 7.          , 7.          , 7.          ],
       [0.08356218, 1.55733948, 0.          , 0.22044621],
       [7.          , 7.          , 7.          , 7.          ],
       [7.          , 7.          , 7.          , 7.          ],
       [7.          , 7.          , 7.          , 7.          ],
       [2.44728205, 0.          , 1.1130361 , 0.          ],
       [0.          , 0.          , 0.          , 0.          ]])
```

79.3 Fancy Indexing

In so-call fancy indexing, we use array index numbers to access data.

We pass a *list* of item numbers, instead of an integer or integer range with `:`, to the indexer.

```

arr = np.empty((8, 4))
for i in range(8):
    arr[i] = i
arr
```

```
array([[0., 0., 0., 0.],
       [1., 1., 1., 1.],
       [2., 2., 2., 2.],
       [3., 3., 3., 3.],
       [4., 4., 4., 4.],
       [5., 5., 5., 5.],
       [6., 6., 6., 6.],
       [7., 7., 7., 7.]])
```

This says: *Select rows 4, 3, 0, and 6, in that order.*

```
arr[[4, 3, 0, 6]]
```

```
array([[4., 4., 4., 4.],
       [3., 3., 3., 3.],
       [0., 0., 0., 0.],
       [6., 6., 6., 6.]])
```

And we can go backwards.

```
arr[[-3, -5, -7]]
```

```
array([[5., 5., 5., 5.],
       [3., 3., 3., 3.],
       [1., 1., 1., 1.]])
```

```
arr = np.arange(32).reshape((8, 4))
arr
```

```
array([[ 0,  1,  2,  3],
       [ 4,  5,  6,  7],
       [ 8,  9, 10, 11],
       [12, 13, 14, 15],
       [16, 17, 18, 19],
       [20, 21, 22, 23],
       [24, 25, 26, 27],
       [28, 29, 30, 31]])
```

We can drop these lists into each axis selector.

```
arr[[1, 5, 7, 2], [0, 3, 1, 2]]
```

```
array([ 4, 23, 29, 10])
```

```
arr[[1, 5, 7, 2]][:, [0, 3, 1, 2]]
```

```
array([[ 4,  7,  5,  6],
       [20, 23, 21, 22],
       [28, 31, 29, 30],
       [ 8, 11,  9, 10]])
```

79.4 Transposing Arrays and Swapping Axes

Transposing is a special form of reshaping which similarly returns a view on the underlying data without copying anything.

Arrays have the transpose method and also the special T attribute:

```
arr = np.arange(15).reshape((3, 5))
arr
```

```
array([[ 0,  1,  2,  3,  4],
       [ 5,  6,  7,  8,  9],
       [10, 11, 12, 13, 14]])
```

```
arr.T
```

```
array([[ 0,  5, 10],
       [ 1,  6, 11],
       [ 2,  7, 12],
       [ 3,  8, 13],
       [ 4,  9, 14]])
```

Transposing is often used when computing the dot product between two arrays.

Here's an example.

```

arr = np.random.randn(6, 3)
arr

array([[ 1.01446309, -0.33476867, -0.09004033],
       [ 1.85970397,  0.4631975 , -0.90913396],
       [-1.24259192,  0.95845034,  0.82966335],
       [ 0.26960182,  1.06311444,  1.94385399],
       [-1.73481184, -1.81155925, -2.62414992],
       [ 0.34698368,  2.53034496,  0.76947292]])

np.dot(arr.T, arr)

array([[ 9.23432379,  3.63815754,  2.53047186],
       [ 3.63815754, 12.05985389,  9.17159944],
       [ 2.53047186,  9.17159944, 12.77979278]])

```

For higher dimensional arrays, `transpose` will accept a tuple of axis numbers to permute the axes.

Warning – this can get confusing to conceptualize and visualize!

```

arr = np.arange(16).reshape((2, 2, 4))
arr

array([[[ 0,  1,  2,  3],
        [ 4,  5,  6,  7]],

       [[ 8,  9, 10, 11],
        [12, 13, 14, 15]]])

arr.transpose((1, 0, 2))

array([[[ 0,  1,  2,  3],
        [ 8,  9, 10, 11]],

       [[ 4,  5,  6,  7],
        [12, 13, 14, 15]]])

```

Simple transposing with `.T` is just a special case of swapping axes. `ndarray` has the method `swapaxes` which takes a pair of axis numbers:

```
arr

array([[ [ 0,  1,  2,  3],
       [ 4,  5,  6,  7]],

       [[ 8,  9, 10, 11],
        [12, 13, 14, 15]]])

arr.swapaxes(1, 2)

array([[ [ 0,  4],
       [ 1,  5],
       [ 2,  6],
       [ 3,  7]],

       [[ 8, 12],
        [ 9, 13],
        [10, 14],
        [11, 15]]])
```

80 Universal Functions

A universal function, or `ufunc`, is a function that performs elementwise operations on data in ndarrays. You can think of them as **fast vectorized wrappers for simple functions** that take one or more scalar values and produce one or more scalar results.

Many `ufuncs` are simple elementwise transformations, like `sqrt` or `exp`:

```
arr = np.arange(10)
arr

array([0, 1, 2, 3, 4, 5, 6, 7, 8, 9])

np.sqrt(arr)

array([0.          , 1.          , 1.41421356, 1.73205081, 2.          ,
       2.23606798, 2.44948974, 2.64575131, 2.82842712, 3.          ])

np.exp(arr)

array([1.00000000e+00, 2.71828183e+00, 7.38905610e+00, 2.00855369e+01,
       5.45981500e+01, 1.48413159e+02, 4.03428793e+02, 1.09663316e+03,
       2.98095799e+03, 8.10308393e+03])

x = np.random.randn(8)
x

array([-2.02607437, -1.26447095, -0.60149557, -0.25198465,  1.04115859,
       2.82900758,  0.76335636,  1.43884518])
```

```
y = np.random.randn(8)
y

array([-0.1390021 ,  0.22630824,  0.03067293,  0.68678514, -0.95402859,
       0.91490042, -0.89161303, -0.21106389])

np.maximum(x, y)

array([2.02607437, 0.22630824, 0.03067293, 0.68678514, 1.04115859,
       2.82900758, 0.76335636, 1.43884518])

arr = np.random.randn(7) * 5
arr

array([-7.62726057,  0.68306069, -7.20196344,  9.64982146,  3.74868847,
       -5.69689758,  2.8396405 ])

remainder, whole_part = np.modf(arr)
remainder

array([-0.62726057,  0.68306069, -0.20196344,  0.64982146,  0.74868847,
       -0.69689758,  0.8396405 ])

whole_part

array([-7.,  0., -7.,  9.,  3., -5.,  2.])

arr

array([-7.62726057,  0.68306069, -7.20196344,  9.64982146,  3.74868847,
       -5.69689758,  2.8396405 ])

np.sqrt(arr)
```

```
/var/folders/14/rnyfspnx2q131jp_752t9fc80000gn/T/ipykernel_7322/2296558006.py:1: RuntimeWarning:  
    np.sqrt(arr)  
  
array([      nan,  0.82647486,      nan,  3.10641618,  1.93615301,  
       nan,  1.68512329])
```

```
    np.sqrt(arr, arr)
```

```
/var/folders/14/rnyfspnx2q131jp_752t9fc80000gn/T/ipykernel_7322/269955669.py:1: RuntimeWarning:  
    np.sqrt(arr, arr)  
  
array([      nan,  0.82647486,      nan,  3.10641618,  1.93615301,  
       nan,  1.68512329])
```

```
arr
```

```
array([      nan,  0.82647486,      nan,  3.10641618,  1.93615301,  
       nan,  1.68512329])
```

nan is a special value in NumPy.

81 Metadata

Course: DS 5100
Module: M05 NumPy
Topic: NumPy Continued
Author: R.C. Alvarado (adapted)
Date: 26 June 2022 (revised 13 September 2022)

82 Quick Refresher on Shape

The **shape** of an array is represented a **tuple**, e.g. (n, m) for a 2D array.

- The **length** of the tuple is number of **dimensions** (i.e. axes).
- The **values** of the tuple are the number of **elements** in each dimension (axis).

Consider the array `foo`:

```
import numpy as np

foo = np.ones((6,4))

foo

array([[1., 1., 1., 1.],
       [1., 1., 1., 1.],
       [1., 1., 1., 1.],
       [1., 1., 1., 1.],
       [1., 1., 1., 1.],
       [1., 1., 1., 1.]])
```

It was created with the 2 dimensions.
* The first dimension, axis 0, has 6 elements. In this case, these elements are arrays.
* The second dimension, axis 1, has 4 elements. Its elements are scalars (numbers in this case).

The shape of `foo[0]` is 4. It contains 1 axis with 4 elements.

```
foo[0], foo[0].shape

(array([1., 1., 1., 1.]), (4,))
```

It has a shape of 1 and not 4×1 because it is a vector, not a matrix.

SO, there is a difference between a vector and a 1-column matrix.

82.1 Reshaping

If we want to make it into a 1-column matrix, we need to reshape it using `np.reshape()`.

Note that the first value of the shape argument is -1 . This means use the length of the vector that is passed to it.

```
# np.reshape?  
  
foo2 = np.reshape(foo[0], (-1, 1))  
  
foo2, foo2.shape  
  
(array([[1.],  
       [1.],  
       [1.],  
       [1.]]),  
(4, 1))
```

When indexing an array, think of the **positions** of the comma-delimited tuple as the axis.

The **values** are the **element offsets** in the containing array. The

```
foo[2:, 2:]  
#   ^  ^  
#   0  1  <- AXIS NUMBER  
  
array([[1., 1.],  
       [1., 1.],  
       [1., 1.],  
       [1., 1.]])
```

82.2 Use Case

Sometimes, you need to convert vectors into 1-column matrices to make certain linear algebraic functions work.

Consider two random variables, x and y .

```
x = np.random.randn(100)
y = np.random.randn(100)
```

We can fit a regression line using the **normal equation**, which appears in this week's homework.

$$\hat{\beta}_i = (x^T x)^{-1} x^T y$$

Here is a standward way of expressing it in NumPy:

```
get_beta1 = lambda x, y: (np.linalg.inv(x.T.dot(x))) * (x.T.dot(y))
```

However, it will fail if we pass it our two variables, `x` and `y`.

The reason is that it expects `x` to be a matrix, since it is designed to handle n-dimension predictor variables, usually represented as \mathbf{X} .

```
get_beta1(x, y)
```

```
LinAlgError: 0-dimensional array given. Array must be at least two-dimensional
```

The revised function will work with a vector as `x`:

$$\hat{\beta}_i = \frac{1}{x^T x} (x^T y)$$

```
get_beta2 = lambda x, y: (1 / x.T.dot(x)) * (x.T.dot(y))
```

```
get_beta2(x, y)
```

We can fix the problem in the general case by converting our vector into a matrix using `np.reshape()`.

```
x_as_matrix = np.reshape(x, (-1, 1))
```

```
get_beta1(x_as_matrix, y)
```

```
get_beta1(x_as_matrix, y)[0][0]
```

```
get_beta1(x_as_matrix, y)[0][0] == get_beta2(x, y)
```

```
# np.linalg.inv(x.T.dot(x).reshape((-1,1)))  
  
# 1 / x.T.dot(x)
```

83 Array-Oriented Programming

Using NumPy arrays enables you to express many kinds of data processing tasks as concise array expressions **without writing loops**.

This practice of **replacing explicit loops with array expressions** is referred to by some people as **vectorization**.

Vectorized array operations are often significantly **faster** than their pure Python equivalents.

They are also **visually concise and elegant**, although loops have the virtue of visualizing what's under the hood in an algorithm.

84 Expressing Conditional Logic as Array Operations

84.1 np.where()

The `np.where` function is a vectorized version of the ternary expression `x if condition else y`.

Suppose we had a boolean array and two arrays of values:

```
xarr = np.array([1.1, 1.2, 1.3, 1.4, 1.5])
yarr = np.array([2.1, 2.2, 2.3, 2.4, 2.5])
cond = np.array([True, False, True, True, False])

result = [(x if c else y) for x, y, c in zip(xarr, yarr, cond)]
```



```
result
```

Here is the vectorized version:

```
result = np.where(cond, xarr, yarr)

result

arr = np.random.randn(4, 4)

arr

arr > 0

np.where(arr > 0, 2, -2)
```

```
np.where(arr > 0, 2, arr) # set only positive values to 2
```

85 Mathematical and Statistical Methods

Statistical computations are aggregate functions apply to vectors within an array.

In a 2D array, they can be applied to rows or columns, i.e. **axis 0 or axis 1**.

Let's create an array of random values. We can think of it is a table of observations and random variables.

```
arr = np.random.randn(5, 4)

arr
```

85.1 .mean()

```
arr.mean()

np.mean(arr)

arr.mean(axis=1)

arr.mean(axis=0)
```

85.2 .sum()

```
arr.sum()
```

Row wise aggregation

```
arr.sum(axis=0)
```

```
arr.mean(axis=1)
```

Column-wise aggregation

85.3 .cumsum()

```
arr = np.array([0, 1, 2, 3, 4, 5, 6, 7])
```

```
arr.cumsum()
```

```
arr = np.array([[0, 1, 2], [3, 4, 5], [6, 7, 8]])
```

```
arr
```

```
arr.cumsum(axis=0)
```

```
arr.cumprod(axis=1)
```

86 Methods for Boolean Arrays

86.1 .sum()

Since booleans are 0s and 1, we can sum them to get a total truth count.

```
arr = np.random.randn(100)
(arr > 0).sum() # Number of positive values

bools = np.array([False, False, True, False])
```

86.2 .any()

```
bools.any()
```

86.3 .all()

```
bools.all()
```

87 Sorting

87.1 .sort()

```
arr = np.random.randn(6)

arr

arr.sort()

arr

arr = np.random.randn(5, 3)

arr

arr.sort(1)

arr

large_arr = np.random.randn(1000)
large_arr.sort()
large_arr[int(0.05 * len(large_arr))] # 5% quantile

0.05 * len(large_arr)
```

88 Unique and Other Set Logic

88.1 np.unique()

```
names = np.array(['Bob', 'Joe', 'Will', 'Bob', 'Will', 'Joe', 'Joe'])
np.unique(names)

sorted(set(names))

ints = np.array([3, 3, 3, 2, 2, 1, 1, 4, 4])
np.unique(ints)
```

88.2 np.in1d()

Tests whether each element of a 1-D array is also present in a second array.

```
values = np.array([6, 0, 0, 3, 2, 5, 6])
np.in1d(values, [2, 3, 6])
```

89 File Input and Output with Arrays

89.1 np.save()

Save an array to a binary file in NumPy .npy format.

Automatically adds the .npy file extension.

```
arr = np.arange(10)
np.save('some_array', arr)
```

89.2 np.load()

```
np.load('some_array.npy')
```

89.3 np.savetxt()

Save an array to a text file.

```
# np.savetxt?

np.savetxt('some_array.txt', arr)

# !more some_array.txt
```

89.4 np.savez()

Save several arrays into a single file in uncompressed .npz format.

```
np.savez('array_archive.npz', a=arr, b=arr)

arch = np.load('array_archive.npz')
arch['b']

np.savez_compressed('arrays_compressed.npz', a=arr, b=arr)
```

Clean up ...

```
!rm some_array.npy
!rm some_array.txt
!rm array_archive.npz
!rm arrays_compressed.npz
```

90 Linear Algebra

90.1 .dot()

Dot product of two arrays. Specifically,

- If both `a` and `b` are 1-D arrays, it is inner product of vectors (without complex conjugation).
- If both `a` and `b` are 2-D arrays, it is matrix multiplication, but using `matmul()` or `a @ b` is preferred.
- If either `a` or `b` is 0-D (scalar), it is equivalent to `multiply()` and using `numpy.multiply(a, b)` or `a * b` is preferred.
- If `a` is an N-D array and `b` is a 1-D array, it is a sum product over the last axis of `a` and `b`.
- If `a` is an N-D array and `b` is an M-D array (where `M>=2`), it is a sum product over the last axis of `a` and the second-to-last axis of `b`:

```
dot(a, b)[i,j,k,m] = sum(a[i,j,:]*b[k,:,:m])
```

```
x = np.array([[1., 2., 3.], [4., 5., 6.]])
y = np.array([[6., 23.], [-1, 7], [8, 9]])
```

```
x, y
```

```
y
```

```
x.dot(y)
```

```
np.dot(x, y)
```

```
np.dot(x, np.ones(3))
```

In NumPy, the `@` operator means [matrix multiplication](#).

```
x @ np.ones(3)
```

90.2 np.linalg.inv()

```
from numpy.linalg import inv, qr
X = np.random.randn(5, 5)
mat = X.T.dot(X)
inv(mat)

mat.dot(inv(mat))
q, r = qr(mat)

r
```

91 Pseudorandom Number Generation

91.1 np.random.normal()

```
samples = np.random.normal(size=(4, 4))
samples

from random import normalvariate
N = 1000000
%timeit samples = [normalvariate(0, 1) for _ in range(N)]
%timeit np.random.normal(size=N)

np.random.seed(1234)

rng = np.random.RandomState(1234)

rng.randn(10)
```

91.2 Example: Random Walks

Let simulate a random walk. The walk will be represented as a vector.

We'll do it first as loop, then with vectorization.

Loops

```
import random
position = 0
walk = [position] # initialize the walk
steps = 1000
for i in range(steps):
    step = 1 if random.randint(0, 1) else -1 # Coin toss
```

```
position += step
walk.append(position)

import matplotlib.pyplot as plt

plt.figure()
plt.plot(walk[:100]);
```

Vectors

```
np.random.seed(12345)

nsteps = 1000
draws = np.random.randint(0, 2, size=nsteps)
steps = np.where(draws > 0, 1, -1)
walk2 = steps.cumsum()

plt.plot(walk[:100]);

walk2.min(), walk2.max()
```

91.3 Simulating Many Random Walks at Once

```
nwalks = 5000
nsteps = 1000

draws = np.random.randint(0, 2, size=(nwalks, nsteps)) # 0 or 1
steps = np.where(draws > 0, 1, -1)
walks = steps.cumsum(1)

draws

walks

walks.max(), walks.min()
```

```

hits30 = (np.abs(walks) >= 30).any(1)
hits30

hits30.sum() # Number that hit 30 or -30

crossing_times = (np.abs(walks[hits30]) >= 30).argmax(1)
crossing_times.mean()

steps = np.random.normal(loc=0, scale=0.25, size=(nwalks, nsteps))

```

Feel free to experiment with other distributions for the steps other than equal-sized coin flips. You need only use a different random generator method, like standard_normal to generate normally distributed steps with some mean and standard deviation:

```

draws = 0.25 * rng.standard_normal((nwalks, nsteps)) # Walks: observations, Steps: features

sample_walk = np.random.choice(len(draws))
plt.plot(draws[sample_walk])
plt.title(f"Walk #{sample_walk}");

```

Part VII

M06 Pandas

Topics

- Introduce Pandas and its relationship to NumPy
- Understand difference between Series and DataFrames
- Understand role of indexes in Pandas
- Review fundamental methods in Pandas

Readings

Required

McKinney 2017, Chapter 5: Getting Started with Pandas

Optional

Getting Started in Pandas (Official)

<

92 Metadata

Course: DS 5100
Module: 06 Pandas
Topic: Introducing Pandas
Author: R.C. Alvarado (adapted)
Date: 28 June 2022

93 Pandas DataFrames

Just as NumPy introduces the n-dimensional array as a new data structure to Python, so Pandas introduces two:

The **Series**: a 1-dimensional labeled array capable of holding any data type.

The **DataFrame**: a 2-dimensional labeled data structure with columns of potentially different types.

Note: Pandas used to have a 3-dimensional structure called a **panel**, but it has been removed from the library.

Ironically, the name “pandas” was partly derived the word “panel”: *pan(el) – da(ta) – s*.

To handle higher dimensional data, the Pandas team suggests using [XArray](#), which also build on NumPy arrays.

By far, the most important data structure in Pandas is the dataframe, with the series playing a supporting – but crucial – role.

In fact, dataframe objects are built out of series objects.

So, **to understand what a dataframe is and how it behaves, you need to understand what is series is and how it is constructed.**

Before going into that, here are two quick observations about dataframes:

First, dataframes are **inspired by the R structure** of the same name. They have many similarities, but there are fundamental differences between the two that go beyond mere language differences. Most important is the Pandas dataframes have **indexes**, whereas R dataframes do not.

Second, it is helpful to think of Pandas as wrapper around NumPy and Matplotlib that makes it much easier to perform common operations, like select data by column name or visualizing plots. But this comes at a cost – Pandas is slower than NumPy. This represents the classic trade-off between **ease-of-use** for humans and machine **performance**.

94 Series Objects

94.1 Axis Labels (Indexes)

A series is at heart a one-dimensional array with **labels** along its axis. * It's data must be of a single type, like NumPy arrays (which they are internally).

The axis labels are collectively referred to as the **index**.

Think of **the index as a separate data structure** that is attached to the array. * The array holds the data. * The index holds the names of the observations or things that the data are about.

So, Pandas moves us out of what we called anonymous data.

Why have an index? * Provides a way to access elements of the array by name * Allows series objects that share index labels to be combined

In fact, **a dataframe is a collection of series** with a common index.

To this collection of series the dataframe adds a set of labels along the horizontal axis. * The index is **axis 0** * The columns are another kind of index, called **axis 1**

Note that both index and column labels can be **multidimensional**. * They are called Hierarchical Indexes and go the technical name of **MultiIndexes**. * As an example, consider that a table of text data people might have a two-column index: (`book_id`, `chap_id`) * See [the Pandas documentation](#).

It is **crucial** to understand the difference between the index of a dataframe and its data in order to understand how dataframes work.

Many a headache is caused by not understanding this difference :-)

Indexes are powerful and controversial. * They allow for all kinds of magic to take place when combining and accessing data. * But they are expensive and sometimes hard to work with (especially multiindexes). * They are especially difficult if you are coming from R and expecting dataframes to behave a certain way.

94.2 Some visuals to help

But enough introduction.

Let's dive into how Pandas objects work in practice.

We import pandas like this, using the alias `pd` by convention:

```
import pandas as pd
```

We almost always import NumPy, too, since we use many of its functions with Pandas.

```
import numpy as np
```

95 DataFrames Constructors

Several ways to create pandas dataframes

Passing a dictionary of objects:

```
df = pd.DataFrame({  
    'x': [0, 2, 1, 5],  
    'y': [1, 1, 0, 0],  
    'z': [True, False, False, False]  
})
```

```
df
```

	x	y	z
0	0	1	True
1	2	1	False
2	1	0	False
3	5	0	False

```
df.index
```

```
RangeIndex(start=0, stop=4, step=1)
```

```
list(df.index)
```

```
[0, 1, 2, 3]
```

```
df.columns
```

```
Index(['x', 'y', 'z'], dtype='object')
```

```

list(df.columns)

['x', 'y', 'z']

df.values

array([[0, 1, True],
       [2, 1, False],
       [1, 0, False],
       [5, 0, False]], dtype=object)

type(df.values)

numpy.ndarray

```

Passing the three required pieces: - columns as list - index as list - data as list of lists

```

df2 = pd.DataFrame(
    columns=['x','y'],
    index=['row1','row2','row3'],
    data=[[9,3],[1,2],[4,6]])

```

df2

	x	y
row1	9	3
row2	1	2
row3	4	6

Passing a nested list (or list-like):

```

my_data = [
    ('a', 1, True),
    ('b', 2, False)
]

```

```
df3 = pd.DataFrame(my_data, columns=['f1', 'f2', 'f3'])
```

```
df3
```

	f1	f2	f3
0	a	1	True
1	b	2	False

96 Naming indexes

```
df3.index.name = 'obs_id'
```

```
df3
```

	f1	f2	f3
obs_id			
0	a	1	True
1	b	2	False

97 Copying DataFrames with copy()

Use `copy()` to give the new df a clean break from the original.

Otherwise, the copied df will point to the same object as the original.

```
df = pd.DataFrame({'x':[0,2,1,5], 'y':[1,1,0,0], 'z':[True,False,False,False]})
```

```
df_deep    = df.copy() # deep copy; changes to df will not pass through  
df_shallow = df        # shallow copy; changes to df will pass through
```

```
df
```

	x	y	z
0	0	1	True
1	2	1	False
2	1	0	False
3	5	0	False

```
df.x = 1
```

```
df
```

	x	y	z
0	1	1	True
1	1	1	False
2	1	0	False
3	1	0	False

```
df_shallow
```

	x	y	z
0	1	1	True
1	1	1	False
2	1	0	False
3	1	0	False

```
df_deep
```

	x	y	z
0	0	1	True
1	2	1	False
2	1	0	False
3	5	0	False

```
df = pd.DataFrame({'x':[0,2,1,5], 'y':[1,1,0,0], 'z':[True,False,False,False]})
```

Notice `df_shallow` mirrors changes to `df`, since it references its indices and data.
`df_deep` does not reference `df`, and so changes to `df` do not impact `df_deep`.

98 Column Data Types

98.1 With .types

```
df.dtypes
```

```
x    int64
y    int64
z    bool
dtype: object
```

98.2 With .info()

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 4 entries, 0 to 3
Data columns (total 3 columns):
 #   Column  Non-Null Count  Dtype  
---  --  
 0   x        4 non-null      int64  
 1   y        4 non-null      int64  
 2   z        4 non-null      bool  
dtypes: bool(1), int64(2)
memory usage: 196.0 bytes
```

99 Column Renaming

Can rename one or more fields at once using a dict.

Rename the field `z` to `is_label`:

```
df = df.rename(columns={'z': 'is_label'})
```

```
df
```

	x	y	is_label
0	0	1	True
1	2	1	False
2	1	0	False
3	5	0	False

100 Column Referencing

Use bracket notation or dot notation.

Bracket

```
df['y']
```

```
0    1  
1    1  
2    0  
3    0  
Name: y, dtype: int64
```

Dot (i.e. as object attribute)

```
df.y
```

```
0    1  
1    1  
2    0  
3    0  
Name: y, dtype: int64
```

Dot notation is very convenient, since as object attributes they can be tab-completed in various editing environments.

But: - It only works if the column names are not reserved words - It can't be used when created a new column (see below)

It is convenient to names columns with a prefix, e.g. `doc_title`, `doc_year`, `doc_author`, etc.

Column attributes and methods work with both:

```
df.y.values, df['y'].values
```

```
(array([1, 1, 0, 0]), array([1, 1, 0, 0]))
```

show only the first value, by indexing:

```
df.y.values[0]
```

```
1
```

101 Column Selection

You select columns from a dataframe by passing a value or list (or any expression that evaluates to a list).

```
df['x']
```

```
0    0  
1    2  
2    1  
3    5  
Name: x, dtype: int64
```

```
df[['x']]
```

	x
0	0
1	2
2	1
3	5

```
df[['y', 'x']]
```

	y	x
0	1	0
1	1	2
2	0	1
3	0	5

```
df[[col for col in df.columns if col not in ['x','y']]]
```

	is_label
0	True
1	False
2	False
3	False

102 Adding New Columns

It is typical to create a new column from existing columns.

In this example, a new column (or field) is created by summing x and y:

```
df['x_plus_y'] = df.x + df.y
```

```
df
```

	x	y	is_label	x_plus_y
0	0	1	True	1
1	2	1	False	3
2	1	0	False	1
3	5	0	False	5

Note the use of bracket notation on the left.

103 Removing Columns with del and .drop()

103.1 del

`del` can drop a DataFrame or single columns from the frame

```
df_drop = df.copy()
```

```
df_drop.head(2)
```

	x	y	is_label	x_plus_y
0	0	1	True	1
1	2	1	False	3

```
del df_drop['x']
```

```
df_drop
```

	y	is_label	x_plus_y
0	1	True	1
1	1	False	3
2	0	False	1
3	0	False	5

103.2 .drop()

Can drop one or more columns.

takes `axis` parameter:
- `axis=0` refers to rows
- `axis=1` refers to columns

```
df_drop = df_drop.drop(['x_plus_y', 'is_label'], axis=1)
```

```
df_drop
```

	y
0	1
1	1
2	0
3	0

104 Load Iris Dataset

Let's load a bigger data set to explore more functionality.

The function `load_dataset()` in the `seaborn` package loads the built-in dataset.

```
import seaborn as sns
iris = sns.load_dataset('iris')
```

Check the data type of `iris`:

```
type(iris)
```

```
pandas.core.frame.DataFrame
```

104.1 See the first and last records with `.head()` and `.tail()`

```
iris.head()
```

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa

```
iris.head(10)
```

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa

	sepal_length	sepal_width	petal_length	petal_width	species
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa
5	5.4	3.9	1.7	0.4	setosa
6	4.6	3.4	1.4	0.3	setosa
7	5.0	3.4	1.5	0.2	setosa
8	4.4	2.9	1.4	0.2	setosa
9	4.9	3.1	1.5	0.1	setosa

```
iris.tail()
```

	sepal_length	sepal_width	petal_length	petal_width	species
145	6.7	3.0	5.2	2.3	virginica
146	6.3	2.5	5.0	1.9	virginica
147	6.5	3.0	5.2	2.0	virginica
148	6.2	3.4	5.4	2.3	virginica
149	5.9	3.0	5.1	1.8	virginica

104.2 Inspect metadata

```
iris.dtypes
```

```
sepal_length    float64
sepal_width     float64
petal_length    float64
petal_width     float64
species         object
dtype: object
```

shape (rows, columns):

```
iris.shape
```

```
(150, 5)
```

alternatively, `len()` returns row (record) count:

```
len(iris)
```

```
150
```

```
column names:
```

```
iris.columns
```

```
Index(['sepal_length', 'sepal_width', 'petal_length', 'petal_width',
       'species'],
      dtype='object')
```

```
iris.index
```

```
RangeIndex(start=0, stop=150, step=1)
```

104.3 Get it all with .info()

```
iris.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 150 entries, 0 to 149
Data columns (total 5 columns):
 #   Column        Non-Null Count  Dtype  
 ---  --  
 0   sepal_length  150 non-null    float64 
 1   sepal_width   150 non-null    float64 
 2   petal_length  150 non-null    float64 
 3   petal_width   150 non-null    float64 
 4   species       150 non-null    object  
dtypes: float64(4), object(1)
memory usage: 6.0+ KB
```

105 The Index

```
iris.index
```

```
RangeIndex(start=0, stop=150, step=1)
```

We can name indexes, and it is important to do so in many cases.

```
iris.index.name = 'obs_id'
```

We can also redefine indexes to reflect the logic of our data.

In this data set, the species of the flower is part of its **identity**, so it can be part of the index.

(Note that is also a label that can be used for training a model to predict the species of an iris flower. In that use case, the column would be pulled out into a separate vector.)

```
iris_w_idx = iris.reset_index().set_index(['species','obs_id'])
```

```
iris_w_idx
```

		sepal_length	sepal_width	petal_length	petal_width
species	obs_id				
	0	5.1	3.5	1.4	0.2
	1	4.9	3.0	1.4	0.2
setosa	2	4.7	3.2	1.3	0.2
	3	4.6	3.1	1.5	0.2
	4	5.0	3.6	1.4	0.2

	145	6.7	3.0	5.2	2.3
	146	6.3	2.5	5.0	1.9
virginica	147	6.5	3.0	5.2	2.0
	148	6.2	3.4	5.4	2.3
	149	5.9	3.0	5.1	1.8

106 Row Selection (Filtering)

106.1 iloc[]

You can extract rows using **indexes** with `iloc[]`.

This fetches row 3, and all columns.

```
iris.iloc[2]
```

```
sepal_length      4.7
sepal_width       3.2
petal_length      1.3
petal_width       0.2
species           setosa
Name: 2, dtype: object
```

fetch rows with indices 1,2 (the right endpoint is exclusive), and all columns.

```
iris.iloc[1:3]
```

obs_id	sepal_length	sepal_width	petal_length	petal_width	species
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa

fetch rows with indices 1,2 and first three columns (positions 0, 1, 2)

106.2 Combining Filtering and Selecting

So, remember the comma notation from NumPy – it is used here.

The first element is a row selector, the second a column selector.

In database terminology, row selection is called filtering.

```
iris.iloc[1:3, 0:3]
```

obs_id	sepal_length	sepal_width	petal_length
1	4.9	3.0	1.4
2	4.7	3.2	1.3

You can apply slices to column names too. You don't need `.iloc[]` here.

```
iris.columns[0:3]
```

```
Index(['sepal_length', 'sepal_width', 'petal_length'], dtype='object')
```

106.3 `.loc[]`

Filtering can also be done with `.loc[]`. This uses the row, column labels (names).

Here we ask for rows with labels (indexes) 1-3, and it gives exactly that
`.iloc[]` returned rows with indices 1,2.

Author note: This is by far the more useful of the two in my experience.

```
iris.loc[1:3]
```

obs_id	sepal_length	sepal_width	petal_length	petal_width	species
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa

Subset on columns with column name (as a string) or list of strings

```
iris.loc[1:3, ['sepal_length', 'petal_width']]
```

	sepal_length	petal_width
obs_id		
1	4.9	0.2
2	4.7	0.2
3	4.6	0.2

Select all rows, specific columns

```
iris.loc[:, ['sepal_length','petal_width']]
```

	sepal_length	petal_width
obs_id		
0	5.1	0.2
1	4.9	0.2
2	4.7	0.2
3	4.6	0.2
4	5.0	0.2
...
145	6.7	2.3
146	6.3	1.9
147	6.5	2.0
148	6.2	2.3
149	5.9	1.8

106.4 .loc[] with MultiIndex

```
iris_w_idx.loc['setosa']
```

	sepal_length	sepal_width	petal_length	petal_width
obs_id				
0	5.1	3.5	1.4	0.2
1	4.9	3.0	1.4	0.2
2	4.7	3.2	1.3	0.2
3	4.6	3.1	1.5	0.2
4	5.0	3.6	1.4	0.2
5	5.4	3.9	1.7	0.4
6	4.6	3.4	1.4	0.3

obs_id	sepal_length	sepal_width	petal_length	petal_width
7	5.0	3.4	1.5	0.2
8	4.4	2.9	1.4	0.2
9	4.9	3.1	1.5	0.1
10	5.4	3.7	1.5	0.2
11	4.8	3.4	1.6	0.2
12	4.8	3.0	1.4	0.1
13	4.3	3.0	1.1	0.1
14	5.8	4.0	1.2	0.2
15	5.7	4.4	1.5	0.4
16	5.4	3.9	1.3	0.4
17	5.1	3.5	1.4	0.3
18	5.7	3.8	1.7	0.3
19	5.1	3.8	1.5	0.3
20	5.4	3.4	1.7	0.2
21	5.1	3.7	1.5	0.4
22	4.6	3.6	1.0	0.2
23	5.1	3.3	1.7	0.5
24	4.8	3.4	1.9	0.2
25	5.0	3.0	1.6	0.2
26	5.0	3.4	1.6	0.4
27	5.2	3.5	1.5	0.2
28	5.2	3.4	1.4	0.2
29	4.7	3.2	1.6	0.2
30	4.8	3.1	1.6	0.2
31	5.4	3.4	1.5	0.4
32	5.2	4.1	1.5	0.1
33	5.5	4.2	1.4	0.2
34	4.9	3.1	1.5	0.2
35	5.0	3.2	1.2	0.2
36	5.5	3.5	1.3	0.2
37	4.9	3.6	1.4	0.1
38	4.4	3.0	1.3	0.2
39	5.1	3.4	1.5	0.2
40	5.0	3.5	1.3	0.3
41	4.5	2.3	1.3	0.3
42	4.4	3.2	1.3	0.2
43	5.0	3.5	1.6	0.6
44	5.1	3.8	1.9	0.4
45	4.8	3.0	1.4	0.3
46	5.1	3.8	1.6	0.2

obs_id	sepal_length	sepal_width	petal_length	petal_width
47	4.6	3.2	1.4	0.2
48	5.3	3.7	1.5	0.2
49	5.0	3.3	1.4	0.2

```
iris_w_idx.loc['setosa', 'sepal_length'].head()
```

```
obs_id
0    5.1
1    4.9
2    4.7
3    4.6
4    5.0
Name: sepal_length, dtype: float64
```

```
iris_w_idx.loc['setosa', 'sepal_length'].to_frame().head()
```

obs_id	sepal_length
0	5.1
1	4.9
2	4.7
3	4.6
4	5.0

We use a tuple to index multiple index levels.

Note that you can't pass slices here – and this where indexing can get sticky.

```
iris_w_idx.loc[('setosa', 5)]
```

```
sepal_length    5.4
sepal_width     3.9
petal_length    1.7
petal_width     0.4
Name: (setosa, 5), dtype: float64
```

106.5 Another Example

```
df_cat = pd.DataFrame(  
    index=['burmese', 'persian', 'maine_coone'],  
    columns=['x'],  
    data=[2, 1, 3])
```

```
df_cat
```

	x
burmese	2
persian	1
maine_coone	3

```
df_cat.iloc[:2]
```

	x
burmese	2
persian	1

```
df_cat.iloc[0:1]
```

	x
burmese	2

```
df_cat.loc['burmese']
```

```
x    2  
Name: burmese, dtype: int64
```

```
df_cat.loc[['burmese', 'maine_coone']]
```

	x
burmese	2
maine_coone	3

107 Boolean Filtering

It's very common to subset a dataframe based on some condition on the data.

Note that even though we are filtering rows, we are not using `.loc[]` or `.iloc[]` here.

Pandas knows what to do if you pass a boolean structure.

```
iris.sepal_length >= 7.5
```

```
obs_id
0      False
1      False
2      False
3      False
4      False
...
145     False
146     False
147     False
148     False
149     False
Name: sepal_length, Length: 150, dtype: bool
```

```
iris[iris.sepal_length >= 7.5]
```

obs_id	sepal_length	sepal_width	petal_length	petal_width	species
105	7.6	3.0	6.6	2.1	virginica
117	7.7	3.8	6.7	2.2	virginica
118	7.7	2.6	6.9	2.3	virginica
122	7.7	2.8	6.7	2.0	virginica
131	7.9	3.8	6.4	2.0	virginica
135	7.7	3.0	6.1	2.3	virginica

```
iris[(iris['sepal_length'] >= 4.5) & (iris['sepal_length'] <= 4.7)]
```

obs_id	sepal_length	sepal_width	petal_length	petal_width	species
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
6	4.6	3.4	1.4	0.3	setosa
22	4.6	3.6	1.0	0.2	setosa
29	4.7	3.2	1.6	0.2	setosa
41	4.5	2.3	1.3	0.3	setosa
47	4.6	3.2	1.4	0.2	setosa

107.1 Masking

Here's an example of **masking** using boolean conditions passed to the dataframe selector:

Here are the **values** for the feature `sepal_length`:

```
iris.sepal_length.values
```

```
array([5.1, 4.9, 4.7, 4.6, 5. , 5.4, 4.6, 5. , 4.4, 4.9, 5.4, 4.8, 4.8,
       4.3, 5.8, 5.7, 5.4, 5.1, 5.7, 5.1, 5.4, 5.1, 4.6, 5.1, 4.8, 5. ,
       5. , 5.2, 5.2, 4.7, 4.8, 5.4, 5.2, 5.5, 4.9, 5. , 5.5, 4.9, 4.4,
       5.1, 5. , 4.5, 4.4, 5. , 5.1, 4.8, 5.1, 4.6, 5.3, 5. , 7. , 6.4,
       6.9, 5.5, 6.5, 5.7, 6.3, 4.9, 6.6, 5.2, 5. , 5.9, 6. , 6.1, 5.6,
       6.7, 5.6, 5.8, 6.2, 5.6, 5.9, 6.1, 6.3, 6.1, 6.4, 6.6, 6.8, 6.7,
       6. , 5.7, 5.5, 5.5, 5.8, 6. , 5.4, 6. , 6.7, 6.3, 5.6, 5.5, 5.5,
       6.1, 5.8, 5. , 5.6, 5.7, 5.7, 6.2, 5.1, 5.7, 6.3, 5.8, 7.1, 6.3,
       6.5, 7.6, 4.9, 7.3, 6.7, 7.2, 6.5, 6.4, 6.8, 5.7, 5.8, 6.4, 6.5,
       7.7, 7.7, 6. , 6.9, 5.6, 7.7, 6.3, 6.7, 7.2, 6.2, 6.1, 6.4, 7.2,
       7.4, 7.9, 6.4, 6.3, 6.1, 7.7, 6.3, 6.4, 6. , 6.9, 6.7, 6.9, 5.8,
       6.8, 6.7, 6.7, 6.3, 6.5, 6.2, 5.9])
```

And here are **the boolean values** generated by applying a comparison operator to those values:

```
mask = iris.sepal_length >= 7.5
```

mask.values

The two sets of values have the same shape.

We can now overlay the logical values over the numeric ones and keep only what is True:

```
iris.sepal_length[mask].values
```

```
array([7.6, 7.7, 7.7, 7.7, 7.9, 7.7])
```

108 Working with Missing Data

Pandas primarily uses the data type `np.nan` from NumPy to represent missing data.

```
df_miss = pd.DataFrame({  
    'x': [2, np.nan, 1],  
    'y': [np.nan, np.nan, 6]  
})  
  
df_miss
```

	x	y
0	2.0	NaN
1	NaN	NaN
2	1.0	6.0

108.1 `.dropna()`

This will drop all rows with missing data in any column.

Details

```
df_drop_all = df_miss.dropna()  
df_drop_all
```

	x	y
2	1.0	6.0

The `subset` parameter takes a list of column names to specify which columns should have missing values.

```
df_drop_x = df_miss.dropna(subset=['x'])
df_drop_x
```

	x	y
0	2.0	NaN
2	1.0	6.0

108.2 .fillna()

This will replace missing values with whatever you set it to, e.g. 0s.

Details

We can pass the results of an operation – for example to perform simple imputation, we can replace missing values in each column with the median value of the respective column:

```
df_filled = df_miss.fillna(df_miss.median())
```

```
df_filled
```

	x	y
0	2.0	6.0
1	1.5	6.0
2	1.0	6.0

109 Sorting

109.1 .sort_values()

Sort by values - `by` parameter takes string or list of strings - `ascending` takes True or False - `inplace` will save sorted values into the df

Details

```
iris.sort_values(by=['sepal_length','petal_width'])
```

obs_id	sepal_length	sepal_width	petal_length	petal_width	species
13	4.3	3.0	1.1	0.1	setosa
8	4.4	2.9	1.4	0.2	setosa
38	4.4	3.0	1.3	0.2	setosa
42	4.4	3.2	1.3	0.2	setosa
41	4.5	2.3	1.3	0.3	setosa
...
122	7.7	2.8	6.7	2.0	virginica
117	7.7	3.8	6.7	2.2	virginica
118	7.7	2.6	6.9	2.3	virginica
135	7.7	3.0	6.1	2.3	virginica
131	7.9	3.8	6.4	2.0	virginica

109.2 .sort_index()

Sort by index. Example sorts by descending index

```
iris.sort_index(axis=0, ascending=False)
```

obs_id	sepal_length	sepal_width	petal_length	petal_width	species
149	5.9	3.0	5.1	1.8	virginica
148	6.2	3.4	5.4	2.3	virginica
147	6.5	3.0	5.2	2.0	virginica
146	6.3	2.5	5.0	1.9	virginica
145	6.7	3.0	5.2	2.3	virginica
...
4	5.0	3.6	1.4	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
0	5.1	3.5	1.4	0.2	setosa

110 Statistics

110.1 `describe()`

```
iris.describe()
```

	sepal_length	sepal_width	petal_length	petal_width
count	150.000000	150.000000	150.000000	150.000000
mean	5.843333	3.057333	3.758000	1.199333
std	0.828066	0.435866	1.765298	0.762238
min	4.300000	2.000000	1.000000	0.100000
25%	5.100000	2.800000	1.600000	0.300000
50%	5.800000	3.000000	4.350000	1.300000
75%	6.400000	3.300000	5.100000	1.800000
max	7.900000	4.400000	6.900000	2.500000

```
iris.describe().T
```

	count	mean	std	min	25%	50%	75%	max
sepal_length	150.0	5.843333	0.828066	4.3	5.1	5.80	6.4	7.9
sepal_width	150.0	3.057333	0.435866	2.0	2.8	3.00	3.3	4.4
petal_length	150.0	3.758000	1.765298	1.0	1.6	4.35	5.1	6.9
petal_width	150.0	1.199333	0.762238	0.1	0.3	1.30	1.8	2.5

```
iris.species.describe()
```

```
count          150
unique         3
top    versicolor
freq          50
Name: species, dtype: object
```

```
iris.sepal_length.describe()
```

```
count      150.000000
mean       5.843333
std        0.828066
min        4.300000
25%        5.100000
50%        5.800000
75%        6.400000
max        7.900000
Name: sepal_length, dtype: float64
```

110.2 value_counts()

This is a **highly useful** function for showing the frequency for each distinct value.

Parameters give the ability to sort by count or index, normalize, and more.

Details

```
iris.species.value_counts()
```

```
versicolor    50
setosa        50
virginica     50
Name: species, dtype: int64
```

Show percentages instead of counts

```
iris.species.value_counts(normalize=True)
```

```
versicolor    0.333333
setosa        0.333333
virginica     0.333333
Name: species, dtype: float64
```

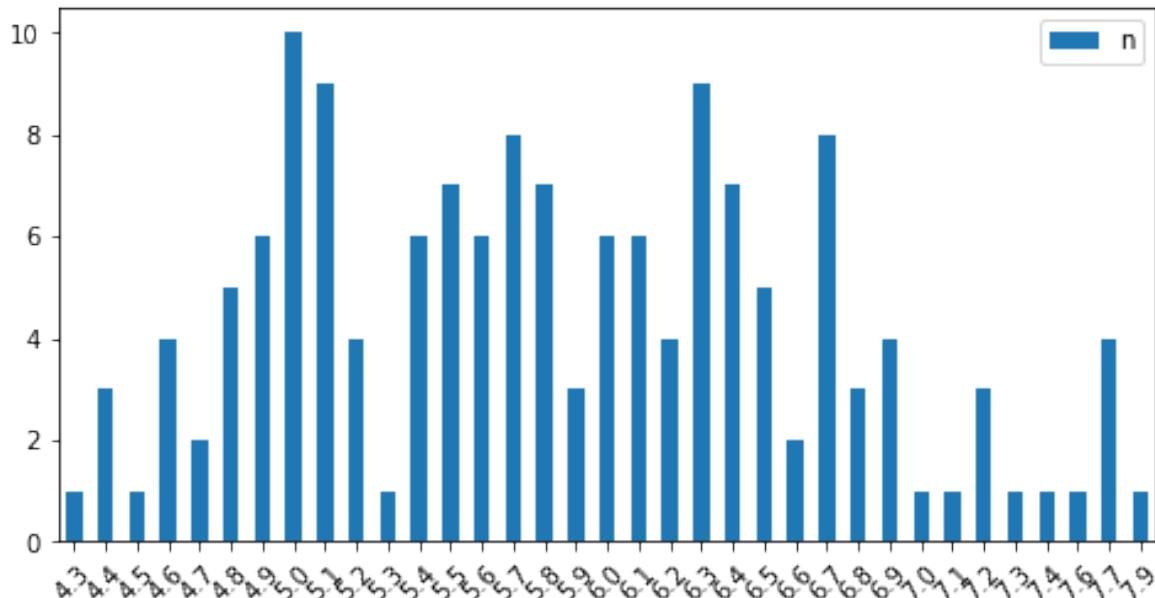
The methods returns a series that can be converted into a dataframe.

```
SEPAL_LENGTH = iris.sepal_length.value_counts().to_frame('n')
```

```
# SEPAL_LENGTH
```

You can run `.value_counts()` on a column to get a kind of histogram:

```
SEPAL_LENGTH.sort_index().plot.bar(figsize=(8,4), rot=45);
```



110.3 `.mean()`

Operations like this generally exclude missing data.

So, it is import to convert missing data to values if they need to be considered in the denominator.

```
iris.sepal_length.mean()
```

```
5.843333333333335
```

110.4 .max()

```
iris.sepal_length.max()
```

7.9

110.5 .std()

This standard deviation.

```
iris.sepal_length.std()
```

0.8280661279778629

110.6 .corr()

```
iris.corr()
```

	sepal_length	sepal_width	petal_length	petal_width
sepal_length	1.000000	-0.117570	0.871754	0.817941
sepal_width	-0.117570	1.000000	-0.428440	-0.366126
petal_length	0.871754	-0.428440	1.000000	0.962865
petal_width	0.817941	-0.366126	0.962865	1.000000

Correlation can be computed on two fields by subsetting on them:

```
iris[['sepal_length','petal_length']].corr()
```

	sepal_length	petal_length
sepal_length	1.000000	0.871754
petal_length	0.871754	1.000000

```
iris[['sepal_length','petal_length','sepal_width']].corr()
```

	sepal_length	petal_length	sepal_width
sepal_length	1.000000	0.871754	-0.11757
petal_length	0.871754	1.000000	-0.42844
sepal_width	-0.117570	-0.428440	1.00000

111 Styling

```
iris.corr().style.background_gradient(cmap="Spectral", axis=None)
```

Table 111.1

	sepal_length	sepal_width	petal_length	petal_width
sepal_length	1.000000	-0.117570	0.871754	0.817941
sepal_width	-0.117570	1.000000	-0.428440	-0.366126
petal_length	0.871754	-0.428440	1.000000	0.962865
petal_width	0.817941	-0.366126	0.962865	1.000000

```
iris.corr().style.bar(axis=None)
```

Table 111.2

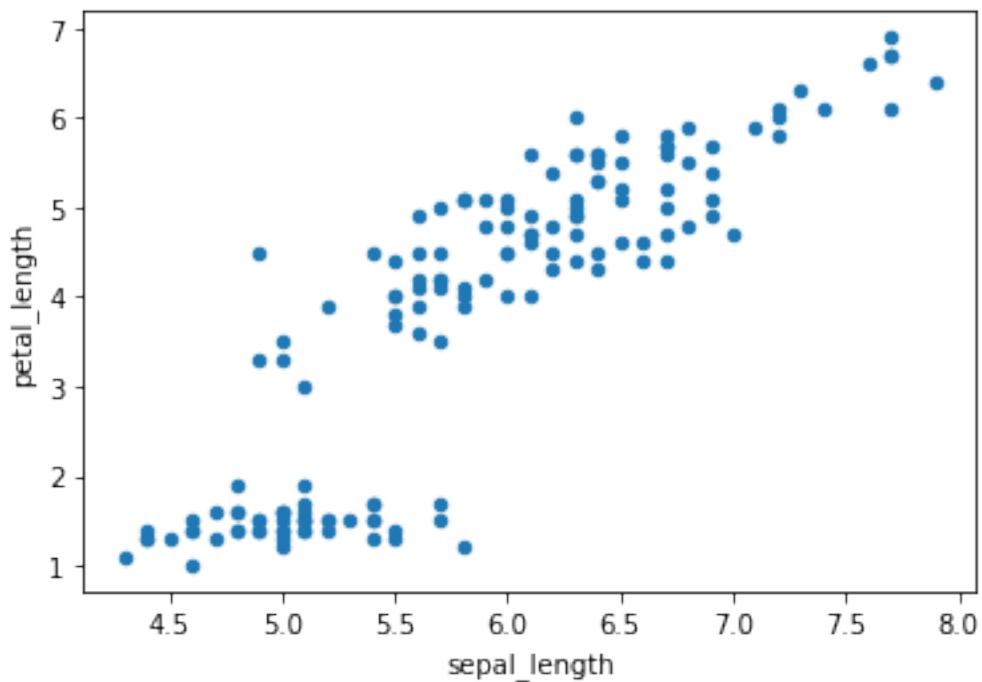
	sepal_length	sepal_width	petal_length	petal_width
sepal_length	1.000000	-0.117570	0.871754	0.817941
sepal_width	-0.117570	1.000000	-0.428440	-0.366126
petal_length	0.871754	-0.428440	1.000000	0.962865
petal_width	0.817941	-0.366126	0.962865	1.000000

112 Visualization

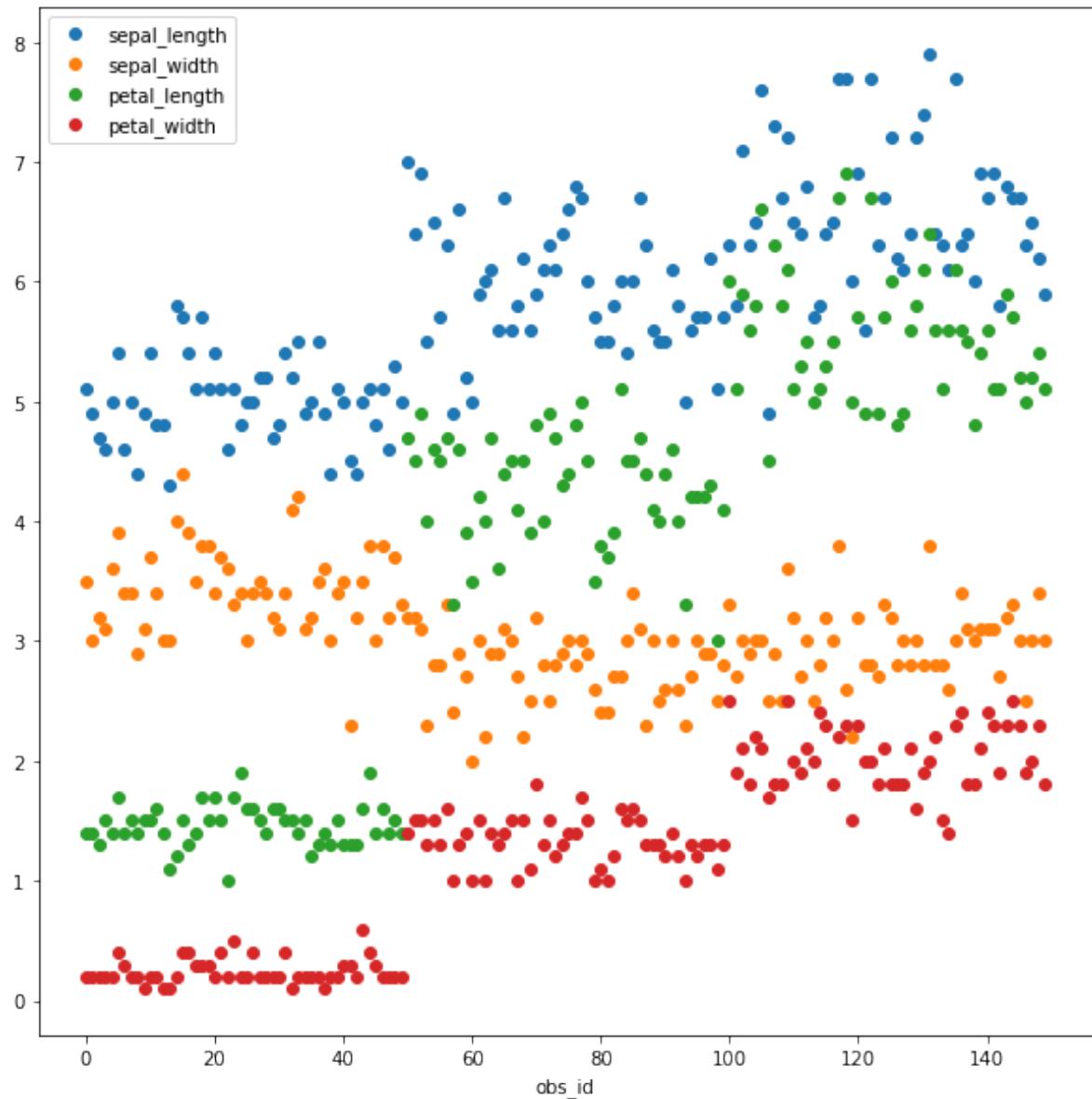
Scatterplot using Seabprn on the df columns `sepal_length`, `petal_length`.

Visualization will be covered separately in more detail.

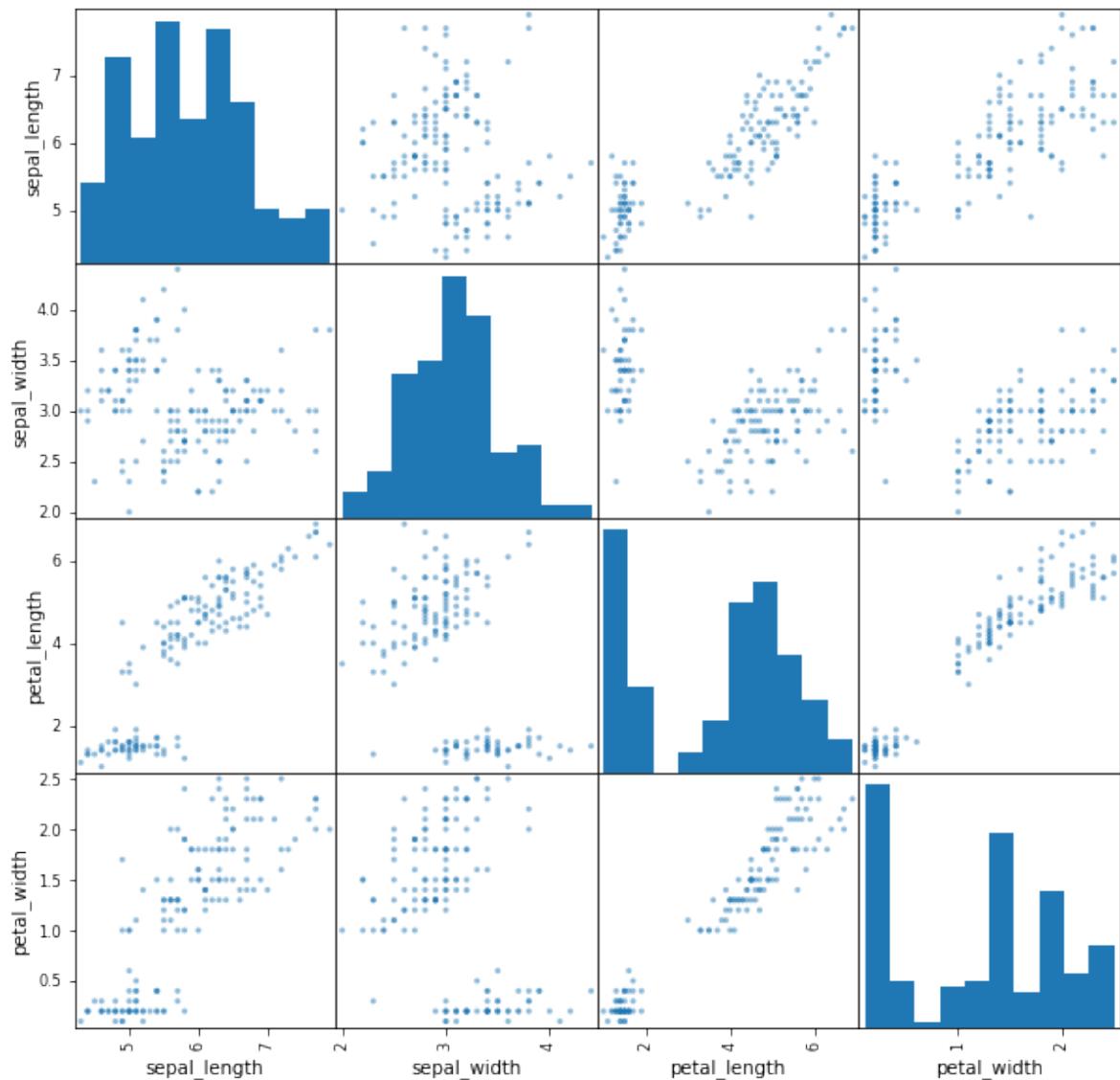
```
iris.plot.scatter('sepal_length', 'petal_length');
```



```
iris.sort_values(list(iris.columns)).plot(style='o', figsize=(10,10));
```



```
from pandas.plotting import scatter_matrix  
  
scatter_matrix(iris, figsize=(10,10));
```



113 Save to CSV File

Common to save df to a csv file. The full path (path + filename) is required.

There are also options to save to a database and to other file formats,

Common optional parameters: - `sep` - delimiter - `index` - saving index column or not

Details

```
iris.to_csv('./iris_data.csv')
```

114 Read from CSV File

`read_csv()` reads from csv into DataFrame

takes full filepath

[Details](#)

```
iris_loaded = pd.read_csv('./iris_data.csv')
```

```
iris_loaded.head(2)
```

	obs_id	sepal_length	sepal_width	petal_length	petal_width	species
0	0	5.1	3.5	1.4	0.2	setosa
1	1	4.9	3.0	1.4	0.2	setosa

115 Metadata

Course: DS 5100
Module: 06 Pandas
Topic: Introducing Pandas II
Author: R.C. Alvarado (adapted)
Date: 28 June 2022

116 Set Up

```
import numpy as np
import pandas as pd
import seaborn as sns
iris = sns.load_dataset('iris')

iris.head(2)
```

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa

```
import sys
sys.getsizeof(iris)
```

14744

117 Apply Lambda Functions with .apply()

Apply a transformation to each record. Uses a `lambda` function.

The `apply()` method should be used after you have established that you can't use a vectorized function.

```
iris['sepal_len_sq'] = iris.sepal_length.apply(lambda x: x**2)
iris.head(5)
```

	sepal_length	sepal_width	petal_length	petal_width	species	sepal_len_sq
0	5.1	3.5	1.4	0.2	setosa	26.01
1	4.9	3.0	1.4	0.2	setosa	24.01
2	4.7	3.2	1.3	0.2	setosa	22.09
3	4.6	3.1	1.5	0.2	setosa	21.16
4	5.0	3.6	1.4	0.2	setosa	25.00

Transformation involving multiple columns. Uses `axis=1` to access columns.

Compute average of `sepal_length`, `sepal_width`:

```
iris['sepal_len_wid_avg'] = iris[['sepal_length','sepal_width']].apply(lambda x: (x.sepal_
iris.head()
```

	sepal_length	sepal_width	petal_length	petal_width	species	sepal_len_sq	sepal_len_wid_avg
0	5.1	3.5	1.4	0.2	setosa	26.01	4.30
1	4.9	3.0	1.4	0.2	setosa	24.01	3.95
2	4.7	3.2	1.3	0.2	setosa	22.09	3.95
3	4.6	3.1	1.5	0.2	setosa	21.16	3.85
4	5.0	3.6	1.4	0.2	setosa	25.00	4.30

Vectorized Version

```
%time iris.sepal_length**2
```

```
CPU times: user 5.57 ms, sys: 5.25 ms, total: 10.8 ms
Wall time: 30.1 ms
```

```
0      26.01
1      24.01
2      22.09
3      21.16
4      25.00
...
145    44.89
146    39.69
147    42.25
148    38.44
149    34.81
Name: sepal_length, Length: 150, dtype: float64
```

Compare to .apply()

```
%time iris.sepal_length.apply(lambda x: x**2)
```

```
CPU times: user 440 µs, sys: 28 µs, total: 468 µs
Wall time: 456 µs
```

```
0      26.01
1      24.01
2      22.09
3      21.16
4      25.00
...
145    44.89
146    39.69
147    42.25
148    38.44
149    34.81
Name: sepal_length, Length: 150, dtype: float64
```

118 Aggregation

Involves one or more of:

- splitting the data into groups
- applying a function to each group
- combining results

118.1 .groupby()

Compute mean of each column, grouped (separately) by species

```
iris.groupby("species").mean()
```

species	sepal_length	sepal_width	petal_length	petal_width	sepal_len_sq	sepal_len_wid_avg
setosa	5.006	3.428	1.462	0.246	25.1818	4.217
versicolor	5.936	2.770	4.260	1.326	35.4972	4.353
virginica	6.588	2.974	5.552	2.026	43.7980	4.781

118.2 pd.pivot_table()

Apply a function `aggfunc` to selected values grouped by columns

Details

Compute mean sepal length for each species:

```
pd.pivot_table(iris, values="sepal_length", columns=["species"], aggfunc = np.mean)
```

species	setosa	versicolor	virginica
sepal_length	5.006	5.936	6.588

119 Stacking and Unstacking

Similar to pivoting, but requires – and takes advantage of – indexes.

```
iris_w_idx = iris.copy()

# Give the original index a name
iris_w_idx.index.name = 'obs_id'

# Create a multi-index, using `species` as part of the key.
iris_w_idx = iris_w_idx.reset_index().set_index(['species','obs_id'])

iris_w_idx
```

species	obs_id	sepal_length	sepal_width	petal_length	petal_width	sepal_len_sq	sepal_len_wi
setosa	0	5.1	3.5	1.4	0.2	26.01	4.30
	1	4.9	3.0	1.4	0.2	24.01	3.95
	2	4.7	3.2	1.3	0.2	22.09	3.95
	3	4.6	3.1	1.5	0.2	21.16	3.85
	4	5.0	3.6	1.4	0.2	25.00	4.30
...
virginica	145	6.7	3.0	5.2	2.3	44.89	4.85
	146	6.3	2.5	5.0	1.9	39.69	4.40
	147	6.5	3.0	5.2	2.0	42.25	4.75
	148	6.2	3.4	5.4	2.3	38.44	4.80
	149	5.9	3.0	5.1	1.8	34.81	4.45

119.1 .unstack()

Details

```
iris_wide = iris_w_idx.sepal_length.unstack(fill_value=0).T
```

```
iris_wide
```

	species	setosa	versicolor	virginica
obs_id				
0		5.1	0.0	0.0
1		4.9	0.0	0.0
2		4.7	0.0	0.0
3		4.6	0.0	0.0
4		5.0	0.0	0.0
...
145		0.0	0.0	6.7
146		0.0	0.0	6.3
147		0.0	0.0	6.5
148		0.0	0.0	6.2
149		0.0	0.0	5.9

```
iris_wide.mean()
```

```
species
setosa      1.668667
versicolor   1.978667
virginica    2.196000
dtype: float64
```

119.2 .stack()

Details

```
iris_wide.T.stack().to_frame('sepal_length')
```

		sepal_length
species	obs_id	
	0	5.1
	1	4.9
setosa	2	4.7
	3	4.6
	4	5.0

species	obs_id	sepal_length
...
	145	6.7
	146	6.3
virginica	147	6.5
	148	6.2
	149	5.9

120 Combining DataFrames

120.1 pd.concat()

Concatenate pandas objects along an axis.

Details

Create two dfs and vertically stack them

```
df1 = pd.DataFrame(np.random.randn(3, 4))
df2 = pd.DataFrame(np.random.randn(3, 4))
```

df1

	0	1	2	3
0	-0.529316	0.439009	-1.192926	0.487157
1	0.719213	-2.363081	0.823607	0.523713
2	0.124701	-1.810517	-0.970098	-1.178179

df2

	0	1	2	3
0	0.970977	2.528656	1.975030	-1.298264
1	1.600237	-0.744094	-1.064893	1.385589
2	-1.175151	-0.061801	1.026631	0.516147

Concat rows

```
df3 = pd.concat([df1, df2], axis=0)
```

df3

	0	1	2	3
0	-0.529316	0.439009	-1.192926	0.487157
1	0.719213	-2.363081	0.823607	0.523713
2	0.124701	-1.810517	-0.970098	-1.178179
0	0.970977	2.528656	1.975030	-1.298264
1	1.600237	-0.744094	-1.064893	1.385589
2	-1.175151	-0.061801	1.026631	0.516147

Concat columns

This assumes that the indexes represent IDs of specific things or events.

```
df4 = pd.concat([df1, df2], axis=1, keys=['foo', 'bar'])
```

```
df4
```

foo	bar			
	0	1	2	3
0	-0.529316	0.439009	-1.192926	0.487157
1	0.719213	-2.363081	0.823607	0.523713
2	0.124701	-1.810517	-0.970098	-1.178179

```
df4.foo
```

	0	1	2	3
0	-0.529316	0.439009	-1.192926	0.487157
1	0.719213	-2.363081	0.823607	0.523713
2	0.124701	-1.810517	-0.970098	-1.178179

120.2 .merge()

SQL-style joining of tables (DataFrames) – although Pandas has a `.join()` method, too.

Important parameters include:

- `how` : type of merge {'left', 'right', 'outer', 'inner', 'cross'}, default 'inner'
- `on` : names to join on

Details

Create two tables, `left` and `right`. Then right join them on `key`.

Right join means include all records from table on right.

The `key` is used for matching up the records.

```
left = pd.DataFrame({"key": ["jamie", "bill"], "lval": [15, 22]})

right = pd.DataFrame({"key": ["jamie", "bill", "asher"], "rval": [4, 5, 8]})

joined = pd.merge(left, right, on="key", how="right")

print('---left')
print(left)
print('\n---right')
print(right)
print('\n---joined')
print(joined)

---left
    key  lval
0  jamie    15
1    bill    22

---right
    key  rval
0  jamie     4
1    bill     5
2   asher     8

---joined
    key  lval  rval
0  jamie  15.0     4
1    bill  22.0     5
2   asher    NaN     8
```

Notice the `NaN` inserted into the record with `key=asher`, since the left table didn't contain the key.

Matching column names

In this next example, the value columns have the same name: `val`. Notice what happens to the column names.

```

left = pd.DataFrame({"key": ["jamie", "bill"], "val": [15, 22]})
right = pd.DataFrame({"key": ["jamie", "bill", "asher"], "val": [4, 5, 8]})

joined = pd.merge(left, right, on="key", how="right")

print('---left')
print(left)
print('\n---right')
print(right)
print('\n---joined')
print(joined)

---left
      key  val
0  jamie    15
1    bill    22

---right
      key  val
0  jamie     4
1    bill     5
2   asher     8

---joined
      key  val_x  val_y
0  jamie    15.0      4
1    bill    22.0      5
2   asher      NaN      8

```

120.3 .join()

An SQL-like joiner, but this one takes advantage of indexes.

Give our dataframes indexes and distinctive columns names.

Details

```

left2 = left.set_index('key').rename(columns={'val':'val_1'})
right2 = right.set_index('key').rename(columns={'val':'val_2'})

```

```
left2
```

key	val_1
jamie	15
bill	22

```
right2
```

key	val_2
jamie	4
bill	5
asher	8

```
right2.join(left2) # Defaults to 'inner'
```

key	val_2	val_1
jamie	4	15.0
bill	5	22.0
asher	8	NaN

```
right2.join(left2, how='left')
```

key	val_2	val_1
jamie	4	15.0
bill	5	22.0
asher	8	NaN

120.4 Summary

- Use **join** if you have shared indexes
- Use **merge** if you do not have shared indexes
- Use **concat** to combine based on shared indexes or columns

121 Reshape with .reshape()

Changes the object's shape

We illustrate creating pandas Series, extracting array of length 6, and reshaping to 3x2 array.

```
# create a series
ser = pd.Series([1, 1, 2, 3, 5, 8])

# extract values
vals = ser.values

print('orig data:', vals)
print('orig type:', type(vals))
print('orig shape:', vals.shape)

# reshaping series
reshaped_vals = vals.reshape((3, 2))

print('\n reshaped vals:')
print(reshaped_vals)
print('\n new type:', type(reshaped_vals))
print('new shape:', reshaped_vals.shape)

orig data: [1 1 2 3 5 8]
orig type: <class 'numpy.ndarray'>
orig shape: (6,)

reshaped vals:
[[1 1]
 [2 3]
 [5 8]]

new type: <class 'numpy.ndarray'>
new shape: (3, 2)
```

Including -1 as one of the dimensions tells numpy: infer this dimension from the data and the other dimensions.

Example: enforce 3 columns:

```
vals.reshape(-1,3)
```

```
array([[1, 1, 2],  
       [3, 5, 8]])
```

Enforce 3 rows:

```
vals.reshape(3,-1)
```

```
array([[1, 1],  
       [2, 3],  
       [5, 8]])
```

IMPORTANT NOTE

Notice the shape of original array: (6,)

This is a vector with one dimension, and is different from two-dimensional (6,1) array

122 Categoricals

Categorical data takes discrete values where computation on the values does not make sense.
Zip code is a typical example.

To include categoricals in models, they must be converted to numeric.

122.1 get_dummies()

Dummy code categorical data

Important parameters:

- `prefix` : append prefix to column names (a good idea for later use)
- `drop_first`: remove first level, as only $k-1$ variables needed to represent k levels

Details

```
cats = pd.DataFrame({'breed': ['persian', 'persian', 'siamese', 'himalayan', 'burmese']})
```

```
cats
```

breed	
0	persian
1	persian
2	siamese
3	himalayan
4	burmese

```
dummy_cats = pd.get_dummies(cats.breed, drop_first=True, prefix='breed')
```

```
dummy_cats
```

	breed_himalayan	breed_persian	breed_siamese
0	0	1	0
1	0	1	0
2	0	0	1
3	1	0	0
4	0	0	0

Notice **burmese** was dropped (first level by alphabet) since it can be inferred.

123 Metadata

Course: DS 5100
Module: 06 Pandas
Topic: Narrow vs Wide Tables
Author: R.C. Alvarado
Date: 21 September 2022

124 Narrow vs Wide Tables

```
import pandas as pd

pets = pd.Series("cat dog ferret snake turtle parraot".split()).sample(1000, replace=True)
people = pd.Series("A B C D E F G".split()).sample(1000, replace=True).to_list()
NARROW = pd.DataFrame(dict(pet=pets, owner=people)).groupby(['owner', 'pet']).pet.count()
```

This is a narrow table.

It has few columns and many rows.

Columns are types of things, and values in rows are either instances or subtypes.

NARROW

		n
owner	pet	
A	cat	26
	dog	19
	ferret	25
	parraot	35
	snake	29
	turtle	21
B	cat	20
	dog	27
	ferret	28
	parraot	19
	snake	28
	turtle	20
C	cat	33
	dog	18
	ferret	28
	parraot	17
	snake	24
	turtle	26

		n
	owner	pet
D		cat 25
		dog 24
		ferret 24
		parraot 24
		snake 26
		turtle 32
E		cat 24
		dog 17
		ferret 17
		parraot 24
		snake 19
		turtle 22
F		cat 20
		dog 21
		ferret 25
		parraot 26
		snake 20
		turtle 29
G		cat 27
		dog 15
		ferret 21
		parraot 24
		snake 27
		turtle 24

```
WIDE = NARROW.n.unstack()
```

This is a wide table.

One column's values are projected onto the feature space (as columns).

The other column becomes a unique list (as is the feature space).

```
WIDE
```

```
NameError: name 'WIDE' is not defined
```

Narrow columns are more manageable by databases.

Wide columns are more usable for analysis.

You can do these things with narrow tables using `.group_by()`

```
A = WIDE / WIDE.sum()
```

```
B = WIDE.T / WIDE.T.sum()
```

```
A.style.background_gradient()
```

Table 124.2

pet owner	cat	dog	ferret	parraot	snake	turtle
A	0.148571	0.134752	0.148810	0.207101	0.167630	0.120690
B	0.114286	0.191489	0.166667	0.112426	0.161850	0.114943
C	0.188571	0.127660	0.166667	0.100592	0.138728	0.149425
D	0.142857	0.170213	0.142857	0.142012	0.150289	0.183908
E	0.137143	0.120567	0.101190	0.142012	0.109827	0.126437
F	0.114286	0.148936	0.148810	0.153846	0.115607	0.166667
G	0.154286	0.106383	0.125000	0.142012	0.156069	0.137931

```
B.style.background_gradient()
```

Table 124.3

owner pet	A	B	C	D	E	F	G
cat	0.167742	0.140845	0.226027	0.161290	0.195122	0.141844	0.195652
dog	0.122581	0.190141	0.123288	0.154839	0.138211	0.148936	0.108696
ferret	0.161290	0.197183	0.191781	0.154839	0.138211	0.177305	0.152174
parraot	0.225806	0.133803	0.116438	0.154839	0.195122	0.184397	0.173913
snake	0.187097	0.197183	0.164384	0.167742	0.154472	0.141844	0.195652
turtle	0.135484	0.140845	0.178082	0.206452	0.178862	0.205674	0.173913

```
NARROW.unstack()
```

pet owner	n					
	cat	dog	ferret	parraot	snake	turtle
A	26	19	25	35	29	21
B	20	27	28	19	28	20
C	33	18	28	17	24	26
D	25	24	24	24	26	32
E	24	17	17	24	19	22
F	20	21	25	26	20	29
G	27	15	21	24	27	24

125 1 Hot Encoding

Project values onto the column axis.

```
pd.get_dummies(NARROW.n) #.sum()#.sort_values(ascending=False).plot(style='.'');
```

	owner	pet	15	17	18	19	20	21	22	24	25	26	27	28	29	32	33	35
A		cat	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
		dog	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
		ferret	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
		parraot	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
		snake	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
		turtle	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
B		cat	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
		dog	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
		ferret	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
		parraot	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
		snake	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
		turtle	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
C		cat	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
		dog	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
		ferret	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
		parraot	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		snake	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
		turtle	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
D		cat	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
		dog	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
		ferret	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
		parraot	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
		snake	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
		turtle	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0
E		cat	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
		dog	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		ferret	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		parraot	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

		15	17	18	19	20	21	22	24	25	26	27	28	29	32	33	35
owner	pet																
F	snake	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	turtle	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
	cat	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	dog	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	ferret	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	parraot	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	snake	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
	turtle	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
	cat	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	dog	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
G	ferret	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	parraot	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
	snake	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	turtle	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0

126 Metadata

Course: DS 5100
Module: 06 Pandas
Topic: Method Chainging
Author: R.C. Alvarado
Date: 21 September 2022

127 Method Chaining

```
import numpy as np
import pandas as pd
import seaborn as sns

iris = sns.load_dataset('iris')

iris
```

	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa
4	5.0	3.6	1.4	0.2	setosa
...
145	6.7	3.0	5.2	2.3	virginica
146	6.3	2.5	5.0	1.9	virginica
147	6.5	3.0	5.2	2.0	virginica
148	6.2	3.4	5.4	2.3	virginica
149	5.9	3.0	5.1	1.8	virginica

```
iris.index.name = 'iris_id'
```

```
iris
```

iris_id	sepal_length	sepal_width	petal_length	petal_width	species
0	5.1	3.5	1.4	0.2	setosa
1	4.9	3.0	1.4	0.2	setosa
2	4.7	3.2	1.3	0.2	setosa
3	4.6	3.1	1.5	0.2	setosa

iris_id	sepal_length	sepal_width	petal_length	petal_width	species
4	5.0	3.6	1.4	0.2	setosa
...
145	6.7	3.0	5.2	2.3	virginica
146	6.3	2.5	5.0	1.9	virginica
147	6.5	3.0	5.2	2.0	virginica
148	6.2	3.4	5.4	2.3	virginica
149	5.9	3.0	5.1	1.8	virginica

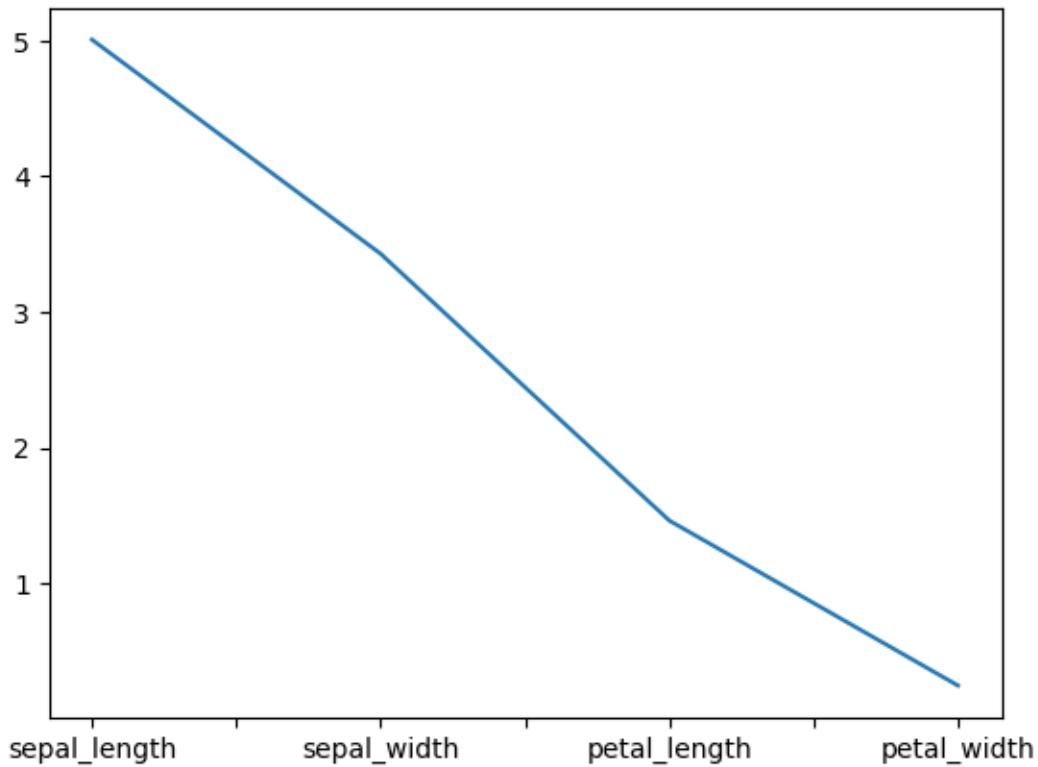
```
iris = iris.reset_index()\
    .set_index(['species', 'iris_id'])
```

iris

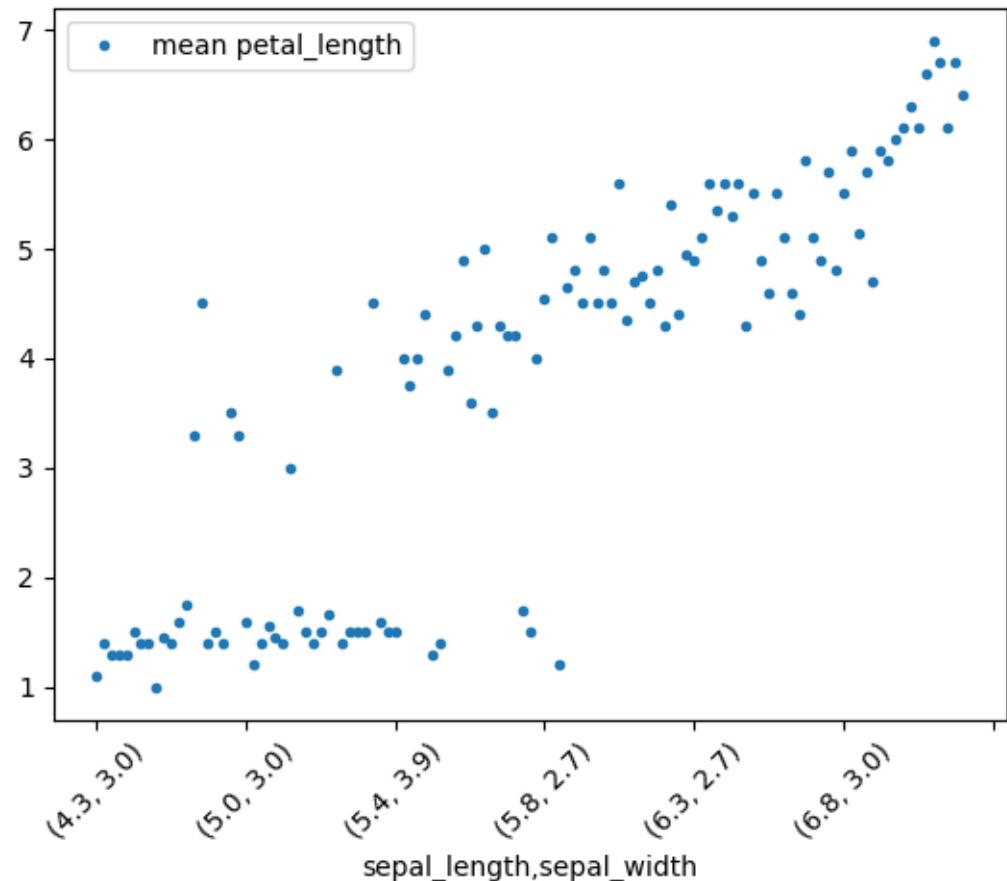
species	iris_id	sepal_length	sepal_width	petal_length	petal_width
setosa	0	5.1	3.5	1.4	0.2
	1	4.9	3.0	1.4	0.2
	2	4.7	3.2	1.3	0.2
	3	4.6	3.1	1.5	0.2
	4	5.0	3.6	1.4	0.2
virginica
	145	6.7	3.0	5.2	2.3
	146	6.3	2.5	5.0	1.9
	147	6.5	3.0	5.2	2.0
	148	6.2	3.4	5.4	2.3
	149	5.9	3.0	5.1	1.8

```
iris.groupby('species').agg('mean').T.setosa.plot()
```

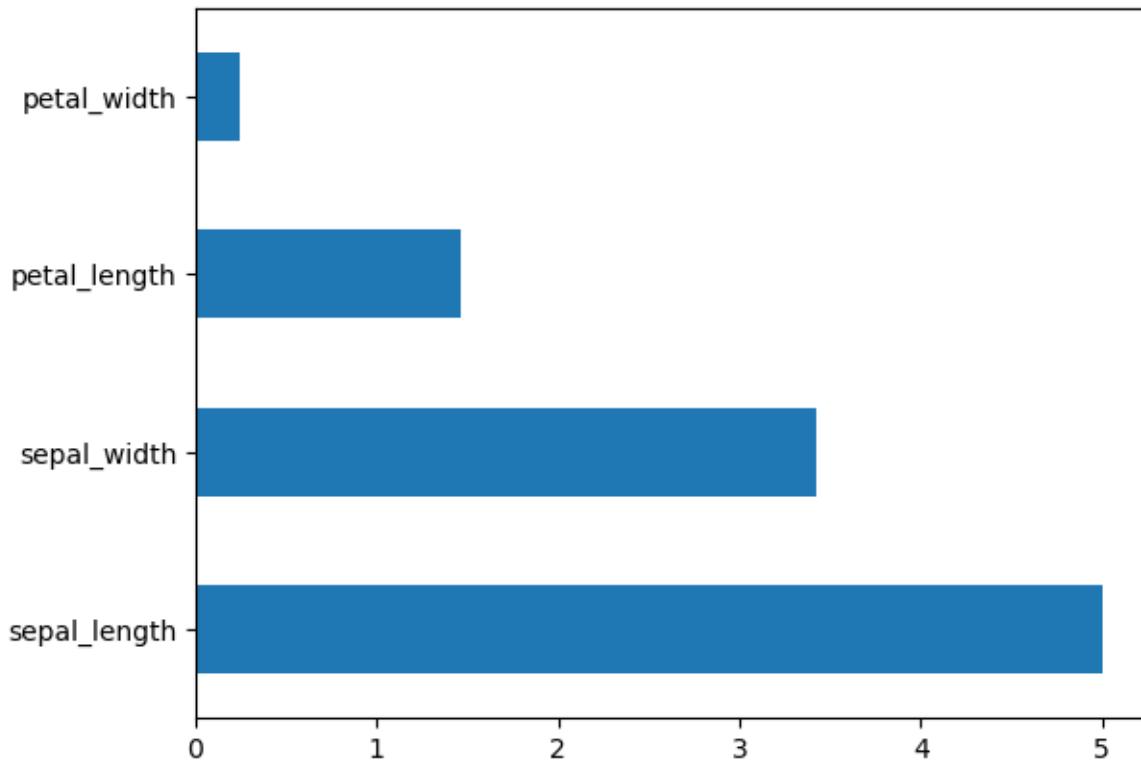
<AxesSubplot: >



```
iris.groupby(['sepal_length','sepal_width']).petal_length.mean()\
    .to_frame('mean_petal_length')\
    .plot(style='.', rot=45);
```



```
iris.groupby('species').mean().T.setosa.plot.barh();
```



```
iris.groupby('species')\
    .agg({'mean', 'min', 'max'})\
    .T\
    .style.background_gradient(cmap="GnBu", axis=1)
```

Table 127.4

	species	setosa	versicolor	virginica
sepal_length	mean	5.006000	5.936000	6.588000
	max	5.800000	7.000000	7.900000
	min	4.300000	4.900000	4.900000
sepal_width	mean	3.428000	2.770000	2.974000
	max	4.400000	3.400000	3.800000
	min	2.300000	2.000000	2.200000
petal_length	mean	1.462000	4.260000	5.552000
	max	1.900000	5.100000	6.900000
	min	1.000000	3.000000	4.500000
petal_width	mean	0.246000	1.326000	2.026000

	species	setosa	versicolor	virginica
max		0.600000	1.800000	2.500000
min		0.100000	1.000000	1.400000

```
iris

# iris.T

X = iris.T.stack()

X

X.index.names = ['feature', 'iris_id']

X

X.groupby('feature')\
    .agg({'mean', 'max', 'min'})\
    .T\
    .style.background_gradient(cmap="GnBu", axis=0)
```

Part VIII

M07 Classes

Topics

- Concept of object-oriented programming
- Concept of classes
- Python's approach to organizing classes
- Python's approach to creating and using classes
- Creating your own classes

Readings

Classes (Official Python)

Lutz 2019, Part VI, Classes and OOP, Chapters 26–29.

128 What is OOP?

128.1 The Basic Idea

The usual way that Object-Oriented Programming (OOP) is introduced to students is as a natural way to describe things in the world.

The story told goes something like this:

The world consists of a bunch of things.

These things may be animate or inanimate, but they have two things in common:

- Attributes: qualities, traits, features
- Behaviors: ways of interacting with other things

So, anything from an orange to the economy of France are things.

- The properties of an orange are its color, weight, species, etc.
- The properties of the economy of France are its GDP, its industrial sectors, its rate of unemployment, etc.
- The behaviors of an orange are things like being eaten, or rotting.
- The behaviors of an economy are going into a recession, etc.

These things are called **objects**.

All objects that exist are instances of abstract classes.

Every object that exists is an instance of an abstract class.

- A specific orange is an instance of the class of Oranges.
- France's economy is an instance of the class of National Economies.

Note

The nature of these classes raises an important philosophical question, but we will not address this here.

Classes are organized into trees.

Classes are organized into tree-like structures.

Specific classes inherit the attributes and behaviors of their parent and ancestors, although they can override these as well.

So, an orange might have this lineage:

Plant > Magnoliophyta > Magnoliopsida > Rosidae > Sapindales > Rutaceae >
Citrus > Valencia Orange

i Note

The idea that the world is organized into a hierarchy of things descending from some primary substance is ancient. Here is an example from the European Middle Ages:

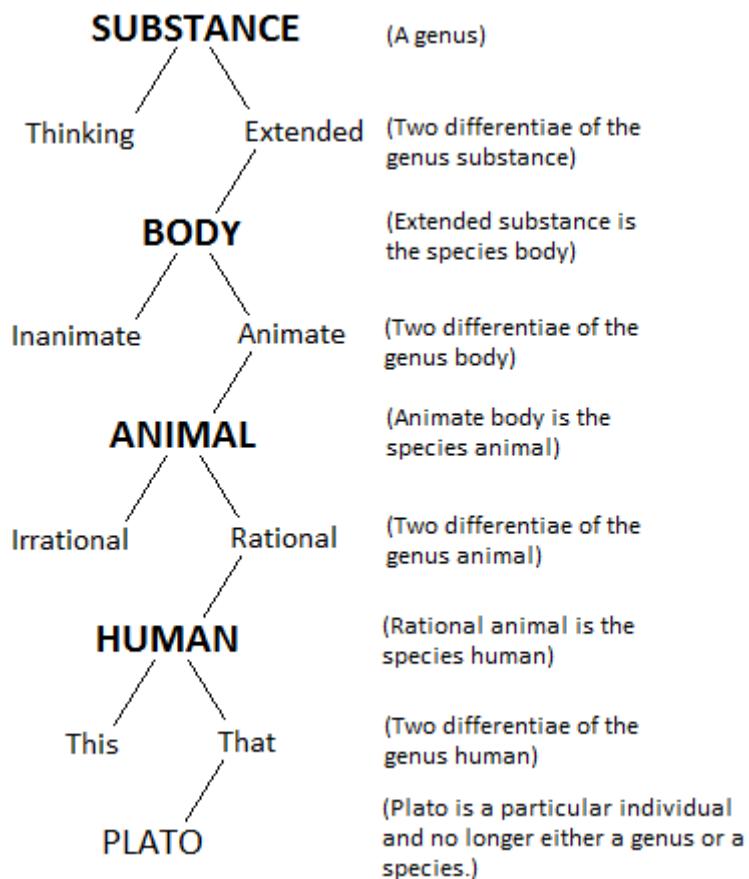


Figure 128.1: The Poryphyrian Tree

128.2 Relationship to Coding

OOP is based on the analogy that code can be organized in this way.

This is because software is often about the world – we write software to model things in the world.

- For example, if I wanted to write code simulate the traffic pattern of a city, I might start by creating a class called Car.
- This Car would have properties, such as its make and model, but also behaviors like driving.
- Then, in simulation program, I would create a bunch of Car instances and have them do things like drive on streets, etc.

128.3 Another Way to Look at It

Now, although this way of looking at OOP is somewhat intuitive, it can be misleading.

It is great for understanding the data structure that OOP uses.

- A tree-like organization of classes
- Classes with attributes and behaviors

But the OO pattern is not always used to model things in the world.

Sometimes is just a good way to organize code – OOP is a data structure for the data that is code.

In other words, just as we say that dimension can refer to the world or to the structure of data, so too can an object.

We use OOP to provide structure to our code, regardless of whether it paints an accurate picture of the world.

128.4 The Trinity

OOP theory states that classes exhibit three fundamental properties that make them powerful:

- Encapsulation
- Inheritance
- Polymorphism

Encapsulation means that objects are self-contained. They have their own scope, data, and logic. Ideally, they can be deployed in any context and be shielded from external states.

- Objects are meant to be black boxes to users: they should only be interacted with via the methods and attributes provided.
- Nothing else should influence the state of the object except what it contains and what is passed to it.

Inheritance means that classes can be subclasses of other classes and thereby inherit their ancestor attributes and methods. - Some programming languages allow only single inheritance – classes can have one parent. - Python supports multiple inheritance, but this can be complicated to use.

Polymorphism means that methods can perform different behaviors based on the arguments they are passed. - That is, a function can be defined more than once in a class, as long as it each has a unique **signature**. - A signature is the particular pattern of arguments (parameters) a method has.

Today, we are only going to focus on **encapsulation** ...

- Once upon a time, there was a movement to implement only this concept.
- Microsoft, for example, developed a component-based approach to programming, where components are encapsulated unites of code without the complexity of inheritance.

129 Metadata

Course: DS 5100
Module: 07 Python Classes
Topic: Introducing Classes
Author: R.C. Alvarado (adapted)
Date: 29 June 2022 (revised)

130 Concepts

- class
- objects
- instantiation
- `__init__` function
- attributes
- methods

131 Introduction

When we work with things and reason about them, we generally think about their attributes, and what they can do.

For similar things, it can be helpful for group them into **objects** such as cars, homes, databases, or logistic regression models.

A **class** provides a **template** for creating an object, and for working with the object. For the case of the logistic regression model, it has **attributes** like:

- weights
- an optional intercept term
- the maximum number of iterations

These **attributes** help describe the object (they give the object's **state**).

The logistic regression model has functionality such as: - the optimization routine used in training - a prediction function

The behavior, or functionality, is supported by **methods**, which are functions included in the class.

There are **tremendous benefits to programming with objects**, or object-oriented programming (OOP), such as:

- Objects are **natural** ways of defining, grouping, communicating, and thinking about things
- Objects are convenient for **packaging together the data and functionality**. It concisely says: what is in this thing, and what does it do?
- It is simple to create as **many copies** of the object as you'd like
- For more complex objects, they can take on all the attributes and methods of the simpler object. this is called **inheritance**.

Ok, let's look at examples, starting with a very small, simple class.

The class contains: - a name (Ferrari458) - a docstring for a quick description - an attribute, which is number of cylinders in the engine - a method

```
class Ferrari458:  
    """this is a Ferrari 458 object"""
```

```
cylinders = 8

def print_origin(self):
    return 'I was built in Italy!'
```

You can learn about the class by printing the docstring:

```
Ferrari458.__doc__
```

```
'this is a Ferrari 458 object'
```

You can also get detailed help like this:

```
help(Ferrari458)
```

```
Help on class Ferrari458 in module __main__:
```

```
class Ferrari458(builtins.object)
| this is a Ferrari 458 object
|
| Methods defined here:
|
|   print_origin(self)
|
| -----
| Data descriptors defined here:
|
|   __dict__
|     dictionary for instance variables (if defined)
|
|   __weakref__
|     list of weak references to the object (if defined)
|
| -----
| Data and other attributes defined here:
|
|   cylinders = 8
```

Next, we create an object from the class (also called an `instance` of the class). It is called like a function with no parameters. The process is called `instantiation`.

```
myferrari = Ferrari458()
```

We show the number of cylinders by using the `object.attribute` format:

```
myferrari.cylinders
```

8

Then we call its method `print_origin` to learn where this sweet machine was built.

```
myferrari.print_origin()
```

```
'I was built in Italy!'
```

As a convention, methods take `self` as their first argument. Methods can use `self.attribute` to extract their attributes.

Here is an example, with method `get_cylinders`.

```
class Ferrari458_v2:  
    """this is a Ferrari 458 object"""  
    cylinders = 8  
  
    def print_origin(self):  
        return 'I was built in Italy!'  
  
    def get_cylinders(self):  
        return self.cylinders  
  
myferrari = Ferrari458_v2()  
myferrari.get_cylinders()
```

8

132 The `__init__`() method

There is a special function called `__init__` that will **initialize** objects for you when you create them.

Use it to supply more context-dependent information about your instance.

Let's look at another version of the class with `init`.

```
class Ferrari458_v3:  
    """this is a Ferrari 458 object"""  
    cylinders = 8  
  
    def __init__(self, color):  
        self.color = color  
  
    def print_origin(self):  
        return 'I was built in Italy!'  
  
    def get_color(self):  
        return self.color
```

By adding the `__init__` function, we can create objects if we pass the number of cylinders.

If we don't pass this parameter, there will be an error.

This is because we did not define a default value for the color argument in our initialization method.

```
#ferr1 = Ferrari458_v3()
```

This works:

```
ferr1 = Ferrari458_v3("red")
```

We can access the initialized attribute using the dot operator, just as if it were declared at the top of the class:

```
ferr1.color
```

```
'red'
```

Or we can call the accessor method that we created.

```
ferr1.get_color()
```

```
'red'
```

Note that even though we initialized the car object with “red”, we can always change it:

```
ferr1.color = "Cobalt"
```

```
ferr1.get_color()
```

```
'Cobalt'
```

133 The Meaning of self

Note the presence of an argument and variable called **self** in the method definitions. - This stands for the intantiated object itself.

So, when you create an object like so:

- `foo = Foo()`
- `foo` is represented in the class definition as **self**.

If you want your method to access the other attributes and methods in an object, **you need to put self as its first argument**. - Note that when you use the method with an instance, you don't pass the object name as an argument - The object name is passed implicitly by Python, since it knows which object called the methid

You can use any valid name you want for the name of the object itself, but the convention is to use **self**.

Note that **self** is **only used within the methods** of a class, not outside of it. - Like functions, they don't know what's outside of them, nor does the containing code know what's inside of them. - The **self** variable is the mechanism that allows methods to share data without having to pass and return a bunch of variables.

Think of **self** as a **data structure that stores the program itself** - In this sense, it's similar to **recursion**: A class definition contains a reference to itself! - But remember, the class definition is not a thing – it's a template. - **self** is just a pronoun that allows an instance to access it's own state.

134 Summary

An **object** is a self-contained bundle of **methods and attributes**. * Methods are basically functions. * Attributes are basically variables.

A **class** definition is a **template** for creating objects. * Objects are **class instances**. * Classes are **object types**.

Objects have **their own scope**, like functions. * They are meant to **exchange information** with their environment only through accessing attributes and calling methods

When objects are first created, **they often expect to have data passed to them**. * This is called **initializing** the object. * These data are handled internally by the `__init__()` method. * Data that are passed this way can be **overridden** by accessing the attributes they assigned to.

The methods of a class begin with **self** as the first argument. * This stands for **the instance itself**. * **All methods and attributes are available** to all other methods in the object **through the self object**.

If a method does not have **self** as its first argument, it cannot access the internal state or methods of the object. * The internal state is just the attributes and their current values. * These are called **static** methods. * Static methods are useful in providing functions to the environment in which their containing object is instantiated.

There is a lot more to the subject, but this is good enough to get started!

135 Metadata

Course: DS 5100
Module: 07 Python Classes
Topic: Classes Example
Author: R.C. Alvarado
Date: 29 June 2022

136 Set Up

```
import pandas as pd  
import numpy as np
```

137 Method 1: Nothing Special

We define a set of functions that work in a sequence, where the return value of one is the argument of the other.

137.1 Define Functions

```
def create_die(weights):
    n_sides = len(weights)
    my_probs = [i/sum(weights) for i in weights]
    my_die = pd.DataFrame({
        'side': range(1, n_sides + 1),
        'weights': my_probs
    })
    return my_die

def roll_dice(my_die, n_rolls=1):
    results = []
    for i in range(n_rolls):
        result = my_die.side.sample(weights=my_die.weights).values[0]
        results.append(result)
    return pd.Series(results)

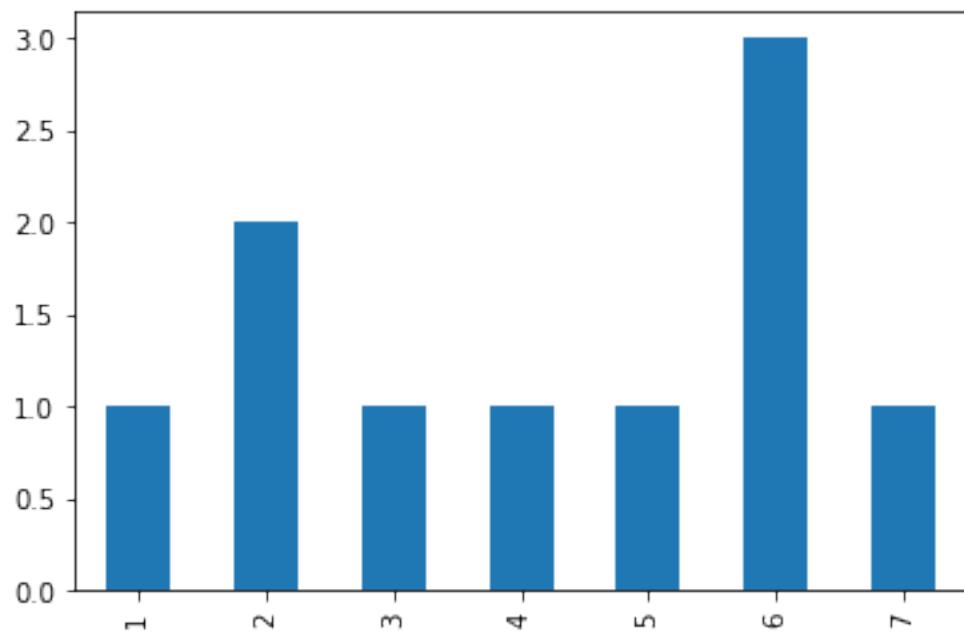
def plot_results(my_results):
    my_results.value_counts().sort_index().plot.bar();
```

137.2 Create Instances

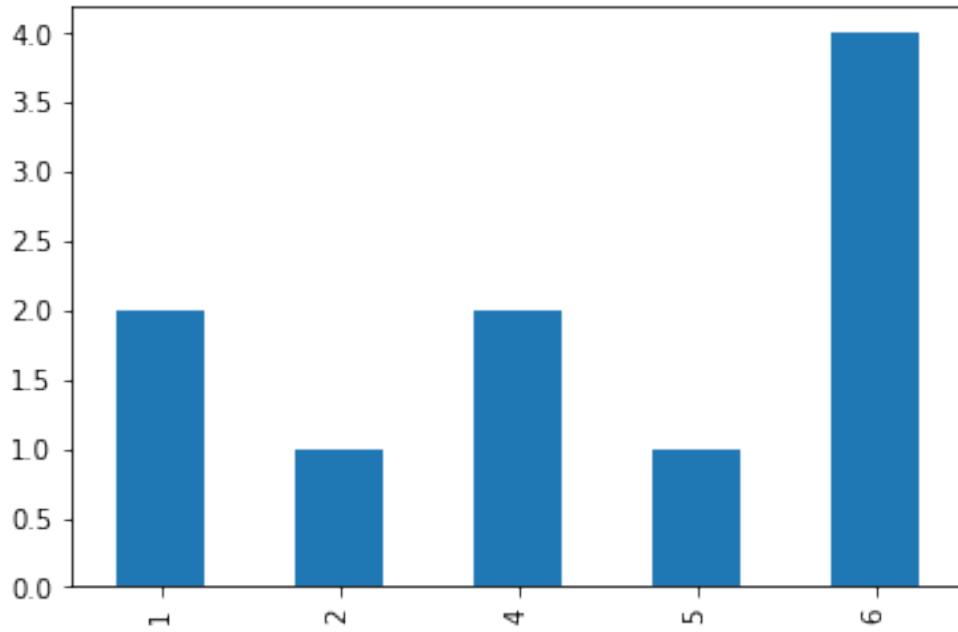
```
n_rolls = 10

fair_die = create_die([1,1,1,1,1,1,1])
fair_results = roll_dice(fair_die, n_rolls)
```

```
plot_results(fair_results)
```



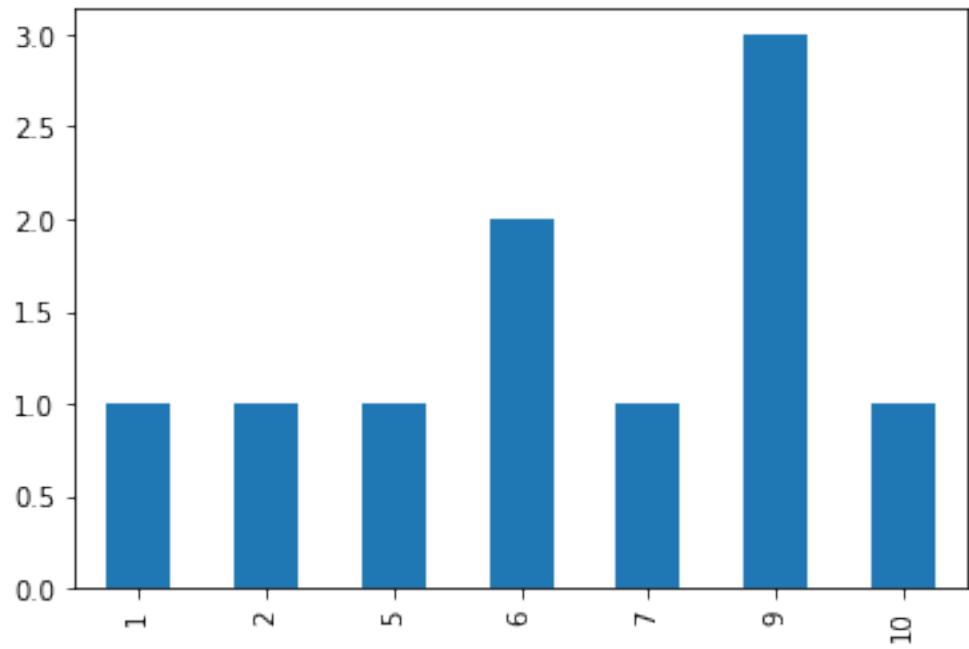
```
unfair_die = create_die([1,1,1,1,1,5])
unfair_results = roll_dice(unfair_die, n_rolls)
plot_results(unfair_results)
```



137.3 Doing it all at once

```
def do_it_all(weights):
    plot_results(roll_dice(create_die(weights), n_rolls))

do_it_all(roll_dice(create_die([1,1,1,1,1,10]), n_rolls))
```



138 Method 2: With Globals

138.1 Define a Shared Data Structure

We create a dictionary called `config` to store our instance data.

```
config = {} # We expect this to have the same keys
n_rolls2 = 10
```

138.2 Define Methods

```
def create_die2(die_id):
    global config
    config[die_id]['die'] = None
    weights = config[die_id]['weights']
    n_sides = len(weights)
    my_probs = [i/sum(weights) for i in weights]
    config[die_id]['die'] = pd.DataFrame({
        'side': range(1, n_sides + 1),
        'weights': my_probs
    })

def roll_dice2(die_id):
    global config
    global n_rolls2
    config[die_id]['results'] = None
    my_die = config[die_id]['die']
    results = []
    for i in range(n_rolls2):
        result = my_die.sample(weights=my_die.weights).values[0]
        results.append(result)
    config[die_id]['results'] = pd.Series(results)
```

```

def plot_results2(die_id):
    global config
    my_results = config[die_id]['results']
    my_results.value_counts().sort_index().plot.bar();

def do_it_all2(die_id):
    global config
    global n_rolls2
    print("Die ID:", die_id)
    print("Weights:", config[die_id]['weights'])
    print("Rolls:", n_rolls2)
    create_die2(die_id)
    roll_dice2(die_id)
    plot_results2(die_id)

```

138.3 Populate Config

We populate our configuration config with some instances.

```

config = {
    'fair': {
        'weights': [1,1,1,1,1,1]
    },
    'unfair': {
        'weights': [1,1,1,1,10,100],
    }
}

```

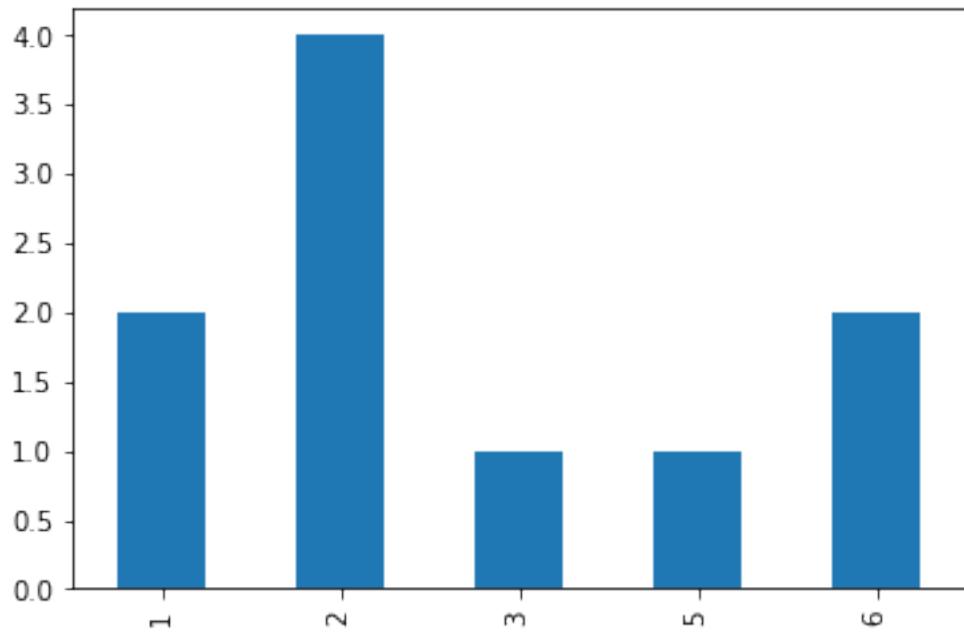
138.4 Call Main Function

```
do_it_all2('fair')
```

```

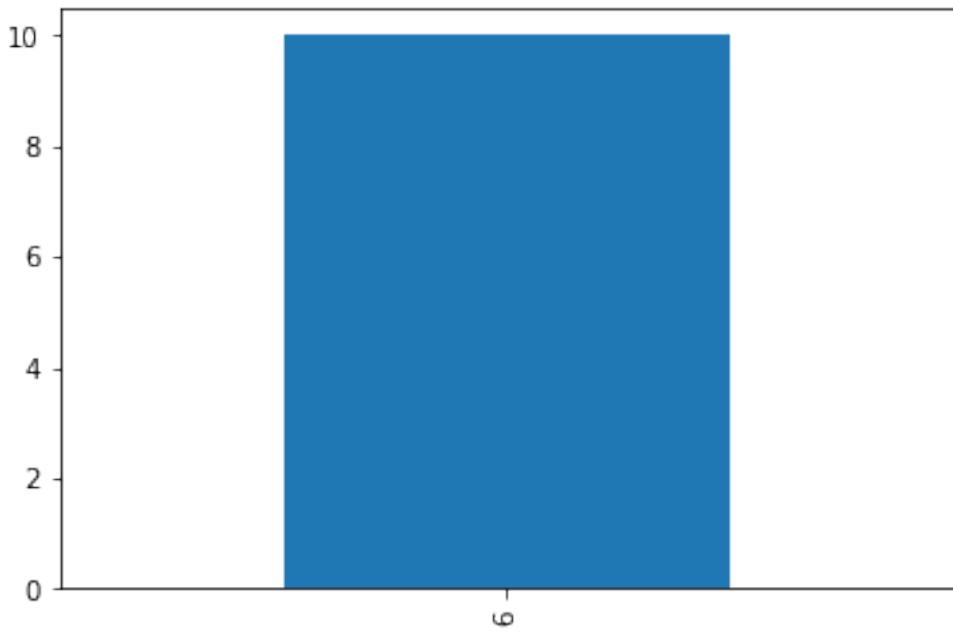
Die ID: fair
Weights: [1, 1, 1, 1, 1, 1]
Rolls: 10

```



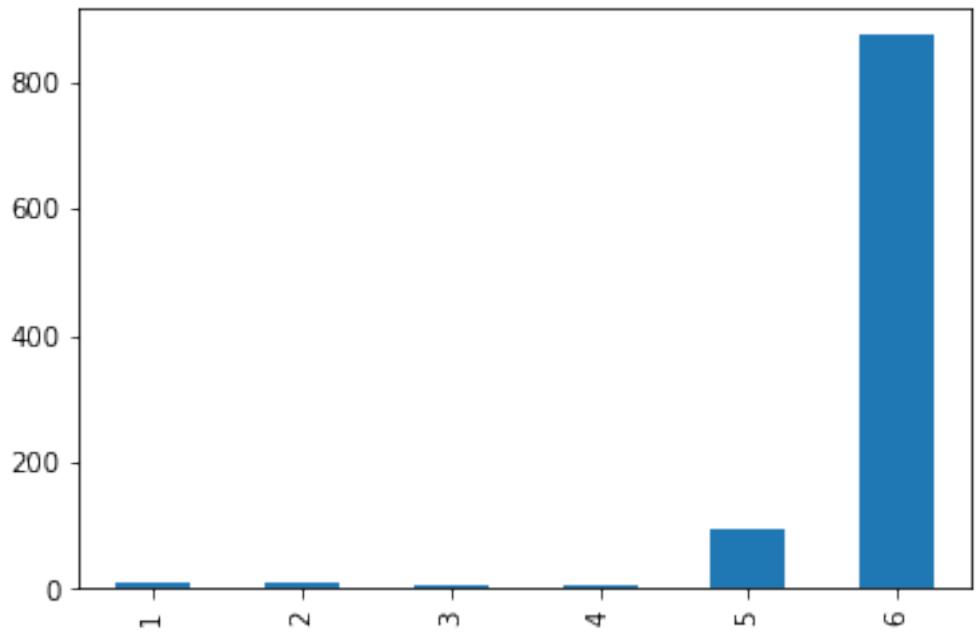
```
do_it_all2('unfair')
```

```
Die ID: unfair
Weights: [1, 1, 1, 1, 10, 100]
Rolls: 10
```



```
n_rolls2 = 1000 # We change this, but it will affect all uses of the functions until we ch  
do_it_all2('unfair')
```

```
Die ID: unfair  
Weights: [1, 1, 1, 1, 10, 100]  
Rolls: 1000
```



139 Method 3: As Class

Define a class that contains the config data structure and all the functions as attributes and methods.

```
class DieGame():

    n_rolls = 10
    weights = [1,1,1,1,1,1]

    def __init__(self):
        return None

    def create_die(self):
        self.n_sides = len(self.weights)
        self.my_probs = [i/sum(self.weights) for i in self.weights]
        self.die = pd.DataFrame({
            'side': range(1, self.n_sides + 1),
            'weights': self.my_probs
        })

    def roll_die(self):
        results = []
        for i in range(self.n_rolls):
            result = self.die.sample(weights=self.die.weights).values[0]
            results.append(result)
        self.results = pd.Series(results)

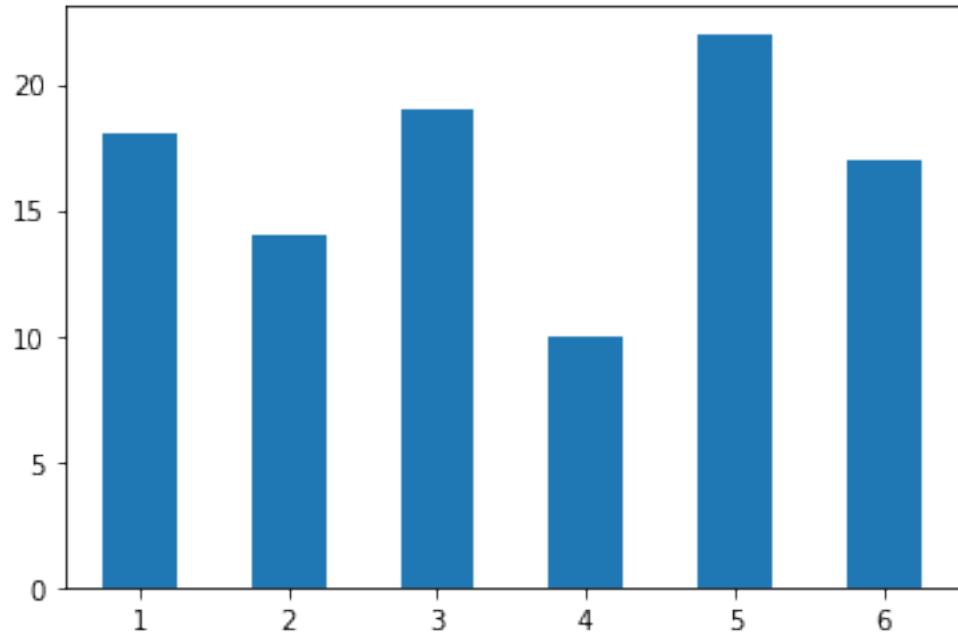
    def plot_results(self):
        prob_model = pd.Series({i+1:round(p, 2) for i, p in enumerate(self.my_probs)})
        print("Sides:", self.n_sides)
        print("Model:")
        print(prob_model)
        print("Rolls:", self.n_rolls)
        self.results.value_counts().sort_index().plot.bar(rot=0);
```

```
# We add another method because it's so easy :-)
def plot_probs(self):
    pd.Series(self.my_probs).plot.pie(title="Die Model")

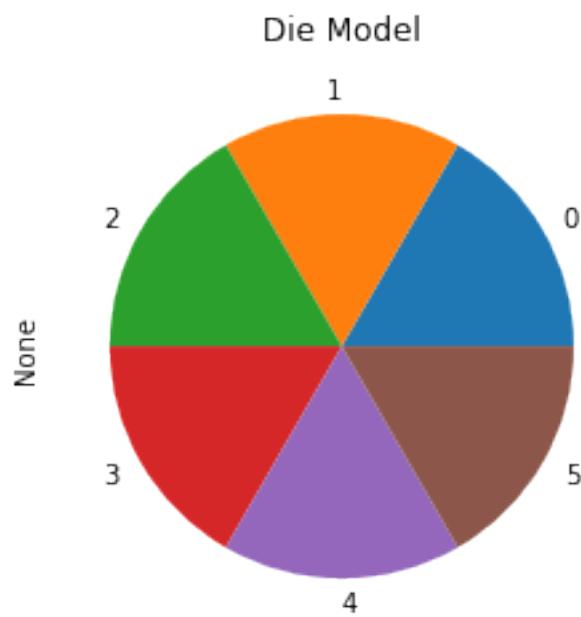
def do_it_all(self):
    self.create_die()
    self.roll_die()
    self.plot_results()

game_1 = DieGame()
game_1.n_rolls = 100
game_1.do_it_all()
```

```
Sides: 6
Model:
1    0.17
2    0.17
3    0.17
4    0.17
5    0.17
6    0.17
dtype: float64
Rolls: 100
```

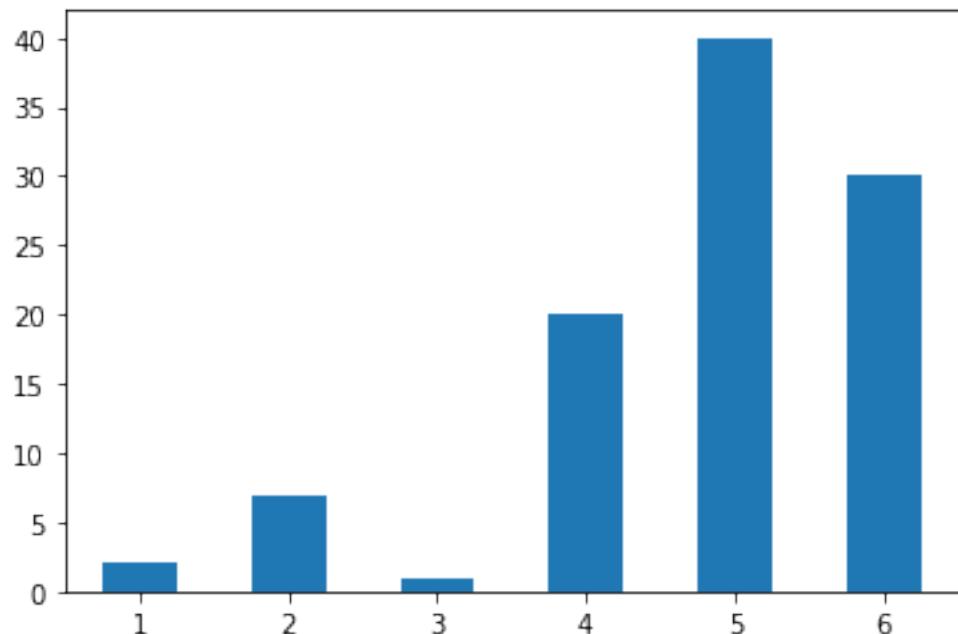


```
game_1.plot_probs()
```



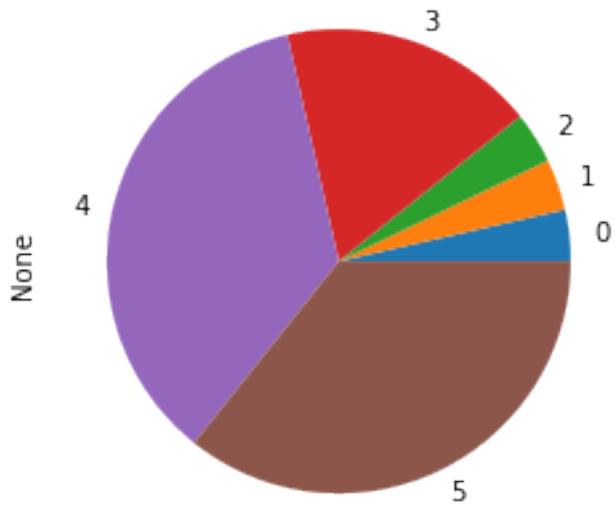
```
game_2 = DieGame()
game_2.n_rolls = 100
game_2.weights = [1,1,1,5,10,10]
game_2.do_it_all()
```

```
Sides: 6
Model:
1    0.04
2    0.04
3    0.04
4    0.18
5    0.36
6    0.36
dtype: float64
Rolls: 100
```



```
game_2.plot_probs()
```

Die Model



140 Conclusions

The OOP approach handles scoping issues as well as data management.

Notice how the dictionary is replaced by the object.

Not only does it provide a place to store the data, it also provides a schema for it: * You don't need to remember what keys to put in the **data** dictionary of method 2. The object specifies them.

Notice also that we don't pass arguments to the object as we do with functions (although we can).

We assign values to attributes directly.

Can you think of any other advantages or disadvantages?

141 Metadata

Course: DS 5100
Module: 07 Python Classes
Topic: More About Classes
Author: R.C. Alvarado
Date: 30 June 2022

142 Fun Facts about Python Classes

- You can put more than one class in a file.
- You can put your classes in a .py file and import them into your other scripts.
- Class names are usually CamelCase, but not instances
- When saving to a file:
 - If only one class, use a lower case name of the class
 - If more than one, use a package name, one that stands for the logical group the classes belong to

143 Anatomy of a Python Class

```
# Import class dependencies here
import pandas as pd
import numpy as np
import re
import requests
from lxml import etree

# Use CamelCase to name your class
class MyClass(object): # Optionally pass ancestor classes to use inheritance
    """
    Extensive docstring describing structure and function of class.
    """

    # Class attributes go here with initial values if applicable
    att1 = True
    att2 = 'Foo'
    _private_att = 'Bar' # A variable that is meant to be internally only; not intended to

    # Object initializer; called when an instance of the class is created
    def __init__(self):
        pass

    # Methods that share state via the self variable
    def get_something(self):
        pass

    # Name your methods consistently -- prefix with verbs
    def put_something(self):
        pass

    def do_something(self):
        pass

    def show_something(self):
```

```
    pass

# A private method
def _private_method(self):
    pass

def do_something_else(self):
    # Use private method
    self._private_method()

# A static method
def static_method():
    pass
```

144 Privacy

Users are free to access private attributes and methods, but they not shown in the help docs.

```
help(MyClass)
```

```
Help on class MyClass in module __main__:
```

```
class MyClass(builtins.object)
| Extensive docstring describing structure and function of class.
|
| Methods defined here:
|
|   __init__(self)
|       Initialize self. See help(type(self)) for accurate signature.
|
|   do_something(self)
|
|   do_something_else(self)
|
|   get_something(self)
|       # Methods that share state via the self variable
|
|   put_something(self)
|       # Name your methods consistently -- prefix with verbs
|
|   show_something(self)
|
|   static_method()
|       # A static method
|
| -----
|
| Data descriptors defined here:
|
|   __dict__
|       dictionary for instance variables (if defined)
```

```
|  
| __weakref__  
|     list of weak references to the object (if defined)  
|  
| -----  
| Data and other attributes defined here:  
|  
| att1 = True  
|  
| att2 = 'Foo'
```

145 Static Classes

Static classes don't need to be instantiated.

They can be used to store a collection of stand-alone helper functions as methods.

Note the absence of `self` ...

```
class StaticClass():

    def add_these(*nums):
        sum = 0
        for num in nums: sum += num
        return sum

    def square_me(x):
        return x**2

StaticClass.add_these(1,5,6)
```

12

```
StaticClass.square_me(5)
```

25

This won't work ...

```
sc = StaticClass()

sc.square_me(10)
```

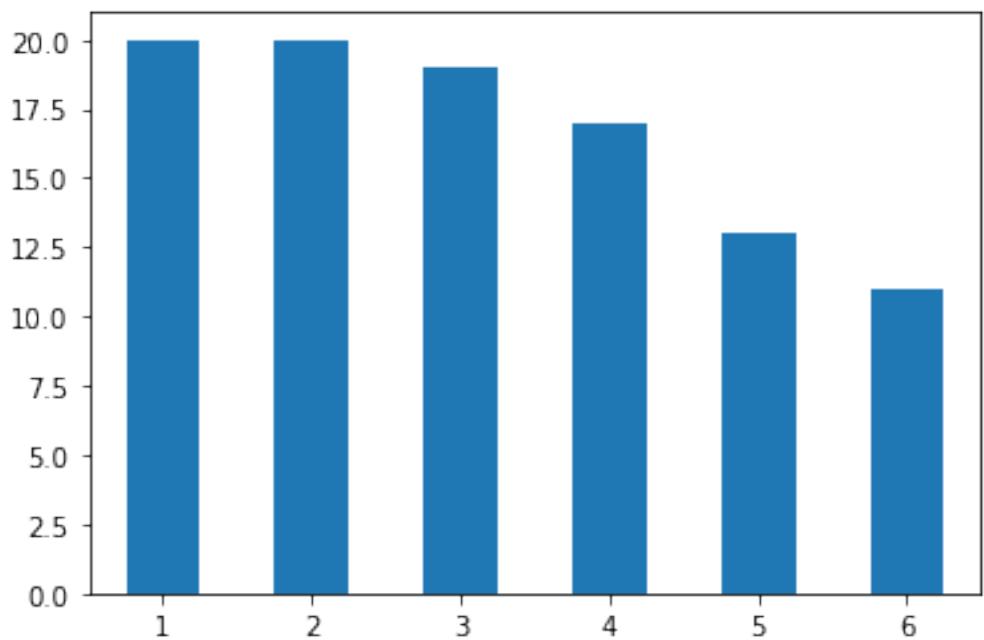
```
TypeError: square_me() takes 1 positional argument but 2 were given
```

146 Importing Your Own Classes

```
from diegame import DieGame
```

```
game_1 = DieGame()  
game_1.n_rolls = 100  
game_1.do_it_all()
```

```
Sides: 6  
Model:  
1    0.17  
2    0.17  
3    0.17  
4    0.17  
5    0.17  
6    0.17  
dtype: float64  
Rolls: 100
```



147 Metatdata

Course: DS 5100
Module: 07 Python Classes
Topic: Understanding Static Attributes
Author: R.C. Alvarado
Date: 11 October 2022 (revised)

Purpose: To demonstrate how class and instance attributes are related to each other.

148 A Simple Example

We define a class with one attribute.

```
class Foo(): x = 1
```

We create an instance of the class.

```
foo1 = Foo()
```

We demonstrate that the class defines the value for the instance.

```
foo1.x, Foo.x
```

```
(1, 1)
```

We demonstrate that the instance changes if the class does.

```
Foo.x = 2
```

```
foo1.x, Foo.x
```

```
(2, 2)
```

Now we override the class attribute with the local.

This is similar to how we can override a global with a local.

```
foo1.x = 3
```

```
foo1.x, Foo.x
```

```
(3, 2)
```

We demonstrate that the instance attribute is now unaffected by the global.

Foo.x = 4

foo1.x, Foo.x

(3, 4)

149 A Cool Trick

You can define an empty class and add attributes as you go.

```
class Bar:  
    pass  
  
bar1 = Bar()  
  
bar1.x = 1  
  
bar1.x  
  
1
```

Since we defined an instance attribute, the class remains unchanged.

So, this will throw an error:

```
Bar.x  
  
AttributeError: type object 'Bar' has no attribute 'x'
```

We define another instance, but this time we add an attribute to the class.

```
bar2 = Bar()  
  
Bar.x = 2
```

Notice how the instance has the new attribute, even though it was added to the class after the instance was created.

```
bar2.x, Bar.x  
  
(2, 2)
```

150 Mutable Statics

There is an interesting gotcha regarding static attributes in Python.

Lists and other mutable data structures can be static and yet have their values modified by instances.

This is kind of weird.

To demonstrate, we define a class with two instance variables, one a scalar and one a list.

We define a method to alter the value of each.

```
class WithStatic():

    foo = 0 # The value is NOT affected by instances
    bar = [] # The values ARE affected by instances

    def add_one(self):
        self.foo += 1 # This does NOT affect the static attribute
        self.bar.append(1) # This DOES affect the static attribute, only its values

    def replace_bar(self, new_list = []):
        self.bar = new_list # This replaces the list itself
```

We define a function to compare an instance and its class to see how static attributes are affected by instances.

Notice the `getattr()` method – this allows you to get the value of an attribute using a literal value for the attribute name.

```
def my_test (my_class, my_instance, my_vars=[]):
    for my_var in my_vars:
        i = getattr(my_instance, my_var)
        c = getattr(my_class, my_var)
        print(f'i.{my_var} =', i)
        print(f'c.{my_var} =', c)
    print()
```

We define an instance and compare the values.

```
with_static1 = WithStatic()

my_test(WithStatic, with_static1, ['foo', 'bar'])

i.foo = 0
c.foo = 0
i.bar = []
c.bar = []
```

Now we increment the attributes and see the results.

```
with_static1.add_one()

The method does disconnect the instance foo from the class foo.
But it does not disconnect the instance bar from the class bar.

my_test(WithStatic, with_static1, ['foo', 'bar'])

i.foo = 1
c.foo = 0
i.bar = [1]
c.bar = [1]
```

We do it again to drive the point home.

```
with_static1.add_one()

my_test(WithStatic, with_static1, ['foo', 'bar'])

i.foo = 2
c.foo = 0
i.bar = [1, 1]
c.bar = [1, 1]
```

Now, let's replace list itself in the instance.

```

with_static1.replace_bar()

for i in range(5):
    with_static1.add_one()
    my_test(WithStatic, with_static1, ['foo', 'bar'])

i.foo = 2
c.foo = 0
i.bar = [1]
c.bar = [1]

i.foo = 3
c.foo = 0
i.bar = [1, 1]
c.bar = [1]

i.foo = 4
c.foo = 0
i.bar = [1, 1, 1]
c.bar = [1]

i.foo = 5
c.foo = 0
i.bar = [1, 1, 1, 1]
c.bar = [1]

i.foo = 6
c.foo = 0
i.bar = [1, 1, 1, 1, 1]
c.bar = [1]

```

We define a second instance.

```
with_static2 = WithStatic()
```

The new instance has the original value of `foo`.

However, it starts off with the modified value of `bar` before it was replaced.

```
my_test(WithStatic, with_static2, ['foo', 'bar'])
```

```
i.foo = 0
c.foo = 0
i.bar = [1, 1]
c.bar = [1, 1]
```

We do it a few more times to drive the point home.

```
for i in range(5):
    with_static2.add_one()
    my_test(WithStatic, with_static2, ['foo', 'bar'])
    print()

i.foo = 1
c.foo = 0
i.bar = [1, 1, 1]
c.bar = [1, 1, 1]

i.foo = 2
c.foo = 0
i.bar = [1, 1, 1, 1]
c.bar = [1, 1, 1, 1]

i.foo = 3
c.foo = 0
i.bar = [1, 1, 1, 1, 1]
c.bar = [1, 1, 1, 1, 1]

i.foo = 4
c.foo = 0
i.bar = [1, 1, 1, 1, 1, 1]
c.bar = [1, 1, 1, 1, 1, 1]

i.foo = 5
c.foo = 0
i.bar = [1, 1, 1, 1, 1, 1, 1]
c.bar = [1, 1, 1, 1, 1, 1, 1]
```

Part IX

M08 Testing

Topics

- Become acquainted with Exception Handling, Testing, and Debugging
- Understand the cyclical relationship among these
- Understand the relation to function and class design
- Understand benefits of literate and well-styled coding

Readings

Required

Lutz 2017, Ch. Part 7: Exceptions and Tools

Testing and Verification (see next Module item)

151 Testing and Verification

Definitions

Before we get started, let's review some definitions.

verification

Shows that the code meets the requirement specification Example: You verify that I wrote the program you asked me to write.

validation

Shows that the code meets the real requirements Example: You show that the program is a valid solution to the user's problem.

quality

Suggests that validation falls on a scale, not a black-and-white idea. Defining the scale can be difficult.

specification

A precise and detailed statement about the properties some things must have

Design specification: exact instructions for how to build something

Requirements specifications: exact statements about what should be built

Specifications are very important. Not only are they used to guide the creation of the project, but also they're vital for program testing and verification. That is, if you don't have specifications for the product, you cannot verify that you're doing the right thing. Likewise, if behavior is not defined, then it becomes difficult to know what is incorrect behavior.

Edsger Dijkstra was a famous computer scientist and A. M. Turing award winner. This quotation by him is a great one and very true. Even if you write a test suite of carefully crafted test cases, and if they all run and pass, it doesn't mean that no further bugs exist.

It is much easier to prove the existence of something than to disprove the existence of something. This realization should motivate us to learn how to create carefully crafted unit tests so that we can test as much as we can.

“Program testing can effectively show the presence of bugs but is hopeless for showing their absence.”—Edsger Dijkstra

Formal Verification

Formal verification involves proof. There are three types:

Hand-written, hand-checked

Hand-written, machine-checked (proof-carrying code)

Machine-written, machine-checked (static analysis)

None of them are very widely used yet, but the latter two are increasing in popularity. Formal verification is complex, difficult, and takes a great deal of effort.

Empirical Testing

Instead of formal verification, correctness is demonstrated through empirical testing. Empirical testing shows it works on several inputs. In general, testing is:

A lot easier than proof

A lot harder (and more involved) than writing code

Types of Empirical Testing

There are many kinds of testing, but we will focus on unit testing in this module. Two other kinds of testing are integration and acceptance (beta) testing, which are out of the scope of this lesson. See below for a short description.

Unit Testing

Write code that tests the smallest possible units of the spec (must attempt to test every flow path). The programmer does unit testing as part of the coding process.

Integration Testing

Test that units work together.

Acceptance Testing (Beta Testing)

Give product to real users to try it out.

Flow Path

A flow path is a unique execution sequence through a program unit. It is done as part of the coding process by the programmer. A good set of test data makes sure every possible path is followed (tests every possible behavior). Because loops are able to execute an arbitrarily large number of times, and because there potentially are an infinite number of inputs into a program, there are virtually an infinite number of flow paths. Exhaustive testing is usually impossible. However, we can overcome these odds by being clever about the kinds of tests that we write. We'll also learn about equivalence classes, which also help us overcome this hurdle.

Example of code showing various flow paths. For example, starting at Stmt1, then the condition of the while loop (C1) is true, so that takes us to the condition of the if statement (C2) but maybe this is false, so we end up in the else portion, Stmt3. This is an example of a flow path starting at Stmt1 and ending up at Stmt3. In other words, there are many paths through a given program.

```
Stmt1           # some statement  
while C1:      # some condition C1  
    if C2:        # some condition C2  
        Stmt2  
    else:  
        Stmt3
```

Source: Nada Basit

152 Metadata

Course: DS 5100
Module: 08 Python Testing
Topic: Exception Handling
Author: R.C. Alvarado (adapted)
Date: 30 June 2022

153 Topics

- errors
- exceptions
- try/except
- assert
- AssertionError
- raise

154 Overview

All happy families are alike, but every unhappy family is unhappy in its own way.
– Leo Tolstoy, *Anna Karenina*, 1878.

There are two ways that programs can succeed or fail:

They can meet or not meet the motivating **requirements** for the code. - Does it do what is supposed to do? - Does it add value to a process? - Is it ethical? Does it do harm?

They can **work or not work**: - Does the run at all? - Is the code brittle or buggy? - Is it sensitive to contextual factors like bad user input or a bad database connection? - Does the code work but produce incorrect outcomes?

These lead to **two practices**: * Strategic: **Project management** * Tactical: **Testing and debugging**

Today, we will focus on some concepts and tools for the latter. * We want to know whether our code is **working or not**. * We want to know if our code is of a **high quality**.

Approaches to quality * Through good **design** * Through principled **testing**

Some design principles * Favor the **simple over the complex** * Don't confuse the easy with the simple! * Invest in **data design** to simplify algorithm design * Write **literate code** * Given a choice, use tools that are **documented** and have a **user community** * Many other things :-)

Some testing activities * Syntax checking * Debugging * Ad hoc testing * Unit-testing * User testing

Some concepts * Beware of **silent failures** * Testing for **the absence of bugs** is impossible
- Like Popper's concept of falsifiability

155 Tools and Concepts for Testing

Programming languages offer many tools for testing.

These include mechanisms to define and capture errors in code.

We call these errors **exceptions**. - An exception is an event that occurs during the execution of a program that disrupts the normal flow of the program's instructions.

We call dealing with these errors **exception handling**. - When a Python script encounters a code failure, it raises an exception.

156 Python's Tools

Exceptions - A Python **object** that represents an error - Objects that classify kinds of errors
- Coders can define these

Exception Handlers - Control structures and functions to deal with exceptions - **try/except**
- **raise** - **assert**

Unit Testing Frameworks - Robot - PyTest - **Unittest** - DocTest - Nose2 - Testify

157 Errors and Exceptions

A common technical interview question: Explain the difference between an **error** and an **exception**.

An **error** is a serious problem that a reasonable application should not try to catch. An error will stop execution. It means the code is broken and needs to be rewritten.

An **exception** is an issue that is expected or known to occur (e.g., division by zero). Software must handle exceptions. For example, one bad row of data shouldn't bring down the application.

158 Some Common Built-in Exceptions

Python comes with a number of predefined exceptions.

Libraries introduce new ones, too.

They used in `raise` statement by the authors of programs when a possible error is anticipated.

Here are some common examples.

158.1 ZeroDivisionError

```
3 / 0
```

```
ZeroDivisionError: division by zero
```

158.2 Syntax Error

```
# if-statement missing colon at end  
  
if x > 0  
    print("uh oh")
```

```
SyntaxError: invalid syntax (3084529153.py, line 3)
```

158.3 NameError

```
# references an undefined variable  
  
print(x)  
  
NameError: name 'x' is not defined
```

158.4 IndexError

```
# loop goes off the end of the list  
  
lst = [0, 1, 2]  
  
for i in range(4):  
    print(lst[i])  
  
0  
1  
2  
  
IndexError: list index out of range
```

159 Exception Handling with try/except

We use `try/except` blocks to handle exceptions in our code.

These blocks work as follows:

- * The `try` block will contain a statement.
- * If the statement fails, the flow goes to the `except` block.
- * The exception block will have code to handle the error, rather than halting the program.

The process is very similar to `if/then`:

- * **If** there is an `error`, **then** raise an `exception`.

Multiple `except` statements may be given, to handle specific exceptions.

Below, we give a catch-all `except` for any kind of exception.

An `exception` is a mistake that will halt the execution of code.

- * For example, trying to access a dictionary key that does not exist.
- * Or, a database connection fails.
- * Very often, exceptions are caused by an external dependency failing, such as another system or the user.

Let's try referencing a variable that doesn't exist with no exception handling.

```
print(a)
```

```
NameError: name 'a' is not defined
```

Now let's try referencing a variable that doesn't exist with a `try/except` block to handle the exception.

```
try:  
    print(a)  
except:  
    print("caught an exception")
```

```
caught an exception
```

160 Assert Statements

Another to catch errors before they happen is to test if computations turned out as expected.

We use `assert` to verify an expression is True.

- if expression is True, nothing happens.
- if expression is False, Python raises an `AssertionError` exception.

Assert statements have the following syntax:

```
assert Expression[, Arguments]
```

where `[, Arguments]` denotes optional arguments.

For example, let's say a program is expecting three arguments to be passed from the command line.

The variable `num_args` counts the arguments.

```
num_args = 3

assert num_args == 3, "number of arguments must be 3!"
```

The `assert` evaluates to True, and things proceed normally without exception.

If we change `num_args = 4` this will throw an `AssertionError` with the provided message.

The program then stops.

```
num_args = 4

assert num_args == 3, "number of arguments must be 3!"
```

```
AssertionError: number of arguments must be 3!
```

If the `assert` is not given a message, it throws `AssertionError`:

```
num_args = 4  
assert num_args == 3
```

```
AssertionError:
```

```
try:  
    assert num_args == 3  
except:  
    print("Got an error")
```

```
Got an error
```

```
try:  
    assert num_args == 3, "Number of arguments must be 3!"  
except AssertionError as e:  
    print(e)
```

```
Number of arguments must be 3!
```

161 raise()

Exceptions can be **raised**, too.

Use this if you want to halt the program and let other code that is using this code handle it.|

```
try:  
    10/0  
except:  
    raise ZeroDivisionError("Hey, you can't divide by zero!")
```

ZeroDivisionError: Hey, you can't divide by zero!

```
raise IndexError("Bad Index")
```

IndexError: Bad Index

162 Futher Reading

- <https://www.geeksforgeeks.org/errors-and-exceptions-in-python/>
- https://www.tutorialspoint.com/python/assertions_in_python.htm

163 Metadata

Course: DS 5100
Module: 08 Python Testing
Topic: Unit Testing with Unittest
Author: R.C. Alvarado
Date: 30 June 2022

164 Unit Testing

Unit testing is a testing technique in which **individual modules are tested** to determine if there are any issues by the developer himself.

It is concerned with **functional correctness** of the stand-alone modules.

The main aim is to **isolate each unit** of the system to identify, analyze and fix the defects.

These units are typically functions and methods.

165 Benefits of Unit Testing

Developers can work in a **predictable** way on developing code.

Developers can **write their own unit tests**.

You can get a **rapid response** for testing small changes

Also:

Reduces **defects in the newly developed features** or reduces bugs when changing the existing functionality.

Reduces **cost of testing**, since defects are captured in very early phase.

Improves design and allows better refactoring of code.

Testing in Python is a huge topic and can come with a lot of complexity, but it doesn't need to be hard. You can get started creating simple tests for your application in a few easy steps and then build on it from there.

166 The unittest Framework

One of the popular unit testing frameworks is Unittest. It is works well and is easy to use.

There are other tools, though – here's [a comparison of 6 Python testing frameworks](#).

167 The Basic Idea

The Unittest framework provides you with a **bunch of assert methods**, which are essentially wrappers around Python's built-in `assert` function.

The basic idea is to **write functions that test other functions** by using these assert methods **instead of peppering your code with them**.

Unittest provides **many assert methods** – see this [cheat sheet](#) for more.

We will focus on three: * `assertTrue()` * `assertFalse()` * `assertEqual()`

168 The Basic Pattern

The Unittest framework works as follows:

Choose on a method or class that you want to test.

Create a class that is a subclass of `unittest.TestCase`.

In that class **write methods** that are designed to test the behavior of methods in the code you want to test.

- These **test methods** focus on one behavior of one method (or function).
- There can be **many test methods** for each target method.
- Each test method name must be prefixed by `test_`.
- Tests are executing in alphabetical order, so name them in the order you want them executed.
- Each test makes use of an **assert method**. These methods typically compare **expected** with **actual** methods and return `False` if they don't match and `True` if they do.
- You always want tests to pass, so if you want to test if something breaks, you return `True` for a `False` condition.

Run the script and see the results.

Update the script as you create new methods or refactor existing ones.

169 Assert Methods

169.1 .assertTrue()

169.1.1 Negative Test Case

Run M08-02-script1.py

```
class TestStringMethods(unittest.TestCase):

    # test function
    def test_negative(self):

        testValue = False

        # error message in case if test case got failed
        message = "Test value is not true."

        # assertTrue() to check true of test value
        self.assertTrue(testValue, message)

if __name__ == '__main__':
    unittest.main()
```

```
!python M08-02-script1.py
```

```
test_negative (__main__.TestStringMethods) ... FAIL
```

```
=====
FAIL: test_negative (__main__.TestStringMethods)
-----
```

```
Traceback (most recent call last):
  File "M08-02-script1.py", line 14, in test_negative
    self.assertTrue(testValue, message)
AssertionError: False is not true : Test value is not true.
```

```
Ran 1 test in 0.000s
```

```
FAILED (failures=1)
```

169.1.2 Positive Test Case

```
import unittest

class TestStringMethods(unittest.TestCase):

    # test function
    def test_positive(self):

        testValue = True

        # error message in case if test case got failed
        message = "Test value is not true."

        # assertTrue() to check true of test value
        self.assertTrue( testValue, message)

    if __name__ == '__main__':
        unittest.main()

!python M08-02-script2.py

test_positive (__main__.TestStringMethods) ... ok
```

```
Ran 1 test in 0.000s
```

```
OK
```

169.2 .assertFalse()

169.2.1 Negative Test Case

```
import unittest

class TestStringMethods(unittest.TestCase):
    # test function
    def test_negative(self):
        testValue = True
        # error message in case if test case got failed
        message = "Test value is not false."
        # assertFalse() to check test value as false
        self.assertFalse( testValue, message)

if __name__ == '__main__':
    unittest.main()

!python M08-02-script3.py
```

```
F
=====
FAIL: test_negative (__main__.TestStringMethods)
-----
Traceback (most recent call last):
  File "M08-02-script3.py", line 10, in test_negative
    self.assertFalse( testValue, message)
AssertionError: True is not false : Test value is not false.

-----
Ran 1 test in 0.000s

FAILED (failures=1)
```

169.2.2 Positive Test Case

```
# unit test case
import unittest

class TestStringMethods(unittest.TestCase):
    # test function
    def test_positive(self):
        testValue = False
        # error message in case if test case got failed
        message = "Test value is not false."
        # assertFalse() to check test value as false
        self.assertFalse( testValue, message)

if __name__ == '__main__':
    unittest.main()

!python M08-02-script4.py
```

Ran 1 test in 0.000s

OK

169.3 .assertEqual()

Here is a case where we expect two values to be equal.

169.3.1 Negative Test Case

```
# unit test case
import unittest

class TestStringMethods(unittest.TestCase):
    # test function to test equality of two value
    def test_negative(self):
        firstValue = "geeks"
```

```

        secondValue = "gfg"
        # error message in case if test case got failed
        message = "First value and second value are not equal !"
        # assertEquals() to check equality of first & second value
        self.assertEqual(firstValue, secondValue, message)

if __name__ == '__main__':
    unittest.main()

!python M08-02-script5.py

```

F

```

=====
FAIL: test_negative (__main__.TestStringMethods)
-----
Traceback (most recent call last):
  File "M08-02-script5.py", line 12, in test_negative
    self.assertEqual(firstValue, secondValue, message)
AssertionError: 'geeks' != 'gfg'
- geeks
+ gfg
 : First value and second value are not equal !

-----
Ran 1 test in 0.001s

FAILED (failures=1)
```

169.3.2 Positive Test Case

```

# unit test case
import unittest

class TestStringMethods(unittest.TestCase):
    # test function to test equality of two value
    def test_positive(self):
        firstValue = "geeks"
        secondValue = "geeks"
        # error message in case if test case got failed
        message = "First value and second value are not equal !"
```

```
# assertEquals() to check equality of first & second value
self.assertEqual(firstValue, secondValue, message)

if __name__ == '__main__':
    unittest.main(verbosity=2)
```

```
!python M08-02-script6.py
```

```
test_positive (__main__.TestStringMethods) ... ok
```

```
Ran 1 test in 0.000s
```

```
OK
```

170 Example with User-defined Function

Function to test

```
def add_fish_to_aquarium(fish_list):
    if len(fish_list) > 10:
        raise ValueError("A maximum of 10 fish can be added to the aquarium")
    return {"tank_a": fish_list}

import unittest
```

Class to test the function

```
class TestAddFishToAquarium(unittest.TestCase):

    def test_add_fish_to_aquarium_success(self):
        actual = add_fish_to_aquarium(fish_list=["shark", "tuna"])
        expected = {"tank_a": ["shark", "tuna"]}
        self.assertEqual(actual, expected)

    def test_add_fish_to_aquarium_exception(self):
        too_many_fish = ["shark"] * 25
        with self.assertRaises(ValueError) as exception_context:
            add_fish_to_aquarium(fish_list=too_many_fish)
        self.assertEqual(
            str(exception_context.exception),
            "A maximum of 10 fish can be added to the aquarium"
        )

if __name__ == '__main__':
    unittest.main(verbosity=2)

!python M08-02-script7.py
```

```
test_add_fish_to_aquarium_exception (__main__.TestAddFishToAquarium) ... ok
test_add_fish_to_aquarium_success (__main__.TestAddFishToAquarium) ... ok
```

```
Ran 2 tests in 0.000s
```

```
OK
```

171 Example with External Class

We create a class called `Student` and save it in a local file called `student.py`.

```
class Student:

    # constructor
    def __init__(self, name, courses=None):
        self.name = name # string type
        self.courses = [] if courses is None else courses # list of strings
        self.num_courses = len(self.courses)

    # enroll in a course
    def enroll_in_course(self, course_name):
        self.courses.append(course_name)
        self.num_courses += 1 # increment the number of courses
```

Then we create a companion test file for our class, saving it in a file called `student_test.py`.

```
from student import Student
import unittest

class EnrollInTestCase(unittest.TestCase):

    def test_is_incremented_correctly(self):
        # test if enrollInCourse() method successfully increments the
        # num_courses attribute of the Student object

        # Create student instance, adding some courses
        student1 = Student('Katherine', ['DS 5100'])
        student1.enroll_in_course("CS 5050")
        student1.enroll_in_course("CS 5777")
        print(student1.courses)
        print(student1.num_courses)

    # Test
```

```
expected = 3
# unittest.TestCase brings in the assertEquals() method
self.assertEqual(student1.num_courses, expected)

if __name__ == '__main__':
    unittest.main(verbosity=2)
```

```
!python student_test.py
```

```
test_incremented_correctly (__main__.EnrollInCourseTest)
Test if enroll_in_course() method successfully increments the ... ['DS 5100', 'CS 5050', 'CS
3
ok
```

```
Ran 1 test in 0.000s
```

```
OK
```

The messages that `unittest` prints are error messages on Unix, so if we want to direct them to a file, we need to use `2>`.

Notice how this command only shows the print messages contained in the program.

```
!python student_test.py 2> student_results.txt
```

```
['DS 5100', 'CS 5050', 'CS 5777']
3
```

This one, on the other hand, captures the print methods and only shows the errors.

```
!python student_test.py > student_results1.txt
```

```
test_incremented_correctly (__main__.EnrollInCourseTest)
Test if enroll_in_course() method successfully increments the ... ok
```

```
Ran 1 test in 0.000s
```

```
OK
```

172 Further Reading

- [unittest](#) — Unit testing framework (Official Docs)
- [How To Use unittest to Write a Test Case for a Function in Python](#) (Digital Ocean)
- [A Cheat-sheet of Unittest Assert Methods](#)

Part X

M09 Modules

Topics

- How Python organizes code into modules, packages, and libraries
- How to write your own modules
- How to package and share your modules

Readings

Required

Lutz 2017, Part V. Modules and Packages → Up to Ch. 24.

Python Package Tutorial (Read The Docs)

173 Metadata

Course: DS 5100
Module: 09 Python Packages
Topic: Packages, Modules, and Imports
Author: R.C. Alvarado
Date: 10 July 2022

Source: [Making a Python Package](#)

174 Packages, modules, and imports

175 Modules

In Python, a **module** can be a file containing Python definitions and statements.

The file name is the module name with the suffix `.py` appended.

Inside the file, the module's name is available as the value of the global variable `__name__`.

For instance, let's say we have a file called `fibo.py` with the following code:

```
# Fibonacci numbers module

def fib(n):      # write Fibonacci series up to n
    a, b = 0, 1
    while a < n:
        print(a, end=' ')
        a, b = b, a+b
    print()

def fib2(n):    # return Fibonacci series up to n
    a, b = 0, 1
    result = []
    while a < n:
        result.append(a)
        a, b = b, a+b
    return result
```

We can import it into this notebook and get it's filename.

```
import fibo

fibo.__name__

'fibo'
```

And here is how we interact with the file as a module:

```
fibo.fib(1000)
```

```
0 1 1 2 3 5 8 13 21 34 55 89 144 233 377 610 987
```

```
fibo.fib2(100)
```

```
[0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89]
```

176 Aside on Namespaces

You can see that a python **module** acts as a single **namespace**, which is used to organize a collection of values:

- functions
- constants
- class definitions
- really any old value

A namespace is a collection of currently defined names being used by a program.

You can think of its as a Python dictionary in which the keys are the object names and the values are the objects themselves.

It's a way of making sure variable and function names do not collide or get confused with each other.

Python has four namespaces: * **Built-In**: Contains the names of all of Python's built-in objects. See `dir(__builtins__)` * **Global**: Contains any names defined at the level of the main program. A global namespace is also created for any module that your program imports. See `globals()`. * **Enclosing**: The namespaces of a function for any functions defined within that function. * **Local**: Contains any names defined in a function.

Namespaces are related to **scope**. To know the context in which a name has meaning, Python searches namespaces from the inside out.

L → E → G → B

See M14-01a-Globals.ipynb for a demo.

See [Namespaces and Scope in Python \(Real Python\)](#) for a good primer.

```
# dir()  
  
# dir(__builtins__)  
  
# locals()
```

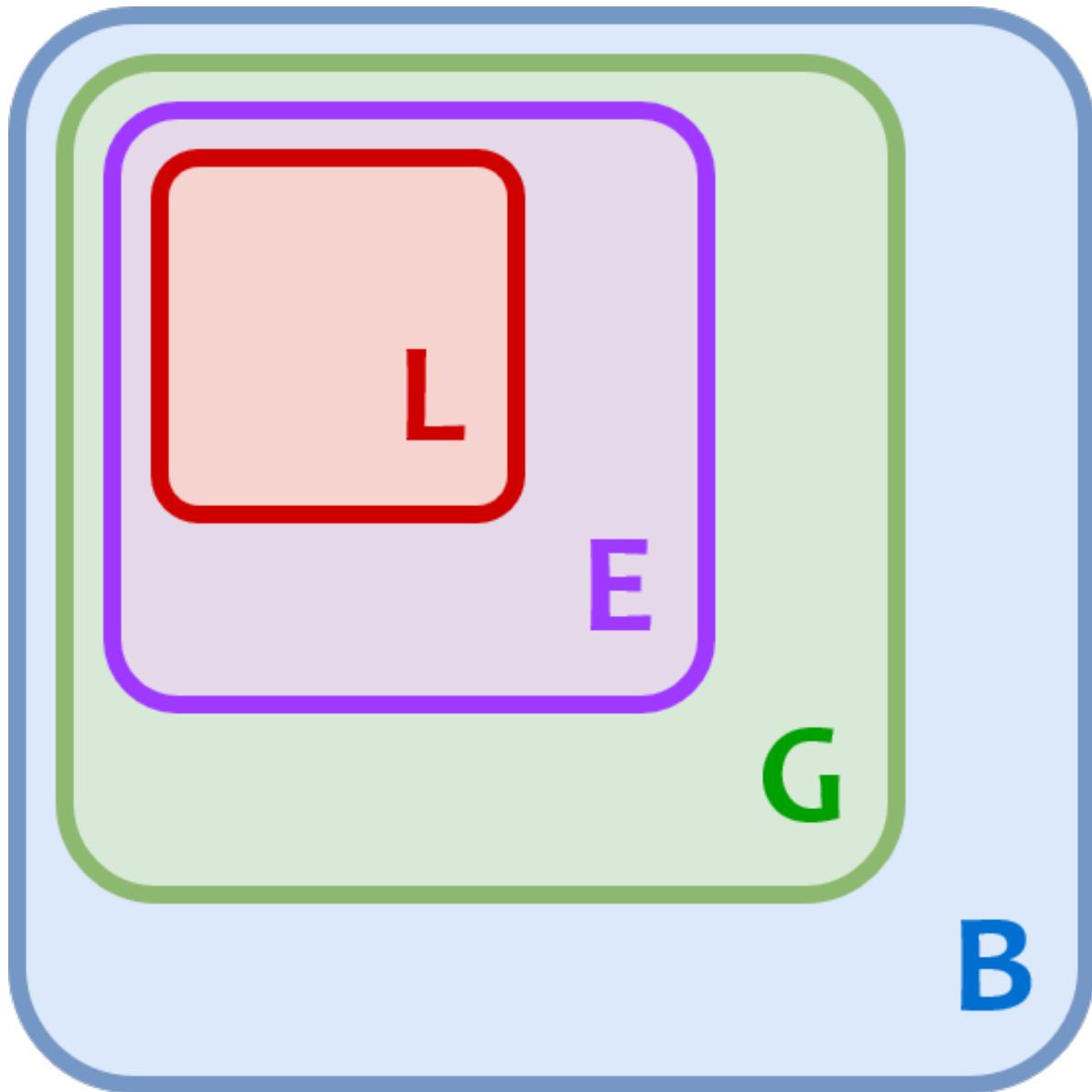


Figure 176.1: image.png

```
# globals()

def foo():
    x = y = z = 1
    print(locals())

    def bar():
        a = b = c = 2
        print(locals())

bar()

foo()
```

```
{'x': 1, 'y': 1, 'z': 1}
{'a': 2, 'b': 2, 'c': 2}
```

177 Packages

A package is a directory that may contain other modules.

For a directory to be a package, it must contain an `__init__.py` file.

The `__init__.py` can be **totally empty** or it can have some Python code in it. We'll see why you would do that below.

It will contain other python files or other package directories, too.

Here an example directory structure of a package that contains a package:

```
# EXAMPLE 1
a_package_dir
    __init__.py
    module_a.py
    a_sub_package_dir
        __init__.py
        module_b.py
```

At a minimum, all you need to do have is this:

```
# EXAMPLE 2
a_package_dir
    __init__.py
    module_a.py
```

However, **ideally**, if you want to have your package **installed**, you'd do this:

```
# EXAMPLE 3
src
    a_package_dir
        __init__.py
        module_a.py
tests
    ...
setup.py # Or pyproject.toml
```

Note that we put our package in the source directory `src` and added the setup file `setup.py`, with the note that it can replaced by `pyproject.toml`.

178 Packages and Namespaces

Packages structure Python's **module namespace** by setting up **dotted module names**.

For example, the module name **A.B** designates a submodule named **B** in a package named **A**.

The use of dotted module names saves the authors of multi-module packages like NumPy or Pillow from having to worry about each other's module names.

179 Importing Packages and Modules

So, given the above directory and file structure, within a Python file you can:

```
import a_package
```

This will run any code in `a_package/__init__.py`.

So, any variable or function names defined in the `__init__.py` will be available like this:

```
a_package.a_name
```

However, no **modules** will be imported unless explicitly commanded to.

For example:

```
a_package.module_a
```

will not be imported.

To get modules, you need to explicitly import them:

```
import a_package.module_a
```

You will have noticed this in working with well-known libraries (bundles of packages) like Scikit Learn.

180 The module search path

How does Python know where to find modules?

The interpreter keeps a list of all the places that it looks for modules or packages when you do an import. It is stored in the `sys` module.

```
import sys
for p in sys.path:
    print p
```

You can edit that list to add or remove paths to let python find modules on a new place.

```
sys.path.append(some_local_dir)
```

Remember that every module has a `__file__` name that points to the path it lives in.

This lets you add paths relative to where you are, etc.

```
sys.path.append(f"__file__/local_module_directory")
```

181 More Info

There is, of course, a lot more to this topic than what's covered here.

We've covered what you need to know to get started.

See [the official docs on modules](#) for more depth.

182 Metadata

Course: DS 5100
Module: 09 Python Modules
Topic: More on Classes and Globals
Author: R.C. Alvarado
Date: 09 July 2022

183 Class and Globals

We experiment to see if classes can see the globals of their surrounding environment.

We already know that functions can.

```
class Test:

    # x has not been declared within the class
    # or any of its methods

    def static_test():
        print(x)

    def method_test(self):
        print(x)

x = 5

try:
    Test.static_test()
except NameError as e:
    print(e)
```

5

```
t = Test()

try:
    t.method_test()
except NameError as e:
    print(e)
```

5

So, global variables are **also visible within classes**.

The class can see the globals, even though `x` was defined after the class definition.

So, **the class learns about its environment when it is called**, not defined.

But what about imported classes and functions?

184 Try with Imports

We import the file `test.py`, which contains this code:

```
y = 15

def imported_function_test():
    print(x)

def imported_function_test_y():
    print(y)

class ImportedTest:

    def imported_static_test():
        print(x)

    def imported_method_test(self):
        print(x)

    def imported_static_test_y():
        print(y)

    def imported_method_test_y(self):
        print(y)

from test import *
```

184.1 Imported Function

```
try:  
    imported_function_test()  
except NameError as e:  
    print(e)
```

name 'x' is not defined

```
try:  
    imported_function_test_y()  
except NameError as e:  
    print(e)
```

15

184.2 Imported Static Method

```
try:  
    ImportedTest.imported_static_test()  
except NameError as e:  
    print(e)
```

name 'x' is not defined

```
try:  
    ImportedTest.imported_static_test_y()  
except NameError as e:  
    print(e)
```

15

184.3 Imported Instance Method

```
t2 = ImportedTest()
```

```
try:  
    t2.imported_method_test()  
except NameError as e:  
    print(e)
```

name 'x' is not defined

```
try:  
    t2.imported_method_test_y()  
except NameError as e:  
    print(e)
```

15

185 Metadata

Course: DS 5100
Module: 09 Python Packages
Topic: Building Your Own Package
Author: R.C. Alvarado
Date: 10 July 2022

Source: [Making a Python Package](#)

186 Building Your Own Package

187 Some Examples

- Scikit Learn: [Repo](#) | [Site](#) (Structure models code)
- NLTK [Repo](#) | [Site](#) (Structure models spaghetti)
- SpaCy [Repo](#) | [Site \(API\)](#) (Structure kinda models code)
- <https://github.com/ontoligent/mazo>
- <https://github.com/ontoligent-design/polo2>

188 Why Build a Package?

You package code in order to add it to your python system for general use, and to share it with others.

It's easy to do. There are a bunch of nifty tools that help you build, install and distribute packages.

It's also just good to have well organized code. This applies to how to organize your programs internally, and externally as files and directories.

189 What is a Package?

Again: **A collection of modules** (python files) along with:

- * the **documentation**
- * the **tests**
- * any **top-level scripts**
- * any **data files** required
- * instructions and scripts to **build and install** it

190 What does it mean to build your Package?

To build your own package, you of course need some Python files you want to deploy.

Then you create the following: 1. Create the basic package structure, such as EXAMPLE 3 above. 2. Write a `setup.py` using a package tool (see below).

```
# EXAMPLE 3
src
    a_package_dir
        __init__.py
        module_a.py
tests
    ...
setup.py # Or pyproject.toml
```

191 About `setup.py`

Your `setup.py` file describes your package, and tells the packaging tool how to package, build, and install it.

It is Python code, so you can add anything custom you need to it.

In the simple case, it is basically a configuration files with keys and values.

What does `setup.py` contain?

- Version & package metadata
- List of packages to include
- List of other files to include
- List of dependencies
- List of extensions to be compiled

About `pyproject.toml`

For a lot reasons that beyond the scope of this document, `setup.py` is being superceded by the use of `pyproject.toml` files to store setup configuration information. However, for now we're going to stick to the old school approach.

192 Example Setup Files

192.1 Example 1

```
from distutils.core import setup

setup(name='mypkg',
      version='1.0',

      # list folders, not files
      packages=['mypkg', 'mypkg.subpkg'], # Include packages in the project
      install_requires=['click'],          # Required libraries
)
```

192.2 Example 2

```
from setuptools import setup, find_packages

setup(
    name='MyPackageName',
    version='1.0.0',
    url='https://github.com/mypackage.git',
    author='Author Name',
    author_email='author@gmail.com',
    description='Description of my package',
    packages=find_packages(),
    install_requires=['numpy >= 1.11.1', 'matplotlib >= 1.5.1'],
)
```

192.3 Example 3

```
from setuptools import setup

setup(
    name = 'PackageName',
    version = '0.1.0',
    author = 'An Awesome Coder',
    author_email = 'aac@example.com',
    packages = ['package_name', 'package_name.test'],
    scripts = ['bin/script1','bin/script2'],
    url = 'http://pypi.python.org/pypi/PackageName/',
    license = 'LICENSE.txt',
    description = 'An awesome package that does something',
    long_description = open('README.txt').read(),
    install_requires = [
        "Django >= 1.1.1",
        "pytest",
    ],
)
```

193 A Summary of Keys

As mentioned about, the main content of basic setup files is configuraton information. The keys that you should include in your projects are the following:

- **name**: A string of the package name as title, not a filename.
- **version**: A string of the version number expression, typically using the MAJOR.MINOR.PATCH pattern. See [Semantic Versioning](#) for more information.
- **author**: A string with the creator's name.
- **author_email**: A string with the creator's email address.
- **packages**: A list of strings of package directories in the project.
- **url**: A string of the URL to the code repo.
- **license**: A string of the license file name.
- **description**: A string with a short blurb of the project.
- **long_description**: A link to a longer description. Can do something like `open('README.txt').read()`.
- **install_requires**: A list of strings of external libraries that the project requires.

193.1 Python packaging tools

In writing `setup.py`, you need to use a packaging tool. Notice that we've imported the `setuptools` library. * The package tool `distutils` is included with Python, but it is not recommended. * Instead, use `setuptools`, a third party tool that extends `distutils` and is used in most modern Python installations.

193.2 Summary of fields

194 Quick Demo

So, let's look at a simple package.

Source: [Minimal Structure \(python-packaging\)](#)

194.1 Directory

Here is our directory structure:

```
!ls -lR demo_package3/  
  
total 8  
drwxr-xr-x@ 4 rca2t1  staff  128 Jul 10 22:53 funniest  
drwxr-xr-x@ 6 rca2t1  staff  192 Jul 10 22:57 funniest.egg-info  
-rw-r--r--@ 1 rca2t1  staff  301 Jul 10 22:56 setup.py  
  
demo_package3//funniest:  
total 16  
-rw-r--r--@ 1 rca2t1  staff    26 Jul 10 22:54 __init__.py  
-rw-r--r--@ 1 rca2t1  staff   145 Jul 10 22:54 funniest.py  
  
demo_package3//funniest.egg-info:  
total 32  
-rw-r--r--@ 1 rca2t1  staff   239 Jul 10 22:57 PKG-INFO  
-rw-r--r--@ 1 rca2t1  staff   178 Jul 10 22:57 SOURCES.txt  
-rw-r--r--@ 1 rca2t1  staff      1 Jul 10 22:57 dependency_links.txt  
-rw-r--r--@ 1 rca2t1  staff      9 Jul 10 22:57 top_level.txt
```

194.2 Setup file

Here is what our `setup.py` file has inside:

```
print(open('demo_package3/setup.py', 'r').read())

from setuptools import setup

setup(name='funniest',
      version='0.1',
      description='The funniest joke in the world',
      url='http://github.com/storborg/funniest',
      author='Flying Circus',
      author_email='flyingcircus@example.com',
      license='MIT',
      packages=['funniest'])
```

194.3 `__init__.py`

```
print(open('demo_package3/funniest/__init__.py', 'r').read())

from .funniest import joke
```

194.4 `funniest.py`

```
print(open('demo_package3/funniest/funniest.py', 'r').read())

def joke():
    return (u'Wenn ist das Nunst\u00fcck git und Slotermeyer? Ja! ... '
           u'Beiherhund das Oder die Flipperwaldt gersput.')
```

194.5 Install

```
!cd demo_package3/; pip install .
```

```
Processing /Users/rca2t1/Dropbox/Courses/DS/DS5100/DS5100-2022-06-R/repo/lessons/M14_PythonM  
DEPRECATION: A future pip version will change local packages to be built in-place without :  
    pip 21.3 will remove support for this functionality. You can find discussion regarding thi  
Building wheels for collected packages: funniest  
  Building wheel for funniest (setup.py) ... done  
    Created wheel for funniest: filename=funniest-0.1-py3-none-any.whl size=1525 sha256=1ac3cd  
    Stored in directory: /private/var/folders/14/rnyfspnx2q131jp_752t9fc80000gn/T/pip-ephem-wh  
Successfully built funniest  
Installing collected packages: funniest  
  Attempting uninstall: funniest  
    Found existing installation: funniest 0.1  
    Uninstalling funniest-0.1:  
      Successfully uninstalled funniest-0.1  
Successfully installed funniest-0.1
```

194.6 Try it out

```
from funniest import joke
```

```
joke()
```

```
'Wenn ist das Nunstück git und Slotermeyer? Ja! ... Beiherhund das Oder die Flipperwaldt ger
```

195 Many Ways to Install

Running `setup.py` directly with `python`

```
python setup.py sdist    # Builds a source distribution as tar archive  
python setup.py build    # Builds from source  
python setup.py install  # Installs to Python  
python setup.py develop # Installs in develop mode (changes are immediately reflected)
```

Using `pip`

```
pip install .    # Installs to Python  
pip install -e . # To create symlink, so you can keep working on the code (develop mode)
```

196 Testing Code

As you work, you will want to write tests and put them somewhere. You have options:

- If your package and test code are small and self contained, put the tests in with the package, e.g. `package/test`.
- If the tests are large or complex, or require reading/writing files, or significant sample data, put your tests outside the package.

See [Where to Put Tests?](#).

197 A More Complex Package Structure

```
package_name/
    bin/
    CHANGES.txt
    docs/
    LICENSE.txt
    MANIFEST.in
    README.txt
    setup.py
    package_name/
        __init__.py
        module1.py
        module2.py
        test/
            __init__.py
            test_module1.py
            test_module2.py
```

CHANGES.txt: log of changes with each release

LICENSE.txt: text of the license you choose (do choose one!)

MANIFEST.in: description of what non-code files to include

README.txt: description of the package should be written in ReST or Markdown (for PyPi):

setup.py: the script for building/installing package.

bin/: This is where you put top-level scripts

(some folks use **scripts**)

docs/: the documentation

package_name/: The main package this is where the code goes.

test/: your unit tests. Options here:

198 More Info

<https://packaging.python.org/en/latest/overview/>

199 Metadata

Course: DS 5100
Module: 09 Python Modules
Topic: Demonstrations of Import and `__init__.py()`
Author: R.C. Alvarado
Date: 10 July 2022

200 Demo 1: Empty __init__.py

```
import demo_package1.module1 as d1m  
  
d1m.welcome1()
```

Hi, I'm from Demo 1!

```
from demo_package1.module1 import welcome1  
  
welcome1()
```

Hi, I'm from Demo 1!

201 Demo 2: Edited `__init__.py`

You can allow the users to import a module function directly from a package by simply adding:

```
from package.module import func # or class
```

or

```
from .module import func # or class
```

to your `__init__.py` file.

For example, our Demo2 `__init__.py` contains:

```
from demo_package2.module2 import welcome2
```

This allows me to do this:

```
import demo_package2 as d2
```

```
d2.welcome2()
```

```
Hi, I'm from Demo 2!
```

Or this:

```
from demo_package2 import welcome2
```

```
welcome2()
```

```
Hi, I'm from Demo 2!
```

202 Review

Method arguments and Class Attributes

Understanding Modules and Packages

Modules

A module is a single namespace with many possible values (functions, classes, constants, etc.)

Usually corresponds to a file.

All modules have a name.

Python has only one type of module object.

A Package is just a module that may contain other modules (or packages).

It is module with a **path** attribute.

Packages organize modules into a named hierarchy.

Packages : modules :: directories : files

Usually corresponds to a directory with with an **init.py** file in it.

There are two kinds of packages (as of 3.3)

Regular packages are traditional (2 and up to 3.2), they are a directory with an **init.py** file.
They are dependent on the file system.

Namespace packages are composed of portions. They do not have an **init.py** file. Portions can be anywhere. They are not dependent on the file system. They may be virtual.

Import statements bring modules into modules. Combines two operations:

Searches for named module.

Binds results to local name, i.e. the fully qualified path or an alias.

Compiles and runs the files and packages it imports.

Some general ideas

You can think of a module as a supplemental file relative to a top-level program or script.

Module files generally don't do anything when run directly – they are used by other files.

When modules are imported, their elements are called attributes

Imports execute **init.py** files from the context of the directory of execution. Think of this as the project directory.

File and directory names should follow variable and function naming conventions since they will be used to create the names used in the importing program.

Global scope is always the file enclosing it, regardless of which module it is ultimately called from.

Part XI

M10 Basic R

Topics

- Present R basics — syntax, data types, and operators
- Present R data structures – vectors, lists, matrices, and data frames
- Create a function in R, and use it in a program

Readings

Required

W3Schools R Tutorial

W3Schools R Data Structures

Optional

Yau, R Tutorial, “R Introduction” ← Super concise

203 Getting Started

203.1 Preliminaries

203.1.1 Installing and Loading Packages

Packages need to be installed once.

```
## install.packages("tm")
```

You can also install thing using the Package window.

Once they are installed, you import them with the `library()` function:

```
library(tm)
```

```
Loading required package: NLP
```

Note that the library name is quoted in when installing, but not when using `library`.

203.1.2 R's Design

- Designed to support statistical computing
- Very strong community
- Many domain-specific functions are built in
- Vector first thinking
- Everything is an object

203.1.3 R Syntax

- Syntax loosely follows traditional C-style
 - **Braces** { and } are used to form blocks.
 - **Semi-colons** are used optionally to end statements, required if on same line.

- **Assignments** are made with `<-` or `->`
- **Dots** `.` have no special meaning – they are not operators.
- Single and double **quotes** have the same meaning, but double quotes tend to be preferred.
 - Use single quotes if you expect your string to contain double quotes.
 - Backslash escape applies to R strings, although since there are no raw strings
– Python's `r" "` – we often have to supply double backslashes in regular expressions.

203.2 R Data Types

There are several basic R data types.

- Numeric
- Integer
- Complex
- Logical
- Character

203.2.1 Numeric

Decimal values are called “numerics” in R.

It is the **default** computational data type.

If we assign a decimal value to a variable `x`, `x` will be of numeric type:

```
x <- 10.5      # assign a decimal value
x              # print the value of x
```

```
[1] 10.5
```

```
class(x)      # print the class name of x
```

```
[1] "numeric"
```

Even if we assign an integer to a variable `k`, it is still be saved as a numeric value.

```
k <- 1
k           # print the value of k

[1] 1

class(k)      # print the class name of k

[1] "numeric"
```

That k is not an integer can be confirmed with `is.integer()`:

```
is.integer(k) # is k an integer?

[1] FALSE
```

203.2.2 Integers

To create an integer variable in R, we use `as.integer()`.

```
y <- as.integer(3)
y           # print the value of y

[1] 3

class(y)      # print the class name of y

[1] "integer"

is.integer(y) # is y an integer?

[1] TRUE
```

We can also declare an integer by appending an L suffix.

```
y <- 3L  
is.integer(y) # is y an integer?
```

```
[1] TRUE
```

We can coerce, or cast, a numeric value into an integer with `as.integer()`.

```
as.integer(3.14) # coerce a numeric value
```

```
[1] 3
```

And we can parse a string for decimal values in much the same way.

```
as.integer("5.27") # coerce a decimal string
```

```
[1] 5
```

On the other hand, it is erroneous trying to parse a non-decimal string.

```
as.integer("Joe") # coerce an non-decimal string
```

Warning: NAs introduced by coercion

```
[1] NA
```

We can convert booleans to numbers this way, too.

```
as.integer(TRUE) # the numeric value of TRUE
```

```
[1] 1
```

```
as.integer(FALSE) # the numeric value of FALSE
```

```
[1] 0
```

203.2.2.1 Math Operators

Operator	Description
+	addition
-	subtraction
*	multiplication
/	division
\wedge or $**$	exponentiation
$x \text{ %% } y$	modulus ($x \bmod y$) $5\% \% 2$ is 1
$x \text{ \%/\% } y$	integer division $5\% / \% 2$ is 2

203.2.3 Logical (Boolean)

A logical value is often created via comparison between variables.

```
x <- 1
y <- 2    # sample values
z <- x > y      # is x larger than y?
z           # print the logical value
```

[1] FALSE

```
class(z)      # print the class name of z
```

[1] "logical"

203.2.3.1 Logical Operators

Standard logical operations are `&` (and), `|` (or), and `!` (negation).

```
u <- TRUE
v <- FALSE
u & v          # u AND v
```

[1] FALSE

```
u | v          # u OR v
```

[1] TRUE

```
!u           # negation of u
```

```
[1] FALSE
```

Note that you can use T and F instead of TRUE and FALSE.

```
a <- T  
b <- F  
a & b
```

```
[1] FALSE
```

203.2.4 Characters

A character object is used to represent string values in R.

We convert objects into character values with the `as.character()` function:

```
x <- as.character(3.14)  
x
```

```
[1] "3.14"
```

```
class(x)      # print the class name of x
```

```
[1] "character"
```

203.2.4.1 `paste()`

Two character values can be concatenated with the `paste()` function.

```
fname <- "Joe"  
lname <- "Smith"  
paste(fname, lname)
```

```
[1] "Joe Smith"
```

`paste()` takes a `sep` argument:

```
paste("A", "B", "C", sep="--")
```

```
[1] "A--B--C"
```

203.2.4.2 sprintf()

However, it is often more convenient to create a readable string with the `sprintf()` function, which has a C language syntax.

```
sprintf("%s has %d dollars", "Sam", 100)
```

```
[1] "Sam has 100 dollars"
```

203.2.4.3 substr()

To extract a substring, we apply the `substr()` function.

Here is an example showing how to extract the substring between the third and twelfth positions in a string.

```
substr("Mary has a little lamb.", start=3, stop=12)
```

```
[1] "ry has a l"
```

203.2.4.4 sub()

And to replace the first occurrence of the word “little” by another word “big” in the string, we apply the `sub()` function.

```
sub("little", "big", "Mary has a little lamb.")
```

```
[1] "Mary has a big lamb."
```

203.3 R Data Structures

Basic R comes with several data structures:

- Vector
- Matrix
- Array
- List
- Data frame

A **vector** is what is called an array in many other programming languages

A collection of cells with **a fixed size** where all cells hold the **same data type** (integers or characters or reals or whatever).

A **matrix** is a two-dimensional vector (fixed size, all cell types the same).

An **array** is a vector with one or more dimensions.

So, an array with one dimension is (almost) the same as a vector.

An array with two dimensions is (almost) the same as a matrix.

An array with three or more dimensions is an n-dimensional array.

A **list** can hold items of different types and the list size can be increased on the fly.

List contents can be accessed either by **index** (like `mylist[[1]]`) or by **name** (like `mylist$age`).

A **data frame** is called a *table* in many languages.

Each column holds the same type, and the columns can have header names.

A data frame is essential a kind of a list — a list of vectors each with the same length, but of varying data types.

The two most frequently uses are Vector and Data frame.

So, we will look at vectors and data frames.

We will also look at lists since they are used internally to construct data frames.

203.3.1 Vectors and `c()`

A vector is a sequence of data elements of the same basic type.

Members in a vector are officially called *components*, but many call them *members*.

Vectors may be created with the `c()` function (“c” stands for combine).

Here is a vector of three numeric values 2, 3 and 5.

```
c(2, 3, 5)
```

```
[1] 2 3 5
```

And here is a vector of logical values.

```
c(TRUE, FALSE, TRUE, FALSE, FALSE)
```

```
[1] TRUE FALSE TRUE FALSE FALSE
```

A vector can contain character strings.

```
c("aa", "bb", "cc", "dd", "ee")
```

```
[1] "aa" "bb" "cc" "dd" "ee"
```

203.3.1.1 Vectors from sequences using `:`, `seq()`, and `rep()`

Vectors can be made out of sequences which may be generated in a few ways.

```
s1 <- 2:5  
s1
```

```
[1] 2 3 4 5
```

The `seq()` function is like Python’s `range()`.

```
s2 <- seq(from=1, to=5, by=2) # You can drop the argument names write seq(1,5,2)  
s2
```

```
[1] 1 3 5
```

The `rep()` function will create a series of repeated values:

```
s3 <- rep(1, 5)
s3
```

```
[1] 1 1 1 1 1
```

203.3.1.2 `length()`

The number of members in a vector is given by the `length()` function.

```
length(c("aa", "bb", "cc", "dd", "ee"))
```

```
[1] 5
```

203.3.1.3 Combining Vectors with `c()`

Vectors can be combined via the function `c()`.

```
n <- c(2, 3, 5)
s <- c("aa", "bb", "cc", "dd", "ee")
c(n, s)
```

```
[1] "2"  "3"  "5"  "aa" "bb" "cc" "dd" "ee"
```

203.3.1.4 Value Coercion

Notice how **the numeric values are being coerced into character strings** when the two vectors are combined.

This is necessary so as to maintain the same primitive data type for members in the same vector.

203.3.1.5 Vector Math

Arithmetic operations of vectors are performed member-by-member, i.e., **member-wise**.

For example, suppose we have two vectors a and b.

```
a <- c(1, 3, 5, 7)
b <- c(1, 2, 4, 8)
```

Then, if we multiply a by 5, we would get a vector with each of its members multiplied by 5.

```
5 * a
```

```
[1] 5 15 25 35
```

And if we add a and b together, the sum would be a vector whose members are the sum of the corresponding members from a and b.

```
a + b
```

```
[1] 2 5 9 15
```

Similarly for subtraction, multiplication and division, we get new vectors via member-wise operations.

```
a - b
```

```
[1] 0 1 1 -1
```

```
a * b
```

```
[1] 1 6 20 56
```

```
a / b
```

```
[1] 1.000 1.500 1.250 0.875
```

203.3.1.6 The Recycling Rule

If two vectors are of unequal length, the **shorter one will be recycled** in order to match the longer vector.

For example, the following vectors u and v have different lengths, and their sum is computed by recycling values of the shorter vector u.

```
u <- c(10, 20, 30)
v <- c(1, 2, 3, 4, 5, 6, 7, 8, 9)
u + v
```

```
[1] 11 22 33 14 25 36 17 28 39
```

203.3.1.7 Vector Indexes

We retrieve values in a vector by declaring an index inside a single square bracket index [] operator.

Vector indexes are 1-based.

```
s <- c("aa", "bb", "cc", "dd", "ee")
s[3]
```

```
[1] "cc"
```

203.3.1.8 Negative Indexing

Unlike Python, if the index is negative, **it will remove the member** whose position has the same absolute value as the negative index.

It really does mean subtraction!

For example, the following creates a vector slice with the third member removed.

```
s[-3]
```

```
[1] "aa" "bb" "dd" "ee"
```

203.3.1.9 Out-of-Range Indexes

Values for out-of-range indexes are reported as NA.

```
s[10]
```

```
[1] NA
```

203.3.1.10 Numeric Index Vectors

A new vector can be sliced from a given vector with a numeric vector passed to the indexing operator.

Index vectors consist of member positions of the original vector to be retrieved.

Here we see how to retrieve a vector slice containing the second and third members of a given vector `s`.

```
s <- c("aa", "bb", "cc", "dd", "ee")
s[c(2, 3)]
```

```
[1] "bb" "cc"
```

203.3.1.11 Duplicate Indexes

The index vector allows duplicate values. Hence the following retrieves a member twice in one operation.

```
s[c(2, 3, 3)]
```

```
[1] "bb" "cc" "cc"
```

203.3.1.12 Out-of-Order Indexes

The index vector can even be out-of-order. Here is a vector slice with the order of first and second members reversed.

```
s[c(2, 1, 3)]
```

```
[1] "bb" "aa" "cc"
```

203.3.1.13 Range Index

To produce a vector slice between two indexes, we can use the colon operator “:”. This can be convenient for situations involving large vectors.

```
s[2:4]
```

```
[1] "bb" "cc" "dd"
```

203.3.1.14 Logical Index Vectors

A new vector can be sliced from a given vector with a logical index vector.

The logical vector must the same length as the original vector.

Its members are TRUE if the corresponding members in the original vector are to be included in the slice, and FALSE if otherwise.

This is what we called **boolean filtering** and masking in Python.

For example, consider the following vector s of length 5.

```
s <- c("aa", "bb", "cc", "dd", "ee")
```

To retrieve the the second and fourth members of s, we define a logical vector L of the same length, and have its second and fourth members set as TRUE.

```
L = c(FALSE, TRUE, FALSE, TRUE, FALSE)
s[L]
```

```
[1] "bb" "dd"
```

The code can be abbreviated into a single line.

```
s[c(FALSE, TRUE, FALSE, TRUE, FALSE)]
```

```
[1] "bb" "dd"
```

203.3.1.15 Naming Vector Members with `names()`

We can assign names to vector members.

```
v <- c("Mary", "Sue")
names(v) <- c("First", "Last")
v
```

```
First   Last
"Mary"  "Sue"
```

Now we can retrieve the first member by name.

```
v["First"]
```

```
First
"Mary"
```

We can also reverse the order with a character string index vector.

```
v[c("Last", "First")]
```

```
Last   First
"Sue"  "Mary"
```

203.3.2 Lists

A list is a generic vector containing other objects.

The following variable `x` is a list containing copies of three vectors `n`, `s`, `b`, and a numeric value 3.

```
n <- c(2, 3, 5)
s <- c("aa", "bb", "cc", "dd", "ee")
b <- c(TRUE, FALSE, TRUE, FALSE, FALSE)

x <- list(n, s, b, 3)  # x contains copies of n, s, b
x
```

```
[[1]]
[1] 2 3 5
```

```
[[2]]
```

```
[1] "aa" "bb" "cc" "dd" "ee"  
[[3]]  
[1] TRUE FALSE TRUE FALSE FALSE  
  
[[4]]  
[1] 3
```

Note that odd bracket notation.

Each list member **contains** a vector.

203.3.2.1 List Slicing

We retrieve a list slice with the single square bracket [] operator.

The following is a slice containing the second member of **x**, which is a copy of **s**.

```
x[2]
```

```
[[1]]  
[1] "aa" "bb" "cc" "dd" "ee"
```

With an index vector, we can retrieve a slice with multiple members.

Here a slice containing the second and fourth members of **x**.

```
x[c(2, 4)]
```

```
[[1]]  
[1] "aa" "bb" "cc" "dd" "ee"  
  
[[2]]  
[1] 3
```

203.3.2.2 Member Reference with [[]]

To reference a list member directly, we use the double square bracket [[]] operator.

The following object **x[[2]]** is the second member of **x**.

In other words, **x[[2]]** is a copy of **s**, but is not a slice containing **s** or its copy.

```
x[2]
```

```
[[1]]  
[1] "aa" "bb" "cc" "dd" "ee"
```

```
x[[2]]
```

```
[1] "aa" "bb" "cc" "dd" "ee"
```

We can modify its content directly.

```
x[[2]][1] = "ta"  
x[[2]]
```

```
[1] "ta" "bb" "cc" "dd" "ee"
```

And **s** is unaffected.

```
s
```

```
[1] "aa" "bb" "cc" "dd" "ee"
```

203.3.3 Data Frames

A data frame is used for storing data tables.

It is essentially **a list of vectors of equal length**. For example, the following variable **df** is a data frame containing three vectors **n**, **s**, **b**.

You can think of a data frame is a special kind of list.

```
n <- c(2, 3, 5)  
s <- c("aa", "bb", "cc")  
b <- c(TRUE, FALSE, TRUE)  
df <- data.frame(n, s, b) # df is a data frame  
df
```

```

n   s      b
1 2 aa  TRUE
2 3 bb FALSE
3 5 cc  TRUE

```

Notice that data frames are built **column-wise** – this is true of Pandas data frames as well.

The top line of the data frame is the **header**; it contains the column names.

The data type is list below the column name.

Each horizontal line afterward denotes a data row, which begins with the name of the row, and then followed by the actual data.

Each data member of a row is called a cell.

203.3.3.1 Built-in Data Frames

Here is a built-in data frame in R, called `mtcars`.

```
mtcars
```

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Mazda RX4	21.0	6	160.0	110	3.90	2.620	16.46	0	1	4	4
Mazda RX4 Wag	21.0	6	160.0	110	3.90	2.875	17.02	0	1	4	4
Datsun 710	22.8	4	108.0	93	3.85	2.320	18.61	1	1	4	1
Hornet 4 Drive	21.4	6	258.0	110	3.08	3.215	19.44	1	0	3	1
Hornet Sportabout	18.7	8	360.0	175	3.15	3.440	17.02	0	0	3	2
Valiant	18.1	6	225.0	105	2.76	3.460	20.22	1	0	3	1
Duster 360	14.3	8	360.0	245	3.21	3.570	15.84	0	0	3	4
Merc 240D	24.4	4	146.7	62	3.69	3.190	20.00	1	0	4	2
Merc 230	22.8	4	140.8	95	3.92	3.150	22.90	1	0	4	2
Merc 280	19.2	6	167.6	123	3.92	3.440	18.30	1	0	4	4
Merc 280C	17.8	6	167.6	123	3.92	3.440	18.90	1	0	4	4
Merc 450SE	16.4	8	275.8	180	3.07	4.070	17.40	0	0	3	3
Merc 450SL	17.3	8	275.8	180	3.07	3.730	17.60	0	0	3	3
Merc 450SLC	15.2	8	275.8	180	3.07	3.780	18.00	0	0	3	3
Cadillac Fleetwood	10.4	8	472.0	205	2.93	5.250	17.98	0	0	3	4
Lincoln Continental	10.4	8	460.0	215	3.00	5.424	17.82	0	0	3	4
Chrysler Imperial	14.7	8	440.0	230	3.23	5.345	17.42	0	0	3	4
Fiat 128	32.4	4	78.7	66	4.08	2.200	19.47	1	1	4	1
Honda Civic	30.4	4	75.7	52	4.93	1.615	18.52	1	1	4	2
Toyota Corolla	33.9	4	71.1	65	4.22	1.835	19.90	1	1	4	1

Toyota Corona	21.5	4	120.1	97	3.70	2.465	20.01	1	0	3	1
Dodge Challenger	15.5	8	318.0	150	2.76	3.520	16.87	0	0	3	2
AMC Javelin	15.2	8	304.0	150	3.15	3.435	17.30	0	0	3	2
Camaro Z28	13.3	8	350.0	245	3.73	3.840	15.41	0	0	3	4
Pontiac Firebird	19.2	8	400.0	175	3.08	3.845	17.05	0	0	3	2
Fiat X1-9	27.3	4	79.0	66	4.08	1.935	18.90	1	1	4	1
Porsche 914-2	26.0	4	120.3	91	4.43	2.140	16.70	0	1	5	2
Lotus Europa	30.4	4	95.1	113	3.77	1.513	16.90	1	1	5	2
Ford Pantera L	15.8	8	351.0	264	4.22	3.170	14.50	0	1	5	4
Ferrari Dino	19.7	6	145.0	175	3.62	2.770	15.50	0	1	5	6
Maserati Bora	15.0	8	301.0	335	3.54	3.570	14.60	0	1	5	8
Volvo 142E	21.4	4	121.0	109	4.11	2.780	18.60	1	1	4	2

To retrieve data in a cell, we would enter its **row** and **column** coordinates in the single square bracket [] operator.

The two coordinates are separated by a comma, e.g. [row, col].

Here is the cell value from the first row, second column of mtcars.

```
mtcars[1, 2]
```

```
[1] 6
```

We can use names instead of the numeric coordinates.

```
mtcars["Mazda RX4", "cyl"]
```

```
[1] 6
```

Lastly, the number of data rows in the data frame is given by the **nrow()** function.

```
nrow(mtcars)      # number of data rows
```

```
[1] 32
```

And the number of columns of a data frame is given by the **ncol()** function.

```
ncol(mtcars)      # number of columns
```

```
[1] 11
```

```
dim(mtcars)
```

```
[1] 32 11
```

Further details of the mtcars data set is available in the R documentation.

```
help(mtcars)
```

203.3.3.2 Preview with head()

Instead of printing out the entire data frame, it is often desirable to preview it with the head function beforehand

```
head(mtcars)
```

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Mazda RX4	21.0	6	160	110	3.90	2.620	16.46	0	1	4	4
Mazda RX4 Wag	21.0	6	160	110	3.90	2.875	17.02	0	1	4	4
Datsun 710	22.8	4	108	93	3.85	2.320	18.61	1	1	4	1
Hornet 4 Drive	21.4	6	258	110	3.08	3.215	19.44	1	0	3	1
Hornet Sportabout	18.7	8	360	175	3.15	3.440	17.02	0	0	3	2
Valiant	18.1	6	225	105	2.76	3.460	20.22	1	0	3	1

203.3.3.3 Data Frame Column Vectors

We reference a data frame column with the double square bracket `[]` operator, just as we do for lists.

For example, to retrieve the ninth column vector of the built-in data set mtcars, we write `mtcars[[9]]`

```
mtcars[[9]]
```

```
[1] 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 0 0 0 0 0 1 1 1 1 1 1 1 1
```

We can retrieve the same column vector by its name

```
mtcars[["am"]]
```

```
[1] 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 0 0 0 0 0 1 1 1 1 1 1 1
```

We can also retrieve with the “\$” operator in lieu of the double square bracket operator

```
mtcars$am
```

```
[1] 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 0 0 0 0 0 1 1 1 1 1 1 1
```

Yet another way to retrieve the same column vector is to use the single square bracket “[]” operator. We prepend the column name with a comma character, which signals a wildcard match for the row position

```
mtcars[, "am"]
```

```
[1] 1 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 0 0 0 0 0 1 1 1 1 1 1 1
```

203.3.3.4 Data Frame Column Slice

We retrieve a data frame column **slice** with the single square bracket [] operator.

Note: This is like a one-column dataframe in Pandas, as opposed to a Series.

203.3.3.4.1 Numeric Indexing

The following is a slice containing the first column of the built-in data set mtcars

```
mtcars[1]
```

	mpg
Mazda RX4	21.0
Mazda RX4 Wag	21.0
Datsun 710	22.8
Hornet 4 Drive	21.4
Hornet Sportabout	18.7
Valiant	18.1
Duster 360	14.3
Merc 240D	24.4
Merc 230	22.8
Merc 280	19.2
Merc 280C	17.8

Merc 450SE	16.4
Merc 450SL	17.3
Merc 450SLC	15.2
Cadillac Fleetwood	10.4
Lincoln Continental	10.4
Chrysler Imperial	14.7
Fiat 128	32.4
Honda Civic	30.4
Toyota Corolla	33.9
Toyota Corona	21.5
Dodge Challenger	15.5
AMC Javelin	15.2
Camaro Z28	13.3
Pontiac Firebird	19.2
Fiat X1-9	27.3
Porsche 914-2	26.0
Lotus Europa	30.4
Ford Pantera L	15.8
Ferrari Dino	19.7
Maserati Bora	15.0
Volvo 142E	21.4

203.3.3.4.2 Name Indexing

We can retrieve the same column slice by its name

```
mtcars["mpg"]
```

	mpg
Mazda RX4	21.0
Mazda RX4 Wag	21.0
Datsun 710	22.8
Hornet 4 Drive	21.4
Hornet Sportabout	18.7
Valiant	18.1
Duster 360	14.3
Merc 240D	24.4
Merc 230	22.8
Merc 280	19.2
Merc 280C	17.8
Merc 450SE	16.4
Merc 450SL	17.3

```
Merc 450SLC      15.2
Cadillac Fleetwood 10.4
Lincoln Continental 10.4
Chrysler Imperial 14.7
Fiat 128         32.4
Honda Civic       30.4
Toyota Corolla    33.9
Toyota Corona     21.5
Dodge Challenger   15.5
AMC Javelin        15.2
Camaro Z28         13.3
Pontiac Firebird   19.2
Fiat X1-9          27.3
Porsche 914-2       26.0
Lotus Europa        30.4
Ford Pantera L      15.8
Ferrari Dino         19.7
Maserati Bora       15.0
Volvo 142E          21.4
```

Compare to accessing the column vector data directly:

```
mtcars[["mpg"]]
```

```
[1] 21.0 21.0 22.8 21.4 18.7 18.1 14.3 24.4 22.8 19.2 17.8 16.4 17.3 15.2 10.4
[16] 10.4 14.7 32.4 30.4 33.9 21.5 15.5 15.2 13.3 19.2 27.3 26.0 30.4 15.8 19.7
[31] 15.0 21.4
```

This is similar to the `.values()` method in Pandas, which returns the raw NumPy array

To retrieve a data frame slice with the two columns mpg and hp, we pack the column names in an index vector inside the single square bracket operator

```
mtcars[c("mpg", "hp")]
```

	mpg	hp
Mazda RX4	21.0	110
Mazda RX4 Wag	21.0	110
Datsun 710	22.8	93
Hornet 4 Drive	21.4	110
Hornet Sportabout	18.7	175

Valiant	18.1	105
Duster 360	14.3	245
Merc 240D	24.4	62
Merc 230	22.8	95
Merc 280	19.2	123
Merc 280C	17.8	123
Merc 450SE	16.4	180
Merc 450SL	17.3	180
Merc 450SLC	15.2	180
Cadillac Fleetwood	10.4	205
Lincoln Continental	10.4	215
Chrysler Imperial	14.7	230
Fiat 128	32.4	66
Honda Civic	30.4	52
Toyota Corolla	33.9	65
Toyota Corona	21.5	97
Dodge Challenger	15.5	150
AMC Javelin	15.2	150
Camaro Z28	13.3	245
Pontiac Firebird	19.2	175
Fiat X1-9	27.3	66
Porsche 914-2	26.0	91
Lotus Europa	30.4	113
Ford Pantera L	15.8	264
Ferrari Dino	19.7	175
Maserati Bora	15.0	335
Volvo 142E	21.4	109

203.3.3.5 Data Frame Row Slice

We retrieve rows from a data frame with the single square bracket operator, just like what we did with columns. However, in addition to an index vector of row positions, we append an extra comma character. This is important, as the extra comma signals a wildcard match for the second coordinate for column positions.

203.3.3.5.1 Numeric Indexing

For example, the following retrieves a row record of the built-in data set mtcars. Please notice the extra comma in the square bracket operator, and it is not a typo. It states that the 1974 Camaro Z28 has a gas mileage of 13.3 miles per gallon, and an eight cylinder 245 horse power engine, ..., etc

```
mtcars[24,]
```

```
  mpg cyl disp hp drat   wt  qsec vs am gear carb
Camaro Z28 13.3   8  350 245 3.73 3.84 15.41  0  0     3     4
```

To retrieve more than one rows, we use a numeric index vector

```
mtcars[c(3, 24),]
```

```
  mpg cyl disp hp drat   wt  qsec vs am gear carb
Datsun 710 22.8   4  108 93 3.85 2.32 18.61  1  1     4     1
Camaro Z28 13.3   8  350 245 3.73 3.84 15.41  0  0     3     4
```

203.3.3.5.2 Name Indexing

We can retrieve a row by its name.

```
mtcars["Camaro Z28",]
```

```
  mpg cyl disp hp drat   wt  qsec vs am gear carb
Camaro Z28 13.3   8  350 245 3.73 3.84 15.41  0  0     3     4
```

And we can pack the row names in an index vector in order to retrieve multiple rows.

```
mtcars[c("Datsun 710", "Camaro Z28"),]
```

```
  mpg cyl disp hp drat   wt  qsec vs am gear carb
Datsun 710 22.8   4  108 93 3.85 2.32 18.61  1  1     4     1
Camaro Z28 13.3   8  350 245 3.73 3.84 15.41  0  0     3     4
```

203.3.3.5.3 Logical Indexing

Lastly, we can retrieve rows with a logical index vector. In the following vector L, the member value is TRUE if the car has automatic transmission, and FALSE if otherwise.

```
L <- mtcars$am == 0
L
```

```
[1] FALSE FALSE FALSE TRUE  
[13] TRUE TRUE TRUE TRUE TRUE FALSE FALSE FALSE TRUE TRUE TRUE TRUE TRUE  
[25] TRUE FALSE FALSE FALSE FALSE FALSE FALSE
```

Here is the list of vehicles with automatic transmission

```
mtcars[L,]
```

	mpg	cyl	disp	hp	drat	wt	qsec	vs	am	gear	carb
Hornet 4 Drive	21.4	6	258.0	110	3.08	3.215	19.44	1	0	3	1
Hornet Sportabout	18.7	8	360.0	175	3.15	3.440	17.02	0	0	3	2
Valiant	18.1	6	225.0	105	2.76	3.460	20.22	1	0	3	1
Duster 360	14.3	8	360.0	245	3.21	3.570	15.84	0	0	3	4
Merc 240D	24.4	4	146.7	62	3.69	3.190	20.00	1	0	4	2
Merc 230	22.8	4	140.8	95	3.92	3.150	22.90	1	0	4	2
Merc 280	19.2	6	167.6	123	3.92	3.440	18.30	1	0	4	4
Merc 280C	17.8	6	167.6	123	3.92	3.440	18.90	1	0	4	4
Merc 450SE	16.4	8	275.8	180	3.07	4.070	17.40	0	0	3	3
Merc 450SL	17.3	8	275.8	180	3.07	3.730	17.60	0	0	3	3
Merc 450SLC	15.2	8	275.8	180	3.07	3.780	18.00	0	0	3	3
Cadillac Fleetwood	10.4	8	472.0	205	2.93	5.250	17.98	0	0	3	4
Lincoln Continental	10.4	8	460.0	215	3.00	5.424	17.82	0	0	3	4
Chrysler Imperial	14.7	8	440.0	230	3.23	5.345	17.42	0	0	3	4
Toyota Corona	21.5	4	120.1	97	3.70	2.465	20.01	1	0	3	1
Dodge Challenger	15.5	8	318.0	150	2.76	3.520	16.87	0	0	3	2
AMC Javelin	15.2	8	304.0	150	3.15	3.435	17.30	0	0	3	2
Camaro Z28	13.3	8	350.0	245	3.73	3.840	15.41	0	0	3	4
Pontiac Firebird	19.2	8	400.0	175	3.08	3.845	17.05	0	0	3	2

And here is the gas mileage data for automatic transmission

```
mtcars[L,]$mpg
```

```
[1] 21.4 18.7 18.1 14.3 24.4 22.8 19.2 17.8 16.4 17.3 15.2 10.4 10.4 14.7 21.5  
[16] 15.5 15.2 13.3 19.2
```

203.3.3.5.4 Change the name of a column

```
names(df)[names(df) == 'old.var.name'] <- 'new.var.name'
```

203.3.3.6 Importing Data

It is often necessary to import sample textbook data into R before you start working on your homework.

Excel Files

Quite frequently, the sample data is in Excel format, and needs to be imported into R prior to use. For this, we can use the function `read.xls` from the `gdata` package. It reads from an Excel spreadsheet and returns a data frame. The following shows how to load an Excel spreadsheet named “`mydata.xls`”. This method requires Perl runtime to be present in the system

```
##library(gdata)                      # load gdata package
##help(read.xls)                      # documentation
##mydata <- read.xls("mydata.xls")    # read from first sheet
```

Alternatively, we can use the function `loadWorkbook` from the `XLConnect` package to read the entire workbook, and then load the worksheets with `readWorksheet`. The `XLConnect` package requires Java to be pre-installed

```
##library(XLConnect)                  # load XLConnect package
##wk <- loadWorkbook("mydata.xls")
##df <- readWorksheet(wk, sheet="Sheet1")
```

Table Files

A data table can resides in a text file.

The cells inside the table are separated by blank characters.

Here is an example of a table with 4 rows and 3 columns.

```
100 a1 b1
200 a2 b2
300 a3 b3
400 a4 b4
```

Now copy and paste the table above in a file named “`mydata.txt`” with a text editor.

Then load the data into the workspace with the function `read.table`

```
mydata <- read.table("mydata.txt")  # read text file
```

```
Warning in read.table("mydata.txt"): incomplete final line found by  
readTableHeader on 'mydata.txt'
```

```
mydata # print data frame
```

```
  V1 V2 V3  
1 100 a1 b1  
2 200 a2 b2  
3 300 a3 b3  
4 400 a4 b4
```

CSV Files

The sample data can also be in comma separated values (CSV) format. Each cell inside such data file is separated by a special character, which usually is a comma, although other characters can be used as well.

The first row of the data file should contain the column names instead of the actual data. Here is a sample of the expected format.

```
Col1,Col2,Col3  
100,a1,b1  
200,a2,b2  
300,a3,b3
```

After we copy and paste the data above in a file named “mydata.csv” with a text editor, we can read the data with the function `read.csv`

```
mydata <- read.csv("mydata.csv") # read csv file
```

```
Warning in read.table(file = file, header = header, sep = sep, quote = quote, :  
incomplete final line found by readTableHeader on 'mydata.csv'
```

```
mydata
```

```
  Col1 Col2 Col3  
1 100   a1   b1  
2 200   a2   b2  
3 300   a3   b3
```

In various European locales, as the comma character serves as the decimal point, the function `read.csv2` should be used instead. For further detail of the `read.csv` and `read.csv2` functions, please consult the R documentation

```
help(read.csv)
```

203.3.3.7 Working Directory

Finally, the code samples above assume the data files are located in the R working directory, which can be found with the function `getwd()`.

Note that these things can also be set using the RStudio's GUI.

```
getwd()          # get current working directory
```

```
[1] "/Users/rca2t1/Dropbox/Courses/DS/DS5100/DS5100-2023-07-R/repo/notebooks/M10_RBasis"
```

You can select a different working directory with the function `setwd()`, and thus avoid entering the full path of the data files

```
## setwd("<new path>")    # set working directory
```

Note that the forward slash should be used as the path separator even on Windows platform

```
## setwd("C:/MyDoc")
```

203.4 Extra

203.4.1 Plots with `plot()`

R is known for its high-quality visualizations, and we'll explore these in more detail when we look at GGPlot.

For now, consider the `plot()` function.

Let's plot the data from the built-in data frame `airquality`.

```
airquality
```

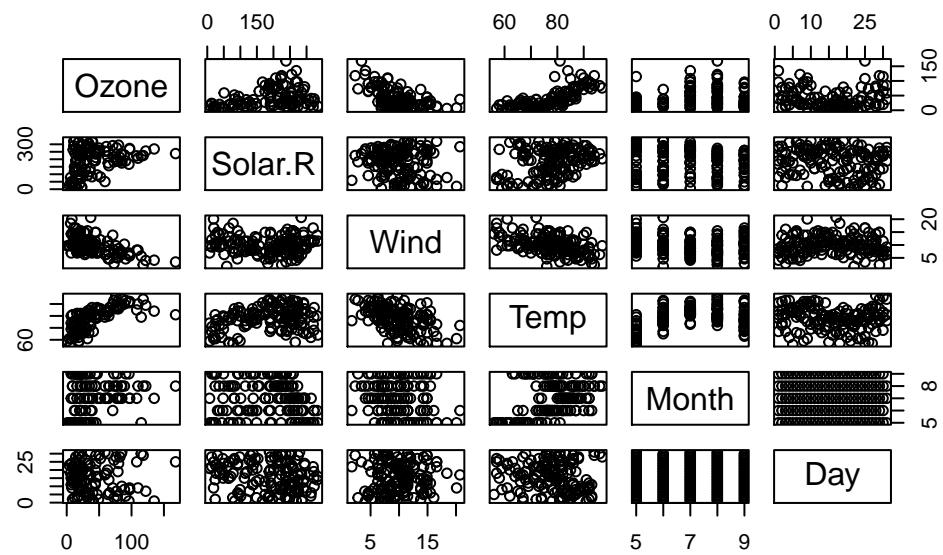
Ozone	Solar.R	Wind	Temp	Month	Day
1	41	190	7.4	67	5 1
2	36	118	8.0	72	5 2
3	12	149	12.6	74	5 3
4	18	313	11.5	62	5 4
5	NA	NA	14.3	56	5 5
6	28	NA	14.9	66	5 6
7	23	299	8.6	65	5 7
8	19	99	13.8	59	5 8
9	8	19	20.1	61	5 9
10	NA	194	8.6	69	5 10
11	7	NA	6.9	74	5 11
12	16	256	9.7	69	5 12
13	11	290	9.2	66	5 13
14	14	274	10.9	68	5 14
15	18	65	13.2	58	5 15
16	14	334	11.5	64	5 16
17	34	307	12.0	66	5 17
18	6	78	18.4	57	5 18
19	30	322	11.5	68	5 19
20	11	44	9.7	62	5 20
21	1	8	9.7	59	5 21
22	11	320	16.6	73	5 22
23	4	25	9.7	61	5 23
24	32	92	12.0	61	5 24
25	NA	66	16.6	57	5 25
26	NA	266	14.9	58	5 26
27	NA	NA	8.0	57	5 27
28	23	13	12.0	67	5 28
29	45	252	14.9	81	5 29
30	115	223	5.7	79	5 30
31	37	279	7.4	76	5 31
32	NA	286	8.6	78	6 1
33	NA	287	9.7	74	6 2
34	NA	242	16.1	67	6 3
35	NA	186	9.2	84	6 4
36	NA	220	8.6	85	6 5
37	NA	264	14.3	79	6 6
38	29	127	9.7	82	6 7
39	NA	273	6.9	87	6 8
40	71	291	13.8	90	6 9
41	39	323	11.5	87	6 10
42	NA	259	10.9	93	6 11

43	NA	250	9.2	92	6	12
44	23	148	8.0	82	6	13
45	NA	332	13.8	80	6	14
46	NA	322	11.5	79	6	15
47	21	191	14.9	77	6	16
48	37	284	20.7	72	6	17
49	20	37	9.2	65	6	18
50	12	120	11.5	73	6	19
51	13	137	10.3	76	6	20
52	NA	150	6.3	77	6	21
53	NA	59	1.7	76	6	22
54	NA	91	4.6	76	6	23
55	NA	250	6.3	76	6	24
56	NA	135	8.0	75	6	25
57	NA	127	8.0	78	6	26
58	NA	47	10.3	73	6	27
59	NA	98	11.5	80	6	28
60	NA	31	14.9	77	6	29
61	NA	138	8.0	83	6	30
62	135	269	4.1	84	7	1
63	49	248	9.2	85	7	2
64	32	236	9.2	81	7	3
65	NA	101	10.9	84	7	4
66	64	175	4.6	83	7	5
67	40	314	10.9	83	7	6
68	77	276	5.1	88	7	7
69	97	267	6.3	92	7	8
70	97	272	5.7	92	7	9
71	85	175	7.4	89	7	10
72	NA	139	8.6	82	7	11
73	10	264	14.3	73	7	12
74	27	175	14.9	81	7	13
75	NA	291	14.9	91	7	14
76	7	48	14.3	80	7	15
77	48	260	6.9	81	7	16
78	35	274	10.3	82	7	17
79	61	285	6.3	84	7	18
80	79	187	5.1	87	7	19
81	63	220	11.5	85	7	20
82	16	7	6.9	74	7	21
83	NA	258	9.7	81	7	22
84	NA	295	11.5	82	7	23
85	80	294	8.6	86	7	24

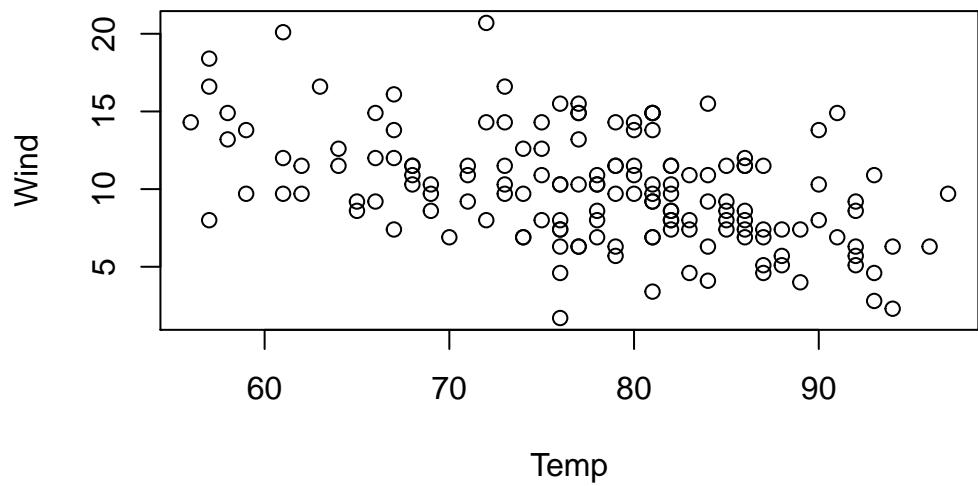
86	108	223	8.0	85	7	25
87	20	81	8.6	82	7	26
88	52	82	12.0	86	7	27
89	82	213	7.4	88	7	28
90	50	275	7.4	86	7	29
91	64	253	7.4	83	7	30
92	59	254	9.2	81	7	31
93	39	83	6.9	81	8	1
94	9	24	13.8	81	8	2
95	16	77	7.4	82	8	3
96	78	NA	6.9	86	8	4
97	35	NA	7.4	85	8	5
98	66	NA	4.6	87	8	6
99	122	255	4.0	89	8	7
100	89	229	10.3	90	8	8
101	110	207	8.0	90	8	9
102	NA	222	8.6	92	8	10
103	NA	137	11.5	86	8	11
104	44	192	11.5	86	8	12
105	28	273	11.5	82	8	13
106	65	157	9.7	80	8	14
107	NA	64	11.5	79	8	15
108	22	71	10.3	77	8	16
109	59	51	6.3	79	8	17
110	23	115	7.4	76	8	18
111	31	244	10.9	78	8	19
112	44	190	10.3	78	8	20
113	21	259	15.5	77	8	21
114	9	36	14.3	72	8	22
115	NA	255	12.6	75	8	23
116	45	212	9.7	79	8	24
117	168	238	3.4	81	8	25
118	73	215	8.0	86	8	26
119	NA	153	5.7	88	8	27
120	76	203	9.7	97	8	28
121	118	225	2.3	94	8	29
122	84	237	6.3	96	8	30
123	85	188	6.3	94	8	31
124	96	167	6.9	91	9	1
125	78	197	5.1	92	9	2
126	73	183	2.8	93	9	3
127	91	189	4.6	93	9	4
128	47	95	7.4	87	9	5

129	32	92	15.5	84	9	6
130	20	252	10.9	80	9	7
131	23	220	10.3	78	9	8
132	21	230	10.9	75	9	9
133	24	259	9.7	73	9	10
134	44	236	14.9	81	9	11
135	21	259	15.5	76	9	12
136	28	238	6.3	77	9	13
137	9	24	10.9	71	9	14
138	13	112	11.5	71	9	15
139	46	237	6.9	78	9	16
140	18	224	13.8	67	9	17
141	13	27	10.3	76	9	18
142	24	238	10.3	68	9	19
143	16	201	8.0	82	9	20
144	13	238	12.6	64	9	21
145	23	14	9.2	71	9	22
146	36	139	10.3	81	9	23
147	7	49	10.3	69	9	24
148	14	20	16.6	63	9	25
149	30	193	6.9	70	9	26
150	NA	145	13.2	77	9	27
151	14	191	14.3	75	9	28
152	18	131	8.0	76	9	29
153	20	223	11.5	68	9	30

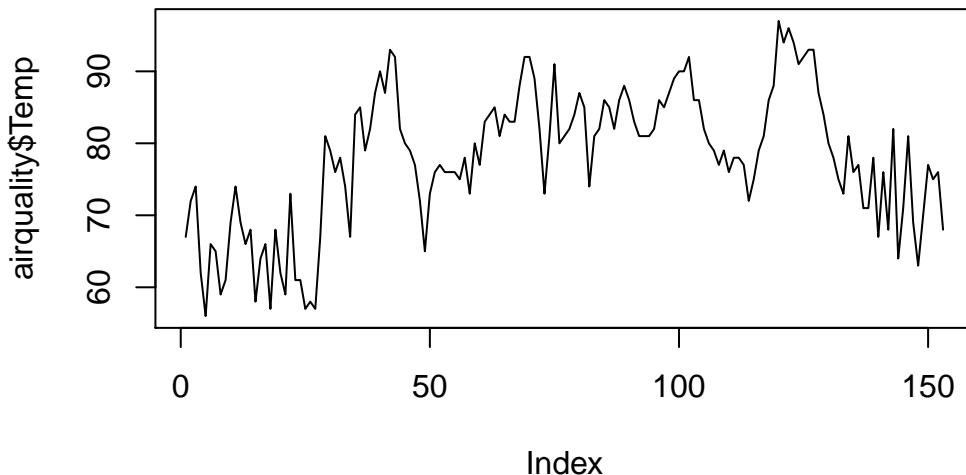
```
plot(airquality)
```



```
plot(airquality[, c("Temp", "Wind")])
```



```
plot(airquality$Temp, type='l')
```



```
?plot
```

Help on topic 'plot' was found in the following packages:

Package	Library
graphics	/Library/Frameworks/R.framework/Versions/4.0/Resources/library
base	/Library/Frameworks/R.framework/Resources/library

Using the first match ...

203.4.2 Value Counts with table()

This function is like `.value_counts()` in Pandas. It does a quick count of all the value types of a feature or combination of them.

Here we get a table of values and their counts for `airquality$Temp`, convert this into a data frame, and then plot the results.

```
temp <- table(airquality$Temp)
temp
```

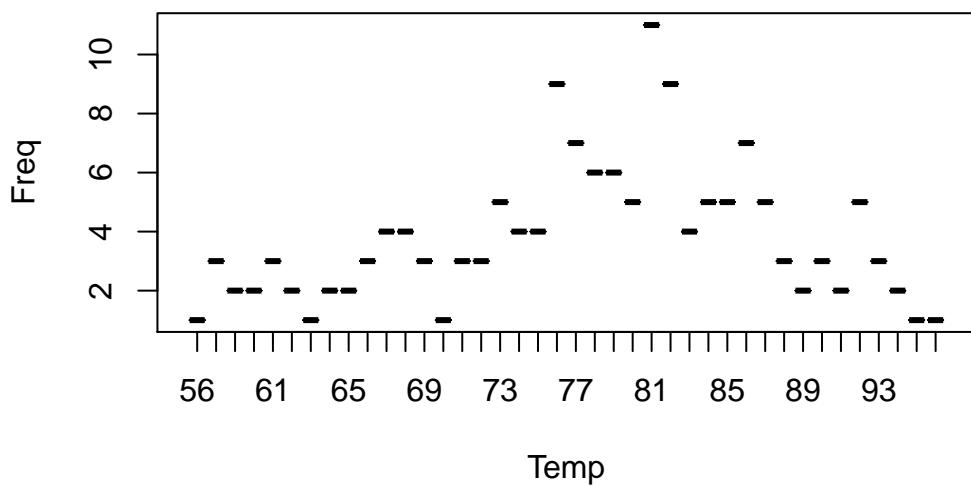
```
56 57 58 59 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82
 1  3  2  2  3  2  1  2  2  2  3  4  4  3  1  3  3  5  4  4  9  7  6  6  5 11  9
83 84 85 86 87 88 89 90 91 92 93 94 96 97
 4  5  5  7  5  3  2  3  2  5  3  2  1  1
```

```
temp.df <- data.frame(temp)
temp.df
```

	Var1	Freq
1	56	1
2	57	3
3	58	2
4	59	2
5	61	3
6	62	2
7	63	1
8	64	2
9	65	2
10	66	3
11	67	4
12	68	4
13	69	3
14	70	1
15	71	3
16	72	3
17	73	5
18	74	4
19	75	4
20	76	9
21	77	7
22	78	6
23	79	6
24	80	5
25	81	11
26	82	9
27	83	4

28	84	5
29	85	5
30	86	7
31	87	5
32	88	3
33	89	2
34	90	3
35	91	2
36	92	5
37	93	3
38	94	2
39	96	1
40	97	1

```
plot(temp.sdf, xlab="Temp", type="b")
```



204 Topic: Control Structures and Functions

204.1 if/else Statements

You've seen this in Python.

They work the same way in both languages.

Here's their syntax in R.

```
if(<condition>) {  
    ## do something  
}  
  
if(<condition>) {  
    ## do something  
}  
else {  
    ## do something else  
}  
  
if(<condition1>) {  
    ## do something  
} else if(<condition2>) {  
    ## do something different  
} else {  
    ## do something different  
}
```

Generate a uniform random number:

```
x <- runif(1, 0, 10) # From the Uniform Distribution  
  
if(x > 3) {  
    y <- 10  
} else {
```

```
y <- 0  
}
```

```
x
```

```
[1] 2.532132
```

```
y
```

```
[1] 0
```

You assign an `if` statement to a variable.

```
z <- if(x > 3) {  
  10  
} else {  
  0  
}
```

```
z
```

```
[1] 0
```

You can stack `if` blocks, too.

```
if(<condition1>) {  
}  
  
if(<condition2>) {  
}
```

204.2 Control Structures

204.2.1 for Loops

For loops are straight-forward. They take an iterator variable, e.g. `i`, and assign it successive values from a sequence or vector.

For loops are often used to iterate over the elements of an object (list, vector, etc.).

```
for(i in 1:10) {  
  print(i)  
}
```

```
[1] 1  
[1] 2  
[1] 3  
[1] 4  
[1] 5  
[1] 6  
[1] 7  
[1] 8  
[1] 9  
[1] 10
```

According to Hadley Wickham, loops are pretty much the only looping construct that you will need in R.

The following three loops all have the same behavior.

```
x <- c("a", "b", "c", "d")  
for (i in 1:4) {  
  # Print out each element of 'x'  
  print(x[i])  
}
```

```
[1] "a"  
[1] "b"  
[1] "c"  
[1] "d"
```

204.2.2 seq_along()

The `seq_along()` function is commonly used in conjunction with for loops in order to generate an integer sequence based on the length of an object (in this case, the object `x`).

```
x
```

```
[1] "a" "b" "c" "d"
```

Generate a sequence based on length of 'x':

```
for(i in seq_along(x)) {  
  print(x[i])  
}
```

```
[1] "a"  
[1] "b"  
[1] "c"  
[1] "d"
```

It is not necessary to use an index-type variable.

```
for(letter in x) {  
  print(letter)  
}
```

```
[1] "a"  
[1] "b"  
[1] "c"  
[1] "d"
```

For one line loops, the curly braces are not strictly necessary.

```
for(i in 1:4) print(x[i])
```

```
[1] "a"  
[1] "b"  
[1] "c"  
[1] "d"
```

204.2.3 Nested for loops

For loops can be nested inside of each other.

```
x <- matrix(1:6, 2, 3)  
for(i in seq_len(nrow(x))) {  
  for(j in seq_len(ncol(x))) {  
    print(x[i, j])
```

```
    }  
}
```

```
[1] 1  
[1] 3  
[1] 5  
[1] 2  
[1] 4  
[1] 6
```

Nested loops are used to generate multidimensional or hierarchical data structures (e.g. matrices, lists).

204.3 while Loops

As with Python, while loops start with a condition. It loops while the condition is true and stops when it is false.

Remember, while loops can go on forever if the truth condition is never met.

```
count <- 0  
while(count < 10) {  
  print(count)  
  count <- count + 1  
}
```

```
[1] 0  
[1] 1  
[1] 2  
[1] 3  
[1] 4  
[1] 5  
[1] 6  
[1] 7  
[1] 8  
[1] 9
```

204.4 repeat Loops

repeat loops are using by R. They initiate an infinite loop right from the start.

The only way to exit a repeat loop is to call break on an internal condition.

204.5 next and break

next is used to skip an iteration of a loop. Same as Python continue.

```
for (i in 1:100) {  
  if (i <= 20) {  
    # Skip the first 20 iterations  
    next  
  }      # Do something here  
}
```

break is used to exit a loop immediately.

```
for (i in 1:100) {  
  print(i)  
  if (i > 20) {  
    # Stop loop after 20 iterations  
    break  
  }  
}
```

```
[1] 1  
[1] 2  
[1] 3  
[1] 4  
[1] 5  
[1] 6  
[1] 7  
[1] 8  
[1] 9  
[1] 10  
[1] 11  
[1] 12  
[1] 13  
[1] 14
```

```
[1] 15  
[1] 16  
[1] 17  
[1] 18  
[1] 19  
[1] 20  
[1] 21
```

204.6 Functions

Define some data

```
x <- 5  
xx <- c(4, 6, 7, 8, 2, 11)
```

Now, define a function that does the following:
- takes a value, vector of values as inputs
- normalizes the value against the vector by subtracting the vector mean from value, and dividing by vector standard deviation.

```
compute_zscore <- function(val, vec) {  
  z <- (val - mean(vec)) / sd(vec)  
}  
  
print(compute_zscore(x, xx))
```

```
[1] -0.4244764
```

If vector contains identical values, `sd` is zero, and so the z-score is undefined.

```
print(compute_zscore(x, c(1, 1, 1, 1)))
```

```
[1] Inf
```

If vector contains missing values, the result will be `NA`.

```
xx_na <- c(1, NA, 3, 5)  
print(compute_zscore(x, xx_na))
```

```
[1] NA
```

204.7 Using conditions in functions

A function returns 1 if passed value is odd, 0 if even

204.8 %% is mod operator (returns remainder)

```
is_odd <- function(x){ if (x %% 2 == 1) {  
    return(1)  
} else {  
    return(0)  
}  
}
```

Call to test some cases:

```
is_odd(4)
```

```
[1] 0
```

```
is_odd(3)
```

```
[1] 1
```

Function arguments can use default values:

```
threshold_vals <- function(p, thresh = 0.5) {  
    # for each element in p, returns TRUE if value > thresh, else FALSE  
    p > thresh  
}  
  
threshold_vals(c(0.6, 0.4, 0.1, 1))
```

```
[1] TRUE FALSE FALSE TRUE
```

Now, pass a threshold:

```
threshold_vals(c(0.6, 0.4, 0.1, 1), 0.7)
```

```
[1] FALSE FALSE FALSE TRUE
```

Assert important preconditions

```
add_vectors <- function(x, y) {  
  # assert the lengths of vectors x and y match  
  # if they do, sum elementwise, else throw error with stop()  
  
  if (length(x) != length(y)) {  
    stop("x and y must be the same length", call. = FALSE)  
  }  
  x + y  
}
```



```
add_vectors(c(1, 2, 3), c(3, 3, 3))
```

```
[1] 4 5 6
```

```
add_vectors(c(1, 2, 3), c(3, 3, 3, 3)) # breaks
```

204.9 Scoping Rules

```
z <- 4  
test_fcn <- function(x) {  
  x^z  
}
```

Now look at this:

```
test_fcn(2)
```

```
[1] 16
```

If `z` isn't defined in the function, how does this work?

R's scoping rules are similar to Python's.

Since `z` isn't in the function, **R looks in the function's environment** for it.

For more on scoping rules, see [Chapter 15: Scoping Rules of R](#) in Peng's *R Programming For Data Science*.

Part XII

M11 Dplyr

Topics

- The Tidyverse
- Tibbles, a lightheaded version of data frames
- Data transformations using dplyr verbs

Readings

Required

RDFS Explore 5 Data Transformation (dplyr)

RDFS Wrangle 10 Tibbles

RDFS Wrangle 11 Data Import

RDFS Wrangle 12 Tidy data

Optional

Peng, 2022, “Managing Data Frames with the dplyr package”

205 Errata and Addenda

206 Static Weirdness Explained

```
class Foo():

    my_list = []      # Lists are mutable
    my_int = 1        # Integers are not
    my_tuple = ()     # Tuples are not

    def mutate_things(self):
        self.my_list.append(1) # MUTATING THE OBJECT DEFINE AT THE CLASS LEVEL
        self.my_int = 2
        self.my_tuple = (1,3)

    def change_things(self):
        self.my_list = [1] # REMOVING THE CONNECTION TO THE CLASS LEVEL
        self.my_int = 2
        self.my_tuple = (1,3)

    # If you mutate a mutable, then it will change

def foo_state(foo):
    global Foo
    print("Class state:", Foo.my_list, Foo.my_int, Foo.my_tuple)
    print("Object state:", foo.my_list, foo.my_int, foo.my_tuple)

foo1 = Foo()

foo1.mutate_things()

foo_state(foo1)

Class state: [1] 1 ()
Object state: [1] 2 (1, 3)
```

```
foo1.change_things()
```

```
foo_state(foo1)
```

```
Class state: [1] 1 ()  
Object state: [1] 2 (1, 3)
```

207 Narrow vs Wide Tables

```
import pandas as pd

pets = pd.Series("cat dog ferret snake turtle parraot".split()).sample(1000, replace=True)
people = pd.Series("A B C D E F G".split()).sample(1000, replace=True).to_list()
NARROW = pd.DataFrame(dict(pet=pets, owner=people)).groupby(['owner', 'pet']).pet.count()
```

This is a narrow table.

It has few columns and many rows.

Columns are types of things, and values in rows are either instances or subtypes.

NARROW

		n
	owner	pet
A		cat 31
		dog 26
		ferret 19
		parraot 18
		snake 24
		turtle 26
B		cat 29
		dog 23
		ferret 31
		parraot 24
		snake 29
		turtle 22
C		cat 21
		dog 22
		ferret 19
		parraot 23
		snake 25
		turtle 25

		n
	owner	pet
D		cat 17
		dog 15
		ferret 15
		parraot 22
		snake 20
		turtle 28
E		cat 20
		dog 30
		ferret 21
		parraot 25
		snake 16
		turtle 26
F		cat 22
		dog 28
		ferret 32
		parraot 24
		snake 25
		turtle 26
G		cat 23
		dog 19
		ferret 20
		parraot 28
		snake 35
		turtle 26

```
WIDE = NARROW.n.unstack()
```

This is a wide table.

One column's values are projected onto the feature space (as columns).

The other column becomes a unique list (as is the feature space).

```
WIDE
```

	pet	cat	dog	ferret	parraot	snake	turtle
owner							
A	31	26	19	18	24	26	
B	29	23	31	24	29	22	

pet owner	cat	dog	ferret	parraot	snake	turtle
C	21	22	19	23	25	25
D	17	15	15	22	20	28
E	20	30	21	25	16	26
F	22	28	32	24	25	26
G	23	19	20	28	35	26

Narrow columns are more manageable by databases.

Wide columns are more usable for analysis.

You can do these things with narrow tables using `.group_by()`

```
A = WIDE / WIDE.sum()
```

```
B = WIDE.T / WIDE.T.sum()
```

A

pet owner	cat	dog	ferret	parraot	snake	turtle
A	0.190184	0.159509	0.121019	0.109756	0.137931	0.145251
B	0.177914	0.141104	0.197452	0.146341	0.166667	0.122905
C	0.128834	0.134969	0.121019	0.140244	0.143678	0.139665
D	0.104294	0.092025	0.095541	0.134146	0.114943	0.156425
E	0.122699	0.184049	0.133758	0.152439	0.091954	0.145251
F	0.134969	0.171779	0.203822	0.146341	0.143678	0.145251
G	0.141104	0.116564	0.127389	0.170732	0.201149	0.145251

B

owner	A	B	C	D	E	F	G
pet							
cat	0.184211	0.167883	0.169643	0.152778	0.192308	0.177215	0.198582
dog	0.157895	0.182482	0.187500	0.159722	0.224359	0.151899	0.212766
ferret	0.177632	0.124088	0.133929	0.152778	0.147436	0.126582	0.113475
parraot	0.217105	0.167883	0.169643	0.166667	0.153846	0.234177	0.163121
snake	0.131579	0.167883	0.196429	0.194444	0.102564	0.170886	0.127660

owner	A	B	C	D	E	F	G
pet							
turtle	0.131579	0.189781	0.142857	0.173611	0.179487	0.139241	0.184397

```
A.sum()
```

```
pet
cat      1.0
dog      1.0
ferret   1.0
parraot  1.0
snake    1.0
turtle   1.0
dtype: float64
```

```
B.sum()
```

```
owner
A      1.0
B      1.0
C      1.0
D      1.0
E      1.0
F      1.0
G      1.0
dtype: float64
```

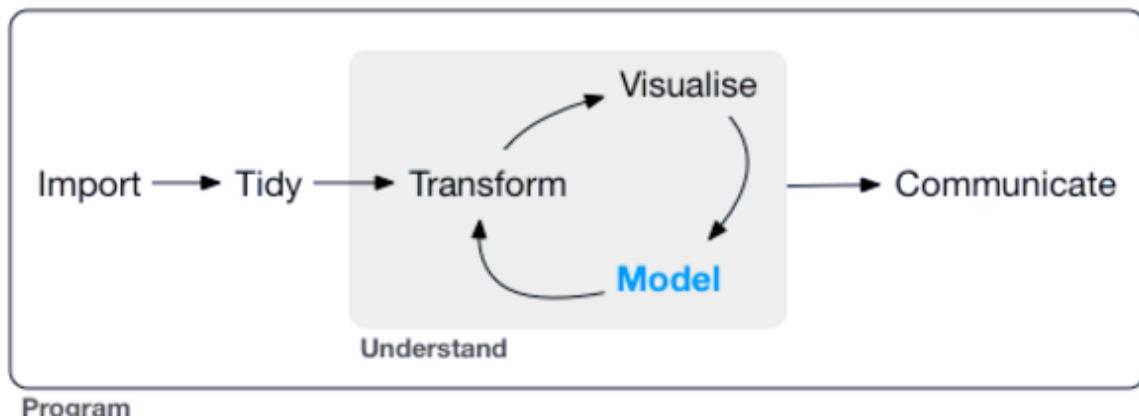
208 Introducing Tibbles

Based on [Wikham and Grolemund 2017](#)

208.1 The Tidyverse

Tidyverse is a collection of essential R packages for data science.

The packages included in the Tidyverse are designed to support the pipeline of activities associated with data science, such as filtering, transforming, visualizing, etc.



Tidyverse was created by **Hadley Wickham** and his team with the aim of providing all these utilities to clean and work with data.

Here's a graphic of the packages associated with the TV:



We are going to focus on `dplyr` today and `ggplot` tomorrow.

208.2 Dplyr

Dplyr introduces **new set of functions** that make working with data more intuitive.

- It does this by introducing a set of functions that work together well to produce pipelines of actions.

But as important, it introduces a **vocabulary** for talking about data.

- This makes it possible to imagine solutions verbally, and then to implement them in code.

To use the TV, we usually import everything:

```
library(tidyverse)
```

```
-- Attaching packages ----- tidyverse 1.3.2 --
v ggplot2 3.3.5     v purrr   1.0.1
v tibble   3.2.1     v dplyr   1.1.1
v tidyr    1.2.1     v stringr 1.5.0
v readr    2.1.3     v forcats 1.0.0
-- Conflicts ----- tidyverse_conflicts() --
```

```
x dplyr::filter() masks stats::filter()  
x dplyr::lag()    masks stats::lag()
```

208.3 Piping with %>%

Just a quick note about this **odd looking** operator that you will start to see.

One of the key elements of the TV is the use of **piping**, or the ability of to pass the return values of one function to another, without have to nest functions.

For example, instead of something like this:

```
a <- "Hello"  
b <- "World"  
  
var1 <- c(a, b)  
var2 <- paste(var1)  
print(var2)
```

```
[1] "Hello" "World"
```

Or this:

```
print(paste(c(a,b)))
```

```
[1] "Hello" "World"
```

We can do:

```
c(a, b) %>%  
  paste() %>%  
  print()
```

```
[1] "Hello" "World"
```

Although the last pattern is longer than the preceding, it is much easier to read and write, especially when we are working with several connected functions.

This is similar to **method chaining** in Python, but is more pervasive.

- In Python you can do it with individual objects that return themselves (as it were).
- In TV, you can apply it to **any two methods** so long as it makes sense to pass the output of as the input of another.
- Basically, the output of one function becomes the first argument of the following the %>%.

It is similar to the pipe operator | in Unix shells.

209 Tibbles

Dplyr can work with different rectangular data structures:

- Data frames
- Tibbles
- Data.tables (see [data.table](#))

The foundational data structure of the TV is the **tibble**.

Tibbles are data frames, but they tweak some older behaviors to make your life a little easier.

To learn more about tibbles, check out the vignette:

```
vignette("tibble")
```

```
starting httpd help server ... done
```

209.1 Creating tibbles

If you need to make a tibble “by hand”, you can use `tibble()` or `tribble()`.

`tibble()` works by assembling individual vectors, **column-wise** operation:

```
x <- c(1, 2, 5)
y <- c("a", "b", "h")
tibble(x, y)
```

```
# A tibble: 3 x 2
  x     y
  <dbl> <chr>
1     1 a
2     2 b
3     5 h
```

You can also optionally name the inputs, provide data inline with `c()`, and perform computation:

```
tibble(  
  x1 = x,  
  x2 = c(10, 15, 25),  
  y = sqrt(x1^2 + x2^2)  
)  
  
# A tibble: 3 x 3  
  x1    x2     y  
  <dbl> <dbl> <dbl>  
1     1    10  10.0  
2     2    15  15.1  
3     5    25  25.5
```

Every column in a data frame or tibble must be same length, so you'll get an error if the lengths are different:

As the error suggests, individual values will be recycled to the same length as everything else:

```
tibble(  
  x = 1:5,  
  y = "a",  
  z = TRUE  
)  
  
# A tibble: 5 x 3  
  x y     z  
  <int> <chr> <lgl>  
1     1 a     TRUE  
2     2 a     TRUE  
3     3 a     TRUE  
4     4 a     TRUE  
5     5 a     TRUE
```

209.2 Tribbles

Another way to create a tibble is with `tribble()`, which short for **transposed tibble**.

`tribble()` is customized for data entry in code: **column headings start with ~** and **entries are separated by commas**.

This makes it possible to lay out small amounts of data in an easy to read form:

```
tribble(  
  ~x, ~y, ~z,  
  "a", 2, 3.6,  
  "b", 1, 8.5  
)
```

```
# A tibble: 2 x 3  
  x         y     z  
  <chr> <dbl> <dbl>  
1 a        2     3.6  
2 b        1     8.5
```

Finally, if you have a regular `data frame` you can turn it into to a tibble with `as_tibble()`:

```
as_tibble(mtcars)
```



```
# A tibble: 32 x 11  
  mpg   cyl  disp    hp  drat    wt  qsec    vs    am  gear  carb  
  <dbl>  
1 21     6   160   110  3.9   2.62  16.5     0     1     4     4  
2 21     6   160   110  3.9   2.88  17.0     0     1     4     4  
3 22.8   4   108   93   3.85  2.32  18.6     1     1     4     1  
4 21.4   6   258   110  3.08  3.22  19.4     1     0     3     1  
5 18.7   8   360   175  3.15  3.44  17.0     0     0     3     2  
6 18.1   6   225   105  2.76  3.46  20.2     1     0     3     1  
7 14.3   8   360   245  3.21  3.57  15.8     0     0     3     4  
8 24.4   4   147.   62   3.69  3.19  20       1     0     4     2  
9 22.8   4   141.   95   3.92  3.15  22.9     1     0     4     2  
10 19.2   6   168.   123  3.92  3.44  18.3     1     0     4     4  
# i 22 more rows
```

The inverse of `as_tibble()` is `as.data.frame()`; it converts a tibble back into a regular `data.frame`.

209.3 Non-syntactic names

It's possible for a tibble to have column names that are not valid R variable names, names that are **non-syntactic**.

For example, the variables might not start with a letter or they might contain unusual characters like a space.

To refer to these variables, you need to surround them with backticks, `:

```
tb <- tibble(  
  `:`)` = "smile",  
  ` ` = "space",  
  `2000` = "number"  
)  
tb  
  
# A tibble: 1 x 3  
  `:`)` `` `` `2000`  
  <chr> <chr> <chr>  
1 smile space number
```

You'll also need the backticks when working with these variables in other packages, like ggplot2, dplyr, and tidyverse.

210 Tibbles vs. `data.frame`

There are two main differences in the usage of a tibble vs. a classic `data frame`:

- **printing** and **subsetting**.

If these difference cause problems when working with older packages, you can turn a tibble back to a regular data frame with `as.data.frame()`.

210.1 Printing

The print method:

- Only the first 10 rows
- All the columns that fit on screen.

This makes it much easier to work with large data.

```
tibble(  
  a = lubridate::now() + runif(1e3) * 86400,  
  b = lubridate::today() + runif(1e3) * 30,  
  c = 1:1e3,  
  d = runif(1e3),  
  e = sample(letters, 1e3, replace = TRUE)  
)  
  
# A tibble: 1,000 x 5  
   a              b            c      d    e  
   <dttm>        <date>     <int> <dbl> <chr>  
 1 2023-06-17 09:46:57 2023-07-07     1  0.640 j  
 2 2023-06-17 03:56:09 2023-06-16     2  0.928 s  
 3 2023-06-17 12:34:14 2023-07-06     3  0.233 a  
 4 2023-06-16 20:22:32 2023-06-28     4  0.509 r  
 5 2023-06-17 05:32:45 2023-06-29     5  0.241 z  
 6 2023-06-17 14:10:02 2023-07-09     6  0.532 k
```

```

7 2023-06-17 13:17:45 2023-06-21      7 0.595 w
8 2023-06-17 04:06:29 2023-07-01      8 0.232 b
9 2023-06-17 00:46:11 2023-06-23      9 0.612 k
10 2023-06-16 20:36:13 2023-07-05     10 0.140 w
# i 990 more rows

```

Where possible, **tibbles also use color** to draw your eye to important differences.

One of the most important distinctions is between the string "NA" and the missing value, NA:

```

tibble(x = c("NA", NA))

# A tibble: 2 x 1
  x
  <chr>
1 NA
2 <NA>

```

Tibbles are designed to avoid overwhelming your console when you print large data frames.

But **sometimes you need more output** than the default display.

There are a few options that can help.

First, you can explicitly `print()` the data frame and control the number of rows (`n`) and the `width` of the display. `width = Inf` will display all columns:

```

library(nycflights13)
flights %>%
  print(n = 10, width = Inf)

# A tibble: 336,776 x 19
   year month   day dep_time sched_dep_time dep_delay arr_time sched_arr_time
   <int> <int> <int>    <int>        <int>    <dbl>    <int>        <int>
1  2013     1     1      517          515      2.00     830        819
2  2013     1     1      533          529      4.00     850        830
3  2013     1     1      542          540      2.00     923        850
4  2013     1     1      544          545     -1.00    1004       1022
5  2013     1     1      554          600     -6.00     812        837
6  2013     1     1      554          558     -4.00     740        728
7  2013     1     1      555          600     -5.00     913        854
8  2013     1     1      557          600     -3.00     709        723

```

```

9 2013     1     1      557          600       -3      838        846
10 2013     1     1      558          600       -2      753        745
  arr_delay carrier flight tailnum origin dest   air_time distance hour minute
  <dbl> <chr>    <int> <chr>   <chr>  <chr>    <dbl>    <dbl> <dbl> <dbl>
1     11 UA      1545 N14228  EWR    IAH     227    1400     5    15
2     20 UA      1714 N24211  LGA    IAH     227    1416     5    29
3     33 AA      1141 N619AA  JFK    MIA     160    1089     5    40
4     -18 B6      725  N804JB  JFK    BQN     183    1576     5    45
5     -25 DL      461  N668DN  LGA    ATL     116    762      6    0
6     12 UA      1696 N39463  EWR    ORD     150    719      5    58
7     19 B6      507  N516JB  EWR    FLL     158    1065     6    0
8     -14 EV      5708 N829AS  LGA    IAD     53     229     6    0
9     -8 B6       79  N593JB  JFK    MCO     140    944     6    0
10    8 AA       301 N3ALAA  LGA    ORD     138    733     6    0
  time_hour
  <dttm>
1 2013-01-01 05:00:00
2 2013-01-01 05:00:00
3 2013-01-01 05:00:00
4 2013-01-01 05:00:00
5 2013-01-01 06:00:00
6 2013-01-01 05:00:00
7 2013-01-01 06:00:00
8 2013-01-01 06:00:00
9 2013-01-01 06:00:00
10 2013-01-01 06:00:00
# i 336,766 more rows

```

You can also **control the default print behavior** by setting options:

- `options(tibble.print_max = n, tibble.print_min = m)`: if more than `n` rows, print only `m` rows.
- Use `options(tibble.print_min = Inf)` to always show all rows.
- Use `options(tibble.width = Inf)` to always print all columns, regardless of the width of the screen.

You can see a complete list of options by looking at the package help with `package?tibble`.

210.2 Using `View()`

A final option is to use RStudio's built-in data viewer to get a scrollable view of the complete dataset. This is also often useful at the end of a long chain of manipulations.

```
flights %>%  
  View()
```

210.3 Extracting variables

So far all the tools you've learned have worked with complete data frames.

If you want to pull out a single variable, you can use `dplyr::pull()`:

```
tb <- tibble(  
  id = LETTERS[1:5],  
  x1 = 1:5,  
  y1 = 6:10  
)
```

```
tb %>%  
  pull(x1) # by name
```

```
[1] 1 2 3 4 5
```

```
tb %>%  
  pull(1) # by position
```

```
[1] "A" "B" "C" "D" "E"
```

`pull()` also takes an optional `name` argument that specifies the column to be used as names for a named vector, which you'll learn about in [?@sec-vectors](#).

```
tb %>%  
  pull(x1, name = id)
```

```
A B C D E  
1 2 3 4 5
```

You can also use the base R tools `$` and `[[.`. `[[` can extract by name or position; `$` only extracts by name but is a little less typing.

Extract by name:

```
tb$x1
```

```
[1] 1 2 3 4 5
```

```
tb[["x1"]]
```

```
[1] 1 2 3 4 5
```

Extract by position:

```
tb[[1]]
```

```
[1] "A" "B" "C" "D" "E"
```

Compared to a `data frame`, **tibbles are more strict**: they never do partial matching, and they will generate a warning if the column you are trying to access does not exist.

```
# Tibbles complain a lot:  
tb$x
```

```
Warning: Unknown or uninitialized column: `x`.
```

```
NULL
```

```
tb$z
```

```
Warning: Unknown or uninitialized column: `z`.
```

```
NULL
```

```
# Data frame use partial matching and don't complain if a column doesn't exist  
df <- as.data.frame(tb)  
df$x
```

```
[1] 1 2 3 4 5
```

```
df$z
```

NULL

For this reason we sometimes joke that **tibbles are lazy and surly**: they do less and complain more.

210.4 Subsetting

Lastly, there are some important differences when using [.

With **data.frames**, [sometimes returns a **data.frame**, and sometimes returns a vector.

- This is a common source of bugs.

With **tibbles**, [**always returns another tibble**.

- This can sometimes cause problems when working with older code.
- If you hit one of those functions, just use **as.data.frame()** to turn your tibble back to a **data.frame**.

211 The dplyr package

Based on [Peng 2022](#)

The `dplyr` package was developed by Hadley Wickham of RStudio and is an optimized and distilled version of his `plyr` package.

`plyr` is an attempt to organize much of the functionality of the `*apply` family of methods in R. Some of these methods are superseded by `dplyr` and `plyr`, but [they remain useful](#).

The `dplyr` package does not provide any “new” functionality to R per se, in the sense that everything `dplyr` does could already be done with base R, but it *greatly* simplifies existing functionality in R.

One important contribution of the `dplyr` package is that it provides a “grammar” (in particular, verbs) for data manipulation and for operating on data frames. With this grammar, you can sensibly communicate what it is that you are doing to a data frame that other people can understand (assuming they also know the grammar). This is useful because it provides an abstraction for data manipulation that previously did not exist. Another useful contribution is that the `dplyr` functions are **very** fast, as many key operations are coded in C++.

211.1 dplyr Grammar

Some of the key “verbs” provided by the `dplyr` package are

- `select`: return a subset of the columns of a data frame, using a flexible notation
- `filter`: extract a subset of rows from a data frame based on logical conditions
- `arrange`: reorder rows of a data frame
- `rename`: rename variables in a data frame
- `mutate`: add new variables/columns or transform existing variables
- `summarise / summarize`: generate summary statistics of different variables in the data frame, possibly within strata
- `%>%`: the “pipe” operator is used to connect multiple verb actions together into a pipeline

The `dplyr` package has a number of its own data types that it takes advantage of. For example, there is a handy `print` method that prevents you from printing a lot of data to the console. Most of the time, these additional data types are transparent to the user and do not need to be worried about.

211.2 Common `dplyr` Function Properties

All of the functions that we will discuss in this Chapter will have a few common characteristics. In particular,

1. The first argument is a data frame.
2. The subsequent arguments describe what to do with the data frame specified in the first argument, and you can refer to columns in the data frame directly without using the `$` operator (just use the column names).
3. The return result of a function is a new data frame.
4. Data frames must be properly formatted and annotated for this to all be useful. In particular, the data must be `tidy`. In short, there should be one observation per row, and each column should represent a feature or characteristic of that observation.

211.3 Installing the `dplyr` package

The `dplyr` package can be installed from CRAN or from GitHub using the `devtools` package and the `install_github()` function. The GitHub repository will usually contain the latest updates to the package and the development version.

To install from CRAN, just run

```
install.packages("dplyr")
```

To install from GitHub you can run

```
install_github("hadley/dplyr")
```

After installing the package it is important that you load it into your R session with the `library()` function.

```
library(dplyr)
```

```
Attaching package: 'dplyr'

The following objects are masked from 'package:stats':

filter, lag

The following objects are masked from 'package:base':

intersect, setdiff, setequal, union
```

You may get some warnings when the package is loaded because there are functions in the `dplyr` package that have the same name as functions in other packages. For now you can ignore the warnings.

211.4 Getting a dataset

Let's use a dataset containing air pollution and temperature data for the [city of Chicago](#) in the U.S.

You will find the data in the directory for this module.

Load the data into R using the `readRDS()` function.

```
chicago <- readRDS("chicago.rds")
```

You can see some basic characteristics of the dataset with the `dim()` and `str()` functions.

```
dim(chicago)
```

```
[1] 6940     8
```

```
str(chicago)
```

```
'data.frame': 6940 obs. of 8 variables:
 $ city      : chr "chic" "chic" "chic" "chic" ...
 $ tmpd      : num 31.5 33 33 29 32 40 34.5 29 26.5 32.5 ...
 $ dptp      : num 31.5 29.9 27.4 28.6 28.9 ...
 $ date      : Date, format: "1987-01-01" "1987-01-02" ...
```

```

$ pm25tmean2: num  NA ...
$ pm10tmean2: num  34 NA 34.2 47 NA ...
$ o3tmean2  : num  4.25 3.3 3.33 4.38 4.75 ...
$ no2tmean2 : num  20 23.2 23.8 30.4 30.3 ...

```

chicago

	city	tmpd	dptp	date	pm25tmean2	pm10tmean2	o3tmean2	no2tmean2
1	chic	31.5	31.50000	1987-01-01	NA	34.000000	4.2500000	19.988095
2	chic	33.0	29.87500	1987-01-02	NA	NA	3.3043478	23.190994
3	chic	33.0	27.37500	1987-01-03	NA	34.166667	3.3333333	23.815476
4	chic	29.0	28.62500	1987-01-04	NA	47.000000	4.3750000	30.434524
5	chic	32.0	28.87500	1987-01-05	NA	NA	4.7500000	30.333333
6	chic	40.0	35.12500	1987-01-06	NA	48.000000	5.8333333	25.772331
7	chic	34.5	26.75000	1987-01-07	NA	41.000000	9.2916667	20.581710
8	chic	29.0	22.00000	1987-01-08	NA	36.000000	11.2916667	17.037231
9	chic	26.5	29.00000	1987-01-09	NA	33.285714	4.5000000	23.388889
10	chic	32.5	27.75000	1987-01-10	NA	NA	4.9583333	19.541667
11	chic	29.5	20.12500	1987-01-11	NA	22.000000	17.5416667	13.701389
12	chic	34.5	26.00000	1987-01-12	NA	26.000000	8.0000000	33.020833
13	chic	34.0	32.25000	1987-01-13	NA	53.000000	4.9583333	38.061418
14	chic	37.5	36.37500	1987-01-14	NA	43.000000	4.2083333	32.194444
15	chic	32.5	24.25000	1987-01-15	NA	28.833333	4.4583333	18.871310
16	chic	25.0	21.50000	1987-01-16	NA	19.000000	7.9166667	19.466667
17	chic	27.0	24.75000	1987-01-17	NA	NA	5.8333333	20.708333
18	chic	17.5	11.12500	1987-01-18	NA	39.000000	6.3750000	21.033333
19	chic	23.0	15.75000	1987-01-19	NA	32.000000	14.8750000	17.174094
20	chic	20.5	11.50000	1987-01-20	NA	38.000000	7.2500000	21.610211
21	chic	22.0	20.62500	1987-01-21	NA	32.857143	8.9130435	24.520833
22	chic	19.5	7.37500	1987-01-22	NA	52.000000	10.5000000	16.987978
23	chic	2.5	-12.25000	1987-01-23	NA	55.000000	14.6250000	14.662500
24	chic	2.0	-5.62500	1987-01-24	NA	38.000000	10.0833333	18.691667
25	chic	9.5	-5.25000	1987-01-25	NA	NA	6.6666667	26.304167
26	chic	16.0	4.75000	1987-01-26	NA	71.000000	4.5833333	32.421429
27	chic	17.5	17.75000	1987-01-27	NA	39.333333	6.0000000	30.693056
28	chic	29.5	18.25000	1987-01-28	NA	47.000000	6.8750000	29.129428
29	chic	29.5	32.87500	1987-01-29	NA	35.000000	2.9166667	28.145290
30	chic	32.5	24.12500	1987-01-30	NA	59.000000	8.7916667	19.798611
31	chic	27.5	26.50000	1987-01-31	NA	36.000000	10.3750000	25.267361
32	chic	41.0	32.25000	1987-02-01	NA	NA	8.0416667	21.701389
33	chic	36.5	34.00000	1987-02-02	NA	41.166667	6.0416667	30.784722

34	chic	34.0	26.25000	1987-02-03		NA	59.000000	8.0416667	20.146149
35	chic	31.5	24.25000	1987-02-04		NA	37.000000	10.5000000	29.999275
36	chic	29.5	27.25000	1987-02-05		NA	70.000000	5.7291667	38.909091
37	chic	37.0	30.37500	1987-02-06		NA	63.000000	6.4148551	27.994709
38	chic	40.5	35.75000	1987-02-07		NA	44.000000	5.7500000	25.090278
39	chic	32.5	3.50000	1987-02-08		NA	18.250000	24.9375000	10.646825
40	chic	24.5	17.37500	1987-02-09		NA	42.000000	9.2083333	25.579861
41	chic	35.0	27.37500	1987-02-10		NA	36.000000	8.3125000	31.327459
42	chic	39.5	29.37500	1987-02-11		NA	83.000000	8.1215415	42.001125
43	chic	34.0	24.75000	1987-02-12		NA	84.000000	7.6875000	34.993056
44	chic	34.5	30.87500	1987-02-13		NA	39.000000	10.3695652	33.430857
45	chic	31.5	22.00000	1987-02-14		NA	24.857143	11.1666667	21.243056
46	chic	23.5	10.12500	1987-02-15		NA	12.000000	28.1041667	10.490972
47	chic	24.0	18.12500	1987-02-16		NA	14.000000	24.1875000	15.854167
48	chic	31.5	20.25000	1987-02-17		NA	23.000000	24.9375000	19.180556
49	chic	31.5	20.00000	1987-02-18		NA	27.000000	24.1702899	29.860119
50	chic	34.0	19.62500	1987-02-19		NA	49.000000	15.5018116	44.480676
51	chic	32.5	17.00000	1987-02-20		NA	69.857143	8.5000000	51.253247
52	chic	38.0	24.50000	1987-02-21		NA	59.000000	4.5833333	41.381944
53	chic	35.5	25.12500	1987-02-22		NA	46.000000	10.8333333	21.861111
54	chic	35.5	24.75000	1987-02-23		NA	47.000000	13.0416667	32.562500
55	chic	31.5	25.25000	1987-02-24		NA	48.000000	13.2291667	36.477437
56	chic	34.5	21.87500	1987-02-25		NA	48.000000	17.1250000	38.137716
57	chic	36.0	18.50000	1987-02-26		NA	29.000000	16.0000000	32.854167
58	chic	39.5	28.25000	1987-02-27		NA	56.000000	14.2083333	33.691964
59	chic	40.0	38.37500	1987-02-28		NA	31.000000	6.8750000	23.458333
60	chic	39.0	28.37500	1987-03-01		NA	15.000000	15.6208333	18.614583
61	chic	41.0	27.87500	1987-03-02		NA	36.000000	20.8125000	21.631944
62	chic	36.5	14.87500	1987-03-03		NA	32.000000	19.7500000	28.578208
63	chic	38.0	26.75000	1987-03-04		NA	39.428571	5.5000000	38.409722
64	chic	44.0	34.37500	1987-03-05		NA	30.000000	13.5833333	29.388889
65	chic	48.5	39.50000	1987-03-06		NA	76.000000	9.0760870	47.169988
66	chic	59.5	36.87500	1987-03-07		NA	49.000000	25.4166667	41.743056
67	chic	54.5	33.62500	1987-03-08		NA	61.000000	31.1666667	39.045139
68	chic	31.0	14.00000	1987-03-09		NA	25.000000	29.8333333	12.469381
69	chic	25.5	13.62500	1987-03-10		NA	19.571429	28.3750000	19.747163
70	chic	28.5	17.00000	1987-03-11		NA	38.000000	19.7708333	29.906099
71	chic	33.5	22.37500	1987-03-12		NA	72.000000	20.4375000	41.127525
72	chic	34.0	33.12500	1987-03-13		NA	47.000000	22.4791667	31.555556
73	chic	37.0	33.00000	1987-03-14		NA	49.000000	17.7291667	27.652778
74	chic	35.0	24.50000	1987-03-15		NA		36.8958333	18.034722
75	chic	37.5	17.87500	1987-03-16		NA	27.000000	36.3722826	22.423611
76	chic	38.5	19.37500	1987-03-17		NA	55.000000	27.8125000	25.986111

77	chic	39.5	30.25000	1987-03-18		NA	63.000000	18.6666667	32.207799
78	chic	41.5	26.12500	1987-03-19		NA	32.000000	31.6755952	33.296014
79	chic	43.0	16.62500	1987-03-20		NA	28.000000	36.6250000	45.958333
80	chic	43.5	22.50000	1987-03-21		NA	40.000000	38.2083333	43.903080
81	chic	48.0	32.37500	1987-03-22		NA	37.857143	37.6666667	36.239583
82	chic	53.5	35.25000	1987-03-23		NA	70.000000	31.4541667	33.738647
83	chic	57.5	46.12500	1987-03-24		NA	58.000000	25.6250000	30.555556
84	chic	45.0	40.12500	1987-03-25		NA	14.000000	14.8750000	23.204545
85	chic	45.0	40.25000	1987-03-26		NA	43.000000	15.1174242	23.493687
86	chic	43.0	38.50000	1987-03-27		NA	47.000000	16.4375000	32.315025
87	chic	46.0	35.00000	1987-03-28		NA	34.500000	20.1041667	31.180556
88	chic	39.5	30.12500	1987-03-29		NA	37.000000	20.9722222	22.340278
89	chic	29.0	12.87500	1987-03-30		NA	27.000000	30.4375000	19.655676
90	chic	30.0	19.00000	1987-03-31		NA	43.000000	24.0448718	24.611111
91	chic	41.5	22.87500	1987-04-01		NA	36.000000	21.4531250	19.298611
92	chic	29.5	14.62500	1987-04-02		NA	44.000000	22.5663496	22.036534
93	chic	28.0	17.37500	1987-04-03		NA	22.428571	16.8697917	35.481433
94	chic	35.5	17.12500	1987-04-04		NA	26.000000	28.3906250	21.281250
95	chic	43.5	33.00000	1987-04-05		NA	18.000000	36.0312500	12.190972
96	chic	50.0	21.25000	1987-04-06		NA	19.000000	31.8020833	19.855745
97	chic	49.5	30.87500	1987-04-07		NA	28.000000	25.4947917	28.246212
98	chic	40.0	31.37500	1987-04-08		NA	19.000000	21.0104167	28.991244
99	chic	50.0	28.50000	1987-04-09		NA	78.285714	15.4010417	57.525423
100	chic	59.5	44.87500	1987-04-10		NA	69.000000	21.8593750	39.354167
101	chic	51.0	45.62500	1987-04-11		NA	24.000000	28.9739583	23.145833
102	chic	49.5	43.12500	1987-04-12		NA	37.000000	25.6785714	26.020833
103	chic	48.0	47.25000	1987-04-13		NA	47.000000	17.7678571	37.932449
104	chic	52.5	51.50000	1987-04-14		NA	33.000000	13.2440476	35.722222
105	chic	51.5	50.12500	1987-04-15		NA	30.000000	17.1428571	32.020065
106	chic	54.0	49.25000	1987-04-16		NA	28.000000	22.1071429	30.750000
107	chic	57.5	47.00000	1987-04-17		NA	43.000000	19.3095238	44.208333
108	chic	61.5	49.87500	1987-04-18		NA	106.000000	31.5297619	55.416667
109	chic	64.0	53.00000	1987-04-19		NA		NA	32.8392857
110	chic	71.0	55.75000	1987-04-20		NA	55.000000	41.3906250	40.534722
111	chic	56.0	39.00000	1987-04-21		NA	36.200000	20.4687500	19.177838
112	chic	47.0	45.62500	1987-04-22		NA	28.000000	9.0781250	23.234217
113	chic	52.0	43.75000	1987-04-23		NA	26.000000	10.0946558	23.493056
114	chic	49.0	30.75000	1987-04-24		NA	16.000000	27.5729167	20.661156
115	chic	51.0	32.50000	1987-04-25		NA	30.000000	28.0625000	27.766667
116	chic	57.0	33.87500	1987-04-26		NA	58.000000	33.1458333	33.458333
117	chic	56.5	31.62500	1987-04-27		NA	37.333333	35.9276042	27.052083
118	chic	53.5	28.62500	1987-04-28		NA	72.000000	22.6458333	32.036534
119	chic	64.5	34.62500	1987-04-29		NA	61.000000	34.8522727	24.106061

120	chic	46.0	16.62500	1987-04-30		NA	19.000000	35.4895833	18.320572
121	chic	53.5	39.00000	1987-05-01		NA	66.000000	19.5615942	45.944444
122	chic	53.0	47.37500	1987-05-02		NA	30.000000	24.1845238	31.508333
123	chic	45.0	35.00000	1987-05-03		NA	20.285714	27.2023810	22.116667
124	chic	48.0	29.37500	1987-05-04		NA	26.000000	31.2243590	23.026175
125	chic	50.5	32.62500	1987-05-05		NA	60.000000	23.4375000	39.609217
126	chic	58.0	40.12500	1987-05-06		NA	NA	32.3705739	51.285354
127	chic	59.5	40.87500	1987-05-07		NA	41.000000	30.1893116	29.518281
128	chic	59.0	33.37500	1987-05-08		NA	54.000000	16.8048246	38.774123
129	chic	69.5	43.75000	1987-05-09		NA	56.166667	42.7968750	22.152778
130	chic	74.5	51.50000	1987-05-10		NA	NA	43.0125000	20.173611
131	chic	71.0	58.00000	1987-05-11		NA	81.000000	44.9862745	24.222222
132	chic	51.5	32.75000	1987-05-12		NA	12.000000	25.3385417	18.017677
133	chic	59.0	53.00000	1987-05-13		NA	20.000000	26.5591033	35.523359
134	chic	69.0	53.37500	1987-05-14		NA	NA	38.8489583	29.545139
135	chic	56.5	33.87500	1987-05-15		NA	21.571429	24.0208333	19.023359
136	chic	62.5	42.62500	1987-05-16		NA	47.000000	31.6755359	28.177234
137	chic	70.5	63.62500	1987-05-17		NA	63.000000	50.4481431	22.879529
138	chic	66.5	57.62500	1987-05-18		NA	NA	24.8336730	27.201389
139	chic	67.5	61.12500	1987-05-19		NA	42.000000	26.0721726	28.051772
140	chic	66.5	59.75000	1987-05-20		NA	47.000000	15.2747283	21.791982
141	chic	74.0	66.75000	1987-05-21		NA	46.166667	33.2518116	26.697917
142	chic	61.5	49.75000	1987-05-22		NA	NA	12.3206522	12.742150
143	chic	51.0	45.62500	1987-05-23		NA	13.000000	10.5781250	11.714015
144	chic	50.5	45.12500	1987-05-24		NA	NA	18.9843750	11.673611
145	chic	57.5	62.87500	1987-05-25		NA	50.000000	13.0089286	19.256944
146	chic	73.0	67.62500	1987-05-26		NA	28.000000	29.8712121	26.819444
147	chic	78.5	67.37500	1987-05-27		NA	40.600000	30.5468750	25.158103
148	chic	78.5	65.75000	1987-05-28		NA	49.000000	28.9122283	32.130435
149	chic	78.5	67.12500	1987-05-29		NA	50.000000	26.1302083	36.056169
150	chic	76.0	65.62500	1987-05-30		NA	35.000000	21.8593750	33.566667
151	chic	76.0	60.12500	1987-05-31		NA	32.000000	31.4434524	22.208333
152	chic	74.5	68.50000	1987-06-01		NA	30.000000	34.1875000	28.341667
153	chic	72.0	64.75000	1987-06-02		NA	33.666667	18.3385417	37.350000
154	chic	69.0	47.25000	1987-06-03		NA	42.000000	23.3133605	21.743056
155	chic	63.0	45.00000	1987-06-04		NA	45.000000	20.4272274	25.611111
156	chic	70.0	54.87500	1987-06-05		NA	61.000000	33.1927083	35.627525
157	chic	71.0	54.62500	1987-06-06		NA	57.000000	43.7447917	34.167929
158	chic	77.5	58.12500	1987-06-07		NA	46.000000	50.7916667	15.739583
159	chic	74.5	60.25000	1987-06-08		NA	51.500000	49.2121830	23.107639
160	chic	57.5	41.12500	1987-06-09		NA	15.000000	29.6111866	15.299306
161	chic	61.0	51.00000	1987-06-10		NA	50.000000	28.7330163	29.298611
162	chic	72.5	68.75000	1987-06-11		NA	46.000000	27.7461174	32.455177

163	chic	80.0	62.00000	1987-06-12		NA	41.000000	29.2907691	24.245896	
164	chic	77.0	62.00000	1987-06-13		NA	73.000000	39.6510417	35.425000	
165	chic	83.0	68.50000	1987-06-14		NA	43.666667	45.4218750	25.995833	
166	chic	73.5	48.50000	1987-06-15		NA	28.000000	33.7540761	22.205918	
167	chic	75.0	52.87500	1987-06-16		NA	46.000000	33.2013889	30.632639	
168	chic	77.0	61.00000	1987-06-17		NA	71.000000	54.9618918	47.925423	
169	chic	80.5	62.75000	1987-06-18		NA	90.000000	62.9696558	43.816667	
170	chic	77.5	61.37500	1987-06-19		NA	80.000000	47.2689145	51.175000	
171	chic	77.0	73.62500	1987-06-20		NA	59.833333	45.6979167	32.875000	
172	chic	76.0	71.12500	1987-06-21		NA	42.000000	32.7782738	20.381944	
173	chic	67.0	59.00000	1987-06-22		NA	52.000000	25.0539349	25.232435	
174	chic	72.5	57.75000	1987-06-23		NA	49.000000	32.2184524	39.979167	
175	chic	76.0	65.75000	1987-06-24		NA	63.000000	49.0802083	42.871222	
176	chic	70.5	62.00000	1987-06-25		NA	53.000000	33.8786580	29.284906	
177	chic	69.0	50.75000	1987-06-26		NA	31.800000	20.4687500	20.697917	
178	chic	64.5	48.25000	1987-06-27		NA	36.000000	21.6197917	15.802083	
179	chic	72.0	53.62500	1987-06-28		NA	34.000000	31.9637681	15.935326	
180	chic	72.5	66.00000	1987-06-29		NA	43.000000	27.7812500	24.575000	
181	chic	70.5	63.00000	1987-06-30		NA	43.000000	18.4687500	28.152778	
182	chic	68.5	60.62500	1987-07-01		NA	22.000000	32.2968750	20.018579	
183	chic	71.0	60.25000	1987-07-02		NA	45.500000	36.2670455	27.246112	
184	chic	77.5	60.37500	1987-07-03		NA	48.000000	42.9166667	18.784722	
185	chic	72.5	59.50000	1987-07-04		NA	24.000000	31.8958333	13.871528	
186	chic	72.5	69.12500	1987-07-05		NA		NA	22.6302083	16.260417
187	chic	80.0	69.00000	1987-07-06		NA	33.000000	31.1118421	22.660221	
188	chic	80.0	69.12500	1987-07-07		NA		NA	34.3426178	23.083333
189	chic	80.5	69.25000	1987-07-08		NA	38.000000	30.8516757	23.014795	
190	chic	80.5	67.62500	1987-07-09		NA	31.000000	24.9479167	20.157828	
191	chic	80.0	67.62500	1987-07-10		NA	33.000000	23.3802083	21.625000	
192	chic	80.0	73.50000	1987-07-11		NA	79.000000	29.1250000	16.548611	
193	chic	79.5	65.50000	1987-07-12		NA	47.000000	29.6406250	13.017361	
194	chic	64.5	58.75000	1987-07-13		NA	33.000000	9.6912202	18.666667	
195	chic	67.0	53.00000	1987-07-14		NA	21.400000	21.8638393	20.562500	
196	chic	63.0	54.37500	1987-07-15		NA	17.000000	23.1822917	20.879104	
197	chic	65.5	58.62500	1987-07-16		NA	28.000000	31.5208333	19.961422	
198	chic	78.0	67.00000	1987-07-17		NA	39.000000	42.8727679	25.000992	
199	chic	79.5	68.37500	1987-07-18		NA	51.000000	47.7916667	19.190972	
200	chic	84.5	73.62500	1987-07-19		NA	72.000000	47.0520833	13.371528	
201	chic	81.5	67.62500	1987-07-20		NA	65.428571	40.4989583	18.458333	
202	chic	81.0	71.25000	1987-07-21		NA	58.000000	58.1679121	36.628011	
203	chic	80.5	69.62500	1987-07-22		NA	98.000000	45.2827381	36.354167	
204	chic	82.0	70.00000	1987-07-23		NA	117.000000	59.1562500	25.981061	
205	chic	83.0	71.25000	1987-07-24		NA	79.000000	35.6902174	23.213225	

206	chic	84.5	71.12500	1987-07-25		NA	53.000000	43.8154762	22.654167
207	chic	78.5	66.25000	1987-07-26		NA	29.500000	27.7738095	20.004167
208	chic	71.0	62.62500	1987-07-27		NA	32.000000	15.7738095	30.754167
209	chic	72.5	63.25000	1987-07-28		NA	37.000000	20.2678571	29.615909
210	chic	78.0	70.25000	1987-07-29		NA	25.000000	25.0290116	33.510714
211	chic	79.5	72.37500	1987-07-30		NA	75.000000	50.3690476	27.391667
212	chic	80.5	75.75000	1987-07-31		NA	48.000000	38.4171843	28.429499
213	chic	87.0	75.25000	1987-08-01		NA	57.571429	40.2321429	21.694444
214	chic	86.0	73.87500	1987-08-02		NA	46.000000	46.6547619	15.486111
215	chic	83.0	68.62500	1987-08-03		NA	54.000000	30.9745671	29.805556
216	chic	75.0	60.62500	1987-08-04		NA	21.000000	20.5492788	14.288194
217	chic	72.0	55.75000	1987-08-05		NA	15.000000	20.2916667	12.784722
218	chic	72.0	62.12500	1987-08-06		NA	50.000000	29.5766446	32.699206
219	chic	79.5	67.37500	1987-08-07		NA	51.285714	45.3229167	27.652778
220	chic	73.5	73.62500	1987-08-08		NA	56.000000	23.0312500	24.600694
221	chic	72.5	64.12500	1987-08-09		NA	29.000000	26.7552083	10.305556
222	chic	71.0	63.12500	1987-08-10		NA	24.000000	29.4107143	20.023810
223	chic	74.5	61.87500	1987-08-11		NA	41.000000	33.8437500	25.666667
224	chic	76.0	63.62500	1987-08-12		NA	80.000000	37.0885417	33.645833
225	chic	75.5	69.50000	1987-08-13		NA	63.400000	36.1979167	36.482186
226	chic	74.0	74.62500	1987-08-14		NA	49.500000	24.2328431	18.595734
227	chic	79.5	75.87500	1987-08-15		NA	41.000000	33.3750000	13.159269
228	chic	80.0	73.87500	1987-08-16		NA	44.500000	32.2729592	9.338294
229	chic	73.5	60.25000	1987-08-17		NA	39.000000	26.6763393	14.927083
230	chic	69.5	64.25000	1987-08-18		NA	48.000000	14.0587798	31.393720
231	chic	70.0	56.75000	1987-08-19		NA	31.666667	18.3888889	23.345644
232	chic	70.0	62.62500	1987-08-20		NA	49.000000	30.5187500	26.729167
233	chic	76.0	72.50000	1987-08-21		NA	43.000000	37.9427083	20.905934
234	chic	71.5	54.62500	1987-08-22		NA	32.000000	23.8645833	12.909722
235	chic	63.0	49.00000	1987-08-23		NA	24.000000	17.7278080	14.427778
236	chic	61.5	51.37500	1987-08-24		NA	43.000000	12.5949836	21.585417
237	chic	59.0	58.00000	1987-08-25		NA	36.000000	6.6656250	30.631944
238	chic	62.0	63.25000	1987-08-26		NA	50.000000	8.2075216	22.983333
239	chic	63.5	61.37500	1987-08-27		NA	20.000000	13.7187500	19.690025
240	chic	63.5	54.62500	1987-08-28		NA	32.000000	21.9427083	22.045833
241	chic	65.5	57.00000	1987-08-29		NA		18.1562500	26.399306
242	chic	72.0	59.62500	1987-08-30		NA	35.000000	22.6227355	16.859409
243	chic	62.0	46.50000	1987-08-31		NA	25.000000	15.9218750	18.118293
244	chic	64.0	49.50000	1987-09-01		NA	38.500000	17.9322917	22.520833
245	chic	61.5	50.12500	1987-09-02		NA	17.000000	21.1614583	15.746528
246	chic	60.5	49.25000	1987-09-03		NA	24.000000	20.3020833	22.481065
247	chic	69.0	59.12500	1987-09-04		NA		31.3385417	37.317235
248	chic	73.0	57.37500	1987-09-05		NA		NA	46.0572917

249	chic	75.0	66.25000	1987-09-06		NA	60.666667	38.1979167	32.510417
250	chic	70.5	65.62500	1987-09-07		NA		NA 22.7869112	21.312500
251	chic	72.0	63.50000	1987-09-08		NA		NA 25.4010417	31.868056
252	chic	68.5	56.12500	1987-09-09		NA		NA 18.8333333	22.885417
253	chic	67.5	57.75000	1987-09-10		NA		NA 26.5052083	27.686896
254	chic	69.0	57.00000	1987-09-11		NA		NA 22.4402174	31.030797
255	chic	68.0	50.37500	1987-09-12		NA	33.500000	15.8125000	23.503472
256	chic	59.0	53.25000	1987-09-13		NA		NA 12.3593750	21.166667
257	chic	61.5	58.00000	1987-09-14		NA		NA 18.8958333	27.961806
258	chic	72.0	66.00000	1987-09-15		NA		NA 15.4347826	28.386171
259	chic	69.0	66.87500	1987-09-16		NA	33.000000	10.2047101	25.618056
260	chic	67.5	64.25000	1987-09-17		NA	30.000000	13.5238095	18.876263
261	chic	63.5	60.37500	1987-09-18		NA	25.250000	6.8928571	17.644886
262	chic	61.0	50.25000	1987-09-19		NA		NA 12.6428571	16.395833
263	chic	57.0	50.87500	1987-09-20		NA		NA 7.4047619	11.820833
264	chic	55.5	54.75000	1987-09-21		NA	29.000000	4.9523810	16.641667
265	chic	61.0	52.50000	1987-09-22		NA		NA 7.2639752	15.906813
266	chic	63.0	51.00000	1987-09-23		NA	38.000000	13.1369048	20.427083
267	chic	59.5	46.25000	1987-09-24		NA	23.000000	16.1309524	16.267361
268	chic	56.5	43.00000	1987-09-25		NA	55.000000	14.0178571	30.210145
269	chic	65.0	53.37500	1987-09-26		NA	42.000000	22.4940476	35.895833
270	chic	75.5	54.00000	1987-09-27		NA	49.000000	27.5476190	30.091667
271	chic	69.0	61.12500	1987-09-28		NA	57.000000	30.0178571	33.758333
272	chic	61.5	52.37500	1987-09-29		NA	34.000000	12.7321429	16.118452
273	chic	55.0	35.62500	1987-09-30		NA	26.800000	10.9097222	18.558333
274	chic	55.5	46.37500	1987-10-01		NA	44.000000	17.3035714	20.962500
275	chic	47.0	32.25000	1987-10-02		NA	52.000000	15.0282091	9.966848
276	chic	42.5	29.87500	1987-10-03		NA	52.000000	15.3928571	19.545833
277	chic	52.0	30.75000	1987-10-04		NA	50.000000	19.1488095	19.566667
278	chic	60.0	41.25000	1987-10-05		NA	48.000000	14.8130952	18.313333
279	chic	45.5	38.00000	1987-10-06		NA	24.166667	6.9729437	9.258333
280	chic	39.5	26.87500	1987-10-07		NA	36.000000	13.3154762	13.863587
281	chic	41.5	26.87500	1987-10-08		NA	41.000000	10.5181159	27.595833
282	chic	53.5	31.25000	1987-10-09		NA	38.000000	11.5636646	19.609028
283	chic	42.5	32.62500	1987-10-10		NA	28.000000	8.7380952	21.152778
284	chic	39.0	25.50000	1987-10-11		NA	32.000000	14.6333333	23.298611
285	chic	42.5	30.37500	1987-10-12		NA	41.500000	12.4146825	39.048611
286	chic	49.5	33.37500	1987-10-13		NA		NA 15.1156093	40.270652
287	chic	55.5	38.12500	1987-10-14		NA	41.000000	10.7985934	40.230676
288	chic	63.0	36.00000	1987-10-15		NA	52.000000	24.4475932	43.208333
289	chic	62.5	55.12500	1987-10-16		NA	58.000000	28.5654762	35.803571
290	chic	48.0	42.12500	1987-10-17		NA	19.000000	9.2202381	11.263889
291	chic	53.5	43.75000	1987-10-18		NA	26.857143	15.9702381	23.086806

292	chic	49.5	40.25000	1987-10-19		NA	11.000000	18.8690476	22.225694	
293	chic	45.5	32.37500	1987-10-20		NA	24.000000	15.2810990	17.855655	
294	chic	37.0	33.25000	1987-10-21		NA	20.500000	6.4679487	14.982639	
295	chic	43.0	34.25000	1987-10-22		NA	25.000000	6.7532468	23.254227	
296	chic	39.0	31.12500	1987-10-23		NA	50.000000	8.3148810	25.238636	
297	chic	38.5	33.50000	1987-10-24		NA	28.400000	7.5357143	23.812500	
298	chic	42.0	31.12500	1987-10-25		NA		NA	11.1250000	23.892361
299	chic	44.5	45.37500	1987-10-26		NA	33.000000	5.0714286	27.041667	
300	chic	44.5	34.50000	1987-10-27		NA	31.000000	10.1757246	19.588068	
301	chic	38.5	28.87500	1987-10-28		NA	31.000000	5.0713364	24.832054	
302	chic	44.5	37.75000	1987-10-29		NA	48.000000	7.2569444	33.360205	
303	chic	54.5	42.87500	1987-10-30		NA	50.666667	16.9345238	31.461806	
304	chic	52.0	49.37500	1987-10-31		NA	60.000000	12.5714286	22.510417	
305	chic	58.0	58.50000	1987-11-01		NA	30.000000	9.7445652	30.340278	
306	chic	64.0	56.62500	1987-11-02		NA	46.000000	11.5508658	35.236111	
307	chic	66.0	49.87500	1987-11-03		NA		NA	29.4583333	32.503788
308	chic	56.5	38.25000	1987-11-04		NA	47.000000	19.1666667	19.041604	
309	chic	40.5	19.87500	1987-11-05		NA	25.500000	20.1666667	19.131439	
310	chic	39.5	25.75000	1987-11-06		NA	43.000000	9.5000000	27.254167	
311	chic	45.5	29.50000	1987-11-07		NA	46.000000	2.7500000	31.687500	
312	chic	49.5	41.75000	1987-11-08		NA	66.000000	23.2916667	25.416667	
313	chic	35.0	18.50000	1987-11-09		NA	18.000000	25.6666667	24.619792	
314	chic	34.0	24.87500	1987-11-10		NA	12.000000	27.7500000	25.354167	
315	chic	35.0	23.75000	1987-11-11		NA	31.285714	7.9583333	27.569444	
316	chic	43.5	31.12500	1987-11-12		NA	47.000000	7.0000000	31.238678	
317	chic	48.5	31.37500	1987-11-13		NA	55.000000	2.8750000	29.825181	
318	chic	47.0	31.12500	1987-11-14		NA	18.000000	9.8750000	28.666667	
319	chic	50.5	32.00000	1987-11-15		NA	51.000000	19.2500000	36.916667	
320	chic	56.0	56.00000	1987-11-16		NA	34.000000	17.6666667	30.385417	
321	chic	50.0	35.37500	1987-11-17		NA	18.333333	12.7083333	10.677989	
322	chic	38.0	29.25000	1987-11-18		NA		NA	10.3478261	15.733360
323	chic	37.5	26.00000	1987-11-19		NA	29.000000	10.8333333	20.044643	
324	chic	27.5	10.37500	1987-11-20		NA	34.000000	25.0416667	13.951894	
325	chic	25.5	11.50000	1987-11-21		NA	27.000000	11.2916667	23.741667	
326	chic	42.0	28.75000	1987-11-22		NA		NA	11.3333333	18.966667
327	chic	43.5	31.75000	1987-11-23		NA	30.333333	8.7727273	12.654167	
328	chic	39.5	39.37500	1987-11-24		NA	52.000000	8.8333333	14.596491	
329	chic	40.0	36.87500	1987-11-25		NA	10.000000	13.1250000	14.988561	
330	chic	40.0	35.87500	1987-11-26		NA	15.000000	23.5833333	7.866667	
331	chic	40.5	39.50000	1987-11-27		NA		NA	11.0000000	13.041667
332	chic	47.0	45.50000	1987-11-28		NA		NA	4.4583333	17.491667
333	chic	39.0	34.62500	1987-11-29		NA	12.142857	2.1250000	11.645833	
334	chic	37.0	35.50000	1987-11-30		NA		NA	4.1666667	13.620833

335	chic	32.0	24.12500	1987-12-01		NA	28.000000	13.4782609	16.891667
336	chic	30.0	26.37500	1987-12-02		NA	23.000000	9.2500000	15.241667
337	chic	30.5	26.25000	1987-12-03		NA	30.000000	6.6250000	19.433333
338	chic	27.0	19.62500	1987-12-04		NA	35.000000	12.5416667	21.457576
339	chic	27.0	24.62500	1987-12-05		NA	24.666667	13.8750000	24.675000
340	chic	31.5	29.00000	1987-12-06		NA	22.000000	15.2916667	21.966667
341	chic	38.5	36.25000	1987-12-07		NA	25.000000	6.4166667	21.766667
342	chic	46.5	49.50000	1987-12-08		NA	28.000000	2.9583333	22.649638
343	chic	49.5	34.37500	1987-12-09		NA	21.000000	9.0416667	12.475000
344	chic	38.0	31.12500	1987-12-10		NA	32.000000	7.2500000	17.917935
345	chic	41.0	33.62500	1987-12-11		NA	23.000000	2.5833333	23.375000
346	chic	35.0	23.75000	1987-12-12		NA	29.000000	11.0416667	9.204167
347	chic	31.5	23.50000	1987-12-13		NA	34.000000	13.1666667	13.295833
348	chic	30.0	27.50000	1987-12-14		NA	43.000000	13.0000000	24.991667
349	chic	31.0	24.25000	1987-12-15		NA	19.000000	9.0526316	11.124123
350	chic	27.5	16.62500	1987-12-16		NA	36.000000	12.0833333	11.262500
351	chic	20.5	11.75000	1987-12-17		NA	27.200000	8.0869565	23.483333
352	chic	23.0	25.75000	1987-12-18		NA	36.000000	2.8704710	22.741667
353	chic	34.0	35.00000	1987-12-19		NA	21.500000	2.3958333	21.945833
354	chic	34.0	21.25000	1987-12-20		NA	25.000000	9.8125000	15.675000
355	chic	33.0	26.12500	1987-12-21		NA	NA	6.8750000	21.953804
356	chic	35.0	29.12500	1987-12-22		NA	NA	2.7391304	29.456522
357	chic	35.5	31.25000	1987-12-23		NA	36.000000	3.5000000	24.966667
358	chic	41.0	39.75000	1987-12-24		NA	NA	2.3958333	21.675000
359	chic	33.0	25.50000	1987-12-25		NA	16.000000	15.1458333	11.133333
360	chic	27.5	23.75000	1987-12-26		NA	NA	18.6250000	17.391667
361	chic	29.0	28.37500	1987-12-27		NA	45.000000	10.0416667	26.691667
362	chic	33.5	30.75000	1987-12-28		NA	NA	18.2291667	15.641667
363	chic	24.5	20.25000	1987-12-29		NA	20.666667	19.4166667	23.804924
364	chic	25.5	27.62500	1987-12-30		NA	NA	4.3458333	31.690657
365	chic	23.5	7.25000	1987-12-31		NA	21.000000	16.0833333	16.770833
366	chic	3.5	-3.62500	1988-01-01		NA	NA	19.9583333	14.138889
367	chic	15.0	15.37500	1988-01-02		NA	NA	7.8125000	25.736111
368	chic	24.5	16.75000	1988-01-03		NA	25.000000	8.6458333	21.722222
369	chic	5.0	-15.87500	1988-01-04		NA	26.000000	18.2113095	12.665714
370	chic	-6.5	-15.75000	1988-01-05		NA	24.000000	13.1666667	17.220833
371	chic	-5.5	-15.12500	1988-01-06		NA	75.000000	7.1458333	27.665942
372	chic	3.0	-1.87500	1988-01-07		NA	74.000000	2.5208333	52.100000
373	chic	8.5	2.75000	1988-01-08		NA	87.000000	4.6594203	42.885041
374	chic	0.5	-12.25000	1988-01-09		NA	48.000000	7.3958333	26.450000
375	chic	1.5	-1.62500	1988-01-10		NA	36.333333	6.9166667	31.175000
376	chic	24.0	22.25000	1988-01-11		NA	39.000000	6.4791667	25.883333
377	chic	28.5	15.50000	1988-01-12		NA	43.000000	16.9375000	16.528623

378	chic	12.0	-0.37500	1988-01-13		NA	51.000000	13.8541667	21.423485
379	chic	11.0	9.37500	1988-01-14		NA	46.000000	3.4583333	32.825000
380	chic	28.0	22.75000	1988-01-15		NA	28.000000	4.2291667	24.600000
381	chic	39.0	29.25000	1988-01-16		NA	32.000000	14.1458333	19.229167
382	chic	37.0	32.25000	1988-01-17		NA	26.000000	6.3541667	24.820833
383	chic	33.5	32.37500	1988-01-18		NA	NA	8.7171053	28.923810
384	chic	35.5	34.62500	1988-01-19		NA	39.000000	13.1250000	23.518182
385	chic	34.0	27.37500	1988-01-20		NA	23.500000	6.5069444	21.038043
386	chic	28.5	21.12500	1988-01-21		NA	20.000000	16.2291667	21.358333
387	chic	27.0	23.62500	1988-01-22		NA	27.166667	6.6250000	19.928114
388	chic	21.0	25.75000	1988-01-23		NA	23.000000	7.0000000	17.495833
389	chic	24.5	17.00000	1988-01-24		NA	26.000000	7.5000000	16.037500
390	chic	14.5	-2.75000	1988-01-25		NA	34.000000	6.7083333	18.766667
391	chic	9.0	-0.50000	1988-01-26		NA	45.000000	6.8750000	27.124729
392	chic	7.0	11.25000	1988-01-27		NA	51.000000	7.3043478	33.983788
393	chic	21.5	19.25000	1988-01-28		NA	46.000000	9.3333333	31.377536
394	chic	35.5	40.50000	1988-01-29		NA	37.000000	13.4583333	33.374848
395	chic	50.5	47.50000	1988-01-30		NA	23.000000	26.5416667	15.466667
396	chic	46.0	31.87500	1988-01-31		NA	42.000000	19.1250000	13.845833
397	chic	28.0	21.37500	1988-02-01		NA	13.000000	24.1250000	16.515909
398	chic	22.5	17.75000	1988-02-02		NA	23.000000	29.0833333	16.725000
399	chic	24.0	20.12500	1988-02-03		NA	36.000000	13.2916667	28.466667
400	chic	16.5	6.62500	1988-02-04		NA	52.000000	13.6250000	25.327536
401	chic	4.0	-10.75000	1988-02-05		NA	37.000000	18.2083333	16.566667
402	chic	3.0	-3.12500	1988-02-06		NA	39.000000	19.8333333	13.854167
403	chic	16.5	8.37500	1988-02-07		NA	32.000000	20.3750000	15.733333
404	chic	14.5	16.25000	1988-02-08		NA	43.000000	12.4166667	29.954762
405	chic	17.5	7.12500	1988-02-09		NA	38.800000	12.6666667	31.241667
406	chic	16.0	17.62500	1988-02-10		NA	36.000000	24.8750000	29.183333
407	chic	16.0	9.00000	1988-02-11		NA	28.000000	28.0416667	17.062500
408	chic	9.0	0.25000	1988-02-12		NA	44.000000	20.3750000	26.800000
409	chic	7.0	3.50000	1988-02-13		NA	42.000000	13.0833333	37.966667
410	chic	27.5	38.62500	1988-02-14		NA	NA	9.8333333	30.766667
411	chic	26.0	11.87500	1988-02-15		NA	29.000000	20.6666667	20.625000
412	chic	26.5	27.12500	1988-02-16		NA	34.000000	6.4166667	29.487500
413	chic	31.0	23.12500	1988-02-17		NA	60.000000	9.9583333	39.709369
414	chic	31.5	27.00000	1988-02-18		NA	62.000000	9.2500000	44.310606
415	chic	32.0	29.37500	1988-02-19		NA	77.000000	8.6666667	49.018939
416	chic	21.5	-2.62500	1988-02-20		NA	37.000000	24.2916667	14.348958
417	chic	16.5	20.12500	1988-02-21		NA	23.333333	17.8333333	21.489583
418	chic	40.0	29.00000	1988-02-22		NA	23.000000	17.3541667	16.796875
419	chic	27.0	13.00000	1988-02-23		NA	44.000000	23.0000000	13.645833
420	chic	22.0	7.87500	1988-02-24		NA	65.000000	22.2500000	24.922348

421	chic	20.5	9.75000	1988-02-25		NA		NA	15.000000	25.986111
422	chic	39.5	29.62500	1988-02-26		NA	54.000000	15.0833333	28.625000	
423	chic	32.0	22.75000	1988-02-27		NA	25.666667	37.3750000	17.986111	
424	chic	34.5	31.62500	1988-02-28		NA	54.000000	19.2916667	28.236111	
425	chic	39.5	26.37500	1988-02-29		NA	29.000000	17.0000000	27.780208	
426	chic	41.0	29.37500	1988-03-01		NA	30.000000	25.7083333	22.611568	
427	chic	35.5	24.37500	1988-03-02		NA	33.000000	28.2083333	18.718750	
428	chic	27.0	17.00000	1988-03-03		NA	17.000000	37.3750000	13.806818	
429	chic	28.5	16.25000	1988-03-04		NA	24.200000	34.2916667	20.513889	
430	chic	31.0	19.25000	1988-03-05		NA	40.000000	11.8333333	44.027778	
431	chic	36.0	32.50000	1988-03-06		NA		NA	18.375000	29.208333
432	chic	42.0	40.00000	1988-03-07		NA	58.000000	11.2916667	29.625000	
433	chic	48.5	42.75000	1988-03-08		NA		NA	15.9565217	27.222222
434	chic	34.0	27.62500	1988-03-09		NA		NA	18.5416667	21.890625
435	chic	38.0	21.37500	1988-03-10		NA	44.000000	22.0416667	35.458333	
436	chic	46.5	35.12500	1988-03-11		NA	36.000000	10.5833333	32.836905	
437	chic	43.0	28.25000	1988-03-12		NA	23.000000	22.5416667	12.145833	
438	chic	26.5	17.62500	1988-03-13		NA		NA	27.125000	7.733333
439	chic	24.0	17.50000	1988-03-14		NA	27.000000	26.1250000	15.423333	
440	chic	23.5	19.50000	1988-03-15		NA	37.000000	21.7083333	19.515530	
441	chic	32.5	23.50000	1988-03-16		NA	27.833333	19.9583333	21.863095	
442	chic	34.0	26.00000	1988-03-17		NA		NA	11.8541667	27.483333
443	chic	34.5	17.37500	1988-03-18		NA	47.000000	17.3125000	21.675000	
444	chic	32.0	29.50000	1988-03-19		NA	30.000000	22.0833333	18.654167	
445	chic	28.5	15.00000	1988-03-20		NA	8.000000	35.3541667	12.125000	
446	chic	30.0	15.75000	1988-03-21		NA	24.000000	36.5625000	16.662500	
447	chic	46.5	35.00000	1988-03-22		NA	59.666667	18.8055556	26.064312	
448	chic	56.0	36.25000	1988-03-23		NA	84.000000	30.3888889	24.815909	
449	chic	56.5	54.75000	1988-03-24		NA	52.000000	24.2896825	30.023979	
450	chic	53.0	35.50000	1988-03-25		NA	25.000000	22.0024155	16.995833	
451	chic	39.0	18.50000	1988-03-26		NA	59.000000	20.3969298	12.273246	
452	chic	40.0	28.25000	1988-03-27		NA	55.000000	22.6388889	15.500000	
453	chic	48.5	42.62500	1988-03-28		NA	31.000000	9.6190476	31.729167	
454	chic	45.5	35.75000	1988-03-29		NA	29.000000	13.5654762	23.291667	
455	chic	40.5	27.25000	1988-03-30		NA	33.000000	18.6369048	25.262578	
456	chic	42.0	32.00000	1988-03-31		NA	43.000000	17.0178571	32.191667	
457	chic	42.0	34.25000	1988-04-01		NA	30.000000	37.8260870	23.333333	
458	chic	54.0	56.62500	1988-04-02		NA	40.000000	9.4107143	21.702381	
459	chic	53.5	44.12500	1988-04-03		NA	20.166667	22.6666667	20.782143	
460	chic	57.5	51.62500	1988-04-04		NA		NA	27.4663561	23.115424
461	chic	69.5	57.50000	1988-04-05		NA	42.000000	30.6666667	26.653125	
462	chic	50.0	28.75000	1988-04-06		NA	18.000000	31.2678571	11.883605	
463	chic	50.0	25.25000	1988-04-07		NA	32.000000	23.4373706	22.819180	

464	chic	51.5	28.75000	1988-04-08	NA	32.000000	18.8750000	38.178571
465	chic	52.5	37.75000	1988-04-09	NA	53.750000	19.9464286	33.437500
466	chic	43.0	33.75000	1988-04-10	NA	35.000000	17.4642857	16.663194
467	chic	46.0	22.87500	1988-04-11	NA	31.000000	28.8732993	11.940901
468	chic	47.5	23.25000	1988-04-12	NA	38.000000	27.6904762	20.755952
469	chic	53.0	38.50000	1988-04-13	NA	NA	28.5833333	35.814589
470	chic	43.0	28.87500	1988-04-14	NA	25.000000	26.0561224	19.623718
471	chic	41.5	25.50000	1988-04-15	NA	27.000000	24.1123387	21.036092
472	chic	47.5	27.50000	1988-04-16	NA	43.000000	21.7738095	25.684896
473	chic	59.0	37.87500	1988-04-17	NA	76.000000	39.0000000	16.380208
474	chic	42.5	17.87500	1988-04-18	NA	41.000000	30.1011905	19.442708
475	chic	40.5	14.75000	1988-04-19	NA	52.000000	21.7738095	31.804688
476	chic	45.5	35.25000	1988-04-20	NA	52.000000	20.9940476	33.296875
477	chic	37.0	28.75000	1988-04-21	NA	35.600000	18.4940476	39.934290
478	chic	45.5	30.37500	1988-04-22	NA	51.000000	25.5595238	21.323661
479	chic	44.0	34.37500	1988-04-23	NA	44.000000	21.3154762	15.732639
480	chic	45.0	30.12500	1988-04-24	NA	34.000000	24.8869048	17.963542
481	chic	54.0	36.37500	1988-04-25	NA	44.000000	21.5357143	28.177197
482	chic	48.5	35.87500	1988-04-26	NA	19.000000	22.3831522	21.613095
483	chic	39.5	34.62500	1988-04-27	NA	16.800000	24.9591097	10.976902
484	chic	48.5	28.37500	1988-04-28	NA	33.000000	26.3157350	19.777656
485	chic	49.0	25.37500	1988-04-29	NA	48.000000	22.3460884	31.223214
486	chic	54.0	26.50000	1988-04-30	NA	33.000000	22.9583333	35.923295
487	chic	53.0	29.62500	1988-05-01	NA	33.000000	32.2738095	32.911458
488	chic	57.0	27.75000	1988-05-02	NA	50.000000	35.3214286	31.283114
489	chic	56.5	39.12500	1988-05-03	NA	46.000000	35.2916667	26.319414
490	chic	52.5	31.87500	1988-05-04	NA	48.000000	33.4387077	26.079543
491	chic	54.5	34.87500	1988-05-05	NA	53.000000	28.1089976	26.427872
492	chic	61.5	38.12500	1988-05-06	NA	60.000000	26.4692029	29.361693
493	chic	62.0	40.87500	1988-05-07	NA	83.000000	34.0625000	27.145833
494	chic	67.5	53.25000	1988-05-08	NA	365.000000	48.8055556	12.249547
495	chic	56.0	52.62500	1988-05-09	NA	28.000000	25.7013889	12.833333
496	chic	57.0	49.50000	1988-05-10	NA	36.000000	19.1416667	22.024057
497	chic	60.5	41.25000	1988-05-11	NA	59.000000	24.5500000	31.017495
498	chic	67.0	52.50000	1988-05-12	NA	55.000000	33.7638889	29.003633
499	chic	58.0	33.62500	1988-05-13	NA	30.000000	30.0357143	14.563350
500	chic	60.0	39.87500	1988-05-14	NA	60.000000	28.4535714	21.669643
501	chic	71.0	54.12500	1988-05-15	NA	61.600000	35.8928571	14.829175
502	chic	55.5	40.25000	1988-05-16	NA	NA	23.8750000	13.097222
503	chic	52.0	34.37500	1988-05-17	NA	29.000000	26.8700828	12.298810
504	chic	55.0	44.87500	1988-05-18	NA	35.000000	27.6726190	16.979070
505	chic	60.0	36.62500	1988-05-19	NA	43.000000	30.5238095	23.405248
506	chic	63.0	51.75000	1988-05-20	NA	63.000000	29.4624741	27.585859

507	chic	64.5	50.25000	1988-05-21		NA	48.250000	41.4702381	25.908333	
508	chic	66.0	53.62500	1988-05-22		NA		NA	41.3888889	13.420833
509	chic	53.5	52.25000	1988-05-23		NA	43.000000	19.9880952	18.720083	
510	chic	53.0	28.00000	1988-05-24		NA	26.000000	32.2948413	10.751894	
511	chic	48.5	35.50000	1988-05-25		NA	25.000000	24.0773810	18.548913	
512	chic	60.5	42.37500	1988-05-26		NA	52.000000	27.8690476	26.029390	
513	chic	69.5	45.37500	1988-05-27		NA	63.750000	41.5714286	27.336310	
514	chic	73.0	49.75000	1988-05-28		NA		NA	41.7559524	29.535714
515	chic	74.0	51.87500	1988-05-29		NA		NA	46.5892857	26.588029
516	chic	75.5	52.00000	1988-05-30		NA	75.000000	52.7500000	24.091636	
517	chic	76.0	52.75000	1988-05-31		NA	148.000000	50.9047619	39.352176	
518	chic	76.5	54.00000	1988-06-01		NA	142.000000	49.2016807	44.596639	
519	chic	63.0	47.00000	1988-06-02		NA	46.600000	31.1420068	17.333929	
520	chic	58.5	37.50000	1988-06-03		NA	28.000000	26.7763975	14.300725	
521	chic	62.5	40.50000	1988-06-04		NA	54.000000	24.4209184	23.860679	
522	chic	73.0	49.12500	1988-06-05		NA	68.000000	44.5238095	20.000000	
523	chic	78.0	48.75000	1988-06-06		NA		NA	50.4365942	26.053942
524	chic	79.0	51.12500	1988-06-07		NA	139.000000	54.1785714	34.679770	
525	chic	63.0	46.12500	1988-06-08		NA	70.800000	31.0178571	26.315279	
526	chic	56.0	32.37500	1988-06-09		NA		NA	31.6834886	13.687364
527	chic	56.0	34.62500	1988-06-10		NA	30.000000	26.1190476	25.774621	
528	chic	67.0	41.62500	1988-06-11		NA	50.000000	34.1488095	29.848958	
529	chic	72.0	48.25000	1988-06-12		NA	50.000000	47.6822917	30.968750	
530	chic	78.0	48.50000	1988-06-13		NA	75.000000	49.3565958	33.522367	
531	chic	82.0	53.62500	1988-06-14		NA	88.250000	54.1083333	26.758356	
532	chic	81.5	53.62500	1988-06-15		NA	78.000000	47.4427083	23.693759	
533	chic	71.0	47.12500	1988-06-16		NA	39.000000	28.7023810	19.099297	
534	chic	68.5	53.25000	1988-06-17		NA	46.000000	32.3281250	31.212121	
535	chic	74.5	52.87500	1988-06-18		NA	55.000000	41.2313988	38.978940	
536	chic	82.0	55.87500	1988-06-19		NA		NA	59.1250000	20.114583
537	chic	88.5	70.25000	1988-06-20		NA	88.000000	61.6770833	25.640269	
538	chic	86.5	66.12500	1988-06-21		NA	81.000000	52.8759058	33.124188	
539	chic	82.5	67.25000	1988-06-22		NA	84.000000	54.6411732	19.838095	
540	chic	70.0	50.75000	1988-06-23		NA	26.000000	28.8452381	16.159170	
541	chic	77.5	63.25000	1988-06-24		NA		NA	36.0260417	31.673654
542	chic	84.5	57.50000	1988-06-25		NA		NA	59.0677083	15.276786
543	chic	63.5	44.87500	1988-06-26		NA	20.600000	25.4166667	7.872024	
544	chic	64.0	42.87500	1988-06-27		NA	21.000000	18.4293155	19.049320	
545	chic	72.5	58.50000	1988-06-28		NA		NA	36.0189951	25.195323
546	chic	63.0	44.37500	1988-06-29		NA	17.000000	26.9821429	14.285455	
547	chic	61.5	46.12500	1988-06-30		NA	11.000000	23.6197917	13.523810	
548	chic	66.0	47.37500	1988-07-01		NA	19.000000	22.7656250	20.863095	
549	chic	65.0	44.37500	1988-07-02		NA	26.600000	22.5312500	21.625000	

550	chic	69.5	47.87500	1988-07-03		NA		NA	38.3802083	32.494048
551	chic	73.0	49.87500	1988-07-04		NA	51.000000	47.0758605	38.056603	
552	chic	79.5	56.75000	1988-07-05		NA		NA	57.7484149	51.448681
553	chic	82.5	60.62500	1988-07-06		NA	116.000000	55.0861185	62.479984	
554	chic	85.0	58.37500	1988-07-07		NA	116.000000	58.8864254	46.273421	
555	chic	83.0	59.87500	1988-07-08		NA	106.800000	48.8906250	44.497024	
556	chic	82.5	57.25000	1988-07-09		NA	85.000000	49.0260417	38.491071	
557	chic	75.5	64.62500	1988-07-10		NA		NA	41.4226190	21.700521
558	chic	76.5	57.50000	1988-07-11		NA	42.000000	34.8729620	24.445911	
559	chic	71.5	60.37500	1988-07-12		NA	14.000000	27.5416667	21.947205	
560	chic	80.0	65.87500	1988-07-13		NA	50.000000	32.6093750	22.851786	
561	chic	87.0	57.75000	1988-07-14		NA	62.000000	45.9257246	25.979798	
562	chic	86.5	70.50000	1988-07-15		NA	78.000000	41.9620098	34.799720	
563	chic	85.0	69.62500	1988-07-16		NA	53.000000	37.7291667	21.854167	
564	chic	78.0	61.00000	1988-07-17		NA	22.000000	30.4843750	18.960938	
565	chic	71.5	66.25000	1988-07-18		NA		NA	23.1927083	31.624900
566	chic	75.0	58.37500	1988-07-19		NA	35.000000	26.0208333	26.169913	
567	chic	74.0	63.87500	1988-07-20		NA	33.500000	27.1639493	24.102614	
568	chic	71.5	61.12500	1988-07-21		NA	32.000000	25.0572917	28.563923	
569	chic	71.0	59.12500	1988-07-22		NA	15.000000	26.6770833	19.305736	
570	chic	72.0	59.50000	1988-07-23		NA	28.000000	27.5729167	21.401786	
571	chic	75.5	57.37500	1988-07-24		NA	54.000000	35.9322917	27.782738	
572	chic	75.5	64.75000	1988-07-25		NA	39.000000	38.9597538	24.762269	
573	chic	73.5	55.75000	1988-07-26		NA	22.000000	23.0104167	15.630952	
574	chic	76.0	60.37500	1988-07-27		NA	59.000000	32.3353714	31.333333	
575	chic	84.0	62.50000	1988-07-28		NA	68.000000	49.0989583	30.944048	
576	chic	83.0	68.50000	1988-07-29		NA	73.000000	59.5416667	28.183300	
577	chic	82.5	68.87500	1988-07-30		NA	40.000000	48.2083333	23.151042	
578	chic	79.0	62.75000	1988-07-31		NA		NA	42.3645833	23.854367
579	chic	89.0	71.12500	1988-08-01		NA	67.200000	44.1499094	25.963089	
580	chic	89.5	70.37500	1988-08-02		NA	67.000000	49.8494867	25.919730	
581	chic	88.0	67.37500	1988-08-03		NA	65.000000	40.6417572	27.739583	
582	chic	87.0	71.50000	1988-08-04		NA	66.000000	42.1845562	30.262390	
583	chic	76.5	60.12500	1988-08-05		NA	64.000000	36.5052083	23.125000	
584	chic	76.5	51.75000	1988-08-06		NA		NA	36.5625000	30.473214
585	chic	78.0	53.62500	1988-08-07		NA	38.333333	41.8834135	28.630390	
586	chic	84.0	70.75000	1988-08-08		NA	67.000000	53.9670139	23.277868	
587	chic	79.0	73.00000	1988-08-09		NA	68.000000	30.9166667	34.123551	
588	chic	76.5	72.00000	1988-08-10		NA	36.000000	30.4791667	34.997619	
589	chic	82.0	73.37500	1988-08-11		NA		NA	28.4675325	31.126701
590	chic	83.5	69.62500	1988-08-12		NA	66.000000	26.6093750	35.062500	
591	chic	83.5	73.62500	1988-08-13		NA	70.200000	35.9218750	22.171262	
592	chic	83.0	76.62500	1988-08-14		NA		NA	40.3489583	13.351190

593	chic	84.0	70.50000	1988-08-15	NA	32.000000	38.5979864	24.906567
594	chic	86.0	73.12500	1988-08-16	NA	69.000000	34.3906250	34.386572
595	chic	88.0	66.37500	1988-08-17	NA	71.000000	39.3123971	23.505208
596	chic	80.5	68.37500	1988-08-18	NA	63.000000	34.6972373	22.805952
597	chic	71.5	62.87500	1988-08-19	NA	28.750000	14.9270833	17.886285
598	chic	73.0	62.12500	1988-08-20	NA	31.000000	37.1145833	20.342799
599	chic	70.5	54.87500	1988-08-21	NA	NA	27.2291667	22.604846
600	chic	70.0	59.75000	1988-08-22	NA	39.000000	24.6927083	29.989583
601	chic	75.0	55.37500	1988-08-23	NA	47.000000	32.7083333	19.994792
602	chic	71.0	52.37500	1988-08-24	NA	89.000000	21.7968750	26.347799
603	chic	69.5	42.62500	1988-08-25	NA	50.400000	21.3854167	23.851190
604	chic	66.0	45.37500	1988-08-26	NA	41.000000	16.5104167	24.988008
605	chic	65.0	60.12500	1988-08-27	NA	NA	11.1666667	33.408967
606	chic	64.0	41.87500	1988-08-28	NA	89.000000	22.0000000	19.359375
607	chic	60.0	49.00000	1988-08-29	NA	29.000000	19.8677083	28.050595
608	chic	63.0	49.37500	1988-08-30	NA	37.000000	20.1770833	36.426501
609	chic	70.5	49.00000	1988-08-31	NA	47.400000	30.8906250	37.807446
610	chic	72.0	52.50000	1988-09-01	NA	48.000000	36.8593750	44.351393
611	chic	73.0	57.87500	1988-09-02	NA	65.000000	34.3349185	47.387455
612	chic	72.0	53.62500	1988-09-03	NA	38.000000	32.6562500	22.760417
613	chic	63.0	52.37500	1988-09-04	NA	28.000000	33.7678571	12.511905
614	chic	54.0	38.00000	1988-09-05	NA	NA	24.2023810	12.413690
615	chic	55.0	39.62500	1988-09-06	NA	30.750000	15.9114583	30.125000
616	chic	60.5	37.62500	1988-09-07	NA	33.000000	27.4531250	35.282609
617	chic	70.0	47.12500	1988-09-08	NA	54.000000	35.6718750	38.283754
618	chic	66.0	34.75000	1988-09-09	NA	66.000000	17.4062500	40.382378
619	chic	67.5	39.75000	1988-09-10	NA	77.000000	19.2656250	51.447917
620	chic	71.0	62.37500	1988-09-11	NA	NA	30.2239583	33.981431
621	chic	75.5	64.75000	1988-09-12	NA	33.333333	18.6770833	23.536458
622	chic	63.0	46.87500	1988-09-13	NA	58.000000	15.2260417	25.072834
623	chic	66.0	48.87500	1988-09-14	NA	58.000000	23.7844298	30.752629
624	chic	64.5	50.37500	1988-09-15	NA	38.000000	19.5826540	21.497396
625	chic	65.5	59.75000	1988-09-16	NA	55.000000	15.3854167	36.647491
626	chic	78.0	61.75000	1988-09-17	NA	NA	25.2395833	24.885417
627	chic	76.5	62.37500	1988-09-18	NA	43.400000	19.7604167	19.992527
628	chic	67.0	51.25000	1988-09-19	NA	26.000000	17.0833333	19.109375
629	chic	60.0	47.25000	1988-09-20	NA	34.000000	13.8715278	12.135384
630	chic	58.5	49.75000	1988-09-21	NA	NA	9.3244048	23.845934
631	chic	70.0	66.25000	1988-09-22	NA	NA	17.4828928	33.468591
632	chic	60.0	42.12500	1988-09-23	NA	NA	19.1754982	23.000000
633	chic	56.5	42.87500	1988-09-24	NA	49.000000	15.4739583	29.601190
634	chic	61.5	48.25000	1988-09-25	NA	NA	23.7855114	39.398810
635	chic	64.5	45.87500	1988-09-26	NA	NA	34.8988095	46.051242

636	chic	71.0	56.37500	1988-09-27	NA	NA	27.0079365	32.686688
637	chic	61.5	51.62500	1988-09-28	NA	NA	17.5208333	19.273438
638	chic	67.5	56.87500	1988-09-29	NA	NA	17.4947917	39.308475
639	chic	68.5	60.75000	1988-09-30	NA	51.000000	12.7291667	37.405118
640	chic	62.0	56.87500	1988-10-01	NA	12.000000	10.5555556	25.547619
641	chic	56.5	45.00000	1988-10-02	NA	22.000000	19.6510417	17.700521
642	chic	53.5	38.12500	1988-10-03	NA	NA	9.3627451	22.947917
643	chic	43.0	30.25000	1988-10-04	NA	33.000000	11.7202381	15.961310
644	chic	43.0	32.25000	1988-10-05	NA	30.000000	10.6024845	19.033514
645	chic	43.5	32.75000	1988-10-06	NA	33.333333	9.6428571	27.538393
646	chic	47.5	33.00000	1988-10-07	NA	NA	11.8630952	38.265625
647	chic	52.0	41.12500	1988-10-08	NA	56.000000	12.6190476	36.348958
648	chic	54.5	47.50000	1988-10-09	NA	NA	11.9404762	32.085145
649	chic	58.0	34.62500	1988-10-10	NA	39.000000	20.7500000	17.321429
650	chic	42.5	26.12500	1988-10-11	NA	48.000000	13.4940476	19.420327
651	chic	39.0	24.37500	1988-10-12	NA	28.600000	14.5156250	23.563665
652	chic	39.5	23.87500	1988-10-13	NA	NA	11.5275298	34.629329
653	chic	58.0	42.25000	1988-10-14	NA	59.000000	18.2291667	37.372412
654	chic	66.5	52.00000	1988-10-15	NA	51.000000	35.0357143	25.453416
655	chic	62.5	47.87500	1988-10-16	NA	43.000000	26.0595238	21.145833
656	chic	53.0	55.12500	1988-10-17	NA	NA	4.9166667	28.869048
657	chic	49.5	36.37500	1988-10-18	NA	23.600000	11.1977814	18.823374
658	chic	43.5	32.25000	1988-10-19	NA	28.000000	11.5705904	21.758172
659	chic	42.0	37.87500	1988-10-20	NA	24.000000	6.6250000	28.053571
660	chic	46.5	39.00000	1988-10-21	NA	31.000000	6.9270833	21.369048
661	chic	42.0	32.50000	1988-10-22	NA	32.000000	10.2656250	20.755952
662	chic	43.5	30.62500	1988-10-23	NA	30.000000	10.2500000	15.610119
663	chic	33.5	27.12500	1988-10-24	NA	27.400000	7.1202857	16.566319
664	chic	35.0	22.12500	1988-10-25	NA	34.000000	8.5989583	23.323596
665	chic	36.5	26.00000	1988-10-26	NA	34.000000	7.0520833	24.903302
666	chic	45.0	40.87500	1988-10-27	NA	NA	9.8437500	26.767187
667	chic	37.0	21.00000	1988-10-28	NA	39.000000	13.5208333	19.648438
668	chic	33.5	12.75000	1988-10-29	NA	28.000000	13.1250000	26.465580
669	chic	33.0	25.87500	1988-10-30	NA	26.000000	10.5416667	29.012002
670	chic	39.0	27.62500	1988-10-31	NA	36.000000	9.5200893	34.022321
671	chic	40.0	28.00000	1988-11-01	NA	35.000000	12.5572917	22.751235
672	chic	43.5	35.75000	1988-11-02	NA	28.000000	12.2068603	30.771212
673	chic	50.5	50.62500	1988-11-03	NA	34.000000	3.3750000	36.061458
674	chic	52.5	51.50000	1988-11-04	NA	28.000000	2.6470588	33.837121
675	chic	41.5	36.12500	1988-11-05	NA	15.600000	2.7916667	13.997024
676	chic	33.5	30.62500	1988-11-06	NA	NA	13.6250000	11.812500
677	chic	39.0	38.00000	1988-11-07	NA	12.000000	5.8695652	23.990819
678	chic	42.0	36.87500	1988-11-08	NA	40.000000	4.5416667	26.088542

679	chic	43.5	46.00000	1988-11-09		NA	25.000000	2.3750000	29.333051
680	chic	42.5	30.62500	1988-11-10		NA	15.000000	7.0416667	18.827381
681	chic	39.5	29.25000	1988-11-11		NA	23.200000	8.9583333	23.127976
682	chic	41.5	44.00000	1988-11-12		NA	15.000000	4.5416667	22.666667
683	chic	45.0	40.87500	1988-11-13		NA	12.000000	10.5833333	16.845238
684	chic	47.5	34.50000	1988-11-14		NA		5.0833333	34.232660
685	chic	56.0	60.37500	1988-11-15		NA		2.9166667	25.966097
686	chic	48.0	24.25000	1988-11-16		NA	23.000000	11.6250000	11.895221
687	chic	38.5	28.12500	1988-11-17		NA	24.200000	10.2916667	23.708333
688	chic	43.5	30.12500	1988-11-18		NA	9.000000	2.7083333	34.699905
689	chic	44.0	40.12500	1988-11-19		NA	14.000000	2.3750000	27.343750
690	chic	36.5	28.12500	1988-11-20		NA	21.000000	6.2500000	17.339725
691	chic	33.0	23.37500	1988-11-21		NA	21.000000	5.4166667	26.420846
692	chic	34.5	28.12500	1988-11-22		NA	31.000000	4.7500000	27.928125
693	chic	41.5	35.50000	1988-11-23		NA	39.000000	3.4166667	31.905461
694	chic	46.5	35.00000	1988-11-24		NA	22.000000	7.7916667	30.739583
695	chic	49.0	44.37500	1988-11-25		NA	28.000000	13.0416667	35.718750
696	chic	54.0	51.25000	1988-11-26		NA	13.000000	11.9166667	24.002604
697	chic	37.0	25.00000	1988-11-27		NA	9.000000	14.9583333	8.270833
698	chic	28.0	21.87500	1988-11-28		NA	6.000000	7.8333333	18.642083
699	chic	33.5	31.37500	1988-11-29		NA	26.200000	7.1250000	24.430157
700	chic	30.5	23.87500	1988-11-30		NA	22.000000	4.6250000	18.131341
701	chic	23.5	16.37500	1988-12-01		NA	27.000000	8.2083333	22.111580
702	chic	34.0	32.50000	1988-12-02		NA	29.000000	4.5833333	27.057065
703	chic	43.0	26.00000	1988-12-03		NA		9.2916667	21.880952
704	chic	32.5	23.25000	1988-12-04		NA	23.000000	8.9166667	23.174479
705	chic	38.5	31.25000	1988-12-05		NA	39.000000	3.8750000	23.238163
706	chic	42.0	34.87500	1988-12-06		NA	40.000000	5.0000000	30.234375
707	chic	35.0	20.00000	1988-12-07		NA	30.000000	6.6458333	25.661458
708	chic	27.0	11.25000	1988-12-08		NA	40.000000	9.6666667	27.553571
709	chic	21.5	14.25000	1988-12-09		NA	37.000000	6.4166667	24.369048
710	chic	18.5	2.12500	1988-12-10		NA		8.9166667	23.380952
711	chic	11.0	6.12500	1988-12-11		NA	30.000000	7.0833333	23.927536
712	chic	18.5	19.37500	1988-12-12		NA	29.000000	6.2500000	29.968168
713	chic	34.5	28.62500	1988-12-13		NA	48.000000	5.3333333	26.555788
714	chic	37.5	24.87500	1988-12-14		NA		5.9166667	21.726190
715	chic	18.0	-0.75000	1988-12-15		NA		14.3500000	20.410102
716	chic	10.5	12.12500	1988-12-16		NA	35.000000	6.5416667	26.809524
717	chic	16.0	7.00000	1988-12-17		NA	25.400000	7.5416667	22.172619
718	chic	22.0	21.87500	1988-12-18		NA	39.000000	4.8750000	24.250000
719	chic	39.0	32.25000	1988-12-19		NA		10.7916667	27.424784
720	chic	44.5	27.00000	1988-12-20		NA		12.6086957	16.398810
721	chic	33.0	22.50000	1988-12-21		NA		10.5000000	22.507846

722	chic	36.0	38.75000	1988-12-22	NA	NA	4.2916667	23.353520
723	chic	41.0	26.75000	1988-12-23	NA	23.000000	11.5652174	19.952381
724	chic	33.5	26.50000	1988-12-24	NA	NA	4.5416667	24.803571
725	chic	23.0	16.62500	1988-12-25	NA	NA	10.0833333	13.776656
726	chic	27.0	29.87500	1988-12-26	NA	NA	9.0000000	23.785714
727	chic	27.5	14.12500	1988-12-27	NA	27.000000	4.5000000	21.346435
728	chic	14.5	6.87500	1988-12-28	NA	17.000000	13.1250000	23.037879
729	chic	13.5	12.62500	1988-12-29	NA	29.666667	6.9473684	30.285673
730	chic	24.5	21.87500	1988-12-30	NA	NA	5.6666667	35.900000
731	chic	26.0	27.00000	1988-12-31	NA	61.000000	2.7500000	44.666667
732	chic	26.5	26.87500	1989-01-01	NA	66.000000	9.3913043	33.131567
733	chic	22.0	10.87500	1989-01-02	NA	28.000000	11.3333333	18.328125
734	chic	23.0	15.75000	1989-01-03	NA	NA	7.8750000	22.615942
735	chic	19.0	15.87500	1989-01-04	NA	43.400000	5.1250000	30.972661
736	chic	29.5	31.87500	1989-01-05	NA	20.000000	3.1250000	33.144907
737	chic	35.0	32.37500	1989-01-06	NA	27.000000	2.0000000	30.708333
738	chic	40.0	39.62500	1989-01-07	NA	NA	2.8750000	25.794271
739	chic	15.0	1.50000	1989-01-08	NA	NA	17.9583333	9.580729
740	chic	16.5	14.62500	1989-01-09	NA	52.000000	13.4666667	20.080350
741	chic	31.5	21.37500	1989-01-10	NA	37.428571	4.8666667	26.239394
742	chic	34.5	37.37500	1989-01-11	NA	31.000000	8.5000000	25.424716
743	chic	31.5	15.87500	1989-01-12	NA	NA	9.0000000	23.716486
744	chic	26.0	17.62500	1989-01-13	NA	NA	6.4285714	27.541667
745	chic	26.5	26.12500	1989-01-14	NA	20.000000	3.5833333	23.327381
746	chic	29.5	23.87500	1989-01-15	NA	NA	7.6666667	15.029762
747	chic	31.5	26.62500	1989-01-16	NA	27.142857	6.2500000	19.886905
748	chic	37.0	29.12500	1989-01-17	NA	24.000000	6.9583333	24.775023
749	chic	37.5	27.87500	1989-01-18	NA	NA	9.6956522	21.457860
750	chic	38.0	30.12500	1989-01-19	NA	NA	11.2083333	22.241745
751	chic	28.5	11.62500	1989-01-20	NA	NA	15.6250000	19.156250
752	chic	26.5	19.75000	1989-01-21	NA	27.000000	8.3750000	28.190476
753	chic	40.0	25.75000	1989-01-22	NA	22.875000	8.7500000	23.321429
754	chic	41.5	32.62500	1989-01-23	NA	17.000000	4.9166667	33.184453
755	chic	38.0	34.12500	1989-01-24	NA	45.000000	6.2272727	27.774715
756	chic	42.5	42.25000	1989-01-25	NA	36.000000	5.4166667	24.188466
757	chic	34.0	23.62500	1989-01-26	NA	37.000000	8.2500000	21.831245
758	chic	37.0	30.75000	1989-01-27	NA	25.000000	7.5000000	26.568213
759	chic	42.0	31.87500	1989-01-28	NA	27.125000	6.5833333	26.140625
760	chic	40.0	37.75000	1989-01-29	NA	NA	3.5000000	20.546875
761	chic	40.5	35.50000	1989-01-30	NA	NA	7.7916667	20.877944
762	chic	52.5	44.12500	1989-01-31	NA	NA	9.8333333	24.047279
763	chic	40.5	21.87500	1989-02-01	NA	12.000000	19.0000000	14.140077
764	chic	25.5	20.37500	1989-02-02	NA	49.000000	16.0416667	19.109375

765	chic	14.5	2.50000	1989-02-03		NA	20.571429	11.3888889	21.750000
766	chic	4.5	2.00000	1989-02-04		NA	45.000000	6.5882353	22.322917
767	chic	9.0	5.25000	1989-02-05		NA		6.0833333	24.614583
768	chic	2.0	-0.25000	1989-02-06		NA	32.000000	12.0000000	21.175663
769	chic	12.0	9.12500	1989-02-07		NA	56.000000	14.7500000	28.512681
770	chic	11.5	-3.75000	1989-02-08		NA	86.000000	17.0000000	16.970170
771	chic	7.0	3.50000	1989-02-09		NA	34.857143	16.2727273	21.229167
772	chic	15.0	12.37500	1989-02-10		NA	36.000000	14.3750000	28.448822
773	chic	24.0	19.12500	1989-02-11		NA	33.000000	15.4166667	26.244048
774	chic	26.5	16.87500	1989-02-12		NA	26.000000	15.0416667	27.875000
775	chic	32.0	31.12500	1989-02-13		NA		7.8750000	29.291667
776	chic	27.5	20.75000	1989-02-14		NA	52.000000	19.2916667	25.646480
777	chic	27.5	13.12500	1989-02-15		NA	30.125000	8.6250000	38.382162
778	chic	17.5	1.87500	1989-02-16		NA	25.000000	11.4761905	31.580782
779	chic	17.5	14.62500	1989-02-17		NA	13.000000	14.6250000	30.630952
780	chic	22.0	20.87500	1989-02-18		NA	23.000000	16.9166667	30.636905
781	chic	28.0	19.12500	1989-02-19		NA		NA	12.2916667
782	chic	27.0	25.25000	1989-02-20		NA		16.9583333	33.077381
783	chic	26.0	17.25000	1989-02-21		NA	43.750000	19.9583333	33.241300
784	chic	17.0	1.62500	1989-02-22		NA	56.000000	21.3750000	25.635426
785	chic	13.5	10.25000	1989-02-23		NA	37.000000	13.3333333	29.148592
786	chic	13.0	9.12500	1989-02-24		NA	61.000000	12.7083333	42.183333
787	chic	27.5	27.75000	1989-02-25		NA		NA	15.2500000
788	chic	28.5	15.87500	1989-02-26		NA		NA	37.916667
789	chic	18.5	10.75000	1989-02-27		NA	28.7500000		17.974896
790	chic	23.0	8.50000	1989-02-28		NA	33.714286	15.0714286	29.361134
791	chic	17.0	8.75000	1989-03-01		NA	57.000000	18.0416667	28.443750
792	chic	21.5	20.00000	1989-03-02		NA	NA	20.0588235	24.312554
793	chic	32.0	32.12500	1989-03-03		NA	32.000000	16.6666667	28.958333
794	chic	34.5	24.37500	1989-03-04		NA		NA	11.3333333
795	chic	21.5	17.00000	1989-03-05		NA	30.000000	7.2083333	23.521280
796	chic	26.0	14.62500	1989-03-06		NA	13.625000	26.3750000	10.411458
797	chic	23.0	10.75000	1989-03-07		NA	20.000000	33.3750000	12.715672
798	chic	26.5	18.62500	1989-03-08		NA	41.000000	29.2916667	18.471354
799	chic	34.0	26.12500	1989-03-09		NA	68.000000	9.8750000	40.875000
800	chic	42.5	32.50000	1989-03-10		NA	77.000000	8.5416667	50.260160
801	chic	46.0	31.50000	1989-03-11		NA	NA	13.4166667	46.658333
802	chic	35.0	29.25000	1989-03-12		NA	73.333333	2.0000000	35.383333
803	chic	42.5	36.25000	1989-03-13		NA	30.000000	36.2727273	20.083333
804	chic	47.0	47.50000	1989-03-14		NA	43.000000	13.6363636	37.919508
805	chic	33.5	16.00000	1989-03-15		NA		NA	8.0833333
806	chic	35.5	27.25000	1989-03-16		NA	18.4583333		40.225835
807	chic	32.0	28.87500	1989-03-17		NA	36.000000	12.3333333	31.843750
						NA	19.500000	26.9583333	20.910069

808	chic	24.5	17.37500	1989-03-18	NA	23.000000	26.8333333	22.921875
809	chic	26.0	26.50000	1989-03-19	NA	NA	16.6666667	32.765625
810	chic	32.5	22.62500	1989-03-20	NA	31.000000	22.2272727	30.658356
811	chic	28.5	11.75000	1989-03-21	NA	22.000000	24.4166667	27.664062
812	chic	32.0	22.75000	1989-03-22	NA	27.000000	12.0416667	42.647254
813	chic	41.5	25.25000	1989-03-23	NA	58.428571	12.5416667	43.283333
814	chic	48.5	36.25000	1989-03-24	NA	40.000000	11.3750000	42.343750
815	chic	49.0	34.87500	1989-03-25	NA	41.000000	23.4166667	26.890625
816	chic	55.5	54.75000	1989-03-26	NA	NA	35.3750000	30.815444
817	chic	66.5	58.75000	1989-03-27	NA	22.000000	17.5791667	25.310606
818	chic	60.5	56.50000	1989-03-28	NA	28.000000	12.8611111	22.358057
819	chic	44.0	31.00000	1989-03-29	NA	15.000000	27.0411905	17.922101
820	chic	42.0	33.00000	1989-03-30	NA	34.000000	17.4916667	23.254836
821	chic	35.5	22.50000	1989-03-31	NA	32.000000	25.8437500	20.675000
822	chic	36.5	33.87500	1989-04-01	NA	23.000000	23.1250000	28.447917
823	chic	46.5	44.62500	1989-04-02	NA	NA	22.1250000	25.177083
824	chic	47.0	47.25000	1989-04-03	NA	NA	13.2083333	33.152433
825	chic	51.0	34.62500	1989-04-04	NA	32.625000	18.8260870	25.619630
826	chic	41.0	35.50000	1989-04-05	NA	33.000000	19.3571429	26.593786
827	chic	41.5	24.62500	1989-04-06	NA	50.000000	19.6091393	31.648438
828	chic	40.0	27.75000	1989-04-07	NA	42.000000	22.1964286	26.520833
829	chic	38.0	15.62500	1989-04-08	NA	35.000000	24.1369048	22.117188
830	chic	29.5	13.37500	1989-04-09	NA	NA	27.6979167	10.464286
831	chic	28.5	20.87500	1989-04-10	NA	29.375000	16.5362319	26.289773
832	chic	37.0	28.87500	1989-04-11	NA	44.000000	23.2857143	26.154830
833	chic	43.0	26.87500	1989-04-12	NA	31.000000	27.0295031	28.369318
834	chic	41.0	19.37500	1989-04-13	NA	49.000000	21.7981293	38.743195
835	chic	52.0	33.00000	1989-04-14	NA	39.000000	26.3273810	32.288826
836	chic	48.5	30.50000	1989-04-15	NA	54.000000	25.5238095	39.182292
837	chic	57.0	49.25000	1989-04-16	NA	46.125000	26.8333333	34.947917
838	chic	48.5	31.87500	1989-04-17	NA	23.000000	30.9223602	23.834651
839	chic	39.5	35.50000	1989-04-18	NA	49.000000	16.9464286	36.173897
840	chic	43.5	19.25000	1989-04-19	NA	56.000000	18.8333333	41.239130
841	chic	54.0	38.00000	1989-04-20	NA	69.000000	27.0153162	39.613839
842	chic	53.0	36.12500	1989-04-21	NA	49.000000	31.4940476	32.758832
843	chic	52.0	34.25000	1989-04-22	NA	44.375000	30.5520833	28.020833
844	chic	50.5	31.37500	1989-04-23	NA	61.000000	33.4739583	21.828125
845	chic	55.5	41.37500	1989-04-24	NA	74.000000	32.2716837	41.500045
846	chic	62.5	52.37500	1989-04-25	NA	NA	36.3695652	36.867113
847	chic	58.0	45.25000	1989-04-26	NA	NA	45.6166667	30.468006
848	chic	54.0	43.00000	1989-04-27	NA	69.000000	34.6488095	33.197917
849	chic	49.5	42.00000	1989-04-28	NA	39.714286	18.0773810	30.135417
850	chic	55.5	42.00000	1989-04-29	NA	NA	19.6250000	25.786458

851	chic	50.0	35.50000	1989-04-30		NA		NA	34.5892857	16.276042
852	chic	47.5	33.25000	1989-05-01		NA	24.000000	32.0833333	23.185012	
853	chic	45.0	37.50000	1989-05-02		NA	26.000000	26.2521645	24.768643	
854	chic	53.5	32.62500	1989-05-03		NA		NA	24.7729861	32.222917
855	chic	55.5	49.75000	1989-05-04		NA	46.250000	25.1884058	36.691168	
856	chic	50.5	19.87500	1989-05-05		NA		NA	30.9404762	17.119906
857	chic	35.5	24.75000	1989-05-06		NA	33.000000	20.3333333	16.303571	
858	chic	43.0	35.75000	1989-05-07		NA		NA	18.2395833	17.247024
859	chic	50.5	40.75000	1989-05-08		NA		NA	25.3214286	36.127145
860	chic	50.5	25.37500	1989-05-09		NA	20.000000	33.8993742	20.221875	
861	chic	49.5	23.50000	1989-05-10		NA	27.000000	35.7142857	19.708807	
862	chic	48.0	20.25000	1989-05-11		NA		NA	33.7142857	21.791152
863	chic	51.5	36.75000	1989-05-12		NA		NA	28.5654762	24.345170
864	chic	52.0	43.25000	1989-05-13		NA	17.000000	30.4067460	17.739583	
865	chic	55.5	41.37500	1989-05-14		NA	65.000000	32.5654762	24.479167	
866	chic	56.0	43.75000	1989-05-15		NA		NA	27.6829945	42.913542
867	chic	59.0	44.50000	1989-05-16		NA	79.875000	35.6324013	51.115530	
868	chic	63.5	45.37500	1989-05-17		NA	98.000000	47.1192094	44.950634	
869	chic	68.0	51.62500	1989-05-18		NA	99.000000	37.1689312	42.635681	
870	chic	65.5	61.75000	1989-05-19		NA	35.000000	30.0364583	33.068452	
871	chic	64.0	38.62500	1989-05-20		NA		NA	26.6510417	24.109375
872	chic	64.5	44.75000	1989-05-21		NA	47.000000	33.5937500	30.791667	
873	chic	63.0	49.62500	1989-05-22		NA	65.250000	29.5115489	41.171463	
874	chic	69.0	42.87500	1989-05-23		NA	68.000000	37.8125000	43.731793	
875	chic	75.0	65.50000	1989-05-24		NA		NA	43.5929677	30.211180
876	chic	67.5	60.87500	1989-05-25		NA	33.000000	26.3035038	35.524943	
877	chic	62.0	40.12500	1989-05-26		NA		NA	25.3372790	21.017203
878	chic	56.0	39.62500	1989-05-27		NA	34.000000	26.1927083	18.997396	
879	chic	57.0	39.62500	1989-05-28		NA	33.000000	31.2362689	26.572917	
880	chic	67.5	68.25000	1989-05-29		NA		NA	39.0451389	20.273810
881	chic	73.5	67.25000	1989-05-30		NA	25.000000	39.2528409	24.504735	
882	chic	75.0	66.50000	1989-05-31		NA		NA	26.3734149	27.027497
883	chic	68.5	63.37500	1989-06-01		NA	28.000000	15.0260417	32.051989	
884	chic	67.5	52.50000	1989-06-02		NA		NA	29.6250000	30.962474
885	chic	56.5	51.62500	1989-06-03		NA	29.000000	21.8095238	30.148810	
886	chic	62.5	49.50000	1989-06-04		NA		NA	27.7380952	24.324405
887	chic	66.0	47.75000	1989-06-05		NA	79.000000	26.0000000	47.054422	
888	chic	71.0	51.50000	1989-06-06		NA		NA	31.7445652	37.759740
889	chic	71.5	55.62500	1989-06-07		NA	89.000000	41.5553977	38.564182	
890	chic	73.0	57.87500	1989-06-08		NA		NA	43.9285714	32.883163
891	chic	61.0	46.87500	1989-06-09		NA	38.750000	23.2723214	16.614583	
892	chic	58.5	43.75000	1989-06-10		NA		NA	21.0000000	13.846354
893	chic	60.0	50.50000	1989-06-11		NA	35.000000	27.1927083	28.031250	

894	chic	66.0	62.75000	1989-06-12		NA	43.000000	23.6562500	32.299851	
895	chic	66.5	58.75000	1989-06-13		NA	45.000000	27.4881629	32.325613	
896	chic	64.0	52.37500	1989-06-14		NA		NA	30.8865901	28.597545
897	chic	54.5	50.87500	1989-06-15		NA	27.714286	13.6884470	17.178646	
898	chic	61.0	46.75000	1989-06-16		NA	35.000000	14.6659873	22.341146	
899	chic	65.5	47.62500	1989-06-17		NA	43.000000	28.7438447	26.091146	
900	chic	72.5	62.25000	1989-06-18		NA		NA	32.8579545	23.989583
901	chic	71.0	62.87500	1989-06-19		NA	26.000000	39.2457386	32.267889	
902	chic	68.5	60.87500	1989-06-20		NA	28.000000	49.6128472	23.752841	
903	chic	69.0	56.37500	1989-06-21		NA	57.428571	59.7272727	31.734420	
904	chic	79.0	64.37500	1989-06-22		NA		NA	47.6897998	34.139752
905	chic	79.0	68.00000	1989-06-23		NA		NA	37.0714286	33.287817
906	chic	75.0	59.37500	1989-06-24		NA		NA	35.4574830	21.880208
907	chic	73.0	61.50000	1989-06-25		NA	53.000000	34.2785714	28.421875	
908	chic	77.5	64.00000	1989-06-26		NA	89.000000	32.4107143	34.561368	
909	chic	70.5	64.75000	1989-06-27		NA	51.428571	21.0649586	38.831813	
910	chic	64.5	46.25000	1989-06-28		NA	33.000000	20.5937500	22.972335	
911	chic	61.0	48.62500	1989-06-29		NA	28.000000	23.0620471	19.692142	
912	chic	65.5	52.12500	1989-06-30		NA		NA	32.8541667	39.770833
913	chic	72.5	54.50000	1989-07-01		NA		NA	52.1754202	43.463542
914	chic	73.5	66.25000	1989-07-02		NA	65.000000	47.3650794	32.291667	
915	chic	74.0	59.00000	1989-07-03		NA	57.285714	40.6269493	29.604959	
916	chic	75.0	50.50000	1989-07-04		NA		NA	35.1990741	23.815476
917	chic	75.5	62.12500	1989-07-05		NA	59.000000	40.4074074	24.896861	
918	chic	79.0	63.25000	1989-07-06		NA	85.000000	48.0277778	43.898438	
919	chic	78.5	53.50000	1989-07-07		NA	56.000000	32.7301587	30.464286	
920	chic	75.0	65.62500	1989-07-08		NA	50.000000	33.4444444	31.011905	
921	chic	83.0	68.25000	1989-07-09		NA	57.750000	51.6203704	17.500000	
922	chic	86.5	61.37500	1989-07-10		NA	43.000000	46.5972222	21.520833	
923	chic	76.0	64.50000	1989-07-11		NA		NA	28.1481481	29.728316
924	chic	71.0	62.12500	1989-07-12		NA		NA	26.3240741	23.802795
925	chic	69.0	50.12500	1989-07-13		NA	21.000000	27.0740741	19.029601	
926	chic	68.0	45.62500	1989-07-14		NA	12.000000	23.0553543	19.071429	
927	chic	71.0	49.62500	1989-07-15		NA	30.000000	25.7083333	22.827381	
928	chic	72.5	48.87500	1989-07-16		NA	32.000000	36.1419173	25.357143	
929	chic	71.0	54.87500	1989-07-17		NA	68.000000	28.6607143	49.435096	
930	chic	70.0	60.75000	1989-07-18		NA	56.000000	36.1599327	35.933114	
931	chic	67.5	65.12500	1989-07-19		NA	47.000000	39.1399136	23.270442	
932	chic	67.5	61.37500	1989-07-20		NA	26.000000	31.4907407	12.909935	
933	chic	69.0	64.37500	1989-07-21		NA	41.500000	33.2037037	22.000000	
934	chic	74.0	63.75000	1989-07-22		NA	39.000000	36.4629630	26.234375	
935	chic	74.5	65.12500	1989-07-23		NA	54.000000	38.3842593	28.257812	
936	chic	77.0	68.75000	1989-07-24		NA	77.000000	43.4009662	34.942708	

937	chic	78.5	73.87500	1989-07-25		NA	55.000000	39.7708333	47.690632
938	chic	79.5	72.37500	1989-07-26		NA	61.000000	20.7049366	34.765625
939	chic	82.5	66.75000	1989-07-27		NA	43.000000	33.2653894	22.014699
940	chic	67.5	57.50000	1989-07-28		NA	37.500000	30.7447917	13.877232
941	chic	69.0	67.00000	1989-07-29		NA	29.000000	41.8593750	22.302083
942	chic	71.5	61.00000	1989-07-30		NA	46.000000	44.9114583	11.157986
943	chic	71.0	60.50000	1989-07-31		NA	69.000000	57.3072917	22.440104
944	chic	72.5	60.12500	1989-08-01		NA	48.000000	51.7239583	33.779624
945	chic	74.0	66.62500	1989-08-02		NA	74.625000	35.4218750	44.781250
946	chic	79.5	72.62500	1989-08-03		NA	52.000000	27.7656250	24.544837
947	chic	81.0	77.00000	1989-08-04		NA	64.000000	29.9948207	19.411458
948	chic	77.0	66.00000	1989-08-05		NA	38.000000	38.1250000	20.600000
949	chic	63.0	48.75000	1989-08-06		NA	25.000000	21.7361111	16.181548
950	chic	62.0	50.25000	1989-08-07		NA	29.000000	23.3392857	24.750000
951	chic	65.0	57.12500	1989-08-08		NA	50.500000	16.7261905	27.067857
952	chic	70.5	58.75000	1989-08-09		NA	47.000000	21.5803571	39.669950
953	chic	72.5	62.37500	1989-08-10		NA	50.000000	27.4490132	41.193277
954	chic	70.5	62.25000	1989-08-11		NA	96.000000	31.1191878	55.905215
955	chic	72.0	60.00000	1989-08-12		NA	86.000000	28.3072917	44.255208
956	chic	71.0	62.50000	1989-08-13		NA	53.000000	35.2604167	32.130208
957	chic	71.0	63.25000	1989-08-14		NA	58.375000	22.9237939	32.130952
958	chic	69.0	61.62500	1989-08-15		NA	18.000000	20.8740530	21.213194
959	chic	66.5	56.62500	1989-08-16		NA		NA	24.0667614
960	chic	66.0	55.87500	1989-08-17		NA	34.000000	24.6390399	24.461458
961	chic	66.5	53.87500	1989-08-18		NA		NA	26.8630394
962	chic	67.5	60.87500	1989-08-19		NA		NA	25.552083
963	chic	74.5	61.12500	1989-08-20		NA	37.571429	30.3863636	14.437500
964	chic	74.0	65.50000	1989-08-21		NA	59.000000	27.8750000	32.084754
965	chic	77.5	72.12500	1989-08-22		NA	31.000000	18.9051178	25.196237
966	chic	70.5	63.00000	1989-08-23		NA	25.000000	28.1051136	19.040483
967	chic	70.0	61.50000	1989-08-24		NA	37.000000	32.0291667	14.976326
968	chic	70.0	58.25000	1989-08-25		NA		NA	31.7836792
969	chic	71.5	66.12500	1989-08-26		NA	49.285714	33.2083333	37.798532
970	chic	74.5	69.25000	1989-08-27		NA	50.000000	35.8072917	30.450521
971	chic	77.0	70.75000	1989-08-28		NA	49.000000	20.1197917	28.637153
972	chic	75.0	60.75000	1989-08-29		NA	50.000000	16.7343750	22.375947
973	chic	70.5	58.87500	1989-08-30		NA	54.000000	20.8645833	30.901042
974	chic	72.5	67.62500	1989-08-31		NA	35.000000	19.1822917	31.488095
975	chic	71.0	61.87500	1989-09-01		NA	21.875000	26.9270833	18.184508
976	chic	64.0	50.50000	1989-09-02		NA	15.000000	24.0885417	14.822917
977	chic	65.0	53.50000	1989-09-03		NA	23.000000	22.4947917	20.755208
978	chic	68.0	62.25000	1989-09-04		NA	37.000000	28.7187500	21.976562
979	chic	70.0	66.62500	1989-09-05		NA		NA	25.8906250
									39.236639

980	chic	71.5	69.87500	1989-09-06		NA	43.000000	15.4531250	30.396307
981	chic	74.5	71.75000	1989-09-07		NA	57.142857	19.6809330	34.247218
982	chic	76.5	69.00000	1989-09-08		NA	38.000000	17.5416667	29.098011
983	chic	68.0	60.50000	1989-09-09		NA	NA	19.1250000	16.375000
984	chic	63.0	51.25000	1989-09-10		NA	23.000000	16.7291667	14.429688
985	chic	65.0	57.12500	1989-09-11		NA	40.000000	16.4375000	31.209280
986	chic	60.5	45.62500	1989-09-12		NA	32.000000	18.8667037	21.208704
987	chic	56.5	50.50000	1989-09-13		NA	14.000000	20.5534420	19.217957
988	chic	58.0	51.37500	1989-09-14		NA	15.000000	21.6927083	16.773438
989	chic	57.5	49.12500	1989-09-15		NA	NA	23.6576705	22.674953
990	chic	59.5	51.87500	1989-09-16		NA	33.000000	22.8281250	28.169271
991	chic	63.5	54.12500	1989-09-17		NA	51.000000	26.8273810	33.036458
992	chic	65.0	55.75000	1989-09-18		NA	49.000000	31.7423469	44.815641
993	chic	65.0	55.50000	1989-09-19		NA	47.500000	23.7050866	41.935033
994	chic	65.5	56.87500	1989-09-20		NA	61.000000	27.3645833	43.975379
995	chic	66.0	58.00000	1989-09-21		NA	76.000000	25.3958333	46.408267
996	chic	61.5	44.75000	1989-09-22		NA	115.000000	25.1979167	31.972633
997	chic	45.5	31.62500	1989-09-23		NA	35.000000	17.0625000	13.351562
998	chic	48.0	36.75000	1989-09-24		NA	24.000000	12.8541667	24.095238
999	chic	54.5	43.12500	1989-09-25		NA	46.625000	15.8125000	31.523263
1000	chic	51.5	39.62500	1989-09-26		NA	24.000000	19.5104167	16.692595
1001	chic	51.0	38.75000	1989-09-27		NA	41.000000	16.9895833	33.281629
1002	chic	58.0	39.50000	1989-09-28		NA	53.000000	16.4046649	36.627976
1003	chic	59.5	47.62500	1989-09-29		NA	37.000000	19.1302083	26.140625
1004	chic	60.0	52.62500	1989-09-30		NA	45.000000	25.3452381	34.062500
1005	chic	65.5	59.62500	1989-10-01		NA	51.714286	19.3511905	31.119792
1006	chic	56.5	38.75000	1989-10-02		NA	54.500000	8.2031250	15.070833
1007	chic	44.5	24.87500	1989-10-03		NA	41.500000	12.2031250	22.480881
1008	chic	47.0	29.37500	1989-10-04		NA	69.000000	10.5999053	33.345833
1009	chic	52.5	55.25000	1989-10-05		NA	46.000000	5.8925070	35.338542
1010	chic	51.5	36.00000	1989-10-06		NA	25.000000	11.6995265	19.678883
1011	chic	45.0	33.37500	1989-10-07		NA	23.857143	11.4375000	20.406250
1012	chic	44.0	32.37500	1989-10-08		NA	22.500000	14.3593750	21.195312
1013	chic	45.5	37.37500	1989-10-09		NA	NA	14.4270833	28.119792
1014	chic	51.0	39.62500	1989-10-10		NA	39.000000	12.6302083	23.859860
1015	chic	59.0	39.62500	1989-10-11		NA	52.000000	18.7395833	27.953125
1016	chic	61.0	47.12500	1989-10-12		NA	58.000000	18.4791667	32.621686
1017	chic	62.5	45.75000	1989-10-13		NA	91.875000	11.0416667	59.515625
1018	chic	69.5	55.62500	1989-10-14		NA	62.000000	23.7916667	48.359375
1019	chic	70.5	53.50000	1989-10-15		NA	47.500000	29.1354167	26.223958
1020	chic	58.5	44.12500	1989-10-16		NA	27.000000	19.5357143	15.908659
1021	chic	43.0	31.62500	1989-10-17		NA	9.500000	17.7007576	13.030324
1022	chic	36.0	29.87500	1989-10-18		NA	13.500000	23.4285714	15.984848

1023	chic	36.0	33.00000	1989-10-19	NA	9.375000	21.1371636	15.049172
1024	chic	37.0	34.25000	1989-10-20	NA	19.000000	9.0515010	23.918737
1025	chic	46.0	37.00000	1989-10-21	NA	29.000000	11.7321429	24.627976
1026	chic	48.0	38.75000	1989-10-22	NA	20.500000	10.8750000	34.708333
1027	chic	58.5	54.50000	1989-10-23	NA	40.000000	10.0357143	45.357143
1028	chic	64.0	57.87500	1989-10-24	NA	47.500000	11.7857790	43.156446
1029	chic	65.5	55.75000	1989-10-25	NA	52.625000	15.4166667	42.884502
1030	chic	62.5	50.12500	1989-10-26	NA	64.000000	18.5564182	50.670996
1031	chic	62.5	42.87500	1989-10-27	NA	66.500000	18.0535714	56.230072
1032	chic	63.5	41.50000	1989-10-28	NA	52.500000	19.1964286	45.802083
1033	chic	64.5	49.87500	1989-10-29	NA	44.500000	25.5654762	35.979167
1034	chic	65.0	52.50000	1989-10-30	NA	42.000000	19.1845238	30.531250
1035	chic	45.5	31.12500	1989-10-31	NA	24.000000	4.7500000	16.715744
1036	chic	43.0	34.75000	1989-11-01	NA	32.000000	5.3750000	26.617898
1037	chic	35.0	24.12500	1989-11-02	NA	25.000000	8.8333333	17.281114
1038	chic	31.0	25.75000	1989-11-03	NA	27.000000	5.9583333	24.200284
1039	chic	46.5	29.75000	1989-11-04	NA	27.500000	8.2916667	20.973958
1040	chic	54.0	50.00000	1989-11-05	NA	35.500000	18.8333333	18.161458
1041	chic	45.5	37.75000	1989-11-06	NA	26.250000	6.3913043	17.196483
1042	chic	45.5	39.62500	1989-11-07	NA	28.000000	7.5416667	25.023398
1043	chic	45.0	35.00000	1989-11-08	NA	26.000000	5.9166667	21.005303
1044	chic	39.5	35.50000	1989-11-09	NA	20.000000	8.4583333	15.607481
1045	chic	38.0	28.12500	1989-11-10	NA	25.000000	7.9583333	12.925595
1046	chic	46.5	30.12500	1989-11-11	NA	28.000000	6.0833333	18.305556
1047	chic	38.5	30.37500	1989-11-12	NA	19.000000	9.5833333	18.768750
1048	chic	59.0	53.00000	1989-11-13	NA	NA	22.8333333	24.981291
1049	chic	54.0	45.00000	1989-11-14	NA	26.500000	7.8333333	17.030419
1050	chic	40.5	32.87500	1989-11-15	NA	15.000000	3.4444444	14.952863
1051	chic	26.0	11.37500	1989-11-16	NA	11.000000	15.6250000	13.012309
1052	chic	24.5	19.75000	1989-11-17	NA	34.500000	9.8333333	15.439878
1053	chic	21.0	11.75000	1989-11-18	NA	21.571429	10.2291667	15.738095
1054	chic	37.0	30.00000	1989-11-19	NA	25.500000	9.9583333	21.026786
1055	chic	45.5	19.50000	1989-11-20	NA	43.500000	12.4375000	16.005952
1056	chic	30.0	19.62500	1989-11-21	NA	29.000000	18.6666667	22.294203
1057	chic	26.5	21.25000	1989-11-22	NA	24.000000	10.1666667	29.410229
1058	chic	18.5	16.87500	1989-11-23	NA	29.000000	10.2500000	20.705729
1059	chic	27.5	24.37500	1989-11-24	NA	29.285714	6.6250000	24.791667
1060	chic	44.0	35.00000	1989-11-25	NA	31.500000	6.3750000	21.572917
1061	chic	38.5	29.00000	1989-11-26	NA	23.000000	4.6666667	30.875000
1062	chic	51.0	42.37500	1989-11-27	NA	NA	6.7916667	23.865845
1063	chic	28.5	12.62500	1989-11-28	NA	25.500000	19.0000000	15.461222
1064	chic	20.5	14.75000	1989-11-29	NA	20.000000	9.1250000	19.629261
1065	chic	34.0	25.12500	1989-11-30	NA	32.500000	6.0833333	25.412341

1066	chic	38.0	28.00000	1989-12-01		NA	49.000000	5.3750000	31.767857
1067	chic	29.0	9.00000	1989-12-02		NA	52.000000	16.1250000	12.375000
1068	chic	20.0	5.00000	1989-12-03		NA	14.000000	20.2500000	14.385417
1069	chic	33.5	24.62500	1989-12-04		NA	31.000000	5.0416667	21.088068
1070	chic	39.5	31.87500	1989-12-05		NA	38.000000	2.3333333	26.708333
1071	chic	29.0	7.25000	1989-12-06		NA	24.250000	13.6666667	19.158535
1072	chic	17.0	2.62500	1989-12-07		NA	32.000000	16.7916667	25.821558
1073	chic	21.5	13.62500	1989-12-08		NA	37.500000	17.5416667	31.167655
1074	chic	28.5	19.62500	1989-12-09		NA	30.500000	5.2083333	29.041667
1075	chic	31.0	22.87500	1989-12-10		NA	26.000000	13.2500000	16.921875
1076	chic	19.5	6.50000	1989-12-11		NA	35.000000	11.5416667	24.668252
1077	chic	11.0	0.50000	1989-12-12		NA	38.714286	8.2916667	27.794508
1078	chic	13.0	14.37500	1989-12-13		NA	43.000000	6.2916667	34.157835
1079	chic	8.0	-6.87500	1989-12-14		NA	34.000000	5.4583333	24.205228
1080	chic	3.5	2.62500	1989-12-15		NA	45.500000	8.8750000	26.696875
1081	chic	2.5	-4.50000	1989-12-16		NA	33.000000	7.9583333	25.708333
1082	chic	9.5	2.62500	1989-12-17		NA	31.000000	6.3333333	26.182292
1083	chic	9.5	2.62500	1989-12-18		NA	43.875000	6.0833333	29.406250
1084	chic	7.5	-3.62500	1989-12-19		NA	39.000000	9.0416667	30.132843
1085	chic	0.0	-2.87500	1989-12-20		NA	22.500000	10.5000000	25.826746
1086	chic	-6.5	-23.00000	1989-12-21		NA	49.000000	16.6666667	19.500000
1087	chic	-4.5	-11.87500	1989-12-22		NA	49.000000	9.4166667	29.416667
1088	chic	-1.0	-9.37500	1989-12-23		NA	38.000000	5.2500000	30.135417
1089	chic	5.0	7.50000	1989-12-24		NA	25.166667	8.2916667	25.166667
1090	chic	24.5	26.75000	1989-12-25		NA		NA	13.2083333
1091	chic	12.0	3.25000	1989-12-26		NA		NA	15.9583333
1092	chic	20.5	20.00000	1989-12-27		NA	34.000000	12.2500000	21.996280
1093	chic	27.0	32.00000	1989-12-28		NA	20.000000	5.5833333	30.918964
1094	chic	34.5	30.62500	1989-12-29		NA	40.000000	5.7500000	27.099432
1095	chic	32.5	32.00000	1989-12-30		NA	38.000000	2.1666667	27.156250
1096	chic	30.5	24.62500	1989-12-31		NA	42.000000	7.4583333	19.114583
1097	chic	27.5	19.75000	1990-01-01		NA		NA	16.4166667
1098	chic	33.0	28.75000	1990-01-02		NA		NA	21.511905
1099	chic	39.0	39.75000	1990-01-03		NA	37.000000	5.7916667	24.549242
1100	chic	36.0	23.50000	1990-01-04		NA	23.500000	8.2500000	22.404356
1101	chic	29.5	27.62500	1990-01-05		NA	35.142857	4.4583333	27.156250
1102	chic	30.0	25.00000	1990-01-06		NA	42.500000	7.9166667	24.541667
1103	chic	35.0	30.37500	1990-01-07		NA	27.000000	6.4583333	23.069940
1104	chic	37.0	33.62500	1990-01-08		NA	28.000000	6.1250000	29.550858
1105	chic	38.0	31.12500	1990-01-09		NA	30.000000	9.2916667	23.113765
1106	chic	32.5	29.12500	1990-01-10		NA	28.000000	7.0416667	15.611526
1107	chic	38.0	21.62500	1990-01-11		NA	104.625000	17.8750000	12.424479
1108	chic	26.0	10.50000	1990-01-12		NA	55.000000	20.0833333	13.197917

1109	chic	23.0	18.37500	1990-01-13	NA	18.000000	7.2500000	19.635417
1110	chic	36.5	27.00000	1990-01-14	NA	23.000000	6.1250000	21.151042
1111	chic	41.0	31.12500	1990-01-15	NA	44.000000	4.5416667	31.848958
1112	chic	47.5	52.12500	1990-01-16	NA	NA	3.0833333	29.306386
1113	chic	45.0	37.12500	1990-01-17	NA	27.000000	12.4583333	19.167572
1114	chic	32.0	22.50000	1990-01-18	NA	37.000000	12.0416667	16.605161
1115	chic	30.5	22.87500	1990-01-19	NA	48.000000	9.9583333	27.612798
1116	chic	35.5	34.00000	1990-01-20	NA	31.500000	4.7916667	20.739583
1117	chic	30.0	27.62500	1990-01-21	NA	16.000000	7.4375000	14.377604
1118	chic	36.5	30.62500	1990-01-22	NA	19.500000	5.3125000	21.304564
1119	chic	39.5	38.37500	1990-01-23	NA	34.250000	7.7916667	26.346354
1120	chic	40.0	31.87500	1990-01-24	NA	18.500000	7.7916667	20.299479
1121	chic	30.5	20.00000	1990-01-25	NA	22.000000	11.0555556	17.508117
1122	chic	25.5	27.75000	1990-01-26	NA	30.000000	8.5000000	27.309524
1123	chic	37.5	19.50000	1990-01-27	NA	25.000000	17.0000000	16.510417
1124	chic	30.5	18.12500	1990-01-28	NA	27.000000	7.0416667	21.036458
1125	chic	34.0	17.50000	1990-01-29	NA	50.125000	3.2916667	41.353039
1126	chic	34.5	21.37500	1990-01-30	NA	28.500000	9.0869565	21.586215
1127	chic	30.5	33.87500	1990-01-31	NA	35.000000	8.4583333	28.289025
1128	chic	41.0	31.75000	1990-02-01	NA	32.000000	14.9583333	21.696332
1129	chic	30.0	25.87500	1990-02-02	NA	32.000000	20.8333333	17.099977
1130	chic	33.0	31.00000	1990-02-03	NA	25.500000	7.8750000	21.026042
1131	chic	34.0	28.50000	1990-02-04	NA	20.875000	20.0416667	19.268229
1132	chic	41.5	36.75000	1990-02-05	NA	24.000000	8.5416667	24.763258
1133	chic	38.5	36.62500	1990-02-06	NA	31.500000	2.5000000	28.570340
1134	chic	37.0	37.25000	1990-02-07	NA	36.500000	5.4583333	24.379386
1135	chic	50.0	47.62500	1990-02-08	NA	31.000000	21.2500000	24.596875
1136	chic	41.5	22.37500	1990-02-09	NA	40.000000	17.5416667	21.541667
1137	chic	32.0	24.75000	1990-02-10	NA	23.375000	12.5000000	25.890625
1138	chic	28.5	20.12500	1990-02-11	NA	29.500000	15.8750000	24.666667
1139	chic	38.5	40.37500	1990-02-12	NA	36.000000	7.4166667	28.328125
1140	chic	41.0	23.50000	1990-02-13	NA	NA	20.8750000	17.000710
1141	chic	27.0	25.00000	1990-02-14	NA	14.000000	28.9166667	12.095342
1142	chic	29.5	29.00000	1990-02-15	NA	22.500000	22.7500000	16.353074
1143	chic	27.5	15.62500	1990-02-16	NA	23.500000	17.2916667	21.535486
1144	chic	21.0	14.75000	1990-02-17	NA	22.000000	16.2916667	26.506944
1145	chic	32.0	26.37500	1990-02-18	NA	28.000000	20.1666667	21.595238
1146	chic	24.0	6.87500	1990-02-19	NA	30.500000	22.2916667	26.692708
1147	chic	20.5	15.50000	1990-02-20	NA	53.000000	8.4761905	44.859046
1148	chic	34.0	30.12500	1990-02-21	NA	30.500000	7.1250000	40.127936
1149	chic	36.0	32.00000	1990-02-22	NA	23.000000	11.9166667	28.320749
1150	chic	32.5	25.75000	1990-02-23	NA	19.000000	21.0416667	26.718750
1151	chic	21.0	-2.50000	1990-02-24	NA	75.000000	29.1250000	11.471354

1152	chic	11.0	-2.62500	1990-02-25	NA	23.500000	23.500000	19.288690
1153	chic	23.0	22.00000	1990-02-26	NA	25.000000	11.375000	27.511732
1154	chic	32.5	14.50000	1990-02-27	NA	34.000000	16.833333	28.327536
1155	chic	24.5	12.62500	1990-02-28	NA	31.500000	19.666667	30.244339
1156	chic	30.5	25.25000	1990-03-01	NA	35.000000	15.458333	30.645833
1157	chic	39.5	28.25000	1990-03-02	NA	44.000000	13.666667	27.999337
1158	chic	29.0	9.00000	1990-03-03	NA	20.500000	26.166667	18.855729
1159	chic	30.5	22.62500	1990-03-04	NA	33.000000	16.0416667	29.031250
1160	chic	33.0	26.62500	1990-03-05	NA	24.500000	22.0416667	20.694792
1161	chic	29.0	13.75000	1990-03-06	NA	28.333333	32.250000	17.006168
1162	chic	29.5	21.75000	1990-03-07	NA	41.500000	24.2916667	26.784400
1163	chic	40.5	46.62500	1990-03-08	NA	29.000000	8.3636364	31.005855
1164	chic	46.0	43.37500	1990-03-09	NA	33.000000	9.9583333	27.461466
1165	chic	51.0	45.62500	1990-03-10	NA	36.000000	6.2916667	29.761905
1166	chic	57.5	61.12500	1990-03-11	NA	26.500000	16.7083333	21.833333
1167	chic	70.5	56.62500	1990-03-12	NA	26.857143	25.8750000	16.840368
1168	chic	67.0	61.37500	1990-03-13	NA	28.500000	11.8888889	24.863122
1169	chic	65.0	55.75000	1990-03-14	NA	27.000000	20.8333333	25.153341
1170	chic	57.5	39.12500	1990-03-15	NA	20.500000	23.9166667	22.854167
1171	chic	51.0	35.75000	1990-03-16	NA	28.000000	26.6250000	21.169196
1172	chic	41.0	26.25000	1990-03-17	NA	26.000000	31.2083333	9.856771
1173	chic	36.0	22.50000	1990-03-18	NA	16.285714	29.5416667	11.372396
1174	chic	26.5	11.00000	1990-03-19	NA	27.500000	21.8095238	18.555999
1175	chic	33.0	24.50000	1990-03-20	NA	35.000000	14.7979798	31.562405
1176	chic	47.5	34.50000	1990-03-21	NA	44.000000	20.3020833	31.395154
1177	chic	45.0	37.12500	1990-03-22	NA	36.000000	19.0666667	27.218750
1178	chic	31.0	9.12500	1990-03-23	NA	28.000000	28.7297390	16.142992
1179	chic	31.0	15.37500	1990-03-24	NA	25.625000	24.6145833	20.203125
1180	chic	34.5	22.37500	1990-03-25	NA	26.000000	22.2656250	18.083333
1181	chic	33.0	20.50000	1990-03-26	NA	19.000000	22.9702381	22.181839
1182	chic	35.5	21.37500	1990-03-27	NA	58.000000	13.5286797	42.348958
1183	chic	41.5	25.75000	1990-03-28	NA	41.000000	16.5923316	41.567708
1184	chic	41.5	40.37500	1990-03-29	NA	39.000000	13.1904762	27.604167
1185	chic	41.5	35.75000	1990-03-30	NA	38.000000	19.5449811	24.705348
1186	chic	41.5	41.50000	1990-03-31	NA	57.000000	17.3281250	29.140625
1187	chic	48.0	43.00000	1990-04-01	NA	34.000000	14.9583333	27.002976
1188	chic	38.0	29.87500	1990-04-02	NA	17.500000	16.9702381	15.132143
1189	chic	41.5	27.25000	1990-04-03	NA	27.000000	21.9166667	23.171372
1190	chic	43.0	37.00000	1990-04-04	NA	46.000000	11.7029221	40.327381
1191	chic	38.0	16.62500	1990-04-05	NA	29.625000	18.0476190	26.120748
1192	chic	31.0	17.12500	1990-04-06	NA	37.500000	17.4345238	27.318452
1193	chic	33.5	16.50000	1990-04-07	NA	23.000000	18.2023810	26.913690
1194	chic	46.0	30.37500	1990-04-08	NA	28.000000	21.3630952	31.904762

1195	chic	51.0	44.12500	1990-04-09	NA	36.000000	17.6562500	32.768892
1196	chic	41.5	22.25000	1990-04-10	NA	23.000000	20.0476190	23.508023
1197	chic	36.0	17.50000	1990-04-11	NA	25.428571	18.9979296	24.398810
1198	chic	35.0	23.62500	1990-04-12	NA	28.500000	18.8750000	28.168245
1199	chic	41.5	41.62500	1990-04-13	NA	32.000000	16.1845238	33.680556
1200	chic	48.5	36.37500	1990-04-14	NA	32.000000	21.6428571	23.944444
1201	chic	48.5	32.75000	1990-04-15	NA	37.000000	24.6964286	22.180556
1202	chic	48.0	39.87500	1990-04-16	NA	NA	21.4254658	31.083333
1203	chic	39.0	20.37500	1990-04-17	NA	25.750000	26.2782091	21.002200
1204	chic	41.5	22.12500	1990-04-18	NA	30.000000	21.7968426	34.812771
1205	chic	49.5	45.75000	1990-04-19	NA	40.000000	18.9802632	31.670455
1206	chic	56.0	56.87500	1990-04-20	NA	29.500000	7.2409656	32.649940
1207	chic	55.5	39.12500	1990-04-21	NA	28.000000	17.8988095	26.285714
1208	chic	55.5	44.75000	1990-04-22	NA	95.000000	24.6904762	43.869048
1209	chic	65.5	58.37500	1990-04-23	NA	50.125000	29.7797619	42.222222
1210	chic	76.5	56.87500	1990-04-24	NA	41.500000	29.3750000	25.393892
1211	chic	76.5	61.00000	1990-04-25	NA	58.000000	25.1488095	26.612013
1212	chic	75.0	57.00000	1990-04-26	NA	53.000000	31.3214286	20.835910
1213	chic	73.5	56.12500	1990-04-27	NA	61.000000	35.5238095	24.586735
1214	chic	61.0	48.75000	1990-04-28	NA	26.000000	24.9464286	17.800595
1215	chic	58.5	51.00000	1990-04-29	NA	33.142857	16.8273810	15.854167
1216	chic	55.0	31.25000	1990-04-30	NA	47.000000	15.7916667	21.783550
1217	chic	52.0	26.00000	1990-05-01	NA	55.000000	26.1469979	23.863672
1218	chic	54.0	33.62500	1990-05-02	NA	61.500000	23.8750000	34.251553
1219	chic	51.5	44.50000	1990-05-03	NA	55.000000	22.8333333	28.829710
1220	chic	46.5	41.62500	1990-05-04	NA	21.500000	33.7708333	17.542749
1221	chic	51.0	45.12500	1990-05-05	NA	34.125000	33.4427083	24.470238
1222	chic	52.5	44.50000	1990-05-06	NA	26.000000	24.7656250	27.659864
1223	chic	62.5	48.87500	1990-05-07	NA	49.000000	34.3876812	24.443237
1224	chic	70.5	55.75000	1990-05-08	NA	63.000000	44.7321429	18.606710
1225	chic	62.5	56.87500	1990-05-09	NA	80.000000	30.6502193	24.555556
1226	chic	43.5	36.75000	1990-05-10	NA	17.000000	18.3802083	12.699405
1227	chic	49.5	36.25000	1990-05-11	NA	32.250000	24.3593750	32.536616
1228	chic	50.5	48.00000	1990-05-12	NA	26.500000	27.2812500	21.839209
1229	chic	54.5	43.00000	1990-05-13	NA	33.000000	43.6822917	14.629167
1230	chic	56.5	59.12500	1990-05-14	NA	27.500000	23.4732143	29.572619
1231	chic	55.5	54.00000	1990-05-15	NA	51.500000	15.5449811	27.200560
1232	chic	66.5	57.25000	1990-05-16	NA	26.500000	24.8910985	21.063889
1233	chic	56.0	41.62500	1990-05-17	NA	71.000000	28.2552083	11.229167
1234	chic	60.5	43.62500	1990-05-18	NA	60.000000	32.1225091	22.150794
1235	chic	62.5	63.00000	1990-05-19	NA	25.000000	27.8593750	25.680556
1236	chic	54.5	46.12500	1990-05-20	NA	17.000000	21.1145833	12.557143
1237	chic	52.5	41.50000	1990-05-21	NA	15.000000	21.1145833	14.210921

1238	chic	52.5	40.75000	1990-05-22		NA	18.500000	22.9424819	23.106061
1239	chic	57.0	50.12500	1990-05-23		NA	52.625000	22.0389493	38.378586
1240	chic	61.5	50.00000	1990-05-24		NA	47.000000	30.9958004	40.011905
1241	chic	56.5	56.25000	1990-05-25		NA	39.000000	26.4177989	30.136128
1242	chic	59.5	51.37500	1990-05-26		NA	46.500000	39.3120471	19.386905
1243	chic	63.0	46.00000	1990-05-27		NA	41.000000	50.4166667	18.351190
1244	chic	62.5	44.25000	1990-05-28		NA	28.000000	40.8072917	14.223214
1245	chic	55.0	29.37500	1990-05-29		NA	28.875000	30.6116395	13.456263
1246	chic	53.5	33.37500	1990-05-30		NA	41.000000	30.2343750	23.732649
1247	chic	57.5	41.12500	1990-05-31		NA	68.000000	28.5939078	39.108586
1248	chic	74.0	65.62500	1990-06-01		NA	59.000000	36.8697917	31.070449
1249	chic	74.5	55.62500	1990-06-02		NA	85.000000	30.5052083	15.027778
1250	chic	61.0	41.50000	1990-06-03		NA	103.000000	25.8430060	7.572313
1251	chic	53.0	30.62500	1990-06-04		NA	25.285714	22.7154768	17.919571
1252	chic	53.0	51.37500	1990-06-05		NA	38.000000	14.0112607	34.449517
1253	chic	69.0	48.87500	1990-06-06		NA	50.000000	20.3778409	30.368687
1254	chic	65.5	53.87500	1990-06-07		NA	46.500000	23.6444129	32.475694
1255	chic	70.0	63.87500	1990-06-08		NA	51.000000	19.4300272	30.607076
1256	chic	72.5	55.00000	1990-06-09		NA	33.500000	32.3802083	20.135417
1257	chic	64.5	50.75000	1990-06-10		NA	17.875000	31.8593750	15.989583
1258	chic	65.5	55.37500	1990-06-11		NA	41.500000	30.4062500	32.868056
1259	chic	78.0	62.50000	1990-06-12		NA	92.000000	46.6278409	24.644626
1260	chic	81.5	69.00000	1990-06-13		NA	60.000000	48.7223011	23.750000
1261	chic	71.0	61.50000	1990-06-14		NA	27.000000	32.2699275	21.806263
1262	chic	71.0	57.87500	1990-06-15		NA	40.500000	35.6954257	29.458829
1263	chic	74.0	68.87500	1990-06-16		NA	54.875000	35.3645833	29.697917
1264	chic	78.5	71.37500	1990-06-17		NA	37.500000	41.7187500	8.930060
1265	chic	71.0	55.87500	1990-06-18		NA	34.000000	33.8009511	12.604861
1266	chic	63.0	52.87500	1990-06-19		NA	31.500000	19.3286397	20.478261
1267	chic	69.0	63.87500	1990-06-20		NA	32.000000	21.5208333	26.152778
1268	chic	72.0	62.75000	1990-06-21		NA	41.500000	19.4360795	26.902942
1269	chic	66.5	57.12500	1990-06-22		NA	24.571429	20.2812500	18.977959
1270	chic	65.0	54.87500	1990-06-23		NA	28.500000	18.9791667	9.333333
1271	chic	64.0	45.75000	1990-06-24		NA	27.000000	23.2500000	18.135417
1272	chic	69.5	58.50000	1990-06-25		NA	37.000000	23.5208333	30.632842
1273	chic	75.5	69.37500	1990-06-26		NA	42.000000	29.9338235	29.974508
1274	chic	74.5	55.62500	1990-06-27		NA	43.000000	30.7291667	32.912563
1275	chic	72.5	68.12500	1990-06-28		NA	52.375000	29.3489583	32.902929
1276	chic	73.5	69.12500	1990-06-29		NA	21.500000	33.5354167	27.320350
1277	chic	80.0	70.37500	1990-06-30		NA	40.000000	35.3281250	24.381944
1278	chic	66.5	55.50000	1990-07-01		NA	18.000000	20.7135417	11.256944
1279	chic	69.5	61.25000	1990-07-02		NA	36.000000	29.0285326	25.829861
1280	chic	77.0	71.75000	1990-07-03		NA	51.500000	47.4022974	28.624303

1281	chic	86.5	73.37500	1990-07-04		NA	60.625000	52.2291667	12.816789
1282	chic	73.5	55.25000	1990-07-05		NA	33.000000	29.0260417	17.532382
1283	chic	63.0	50.12500	1990-07-06		NA	16.000000	21.2667572	11.829861
1284	chic	67.0	57.37500	1990-07-07		NA	28.000000	31.7291667	19.225694
1285	chic	83.5	70.62500	1990-07-08		NA	53.000000	45.2500000	14.961806
1286	chic	81.0	64.00000	1990-07-09		NA	38.500000	37.3697917	22.283252
1287	chic	70.5	61.62500	1990-07-10		NA	37.500000	23.7755888	27.036859
1288	chic	67.0	54.87500	1990-07-11		NA	17.000000	28.3072917	15.128517
1289	chic	66.0	54.62500	1990-07-12		NA	18.000000	24.4627193	11.504816
1290	chic	62.5	53.62500	1990-07-13		NA	13.000000	22.9739583	13.714286
1291	chic	62.0	58.75000	1990-07-14		NA	28.000000	17.2080270	15.122024
1292	chic	65.0	62.12500	1990-07-15		NA	29.000000	16.0677083	22.458333
1293	chic	70.5	68.50000	1990-07-16		NA	32.250000	27.1086957	25.846014
1294	chic	78.0	63.75000	1990-07-17		NA	41.000000	41.4218750	25.167831
1295	chic	78.5	67.62500	1990-07-18		NA	47.000000	26.3803282	29.241071
1296	chic	77.5	68.00000	1990-07-19		NA	47.500000	18.4901316	26.910714
1297	chic	68.0	63.25000	1990-07-20		NA	20.000000	19.5520833	22.897998
1298	chic	69.5	57.87500	1990-07-21		NA	24.000000	23.6242560	21.122024
1299	chic	68.5	61.00000	1990-07-22		NA	15.375000	29.3750000	12.035714
1300	chic	68.5	57.75000	1990-07-23		NA	36.500000	20.2110919	26.303258
1301	chic	69.5	61.50000	1990-07-24		NA	48.000000	18.6197917	34.357483
1302	chic	72.0	63.00000	1990-07-25		NA	37.500000	24.8831198	32.579099
1303	chic	75.5	62.50000	1990-07-26		NA	51.000000	31.2620389	30.907468
1304	chic	74.5	65.75000	1990-07-27		NA	74.000000	47.5416667	30.035714
1305	chic	79.0	70.50000	1990-07-28		NA	87.750000	51.0833333	21.339286
1306	chic	79.5	70.37500	1990-07-29		NA	55.000000	33.1562500	13.559524
1307	chic	69.5	58.12500	1990-07-30		NA	23.000000	18.5758929	10.316249
1308	chic	62.0	49.62500	1990-07-31		NA	14.500000	18.9055707	11.766810
1309	chic	63.5	57.62500	1990-08-01		NA	42.000000	23.1309524	22.557065
1310	chic	69.0	57.37500	1990-08-02		NA	38.000000	31.1622024	30.434524
1311	chic	75.5	69.37500	1990-08-03		NA	66.000000	38.2696687	30.567177
1312	chic	76.5	66.00000	1990-08-04		NA	19.000000	28.8958333	28.666667
1313	chic	68.5	57.75000	1990-08-05		NA	13.000000	20.0451389	11.267857
1314	chic	61.0	49.62500	1990-08-06		NA	9.500000	17.3671875	10.600298
1315	chic	63.5	54.50000	1990-08-07		NA	38.000000	19.7537879	24.015847
1316	chic	69.0	56.00000	1990-08-08		NA	48.500000	21.4490166	36.179113
1317	chic	69.0	56.50000	1990-08-09		NA	55.857143	33.7916667	38.496212
1318	chic	72.0	63.62500	1990-08-10		NA	45.000000	38.1458333	42.395833
1319	chic	73.0	65.37500	1990-08-11		NA	60.500000	48.1458333	21.114583
1320	chic	68.5	64.25000	1990-08-12		NA	29.000000	31.2291667	22.812500
1321	chic	63.0	51.37500	1990-08-13		NA	20.500000	17.1960565	13.273552
1322	chic	65.5	62.12500	1990-08-14		NA	26.000000	17.1834239	21.779796
1323	chic	74.5	66.75000	1990-08-15		NA	54.285714	28.4107143	20.538690

1324	chic	73.0	68.62500	1990-08-16	NA	55.000000	30.9642857	23.191558
1325	chic	72.0	71.00000	1990-08-17	NA	40.500000	15.0833333	22.753364
1326	chic	80.5	75.25000	1990-08-18	NA	25.000000	35.1614583	18.988095
1327	chic	75.5	68.50000	1990-08-19	NA	18.500000	31.4375000	7.735119
1328	chic	71.5	69.37500	1990-08-20	NA	16.000000	12.1406250	13.810606
1329	chic	68.0	66.25000	1990-08-21	NA	18.500000	9.8333333	11.780110
1330	chic	69.0	63.25000	1990-08-22	NA	21.500000	24.9314182	13.732639
1331	chic	70.5	64.25000	1990-08-23	NA	39.000000	24.1517210	20.280770
1332	chic	75.0	67.12500	1990-08-24	NA	28.000000	25.9180254	28.451389
1333	chic	76.5	69.75000	1990-08-25	NA	50.000000	29.7497736	25.069444
1334	chic	78.5	73.25000	1990-08-26	NA	82.000000	42.1190476	18.766455
1335	chic	82.5	75.87500	1990-08-27	NA	90.285714	36.3097826	22.996683
1336	chic	82.5	70.50000	1990-08-28	NA	53.500000	33.4047619	22.595833
1337	chic	75.5	57.87500	1990-08-29	NA	36.000000	29.4863807	21.707477
1338	chic	69.0	53.87500	1990-08-30	NA	25.500000	40.9166667	30.166667
1339	chic	70.0	60.75000	1990-08-31	NA	58.000000	50.6388889	46.194444
1340	chic	78.0	69.12500	1990-09-01	NA	64.000000	39.8802083	34.777778
1341	chic	73.0	61.25000	1990-09-02	NA	34.166667	24.2410714	21.437500
1342	chic	71.0	60.87500	1990-09-03	NA	23.500000	22.8571429	23.027778
1343	chic	79.0	73.37500	1990-09-04	NA	84.000000	28.5654762	29.381121
1344	chic	77.0	69.12500	1990-09-05	NA	52.000000	30.8928571	25.943182
1345	chic	83.0	70.50000	1990-09-06	NA	56.500000	30.6738095	31.047619
1346	chic	72.0	63.25000	1990-09-07	NA	13.500000	28.5781250	14.495942
1347	chic	72.0	64.62500	1990-09-08	NA	41.000000	19.7447917	17.431548
1348	chic	73.0	65.75000	1990-09-09	NA	43.000000	22.6979167	26.473214
1349	chic	75.5	68.37500	1990-09-10	NA	69.000000	36.1736111	34.218795
1350	chic	74.0	67.87500	1990-09-11	NA	58.500000	30.3722826	22.125129
1351	chic	74.5	64.50000	1990-09-12	NA	94.000000	28.3810688	42.130952
1352	chic	74.5	65.62500	1990-09-13	NA	69.500000	25.1390399	39.066259
1353	chic	65.5	54.62500	1990-09-14	NA	38.625000	15.2864583	15.576441
1354	chic	63.0	54.00000	1990-09-15	NA	23.500000	15.2968750	18.491071
1355	chic	57.0	47.50000	1990-09-16	NA	10.500000	20.3645833	11.820833
1356	chic	56.0	46.25000	1990-09-17	NA	19.000000	17.7500000	17.892857
1357	chic	55.5	49.87500	1990-09-18	NA	17.000000	11.8961730	28.154374
1358	chic	57.5	50.50000	1990-09-19	NA	28.000000	5.5066288	19.921433
1359	chic	59.5	50.75000	1990-09-20	NA	37.428571	17.2822176	30.337407
1360	chic	62.0	46.62500	1990-09-21	NA	26.000000	10.5535714	29.527778
1361	chic	56.5	42.25000	1990-09-22	NA	21.000000	9.0476190	17.843750
1362	chic	50.5	35.25000	1990-09-23	NA	17.500000	15.3273810	16.111111
1363	chic	53.5	38.50000	1990-09-24	NA	34.000000	16.8979592	24.854437
1364	chic	67.0	51.75000	1990-09-25	NA	42.000000	20.9642857	25.738095
1365	chic	67.5	52.62500	1990-09-26	NA	46.875000	14.6785714	31.351732
1366	chic	65.5	51.75000	1990-09-27	NA	45.500000	19.6007493	40.898026

1367	chic	61.0	54.12500	1990-09-28	NA	48.000000	18.1815908	26.439218
1368	chic	58.5	51.12500	1990-09-29	NA	12.500000	15.2738095	10.381944
1369	chic	52.5	40.25000	1990-09-30	NA	17.000000	11.7440476	14.177976
1370	chic	57.0	38.25000	1990-10-01	NA	43.500000	9.4800725	26.854814
1371	chic	56.5	41.12500	1990-10-02	NA	47.750000	15.4671325	34.520526
1372	chic	67.0	58.12500	1990-10-03	NA	28.500000	21.6568323	21.453487
1373	chic	57.5	40.50000	1990-10-04	NA	32.000000	10.2678571	18.399660
1374	chic	68.5	55.00000	1990-10-05	NA	29.000000	24.3452381	21.010359
1375	chic	75.0	56.37500	1990-10-06	NA	39.000000	34.9464286	15.423137
1376	chic	55.0	48.50000	1990-10-07	NA	5.500000	20.2380952	6.726172
1377	chic	50.5	46.75000	1990-10-08	NA	8.000000	13.0238095	9.726190
1378	chic	47.0	43.50000	1990-10-09	NA	NA	20.1283644	10.336310
1379	chic	41.5	35.25000	1990-10-10	NA	10.000000	11.2440476	11.947360
1380	chic	46.5	35.87500	1990-10-11	NA	46.500000	9.4216486	28.239130
1381	chic	48.5	42.12500	1990-10-12	NA	65.000000	9.6262940	41.480590
1382	chic	52.0	45.37500	1990-10-13	NA	50.500000	14.8392857	30.982143
1383	chic	53.5	48.50000	1990-10-14	NA	25.857143	18.3214286	20.589286
1384	chic	51.0	40.62500	1990-10-15	NA	30.500000	5.0195578	21.789441
1385	chic	56.0	52.25000	1990-10-16	NA	27.000000	13.2440476	26.627976
1386	chic	65.0	55.37500	1990-10-17	NA	45.000000	34.6726190	17.565476
1387	chic	43.0	28.87500	1990-10-18	NA	16.500000	13.5595238	8.327252
1388	chic	40.5	32.87500	1990-10-19	NA	21.000000	7.9285714	21.467885
1389	chic	54.5	36.00000	1990-10-20	NA	26.625000	13.8750000	21.349915
1390	chic	49.0	37.00000	1990-10-21	NA	25.000000	15.5535714	13.488095
1391	chic	43.5	33.87500	1990-10-22	NA	47.000000	8.4047619	24.833722
1392	chic	46.5	37.62500	1990-10-23	NA	49.000000	6.7343074	32.386669
1393	chic	46.5	33.50000	1990-10-24	NA	36.000000	9.0613354	21.383929
1394	chic	40.0	31.75000	1990-10-25	NA	22.000000	9.7797619	19.250000
1395	chic	41.0	31.12500	1990-10-26	NA	45.625000	6.2313665	27.047675
1396	chic	52.5	33.00000	1990-10-27	NA	51.000000	13.6369048	14.878472
1397	chic	41.0	28.62500	1990-10-28	NA	17.000000	12.9166667	14.854167
1398	chic	45.5	30.62500	1990-10-29	NA	29.500000	7.7142857	24.482639
1399	chic	60.0	48.87500	1990-10-30	NA	58.000000	16.7673395	31.951389
1400	chic	58.0	49.62500	1990-10-31	NA	63.500000	10.2857143	41.683717
1401	chic	60.0	44.12500	1990-11-01	NA	60.428571	23.0416667	29.623188
1402	chic	65.5	52.37500	1990-11-02	NA	49.500000	26.5416667	27.980676
1403	chic	59.5	51.12500	1990-11-03	NA	44.000000	19.2083333	22.263889
1404	chic	42.0	38.50000	1990-11-04	NA	4.000000	19.6666667	7.350000
1405	chic	39.5	32.62500	1990-11-05	NA	9.000000	16.3333333	10.201994
1406	chic	36.5	35.00000	1990-11-06	NA	24.000000	5.2500000	18.553571
1407	chic	34.0	20.37500	1990-11-07	NA	26.714286	10.2916667	14.727336
1408	chic	31.5	27.00000	1990-11-08	NA	33.500000	3.3333333	23.841335
1409	chic	37.0	33.00000	1990-11-09	NA	29.000000	2.1250000	19.180556

1410	chic	40.5	22.00000	1990-11-10		NA	27.000000	7.7500000	17.361111
1411	chic	37.5	28.87500	1990-11-11		NA	20.000000	7.1250000	20.291667
1412	chic	38.0	17.12500	1990-11-12		NA	NA	9.9583333	23.079861
1413	chic	38.0	29.87500	1990-11-13		NA	43.250000	7.8333333	27.085639
1414	chic	51.0	38.50000	1990-11-14		NA	40.500000	5.9166667	30.977226
1415	chic	61.0	49.50000	1990-11-15		NA	47.000000	26.0416667	25.678075
1416	chic	47.5	32.00000	1990-11-16		NA	38.000000	13.3750000	19.394571
1417	chic	42.0	29.62500	1990-11-17		NA	25.000000	10.2083333	23.487500
1418	chic	45.5	33.12500	1990-11-18		NA	31.000000	8.1250000	26.533333
1419	chic	44.0	38.50000	1990-11-19		NA	58.571429	3.0833333	27.663812
1420	chic	44.5	42.25000	1990-11-20		NA	48.000000	6.2083333	32.360119
1421	chic	59.5	53.25000	1990-11-21		NA	35.000000	11.0416667	22.336806
1422	chic	43.5	32.25000	1990-11-22		NA	27.500000	8.1666667	16.687500
1423	chic	42.0	17.37500	1990-11-23		NA	18.000000	15.4166667	11.638636
1424	chic	42.0	30.00000	1990-11-24		NA	NA	3.8333333	20.591667
1425	chic	44.5	28.62500	1990-11-25		NA	26.625000	11.9583333	14.212500
1426	chic	53.0	58.50000	1990-11-26		NA	NA	8.0000000	19.895833
1427	chic	61.0	57.62500	1990-11-27		NA	12.000000	6.5000000	22.154762
1428	chic	39.5	22.12500	1990-11-28		NA	17.000000	8.9545455	15.066288
1429	chic	31.5	23.62500	1990-11-29		NA	31.000000	5.2500000	21.758333
1430	chic	41.0	29.87500	1990-11-30		NA	21.500000	9.6250000	21.858333
1431	chic	40.5	28.12500	1990-12-01		NA	19.000000	8.8333333	20.125000
1432	chic	33.0	24.62500	1990-12-02		NA	14.000000	19.2500000	11.841667
1433	chic	33.0	25.75000	1990-12-03		NA	24.000000	14.8750000	12.844697
1434	chic	22.0	13.25000	1990-12-04		NA	24.000000	18.7083333	19.591502
1435	chic	28.5	29.37500	1990-12-05		NA	27.000000	5.5416667	27.125000
1436	chic	29.5	16.12500	1990-12-06		NA	30.500000	8.1250000	24.715278
1437	chic	31.0	27.75000	1990-12-07		NA	28.857143	4.2173913	24.773737
1438	chic	37.0	29.12500	1990-12-08		NA	32.500000	3.7500000	24.658333
1439	chic	43.0	31.00000	1990-12-09		NA	28.000000	6.4166667	24.000000
1440	chic	39.5	29.75000	1990-12-10		NA	24.500000	11.4166667	27.716766
1441	chic	44.0	40.37500	1990-12-11		NA	33.000000	7.9565217	31.505736
1442	chic	45.5	35.87500	1990-12-12		NA	35.000000	14.2941176	23.839869
1443	chic	30.5	18.25000	1990-12-13		NA	16.571429	15.2083333	15.821759
1444	chic	30.5	26.37500	1990-12-14		NA	19.500000	11.2173913	20.389997
1445	chic	39.5	32.00000	1990-12-15		NA	18.000000	4.0000000	14.595238
1446	chic	34.5	28.87500	1990-12-16		NA	22.500000	11.7500000	13.523810
1447	chic	36.5	36.25000	1990-12-17		NA	16.000000	3.1250000	14.784632
1448	chic	34.0	27.00000	1990-12-18		NA	24.500000	5.3750000	12.472364
1449	chic	31.0	27.00000	1990-12-19		NA	28.333333	6.5000000	20.453204
1450	chic	40.0	42.25000	1990-12-20		NA	25.000000	6.6666667	20.804607
1451	chic	38.0	38.62500	1990-12-21		NA	29.500000	3.4166667	19.880952
1452	chic	17.0	0.75000	1990-12-22		NA	24.000000	9.8333333	14.386905

1453	chic	7.0	-3.75000	1990-12-23	NA	40.000000	17.4166667	12.949405
1454	chic	8.0	7.75000	1990-12-24	NA	NA	14.4166667	12.645833
1455	chic	14.5	-7.87500	1990-12-25	NA	20.428571	13.8750000	11.725694
1456	chic	3.5	-6.50000	1990-12-26	NA	NA	11.8333333	21.792723
1457	chic	17.5	16.75000	1990-12-27	NA	18.000000	11.4583333	26.708694
1458	chic	31.0	30.87500	1990-12-28	NA	28.000000	2.7916667	22.010743
1459	chic	33.5	30.00000	1990-12-29	NA	12.500000	3.6250000	12.951389
1460	chic	15.0	2.62500	1990-12-30	NA	NA	12.1041667	10.236111
1461	chic	8.0	5.00000	1990-12-31	NA	26.250000	11.7732843	17.360975
1462	chic	20.5	19.00000	1991-01-01	NA	NA	11.0769231	18.966667
1463	chic	16.0	6.62500	1991-01-02	NA	NA	9.8750000	24.272879
1464	chic	6.5	0.50000	1991-01-03	NA	NA	9.2500000	23.015530
1465	chic	14.0	11.50000	1991-01-04	NA	43.000000	6.8750000	26.783081
1466	chic	25.5	21.62500	1991-01-05	NA	NA	3.9583333	24.250000
1467	chic	20.5	13.62500	1991-01-06	NA	27.000000	14.6250000	22.632738
1468	chic	21.5	17.50000	1991-01-07	NA	NA	22.0000000	19.851537
1469	chic	25.5	27.37500	1991-01-08	NA	28.500000	11.2916667	24.282738
1470	chic	24.0	18.00000	1991-01-09	NA	37.000000	4.7916667	22.935516
1471	chic	22.0	26.12500	1991-01-10	NA	35.500000	10.1250000	23.478535
1472	chic	29.5	26.62500	1991-01-11	NA	24.000000	8.6250000	17.697718
1473	chic	25.5	22.00000	1991-01-12	NA	23.000000	9.1666667	22.708333
1474	chic	24.5	26.87500	1991-01-13	NA	33.000000	10.7083333	20.944444
1475	chic	31.5	27.12500	1991-01-14	NA	44.500000	7.7083333	27.758152
1476	chic	30.5	31.62500	1991-01-15	NA	46.000000	4.6666667	30.881944
1477	chic	31.0	25.75000	1991-01-16	NA	31.500000	10.9583333	21.731129
1478	chic	26.0	18.75000	1991-01-17	NA	34.000000	12.3333333	19.332931
1479	chic	21.5	24.00000	1991-01-18	NA	33.428571	9.4166667	25.655303
1480	chic	36.5	29.62500	1991-01-19	NA	19.000000	14.5000000	24.072917
1481	chic	26.5	18.62500	1991-01-20	NA	25.000000	18.7916667	17.966667
1482	chic	10.5	-1.50000	1991-01-21	NA	27.000000	20.2916667	19.875000
1483	chic	11.0	12.00000	1991-01-22	NA	55.000000	7.8750000	26.291667
1484	chic	21.5	5.75000	1991-01-23	NA	34.000000	14.1666667	15.030303
1485	chic	9.0	-5.75000	1991-01-24	NA	34.750000	13.9166667	26.574621
1486	chic	7.5	-2.37500	1991-01-25	NA	55.000000	9.9166667	32.636580
1487	chic	15.5	9.25000	1991-01-26	NA	41.000000	12.5416667	22.191667
1488	chic	22.0	17.00000	1991-01-27	NA	25.000000	12.7083333	23.008333
1489	chic	25.5	19.75000	1991-01-28	NA	54.000000	12.2083333	31.426087
1490	chic	19.0	12.62500	1991-01-29	NA	12.000000	20.4166667	23.550000
1491	chic	15.0	6.62500	1991-01-30	NA	42.125000	11.9583333	26.264493
1492	chic	17.0	8.87500	1991-01-31	NA	40.000000	14.6666667	21.780032
1493	chic	29.0	27.50000	1991-02-01	NA	52.500000	7.9166667	30.486111
1494	chic	39.0	30.50000	1991-02-02	NA	NA	12.0416667	29.597222
1495	chic	42.5	30.12500	1991-02-03	NA	39.000000	16.6666667	31.625000

1496	chic	44.0	38.00000	1991-02-04		NA	32.000000	12.5833333	28.055556	
1497	chic	39.0	34.37500	1991-02-05		NA	47.250000	13.0416667	28.597619	
1498	chic	35.5	32.87500	1991-02-06		NA	39.000000	15.3333333	18.517857	
1499	chic	32.5	29.50000	1991-02-07		NA	28.000000	8.3333333	25.013889	
1500	chic	34.0	31.00000	1991-02-08		NA	42.000000	6.5833333	24.444444	
1501	chic	37.5	30.12500	1991-02-09		NA	35.500000	8.8333333	23.888889	
1502	chic	30.0	9.25000	1991-02-10		NA	33.000000	18.4166667	15.281250	
1503	chic	22.0	5.12500	1991-02-11		NA	24.000000	18.3750000	16.891606	
1504	chic	24.5	17.87500	1991-02-12		NA	35.000000	8.0000000	27.715278	
1505	chic	32.5	26.75000	1991-02-13		NA	37.000000	8.4583333	23.506944	
1506	chic	22.0	13.62500	1991-02-14		NA	35.000000	16.0833333	17.283611	
1507	chic	8.5	-6.25000	1991-02-15		NA	39.500000	22.1666667	12.237939	
1508	chic	16.0	17.12500	1991-02-16		NA	23.000000	12.5833333	16.364583	
1509	chic	35.0	29.25000	1991-02-17		NA	29.375000	15.5000000	18.869565	
1510	chic	38.5	38.37500	1991-02-18		NA	39.000000	8.2916667	18.037121	
1511	chic	35.5	23.62500	1991-02-19		NA		NA	10.8750000	14.559028
1512	chic	36.5	30.37500	1991-02-20		NA	36.500000	16.3750000	18.834575	
1513	chic	47.0	40.37500	1991-02-21		NA	46.000000	10.6666667	23.642512	
1514	chic	34.5	14.50000	1991-02-22		NA	27.000000	19.0833333	14.617740	
1515	chic	26.5	18.50000	1991-02-23		NA	22.875000	20.8333333	16.819444	
1516	chic	28.5	13.00000	1991-02-24		NA	26.000000	14.9583333	14.336806	
1517	chic	21.0	7.50000	1991-02-25		NA	25.000000	17.4166667	18.958333	
1518	chic	19.0	16.12500	1991-02-26		NA	41.000000	13.9583333	25.236111	
1519	chic	23.5	19.50000	1991-02-27		NA	37.000000	14.7500000	22.263889	
1520	chic	39.0	30.62500	1991-02-28		NA	40.000000	13.3333333	25.984492	
1521	chic	48.0	46.50000	1991-03-01		NA	29.571429	21.5000000	25.921086	
1522	chic	37.5	22.25000	1991-03-02		NA	26.000000	17.3750000	11.836806	
1523	chic	25.5	18.50000	1991-03-03		NA	15.000000	21.3750000	9.840278	
1524	chic	31.0	20.75000	1991-03-04		NA	30.000000	10.6666667	25.638889	
1525	chic	39.0	31.75000	1991-03-05		NA	53.000000	6.8750000	27.310606	
1526	chic	39.5	20.12500	1991-03-06		NA	35.000000	15.1666667	14.382937	
1527	chic	28.0	11.00000	1991-03-07		NA	22.142857	17.5833333	20.152778	
1528	chic	32.5	28.00000	1991-03-08		NA		NA	12.2083333	31.350694
1529	chic	33.5	23.00000	1991-03-09		NA	38.500000	18.7083333	13.302083	
1530	chic	34.5	23.25000	1991-03-10		NA	40.000000	20.3333333	17.743056	
1531	chic	40.0	28.37500	1991-03-11		NA	57.500000	17.9583333	18.722222	
1532	chic	32.0	24.50000	1991-03-12		NA	33.000000	16.2083333	15.513573	
1533	chic	32.5	23.50000	1991-03-13		NA	15.000000	25.6666667	12.434028	
1534	chic	34.5	26.50000	1991-03-14		NA	11.000000	26.7500000	13.812500	
1535	chic	34.0	26.50000	1991-03-15		NA	25.000000	17.0000000	23.822285	
1536	chic	39.0	28.75000	1991-03-16		NA	26.000000	22.5000000	29.993056	
1537	chic	39.0	39.25000	1991-03-17		NA	33.500000	10.5000000	25.409722	
1538	chic	42.5	35.87500	1991-03-18		NA	51.000000	15.0733696	24.676932	

1539	chic	44.0	38.00000	1991-03-19	NA	43.714286	12.9166667	28.777503
1540	chic	47.5	44.87500	1991-03-20	NA	33.000000	18.6521739	32.847222
1541	chic	60.0	51.62500	1991-03-21	NA	63.000000	25.0434783	29.568182
1542	chic	55.0	55.25000	1991-03-22	NA	17.000000	18.4166667	21.381944
1543	chic	47.0	32.87500	1991-03-23	NA	21.000000	21.4166667	8.899306
1544	chic	45.0	34.50000	1991-03-24	NA	21.000000	17.7500000	13.138889
1545	chic	49.0	39.00000	1991-03-25	NA	40.571429	9.3750000	36.229469
1546	chic	63.0	63.50000	1991-03-26	NA	31.000000	22.1151369	25.243056
1547	chic	56.0	43.25000	1991-03-27	NA	72.000000	15.6865079	15.281250
1548	chic	42.0	29.62500	1991-03-28	NA	28.000000	24.6575405	10.428571
1549	chic	30.5	17.87500	1991-03-29	NA	14.500000	28.5208333	10.550000
1550	chic	33.0	17.37500	1991-03-30	NA	21.000000	25.5833333	17.541667
1551	chic	43.5	33.50000	1991-03-31	NA	26.285714	23.4821860	17.666667
1552	chic	41.0	23.87500	1991-04-01	NA	NA	23.7176178	19.654167
1553	chic	39.0	24.00000	1991-04-02	NA	28.000000	19.8257861	26.025000
1554	chic	51.0	34.87500	1991-04-03	NA	48.000000	17.9642857	22.762500
1555	chic	52.5	52.25000	1991-04-04	NA	35.000000	15.0688776	27.944697
1556	chic	60.0	50.37500	1991-04-05	NA	41.000000	25.1738173	27.296998
1557	chic	70.0	47.25000	1991-04-06	NA	33.750000	38.6648551	14.689236
1558	chic	69.0	60.25000	1991-04-07	NA	28.000000	26.2500000	11.395833
1559	chic	65.5	58.50000	1991-04-08	NA	44.500000	15.4126812	16.859524
1560	chic	44.0	38.12500	1991-04-09	NA	13.000000	10.4780506	12.316512
1561	chic	43.5	28.87500	1991-04-10	NA	18.000000	28.5781250	14.170139
1562	chic	38.0	28.62500	1991-04-11	NA	15.000000	23.3806612	16.972222
1563	chic	44.0	32.37500	1991-04-12	NA	27.285714	19.6895485	15.323232
1564	chic	45.5	44.12500	1991-04-13	NA	25.000000	12.9642857	15.423611
1565	chic	58.5	50.12500	1991-04-14	NA	12.500000	18.3809524	12.070833
1566	chic	53.0	38.87500	1991-04-15	NA	27.000000	26.5923913	14.141304
1567	chic	53.0	42.00000	1991-04-16	NA	NA	19.7094156	28.335366
1568	chic	47.5	33.12500	1991-04-17	NA	17.000000	20.6682900	20.884848
1569	chic	46.0	37.50000	1991-04-18	NA	30.000000	25.5708874	15.742262
1570	chic	46.5	36.62500	1991-04-19	NA	22.000000	25.9746377	12.787893
1571	chic	40.5	31.62500	1991-04-20	NA	14.000000	30.6130952	9.451389
1572	chic	44.5	20.37500	1991-04-21	NA	15.000000	30.3667184	11.857639
1573	chic	48.0	30.62500	1991-04-22	NA	45.500000	23.0680272	29.742560
1574	chic	50.0	38.50000	1991-04-23	NA	32.000000	20.0324675	19.018218
1575	chic	50.5	28.37500	1991-04-24	NA	35.375000	18.2321429	24.825126
1576	chic	53.5	37.87500	1991-04-25	NA	NA	26.0714286	29.503562
1577	chic	59.5	47.87500	1991-04-26	NA	72.500000	27.8414502	28.106944
1578	chic	64.5	61.00000	1991-04-27	NA	40.000000	12.0052083	19.673611
1579	chic	64.5	55.87500	1991-04-28	NA	36.000000	15.1467391	17.902778
1580	chic	64.0	55.50000	1991-04-29	NA	20.000000	20.6428571	16.036706
1581	chic	57.5	39.62500	1991-04-30	NA	36.857143	24.4510870	12.871528

1582	chic	52.5	34.87500	1991-05-01		NA	42.000000	21.1669255	16.790278
1583	chic	55.0	35.12500	1991-05-02		NA	59.500000	25.6374459	20.215694
1584	chic	46.5	37.37500	1991-05-03		NA	9.000000	21.4648033	15.829299
1585	chic	52.0	41.00000	1991-05-04		NA	29.500000	16.5952381	18.003472
1586	chic	56.0	51.25000	1991-05-05		NA	26.000000	20.0059524	17.575694
1587	chic	45.0	35.50000	1991-05-06		NA	22.125000	19.4090909	13.460246
1588	chic	53.0	38.37500	1991-05-07		NA	27.000000	26.0476190	17.327525
1589	chic	55.0	51.00000	1991-05-08		NA	47.000000	19.0654762	24.847826
1590	chic	62.0	52.37500	1991-05-09		NA	46.000000	30.3333333	28.125000
1591	chic	65.0	55.00000	1991-05-10		NA	71.000000	29.4057736	30.761364
1592	chic	70.5	64.75000	1991-05-11		NA	59.000000	31.3095238	30.571711
1593	chic	74.5	62.75000	1991-05-12		NA	45.000000	28.6309524	24.020833
1594	chic	76.0	64.50000	1991-05-13		NA	80.000000	32.1596320	38.796429
1595	chic	74.0	56.37500	1991-05-14		NA	70.000000	22.9495342	39.286411
1596	chic	72.5	57.25000	1991-05-15		NA	85.000000	35.1294643	38.959410
1597	chic	73.5	65.50000	1991-05-16		NA	88.500000	22.6979167	48.212500
1598	chic	60.0	46.37500	1991-05-17		NA	32.000000	16.1500947	17.854167
1599	chic	50.0	44.25000	1991-05-18		NA	24.375000	17.9940476	10.187500
1600	chic	54.5	38.62500	1991-05-19		NA	16.000000	28.8095238	12.000000
1601	chic	60.5	53.00000	1991-05-20		NA	42.000000	29.7453463	30.895960
1602	chic	68.5	62.87500	1991-05-21		NA	93.000000	35.1500947	31.149306
1603	chic	74.5	66.87500	1991-05-22		NA	63.000000	13.3091033	31.309343
1604	chic	74.0	67.50000	1991-05-23		NA	37.000000	18.1107955	21.819234
1605	chic	77.5	64.50000	1991-05-24		NA	34.714286	28.0104167	20.449179
1606	chic	67.0	58.62500	1991-05-25		NA	26.000000	15.0973465	21.246528
1607	chic	76.0	67.75000	1991-05-26		NA	29.500000	28.5512422	14.138889
1608	chic	77.5	69.37500	1991-05-27		NA	NA	32.8511905	19.725694
1609	chic	80.5	67.87500	1991-05-28		NA	98.000000	28.0216097	30.292718
1610	chic	79.0	67.37500	1991-05-29		NA	44.000000	29.3541667	30.871162
1611	chic	77.5	66.37500	1991-05-30		NA	36.625000	30.4599185	20.756944
1612	chic	77.5	67.75000	1991-05-31		NA	48.000000	25.9649004	26.200442
1613	chic	74.5	66.12500	1991-06-01		NA	41.000000	34.0208333	29.454861
1614	chic	72.5	63.25000	1991-06-02		NA	48.000000	38.4642857	23.762500
1615	chic	69.0	56.50000	1991-06-03		NA	31.500000	35.6051136	18.156250
1616	chic	61.5	48.50000	1991-06-04		NA	16.000000	32.0624588	8.579724
1617	chic	61.0	46.62500	1991-06-05		NA	22.571429	25.8293190	12.708686
1618	chic	62.0	45.12500	1991-06-06		NA	26.000000	27.2511322	16.985476
1619	chic	65.5	48.25000	1991-06-07		NA	45.000000	29.0364583	20.821212
1620	chic	67.5	49.12500	1991-06-08		NA	48.000000	33.7968750	25.150000
1621	chic	72.5	53.87500	1991-06-09		NA	59.500000	48.1145833	29.991667
1622	chic	75.0	59.87500	1991-06-10		NA	86.000000	42.6666667	24.857143
1623	chic	73.0	60.75000	1991-06-11		NA	38.125000	25.7395833	29.586667
1624	chic	71.5	58.37500	1991-06-12		NA	25.000000	22.5781250	27.814286

1625	chic	73.5	64.87500	1991-06-13	NA	52.500000	41.7334692	15.866667
1626	chic	83.0	65.37500	1991-06-14	NA	42.000000	42.7656250	17.293841
1627	chic	77.5	65.75000	1991-06-15	NA	33.500000	38.1354167	11.425000
1628	chic	69.5	53.50000	1991-06-16	NA	21.000000	33.0681612	10.512500
1629	chic	69.0	50.75000	1991-06-17	NA	30.500000	28.2153533	21.923485
1630	chic	71.0	55.75000	1991-06-18	NA	33.000000	45.1093750	23.510101
1631	chic	72.5	58.12500	1991-06-19	NA	43.000000	51.9062500	30.142292
1632	chic	78.5	60.25000	1991-06-20	NA	60.000000	63.1041667	25.173611
1633	chic	78.0	62.00000	1991-06-21	NA	85.000000	45.8333333	39.733333
1634	chic	64.5	56.25000	1991-06-22	NA	18.000000	21.4614583	6.804167
1635	chic	68.0	53.12500	1991-06-23	NA	16.625000	31.8906250	6.385417
1636	chic	69.0	50.00000	1991-06-24	NA	33.000000	40.2961957	19.471726
1637	chic	71.5	53.87500	1991-06-25	NA	52.500000	53.8711504	25.473214
1638	chic	78.5	66.62500	1991-06-26	NA	96.000000	49.6781250	28.889583
1639	chic	81.5	62.62500	1991-06-27	NA	95.000000	48.6875000	19.607143
1640	chic	79.5	65.12500	1991-06-28	NA	49.000000	43.0885417	23.197917
1641	chic	84.0	69.12500	1991-06-29	NA	51.500000	42.9114583	20.484954
1642	chic	74.0	64.12500	1991-06-30	NA		NA	34.1614583
1643	chic	81.0	69.00000	1991-07-01	NA	69.000000	31.7843526	25.539069
1644	chic	82.0	61.75000	1991-07-02	NA	34.000000	31.3563113	31.446920
1645	chic	78.5	66.25000	1991-07-03	NA	61.500000	24.1388134	28.375000
1646	chic	73.0	61.25000	1991-07-04	NA		NA	24.9934330
1647	chic	75.5	63.37500	1991-07-05	NA	35.625000	31.3906250	24.544318
1648	chic	81.0	69.62500	1991-07-06	NA	32.000000	40.6093750	25.037500
1649	chic	80.0	68.12500	1991-07-07	NA	37.500000	39.6770833	16.225000
1650	chic	71.0	56.62500	1991-07-08	NA		NA	30.9463315
1651	chic	71.5	55.00000	1991-07-09	NA	38.000000	23.9678442	21.376578
1652	chic	70.5	55.50000	1991-07-10	NA	22.000000	35.4947917	25.709596
1653	chic	76.0	64.37500	1991-07-11	NA	44.500000	42.2160326	22.236477
1654	chic	79.0	65.12500	1991-07-12	NA	58.000000	34.7117301	18.619634
1655	chic	72.0	59.87500	1991-07-13	NA	22.500000	31.8645833	12.197917
1656	chic	69.5	54.75000	1991-07-14	NA		NA	24.9739583
1657	chic	70.5	54.12500	1991-07-15	NA	50.500000	31.0520833	24.788194
1658	chic	76.0	58.75000	1991-07-16	NA	57.000000	40.5364583	36.470328
1659	chic	78.5	66.25000	1991-07-17	NA	83.000000	50.3958333	32.156250
1660	chic	83.0	63.62500	1991-07-18	NA	76.000000	52.9114583	26.986111
1661	chic	85.5	65.50000	1991-07-19	NA	85.500000	58.0455044	27.463284
1662	chic	85.0	65.25000	1991-07-20	NA	49.000000	52.7857143	16.694444
1663	chic	83.0	71.75000	1991-07-21	NA	54.000000	48.2713033	22.246528
1664	chic	88.0	71.25000	1991-07-22	NA	70.000000	34.8578077	24.551226
1665	chic	74.5	51.62500	1991-07-23	NA	30.000000	31.0742814	19.223007
1666	chic	70.5	53.12500	1991-07-24	NA	51.000000	25.5197011	26.802381
1667	chic	68.0	52.25000	1991-07-25	NA	16.000000	23.2526042	16.458333

1668	chic	66.0	51.62500	1991-07-26	NA	24.500000	24.4494048	20.275000
1669	chic	66.5	54.12500	1991-07-27	NA	18.500000	29.5411932	17.741667
1670	chic	73.5	59.00000	1991-07-28	NA	NA	41.6510417	18.125000
1671	chic	70.0	57.00000	1991-07-29	NA	38.375000	34.9861111	25.411364
1672	chic	66.5	54.62500	1991-07-30	NA	27.000000	26.1712963	22.883333
1673	chic	75.5	62.62500	1991-07-31	NA	64.500000	35.6207200	33.136905
1674	chic	78.5	52.12500	1991-08-01	NA	NA	34.3333333	40.067659
1675	chic	83.5	65.75000	1991-08-02	NA	131.000000	39.5185185	55.489583
1676	chic	71.0	61.87500	1991-08-03	NA	15.000000	30.7592593	17.364583
1677	chic	69.0	51.00000	1991-08-04	NA	14.285714	22.4490741	12.927083
1678	chic	68.0	50.12500	1991-08-05	NA	NA	27.8606902	18.512500
1679	chic	71.5	57.12500	1991-08-06	NA	39.500000	31.3750000	23.558333
1680	chic	72.5	63.37500	1991-08-07	NA	42.000000	26.3287037	34.290942
1681	chic	67.5	61.87500	1991-08-08	NA	32.500000	27.7153113	24.330177
1682	chic	69.5	54.37500	1991-08-09	NA	15.000000	29.2586554	16.142740
1683	chic	70.0	53.37500	1991-08-10	NA	24.500000	23.4440236	21.045139
1684	chic	68.0	47.75000	1991-08-11	NA	28.000000	28.1805556	25.253472
1685	chic	67.5	57.87500	1991-08-12	NA	36.500000	24.5185185	27.351389
1686	chic	70.5	54.00000	1991-08-13	NA	31.000000	27.9590456	24.745581
1687	chic	71.5	52.62500	1991-08-14	NA	65.000000	28.7954545	44.432881
1688	chic	77.0	61.62500	1991-08-15	NA	63.000000	30.9512882	32.950442
1689	chic	76.5	61.75000	1991-08-16	NA	58.500000	33.9629630	35.698370
1690	chic	75.0	61.87500	1991-08-17	NA	35.000000	30.6296296	18.819444
1691	chic	74.0	60.50000	1991-08-18	NA	34.500000	26.0231481	17.491667
1692	chic	64.5	59.37500	1991-08-19	NA	18.000000	17.5202020	11.962500
1693	chic	67.0	54.00000	1991-08-20	NA	25.500000	18.7527778	15.521329
1694	chic	68.5	57.87500	1991-08-21	NA	48.000000	22.7091385	28.986413
1695	chic	78.0	58.37500	1991-08-22	NA	42.000000	31.5925926	27.906250
1696	chic	70.5	57.75000	1991-08-23	NA	18.000000	22.5720246	20.390152
1697	chic	75.5	62.62500	1991-08-24	NA	43.500000	40.3014706	22.437500
1698	chic	81.0	65.12500	1991-08-25	NA	62.000000	52.7864332	24.970833
1699	chic	80.0	61.00000	1991-08-26	NA	80.500000	43.0511900	35.922727
1700	chic	81.0	66.25000	1991-08-27	NA	42.000000	28.0271164	25.481159
1701	chic	81.5	67.00000	1991-08-28	NA	69.857143	31.7638889	34.105429
1702	chic	82.5	69.75000	1991-08-29	NA	73.000000	31.3333333	33.757891
1703	chic	79.0	71.25000	1991-08-30	NA	47.500000	16.9722222	38.177234
1704	chic	71.5	60.12500	1991-08-31	NA	29.000000	21.4062500	15.879167
1705	chic	66.5	59.25000	1991-09-01	NA	24.500000	29.9479167	12.520833
1706	chic	73.5	60.37500	1991-09-02	NA	NA	31.1190476	22.840278
1707	chic	77.0	66.37500	1991-09-03	NA	34.750000	15.4635417	28.659407
1708	chic	67.0	52.25000	1991-09-04	NA	13.000000	21.3327295	18.278684
1709	chic	66.0	51.50000	1991-09-05	NA	62.000000	19.2225150	35.222371
1710	chic	70.0	54.12500	1991-09-06	NA	19.000000	24.5364583	43.989583

1711	chic	75.5	54.62500	1991-09-07	NA	63.500000	31.0792572	40.722222
1712	chic	76.5	53.50000	1991-09-08	NA	41.000000	38.0104167	26.538194
1713	chic	82.0	66.25000	1991-09-09	NA	50.625000	26.7552083	19.288194
1714	chic	73.5	61.25000	1991-09-10	NA	15.000000	20.6875000	17.482639
1715	chic	67.5	56.62500	1991-09-11	NA	21.000000	18.2282243	13.678355
1716	chic	70.5	65.75000	1991-09-12	NA	34.000000	19.5132850	28.766667
1717	chic	73.5	65.62500	1991-09-13	NA	53.500000	24.5989583	29.625000
1718	chic	79.0	68.87500	1991-09-14	NA	33.000000	17.4531250	25.812500
1719	chic	81.5	68.75000	1991-09-15	NA	34.285714	22.2135417	16.869792
1720	chic	69.0	50.62500	1991-09-16	NA	43.000000	18.1197917	18.071212
1721	chic	63.5	49.50000	1991-09-17	NA	40.500000	11.3802083	24.925694
1722	chic	56.5	35.00000	1991-09-18	NA	42.000000	13.9624094	13.945451
1723	chic	47.0	29.37500	1991-09-19	NA	38.000000	12.6296296	16.666667
1724	chic	47.5	35.62500	1991-09-20	NA	28.000000	11.8666243	28.105114
1725	chic	54.5	35.00000	1991-09-21	NA	34.000000	19.6250000	30.902778
1726	chic	58.5	52.37500	1991-09-22	NA	25.000000	18.7261905	20.819444
1727	chic	53.5	38.75000	1991-09-23	NA	32.000000	9.7494163	17.643382
1728	chic	48.0	43.25000	1991-09-24	NA	28.000000	5.6664654	28.229167
1729	chic	54.0	40.75000	1991-09-25	NA	36.000000	8.1322464	22.581124
1730	chic	50.5	29.62500	1991-09-26	NA	40.000000	11.1276167	18.904672
1731	chic	46.5	35.37500	1991-09-27	NA	33.625000	8.9385522	28.660354
1732	chic	49.5	35.75000	1991-09-28	NA	16.000000	15.3657407	23.423611
1733	chic	53.5	46.00000	1991-09-29	NA	32.000000	20.5000000	22.805556
1734	chic	67.5	50.25000	1991-09-30	NA	76.000000	26.6382275	24.611111
1735	chic	59.0	47.37500	1991-10-01	NA	60.000000	15.9343800	26.242109
1736	chic	69.0	60.25000	1991-10-02	NA	47.000000	19.6429894	27.821759
1737	chic	62.5	53.37500	1991-10-03	NA	31.375000	16.6247331	20.353311
1738	chic	56.0	54.87500	1991-10-04	NA	15.000000	15.3645833	17.009615
1739	chic	48.0	31.25000	1991-10-05	NA	19.000000	16.7916667	9.270833
1740	chic	44.0	33.00000	1991-10-06	NA	16.000000	10.3958333	10.266265
1741	chic	45.0	33.62500	1991-10-07	NA	28.500000	8.4575465	18.265700
1742	chic	62.5	47.00000	1991-10-08	NA	29.000000	22.9154589	20.155495
1743	chic	61.5	46.87500	1991-10-09	NA	51.428571	17.1594203	32.995567
1744	chic	53.5	42.37500	1991-10-10	NA	63.000000	14.0224185	30.263033
1745	chic	56.0	38.00000	1991-10-11	NA	38.000000	11.3148148	29.819444
1746	chic	48.5	38.50000	1991-10-12	NA	25.000000	14.3564815	15.267361
1747	chic	46.0	37.25000	1991-10-13	NA	17.500000	13.1574074	15.850379
1748	chic	50.5	34.37500	1991-10-14	NA	NA	6.1018519	12.427083
1749	chic	41.5	24.00000	1991-10-15	NA	27.625000	5.9810606	15.882095
1750	chic	45.5	33.87500	1991-10-16	NA	37.000000	9.7916667	24.465278
1751	chic	61.5	40.62500	1991-10-17	NA	78.500000	15.1859903	21.127306
1752	chic	44.5	36.25000	1991-10-18	NA	26.000000	14.9987374	14.236427
1753	chic	38.0	24.50000	1991-10-19	NA	27.500000	13.2962963	16.607639

1754	chic	41.5	25.50000	1991-10-20		NA	20.000000	11.8842593	23.031250
1755	chic	50.5	44.00000	1991-10-21		NA	46.000000	14.8935185	26.486111
1756	chic	64.0	47.00000	1991-10-22		NA	46.000000	24.9475644	27.062500
1757	chic	66.5	60.75000	1991-10-23		NA	61.500000	19.3931472	21.327381
1758	chic	68.0	63.62500	1991-10-24		NA	25.000000	9.2652308	15.264389
1759	chic	58.5	48.12500	1991-10-25		NA	16.000000	5.7343750	11.662500
1760	chic	50.5	46.87500	1991-10-26		NA	20.000000	9.0625000	11.191667
1761	chic	50.0	51.00000	1991-10-27		NA	10.000000	8.0312500	7.158333
1762	chic	55.0	53.62500	1991-10-28		NA	2.000000	7.4166667	13.051786
1763	chic	63.5	60.25000	1991-10-29		NA	39.000000	5.2031250	19.870833
1764	chic	46.5	38.12500	1991-10-30		NA	8.000000	5.7675601	10.260985
1765	chic	48.0	49.87500	1991-10-31		NA		NA	7.7559524
1766	chic	43.5	28.00000	1991-11-01		NA		NA	13.383333
1767	chic	25.0	10.37500	1991-11-02		NA	23.000000	18.7708333	7.916667
1768	chic	18.5	16.75000	1991-11-03		NA	17.000000	16.0625000	8.475000
1769	chic	18.5	9.62500	1991-11-04		NA	45.500000	11.4791667	17.087500
1770	chic	28.0	26.37500	1991-11-05		NA	26.000000	5.3469203	23.133333
1771	chic	28.5	6.25000	1991-11-06		NA	35.000000	11.5208333	18.975362
1772	chic	20.0	-1.62500	1991-11-07		NA	30.000000	6.4583333	22.967879
1773	chic	22.0	7.87500	1991-11-08		NA	39.250000	5.0208333	31.208333
1774	chic	26.0	18.12500	1991-11-09		NA	7.000000	6.4672619	32.825000
1775	chic	33.0	27.25000	1991-11-10		NA	45.000000	3.4166667	35.575000
1776	chic	34.5	33.12500	1991-11-11		NA		NA	2.1666667
1777	chic	35.0	32.00000	1991-11-12		NA	39.500000	2.8750000	20.747115
1778	chic	45.5	38.62500	1991-11-13		NA	28.000000	3.8541667	25.662500
1779	chic	48.0	51.62500	1991-11-14		NA	36.000000	3.8750000	27.636957
1780	chic	50.0	42.00000	1991-11-15		NA	38.000000	9.4166667	23.547414
1781	chic	41.0	33.37500	1991-11-16		NA	28.500000	19.2708333	13.937500
1782	chic	42.5	39.25000	1991-11-17		NA		NA	12.2916667
1783	chic	57.0	57.62500	1991-11-18		NA	36.000000	8.7916667	21.925000
1784	chic	57.0	48.75000	1991-11-19		NA	28.000000	9.2083333	22.340476
1785	chic	40.5	32.25000	1991-11-20		NA	21.875000	5.5416667	22.166667
1786	chic	40.0	33.12500	1991-11-21		NA		NA	4.1875000
1787	chic	43.5	40.62500	1991-11-22		NA	45.500000	2.3333333	33.593750
1788	chic	34.5	19.62500	1991-11-23		NA	20.000000	6.2500000	16.385417
1789	chic	23.0	16.50000	1991-11-24		NA	33.000000	15.1041667	12.427083
1790	chic	17.5	10.12500	1991-11-25		NA	27.000000	6.4285714	23.290152
1791	chic	23.0	21.12500	1991-11-26		NA	37.375000	3.5625000	28.688669
1792	chic	38.5	33.00000	1991-11-27		NA	35.000000	6.7246377	17.983333
1793	chic	36.0	36.75000	1991-11-28		NA	10.000000	11.7291667	16.641667
1794	chic	49.0	53.50000	1991-11-29		NA		NA	10.7291667
1795	chic	43.5	25.75000	1991-11-30		NA	19.000000	14.0000000	10.608333
1796	chic	27.0	13.37500	1991-12-01		NA	19.000000	5.8958333	15.513889

1797	chic	30.5	30.00000	1991-12-02		NA	16.625000	11.3541667	16.939915
1798	chic	22.0	12.37500	1991-12-03		NA	22.000000	8.4375000	19.619003
1799	chic	8.0	-1.00000	1991-12-04		NA	35.000000	8.1458333	20.131313
1800	chic	20.5	19.00000	1991-12-05		NA	23.000000	5.2146739	23.692331
1801	chic	24.0	30.62500	1991-12-06		NA	33.500000	5.5833333	25.613763
1802	chic	44.0	46.37500	1991-12-07		NA	20.000000	4.8750000	21.812500
1803	chic	49.0	45.50000	1991-12-08		NA	24.285714	6.2708333	17.319444
1804	chic	35.5	32.00000	1991-12-09		NA	42.000000	4.0000000	23.937500
1805	chic	38.5	36.37500	1991-12-10		NA	25.500000	3.3125000	21.496843
1806	chic	40.0	34.75000	1991-12-11		NA	28.000000	3.4375000	22.667435
1807	chic	49.0	50.25000	1991-12-12		NA	27.000000	3.8541667	19.095833
1808	chic	37.5	35.25000	1991-12-13		NA	41.000000	2.8750000	22.541667
1809	chic	29.0	11.87500	1991-12-14		NA	36.750000	13.8333333	10.462121
1810	chic	18.0	1.50000	1991-12-15		NA	26.000000	12.0625000	13.336806
1811	chic	21.0	24.37500	1991-12-16		NA	27.500000	4.8541667	21.079230
1812	chic	28.5	12.37500	1991-12-17		NA	46.000000	7.5208333	18.568452
1813	chic	15.5	4.75000	1991-12-18		NA	31.000000	8.7500000	17.583929
1814	chic	19.0	15.62500	1991-12-19		NA	37.000000	3.8125000	30.991667
1815	chic	32.5	32.87500	1991-12-20		NA	29.375000	2.1250000	20.132479
1816	chic	31.0	27.25000	1991-12-21		NA	20.000000	2.0000000	18.107639
1817	chic	32.5	34.50000	1991-12-22		NA	11.500000	3.2500000	14.504386
1818	chic	30.5	18.62500	1991-12-23		NA	22.000000	6.2916667	20.166982
1819	chic	30.0	26.37500	1991-12-24		NA	29.000000	4.5416667	21.777778
1820	chic	30.0	28.75000	1991-12-25		NA	39.000000	3.3125000	25.444444
1821	chic	35.5	32.37500	1991-12-26		NA	33.000000	4.1041667	22.201389
1822	chic	35.5	32.00000	1991-12-27		NA	31.000000	9.1875000	14.225393
1823	chic	35.0	34.00000	1991-12-28		NA	27.000000	7.4375000	15.250000
1824	chic	32.5	27.62500	1991-12-29		NA	42.000000	3.7291667	14.739583
1825	chic	34.0	28.50000	1991-12-30		NA	29.000000	5.0458333	21.153409
1826	chic	33.0	28.00000	1991-12-31		NA	21.000000	6.0969203	18.226234
1827	chic	33.5	32.62500	1992-01-01		NA	33.428571	5.4583333	19.697917
1828	chic	39.5	41.87500	1992-01-02		NA	31.000000	2.4166667	24.822917
1829	chic	38.5	34.87500	1992-01-03		NA	32.000000	2.1250000	24.607008
1830	chic	35.0	32.50000	1992-01-04		NA	22.000000	6.1250000	19.416667
1831	chic	35.0	32.37500	1992-01-05		NA	25.500000	8.0000000	16.645833
1832	chic	35.0	33.12500	1992-01-06		NA	30.000000	3.0416667	19.475000
1833	chic	34.5	31.50000	1992-01-07		NA	41.428571	2.4791667	23.460598
1834	chic	38.5	40.87500	1992-01-08		NA	26.500000	3.3750000	21.708333
1835	chic	38.0	33.62500	1992-01-09		NA	33.500000	2.0000000	14.178030
1836	chic	30.0	23.12500	1992-01-10		NA	32.000000	4.4782609	19.343750
1837	chic	36.0	34.87500	1992-01-11		NA	25.000000	4.9791667	20.552083
1838	chic	36.5	38.12500	1992-01-12		NA	23.000000	7.4166667	18.479167
1839	chic	32.5	30.75000	1992-01-13		NA	18.125000	6.7708333	17.343750

1840	chic	20.5	10.50000	1992-01-14		NA	24.000000	11.5625000	21.927083
1841	chic	6.0	-9.62500	1992-01-15		NA	38.000000	8.2518939	24.614583
1842	chic	7.5	15.00000	1992-01-16		NA	39.000000	7.8143939	24.224784
1843	chic	21.0	3.25000	1992-01-17		NA	34.500000	11.1666667	18.072917
1844	chic	5.5	-7.25000	1992-01-18		NA	NA	11.6250000	22.200634
1845	chic	14.5	23.37500	1992-01-19		NA	27.500000	7.2291667	26.805556
1846	chic	24.0	20.50000	1992-01-20		NA	42.000000	6.3333333	25.875000
1847	chic	33.5	33.00000	1992-01-21		NA	44.000000	4.5000000	30.797078
1848	chic	35.5	36.87500	1992-01-22		NA	34.000000	4.3333333	28.500000
1849	chic	28.5	15.87500	1992-01-23		NA	50.000000	8.5952381	16.222222
1850	chic	18.5	7.25000	1992-01-24		NA	65.000000	11.8958333	20.611111
1851	chic	25.0	20.50000	1992-01-25		NA	24.750000	7.2291667	23.597222
1852	chic	19.5	23.12500	1992-01-26		NA	29.000000	7.7708333	28.430556
1853	chic	30.0	25.87500	1992-01-27		NA	45.500000	3.7083333	25.739583
1854	chic	29.5	25.75000	1992-01-28		NA	41.000000	5.4166667	30.712862
1855	chic	30.0	31.50000	1992-01-29		NA	46.500000	6.1875000	22.260417
1856	chic	33.5	34.37500	1992-01-30		NA	40.500000	2.2916667	27.135417
1857	chic	32.0	22.37500	1992-01-31		NA	20.125000	9.8541667	21.219656
1858	chic	30.5	22.62500	1992-02-01		NA	41.500000	16.3125000	22.473958
1859	chic	37.5	33.50000	1992-02-02		NA	23.500000	4.4166667	27.531250
1860	chic	43.5	43.00000	1992-02-03		NA	82.500000	2.5833333	40.895833
1861	chic	36.0	25.37500	1992-02-04		NA	26.500000	9.1666667	20.333333
1862	chic	32.5	30.25000	1992-02-05		NA	23.000000	7.9791667	26.281250
1863	chic	34.5	30.37500	1992-02-06		NA	37.000000	5.4166667	24.701705
1864	chic	28.0	17.37500	1992-02-07		NA	34.500000	10.7291667	20.779438
1865	chic	18.5	4.62500	1992-02-08		NA	25.000000	13.2291667	14.885417
1866	chic	17.5	11.50000	1992-02-09		NA	43.500000	7.5208333	23.614583
1867	chic	31.0	33.00000	1992-02-10		NA	78.000000	3.2083333	24.083333
1868	chic	27.0	12.50000	1992-02-11		NA	19.000000	10.5208333	20.114583
1869	chic	23.5	18.37500	1992-02-12		NA	31.375000	13.8958333	20.614583
1870	chic	30.0	30.50000	1992-02-13		NA	37.500000	2.2083333	23.549366
1871	chic	33.0	32.50000	1992-02-14		NA	31.500000	6.3625000	21.504735
1872	chic	35.0	33.62500	1992-02-15		NA	25.500000	3.7083333	22.885417
1873	chic	34.0	34.62500	1992-02-16		NA	26.000000	7.0000000	20.041667
1874	chic	37.5	36.37500	1992-02-17		NA	36.000000	9.4583333	22.583333
1875	chic	40.5	42.37500	1992-02-18		NA	37.857143	3.6979167	24.928571
1876	chic	37.5	32.87500	1992-02-19		NA	26.000000	5.6837945	27.843750
1877	chic	39.5	34.50000	1992-02-20		NA	37.000000	9.8809524	23.875000
1878	chic	31.5	27.37500	1992-02-21		NA	25.000000	14.7481061	27.451136
1879	chic	42.0	33.87500	1992-02-22		NA	30.000000	10.8333333	24.208333
1880	chic	37.0	36.87500	1992-02-23		NA	35.000000	17.6666667	21.260417
1881	chic	36.0	34.12500	1992-02-24		NA	38.125000	10.4791667	25.833333
1882	chic	33.5	27.25000	1992-02-25		NA	36.500000	11.3049242	25.981061

1883	chic	33.5	31.37500	1992-02-26	NA	36.000000	13.4791667	25.291667
1884	chic	39.5	34.12500	1992-02-27	NA	34.000000	7.9772727	29.427083
1885	chic	39.5	26.62500	1992-02-28	NA	27.000000	13.4583333	20.979167
1886	chic	30.0	25.12500	1992-02-29	NA	22.000000	22.7083333	20.968750
1887	chic	54.0	41.12500	1992-03-01	NA	36.375000	18.4166667	24.864583
1888	chic	45.5	37.87500	1992-03-02	NA	44.500000	11.3541667	30.375000
1889	chic	38.0	38.12500	1992-03-03	NA	59.000000	6.8958333	26.401721
1890	chic	49.0	40.75000	1992-03-04	NA	77.000000	8.7500000	35.074811
1891	chic	53.0	53.75000	1992-03-05	NA	99.000000	6.8333333	41.430556
1892	chic	55.5	52.12500	1992-03-06	NA	50.000000	8.1250000	32.708333
1893	chic	48.0	48.00000	1992-03-07	NA	43.714286	3.5416667	28.152778
1894	chic	52.5	50.37500	1992-03-08	NA	27.500000	9.0000000	24.472222
1895	chic	44.0	31.37500	1992-03-09	NA	34.000000	14.4583333	26.020833
1896	chic	20.5	11.00000	1992-03-10	NA	32.500000	23.0208333	22.107708
1897	chic	19.5	16.00000	1992-03-11	NA	34.000000	21.1875000	26.916667
1898	chic	22.5	12.37500	1992-03-12	NA	31.500000	18.0833333	30.229167
1899	chic	25.5	21.87500	1992-03-13	NA	33.750000	17.7500000	29.791667
1900	chic	29.0	19.75000	1992-03-14	NA	27.000000	19.7916667	28.652778
1901	chic	29.0	17.00000	1992-03-15	NA	28.500000	18.9375000	31.333333
1902	chic	34.5	36.87500	1992-03-16	NA	28.500000	12.1969697	30.611111
1903	chic	38.0	24.00000	1992-03-17	NA	26.500000	21.3333333	23.541667
1904	chic	34.0	22.00000	1992-03-18	NA	20.500000	26.5416667	21.203283
1905	chic	36.0	22.75000	1992-03-19	NA	24.000000	28.7626812	29.672619
1906	chic	35.0	21.12500	1992-03-20	NA	40.000000	15.8333333	35.103220
1907	chic	30.5	31.12500	1992-03-21	NA	33.000000	29.5416667	27.427083
1908	chic	27.5	14.12500	1992-03-22	NA	19.500000	25.5208333	25.635417
1909	chic	30.5	23.12500	1992-03-23	NA	54.000000	13.4375000	48.930707
1910	chic	43.0	34.25000	1992-03-24	NA	58.000000	16.5958333	37.094697
1911	chic	44.5	32.37500	1992-03-25	NA	40.750000	12.1875000	31.697917
1912	chic	41.5	26.87500	1992-03-26	NA	46.500000	15.8333333	28.066176
1913	chic	34.0	26.00000	1992-03-27	NA	26.500000	23.8333333	27.125000
1914	chic	36.0	31.25000	1992-03-28	NA	39.500000	18.0208333	42.347222
1915	chic	39.5	37.75000	1992-03-29	NA	25.000000	27.2708333	24.388889
1916	chic	42.0	29.50000	1992-03-30	NA	34.000000	20.4791667	32.871732
1917	chic	41.5	27.00000	1992-03-31	NA	35.375000	16.6666667	34.536232
1918	chic	33.5	25.25000	1992-04-01	NA	20.000000	23.2253472	24.388889
1919	chic	31.5	19.50000	1992-04-02	NA	32.000000	18.5161713	29.972222
1920	chic	38.0	31.87500	1992-04-03	NA	45.500000	13.4895833	31.472222
1921	chic	36.5	22.12500	1992-04-04	NA	20.000000	26.9375000	25.041667
1922	chic	38.5	23.25000	1992-04-05	NA	29.000000	20.9062500	32.055556
1923	chic	49.5	31.87500	1992-04-06	NA	42.125000	17.8437500	37.802083
1924	chic	52.0	38.50000	1992-04-07	NA	76.500000	14.4962121	40.706250
1925	chic	50.5	28.12500	1992-04-08	NA	53.000000	19.3726326	37.683333

1926	chic	48.0	36.00000	1992-04-09		NA	37.000000	26.9226985	28.316403	
1927	chic	57.5	57.37500	1992-04-10		NA	45.000000	19.9838574	31.738106	
1928	chic	49.5	36.37500	1992-04-11		NA	18.000000	17.1510417	26.675000	
1929	chic	37.0	19.00000	1992-04-12		NA	14.857143	32.0572917	13.816667	
1930	chic	38.0	28.62500	1992-04-13		NA	32.000000	15.9185606	22.418561	
1931	chic	42.0	31.87500	1992-04-14		NA	44.500000	9.7651721	26.128478	
1932	chic	48.5	50.37500	1992-04-15		NA	53.000000	10.2738095	31.979167	
1933	chic	53.0	40.25000	1992-04-16		NA	26.000000	17.2395833	28.182292	
1934	chic	41.5	38.75000	1992-04-17		NA	23.000000	22.9218750	24.541667	
1935	chic	51.0	58.12500	1992-04-18		NA	40.500000	10.4531250	25.625000	
1936	chic	65.5	59.75000	1992-04-19		NA	24.000000	23.7395833	18.333333	
1937	chic	66.0	58.25000	1992-04-20		NA	22.500000	21.5833333	18.973958	
1938	chic	48.0	36.50000	1992-04-21		NA	34.500000	12.9316604	16.638134	
1939	chic	43.0	30.87500	1992-04-22		NA	37.000000	17.5453869	21.234848	
1940	chic	48.5	42.75000	1992-04-23		NA	40.500000	7.9802989	33.349206	
1941	chic	44.5	37.62500	1992-04-24		NA	33.571429	8.5214461	27.854167	
1942	chic	43.5	33.62500	1992-04-25		NA	14.000000	17.3630952	21.958333	
1943	chic	46.5	36.50000	1992-04-26		NA	11.500000	19.5178571	14.066123	
1944	chic	40.5	26.25000	1992-04-27		NA	20.000000	24.4785779	17.051954	
1945	chic	44.0	29.50000	1992-04-28		NA	55.000000	18.0939764	41.552083	
1946	chic	58.5	51.62500	1992-04-29		NA	52.500000	16.4055707	31.028080	
1947	chic	49.5	42.12500	1992-04-30		NA	55.375000	15.1370018	29.309912	
1948	chic	64.5	52.50000	1992-05-01		NA	141.000000	32.9173460	25.358333	
1949	chic	64.0	32.50000	1992-05-02		NA	67.000000	27.5833333	20.500000	
1950	chic	48.5	34.87500	1992-05-03		NA	34.500000	18.0952381	15.505208	
1951	chic	44.0	29.87500	1992-05-04		NA	23.500000	19.3870874	22.494318	
1952	chic	43.5	23.12500	1992-05-05		NA	56.000000	31.3052721	17.303954	
1953	chic	44.5	21.25000	1992-05-06		NA	31.857143	21.3403680	27.504167	
1954	chic	52.0	24.75000	1992-05-07		NA	100.000000	21.7422360	41.423188	
1955	chic	56.0	28.00000	1992-05-08		NA	65.000000	35.0000000	49.777136	
1956	chic	58.5	48.25000	1992-05-09		NA	49.000000	45.6093750	29.700000	
1957	chic	65.5	48.50000	1992-05-10		NA	53.000000	41.3593750	25.866667	
1958	chic	72.0	56.37500	1992-05-11		NA	84.000000	33.7580287	26.235507	
1959	chic	69.0	61.50000	1992-05-12		NA	47.571429	26.4166667	28.781522	
1960	chic	55.0	36.87500	1992-05-13		NA		NA	22.9789402	18.975000
1961	chic	54.0	46.00000	1992-05-14		NA	19.000000	13.5031379	28.609848	
1962	chic	60.5	48.87500	1992-05-15		NA	81.000000	18.7237319	38.108333	
1963	chic	73.0	60.25000	1992-05-16		NA	67.000000	41.3571429	30.812500	
1964	chic	67.5	48.62500	1992-05-17		NA	35.000000	35.0238095	16.953125	
1965	chic	52.0	43.50000	1992-05-18		NA	21.125000	21.8757440	17.330616	
1966	chic	57.5	44.12500	1992-05-19		NA	38.000000	22.1046196	33.574621	
1967	chic	67.0	51.12500	1992-05-20		NA		NA	36.1385870	40.437987
1968	chic	71.0	60.50000	1992-05-21		NA	92.000000	33.6017992	43.004545	

1969	chic	73.5	64.12500	1992-05-22	NA	83.000000	24.7776680	34.583333
1970	chic	55.0	36.12500	1992-05-23	NA	54.000000	19.0064700	14.529167
1971	chic	40.5	30.62500	1992-05-24	NA	10.875000	29.2440476	9.962500
1972	chic	41.0	32.75000	1992-05-25	NA	NA	29.1309524	14.266667
1973	chic	44.0	29.37500	1992-05-26	NA	18.000000	25.2335389	25.081341
1974	chic	48.0	24.62500	1992-05-27	NA	38.000000	16.5625000	32.575000
1975	chic	50.5	31.37500	1992-05-28	NA	70.000000	22.4479167	40.576197
1976	chic	55.0	33.75000	1992-05-29	NA	56.000000	32.3768116	33.348485
1977	chic	58.0	42.37500	1992-05-30	NA	33.625000	40.7015306	29.575000
1978	chic	60.0	39.75000	1992-05-31	NA	42.000000	36.1250000	39.825000
1979	chic	59.0	45.50000	1992-06-01	NA	43.000000	22.9470109	42.683333
1980	chic	61.5	40.25000	1992-06-02	NA	21.000000	22.3935688	32.640909
1981	chic	65.0	48.25000	1992-06-03	NA	55.000000	42.6927083	36.607246
1982	chic	65.5	60.75000	1992-06-04	NA	51.000000	24.6718750	34.140476
1983	chic	67.5	58.37500	1992-06-05	NA	53.714286	32.2926136	34.132143
1984	chic	67.5	56.62500	1992-06-06	NA	53.000000	33.1093750	36.166667
1985	chic	66.5	44.50000	1992-06-07	NA	19.000000	33.3958333	18.483333
1986	chic	62.0	47.75000	1992-06-08	NA	19.000000	22.9479167	25.445833
1987	chic	65.0	43.87500	1992-06-09	NA	18.000000	26.0276268	20.358333
1988	chic	64.0	42.50000	1992-06-10	NA	27.000000	28.0512599	31.868297
1989	chic	67.0	47.25000	1992-06-11	NA	41.857143	27.0556418	38.266667
1990	chic	69.0	45.75000	1992-06-12	NA	35.000000	40.7231571	42.414130
1991	chic	73.5	52.12500	1992-06-13	NA	61.000000	45.3281250	49.575000
1992	chic	75.5	61.00000	1992-06-14	NA	45.000000	41.2447917	23.391667
1993	chic	71.0	54.37500	1992-06-15	NA	45.000000	33.0303442	23.694565
1994	chic	75.5	62.00000	1992-06-16	NA	76.000000	44.3906250	24.071146
1995	chic	75.5	62.75000	1992-06-17	NA	72.285714	27.7550725	24.667754
1996	chic	73.0	59.12500	1992-06-18	NA	42.000000	27.6248297	24.811759
1997	chic	59.5	47.12500	1992-06-19	NA	NA	19.2288647	14.175000
1998	chic	51.5	38.50000	1992-06-20	NA	2.000000	20.4928977	11.012121
1999	chic	49.0	33.37500	1992-06-21	NA	9.000000	20.6822917	13.675000
2000	chic	52.5	43.00000	1992-06-22	NA	62.000000	13.6607143	35.841667
2001	chic	66.0	52.25000	1992-06-23	NA	48.142857	31.1379630	35.350000
2002	chic	62.5	51.25000	1992-06-24	NA	40.000000	31.9844276	29.803810
2003	chic	64.0	57.50000	1992-06-25	NA	50.000000	23.8234702	34.505303
2004	chic	61.5	52.37500	1992-06-26	NA	41.000000	26.1209340	24.732246
2005	chic	58.0	35.37500	1992-06-27	NA	17.000000	21.5937500	15.591667
2006	chic	62.0	49.00000	1992-06-28	NA	38.000000	25.1197917	36.658333
2007	chic	71.5	54.25000	1992-06-29	NA	53.500000	33.4093837	31.865476
2008	chic	66.5	52.50000	1992-06-30	NA	18.000000	29.0138889	20.408333
2009	chic	74.5	64.62500	1992-07-01	NA	75.000000	50.8287037	37.975000
2010	chic	77.0	65.62500	1992-07-02	NA	79.000000	22.1914983	32.668478
2011	chic	67.0	55.37500	1992-07-03	NA	24.000000	19.1041667	16.483333

2012	chic	71.0	62.00000	1992-07-04		NA	24.000000	29.5312500	18.333333	
2013	chic	68.5	52.12500	1992-07-05		NA	19.714286	21.5781250	17.083333	
2014	chic	66.0	49.00000	1992-07-06		NA		NA	18.7339884	20.687879
2015	chic	67.5	64.62500	1992-07-07		NA	59.000000	19.0673401	28.441667	
2016	chic	79.5	68.25000	1992-07-08		NA	66.000000	29.1580113	23.409211	
2017	chic	74.0	64.62500	1992-07-09		NA	32.000000	13.8949275	33.066667	
2018	chic	76.5	60.25000	1992-07-10		NA	32.000000	24.1034622	30.325000	
2019	chic	73.0	64.50000	1992-07-11		NA	31.625000	25.9120370	29.125000	
2020	chic	73.5	71.62500	1992-07-12		NA	25.000000	19.0468750	16.760417	
2021	chic	69.5	68.75000	1992-07-13		NA	14.000000	20.7349034	22.164493	
2022	chic	65.0	60.12500	1992-07-14		NA	11.000000	18.6648099	18.716667	
2023	chic	68.0	51.87500	1992-07-15		NA	19.000000	23.5387205	19.446443	
2024	chic	68.0	66.87500	1992-07-16		NA	41.000000	13.3979469	35.372727	
2025	chic	74.0	61.87500	1992-07-17		NA	28.000000	17.7500000	26.125000	
2026	chic	68.0	62.62500	1992-07-18		NA	23.000000	17.3935185	21.620833	
2027	chic	72.5	67.87500	1992-07-19		NA	24.000000	26.6435185	22.033333	
2028	chic	68.0	59.37500	1992-07-20		NA	18.000000	18.9472625	19.999242	
2029	chic	62.0	48.75000	1992-07-21		NA	7.000000	20.7447665	12.631159	
2030	chic	63.5	60.12500	1992-07-22		NA	29.000000	18.8892915	21.339150	
2031	chic	62.5	58.00000	1992-07-23		NA	29.000000	20.1201691	19.775000	
2032	chic	67.0	60.87500	1992-07-24		NA	24.000000	26.9297138	21.240476	
2033	chic	67.5	70.62500	1992-07-25		NA	33.000000	18.1435185	28.875000	
2034	chic	74.0	64.12500	1992-07-26		NA	35.000000	20.2916667	20.779167	
2035	chic	71.5	57.62500	1992-07-27		NA	29.000000	17.2003968	24.737500	
2036	chic	71.5	67.12500	1992-07-28		NA	42.000000	20.5984300	27.650000	
2037	chic	66.5	55.25000	1992-07-29		NA	23.125000	14.4122383	17.147694	
2038	chic	61.5	62.75000	1992-07-30		NA	17.000000	13.4907407	17.845833	
2039	chic	67.0	51.50000	1992-07-31		NA	19.000000	20.4134461	21.048214	
2040	chic	68.0	57.37500	1992-08-01		NA		NA	23.6203704	21.137500
2041	chic	69.0	62.50000	1992-08-02		NA	23.000000	22.8055556	21.358333	
2042	chic	65.5	57.25000	1992-08-03		NA	34.000000	11.6376812	27.119242	
2043	chic	62.5	50.12500	1992-08-04		NA	22.500000	13.2962963	18.103080	
2044	chic	63.0	49.75000	1992-08-05		NA	24.000000	22.3870974	17.948480	
2045	chic	67.5	56.87500	1992-08-06		NA	28.000000	30.3643378	26.273864	
2046	chic	68.5	69.37500	1992-08-07		NA	61.500000	30.3716238	30.138889	
2047	chic	75.5	68.50000	1992-08-08		NA	45.000000	32.4427083	19.236111	
2048	chic	80.0	77.25000	1992-08-09		NA	46.000000	28.2604167	19.923611	
2049	chic	79.0	58.37500	1992-08-10		NA	33.250000	23.2708333	17.027778	
2050	chic	70.0	52.37500	1992-08-11		NA	26.000000	23.4866052	21.575873	
2051	chic	62.0	56.75000	1992-08-12		NA	26.000000	10.3691077	22.745833	
2052	chic	60.5	50.12500	1992-08-13		NA	22.500000	19.1508198	17.457413	
2053	chic	61.0	46.37500	1992-08-14		NA	26.000000	17.2292673	21.308333	
2054	chic	62.0	48.75000	1992-08-15		NA	13.000000	26.8888889	13.854167	

2055	chic	63.0	48.87500	1992-08-16	NA	24.285714	26.2962963	21.025000
2056	chic	63.0	51.12500	1992-08-17	NA	82.000000	22.5092593	41.375000
2057	chic	66.0	61.00000	1992-08-18	NA	56.500000	21.9605475	30.875000
2058	chic	63.0	50.50000	1992-08-19	NA	18.000000	15.1904187	19.800774
2059	chic	62.0	46.37500	1992-08-20	NA	63.000000	15.5722625	24.325000
2060	chic	64.5	54.12500	1992-08-21	NA	76.500000	23.3305153	41.591342
2061	chic	67.0	61.87500	1992-08-22	NA	56.000000	33.5462963	38.516667
2062	chic	75.0	66.12500	1992-08-23	NA	59.500000	30.5740741	24.850000
2063	chic	78.5	68.12500	1992-08-24	NA	77.500000	20.6833187	27.141667
2064	chic	79.0	67.75000	1992-08-25	NA	46.000000	23.9583333	23.912771
2065	chic	66.5	60.37500	1992-08-26	NA	19.500000	12.1758658	16.383679
2066	chic	59.5	54.87500	1992-08-27	NA	31.000000	8.4612795	14.697727
2067	chic	59.5	48.50000	1992-08-28	NA	22.750000	11.5670107	21.250379
2068	chic	65.0	59.25000	1992-08-29	NA	51.500000	23.3703704	21.675000
2069	chic	66.0	51.37500	1992-08-30	NA	31.000000	22.1203704	11.358333
2070	chic	63.5	51.75000	1992-08-31	NA	38.000000	12.8101852	24.700000
2071	chic	63.0	58.25000	1992-09-01	NA	63.000000	16.6111111	30.570455
2072	chic	70.0	66.50000	1992-09-02	NA	56.000000	16.8967391	25.284420
2073	chic	67.5	51.12500	1992-09-03	NA	32.285714	16.3750915	25.167391
2074	chic	65.5	57.62500	1992-09-04	NA	33.000000	19.2175926	33.710507
2075	chic	70.5	65.75000	1992-09-05	NA	34.500000	23.3593750	21.183333
2076	chic	75.0	66.75000	1992-09-06	NA	36.000000	27.8802083	18.545833
2077	chic	73.5	65.50000	1992-09-07	NA	34.500000	31.5335145	22.766667
2078	chic	64.0	48.12500	1992-09-08	NA	54.000000	16.5157295	19.051630
2079	chic	63.0	62.87500	1992-09-09	NA	18.750000	6.3256844	29.427070
2080	chic	60.0	48.75000	1992-09-10	NA	41.500000	11.0179879	17.479167
2081	chic	58.0	51.62500	1992-09-11	NA	38.500000	10.1141304	24.728030
2082	chic	62.0	51.00000	1992-09-12	NA	39.000000	20.7222222	30.108333
2083	chic	67.5	56.25000	1992-09-13	NA	50.000000	33.4074074	23.575000
2084	chic	72.5	70.00000	1992-09-14	NA	69.500000	23.6620370	35.316667
2085	chic	76.5	69.12500	1992-09-15	NA	44.857143	19.9551127	34.818182
2086	chic	77.0	65.25000	1992-09-16	NA	103.500000	33.7055153	25.985145
2087	chic	71.5	66.62500	1992-09-17	NA	66.000000	20.7419485	32.653623
2088	chic	62.0	44.50000	1992-09-18	NA	41.500000	19.2435222	21.690476
2089	chic	53.5	42.37500	1992-09-19	NA	30.500000	13.9596561	28.650000
2090	chic	59.0	56.37500	1992-09-20	NA	27.000000	18.1145833	24.941667
2091	chic	64.0	62.50000	1992-09-21	NA	36.142857	6.3088768	26.116667
2092	chic	51.5	39.25000	1992-09-22	NA	37.000000	12.1795743	20.206977
2093	chic	49.5	39.37500	1992-09-23	NA	25.000000	12.9270833	23.393182
2094	chic	53.5	41.25000	1992-09-24	NA	36.500000	15.1979167	27.886111
2095	chic	59.5	53.75000	1992-09-25	NA	53.500000	16.3389946	35.408333
2096	chic	63.0	60.00000	1992-09-26	NA	28.000000	14.5625000	25.008333
2097	chic	59.0	43.12500	1992-09-27	NA	18.125000	13.7031250	19.500000

2098	chic	49.5	36.75000	1992-09-28	NA	37.500000	12.0332880	26.808333
2099	chic	49.5	38.50000	1992-09-29	NA	76.500000	8.7325634	37.902141
2100	chic	53.5	43.12500	1992-09-30	NA	95.500000	11.8079710	48.361153
2101	chic	58.5	48.00000	1992-10-01	NA	89.500000	15.5253623	48.046377
2102	chic	63.5	53.62500	1992-10-02	NA	86.000000	21.4043881	42.696485
2103	chic	66.0	52.62500	1992-10-03	NA	40.857143	29.6712963	28.637319
2104	chic	59.0	46.50000	1992-10-04	NA	30.500000	23.6527778	13.883333
2105	chic	53.0	41.87500	1992-10-05	NA	23.000000	15.4583333	23.469048
2106	chic	53.0	45.50000	1992-10-06	NA	72.000000	11.1418350	38.144862
2107	chic	58.0	52.00000	1992-10-07	NA	87.000000	19.6596399	38.310870
2108	chic	57.5	41.00000	1992-10-08	NA	46.000000	16.3357488	25.582971
2109	chic	49.0	45.75000	1992-10-09	NA	19.285714	7.1649832	18.458333
2110	chic	51.5	41.75000	1992-10-10	NA	50.000000	11.9120370	24.531250
2111	chic	51.5	36.37500	1992-10-11	NA	59.500000	13.4722222	22.760417
2112	chic	53.5	28.62500	1992-10-12	NA	57.000000	14.9861111	26.072917
2113	chic	47.0	38.25000	1992-10-13	NA	64.000000	9.3085017	30.580303
2114	chic	55.5	49.00000	1992-10-14	NA	44.500000	9.9874339	30.807576
2115	chic	50.0	49.37500	1992-10-15	NA	19.000000	4.8630888	20.436232
2116	chic	40.5	27.50000	1992-10-16	NA	31.500000	6.7962963	19.920833
2117	chic	38.5	29.37500	1992-10-17	NA	32.500000	8.9629630	28.191667
2118	chic	35.0	18.12500	1992-10-18	NA	37.000000	15.7638889	20.408333
2119	chic	33.0	20.00000	1992-10-19	NA	30.000000	9.2962963	33.641667
2120	chic	45.5	42.37500	1992-10-20	NA	41.000000	9.7786195	25.368478
2121	chic	47.0	40.25000	1992-10-21	NA	43.250000	9.9302811	25.076252
2122	chic	57.5	57.87500	1992-10-22	NA	63.000000	11.8659555	41.165382
2123	chic	67.0	56.87500	1992-10-23	NA	129.000000	17.2592844	35.675000
2124	chic	51.0	42.50000	1992-10-24	NA	30.500000	17.5885417	22.516667
2125	chic	49.0	43.12500	1992-10-25	NA	37.000000	12.1944444	29.925000
2126	chic	49.0	38.12500	1992-10-26	NA	40.500000	15.2401369	26.141667
2127	chic	46.5	35.75000	1992-10-27	NA	77.428571	6.1851852	45.059554
2128	chic	50.5	34.75000	1992-10-28	NA	119.000000	7.9973650	40.455435
2129	chic	45.0	37.12500	1992-10-29	NA	30.000000	14.5253623	20.317029
2130	chic	45.0	37.87500	1992-10-30	NA	24.500000	13.3611111	20.033333
2131	chic	44.0	35.87500	1992-10-31	NA	18.000000	13.5509259	20.833333
2132	chic	45.5	44.12500	1992-11-01	NA	30.000000	12.1145833	15.150000
2133	chic	48.0	35.75000	1992-11-02	NA	11.714286	3.4605978	18.000000
2134	chic	37.0	35.00000	1992-11-03	NA	15.000000	5.8645833	25.241667
2135	chic	35.5	28.75000	1992-11-04	NA	13.000000	5.1934289	21.593939
2136	chic	32.5	22.50000	1992-11-05	NA	26.000000	4.3257576	27.244231
2137	chic	34.0	21.75000	1992-11-06	NA	21.000000	4.7735507	29.645833
2138	chic	34.0	30.87500	1992-11-07	NA	27.500000	5.6000000	28.770833
2139	chic	38.0	35.12500	1992-11-08	NA	27.125000	4.1041667	22.822917
2140	chic	48.0	41.62500	1992-11-09	NA	32.000000	7.2083333	26.687500

2141	chic	49.5	51.00000	1992-11-10	NA	37.000000	5.3333333	26.891667
2142	chic	44.5	39.37500	1992-11-11	NA	24.000000	6.2083333	19.833333
2143	chic	40.0	27.62500	1992-11-12	NA	NA	6.8409091	21.129381
2144	chic	30.5	20.87500	1992-11-13	NA	27.500000	11.7500000	20.700000
2145	chic	28.0	16.87500	1992-11-14	NA	18.714286	7.6666667	21.850000
2146	chic	29.0	21.62500	1992-11-15	NA	27.000000	7.5416667	22.258333
2147	chic	36.5	37.37500	1992-11-16	NA	33.000000	3.7500000	28.408333
2148	chic	38.5	32.75000	1992-11-17	NA	42.500000	3.7777778	25.696667
2149	chic	39.0	34.25000	1992-11-18	NA	28.500000	9.0845411	19.987500
2150	chic	40.5	37.12500	1992-11-19	NA	33.500000	7.7171717	24.470690
2151	chic	52.0	44.50000	1992-11-20	NA	32.857143	6.2083333	32.075000
2152	chic	48.5	40.37500	1992-11-21	NA	20.500000	5.3750000	15.125000
2153	chic	41.0	39.50000	1992-11-22	NA	11.500000	11.8333333	12.383333
2154	chic	38.0	36.37500	1992-11-23	NA	34.500000	3.7500000	26.529529
2155	chic	39.5	37.87500	1992-11-24	NA	26.000000	3.6712121	23.966667
2156	chic	43.5	42.50000	1992-11-25	NA	37.500000	2.4166667	18.746739
2157	chic	36.5	26.00000	1992-11-26	NA	11.714286	7.6944444	13.566667
2158	chic	29.5	24.12500	1992-11-27	NA	30.500000	5.5694444	23.625000
2159	chic	30.0	25.62500	1992-11-28	NA	32.500000	4.9027778	24.241667
2160	chic	35.0	30.87500	1992-11-29	NA	28.000000	6.3194444	23.100000
2161	chic	33.5	25.25000	1992-11-30	NA	53.000000	4.1884058	21.833333
2162	chic	32.0	28.00000	1992-12-01	NA	18.000000	3.6944444	23.150000
2163	chic	32.5	19.87500	1992-12-02	NA	21.428571	7.1998792	22.583333
2164	chic	28.0	23.37500	1992-12-03	NA	21.000000	6.5067523	26.841667
2165	chic	25.5	11.87500	1992-12-04	NA	48.000000	7.1805556	24.198913
2166	chic	19.5	9.25000	1992-12-05	NA	25.000000	7.5694444	25.975000
2167	chic	23.0	25.75000	1992-12-06	NA	23.500000	2.7361111	25.691667
2168	chic	27.0	21.12500	1992-12-07	NA	36.500000	5.0138889	27.158333
2169	chic	26.5	21.62500	1992-12-08	NA	32.000000	6.5883838	29.179928
2170	chic	27.5	27.62500	1992-12-09	NA	42.000000	3.2536232	27.333333
2171	chic	32.0	29.37500	1992-12-10	NA	47.500000	2.0434783	30.658333
2172	chic	33.0	30.37500	1992-12-11	NA	32.500000	2.0000000	29.916667
2173	chic	32.0	30.25000	1992-12-12	NA	32.000000	8.5972222	27.033333
2174	chic	32.0	31.00000	1992-12-13	NA	26.000000	9.0833333	20.133333
2175	chic	29.5	30.75000	1992-12-14	NA	37.285714	2.6044686	27.940476
2176	chic	44.0	45.50000	1992-12-15	NA	28.000000	3.2866162	27.065942
2177	chic	37.5	29.62500	1992-12-16	NA	26.000000	2.6666667	20.537500
2178	chic	30.5	20.12500	1992-12-17	NA	36.000000	3.0000000	24.158333
2179	chic	30.0	27.12500	1992-12-18	NA	30.500000	2.4027778	22.608333
2180	chic	31.0	26.25000	1992-12-19	NA	32.000000	2.5416667	22.441667
2181	chic	19.5	11.75000	1992-12-20	NA	23.875000	7.0972222	21.433333
2182	chic	26.0	25.50000	1992-12-21	NA	46.500000	2.2500000	28.893841
2183	chic	33.0	30.12500	1992-12-22	NA	44.500000	2.0000000	31.813636

2184	chic	21.5	5.25000	1992-12-23	NA	53.000000	4.5314010	24.325362
2185	chic	10.0	7.75000	1992-12-24	NA	39.000000	6.8194444	21.908333
2186	chic	18.0	1.75000	1992-12-25	NA	75.000000	14.2222222	12.375000
2187	chic	14.5	3.25000	1992-12-26	NA	27.142857	7.2222222	23.916667
2188	chic	30.5	25.37500	1992-12-27	NA	31.000000	4.4305556	24.766667
2189	chic	38.5	36.62500	1992-12-28	NA	36.000000	2.0000000	22.497727
2190	chic	41.5	42.12500	1992-12-29	NA	43.000000	2.0000000	21.177451
2191	chic	45.5	43.62500	1992-12-30	NA	43.000000	2.0000000	20.392172
2192	chic	26.0	11.00000	1992-12-31	NA	44.000000	2.0833333	17.558333
2193	chic	14.0	9.37500	1993-01-01	NA	18.142857	4.3055556	22.608333
2194	chic	25.0	28.25000	1993-01-02	NA	17.500000	1.5416667	23.808333
2195	chic	40.5	44.87500	1993-01-03	NA	21.500000	0.5277778	19.825000
2196	chic	38.5	32.50000	1993-01-04	NA	17.000000	0.8333333	18.166667
2197	chic	27.5	21.50000	1993-01-05	NA	12.000000	0.9532828	22.087088
2198	chic	21.5	16.50000	1993-01-06	NA	34.000000	1.7777778	26.718182
2199	chic	24.5	20.62500	1993-01-07	NA	19.875000	1.6900527	27.083333
2200	chic	21.5	17.87500	1993-01-08	NA	14.000000	14.2506039	25.600000
2201	chic	24.5	20.25000	1993-01-09	NA	3.000000	24.9583333	11.658333
2202	chic	24.5	22.37500	1993-01-10	NA	8.000000	24.1666667	13.283333
2203	chic	26.5	23.25000	1993-01-11	NA	14.500000	12.8194444	22.508333
2204	chic	30.5	33.00000	1993-01-12	NA	32.000000	1.5277778	27.104348
2205	chic	27.5	21.25000	1993-01-13	NA	20.875000	3.0492424	29.516667
2206	chic	21.5	20.25000	1993-01-14	NA	12.500000	4.0241546	37.076812
2207	chic	18.0	14.50000	1993-01-15	NA	31.500000	5.7815657	31.814394
2208	chic	22.0	27.62500	1993-01-16	NA	25.500000	3.2361111	33.025000
2209	chic	20.5	5.00000	1993-01-17	NA	22.000000	17.5972222	22.258333
2210	chic	18.0	15.25000	1993-01-18	NA	51.000000	8.0555556	34.408333
2211	chic	18.5	13.50000	1993-01-19	NA	49.571429	6.0289855	43.205435
2212	chic	27.0	31.62500	1993-01-20	NA	41.500000	4.3888889	33.197464
2213	chic	35.5	34.00000	1993-01-21	NA	19.000000	0.6527778	27.002841
2214	chic	34.0	26.12500	1993-01-22	NA	24.500000	5.9444444	28.281250
2215	chic	36.5	31.62500	1993-01-23	NA	20.000000	9.5972222	24.145833
2216	chic	28.5	14.00000	1993-01-24	NA	26.000000	16.5277778	14.885417
2217	chic	23.0	11.62500	1993-01-25	NA	29.875000	7.7500000	30.077083
2218	chic	30.0	30.00000	1993-01-26	NA	52.500000	6.5772947	27.176449
2219	chic	31.5	25.25000	1993-01-27	NA	31.500000	7.7312802	29.664827
2220	chic	30.5	21.37500	1993-01-28	NA	36.500000	7.2350427	24.816667
2221	chic	15.5	4.00000	1993-01-29	NA	19.500000	11.7500000	21.658333
2222	chic	25.5	14.25000	1993-01-30	NA	41.500000	14.3888889	17.533333
2223	chic	38.5	30.75000	1993-01-31	NA	20.500000	13.2083333	19.625000
2224	chic	30.5	18.00000	1993-02-01	NA	13.500000	20.6944444	16.219118
2225	chic	28.5	17.00000	1993-02-02	NA	12.000000	7.2125604	34.135705
2226	chic	35.5	24.87500	1993-02-03	NA	64.000000	3.0997475	39.545787

2227	chic	38.0	22.50000	1993-02-04	NA	96.500000	7.2916667	43.349781
2228	chic	36.5	29.25000	1993-02-05	NA	74.500000	7.8586957	36.236045
2229	chic	29.0	21.37500	1993-02-06	NA	12.375000	17.4861111	17.263889
2230	chic	32.0	30.00000	1993-02-07	NA	26.500000	6.8055556	21.451389
2231	chic	30.0	21.25000	1993-02-08	NA	11.500000	15.6805556	18.471230
2232	chic	32.5	33.37500	1993-02-09	NA	40.500000	1.0492424	26.394895
2233	chic	35.0	32.37500	1993-02-10	NA	20.000000	6.8550725	22.660804
2234	chic	32.0	25.62500	1993-02-11	NA	16.500000	14.4583333	15.575000
2235	chic	29.0	27.25000	1993-02-12	NA	20.375000	13.9055556	19.110000
2236	chic	28.5	26.62500	1993-02-13	NA	11.000000	7.5000000	26.208333
2237	chic	27.0	20.37500	1993-02-14	NA	23.000000	17.6666667	18.444444
2238	chic	24.5	18.75000	1993-02-15	NA	37.000000	9.8750000	28.444444
2239	chic	25.5	13.37500	1993-02-16	NA	22.000000	15.4154040	27.038333
2240	chic	10.5	-5.00000	1993-02-17	NA	39.000000	15.7638889	23.984848
2241	chic	7.5	4.87500	1993-02-18	NA	27.750000	13.8756039	25.609058
2242	chic	15.0	16.62500	1993-02-19	NA	66.500000	9.3888889	39.246032
2243	chic	25.5	23.75000	1993-02-20	NA	44.500000	13.1388889	39.658333
2244	chic	29.0	26.87500	1993-02-21	NA	23.000000	11.3750000	24.050000
2245	chic	22.0	18.00000	1993-02-22	NA	18.500000	12.8194444	32.944979
2246	chic	12.0	2.75000	1993-02-23	NA	36.500000	11.9861111	30.125000
2247	chic	5.0	-1.87500	1993-02-24	NA	39.750000	9.1148990	35.112374
2248	chic	10.0	15.50000	1993-02-25	NA	37.000000	12.4166667	35.233440
2249	chic	22.0	12.75000	1993-02-26	NA	16.500000	18.5132850	30.334678
2250	chic	19.0	13.62500	1993-02-27	NA	52.500000	10.3611111	48.901389
2251	chic	20.0	19.62500	1993-02-28	NA	44.500000	28.4444444	46.232488
2252	chic	34.5	31.62500	1993-03-01	NA	47.000000	23.6944444	43.209038
2253	chic	38.5	34.12500	1993-03-02	NA	52.000000	8.2182540	47.176587
2254	chic	38.5	32.25000	1993-03-03	NA	27.000000	31.3659420	31.632071
2255	chic	34.5	29.87500	1993-03-04	NA	20.500000	30.3333333	20.312500
2256	chic	34.5	18.75000	1993-03-05	NA	36.000000	16.9556159	31.128568
2257	chic	36.0	29.12500	1993-03-06	NA	20.000000	9.5416667	38.618056
2258	chic	34.0	33.00000	1993-03-07	NA	27.000000	10.3125000	24.812500
2259	chic	38.0	27.87500	1993-03-08	NA	24.625000	10.5000000	24.755682
2260	chic	36.5	26.87500	1993-03-09	NA	26.000000	19.3055556	23.604167
2261	chic	32.5	27.37500	1993-03-10	NA	22.500000	7.4053030	30.028968
2262	chic	26.0	21.50000	1993-03-11	NA	35.000000	9.5138889	28.062500
2263	chic	22.0	12.50000	1993-03-12	NA	48.000000	11.5921717	35.888889
2264	chic	17.0	1.50000	1993-03-13	NA	43.000000	17.4583333	22.708333
2265	chic	14.5	2.75000	1993-03-14	NA	24.875000	15.8888889	23.937500
2266	chic	30.5	30.12500	1993-03-15	NA	85.000000	16.7708333	31.486111
2267	chic	37.5	30.25000	1993-03-16	NA	24.000000	17.3750000	27.022947
2268	chic	21.5	6.00000	1993-03-17	NA	26.000000	26.3376068	19.491667
2269	chic	23.0	15.87500	1993-03-18	NA	10.000000	26.4381313	23.357049

2270	chic	29.5	30.37500	1993-03-19	NA	29.000000	8.1224747	29.447691
2271	chic	35.0	32.00000	1993-03-20	NA	40.571429	4.1177536	27.790761
2272	chic	35.0	31.25000	1993-03-21	NA	42.000000	12.3888889	30.201389
2273	chic	35.0	35.00000	1993-03-22	NA	26.500000	17.5996377	24.281401
2274	chic	39.5	38.50000	1993-03-23	NA	27.000000	7.0039683	29.065355
2275	chic	38.0	37.25000	1993-03-24	NA	33.000000	5.9166667	28.910564
2276	chic	40.0	37.25000	1993-03-25	NA	36.500000	8.6920290	26.769841
2277	chic	39.0	35.00000	1993-03-26	NA	33.375000	24.7874396	27.711655
2278	chic	37.5	33.75000	1993-03-27	NA	19.000000	29.0833333	23.430556
2279	chic	41.5	33.50000	1993-03-28	NA	17.000000	27.6944444	27.611111
2280	chic	50.0	33.25000	1993-03-29	NA	40.000000	23.6527778	41.844807
2281	chic	50.0	45.62500	1993-03-30	NA	41.500000	24.2620773	41.421196
2282	chic	44.0	36.25000	1993-03-31	NA	31.500000	21.8365385	21.987103
2283	chic	31.0	27.12500	1993-04-01	NA	11.625000	26.9351852	15.086310
2284	chic	31.0	19.62500	1993-04-02	NA	41.000000	18.8820451	29.449907
2285	chic	33.5	25.00000	1993-04-03	NA	24.500000	17.7175926	33.937500
2286	chic	31.5	27.12500	1993-04-04	NA	32.500000	23.8703704	27.861111
2287	chic	36.5	30.37500	1993-04-05	NA	32.000000	21.0946055	23.902778
2288	chic	40.0	32.25000	1993-04-06	NA	34.000000	21.5108696	31.069444
2289	chic	47.5	43.50000	1993-04-07	NA	57.250000	15.9351486	33.365036
2290	chic	55.5	52.75000	1993-04-08	NA	45.500000	14.3041282	32.318182
2291	chic	48.5	35.12500	1993-04-09	NA	35.000000	20.2129630	25.611111
2292	chic	46.0	32.25000	1993-04-10	NA	26.500000	22.1388889	24.937500
2293	chic	43.5	34.25000	1993-04-11	NA	15.000000	19.8333333	15.743056
2294	chic	41.0	31.00000	1993-04-12	NA	20.000000	27.9364478	18.180556
2295	chic	39.5	29.12500	1993-04-13	NA	31.428571	25.2692139	22.841540
2296	chic	44.5	42.75000	1993-04-14	NA	41.000000	18.6226577	27.149457
2297	chic	43.5	42.00000	1993-04-15	NA	22.500000	10.4394985	29.124008
2298	chic	38.0	32.37500	1993-04-16	NA	24.000000	16.8240741	22.888889
2299	chic	43.5	37.37500	1993-04-17	NA	37.000000	23.5231481	25.930556
2300	chic	50.5	46.00000	1993-04-18	NA	28.000000	29.7731481	22.673611
2301	chic	51.0	50.75000	1993-04-19	NA	30.875000	14.7175926	33.416667
2302	chic	38.0	27.87500	1993-04-20	NA	28.000000	24.2445652	18.457071
2303	chic	42.0	19.37500	1993-04-21	NA	43.500000	20.2952188	31.155696
2304	chic	48.0	25.37500	1993-04-22	NA	63.500000	18.2182540	41.152778
2305	chic	52.5	41.37500	1993-04-23	NA	63.500000	24.6382484	40.133838
2306	chic	64.5	46.37500	1993-04-24	NA	100.000000	34.1851852	15.465278
2307	chic	50.0	38.12500	1993-04-25	NA	18.000000	31.0925926	15.750000
2308	chic	40.0	29.37500	1993-04-26	NA	18.500000	21.3110269	17.627553
2309	chic	49.5	46.87500	1993-04-27	NA	67.000000	21.3657407	25.908213
2310	chic	64.5	48.75000	1993-04-28	NA	46.000000	21.0408615	33.756944
2311	chic	52.5	49.00000	1993-04-29	NA	48.500000	7.5201105	38.163345
2312	chic	57.0	38.25000	1993-04-30	NA	42.500000	12.1064815	36.868056

2313	chic	59.0	48.75000	1993-05-01		NA	35.000000	30.7268519	22.326389
2314	chic	61.0	59.50000	1993-05-02		NA	31.000000	25.1472222	25.604167
2315	chic	61.5	57.75000	1993-05-03		NA	31.500000	20.0703071	27.121291
2316	chic	60.5	56.50000	1993-05-04		NA	34.000000	16.2316462	34.496404
2317	chic	61.0	54.50000	1993-05-05		NA	53.500000	12.8896166	37.206349
2318	chic	62.5	48.62500	1993-05-06		NA	71.500000	15.6750842	48.282119
2319	chic	66.5	48.75000	1993-05-07		NA	60.375000	33.6874144	42.745833
2320	chic	72.5	51.25000	1993-05-08		NA	52.000000	44.3009259	28.215278
2321	chic	74.5	57.12500	1993-05-09		NA	59.000000	36.9583333	29.097222
2322	chic	75.0	59.12500	1993-05-10		NA	72.000000	36.1708333	35.180556
2323	chic	63.5	45.62500	1993-05-11		NA	37.500000	28.3630508	28.667298
2324	chic	62.5	32.37500	1993-05-12		NA	50.500000	21.4507905	24.145574
2325	chic	48.5	33.75000	1993-05-13		NA	23.125000	16.9920290	17.555556
2326	chic	61.0	49.00000	1993-05-14		NA	52.000000	24.3202899	27.707882
2327	chic	62.0	37.87500	1993-05-15		NA	73.500000	28.8125000	19.652778
2328	chic	56.0	36.62500	1993-05-16		NA	44.500000	28.2916667	21.319444
2329	chic	52.0	34.87500	1993-05-17		NA	30.500000	17.1579710	30.262255
2330	chic	54.5	41.12500	1993-05-18		NA	51.000000	18.8254529	27.685579
2331	chic	49.5	38.00000	1993-05-19		NA	24.625000	17.0335145	24.452295
2332	chic	50.5	36.00000	1993-05-20		NA	61.500000	10.7178571	34.156566
2333	chic	56.0	37.00000	1993-05-21		NA	53.000000	17.1538043	36.979167
2334	chic	60.5	55.37500	1993-05-22		NA	43.000000	27.1458333	30.534722
2335	chic	63.5	65.00000	1993-05-23		NA	20.000000	29.8833333	15.180556
2336	chic	60.0	49.25000	1993-05-24		NA	34.000000	19.5721014	12.409722
2337	chic	58.5	45.00000	1993-05-25		NA	28.000000	16.6827734	26.664526
2338	chic	61.5	47.00000	1993-05-26		NA	50.000000	19.6416667	33.611111
2339	chic	65.0	49.37500	1993-05-27		NA	107.000000	26.0112319	31.147041
2340	chic	57.0	44.12500	1993-05-28		NA	92.500000	18.6224638	20.211988
2341	chic	51.0	44.12500	1993-05-29		NA	16.000000	23.4629630	14.034722
2342	chic	58.5	64.25000	1993-05-30		NA	28.000000	16.2500000	23.076389
2343	chic	53.5	42.00000	1993-05-31		NA	11.500000	26.0370370	10.319444
2344	chic	51.0	44.50000	1993-06-01		NA	31.000000	14.1727273	26.022096
2345	chic	54.5	51.62500	1993-06-02		NA	32.000000	19.1234848	28.194664
2346	chic	50.5	44.37500	1993-06-03		NA	31.500000	19.8540679	23.819444
2347	chic	49.5	46.75000	1993-06-04		NA	19.500000	17.8911232	17.566943
2348	chic	58.5	46.00000	1993-06-05		NA	23.000000	22.8875000	25.652778
2349	chic	61.0	53.37500	1993-06-06		NA	31.625000	26.4125000	22.472222
2350	chic	64.0	65.12500	1993-06-07		NA	36.000000	6.1296212	33.868056
2351	chic	72.0	67.37500	1993-06-08		NA	25.000000	13.4642256	30.505462
2352	chic	71.0	57.75000	1993-06-09		NA	34.000000	26.8257576	18.293561
2353	chic	68.5	61.87500	1993-06-10		NA	63.000000	24.6500000	36.159722
2354	chic	68.0	57.75000	1993-06-11		NA	36.000000	35.5093478	33.729167
2355	chic	67.0	57.00000	1993-06-12		NA	40.571429	35.7208333	26.966667

2356	chic	70.5	67.62500	1993-06-13	NA	52.000000	32.6458333	28.500000
2357	chic	72.0	54.12500	1993-06-14	NA	43.000000	25.7684524	25.555952
2358	chic	62.5	50.25000	1993-06-15	NA	33.000000	19.8937681	19.601087
2359	chic	63.5	59.37500	1993-06-16	NA	NA	28.2992260	26.013225
2360	chic	78.5	69.75000	1993-06-17	NA	62.000000	44.1802536	29.585870
2361	chic	69.5	60.87500	1993-06-18	NA	32.500000	30.4458333	27.250000
2362	chic	70.5	69.00000	1993-06-19	NA	28.000000	25.9537037	25.093750
2363	chic	69.5	61.75000	1993-06-20	NA	18.000000	25.0694444	14.691667
2364	chic	70.5	62.62500	1993-06-21	NA	30.000000	15.7244674	29.016204
2365	chic	72.0	56.25000	1993-06-22	NA	47.000000	25.8967391	38.609127
2366	chic	71.5	67.37500	1993-06-23	NA	59.000000	38.0438406	26.814915
2367	chic	78.5	67.87500	1993-06-24	NA	49.875000	31.0643939	27.381944
2368	chic	71.5	55.00000	1993-06-25	NA	34.000000	16.7433136	25.752345
2369	chic	70.5	62.25000	1993-06-26	NA	35.000000	20.2441667	23.888889
2370	chic	74.5	62.00000	1993-06-27	NA	27.000000	26.4791667	20.072917
2371	chic	65.5	52.37500	1993-06-28	NA	19.000000	18.6049431	23.563095
2372	chic	64.5	56.87500	1993-06-29	NA	24.000000	22.1983747	23.790687
2373	chic	64.0	60.50000	1993-06-30	NA	33.250000	16.4796066	21.772865
2374	chic	68.5	63.75000	1993-07-01	NA	36.000000	10.0480072	29.243659
2375	chic	73.0	71.50000	1993-07-02	NA	NA	11.8518939	37.633838
2376	chic	79.0	73.50000	1993-07-03	NA	NA	26.7083333	30.590278
2377	chic	81.5	70.00000	1993-07-04	NA	70.000000	29.3541667	15.666667
2378	chic	81.0	71.00000	1993-07-05	NA	NA	33.6541667	10.937500
2379	chic	73.5	66.87500	1993-07-06	NA	23.750000	25.1070652	24.499369
2380	chic	75.0	69.12500	1993-07-07	NA	31.000000	17.3366977	28.416667
2381	chic	79.5	74.50000	1993-07-08	NA	47.000000	23.9311594	25.363043
2382	chic	81.0	68.12500	1993-07-09	NA	NA	23.5853261	23.233333
2383	chic	78.5	70.12500	1993-07-10	NA	25.000000	20.8791667	29.400000
2384	chic	73.5	68.50000	1993-07-11	NA	29.000000	24.4083333	20.816667
2385	chic	72.0	56.50000	1993-07-12	NA	28.285714	26.5750000	23.358333
2386	chic	71.0	67.75000	1993-07-13	NA	40.000000	30.1625000	26.598333
2387	chic	70.0	58.37500	1993-07-14	NA	NA	27.9927536	27.013889
2388	chic	69.5	55.25000	1993-07-15	NA	15.000000	30.5229167	17.055556
2389	chic	72.5	64.87500	1993-07-16	NA	47.000000	34.9458333	24.515399
2390	chic	74.5	71.00000	1993-07-17	NA	60.000000	29.7750000	23.034722
2391	chic	79.0	72.75000	1993-07-18	NA	38.625000	25.0556818	24.118056
2392	chic	76.0	65.00000	1993-07-19	NA	43.000000	28.8250000	21.826389
2393	chic	71.5	59.00000	1993-07-20	NA	33.000000	21.9233484	22.378157
2394	chic	69.0	55.12500	1993-07-21	NA	29.000000	17.4902174	18.907828
2395	chic	66.0	54.87500	1993-07-22	NA	24.000000	20.5943841	16.548611
2396	chic	72.5	65.75000	1993-07-23	NA	57.000000	26.1639493	28.435414
2397	chic	77.5	71.25000	1993-07-24	NA	46.500000	24.2186594	27.451169
2398	chic	79.5	73.75000	1993-07-25	NA	36.000000	29.7083333	15.909722

2399	chic	76.0	66.12500	1993-07-26	NA	33.000000	20.5818841	20.951389
2400	chic	78.5	78.12500	1993-07-27	NA	66.000000	24.4192029	26.477273
2401	chic	76.5	62.00000	1993-07-28	NA	51.000000	25.8407867	16.401389
2402	chic	72.0	60.87500	1993-07-29	NA	34.000000	17.9174078	17.273853
2403	chic	69.5	59.62500	1993-07-30	NA	31.625000	19.0258235	23.002525
2404	chic	72.0	68.12500	1993-07-31	NA	46.000000	24.4583333	26.861111
2405	chic	75.5	63.00000	1993-08-01	NA	26.500000	27.5583333	13.598128
2406	chic	68.5	57.12500	1993-08-02	NA	42.500000	15.9000000	20.531944
2407	chic	70.5	55.87500	1993-08-03	NA	42.500000	15.5728261	19.423611
2408	chic	63.5	49.00000	1993-08-04	NA	38.500000	15.6845356	19.437500
2409	chic	63.0	57.50000	1993-08-05	NA	36.875000	13.6126812	26.466667
2410	chic	66.0	51.75000	1993-08-06	NA	32.000000	15.4938406	22.537879
2411	chic	65.0	59.25000	1993-08-07	NA	26.000000	22.9291667	22.800000
2412	chic	68.5	59.87500	1993-08-08	NA	37.500000	35.9445652	30.291667
2413	chic	68.0	66.25000	1993-08-09	NA	55.000000	19.9250000	31.800000
2414	chic	77.0	70.62500	1993-08-10	NA	67.500000	26.2540415	26.756159
2415	chic	76.5	70.25000	1993-08-11	NA	79.250000	33.6243083	37.703788
2416	chic	76.0	71.75000	1993-08-12	NA	59.000000	24.4883564	28.176389
2417	chic	77.0	70.25000	1993-08-13	NA	71.000000	38.8621739	28.704980
2418	chic	77.0	67.37500	1993-08-14	NA	83.500000	32.0882576	34.885101
2419	chic	74.0	71.62500	1993-08-15	NA	52.500000	19.9000000	30.138889
2420	chic	76.0	68.87500	1993-08-16	NA	41.000000	20.5368357	28.152778
2421	chic	75.0	69.00000	1993-08-17	NA	40.285714	38.7960950	18.655303
2422	chic	76.5	69.62500	1993-08-18	NA	56.000000	37.8836957	30.311308
2423	chic	78.0	72.37500	1993-08-19	NA	57.500000	12.9125000	36.639520
2424	chic	71.5	61.62500	1993-08-20	NA	28.000000	19.0284420	20.423611
2425	chic	71.5	61.75000	1993-08-21	NA	20.000000	20.9500000	12.270833
2426	chic	70.0	64.75000	1993-08-22	NA	26.500000	22.2583333	18.958333
2427	chic	80.0	71.50000	1993-08-23	NA	55.250000	30.3715909	22.344907
2428	chic	77.0	68.37500	1993-08-24	NA	40.000000	19.4242424	25.112864
2429	chic	79.0	72.37500	1993-08-25	NA	52.000000	24.6742424	34.880682
2430	chic	84.0	74.00000	1993-08-26	NA	66.500000	24.2098485	31.784722
2431	chic	81.5	71.62500	1993-08-27	NA	85.500000	30.5262821	24.065217
2432	chic	72.0	61.25000	1993-08-28	NA	14.000000	19.2608696	12.506944
2433	chic	71.0	69.87500	1993-08-29	NA	26.285714	19.9916667	18.930556
2434	chic	79.0	72.37500	1993-08-30	NA	78.000000	25.7924431	22.755478
2435	chic	64.0	52.37500	1993-08-31	NA	24.000000	15.5011905	19.695048
2436	chic	64.5	56.12500	1993-09-01	NA	31.500000	16.8591874	31.441468
2437	chic	67.0	69.75000	1993-09-02	NA	36.000000	2.7121706	25.368056
2438	chic	66.0	58.62500	1993-09-03	NA	36.000000	12.0500000	21.230374
2439	chic	64.0	59.50000	1993-09-04	NA	24.000000	13.0375000	17.541667
2440	chic	67.0	60.12500	1993-09-05	NA	18.000000	12.3333333	15.808333
2441	chic	59.5	47.25000	1993-09-06	NA	18.000000	12.4208333	14.975000

2442	chic	62.5	51.62500	1993-09-07	NA	65.000000	11.1795455	33.091667
2443	chic	64.0	52.50000	1993-09-08	NA	38.000000	11.5538043	31.594697
2444	chic	64.5	54.62500	1993-09-09	NA	40.000000	14.0847497	20.726010
2445	chic	55.5	40.37500	1993-09-10	NA	34.285714	12.6507576	20.990278
2446	chic	55.0	49.50000	1993-09-11	NA	40.500000	12.6125000	22.266667
2447	chic	70.5	64.12500	1993-09-12	NA	44.500000	33.6791667	13.925000
2448	chic	73.5	70.00000	1993-09-13	NA	36.000000	29.2501812	22.075000
2449	chic	62.0	53.25000	1993-09-14	NA	23.000000	7.8304348	14.628877
2450	chic	53.0	45.50000	1993-09-15	NA	15.000000	7.4208333	16.983333
2451	chic	55.0	49.25000	1993-09-16	NA	29.875000	4.4994048	24.270833
2452	chic	60.5	47.75000	1993-09-17	NA	36.000000	10.6083333	33.914855
2453	chic	59.5	53.87500	1993-09-18	NA	39.000000	9.9458333	26.625000
2454	chic	59.0	53.87500	1993-09-19	NA	26.000000	20.5375000	14.083333
2455	chic	61.0	61.37500	1993-09-20	NA	44.500000	8.6125000	28.930556
2456	chic	57.0	53.62500	1993-09-21	NA	31.500000	6.6268775	20.957071
2457	chic	65.0	63.12500	1993-09-22	NA	33.250000	6.3972050	27.163087
2458	chic	54.5	45.75000	1993-09-23	NA	24.500000	8.5541667	19.249242
2459	chic	53.5	47.37500	1993-09-24	NA	50.000000	8.2206522	33.958333
2460	chic	56.5	54.87500	1993-09-25	NA	33.500000	9.7728070	21.364583
2461	chic	59.0	53.37500	1993-09-26	NA	26.000000	18.9120370	21.500000
2462	chic	49.5	39.37500	1993-09-27	NA	30.000000	5.2327441	18.093750
2463	chic	51.5	39.75000	1993-09-28	NA	25.750000	7.2977602	23.267754
2464	chic	46.5	37.50000	1993-09-29	NA	31.000000	3.5954545	21.619394
2465	chic	46.5	39.75000	1993-09-30	NA	45.000000	11.1924172	22.668780
2466	chic	56.5	36.87500	1993-10-01	NA	37.000000	15.9300725	21.560826
2467	chic	45.0	25.12500	1993-10-02	NA	30.500000	12.5916667	21.523359
2468	chic	52.0	47.00000	1993-10-03	NA	33.000000	19.7875000	13.250000
2469	chic	50.5	40.50000	1993-10-04	NA	23.500000	13.7075828	19.326667
2470	chic	49.0	40.37500	1993-10-05	NA	57.000000	7.2540942	37.211353
2471	chic	61.0	56.12500	1993-10-06	NA	45.000000	18.9572464	29.656243
2472	chic	70.0	56.50000	1993-10-07	NA	91.500000	26.6460145	34.983333
2473	chic	62.5	51.75000	1993-10-08	NA	82.500000	24.4547101	31.329710
2474	chic	40.5	27.50000	1993-10-09	NA	7.500000	19.9675926	10.263768
2475	chic	41.5	32.25000	1993-10-10	NA	18.428571	9.5958333	25.769928
2476	chic	44.5	37.62500	1993-10-11	NA	87.000000	10.9416667	30.139493
2477	chic	46.5	35.87500	1993-10-12	NA	24.000000	10.8409420	21.888768
2478	chic	40.5	33.25000	1993-10-13	NA	41.500000	11.4708724	28.917641
2479	chic	50.5	42.75000	1993-10-14	NA	69.500000	5.3501812	35.309037
2480	chic	61.0	55.00000	1993-10-15	NA	58.000000	14.2620365	38.235507
2481	chic	58.0	55.00000	1993-10-16	NA	30.750000	9.1291667	27.153080
2482	chic	52.5	45.37500	1993-10-17	NA	15.500000	17.6125000	19.029315
2483	chic	49.5	48.00000	1993-10-18	NA	70.500000	7.0436594	43.862511
2484	chic	55.5	50.50000	1993-10-19	NA	37.000000	6.5556159	25.969386

2485	chic	55.0	53.50000	1993-10-20	NA	39.000000	1.1443511	25.915404
2486	chic	46.5	27.37500	1993-10-21	NA	27.000000	11.7460145	18.486111
2487	chic	45.5	32.62500	1993-10-22	NA	40.750000	5.9416667	37.731151
2488	chic	53.0	42.87500	1993-10-23	NA	45.000000	13.8541667	34.527778
2489	chic	58.5	40.37500	1993-10-24	NA	32.000000	15.7708333	33.319444
2490	chic	57.0	39.87500	1993-10-25	NA	81.000000	9.1778986	42.319444
2491	chic	54.0	40.00000	1993-10-26	NA	55.000000	7.5487813	25.967172
2492	chic	40.5	29.12500	1993-10-27	NA	36.500000	8.2216667	23.187500
2493	chic	46.0	33.00000	1993-10-28	NA	47.125000	8.3981578	22.648359
2494	chic	35.0	20.75000	1993-10-29	NA	39.500000	10.9721014	18.693332
2495	chic	34.5	28.50000	1993-10-30	NA	21.000000	11.1938725	20.958333
2496	chic	33.5	21.87500	1993-10-31	NA	16.500000	11.8125000	20.925000
2497	chic	35.5	23.12500	1993-11-01	NA	48.000000	5.8460145	31.590580
2498	chic	41.5	38.75000	1993-11-02	NA	51.500000	3.1182148	28.797714
2499	chic	45.0	37.12500	1993-11-03	NA	36.428571	4.5572464	26.298611
2500	chic	51.5	46.87500	1993-11-04	NA	36.000000	7.1689394	26.617624
2501	chic	39.0	31.62500	1993-11-05	NA	25.000000	3.6583333	18.880411
2502	chic	27.0	16.75000	1993-11-06	NA	17.500000	12.3500000	18.527778
2503	chic	28.5	22.50000	1993-11-07	NA	36.500000	9.7666667	18.076389
2504	chic	38.5	28.62500	1993-11-08	NA	65.500000	3.7333333	28.540761
2505	chic	39.0	33.00000	1993-11-09	NA	47.428571	3.9516018	33.806376
2506	chic	40.0	32.00000	1993-11-10	NA	56.500000	3.2975543	38.701389
2507	chic	46.0	35.00000	1993-11-11	NA	67.000000	9.3333333	36.354167
2508	chic	41.0	43.37500	1993-11-12	NA	51.500000	10.0312500	25.275884
2509	chic	54.5	42.62500	1993-11-13	NA	21.500000	11.7500000	19.825000
2510	chic	44.5	42.75000	1993-11-14	NA	11.500000	6.6333333	14.666667
2511	chic	41.0	34.87500	1993-11-15	NA	17.571429	4.6583333	25.153288
2512	chic	40.5	37.37500	1993-11-16	NA	42.000000	5.2906522	23.104084
2513	chic	37.5	33.12500	1993-11-17	NA	24.000000	8.9981884	21.417545
2514	chic	37.5	39.62500	1993-11-18	NA	43.000000	4.5316667	30.199708
2515	chic	39.0	16.50000	1993-11-19	NA	31.000000	8.5000000	20.737121
2516	chic	31.5	27.25000	1993-11-20	NA	21.000000	8.8000000	22.716667
2517	chic	43.5	32.25000	1993-11-21	NA	17.125000	10.9333333	20.775000
2518	chic	45.5	36.87500	1993-11-22	NA	48.500000	3.1750000	32.791667
2519	chic	46.5	36.25000	1993-11-23	NA	27.000000	2.4562112	35.581522
2520	chic	42.5	37.37500	1993-11-24	NA	48.500000	6.9637681	18.189614
2521	chic	39.5	40.37500	1993-11-25	NA	20.000000	12.4000000	15.520833
2522	chic	31.5	16.87500	1993-11-26	NA	15.500000	5.1916667	20.930556
2523	chic	25.5	24.00000	1993-11-27	NA	20.428571	7.6166667	27.395833
2524	chic	31.0	20.87500	1993-11-28	NA	25.000000	10.3583333	22.715278
2525	chic	27.0	19.37500	1993-11-29	NA	35.000000	6.0750000	28.847222
2526	chic	29.5	23.87500	1993-11-30	NA	40.000000	3.7000000	33.065657
2527	chic	36.5	30.62500	1993-12-01	NA	35.000000	2.9289526	31.307367

2528	chic	41.5	33.75000	1993-12-02	NA	34.000000	7.1471014	27.854167
2529	chic	36.0	38.87500	1993-12-03	NA	44.000000	3.2083333	33.777174
2530	chic	39.0	34.25000	1993-12-04	NA	19.500000	6.6453030	19.133333
2531	chic	37.0	34.87500	1993-12-05	NA	23.500000	4.3083333	27.250000
2532	chic	34.5	24.37500	1993-12-06	NA	21.500000	3.5666667	21.691667
2533	chic	30.5	26.50000	1993-12-07	NA	36.000000	2.7750000	30.227183
2534	chic	34.0	29.12500	1993-12-08	NA	37.500000	1.7742424	24.966414
2535	chic	42.0	45.50000	1993-12-09	NA	36.250000	2.6598485	29.480072
2536	chic	37.5	18.62500	1993-12-10	NA	34.500000	6.2708333	21.155797
2537	chic	25.5	18.25000	1993-12-11	NA	17.500000	8.5833333	25.576389
2538	chic	30.5	22.00000	1993-12-12	NA	19.000000	4.0833333	25.965278
2539	chic	41.0	25.50000	1993-12-13	NA	24.500000	2.2604167	30.125000
2540	chic	41.0	32.37500	1993-12-14	NA	23.500000	2.5206439	31.350049
2541	chic	42.5	35.00000	1993-12-15	NA	7.571429	14.9850543	20.495773
2542	chic	36.5	32.00000	1993-12-16	NA	18.000000	9.2291667	19.501812
2543	chic	38.5	38.50000	1993-12-17	NA	16.000000	0.4270833	23.923611
2544	chic	38.0	29.75000	1993-12-18	NA	16.500000	2.8854167	23.000000
2545	chic	35.0	31.37500	1993-12-19	NA	14.500000	3.0520833	20.729167
2546	chic	32.5	23.75000	1993-12-20	NA	21.500000	3.9166667	23.979167
2547	chic	27.0	21.50000	1993-12-21	NA	20.375000	2.6358696	21.973018
2548	chic	24.5	16.12500	1993-12-22	NA	25.000000	1.9252717	27.483825
2549	chic	21.5	13.12500	1993-12-23	NA	31.500000	5.0000000	25.888889
2550	chic	15.0	7.75000	1993-12-24	NA	18.000000	5.6875000	22.854167
2551	chic	11.5	-5.12500	1993-12-25	NA	26.000000	14.2604167	18.944444
2552	chic	9.0	-5.75000	1993-12-26	NA	42.500000	10.5520833	26.158333
2553	chic	13.5	-1.37500	1993-12-27	NA	44.000000	4.6875000	33.416667
2554	chic	13.5	10.37500	1993-12-28	NA	46.000000	2.8532197	38.107680
2555	chic	16.5	-2.37500	1993-12-29	NA	59.000000	8.5907738	24.777778
2556	chic	14.0	15.87500	1993-12-30	NA	44.000000	6.0631313	28.807359
2557	chic	32.0	27.87500	1993-12-31	NA	19.500000	3.4861111	28.208333
2558	chic	35.0	26.87500	1994-01-01	NA	13.500000	9.6111111	19.097222
2559	chic	30.0	22.50000	1994-01-02	NA	13.750000	15.6875000	19.555556
2560	chic	29.5	24.87500	1994-01-03	NA	16.000000	9.1770833	22.519324
2561	chic	26.0	18.25000	1994-01-04	NA	33.500000	10.8396739	24.812026
2562	chic	18.5	20.50000	1994-01-05	NA	25.500000	7.2774621	26.827267
2563	chic	29.5	25.37500	1994-01-06	NA	23.000000	3.5801630	26.480072
2564	chic	12.0	-8.62500	1994-01-07	NA	24.000000	5.4375000	28.131944
2565	chic	1.0	-2.75000	1994-01-08	NA	24.857143	6.8125000	26.458333
2566	chic	8.0	8.75000	1994-01-09	NA	35.500000	3.3750000	43.027778
2567	chic	26.0	30.12500	1994-01-10	NA	27.000000	2.3854167	29.840909
2568	chic	28.5	19.25000	1994-01-11	NA	28.000000	9.0208333	26.558657
2569	chic	25.5	25.62500	1994-01-12	NA	33.500000	4.4510870	32.264191
2570	chic	13.5	2.50000	1994-01-13	NA	43.000000	4.9888258	33.018308

2571	chic	-4.0	-17.87500	1994-01-14	NA	36.125000	11.9071558	28.047403
2572	chic	-10.5	-23.12500	1994-01-15	NA	36.000000	12.0104167	24.701389
2573	chic	-3.5	3.25000	1994-01-16	NA	22.000000	3.5000000	31.881944
2574	chic	-0.5	-16.25000	1994-01-17	NA	39.000000	10.2771739	26.574879
2575	chic	-16.0	-25.62500	1994-01-18	NA	27.000000	14.6562500	22.102355
2576	chic	-8.0	-2.37500	1994-01-19	NA	24.500000	4.8645833	36.597963
2577	chic	2.5	-4.62500	1994-01-20	NA	43.125000	2.7594697	48.875000
2578	chic	8.0	14.00000	1994-01-21	NA	38.000000	4.1979167	39.720328
2579	chic	24.5	23.75000	1994-01-22	NA	48.000000	3.5416667	48.097222
2580	chic	36.0	33.00000	1994-01-23	NA	23.000000	5.9583333	25.590278
2581	chic	34.0	29.50000	1994-01-24	NA	28.500000	4.8165761	30.104167
2582	chic	31.0	27.12500	1994-01-25	NA	20.000000	8.5579710	25.031401
2583	chic	23.5	17.37500	1994-01-26	NA	14.250000	18.2574405	20.673309
2584	chic	26.5	32.37500	1994-01-27	NA	25.000000	2.1865942	30.853865
2585	chic	29.0	21.62500	1994-01-28	NA	23.000000	2.4148551	32.034722
2586	chic	23.0	19.25000	1994-01-29	NA	16.500000	7.4458333	31.658333
2587	chic	16.0	11.62500	1994-01-30	NA	11.000000	19.1666667	17.468750
2588	chic	3.5	-7.50000	1994-01-31	NA	32.000000	7.2940705	37.288559
2589	chic	1.5	3.00000	1994-02-01	NA	34.375000	4.7638889	41.847222
2590	chic	17.0	13.87500	1994-02-02	NA	38.000000	9.3075181	30.417443
2591	chic	9.5	8.12500	1994-02-03	NA	35.500000	11.5965909	31.256944
2592	chic	15.5	2.25000	1994-02-04	NA	35.000000	10.7604167	35.229167
2593	chic	19.5	7.25000	1994-02-05	NA	25.500000	10.3854167	35.590278
2594	chic	23.0	8.00000	1994-02-06	NA	30.000000	13.3020833	34.458333
2595	chic	11.5	6.37500	1994-02-07	NA	22.375000	14.5729167	27.430556
2596	chic	15.5	11.87500	1994-02-08	NA	18.000000	17.5778986	21.617754
2597	chic	6.5	-3.50000	1994-02-09	NA	30.500000	9.4320652	33.210145
2598	chic	6.0	5.00000	1994-02-10	NA	35.000000	10.6770833	38.976840
2599	chic	12.5	15.50000	1994-02-11	NA	35.000000	10.6875000	37.152778
2600	chic	21.0	21.25000	1994-02-12	NA	37.000000	4.2395833	41.826389
2601	chic	20.5	13.37500	1994-02-13	NA	33.875000	14.5937500	35.555556
2602	chic	29.5	30.12500	1994-02-14	NA	101.000000	7.7500000	44.013889
2603	chic	33.5	24.75000	1994-02-15	NA	29.000000	11.6112484	40.021245
2604	chic	29.0	29.37500	1994-02-16	NA	36.000000	7.1662138	44.667743
2605	chic	42.5	36.62500	1994-02-17	NA	43.500000	5.3333333	46.806818
2606	chic	47.0	41.62500	1994-02-18	NA	50.000000	13.2395833	44.645833
2607	chic	55.5	53.37500	1994-02-19	NA	26.250000	15.0208333	23.833333
2608	chic	46.0	33.00000	1994-02-20	NA	22.000000	13.6770833	19.513889
2609	chic	33.0	24.87500	1994-02-21	NA	22.000000	15.1875000	22.930556
2610	chic	27.0	22.62500	1994-02-22	NA	18.000000	19.7083333	15.277778
2611	chic	22.5	17.75000	1994-02-23	NA	8.000000	13.1250000	23.674874
2612	chic	15.5	9.12500	1994-02-24	NA	24.000000	12.1191123	35.704710
2613	chic	19.5	14.25000	1994-02-25	NA	32.285714	9.8428442	35.835749

2614	chic	11.0	1.00000	1994-02-26	NA	27.500000	10.3437500	35.548611
2615	chic	13.0	12.12500	1994-02-27	NA	31.000000	12.3958333	42.277778
2616	chic	25.0	25.25000	1994-02-28	NA	30.500000	9.8541667	48.625000
2617	chic	26.0	22.50000	1994-03-01	NA	27.500000	22.7532115	32.813192
2618	chic	23.5	22.00000	1994-03-02	NA	32.000000	17.3229167	47.238768
2619	chic	30.5	32.00000	1994-03-03	NA	68.750000	8.6508152	53.894845
2620	chic	43.0	30.85714	1994-03-04	NA	39.000000	9.7119565	44.548611
2621	chic	40.0	34.50000	1994-03-05	NA	42.500000	10.9861111	45.826389
2622	chic	48.5	31.87500	1994-03-06	NA	27.500000	11.5833333	31.319444
2623	chic	40.5	25.50000	1994-03-07	NA	35.000000	12.4479167	29.338384
2624	chic	31.0	14.00000	1994-03-08	NA	26.000000	18.5767045	22.313296
2625	chic	29.0	19.62500	1994-03-09	NA	24.000000	15.3709239	24.885913
2626	chic	29.5	27.12500	1994-03-10	NA	45.000000	10.0729167	36.097222
2627	chic	29.5	23.75000	1994-03-11	NA	36.000000	23.1666667	30.076389
2628	chic	44.0	39.37500	1994-03-12	NA	42.500000	14.0833333	34.770833
2629	chic	40.0	34.87500	1994-03-13	NA	35.000000	8.2187500	34.423611
2630	chic	41.5	38.75000	1994-03-14	NA	50.500000	6.7291667	35.041667
2631	chic	38.5	22.00000	1994-03-15	NA	18.714286	16.9557395	24.011273
2632	chic	29.0	14.00000	1994-03-16	NA	20.500000	22.0213274	24.984007
2633	chic	29.5	15.37500	1994-03-17	NA	31.000000	11.7975543	38.496970
2634	chic	34.0	24.12500	1994-03-18	NA	38.000000	10.8079710	35.915476
2635	chic	38.0	29.87500	1994-03-19	NA	82.500000	10.0625000	40.916667
2636	chic	49.5	39.87500	1994-03-20	NA	43.000000	20.8437500	31.525000
2637	chic	48.0	27.87500	1994-03-21	NA	32.625000	13.8229167	33.458333
2638	chic	53.5	36.50000	1994-03-22	NA	39.000000	19.0539773	35.339277
2639	chic	61.0	45.50000	1994-03-23	NA	60.000000	21.7812500	33.878472
2640	chic	49.0	24.62500	1994-03-24	NA	69.500000	21.2717391	20.044192
2641	chic	36.5	22.00000	1994-03-25	NA	82.000000	26.8174819	23.321256
2642	chic	39.0	33.75000	1994-03-26	NA	70.500000	14.4062500	30.319444
2643	chic	43.0	31.50000	1994-03-27	NA	33.875000	13.0000000	28.097222
2644	chic	38.0	28.37500	1994-03-28	NA	26.000000	10.8551136	39.668561
2645	chic	36.0	24.25000	1994-03-29	NA	30.000000	14.2083333	34.673803
2646	chic	33.5	21.25000	1994-03-30	NA	42.500000	9.3936512	45.063543
2647	chic	40.0	23.87500	1994-03-31	NA	41.000000	15.4941123	35.948232
2648	chic	51.5	29.87500	1994-04-01	NA	65.000000	16.4635417	44.097222
2649	chic	55.0	30.12500	1994-04-02	NA	46.250000	24.4270833	27.513889
2650	chic	42.0	18.00000	1994-04-03	NA	21.500000	24.8750000	24.145833
2651	chic	47.0	33.12500	1994-04-04	NA	131.000000	20.0795455	31.569444
2652	chic	40.5	21.00000	1994-04-05	NA	14.000000	25.2905504	16.428030
2653	chic	31.0	21.37500	1994-04-06	NA	13.500000	26.8420698	18.247565
2654	chic	36.5	17.00000	1994-04-07	NA	35.500000	16.3957327	35.041667
2655	chic	47.5	31.12500	1994-04-08	NA	56.875000	21.1444518	34.878321
2656	chic	57.5	25.75000	1994-04-09	NA	32.000000	24.2407407	28.069444

2657	chic	46.0	27.25000	1994-04-10	NA	32.500000	35.9655797	15.458333
2658	chic	43.5	36.75000	1994-04-11	NA	21.000000	24.2824074	23.892512
2659	chic	48.5	45.12500	1994-04-12	NA	21.000000	14.4428341	27.347854
2660	chic	46.5	42.37500	1994-04-13	NA	22.500000	12.7870370	26.444444
2661	chic	57.0	50.00000	1994-04-14	NA	37.000000	22.0808081	41.143088
2662	chic	57.5	35.37500	1994-04-15	NA	36.000000	29.1431901	20.085317
2663	chic	52.5	28.12500	1994-04-16	NA	31.000000	30.0879630	18.090278
2664	chic	55.5	29.25000	1994-04-17	NA	23.500000	26.8287037	25.868056
2665	chic	67.5	46.12500	1994-04-18	NA	60.500000	33.3941224	31.111111
2666	chic	58.0	23.12500	1994-04-19	NA	40.500000	35.4716550	22.938022
2667	chic	51.0	29.62500	1994-04-20	NA	42.750000	20.8128019	38.451389
2668	chic	48.5	20.75000	1994-04-21	NA	27.000000	28.0529754	27.407005
2669	chic	45.5	21.00000	1994-04-22	NA	71.000000	25.8433977	30.101389
2670	chic	53.0	29.87500	1994-04-23	NA	82.500000	29.1481481	32.062500
2671	chic	68.5	54.37500	1994-04-24	NA	49.000000	47.9490741	20.520833
2672	chic	71.0	55.50000	1994-04-25	NA	99.000000	34.5507246	27.444444
2673	chic	75.0	48.12500	1994-04-26	NA	121.750000	28.2612721	23.161820
2674	chic	53.5	31.12500	1994-04-27	NA	24.000000	20.9855072	14.500992
2675	chic	41.5	43.37500	1994-04-28	NA	20.000000	9.6256039	17.345960
2676	chic	47.5	33.75000	1994-04-29	NA	24.500000	16.0123701	18.256944
2677	chic	38.5	33.62500	1994-04-30	NA	13.500000	20.3518519	16.605072
2678	chic	45.5	33.87500	1994-05-01	NA	26.000000	25.4861111	22.243056
2679	chic	51.0	28.25000	1994-05-02	NA	33.375000	22.3283011	33.370040
2680	chic	49.0	26.00000	1994-05-03	NA	47.000000	27.8447205	30.395698
2681	chic	51.0	36.50000	1994-05-04	NA	75.500000	19.7129630	43.804046
2682	chic	57.5	40.00000	1994-05-05	NA	60.500000	21.9102254	36.179567
2683	chic	45.5	31.87500	1994-05-06	NA	15.500000	27.7208498	19.812500
2684	chic	46.0	38.87500	1994-05-07	NA	18.500000	20.7962963	26.534722
2685	chic	53.5	39.00000	1994-05-08	NA	26.857143	27.7314815	25.479167
2686	chic	61.5	30.50000	1994-05-09	NA	39.500000	26.0038251	27.879529
2687	chic	56.5	35.37500	1994-05-10	NA	63.500000	17.9650692	39.216540
2688	chic	62.5	42.50000	1994-05-11	NA	72.000000	33.7458333	23.014630
2689	chic	52.0	34.87500	1994-05-12	NA	28.500000	25.4003623	21.921086
2690	chic	59.5	31.00000	1994-05-13	NA	59.000000	21.5233860	36.171800
2691	chic	60.5	60.12500	1994-05-14	NA	43.250000	20.0625000	32.863225
2692	chic	62.5	43.25000	1994-05-15	NA	22.500000	30.0125000	15.326389
2693	chic	50.5	36.12500	1994-05-16	NA	13.500000	26.1342391	18.138889
2694	chic	48.5	29.25000	1994-05-17	NA	11.500000	26.0652174	19.253568
2695	chic	50.5	29.87500	1994-05-18	NA	17.500000	24.2236157	20.854057
2696	chic	54.0	37.75000	1994-05-19	NA	26.500000	24.5369048	28.789683
2697	chic	59.5	42.75000	1994-05-20	NA	54.875000	24.2390152	40.307576
2698	chic	68.0	45.62500	1994-05-21	NA	86.500000	38.4708333	49.616667
2699	chic	73.0	49.75000	1994-05-22	NA	70.500000	45.5375000	49.916667

2700	chic	68.5	54.12500	1994-05-23	NA	54.000000	36.5717924	39.800000
2701	chic	66.5	60.87500	1994-05-24	NA	45.500000	28.0062500	42.397464
2702	chic	65.5	58.00000	1994-05-25	NA	34.000000	27.4766634	38.986742
2703	chic	49.0	38.00000	1994-05-26	NA	15.875000	23.5983696	16.239268
2704	chic	51.0	33.87500	1994-05-27	NA	34.000000	18.9862319	29.854167
2705	chic	63.0	46.00000	1994-05-28	NA	43.500000	33.9416667	29.909722
2706	chic	69.5	48.75000	1994-05-29	NA	48.000000	46.1916667	23.000000
2707	chic	77.0	59.37500	1994-05-30	NA	55.000000	47.8113889	21.788095
2708	chic	75.0	40.50000	1994-05-31	NA	53.500000	28.7820652	28.056159
2709	chic	56.0	34.25000	1994-06-01	NA	28.875000	24.8087286	21.439696
2710	chic	55.0	27.50000	1994-06-02	NA	18.500000	27.5966897	20.883929
2711	chic	57.0	40.75000	1994-06-03	NA	59.000000	25.7440217	37.097222
2712	chic	61.0	39.75000	1994-06-04	NA	43.500000	33.6500000	39.687500
2713	chic	71.0	60.00000	1994-06-05	NA	88.000000	44.5708333	27.208333
2714	chic	77.0	62.12500	1994-06-06	NA	80.000000	41.4225064	31.720987
2715	chic	68.5	49.25000	1994-06-07	NA	61.000000	22.1956522	35.613730
2716	chic	55.5	39.62500	1994-06-08	NA	29.000000	21.2123188	16.269406
2717	chic	56.0	33.87500	1994-06-09	NA	37.500000	28.2365942	32.361111
2718	chic	61.5	40.87500	1994-06-10	NA	53.000000	23.8268939	50.709596
2719	chic	67.0	56.00000	1994-06-11	NA	53.500000	24.9750000	39.465278
2720	chic	72.5	58.12500	1994-06-12	NA	25.000000	32.0250000	21.986111
2721	chic	78.0	66.87500	1994-06-13	NA	36.125000	35.2936594	23.888889
2722	chic	80.0	70.00000	1994-06-14	NA	55.000000	30.2427536	24.009964
2723	chic	86.0	66.37500	1994-06-15	NA	90.000000	31.3559783	25.245581
2724	chic	84.0	65.00000	1994-06-16	NA	86.500000	34.8702899	37.187802
2725	chic	81.5	65.37500	1994-06-17	NA	106.500000	30.9458333	42.715909
2726	chic	82.0	64.25000	1994-06-18	NA	71.500000	52.1784420	41.312500
2727	chic	75.5	63.62500	1994-06-19	NA	35.857143	32.9166667	18.569444
2728	chic	78.0	72.00000	1994-06-20	NA	88.000000	33.4025362	38.120581
2729	chic	74.0	53.00000	1994-06-21	NA	37.000000	26.6914526	28.614734
2730	chic	73.5	48.00000	1994-06-22	NA	47.500000	26.5375000	32.442798
2731	chic	67.5	62.62500	1994-06-23	NA	39.000000	22.6447464	32.873106
2732	chic	63.5	54.00000	1994-06-24	NA	27.500000	32.5845850	17.645833
2733	chic	70.5	61.00000	1994-06-25	NA	31.500000	25.7875000	27.812500
2734	chic	68.5	59.75000	1994-06-26	NA	41.000000	33.4460145	21.020833
2735	chic	69.5	54.00000	1994-06-27	NA	33.500000	24.6596014	25.895290
2736	chic	74.5	59.50000	1994-06-28	NA	51.500000	28.0973810	27.458333
2737	chic	70.5	58.87500	1994-06-29	NA	37.000000	26.6397727	25.248957
2738	chic	70.0	59.37500	1994-06-30	NA	41.500000	15.5311594	31.486111
2739	chic	77.0	63.75000	1994-07-01	NA	47.875000	33.7433300	32.459486
2740	chic	63.5	52.00000	1994-07-02	NA	15.500000	17.4333333	14.673611
2741	chic	66.5	63.62500	1994-07-03	NA	34.500000	28.2037037	18.763889
2742	chic	82.0	74.00000	1994-07-04	NA	41.500000	38.3240741	15.666667

2743	chic	85.5	70.50000	1994-07-05	NA	12.000000	35.6755051	25.638131
2744	chic	82.5	68.37500	1994-07-06	NA	52.000000	26.0068987	32.840278
2745	chic	79.5	70.25000	1994-07-07	NA	47.875000	18.3833333	35.250000
2746	chic	74.0	60.37500	1994-07-08	NA	42.000000	21.7622036	18.659722
2747	chic	66.5	58.12500	1994-07-09	NA	22.000000	13.9916667	12.055556
2748	chic	66.0	54.50000	1994-07-10	NA	13.500000	20.1666667	10.944444
2749	chic	69.5	66.00000	1994-07-11	NA	68.500000	24.7291667	23.495370
2750	chic	81.0	67.50000	1994-07-12	NA	50.500000	35.1886775	26.389651
2751	chic	66.5	58.50000	1994-07-13	NA	25.000000	16.6447262	20.631061
2752	chic	73.5	65.75000	1994-07-14	NA	56.500000	29.0963745	26.780195
2753	chic	74.0	58.87500	1994-07-15	NA	41.000000	22.5087235	25.783333
2754	chic	73.5	64.75000	1994-07-16	NA	38.500000	28.8041667	34.989216
2755	chic	76.0	60.25000	1994-07-17	NA	26.500000	27.9000000	24.766667
2756	chic	75.0	61.50000	1994-07-18	NA	35.500000	21.3867424	31.238333
2757	chic	77.0	67.25000	1994-07-19	NA	37.000000	21.4827899	30.578283
2758	chic	79.5	69.50000	1994-07-20	NA	53.000000	26.6121212	29.111114
2759	chic	74.5	66.62500	1994-07-21	NA	40.500000	17.8595158	26.000000
2760	chic	72.5	64.12500	1994-07-22	NA	32.000000	13.1070652	22.384420
2761	chic	75.5	63.75000	1994-07-23	NA	25.500000	21.2685185	21.083333
2762	chic	74.5	57.25000	1994-07-24	NA	20.000000	22.7833333	18.358333
2763	chic	72.5	51.50000	1994-07-25	NA	35.875000	15.4947464	24.842857
2764	chic	66.0	54.37500	1994-07-26	NA	35.500000	15.7501812	28.983333
2765	chic	67.5	54.00000	1994-07-27	NA	24.500000	13.6899704	18.569774
2766	chic	66.0	50.25000	1994-07-28	NA	24.500000	13.3050725	20.474336
2767	chic	67.5	51.37500	1994-07-29	NA	74.000000	16.9006776	35.684843
2768	chic	70.0	57.75000	1994-07-30	NA	72.500000	27.9490741	39.574495
2769	chic	75.0	61.50000	1994-07-31	NA	46.750000	32.4250000	24.319444
2770	chic	77.0	67.00000	1994-08-01	NA	60.000000	34.2925725	31.076389
2771	chic	69.0	58.00000	1994-08-02	NA	39.500000	26.0958333	18.316288
2772	chic	71.5	68.12500	1994-08-03	NA	62.000000	22.3889657	34.576389
2773	chic	69.5	53.75000	1994-08-04	NA	45.500000	20.3969203	24.486905
2774	chic	59.0	47.37500	1994-08-05	NA	19.000000	18.7079875	14.008333
2775	chic	60.0	50.75000	1994-08-06	NA	35.250000	19.9666667	29.266667
2776	chic	65.0	57.25000	1994-08-07	NA	26.000000	31.0916667	31.191667
2777	chic	74.0	60.00000	1994-08-08	NA	51.500000	29.1492754	24.722222
2778	chic	58.5	51.00000	1994-08-09	NA	24.000000	19.0259058	15.038373
2779	chic	61.0	57.50000	1994-08-10	NA	NA	6.5238636	33.583333
2780	chic	63.5	59.25000	1994-08-11	NA	29.500000	23.4822464	26.196429
2781	chic	65.5	64.75000	1994-08-12	NA	41.250000	16.1179677	34.125000
2782	chic	75.0	70.75000	1994-08-13	NA	41.000000	23.1342593	23.825000
2783	chic	64.5	50.87500	1994-08-14	NA	33.000000	19.3697917	18.691667
2784	chic	66.5	51.50000	1994-08-15	NA	32.000000	14.7570455	29.796717
2785	chic	66.5	58.12500	1994-08-16	NA	68.500000	19.5812888	40.183333

2786	chic	70.0	61.00000	1994-08-17	NA	52.50000	26.9083333	44.806752
2787	chic	71.0	66.37500	1994-08-18	NA	62.87500	23.6250000	45.620422
2788	chic	77.0	64.50000	1994-08-19	NA	86.00000	36.3688406	34.247343
2789	chic	70.0	62.12500	1994-08-20	NA	31.00000	30.8333333	18.131944
2790	chic	66.0	58.37500	1994-08-21	NA	NA	19.2500000	15.062500
2791	chic	68.0	57.50000	1994-08-22	NA	46.50000	13.1960145	26.566123
2792	chic	69.5	61.25000	1994-08-23	NA	61.50000	21.8208333	34.092172
2793	chic	77.5	70.37500	1994-08-24	NA	59.428571	33.6864130	31.646739
2794	chic	78.5	73.00000	1994-08-25	NA	92.00000	27.7278986	37.271135
2795	chic	76.5	68.37500	1994-08-26	NA	65.50000	22.3902174	37.937500
2796	chic	77.0	68.12500	1994-08-27	NA	106.50000	33.7458333	27.743056
2797	chic	67.5	54.12500	1994-08-28	NA	36.00000	19.6458333	20.277778
2798	chic	66.0	52.37500	1994-08-29	NA	32.00000	18.0813900	31.488829
2799	chic	64.0	61.62500	1994-08-30	NA	39.571429	8.9353818	37.105676
2800	chic	61.5	53.37500	1994-08-31	NA	28.00000	13.6326490	22.682540
2801	chic	59.0	46.37500	1994-09-01	NA	14.50000	13.8906250	20.083333
2802	chic	59.0	50.50000	1994-09-02	NA	88.00000	7.6475420	38.360870
2803	chic	62.0	53.87500	1994-09-03	NA	37.50000	16.4583333	31.458333
2804	chic	59.5	54.50000	1994-09-04	NA	23.00000	22.2291667	29.416667
2805	chic	61.5	60.37500	1994-09-05	NA	39.62500	25.3854167	21.966667
2806	chic	67.0	52.00000	1994-09-06	NA	NA	14.5045290	28.918939
2807	chic	65.0	51.75000	1994-09-07	NA	56.00000	12.7708333	35.959783
2808	chic	69.5	59.75000	1994-09-08	NA	42.00000	9.2748065	38.861957
2809	chic	72.0	63.12500	1994-09-09	NA	46.00000	21.1927083	48.200000
2810	chic	76.5	63.50000	1994-09-10	NA	38.00000	25.7343750	36.725000
2811	chic	74.5	64.87500	1994-09-11	NA	44.12500	24.9114583	32.991667
2812	chic	75.5	60.25000	1994-09-12	NA	88.50000	28.3958333	46.258333
2813	chic	77.0	62.25000	1994-09-13	NA	73.00000	30.5624382	35.291667
2814	chic	81.0	67.75000	1994-09-14	NA	61.50000	27.9221014	31.251515
2815	chic	80.5	60.62500	1994-09-15	NA	119.50000	34.0184659	27.486905
2816	chic	74.0	56.87500	1994-09-16	NA	77.00000	34.6822917	24.173452
2817	chic	65.5	53.00000	1994-09-17	NA	38.12500	9.2656250	24.391667
2818	chic	67.0	43.12500	1994-09-18	NA	28.00000	11.5364583	28.366667
2819	chic	70.0	55.25000	1994-09-19	NA	61.50000	15.5842803	43.616667
2820	chic	71.5	53.00000	1994-09-20	NA	80.50000	20.1358696	46.722101
2821	chic	71.0	48.00000	1994-09-21	NA	82.00000	30.4940476	48.477174
2822	chic	66.5	59.62500	1994-09-22	NA	61.50000	21.7431065	35.633333
2823	chic	65.0	59.25000	1994-09-23	NA	49.12500	11.7007212	34.410931
2824	chic	63.5	61.37500	1994-09-24	NA	33.00000	11.3489583	25.850000
2825	chic	60.5	50.75000	1994-09-25	NA	24.00000	16.1666667	29.975000
2826	chic	54.5	51.37500	1994-09-26	NA	25.00000	8.0511775	28.629545
2827	chic	54.0	49.12500	1994-09-27	NA	23.00000	5.5261652	17.733333
2828	chic	57.0	43.75000	1994-09-28	NA	34.00000	9.8156703	24.358333

2829	chic	57.5	46.50000	1994-09-29	NA	37.571429	6.3229167	31.758333
2830	chic	67.5	56.50000	1994-09-30	NA	63.000000	18.7916667	41.925000
2831	chic	58.0	47.12500	1994-10-01	NA	15.500000	20.5729167	18.391667
2832	chic	57.0	41.50000	1994-10-02	NA	12.500000	22.7291667	11.466667
2833	chic	57.5	45.75000	1994-10-03	NA	18.000000	22.6313406	19.723188
2834	chic	53.5	44.75000	1994-10-04	NA	27.000000	9.1486742	23.035498
2835	chic	51.0	42.75000	1994-10-05	NA	40.125000	5.5420166	31.900000
2836	chic	62.0	49.87500	1994-10-06	NA	42.000000	21.4218750	33.350000
2837	chic	68.0	62.37500	1994-10-07	NA	82.500000	30.0052083	26.094697
2838	chic	56.0	47.12500	1994-10-08	NA	20.000000	2.7760417	20.266667
2839	chic	47.5	32.12500	1994-10-09	NA	16.000000	10.1093750	20.250000
2840	chic	46.0	31.75000	1994-10-10	NA	NA	9.6510417	26.058333
2841	chic	48.5	40.75000	1994-10-11	NA	36.375000	11.9670002	32.336025
2842	chic	51.5	47.75000	1994-10-12	NA	48.000000	8.2185236	33.437846
2843	chic	55.5	49.87500	1994-10-13	NA	53.500000	6.4062500	39.008333
2844	chic	58.5	51.87500	1994-10-14	NA	46.500000	13.5738225	29.864526
2845	chic	58.0	53.25000	1994-10-15	NA	45.000000	14.6666667	25.675000
2846	chic	66.0	54.87500	1994-10-16	NA	38.000000	19.7500000	30.475000
2847	chic	69.5	54.87500	1994-10-17	NA	39.285714	20.5187953	32.275000
2848	chic	65.0	60.12500	1994-10-18	NA	48.500000	9.5678113	22.019203
2849	chic	64.5	47.37500	1994-10-19	NA	25.000000	11.2892992	21.090152
2850	chic	57.0	46.87500	1994-10-20	NA	33.000000	6.9759964	27.334552
2851	chic	56.5	45.37500	1994-10-21	NA	104.000000	8.0018116	42.115909
2852	chic	58.5	45.87500	1994-10-22	NA	54.500000	14.1145833	40.491667
2853	chic	52.0	35.50000	1994-10-23	NA	21.125000	10.9531250	18.506667
2854	chic	47.0	27.62500	1994-10-24	NA	33.500000	11.5288826	20.708333
2855	chic	43.0	30.12500	1994-10-25	NA	24.000000	8.2710598	19.877841
2856	chic	42.0	30.75000	1994-10-26	NA	35.000000	5.6816123	26.375000
2857	chic	46.0	34.25000	1994-10-27	NA	77.500000	6.1055254	30.354620
2858	chic	54.0	34.25000	1994-10-28	NA	193.000000	14.1834239	29.033333
2859	chic	57.0	40.87500	1994-10-29	NA	41.875000	16.7604167	28.475000
2860	chic	48.5	43.37500	1994-10-30	NA	39.000000	7.4270833	37.250000
2861	chic	45.5	39.12500	1994-10-31	NA	7.500000	25.8020833	16.683333
2862	chic	44.5	32.00000	1994-11-01	NA	24.000000	7.5911836	26.309190
2863	chic	51.0	35.75000	1994-11-02	NA	59.000000	9.1805556	31.550000
2864	chic	60.5	62.12500	1994-11-03	NA	63.000000	8.3194444	29.666667
2865	chic	58.5	55.62500	1994-11-04	NA	16.125000	1.8931159	22.655383
2866	chic	54.0	55.12500	1994-11-05	NA	11.000000	7.4861111	15.491667
2867	chic	48.0	35.37500	1994-11-06	NA	13.500000	11.7916667	18.200000
2868	chic	46.5	39.00000	1994-11-07	NA	19.000000	6.5833333	29.944697
2869	chic	55.0	50.37500	1994-11-08	NA	38.500000	4.2777778	30.050000
2870	chic	47.0	33.00000	1994-11-09	NA	10.000000	23.2868357	15.988570
2871	chic	43.0	34.50000	1994-11-10	NA	16.375000	23.0303030	20.833004

2872	chic	46.0	30.75000	1994-11-11		NA	30.500000	9.7638889	28.916667
2873	chic	46.5	46.37500	1994-11-12		NA	29.000000	3.0277778	23.300000
2874	chic	58.0	56.25000	1994-11-13		NA	24.000000	11.5694444	15.575000
2875	chic	50.5	38.50000	1994-11-14		NA	NA	5.5694444	17.941667
2876	chic	41.5	34.12500	1994-11-15		NA	18.000000	9.1111111	26.215260
2877	chic	43.5	35.25000	1994-11-16		NA	38.750000	10.1111111	31.608333
2878	chic	44.0	44.12500	1994-11-17		NA	42.000000	1.7741546	24.083333
2879	chic	44.5	29.25000	1994-11-18		NA	NA	9.3725845	18.373551
2880	chic	38.0	31.62500	1994-11-19		NA	45.000000	1.7916667	32.683333
2881	chic	52.0	38.50000	1994-11-20		NA	24.500000	6.6388889	25.841667
2882	chic	43.0	28.25000	1994-11-21		NA	17.500000	14.8285024	16.674275
2883	chic	31.0	16.87500	1994-11-22		NA	16.625000	10.5253623	20.934651
2884	chic	36.0	23.12500	1994-11-23		NA	38.000000	5.6250000	25.666667
2885	chic	39.0	33.75000	1994-11-24		NA	17.000000	9.7916667	19.633333
2886	chic	39.0	16.50000	1994-11-25		NA	17.000000	6.1388889	30.708333
2887	chic	35.0	24.75000	1994-11-26		NA	20.500000	18.1388889	17.383333
2888	chic	47.5	44.37500	1994-11-27		NA	22.000000	9.6111111	15.175000
2889	chic	36.0	24.00000	1994-11-28		NA	14.625000	12.4323671	12.297727
2890	chic	29.5	22.62500	1994-11-29		NA	25.000000	7.6250000	19.434524
2891	chic	29.0	24.25000	1994-11-30		NA	36.000000	2.9204545	27.334091
2892	chic	42.0	29.50000	1994-12-01		NA	75.500000	6.5694444	27.169401
2893	chic	46.0	33.50000	1994-12-02		NA	52.000000	8.6388889	30.916667
2894	chic	48.0	44.37500	1994-12-03		NA	27.500000	4.3472222	26.800000
2895	chic	48.5	47.75000	1994-12-04		NA	43.000000	1.4444444	27.733333
2896	chic	43.5	39.00000	1994-12-05		NA	47.500000	0.1527778	27.203986
2897	chic	35.0	33.12500	1994-12-06		NA	8.500000	4.7260101	16.659848
2898	chic	31.0	23.87500	1994-12-07		NA	3.000000	18.6340580	20.729381
2899	chic	30.0	27.50000	1994-12-08		NA	18.000000	13.8194444	23.708333
2900	chic	30.5	22.87500	1994-12-09		NA	27.000000	1.6527778	29.523188
2901	chic	27.0	15.87500	1994-12-10		NA	31.000000	3.2916667	31.733333
2902	chic	19.0	8.75000	1994-12-11		NA	23.000000	8.1666667	25.141667
2903	chic	21.5	18.25000	1994-12-12		NA	NA	1.5694444	26.316667
2904	chic	23.5	16.87500	1994-12-13		NA	48.500000	0.4915459	33.342424
2905	chic	27.5	25.12500	1994-12-14		NA	36.000000	4.2364405	28.835145
2906	chic	32.5	34.37500	1994-12-15		NA	43.500000	0.3611111	30.454519
2907	chic	36.5	36.00000	1994-12-16		NA	41.000000	0.6944444	34.391667
2908	chic	37.0	31.12500	1994-12-17		NA	31.500000	3.4861111	27.408333
2909	chic	29.5	22.12500	1994-12-18		NA	19.000000	9.0972222	25.050000
2910	chic	28.0	27.75000	1994-12-19		NA	26.500000	3.3514493	29.600000
2911	chic	38.0	33.62500	1994-12-20		NA	33.500000	0.8174682	32.256818
2912	chic	40.5	31.87500	1994-12-21		NA	58.500000	0.9160628	44.295588
2913	chic	39.5	36.75000	1994-12-22		NA	69.875000	1.8888889	50.281538
2914	chic	38.5	37.87500	1994-12-23		NA	16.000000	8.2620773	24.474967

2915	chic	33.5	28.87500	1994-12-24	NA	22.000000	10.125000	23.450000
2916	chic	39.5	27.00000	1994-12-25	NA	27.000000	6.8472222	32.411111
2917	chic	36.0	33.25000	1994-12-26	NA	34.500000	2.3333333	40.374635
2918	chic	40.5	37.25000	1994-12-27	NA	40.000000	3.0833333	31.569444
2919	chic	38.0	30.12500	1994-12-28	NA	16.142857	7.8260870	23.162879
2920	chic	35.0	22.87500	1994-12-29	NA	14.000000	18.8055556	17.516667
2921	chic	32.0	24.87500	1994-12-30	NA	34.000000	5.7222222	28.079293
2922	chic	32.0	29.87500	1994-12-31	NA	32.000000	1.2638889	25.922101
2923	chic	19.5	5.62500	1995-01-01	NA	22.500000	14.7020202	15.723214
2924	chic	14.5	10.50000	1995-01-02	NA	20.000000	12.7777778	21.239583
2925	chic	11.0	-2.87500	1995-01-03	NA	22.555556	9.1957071	25.055871
2926	chic	3.0	-7.50000	1995-01-04	NA	27.000000	9.0000000	27.240489
2927	chic	9.0	7.00000	1995-01-05	NA	35.500000	5.0966184	29.370924
2928	chic	22.5	22.00000	1995-01-06	NA	32.000000	1.3725845	31.114583
2929	chic	19.5	13.50000	1995-01-07	NA	24.500000	5.0833333	28.187500
2930	chic	12.0	3.25000	1995-01-08	NA	36.500000	5.0833333	29.197917
2931	chic	17.5	11.87500	1995-01-09	NA	37.777778	4.7222222	38.479167
2932	chic	23.5	24.50000	1995-01-10	NA	45.500000	4.8834541	36.199275
2933	chic	33.0	37.50000	1995-01-11	NA	68.000000	0.5169082	37.770833
2934	chic	42.0	37.75000	1995-01-12	NA	29.000000	1.2101449	30.312500
2935	chic	35.5	33.75000	1995-01-13	NA	21.000000	0.8629227	27.260417
2936	chic	37.0	32.75000	1995-01-14	NA	10.500000	1.6250000	19.135417
2937	chic	33.0	25.25000	1995-01-15	NA	9.857143	9.2916667	15.640399
2938	chic	34.0	29.37500	1995-01-16	NA	16.000000	11.3194444	19.552083
2939	chic	36.5	38.37500	1995-01-17	NA	28.000000	0.9734300	23.110054
2940	chic	35.5	22.62500	1995-01-18	NA	24.500000	3.9027778	25.552083
2941	chic	34.5	33.00000	1995-01-19	NA	12.000000	6.1107268	17.997200
2942	chic	30.0	20.12500	1995-01-20	NA	16.500000	8.6950483	22.598526
2943	chic	23.5	17.75000	1995-01-21	NA	20.222222	8.9444444	18.395833
2944	chic	20.0	16.50000	1995-01-22	NA	19.000000	8.4722222	24.593750
2945	chic	20.0	14.25000	1995-01-23	NA	24.500000	3.7500000	33.156250
2946	chic	15.0	6.75000	1995-01-24	NA	45.000000	2.8143939	42.213809
2947	chic	18.0	9.25000	1995-01-25	NA	66.500000	1.6666667	52.446970
2948	chic	18.0	13.25000	1995-01-26	NA	58.000000	3.2246377	50.437500
2949	chic	23.5	26.00000	1995-01-27	NA	63.111111	4.1008454	45.310071
2950	chic	28.5	16.00000	1995-01-28	NA	17.000000	22.3611111	20.875000
2951	chic	25.0	20.00000	1995-01-29	NA	9.000000	22.2500000	18.052083
2952	chic	24.0	19.12500	1995-01-30	NA	47.000000	6.8573232	41.541667
2953	chic	30.5	30.37500	1995-01-31	NA	32.000000	9.5555556	26.546402
2954	chic	37.0	27.50000	1995-02-01	NA	19.500000	9.7681159	27.489130
2955	chic	33.5	26.62500	1995-02-02	NA	16.444444	17.4375000	23.677083
2956	chic	30.5	24.25000	1995-02-03	NA	31.000000	8.0262681	28.362813
2957	chic	20.0	3.50000	1995-02-04	NA	17.000000	18.6875000	16.343750

2958	chic	8.5	-4.62500	1995-02-05		NA	17.500000	18.3958333	19.916667
2959	chic	11.0	0.00000	1995-02-06		NA	22.000000	7.4375000	30.354167
2960	chic	15.0	3.37500	1995-02-07		NA	38.500000	9.5027174	28.781703
2961	chic	12.0	1.50000	1995-02-08		NA	25.555556	13.1250000	25.614583
2962	chic	24.0	25.00000	1995-02-09		NA	34.500000	4.6781401	29.151268
2963	chic	26.5	4.87500	1995-02-10		NA	38.000000	12.2916667	20.315670
2964	chic	6.5	-13.25000	1995-02-11		NA	69.500000	20.1388889	13.843750
2965	chic	7.5	2.37500	1995-02-12		NA	22.500000	11.7222222	20.864583
2966	chic	17.0	-0.75000	1995-02-13		NA	37.000000	8.9166667	28.989583
2967	chic	18.5	11.37500	1995-02-14		NA	39.285714	6.1817633	32.524868
2968	chic	30.5	21.37500	1995-02-15		NA	25.000000	3.7222222	24.197917
2969	chic	25.0	18.25000	1995-02-16		NA	36.500000	7.4740338	31.481102
2970	chic	33.0	18.75000	1995-02-17		NA	55.000000	4.2045455	39.675231
2971	chic	42.5	27.00000	1995-02-18		NA	42.500000	9.1250000	30.645833
2972	chic	38.0	28.37500	1995-02-19		NA	24.500000	13.6666667	23.302083
2973	chic	40.5	28.25000	1995-02-20		NA	33.000000	9.9027778	27.541667
2974	chic	28.0	17.25000	1995-02-21		NA	17.000000	18.3623188	23.991477
2975	chic	38.0	30.00000	1995-02-22		NA	41.000000	3.5972222	31.239583
2976	chic	41.0	21.50000	1995-02-23		NA	43.000000	13.2457729	28.050189
2977	chic	32.0	17.50000	1995-02-24		NA	15.500000	15.3055556	26.770833
2978	chic	39.0	26.37500	1995-02-25		NA	21.000000	12.0694444	24.093750
2979	chic	30.5	27.50000	1995-02-26		NA	23.333333	13.0972222	19.614583
2980	chic	31.5	28.62500	1995-02-27		NA	16.500000	15.1515700	23.786685
2981	chic	27.5	20.87500	1995-02-28		NA	18.500000	15.7752525	26.373641
2982	chic	16.5	3.75000	1995-03-01		NA	21.500000	11.7717391	24.307971
2983	chic	17.5	6.62500	1995-03-02		NA	26.000000	7.1250000	36.642992
2984	chic	23.0	14.00000	1995-03-03		NA	45.500000	7.7373188	41.074811
2985	chic	31.5	20.12500	1995-03-04		NA	41.111111	10.2777778	38.510417
2986	chic	35.0	32.75000	1995-03-05		NA	39.000000	4.5694444	27.458333
2987	chic	33.0	32.12500	1995-03-06		NA	29.500000	10.8888889	26.843750
2988	chic	30.5	20.87500	1995-03-07		NA	19.000000	7.7083333	30.531250
2989	chic	23.5	12.37500	1995-03-08		NA	22.500000	17.6388889	28.937500
2990	chic	24.5	18.87500	1995-03-09		NA	36.500000	9.9233092	39.157156
2991	chic	40.5	35.50000	1995-03-10		NA	34.333333	13.4722222	29.046131
2992	chic	51.0	38.75000	1995-03-11		NA	30.500000	27.5972222	28.695833
2993	chic	58.5	44.25000	1995-03-12		NA	31.500000	29.3055556	23.809028
2994	chic	61.5	44.25000	1995-03-13		NA	56.000000	17.5609903	40.388587
2995	chic	61.0	44.37500	1995-03-14		NA	67.500000	15.5000000	52.487689
2996	chic	59.0	43.37500	1995-03-15		NA	65.000000	18.1419082	49.556238
2997	chic	54.0	41.00000	1995-03-16		NA	44.222222	13.4698068	48.319129
2998	chic	42.5	33.50000	1995-03-17		NA	21.500000	21.7487374	25.947917
2999	chic	49.0	40.50000	1995-03-18		NA	31.500000	19.3750000	25.875000
3000	chic	50.0	42.25000	1995-03-19		NA	56.500000	10.6388889	24.052083

3001	chic	50.5	39.12500	1995-03-20		NA	34.500000	10.7934783	20.681069
3002	chic	43.5	30.12500	1995-03-21		NA	22.000000	13.5972222	24.766667
3003	chic	39.0	31.75000	1995-03-22		NA	14.777778	19.1338384	23.324405
3004	chic	36.0	28.75000	1995-03-23		NA	10.000000	21.2192029	23.742754
3005	chic	37.0	22.37500	1995-03-24		NA	16.500000	21.9184783	31.290179
3006	chic	42.0	22.50000	1995-03-25		NA	24.500000	22.2916667	31.729167
3007	chic	43.5	25.37500	1995-03-26		NA	27.500000	21.3888889	24.093750
3008	chic	41.5	36.25000	1995-03-27		NA	22.000000	11.2361111	27.731061
3009	chic	41.0	37.62500	1995-03-28		NA	21.222222	1.1316425	28.483902
3010	chic	40.0	33.00000	1995-03-29		NA	28.000000	4.4722222	31.975379
3011	chic	40.5	29.50000	1995-03-30		NA	21.500000	6.7916667	31.986413
3012	chic	36.5	29.87500	1995-03-31		NA	25.500000	6.6727053	28.032156
3013	chic	37.0	26.75000	1995-04-01		NA	23.000000	13.1607143	28.500000
3014	chic	44.0	27.50000	1995-04-02		NA	18.000000	21.7500000	21.250000
3015	chic	55.0	39.00000	1995-04-03		NA	24.333333	20.9321946	23.854167
3016	chic	33.0	1.37500	1995-04-04		NA	23.000000	22.2604167	18.145833
3017	chic	34.5	22.75000	1995-04-05		NA	37.500000	15.6354167	27.489583
3018	chic	52.0	28.62500	1995-04-06		NA	42.000000	23.2971014	21.869565
3019	chic	42.5	35.12500	1995-04-07		NA	37.500000	21.9519928	22.208333
3020	chic	43.0	36.37500	1995-04-08		NA	40.000000	13.8072917	22.666667
3021	chic	37.5	24.37500	1995-04-09		NA	13.111111	30.8928571	9.958333
3022	chic	36.5	32.12500	1995-04-10		NA	16.000000	18.1988225	18.956975
3023	chic	49.5	48.25000	1995-04-11		NA	36.500000	10.4646099	25.760417
3024	chic	39.5	34.25000	1995-04-12		NA	14.000000	18.0458937	21.280344
3025	chic	49.0	29.62500	1995-04-13		NA	21.000000	31.6199678	19.184783
3026	chic	42.5	29.87500	1995-04-14		NA	12.500000	32.9583333	20.239583
3027	chic	46.5	36.37500	1995-04-15		NA	26.111111	28.7875000	24.364583
3028	chic	51.5	39.37500	1995-04-16		NA	37.000000	18.1000000	33.104167
3029	chic	50.5	35.12500	1995-04-17		NA	33.000000	27.7750000	29.145833
3030	chic	61.0	42.00000	1995-04-18		NA	47.500000	27.1163043	18.734601
3031	chic	47.5	34.37500	1995-04-19		NA	17.500000	24.4914855	19.287138
3032	chic	44.0	44.75000	1995-04-20		NA	27.500000	17.2801383	23.147398
3033	chic	46.5	41.37500	1995-04-21		NA	29.222222	10.6159420	22.822917
3034	chic	51.0	35.12500	1995-04-22		NA	19.500000	22.1916667	25.593750
3035	chic	45.0	32.37500	1995-04-23		NA	19.000000	21.6458333	28.104167
3036	chic	47.5	39.75000	1995-04-24		NA	44.500000	20.2924172	33.167929
3037	chic	47.0	35.87500	1995-04-25		NA	30.000000	20.1088933	26.921377
3038	chic	50.0	50.25000	1995-04-26		NA	34.000000	10.1533267	38.482749
3039	chic	47.5	36.50000	1995-04-27		NA	18.333333	19.1827899	27.195076
3040	chic	53.0	38.62500	1995-04-28		NA	31.500000	17.3489130	31.979167
3041	chic	49.5	34.87500	1995-04-29		NA	28.500000	16.5333333	31.843750
3042	chic	44.5	36.87500	1995-04-30		NA	7.500000	25.6916667	16.138393
3043	chic	45.5	37.25000	1995-05-01		NA	13.000000	22.5751294	20.662202

3044	chic	50.5	31.75000	1995-05-02	NA	16.000000	22.4458333	24.031250
3045	chic	49.5	32.12500	1995-05-03	NA	32.777778	18.3666667	38.527083
3046	chic	52.5	45.87500	1995-05-04	NA	35.500000	15.5143775	43.903274
3047	chic	55.0	40.62500	1995-05-05	NA	48.500000	20.8371377	34.989079
3048	chic	56.0	37.62500	1995-05-06	NA	43.000000	21.5166667	34.941667
3049	chic	62.5	46.75000	1995-05-07	NA	44.000000	37.3041667	27.066667
3050	chic	57.5	42.75000	1995-05-08	NA	41.500000	25.5641304	19.750000
3051	chic	61.5	54.62500	1995-05-09	NA	43.777778	21.3648551	30.308333
3052	chic	51.0	49.00000	1995-05-10	NA	32.000000	10.3813406	31.128200
3053	chic	59.5	47.62500	1995-05-11	NA	27.000000	18.4202899	30.600000
3054	chic	60.0	48.75000	1995-05-12	NA	35.000000	25.9349638	31.721077
3055	chic	62.0	62.62500	1995-05-13	NA	32.500000	23.8541667	21.058333
3056	chic	62.5	51.37500	1995-05-14	NA	21.000000	29.6083333	12.033333
3057	chic	61.5	44.12500	1995-05-15	NA	29.777778	21.6083333	38.691667
3058	chic	68.5	65.87500	1995-05-16	NA	47.500000	24.1594697	34.918841
3059	chic	58.5	37.62500	1995-05-17	NA	15.000000	21.9222826	19.511594
3060	chic	52.5	37.25000	1995-05-18	NA	13.500000	19.8181159	23.075527
3061	chic	60.5	41.75000	1995-05-19	NA	36.500000	20.9451087	35.125000
3062	chic	66.0	40.75000	1995-05-20	NA	39.500000	26.9541667	19.075000
3063	chic	60.5	40.62500	1995-05-21	NA	29.222222	27.7125000	22.158333
3064	chic	62.0	46.00000	1995-05-22	NA	67.000000	26.1083333	38.559783
3065	chic	59.5	53.87500	1995-05-23	NA	38.000000	21.6550725	32.768116
3066	chic	51.5	46.37500	1995-05-24	NA	10.500000	22.6101449	17.177536
3067	chic	55.0	46.00000	1995-05-25	NA	15.000000	17.8784420	17.504076
3068	chic	55.0	43.62500	1995-05-26	NA	21.500000	22.5548913	24.291667
3069	chic	60.5	57.50000	1995-05-27	NA	29.875000	22.5791667	18.350000
3070	chic	65.5	55.37500	1995-05-28	NA	21.000000	27.9666667	11.716667
3071	chic	61.0	46.50000	1995-05-29	NA	16.500000	23.7791667	17.466667
3072	chic	67.5	48.12500	1995-05-30	NA	47.000000	20.5948068	38.972368
3073	chic	69.5	51.62500	1995-05-31	NA	81.000000	27.7042918	48.053986
3074	chic	71.5	55.25000	1995-06-01	NA	65.500000	29.9820652	44.726449
3075	chic	67.5	60.87500	1995-06-02	NA	65.000000	14.9168478	49.002899
3076	chic	67.0	57.25000	1995-06-03	NA	41.500000	34.8416667	33.258333
3077	chic	67.0	53.75000	1995-06-04	NA	34.000000	33.5048913	22.866667
3078	chic	67.5	56.87500	1995-06-05	NA	46.500000	33.6802536	30.091667
3079	chic	74.0	64.62500	1995-06-06	NA	72.500000	29.4706192	38.735000
3080	chic	71.5	59.00000	1995-06-07	NA	36.500000	33.9130694	23.275758
3081	chic	53.5	45.00000	1995-06-08	NA	18.333333	20.4116271	14.377273
3082	chic	59.0	51.75000	1995-06-09	NA	42.000000	16.7827899	24.103788
3083	chic	67.5	51.00000	1995-06-10	NA	35.000000	25.2000000	21.041667
3084	chic	59.0	44.87500	1995-06-11	NA	17.500000	21.4583333	20.141667
3085	chic	61.0	41.12500	1995-06-12	NA	24.000000	21.0460145	24.285870
3086	chic	67.5	45.75000	1995-06-13	NA	58.000000	16.6514493	44.258333

3087	chic	74.0	52.00000	1995-06-14		NA	61.250000	34.3807971	47.717424
3088	chic	72.0	53.25000	1995-06-15		NA	79.500000	43.1182971	43.882816
3089	chic	76.5	54.87500	1995-06-16		NA	88.500000	43.0009058	38.550000
3090	chic	77.5	61.62500	1995-06-17		NA	77.500000	45.6458333	35.650000
3091	chic	82.0	63.37500	1995-06-18		NA	57.500000	48.0583333	30.733333
3092	chic	82.5	65.25000	1995-06-19		NA	61.000000	45.0050322	41.608333
3093	chic	85.0	63.75000	1995-06-20		NA	58.111111	48.7802536	25.728623
3094	chic	78.0	61.75000	1995-06-21		NA	53.000000	37.9911232	25.312121
3095	chic	80.0	62.50000	1995-06-22		NA	66.000000	47.8577569	32.782971
3096	chic	79.5	55.75000	1995-06-23		NA	65.000000	63.3750000	31.102536
3097	chic	77.5	62.37500	1995-06-24		NA	75.500000	66.5875000	35.033333
3098	chic	75.5	63.75000	1995-06-25		NA	57.000000	47.9541667	25.333333
3099	chic	75.5	62.62500	1995-06-26		NA	47.111111	37.1329710	23.558333
3100	chic	72.5	67.37500	1995-06-27		NA	40.500000	26.1965580	32.025000
3101	chic	74.0	65.25000	1995-06-28		NA	54.500000	25.8855072	32.432312
3102	chic	77.0	65.25000	1995-06-29		NA	43.000000	28.4794631	33.065283
3103	chic	71.5	51.12500	1995-06-30		NA	46.000000	30.0062582	23.233333
3104	chic	65.5	47.75000	1995-07-01		NA	18.000000	27.5875000	15.633333
3105	chic	63.5	49.37500	1995-07-02		NA	27.666667	24.9291667	25.350000
3106	chic	71.0	57.50000	1995-07-03		NA	51.500000	44.3910079	21.330303
3107	chic	75.5	69.50000	1995-07-04		NA	43.000000	29.1458333	16.508333
3108	chic	75.0	63.87500	1995-07-05		NA	58.500000	31.0822464	18.162220
3109	chic	72.0	54.00000	1995-07-06		NA	27.500000	32.8094203	15.708333
3110	chic	70.5	55.62500	1995-07-07		NA	42.000000	27.3125000	22.128261
3111	chic	70.5	54.25000	1995-07-08		NA	36.750000	27.5708333	30.016667
3112	chic	73.0	60.87500	1995-07-09		NA	37.000000	41.3000000	26.916667
3113	chic	73.5	63.00000	1995-07-10		NA	52.500000	26.9246377	37.150000
3114	chic	79.0	64.62500	1995-07-11		NA	56.000000	39.6371212	38.190152
3115	chic	84.5	73.12500	1995-07-12		NA	77.500000	45.3083333	27.890787
3116	chic	92.0	76.37500	1995-07-13		NA	92.500000	58.5495238	27.317754
3117	chic	91.5	75.62500	1995-07-14		NA	54.500000	52.0039716	24.773551
3118	chic	86.0	69.00000	1995-07-15		NA	51.000000	50.5508333	20.233333
3119	chic	83.0	67.75000	1995-07-16		NA	29.000000	43.0458333	15.383333
3120	chic	78.5	55.25000	1995-07-17		NA	33.000000	27.9666667	19.141667
3121	chic	74.0	54.75000	1995-07-18		NA	39.000000	24.7146739	23.225000
3122	chic	75.5	57.87500	1995-07-19		NA	44.000000	25.9170125	32.865909
3123	chic	73.5	67.62500	1995-07-20		NA	41.333333	18.5403986	36.555072
3124	chic	74.0	56.00000	1995-07-21		NA	34.000000	25.6844203	29.540580
3125	chic	76.0	68.50000	1995-07-22		NA	39.000000	22.3291667	38.516667
3126	chic	76.0	67.00000	1995-07-23		NA	23.000000	29.2500000	24.058333
3127	chic	79.0	68.25000	1995-07-24		NA	44.000000	27.6414855	35.400000
3128	chic	81.5	64.50000	1995-07-25		NA	43.500000	22.4875000	39.166667
3129	chic	77.0	68.00000	1995-07-26		NA	32.777778	36.4245951	29.984058

3130	chic	80.5	67.37500	1995-07-27	NA	38.000000	41.0702899	23.227277
3131	chic	80.5	63.12500	1995-07-28	NA	30.000000	33.2177536	28.665580
3132	chic	82.5	69.00000	1995-07-29	NA	40.500000	29.2958333	30.891667
3133	chic	83.5	72.12500	1995-07-30	NA	43.500000	37.8632576	34.375000
3134	chic	84.5	68.25000	1995-07-31	NA	82.000000	40.9083333	32.183333
3135	chic	75.0	65.37500	1995-08-01	NA	23.777778	30.1847826	20.909091
3136	chic	74.0	71.37500	1995-08-02	NA	28.000000	23.4036232	27.067029
3137	chic	75.0	72.25000	1995-08-03	NA	34.000000	7.7307971	37.175033
3138	chic	77.0	69.75000	1995-08-04	NA	39.000000	8.1221820	33.700000
3139	chic	76.5	69.12500	1995-08-05	NA	36.000000	26.1018519	22.391667
3140	chic	78.0	68.87500	1995-08-06	NA	26.000000	33.2129630	15.075000
3141	chic	79.5	70.50000	1995-08-07	NA	37.666667	23.4394122	22.476087
3142	chic	79.5	71.75000	1995-08-08	NA	57.500000	28.3109190	24.164912
3143	chic	75.0	69.00000	1995-08-09	NA	49.000000	4.8981884	39.919170
3144	chic	80.0	70.87500	1995-08-10	NA	38.000000	17.6492754	30.537319
3145	chic	82.0	72.75000	1995-08-11	NA	55.500000	26.9659420	27.514493
3146	chic	86.5	74.75000	1995-08-12	NA	58.500000	43.3943182	24.558333
3147	chic	87.0	74.75000	1995-08-13	NA	48.222222	39.1990741	18.066667
3148	chic	87.0	72.12500	1995-08-14	NA	55.000000	31.0724359	21.575000
3149	chic	78.0	72.75000	1995-08-15	NA	30.000000	26.2679348	22.364361
3150	chic	84.0	72.87500	1995-08-16	NA	45.000000	15.4136528	33.816667
3151	chic	81.5	73.37500	1995-08-17	NA	34.500000	26.7538043	30.293149
3152	chic	81.0	71.87500	1995-08-18	NA	33.500000	36.0864295	18.297464
3153	chic	81.0	71.12500	1995-08-19	NA	32.222222	22.7756410	27.650000
3154	chic	74.0	63.62500	1995-08-20	NA	13.000000	26.1916667	14.239583
3155	chic	75.5	60.25000	1995-08-21	NA	32.000000	22.0814394	36.678406
3156	chic	74.0	53.62500	1995-08-22	NA	25.500000	19.1829710	20.627273
3157	chic	74.0	62.87500	1995-08-23	NA	47.500000	19.8206522	32.986111
3158	chic	76.0	65.37500	1995-08-24	NA	46.000000	23.9804607	28.212862
3159	chic	81.0	66.00000	1995-08-25	NA	52.000000	32.0177536	23.838768
3160	chic	80.0	65.50000	1995-08-26	NA	74.000000	42.4250000	33.847222
3161	chic	77.5	70.00000	1995-08-27	NA	85.000000	41.5750000	22.055556
3162	chic	76.0	69.87500	1995-08-28	NA	58.500000	14.8809783	35.180556
3163	chic	80.0	68.00000	1995-08-29	NA	48.000000	17.9375000	34.379808
3164	chic	83.0	67.00000	1995-08-30	NA	86.500000	39.1969203	31.291667
3165	chic	79.0	57.12500	1995-08-31	NA	48.333333	35.4097826	21.926915
3166	chic	69.5	53.62500	1995-09-01	NA	22.500000	20.5812582	23.950758
3167	chic	68.5	55.87500	1995-09-02	NA	35.500000	19.9750000	31.250000
3168	chic	72.0	55.62500	1995-09-03	NA	34.000000	34.2125000	26.489583
3169	chic	75.0	59.00000	1995-09-04	NA	60.500000	47.0458333	36.406250
3170	chic	76.5	61.12500	1995-09-05	NA	90.000000	28.5791667	52.119318
3171	chic	74.5	59.87500	1995-09-06	NA	65.142857	36.3414855	36.571970
3172	chic	62.0	55.87500	1995-09-07	NA	22.000000	16.5902339	18.481522

3173	chic	61.0	49.12500	1995-09-08	NA	8.500000	24.7838768	13.176449
3174	chic	58.5	46.37500	1995-09-09	NA	13.000000	23.3083333	17.566667
3175	chic	54.5	43.37500	1995-09-10	NA	9.000000	24.4125000	10.933333
3176	chic	59.0	46.37500	1995-09-11	NA	27.500000	16.7451087	31.000000
3177	chic	65.5	59.62500	1995-09-12	NA	55.666667	16.4405797	46.858333
3178	chic	73.0	61.25000	1995-09-13	NA	46.000000	25.2711957	26.459223
3179	chic	66.5	54.50000	1995-09-14	NA	26.500000	20.0765810	19.869565
3180	chic	65.5	55.50000	1995-09-15	NA	35.500000	14.9724638	26.171377
3181	chic	73.5	65.25000	1995-09-16	NA	40.500000	26.2708333	20.708333
3182	chic	56.5	42.37500	1995-09-17	NA	9.000000	17.7375000	8.925000
3183	chic	56.0	48.00000	1995-09-18	NA	27.888889	9.4871014	25.200000
3184	chic	61.5	57.62500	1995-09-19	NA	31.500000	10.0539452	27.474440
3185	chic	55.0	48.37500	1995-09-20	NA	21.500000	8.6978663	18.942490
3186	chic	45.5	40.12500	1995-09-21	NA	12.000000	10.6157407	19.441667
3187	chic	44.0	27.75000	1995-09-22	NA	15.000000	7.1123737	20.836667
3188	chic	44.0	35.87500	1995-09-23	NA	30.500000	12.1574074	23.233333
3189	chic	49.5	37.62500	1995-09-24	NA	22.333333	17.0277778	24.600000
3190	chic	56.0	43.75000	1995-09-25	NA	47.500000	11.6157407	39.308333
3191	chic	60.0	43.12500	1995-09-26	NA	59.500000	13.5980274	36.891667
3192	chic	67.0	48.00000	1995-09-27	NA	54.000000	17.8397746	40.398033
3193	chic	67.0	46.87500	1995-09-28	NA	87.500000	21.6481481	53.133333
3194	chic	68.0	49.37500	1995-09-29	NA	74.000000	29.4782609	39.279356
3195	chic	75.0	55.25000	1995-09-30	NA	77.250000	47.8703704	16.583333
3196	chic	66.5	48.25000	1995-10-01	NA	37.500000	26.0416667	13.277778
3197	chic	64.0	54.50000	1995-10-02	NA	53.000000	11.9907407	33.680556
3198	chic	62.0	53.75000	1995-10-03	NA	34.500000	11.2775765	37.395833
3199	chic	58.0	50.37500	1995-10-04	NA	37.000000	13.3745974	27.697917
3200	chic	58.0	54.25000	1995-10-05	NA	23.500000	16.2824074	17.865942
3201	chic	57.5	51.25000	1995-10-06	NA	26.125000	5.6976651	20.014946
3202	chic	49.5	42.37500	1995-10-07	NA	10.500000	5.7250000	13.583333
3203	chic	52.5	46.87500	1995-10-08	NA	22.500000	9.8981481	22.354167
3204	chic	61.5	45.62500	1995-10-09	NA	39.000000	12.8796296	36.093750
3205	chic	57.0	44.37500	1995-10-10	NA	63.000000	5.4597424	41.248206
3206	chic	62.5	49.87500	1995-10-11	NA	87.000000	11.6183575	51.020455
3207	chic	68.5	48.87500	1995-10-12	NA	58.555556	24.3890902	49.804348
3208	chic	70.0	52.62500	1995-10-13	NA	81.500000	29.3419887	36.328351
3209	chic	48.0	36.37500	1995-10-14	NA	20.500000	10.2083333	12.218750
3210	chic	46.5	29.75000	1995-10-15	NA	12.000000	13.3009259	18.583333
3211	chic	48.0	30.62500	1995-10-16	NA	33.000000	7.6250000	35.520833
3212	chic	59.5	44.12500	1995-10-17	NA	78.500000	13.9476651	34.750000
3213	chic	58.0	47.12500	1995-10-18	NA	33.777778	12.0704509	28.395833
3214	chic	64.0	51.75000	1995-10-19	NA	68.000000	24.7095411	28.994112
3215	chic	44.5	39.00000	1995-10-20	NA	13.500000	3.8097826	16.187500

3216	chic	38.5	35.25000	1995-10-21		NA	11.500000	4.6157407	15.479167
3217	chic	48.0	39.00000	1995-10-22		NA	26.000000	9.6712963	24.854167
3218	chic	60.0	46.62500	1995-10-23		NA	40.000000	25.9537037	24.625000
3219	chic	42.5	34.75000	1995-10-24		NA	16.666667	10.2261905	17.885417
3220	chic	46.5	33.25000	1995-10-25		NA	46.000000	7.2105475	31.274004
3221	chic	51.5	44.62500	1995-10-26		NA	39.000000	6.9669887	32.673007
3222	chic	53.0	45.75000	1995-10-27		NA	21.000000	11.5623628	19.203063
3223	chic	45.5	40.75000	1995-10-28		NA	14.000000	7.0648148	22.489583
3224	chic	44.0	34.75000	1995-10-29		NA	12.500000	9.6250000	18.229167
3225	chic	43.0	38.62500	1995-10-30		NA	13.111111	8.5599839	22.052083
3226	chic	44.5	45.37500	1995-10-31		NA	14.500000	6.3590982	18.012311
3227	chic	55.5	59.25000	1995-11-01		NA	28.500000	3.3611111	27.937500
3228	chic	44.5	27.87500	1995-11-02		NA	12.000000	4.0235507	15.730525
3229	chic	30.0	19.25000	1995-11-03		NA	16.500000	10.0416667	17.665226
3230	chic	27.5	16.62500	1995-11-04		NA	12.500000	8.8194444	20.864583
3231	chic	28.5	28.62500	1995-11-05		NA	18.444444	5.2777778	26.645833
3232	chic	40.5	39.50000	1995-11-06		NA	36.000000	4.6250000	26.729167
3233	chic	38.0	19.00000	1995-11-07		NA	25.000000	7.0138889	22.065670
3234	chic	26.0	11.37500	1995-11-08		NA	18.500000	9.9969807	25.758243
3235	chic	32.5	27.12500	1995-11-09		NA	42.000000	4.2083333	28.544956
3236	chic	46.5	37.62500	1995-11-10		NA	29.000000	6.5972222	25.750000
3237	chic	26.5	11.37500	1995-11-11		NA	10.555556	13.8194444	19.739583
3238	chic	22.5	20.12500	1995-11-12		NA	17.500000	4.7638889	27.562500
3239	chic	26.0	18.25000	1995-11-13		NA	31.000000	1.7361111	37.218750
3240	chic	27.0	15.75000	1995-11-14		NA	34.000000	3.9462560	41.512228
3241	chic	27.0	22.25000	1995-11-15		NA	27.000000	4.9166667	34.943452
3242	chic	32.5	22.75000	1995-11-16		NA	33.500000	2.8979469	33.864583
3243	chic	34.5	32.50000	1995-11-17		NA	35.000000	2.5694444	30.666667
3244	chic	36.5	28.75000	1995-11-18		NA	30.000000	1.1250000	28.739583
3245	chic	39.0	38.50000	1995-11-19		NA	34.500000	3.7500000	24.656250
3246	chic	44.5	26.00000	1995-11-20		NA	44.000000	9.3750000	21.833333
3247	chic	28.5	15.87500	1995-11-21		NA	26.500000	10.7500000	24.346920
3248	chic	27.5	22.37500	1995-11-22		NA	43.500000	2.2638889	32.354167
3249	chic	27.0	9.62500	1995-11-23		NA	16.000000	9.1805556	23.416667
3250	chic	24.0	11.37500	1995-11-24		NA	35.000000	6.1666667	34.500000
3251	chic	40.0	27.37500	1995-11-25		NA	45.000000	5.4305556	28.458333
3252	chic	43.0	31.37500	1995-11-26		NA	42.000000	2.1388889	28.986111
3253	chic	34.5	29.12500	1995-11-27		NA	25.000000	6.5694444	29.347826
3254	chic	21.0	13.12500	1995-11-28		NA	23.000000	6.6461353	39.226010
3255	chic	22.0	18.75000	1995-11-29		NA	44.222222	2.1055665	50.000000
3256	chic	36.5	30.87500	1995-11-30		NA	35.500000	2.8423913	33.750000
3257	chic	39.0	24.50000	1995-12-01		NA	26.500000	5.3421717	29.336806
3258	chic	40.5	30.25000	1995-12-02		NA	32.500000	8.7777778	29.020833

3259	chic	47.0	29.62500	1995-12-03	NA	33.000000	9.2083333	23.562500
3260	chic	36.5	29.75000	1995-12-04	NA	20.500000	10.5694444	29.864583
3261	chic	35.0	5.12500	1995-12-05	NA	26.444444	9.9033816	25.650568
3262	chic	28.0	8.12500	1995-12-06	NA	28.500000	7.6425121	27.122247
3263	chic	25.0	4.75000	1995-12-07	NA	29.000000	7.2222222	33.394737
3264	chic	21.5	21.00000	1995-12-08	NA	35.000000	6.1388889	35.044056
3265	chic	0.5	-2.87500	1995-12-09	NA	75.000000	20.1527778	13.458333
3266	chic	7.5	-3.75000	1995-12-10	NA	37.500000	16.9444444	18.114583
3267	chic	4.5	2.50000	1995-12-11	NA	36.555556	5.7777778	39.145833
3268	chic	15.5	18.62500	1995-12-12	NA	32.500000	5.3556763	41.581645
3269	chic	28.5	29.50000	1995-12-13	NA	37.500000	4.7916667	28.446558
3270	chic	38.0	32.12500	1995-12-14	NA	33.500000	1.4698068	24.182971
3271	chic	34.0	23.50000	1995-12-15	NA	41.500000	2.2083333	36.151515
3272	chic	27.0	18.25000	1995-12-16	NA	35.500000	5.8194444	32.885417
3273	chic	30.0	27.00000	1995-12-17	NA	29.444444	8.2083333	24.354167
3274	chic	35.0	27.87500	1995-12-18	NA	16.000000	11.4444444	19.354167
3275	chic	30.0	21.87500	1995-12-19	NA	11.000000	24.5471014	16.191964
3276	chic	26.0	14.87500	1995-12-20	NA	24.500000	7.2361111	28.041667
3277	chic	24.0	15.37500	1995-12-21	NA	19.000000	7.2638889	33.125000
3278	chic	22.0	18.12500	1995-12-22	NA	19.000000	5.2777778	38.007850
3279	chic	27.0	21.25000	1995-12-23	NA	22.777778	5.7222222	28.555556
3280	chic	25.0	23.75000	1995-12-24	NA	24.000000	10.1250000	18.333333
3281	chic	22.5	10.50000	1995-12-25	NA	22.000000	18.2083333	19.111111
3282	chic	21.0	21.00000	1995-12-26	NA	26.000000	3.3097826	32.000000
3283	chic	23.0	14.37500	1995-12-27	NA	30.500000	4.2946860	34.195199
3284	chic	23.0	11.87500	1995-12-28	NA	41.000000	2.9891304	38.968297
3285	chic	25.0	19.00000	1995-12-29	NA	39.000000	4.2916667	31.976902
3286	chic	29.5	27.12500	1995-12-30	NA	31.500000	1.9583333	29.656250
3287	chic	34.0	32.25000	1995-12-31	NA	35.000000	1.9166667	23.312500
3288	chic	35.0	31.25000	1996-01-01	NA	30.000000	6.5694444	17.916667
3289	chic	27.5	13.50000	1996-01-02	NA	8.000000	22.0000000	14.533213
3290	chic	21.0	17.62500	1996-01-03	NA	18.000000	17.4468599	27.002394
3291	chic	21.0	12.62500	1996-01-04	NA	30.916667	2.8218599	41.682518
3292	chic	16.0	7.87500	1996-01-05	NA	40.500000	3.9861111	38.406250
3293	chic	19.0	17.37500	1996-01-06	NA	20.500000	11.4027778	31.833333
3294	chic	18.5	7.37500	1996-01-07	NA	20.000000	18.4166667	24.750000
3295	chic	13.0	13.00000	1996-01-08	NA	44.000000	6.7083333	37.729167
3296	chic	27.0	20.62500	1996-01-09	NA	37.500000	5.5307971	34.289079
3297	chic	21.5	18.12500	1996-01-10	NA	33.416667	5.3375604	38.477657
3298	chic	26.5	24.50000	1996-01-11	NA	27.500000	5.6031746	33.489130
3299	chic	28.5	27.12500	1996-01-12	NA	31.500000	4.5416667	31.534091
3300	chic	32.0	30.75000	1996-01-13	NA	41.000000	1.6250000	38.552083
3301	chic	37.5	28.50000	1996-01-14	NA	19.000000	10.6041667	24.562500

3302	chic	24.0	14.25000	1996-01-15		NA	11.500000	20.0833333	23.625000
3303	chic	32.5	40.00000	1996-01-16		NA	36.416667	1.1666667	29.266304
3304	chic	47.0	49.12500	1996-01-17		NA	35.000000	4.7518116	27.061012
3305	chic	36.5	19.75000	1996-01-18		NA	17.500000	13.1805556	18.819627
3306	chic	9.0	1.50000	1996-01-19		NA	25.000000	15.1630435	23.000000
3307	chic	15.5	12.00000	1996-01-20		NA	24.000000	4.6944444	32.722222
3308	chic	25.5	26.25000	1996-01-21		NA	28.000000	4.8888889	25.887077
3309	chic	37.5	33.00000	1996-01-22		NA	27.615385	6.5694444	26.194444
3310	chic	33.0	33.00000	1996-01-23		NA	28.000000	3.6992754	23.248119
3311	chic	20.5	4.37500	1996-01-24		NA	21.000000	12.0332126	25.914855
3312	chic	20.0	23.37500	1996-01-25		NA	35.000000	4.0917874	35.521780
3313	chic	32.0	28.37500	1996-01-26		NA	27.000000	5.8750000	29.188159
3314	chic	16.5	3.87500	1996-01-27		NA	38.500000	20.0972222	20.062500
3315	chic	19.0	15.12500	1996-01-28		NA	22.615385	8.9583333	33.489583
3316	chic	18.5	-2.50000	1996-01-29		NA	46.000000	14.9305556	24.145833
3317	chic	2.0	-13.62500	1996-01-30		NA	42.500000	9.3008640	34.488564
3318	chic	-3.0	-10.00000	1996-01-31		NA	34.500000	8.1325758	34.547472
3319	chic	1.5	-12.87500	1996-02-01		NA	33.000000	9.8997585	32.092391
3320	chic	-10.5	-21.00000	1996-02-02		NA	35.000000	9.5555556	31.479167
3321	chic	-12.0	-18.87500	1996-02-03		NA	25.615385	7.7361111	30.135417
3322	chic	-6.0	-7.87500	1996-02-04		NA	21.000000	9.5833333	29.958333
3323	chic	11.5	5.25000	1996-02-05		NA	51.000000	6.4027778	38.239583
3324	chic	18.5	20.62500	1996-02-06		NA	58.000000	5.4323671	48.981266
3325	chic	38.0	34.75000	1996-02-07		NA	37.000000	4.7916667	31.250000
3326	chic	39.5	34.50000	1996-02-08		NA	28.000000	2.6277778	29.208333
3327	chic	39.0	37.75000	1996-02-09		NA	28.076923	3.9447464	40.802083
3328	chic	44.5	29.62500	1996-02-10		NA	27.000000	14.3541667	21.437500
3329	chic	32.0	19.62500	1996-02-11		NA	15.000000	22.1041667	14.791667
3330	chic	23.0	14.37500	1996-02-12		NA	17.000000	14.5625000	27.072917
3331	chic	27.5	26.87500	1996-02-13		NA	29.000000	4.1186869	30.937371
3332	chic	27.5	19.25000	1996-02-14		NA	21.000000	6.6237374	32.552083
3333	chic	24.0	20.62500	1996-02-15		NA	22.153846	9.9583333	30.712862
3334	chic	21.0	14.25000	1996-02-16		NA	23.000000	13.3888889	26.780344
3335	chic	23.5	10.62500	1996-02-17		NA	28.000000	10.9722222	25.479167
3336	chic	18.5	19.75000	1996-02-18		NA	32.000000	10.4444444	31.177083
3337	chic	33.0	31.87500	1996-02-19		NA	35.000000	5.0138889	36.906250
3338	chic	43.5	41.25000	1996-02-20		NA	43.000000	2.9667874	36.044508
3339	chic	31.5	31.87500	1996-02-21		NA	19.846154	14.3635266	22.645833
3340	chic	35.5	34.87500	1996-02-22		NA	35.000000	6.9885266	23.226449
3341	chic	44.5	37.87500	1996-02-23		NA	42.000000	3.9444444	24.283991
3342	chic	46.0	30.50000	1996-02-24		NA	19.000000	14.8888889	24.072917
3343	chic	46.5	39.25000	1996-02-25		NA	31.000000	7.3055556	36.813859
3344	chic	40.5	40.00000	1996-02-26		NA	50.500000	4.6944444	32.993659

3345	chic	38.5	28.37500	1996-02-27		NA	31.916667	4.5229469	26.562500
3346	chic	20.0	6.62500	1996-02-28		NA	25.000000	17.3991546	15.173136
3347	chic	17.0	6.37500	1996-02-29		NA	20.000000	15.9507576	23.821429
3348	chic	26.0	21.00000	1996-03-01		NA	36.000000	13.2790404	26.229167
3349	chic	15.0	-4.50000	1996-03-02		NA	39.000000	22.7638889	13.861111
3350	chic	12.5	0.75000	1996-03-03		NA	22.000000	16.1111111	18.041667
3351	chic	25.0	18.87500	1996-03-04		NA	29.923077	5.2777778	37.361111
3352	chic	31.5	27.75000	1996-03-05		NA	23.500000	11.6805556	24.591856
3353	chic	20.5	10.00000	1996-03-06		NA	17.000000	25.1111111	21.494112
3354	chic	11.5	0.12500	1996-03-07		NA	18.000000	14.6300505	27.531250
3355	chic	8.0	8.25000	1996-03-08		NA	31.000000	15.1920290	23.533967
3356	chic	17.5	14.00000	1996-03-09		NA	29.000000	12.5000000	34.140152
3357	chic	26.0	25.87500	1996-03-10		NA	33.916667	12.3541667	32.979167
3358	chic	37.5	28.37500	1996-03-11		NA	31.000000	9.2708333	35.656250
3359	chic	43.0	31.50000	1996-03-12		NA	40.000000	10.8055556	43.463225
3360	chic	45.0	39.75000	1996-03-13		NA	59.000000	7.6618357	52.688496
3361	chic	47.5	39.50000	1996-03-14		NA	54.000000	16.8888889	39.843750
3362	chic	40.5	30.75000	1996-03-15		NA	32.000000	16.4722222	31.247736
3363	chic	34.5	27.87500	1996-03-16		NA	24.692308	20.6527778	22.520833
3364	chic	31.0	32.62500	1996-03-17		NA	36.000000	6.2638889	36.302083
3365	chic	34.5	24.62500	1996-03-18		NA	54.000000	9.5416667	39.531703
3366	chic	35.5	25.87500	1996-03-19		NA	26.000000	32.4791667	22.373106
3367	chic	31.5	20.37500	1996-03-20		NA	23.000000	34.0588768	14.135417
3368	chic	29.5	20.12500	1996-03-21		NA	18.000000	20.6363872	26.982790
3369	chic	35.0	12.12500	1996-03-22		NA	28.727273	20.0597826	34.019928
3370	chic	39.0	22.12500	1996-03-23		NA	57.000000	17.9166667	42.104167
3371	chic	50.5	51.00000	1996-03-24		NA	29.000000	31.2166667	20.770833
3372	chic	35.5	12.12500	1996-03-25		NA	33.000000	23.6950000	13.976449
3373	chic	18.5	2.25000	1996-03-26		NA	24.500000	28.7708333	20.913826
3374	chic	24.0	20.25000	1996-03-27		NA	26.000000	24.5937500	31.441288
3375	chic	37.0	25.50000	1996-03-28		NA	34.454545	19.4756410	33.364583
3376	chic	38.5	28.50000	1996-03-29		NA	32.000000	27.1666667	37.562500
3377	chic	42.0	39.87500	1996-03-30		NA	45.000000	15.0312500	33.364583
3378	chic	36.5	30.62500	1996-03-31		NA	24.000000	29.9583333	21.750000
3379	chic	35.5	19.62500	1996-04-01		NA	15.000000	29.4589372	25.520833
3380	chic	47.5	37.37500	1996-04-02		NA	52.000000	19.5550981	34.617795
3381	chic	52.0	37.50000	1996-04-03		NA	42.384615	16.9744364	36.979167
3382	chic	33.5	25.50000	1996-04-04		NA	23.000000	21.1334541	24.072917
3383	chic	32.0	19.75000	1996-04-05		NA	8.000000	27.6898148	25.604167
3384	chic	33.0	21.25000	1996-04-06		NA	9.000000	27.1157407	24.489583
3385	chic	32.0	17.37500	1996-04-07		NA	9.000000	25.1250000	22.270833
3386	chic	30.0	20.87500	1996-04-08		NA	17.500000	17.5245572	33.354167
3387	chic	36.0	25.75000	1996-04-09		NA	26.846154	14.2695911	34.250000

3388	chic	45.5	28.12500	1996-04-10		NA	58.000000	17.2596014	46.134058
3389	chic	64.0	48.50000	1996-04-11		NA	128.000000	33.6128623	34.272727
3390	chic	53.0	42.62500	1996-04-12		NA	40.000000	20.0626812	37.964674
3391	chic	40.5	29.37500	1996-04-13		NA	15.000000	19.5333333	18.041667
3392	chic	37.5	33.12500	1996-04-14		NA	15.000000	33.2375000	13.822917
3393	chic	40.0	31.75000	1996-04-15		NA	20.846154	19.6076087	29.208333
3394	chic	42.5	31.62500	1996-04-16		NA	21.000000	22.0231884	30.714962
3395	chic	47.0	40.62500	1996-04-17		NA	32.000000	20.5081522	36.891757
3396	chic	63.5	54.37500	1996-04-18		NA	54.000000	30.4634058	26.714427
3397	chic	62.5	50.12500	1996-04-19		NA	35.000000	22.3755435	27.145833
3398	chic	52.0	40.50000	1996-04-20		NA	25.000000	15.1916667	18.927083
3399	chic	52.0	37.87500	1996-04-21		NA	25.583333	21.4625000	26.333333
3400	chic	51.5	38.37500	1996-04-22		NA	27.000000	18.2064394	33.520833
3401	chic	45.0	31.12500	1996-04-23		NA	16.000000	22.3003623	24.461174
3402	chic	52.5	46.12500	1996-04-24		NA	28.000000	20.0211957	27.966667
3403	chic	61.0	43.87500	1996-04-25		NA	52.000000	25.5555665	22.433333
3404	chic	45.5	24.87500	1996-04-26		NA	45.000000	17.1206522	23.116667
3405	chic	45.0	30.37500	1996-04-27		NA	28.846154	19.4398148	29.291667
3406	chic	44.0	30.62500	1996-04-28		NA	37.500000	19.2083333	26.166667
3407	chic	40.5	37.25000	1996-04-29		NA	14.000000	21.0222826	23.566667
3408	chic	43.5	32.62500	1996-04-30		NA	20.000000	24.8038043	23.362121
3409	chic	50.0	32.62500	1996-05-01		NA	41.000000	24.0019928	24.786836
3410	chic	52.5	39.00000	1996-05-02		NA	38.000000	22.4824275	32.112609
3411	chic	52.5	42.62500	1996-05-03		NA	34.538462	24.9916667	28.750000
3412	chic	47.5	30.62500	1996-05-04		NA	17.000000	26.2458333	23.058333
3413	chic	49.0	41.25000	1996-05-05		NA	20.000000	21.9708333	22.950000
3414	chic	45.5	40.25000	1996-05-06		NA	17.000000	20.3875000	23.283333
3415	chic	50.5	43.37500	1996-05-07		NA	37.000000	14.5673913	28.763636
3416	chic	57.0	56.50000	1996-05-08		NA	57.000000	5.2159783	30.056884
3417	chic	58.0	54.14286	1996-05-09		NA	36.166667	4.0615942	32.312681
3418	chic	51.0	38.25000	1996-05-10		NA	16.000000	15.6525000	21.783333
3419	chic	45.0	28.50000	1996-05-11		NA	8.000000	23.6250000	15.791667
3420	chic	42.5	24.12500	1996-05-12		NA	15.000000	28.3583333	15.675000
3421	chic	45.0	33.25000	1996-05-13		NA	21.000000	15.6787879	38.358333
3422	chic	47.5	42.87500	1996-05-14		NA	28.000000	21.8606884	31.408333
3423	chic	54.5	52.12500	1996-05-15		NA	50.384615	17.2739130	30.450362
3424	chic	53.5	52.12500	1996-05-16		NA	38.000000	6.5557336	30.032378
3425	chic	69.5	71.87500	1996-05-17		NA	38.000000	27.0250000	23.983333
3426	chic	81.0	68.87500	1996-05-18		NA	38.000000	38.0500000	17.308333
3427	chic	81.0	65.25000	1996-05-19		NA	86.000000	33.7833333	12.800000
3428	chic	64.0	56.00000	1996-05-20		NA	28.000000	22.6750000	26.641667
3429	chic	65.0	52.62500	1996-05-21		NA	26.461538	23.7018116	30.816667
3430	chic	67.0	55.25000	1996-05-22		NA	46.000000	24.0317852	38.571667

3431	chic	56.0	46.75000	1996-05-23	NA	27.000000	15.4533267	34.254875
3432	chic	52.0	45.50000	1996-05-24	NA	17.000000	21.2375000	22.303986
3433	chic	51.5	41.25000	1996-05-25	NA	17.000000	28.0083333	21.258333
3434	chic	54.0	47.00000	1996-05-26	NA	18.000000	37.1666667	14.333333
3435	chic	51.0	46.75000	1996-05-27	NA	23.307692	32.3625000	12.416667
3436	chic	51.5	50.00000	1996-05-28	NA	24.000000	28.2440217	25.903788
3437	chic	51.0	34.87500	1996-05-29	NA	19.000000	29.4519928	24.584848
3438	chic	51.5	34.00000	1996-05-30	NA	18.000000	22.8746377	28.632453
3439	chic	57.5	50.37500	1996-05-31	NA	41.000000	30.6815217	34.632971
3440	chic	62.5	64.00000	1996-06-01	NA	52.000000	31.3833333	35.516667
3441	chic	67.5	57.14286	1996-06-02	NA	18.846154	41.1166667	13.758333
3442	chic	60.5	52.37500	1996-06-03	NA	20.000000	21.5666667	19.016667
3443	chic	57.5	55.87500	1996-06-04	NA	23.000000	6.2288043	22.470290
3444	chic	61.5	54.87500	1996-06-05	NA	38.000000	30.1786232	24.050000
3445	chic	63.5	63.75000	1996-06-06	NA	31.000000	20.8565217	29.179880
3446	chic	54.5	53.25000	1996-06-07	NA	24.000000	16.8708333	28.666667
3447	chic	53.0	56.62500	1996-06-08	NA	28.615385	20.7291667	19.891667
3448	chic	56.5	56.75000	1996-06-09	NA	17.000000	23.7500000	16.425000
3449	chic	61.5	59.12500	1996-06-10	NA	29.000000	21.6826087	25.206884
3450	chic	60.0	59.12500	1996-06-11	NA	22.000000	28.4201087	28.489394
3451	chic	65.5	63.75000	1996-06-12	NA	53.000000	23.6226449	46.031159
3452	chic	75.5	68.50000	1996-06-13	NA	55.500000	32.2322299	36.674242
3453	chic	71.5	59.62500	1996-06-14	NA	43.923077	29.5039614	33.223913
3454	chic	71.0	51.75000	1996-06-15	NA	46.000000	33.9958333	33.108333
3455	chic	72.5	67.00000	1996-06-16	NA	64.000000	38.8000000	33.937500
3456	chic	74.0	72.50000	1996-06-17	NA	57.000000	33.5183489	26.336429
3457	chic	73.5	69.75000	1996-06-18	NA	31.000000	23.8479649	23.109058
3458	chic	69.5	65.62500	1996-06-19	NA	32.500000	19.9348476	31.427964
3459	chic	73.5	71.00000	1996-06-20	NA	47.583333	28.2146739	36.878261
3460	chic	76.5	75.12500	1996-06-21	NA	71.000000	27.3091568	40.753030
3461	chic	71.0	57.12500	1996-06-22	NA	28.000000	33.0875000	16.066667
3462	chic	61.0	54.00000	1996-06-23	NA	28.000000	28.2500000	20.616667
3463	chic	68.5	57.75000	1996-06-24	NA	31.000000	22.4121377	21.266667
3464	chic	65.5	50.75000	1996-06-25	NA	24.000000	24.8867754	21.875000
3465	chic	68.0	62.37500	1996-06-26	NA	47.307692	29.5288043	40.062549
3466	chic	74.0	68.00000	1996-06-27	NA	63.000000	45.8902174	52.208333
3467	chic	77.5	65.87500	1996-06-28	NA	76.000000	39.7313406	51.605435
3468	chic	83.0	74.25000	1996-06-29	NA	73.000000	58.3958333	22.475000
3469	chic	83.0	66.12500	1996-06-30	NA	36.000000	38.0166667	19.358333
3470	chic	75.5	57.62500	1996-07-01	NA	31.000000	30.4536232	30.250000
3471	chic	73.0	61.75000	1996-07-02	NA	38.500000	30.8650362	33.822464
3472	chic	65.0	48.87500	1996-07-03	NA	13.000000	24.3958333	15.816667
3473	chic	64.0	51.50000	1996-07-04	NA	66.000000	24.2666667	19.608333

3474	chic	70.5	57.12500	1996-07-05	NA	69.000000	30.8125000	39.901515
3475	chic	73.0	61.75000	1996-07-06	NA	60.000000	55.0250000	34.333333
3476	chic	78.0	57.12500	1996-07-07	NA	49.000000	52.6708333	25.425000
3477	chic	71.5	55.12500	1996-07-08	NA	42.076923	26.5583333	27.741667
3478	chic	63.0	55.00000	1996-07-09	NA	19.000000	18.5141304	18.912319
3479	chic	63.5	46.62500	1996-07-10	NA	24.000000	19.3023551	22.707609
3480	chic	66.0	55.25000	1996-07-11	NA	45.000000	35.2405797	30.493478
3481	chic	73.0	66.37500	1996-07-12	NA	51.000000	33.1923913	37.241667
3482	chic	74.5	60.62500	1996-07-13	NA	31.000000	29.7875000	20.258333
3483	chic	69.0	64.62500	1996-07-14	NA	21.923077	17.1458333	24.616667
3484	chic	71.5	62.37500	1996-07-15	NA	37.000000	22.4083333	25.833333
3485	chic	76.5	58.87500	1996-07-16	NA	37.000000	25.4878623	34.177767
3486	chic	73.5	69.75000	1996-07-17	NA	32.000000	18.8953197	39.257576
3487	chic	79.0	78.25000	1996-07-18	NA	28.000000	24.4543478	25.386298
3488	chic	72.0	57.37500	1996-07-19	NA	17.000000	20.5472222	14.045652
3489	chic	65.0	53.75000	1996-07-20	NA	15.666667	24.2875000	10.991667
3490	chic	61.5	54.00000	1996-07-21	NA	19.000000	21.7750000	17.558333
3491	chic	65.5	67.62500	1996-07-22	NA	35.000000	22.5322464	26.641667
3492	chic	70.5	59.00000	1996-07-23	NA	35.000000	17.8949934	27.815152
3493	chic	73.5	61.62500	1996-07-24	NA	25.000000	17.1608696	27.521091
3494	chic	68.5	58.25000	1996-07-25	NA	25.000000	15.3775362	23.801087
3495	chic	69.5	58.62500	1996-07-26	NA	24.583333	16.6989130	22.108333
3496	chic	68.5	64.12500	1996-07-27	NA	21.000000	19.5875000	22.383333
3497	chic	67.5	66.62500	1996-07-28	NA	26.000000	24.3166667	24.345000
3498	chic	70.0	62.75000	1996-07-29	NA	34.000000	22.1875000	27.283333
3499	chic	68.5	57.87500	1996-07-30	NA	25.500000	16.1250000	26.764394
3500	chic	65.5	58.12500	1996-07-31	NA	28.000000	12.3300725	22.992424
3501	chic	66.5	59.87500	1996-08-01	NA	28.769231	16.4188808	30.679348
3502	chic	67.5	59.62500	1996-08-02	NA	29.000000	18.6806836	28.228261
3503	chic	68.5	62.62500	1996-08-03	NA	41.000000	22.5555556	28.145833
3504	chic	74.0	67.87500	1996-08-04	NA	45.000000	39.5277778	22.687500
3505	chic	82.0	75.37500	1996-08-05	NA	69.000000	38.8480676	18.093750
3506	chic	79.5	75.62500	1996-08-06	NA	47.000000	29.7407407	22.722908
3507	chic	83.0	74.37500	1996-08-07	NA	45.076923	27.9098229	25.833333
3508	chic	77.0	55.00000	1996-08-08	NA	24.000000	24.8057568	24.791667
3509	chic	71.0	57.87500	1996-08-09	NA	25.000000	17.7201178	23.145833
3510	chic	68.5	59.75000	1996-08-10	NA	12.000000	22.1149356	11.958333
3511	chic	69.5	65.12500	1996-08-11	NA	30.000000	16.9583333	29.520833
3512	chic	71.0	64.12500	1996-08-12	NA	46.000000	22.3802910	32.114583
3513	chic	74.0	67.62500	1996-08-13	NA	44.307692	25.8393720	30.001488
3514	chic	76.0	63.62500	1996-08-14	NA	45.000000	22.5803872	26.120842
3515	chic	69.5	60.00000	1996-08-15	NA	27.000000	15.0432770	24.314383
3516	chic	68.5	61.12500	1996-08-16	NA	19.000000	14.0215378	19.468750

3517	chic	69.0	64.12500	1996-08-17	NA	29.000000	21.0277778	25.833333
3518	chic	70.5	69.37500	1996-08-18	NA	34.000000	25.9259259	22.739583
3519	chic	76.0	71.37500	1996-08-19	NA	42.076923	25.1423108	23.416667
3520	chic	77.0	71.25000	1996-08-20	NA	48.000000	20.0674316	26.847826
3521	chic	78.0	72.75000	1996-08-21	NA	58.000000	20.7338054	41.495224
3522	chic	79.0	71.12500	1996-08-22	NA	59.000000	30.7667874	27.001218
3523	chic	70.0	55.12500	1996-08-23	NA	17.000000	14.8263134	17.406250
3524	chic	71.0	58.87500	1996-08-24	NA	22.000000	21.7083333	23.885417
3525	chic	69.5	64.50000	1996-08-25	NA	33.923077	26.7604167	30.937500
3526	chic	72.0	65.75000	1996-08-26	NA	46.000000	32.5579710	29.583333
3527	chic	70.0	64.87500	1996-08-27	NA	24.000000	25.5140902	13.063406
3528	chic	68.5	63.00000	1996-08-28	NA	39.000000	21.3516506	22.750947
3529	chic	69.5	58.75000	1996-08-29	NA	20.000000	31.9267311	20.354167
3530	chic	69.0	61.25000	1996-08-30	NA	23.000000	29.7737520	20.697917
3531	chic	70.5	61.50000	1996-08-31	NA	48.076923	32.7361111	22.864583
3532	chic	73.5	60.75000	1996-09-01	NA	53.000000	37.2638889	31.031250
3533	chic	71.0	62.50000	1996-09-02	NA	53.000000	42.9027778	26.343750
3534	chic	73.0	67.00000	1996-09-03	NA	83.000000	37.3146135	33.219697
3535	chic	73.0	64.75000	1996-09-04	NA	112.000000	38.2415459	41.947917
3536	chic	74.0	68.37500	1996-09-05	NA	68.000000	45.0873591	24.185688
3537	chic	74.0	71.12500	1996-09-06	NA	53.461538	38.5805153	20.415761
3538	chic	73.5	69.62500	1996-09-07	NA	51.000000	21.9398148	27.093750
3539	chic	73.0	67.25000	1996-09-08	NA	62.000000	20.9895833	29.593750
3540	chic	68.5	64.62500	1996-09-09	NA	32.000000	20.8435673	22.927083
3541	chic	69.5	61.37500	1996-09-10	NA	48.000000	16.4059984	35.650298
3542	chic	67.0	57.12500	1996-09-11	NA	39.000000	9.2485910	34.794055
3543	chic	58.0	50.25000	1996-09-12	NA	16.818182	8.5787037	18.610960
3544	chic	56.0	46.62500	1996-09-13	NA	22.000000	10.0106683	19.856431
3545	chic	53.0	50.75000	1996-09-14	NA	19.000000	6.3888889	18.333333
3546	chic	59.0	51.87500	1996-09-15	NA	21.000000	10.6203704	19.812500
3547	chic	58.5	54.37500	1996-09-16	NA	17.000000	13.8399758	14.581975
3548	chic	60.5	52.25000	1996-09-17	NA	11.000000	17.9440419	10.458333
3549	chic	62.0	52.62500	1996-09-18	NA	17.307692	11.7250403	14.947334
3550	chic	61.0	51.75000	1996-09-19	NA	29.000000	17.2312619	21.885417
3551	chic	58.5	58.25000	1996-09-20	NA	40.000000	9.6743156	39.104167
3552	chic	64.0	54.87500	1996-09-21	NA	42.000000	9.9305556	33.104167
3553	chic	62.5	50.25000	1996-09-22	NA	28.000000	16.1338567	20.238678
3554	chic	59.0	56.87500	1996-09-23	NA	43.000000	4.6729066	36.256793
3555	chic	57.0	43.12500	1996-09-24	NA	24.230769	13.6966769	27.196558
3556	chic	53.0	46.12500	1996-09-25	NA	46.000000	12.3476248	29.983863
3557	chic	60.5	63.37500	1996-09-26	NA	28.000000	14.8120921	23.416667
3558	chic	58.5	48.00000	1996-09-27	NA	14.000000	6.5246914	17.739583
3559	chic	53.5	47.00000	1996-09-28	NA	17.000000	6.0892857	21.125000

3560	chic	57.5	50.37500	1996-09-29	NA	20.000000	11.1666667	21.694444
3561	chic	63.0	52.87500	1996-09-30	NA	27.461538	13.8690476	35.250000
3562	chic	62.0	58.25000	1996-10-01	NA	44.000000	20.2395833	35.861111
3563	chic	57.0	40.87500	1996-10-02	NA	24.000000	13.9166667	20.516414
3564	chic	46.5	36.75000	1996-10-03	NA	12.000000	18.5104167	18.777778
3565	chic	47.0	40.37500	1996-10-04	NA	25.000000	10.8020833	30.428140
3566	chic	53.5	45.50000	1996-10-05	NA	25.000000	8.0312500	33.750000
3567	chic	63.5	57.12500	1996-10-06	NA	38.230769	25.0781250	29.486111
3568	chic	53.5	45.62500	1996-10-07	NA	14.000000	12.3906250	18.836353
3569	chic	45.5	40.25000	1996-10-08	NA	9.000000	7.0700758	20.529040
3570	chic	47.5	41.62500	1996-10-09	NA	32.000000	4.4531250	32.416667
3571	chic	42.5	35.75000	1996-10-10	NA	13.000000	6.7244112	21.309783
3572	chic	42.0	42.37500	1996-10-11	NA	23.000000	7.0781250	29.625000
3573	chic	61.0	54.25000	1996-10-12	NA	29.833333	15.3177083	29.388889
3574	chic	66.0	62.12500	1996-10-13	NA	40.000000	24.0572917	32.902778
3575	chic	57.0	51.00000	1996-10-14	NA	18.000000	17.3229167	15.972222
3576	chic	64.0	54.62500	1996-10-15	NA	48.000000	12.3960598	39.472222
3577	chic	63.0	61.12500	1996-10-16	NA	33.000000	5.8122118	36.619949
3578	chic	59.0	49.12500	1996-10-17	NA	39.000000	21.6906703	25.539251
3579	chic	46.5	28.37500	1996-10-18	NA	20.153846	9.2742301	22.059343
3580	chic	45.0	34.62500	1996-10-19	NA	24.000000	6.9047619	28.402778
3581	chic	47.5	48.25000	1996-10-20	NA	35.000000	6.2440476	31.222222
3582	chic	53.0	50.00000	1996-10-21	NA	34.000000	6.3780797	37.185386
3583	chic	55.5	57.87500	1996-10-22	NA	33.000000	4.9472991	27.145696
3584	chic	43.0	40.62500	1996-10-23	NA	15.500000	4.8145380	17.430556
3585	chic	48.0	43.87500	1996-10-24	NA	26.153846	6.0905797	24.180556
3586	chic	52.5	49.12500	1996-10-25	NA	32.000000	11.9352355	32.916667
3587	chic	62.0	62.25000	1996-10-26	NA	34.000000	8.8489583	23.180556
3588	chic	59.0	47.50000	1996-10-27	NA	21.000000	12.1614583	14.579710
3589	chic	46.5	37.62500	1996-10-28	NA	38.000000	6.0717844	28.958333
3590	chic	50.5	54.12500	1996-10-29	NA	27.000000	6.3358243	30.709541
3591	chic	44.5	22.85714	1996-10-30	NA	18.384615	13.9482337	16.205314
3592	chic	33.0	21.25000	1996-10-31	NA	30.000000	12.6764040	19.432367
3593	chic	31.0	21.62500	1996-11-01	NA	25.000000	8.6458333	24.888889
3594	chic	29.0	24.12500	1996-11-02	NA	18.000000	8.5991848	24.055556
3595	chic	35.5	26.87500	1996-11-03	NA	30.000000	6.5104167	25.708333
3596	chic	42.0	33.50000	1996-11-04	NA	37.000000	2.1562500	31.208333
3597	chic	46.5	47.37500	1996-11-05	NA	34.692308	1.8020833	34.370773
3598	chic	54.0	60.25000	1996-11-06	NA	32.000000	3.2379658	29.944444
3599	chic	43.0	36.87500	1996-11-07	NA	20.000000	2.6805556	28.210145
3600	chic	37.0	33.25000	1996-11-08	NA	32.000000	2.7306763	28.861111
3601	chic	34.5	28.00000	1996-11-09	NA	13.500000	9.9305556	20.333333
3602	chic	28.0	21.87500	1996-11-10	NA	15.000000	12.5555556	19.833333

3603	chic	26.5	12.62500	1996-11-11	NA	13.384615	9.9722222	28.638889
3604	chic	23.0	11.00000	1996-11-12	NA	20.000000	7.3611111	32.388889
3605	chic	22.5	11.37500	1996-11-13	NA	28.000000	3.3888889	36.500000
3606	chic	25.0	18.85714	1996-11-14	NA	23.000000	10.8291063	30.599747
3607	chic	40.0	22.50000	1996-11-15	NA	30.000000	6.3611111	28.916667
3608	chic	48.0	32.12500	1996-11-16	NA	31.000000	6.9722222	25.569444
3609	chic	41.5	25.00000	1996-11-17	NA	14.083333	10.1805556	14.236111
3610	chic	31.0	24.75000	1996-11-18	NA	21.000000	4.1666667	23.625000
3611	chic	29.5	19.00000	1996-11-19	NA	19.000000	3.4782609	29.108696
3612	chic	29.0	29.62500	1996-11-20	NA	23.000000	8.9722222	26.945906
3613	chic	34.0	26.37500	1996-11-21	NA	17.500000	9.5277778	28.784091
3614	chic	34.5	29.37500	1996-11-22	NA	31.000000	4.9305556	32.271355
3615	chic	35.5	34.62500	1996-11-23	NA	28.583333	1.8194444	20.972222
3616	chic	35.0	30.37500	1996-11-24	NA	18.000000	6.1527778	19.125000
3617	chic	26.5	19.12500	1996-11-25	NA	11.000000	14.0948068	23.234127
3618	chic	20.0	9.62500	1996-11-26	NA	26.000000	7.7361111	29.680556
3619	chic	22.5	18.75000	1996-11-27	NA	36.000000	2.4836957	31.219203
3620	chic	29.5	25.62500	1996-11-28	NA	28.000000	4.2083333	26.430556
3621	chic	33.5	31.37500	1996-11-29	NA	26.583333	2.8472222	29.666667
3622	chic	40.5	36.75000	1996-11-30	NA	16.000000	3.5277778	18.305556
3623	chic	30.5	22.87500	1996-12-01	NA	17.000000	8.5277778	17.138889
3624	chic	27.5	24.87500	1996-12-02	NA	28.000000	7.7638889	24.611111
3625	chic	30.0	23.00000	1996-12-03	NA	27.000000	2.1262626	28.277778
3626	chic	26.5	25.25000	1996-12-04	NA	35.000000	1.8882850	30.988691
3627	chic	32.5	32.25000	1996-12-05	NA	22.846154	2.1962560	26.802536
3628	chic	33.5	28.62500	1996-12-06	NA	26.000000	1.9021739	27.628843
3629	chic	30.5	24.87500	1996-12-07	NA	25.500000	7.0833333	26.875000
3630	chic	28.5	22.25000	1996-12-08	NA	19.000000	13.9583333	16.736111
3631	chic	28.5	23.37500	1996-12-09	NA	22.000000	5.4722222	21.152778
3632	chic	35.5	34.75000	1996-12-10	NA	39.000000	1.8888889	28.643116
3633	chic	37.0	34.50000	1996-12-11	NA	18.769231	5.0609903	20.017512
3634	chic	36.5	33.75000	1996-12-12	NA	22.000000	3.2777778	17.472826
3635	chic	34.5	34.75000	1996-12-13	NA	28.000000	2.1533816	25.629831
3636	chic	36.5	31.75000	1996-12-14	NA	28.000000	2.5833333	23.208333
3637	chic	38.0	25.37500	1996-12-15	NA	17.000000	6.4027778	17.388889
3638	chic	29.0	26.12500	1996-12-16	NA	29.000000	8.4166667	24.902778
3639	chic	24.0	13.37500	1996-12-17	NA	26.846154	4.2958937	21.958333
3640	chic	13.0	2.12500	1996-12-18	NA	33.000000	9.2361111	17.590909
3641	chic	8.0	5.75000	1996-12-19	NA	41.000000	7.1250000	19.361111
3642	chic	9.5	8.62500	1996-12-20	NA	30.000000	5.6906566	23.295290
3643	chic	26.5	25.62500	1996-12-21	NA	37.000000	7.0000000	21.388889
3644	chic	34.5	36.87500	1996-12-22	NA	20.000000	2.9722222	25.055556
3645	chic	42.5	40.62500	1996-12-23	NA	17.583333	2.0694444	24.986111

3646	chic	20.0	5.37500	1996-12-24		NA	24.000000	15.6871981	15.986111
3647	chic	4.5	3.00000	1996-12-25		NA	17.000000	12.5972222	19.583333
3648	chic	14.0	12.00000	1996-12-26		NA	30.500000	4.7638889	35.259058
3649	chic	26.0	31.75000	1996-12-27		NA	36.500000	1.9396135	32.751208
3650	chic	37.0	37.75000	1996-12-28		NA	23.000000	1.6805556	22.347222
3651	chic	30.0	22.87500	1996-12-29		NA	29.307692	3.2361111	19.986111
3652	chic	27.5	29.87500	1996-12-30		NA	42.000000	1.9722222	24.194444
3653	chic	27.5	30.12500	1996-12-31		NA	33.000000	2.9287440	27.573232
3654	chic	36.0	37.50000	1997-01-01		NA	19.000000	1.7777778	19.416667
3655	chic	45.0	47.25000	1997-01-02		NA	41.500000	1.5959596	21.243687
3656	chic	40.0	38.00000	1997-01-03		NA	31.000000	2.4027778	19.277778
3657	chic	51.5	45.50000	1997-01-04		NA	24.384615	2.8339372	15.520833
3658	chic	27.0	11.25000	1997-01-05		NA	22.500000	16.3194444	7.729167
3659	chic	17.0	5.75000	1997-01-06		NA	18.500000	12.8333333	19.833333
3660	chic	16.0	7.00000	1997-01-07		NA	25.500000	9.5646135	28.348732
3661	chic	19.0	17.75000	1997-01-08		NA	34.500000	5.1884058	31.444444
3662	chic	26.0	24.00000	1997-01-09		NA	21.500000	9.8194444	27.763889
3663	chic	16.0	5.37500	1997-01-10		NA	24.230769	6.1594203	23.015097
3664	chic	1.5	-6.62500	1997-01-11		NA	21.500000	11.9444444	22.555556
3665	chic	1.0	-8.87500	1997-01-12		NA	21.000000	12.1805556	22.583333
3666	chic	3.0	1.50000	1997-01-13		NA	33.500000	4.6527778	33.612319
3667	chic	10.0	11.50000	1997-01-14		NA	53.000000	2.9679952	40.696256
3668	chic	19.0	23.25000	1997-01-15		NA	30.000000	2.1998792	35.220960
3669	chic	9.5	-9.75000	1997-01-16		NA	26.545455	18.6944444	20.861111
3670	chic	-3.0	-10.37500	1997-01-17		NA	24.000000	12.6884058	28.236111
3671	chic	0.0	-4.12500	1997-01-18		NA	32.000000	10.8750000	32.166667
3672	chic	14.0	22.62500	1997-01-19		NA	31.500000	4.8888889	32.361111
3673	chic	31.0	27.25000	1997-01-20		NA	25.500000	13.2777778	32.486111
3674	chic	35.0	41.62500	1997-01-21		NA	31.000000	9.7083333	32.569444
3675	chic	36.5	20.75000	1997-01-22		NA	17.375000	17.4393939	19.413889
3676	chic	26.0	18.75000	1997-01-23		NA	18.500000	14.5235507	25.375000
3677	chic	32.0	29.50000	1997-01-24		NA	31.000000	4.6932367	24.986111
3678	chic	14.5	-1.37500	1997-01-25		NA	24.500000	12.8611111	21.069444
3679	chic	11.0	17.12500	1997-01-26		NA	28.000000	7.8055556	30.722222
3680	chic	17.0	8.37500	1997-01-27		NA	29.500000	6.2500000	33.500000
3681	chic	2.0	-6.37500	1997-01-28		NA	27.461538	11.2210145	35.432971
3682	chic	8.0	11.00000	1997-01-29		NA	52.500000	4.1944444	48.902778
3683	chic	16.5	16.37500	1997-01-30		NA	45.500000	2.7083333	40.273990
3684	chic	31.5	33.75000	1997-01-31		NA	27.500000	9.2807971	32.486111
3685	chic	35.0	29.66667	1997-02-01		NA	28.500000	12.8623188	34.577899
3686	chic	36.5	29.62500	1997-02-02		NA	34.500000	9.5277778	32.319444
3687	chic	30.0	28.00000	1997-02-03		NA	20.615385	19.1250000	26.125000
3688	chic	34.5	32.00000	1997-02-04		NA	24.000000	9.2192029	24.566339

3689	chic	30.0	24.25000	1997-02-05	NA	17.500000	14.0694444	26.686594
3690	chic	26.0	21.87500	1997-02-06	NA	22.500000	14.8556763	27.402778
3691	chic	25.5	23.37500	1997-02-07	NA	31.500000	12.3194444	31.208333
3692	chic	25.5	22.50000	1997-02-08	NA	18.500000	14.6458333	26.652778
3693	chic	26.0	21.00000	1997-02-09	NA	28.769231	8.2083333	39.041667
3694	chic	27.0	21.75000	1997-02-10	NA	29.000000	11.3541667	35.347222
3695	chic	23.5	19.50000	1997-02-11	NA	28.000000	15.9166667	29.750000
3696	chic	21.0	11.60000	1997-02-12	NA	18.500000	18.5000000	26.902778
3697	chic	20.5	16.37500	1997-02-13	NA	28.500000	15.5833333	29.944444
3698	chic	25.5	23.00000	1997-02-14	NA	38.500000	10.8541667	31.893720
3699	chic	20.0	15.25000	1997-02-15	NA	27.230769	16.5208333	30.638889
3700	chic	18.5	8.12500	1997-02-16	NA	22.000000	14.7291667	30.569444
3701	chic	30.0	32.62500	1997-02-17	NA	33.000000	12.7500000	33.166667
3702	chic	48.5	41.37500	1997-02-18	NA	27.000000	25.5799517	29.143939
3703	chic	37.5	27.50000	1997-02-19	NA	26.000000	17.2083333	30.583333
3704	chic	35.5	44.12500	1997-02-20	NA	34.000000	3.5138889	37.262681
3705	chic	36.0	29.62500	1997-02-21	NA	6.538462	14.4710145	21.116546
3706	chic	26.0	24.25000	1997-02-22	NA	14.500000	21.8750000	25.777778
3707	chic	28.0	14.62500	1997-02-23	NA	16.500000	22.4761905	19.347222
3708	chic	21.5	10.87500	1997-02-24	NA	23.000000	15.7928744	34.555556
3709	chic	25.5	27.12500	1997-02-25	NA	40.000000	11.0090580	35.722222
3710	chic	36.5	35.00000	1997-02-26	NA	33.500000	5.3907005	33.891963
3711	chic	34.5	30.25000	1997-02-27	NA	18.538462	9.0972222	31.042271
3712	chic	37.5	36.00000	1997-02-28	NA	33.000000	12.0277778	27.681159
3713	chic	45.5	44.00000	1997-03-01	NA	32.000000	12.7222222	25.694444
3714	chic	35.0	27.37500	1997-03-02	NA	18.500000	28.4583333	17.236111
3715	chic	33.5	29.37500	1997-03-03	NA	19.000000	25.0277778	23.000000
3716	chic	38.0	28.87500	1997-03-04	NA	30.000000	12.1388889	26.837121
3717	chic	33.0	28.62500	1997-03-05	NA	29.692308	14.1250000	26.272947
3718	chic	26.5	13.37500	1997-03-06	NA	29.000000	21.9359903	24.897343
3719	chic	35.5	35.25000	1997-03-07	NA	29.500000	14.1805556	33.513889
3720	chic	39.0	28.25000	1997-03-08	NA	20.500000	25.9583333	21.180556
3721	chic	37.0	32.62500	1997-03-09	NA	27.000000	9.5694444	26.819444
3722	chic	44.0	33.25000	1997-03-10	NA	27.000000	16.5972222	28.055556
3723	chic	37.0	23.37500	1997-03-11	NA	18.769231	25.6666667	27.513889
3724	chic	33.5	25.00000	1997-03-12	NA	18.500000	28.2385266	30.878788
3725	chic	37.5	30.50000	1997-03-13	NA	27.500000	24.0416667	22.930556
3726	chic	26.5	15.50000	1997-03-14	NA	22.000000	21.4305556	21.083333
3727	chic	19.0	8.37500	1997-03-15	NA	16.000000	28.6666667	19.166667
3728	chic	24.5	23.75000	1997-03-16	NA	19.000000	24.2361111	21.305556
3729	chic	45.0	33.62500	1997-03-17	NA	31.307692	18.6388889	29.125000
3730	chic	33.5	27.00000	1997-03-18	NA	19.500000	36.0944444	19.259259
3731	chic	35.5	28.87500	1997-03-19	NA	28.500000	27.4166667	32.628968

3732	chic	46.0	31.87500	1997-03-20	NA	37.500000	25.9452381	37.621032
3733	chic	53.5	42.50000	1997-03-21	NA	53.000000	19.1949275	31.578502
3734	chic	37.5	28.62500	1997-03-22	NA	21.500000	26.9500000	29.500000
3735	chic	32.5	20.37500	1997-03-23	NA	14.230769	25.4250000	19.027778
3736	chic	33.0	32.37500	1997-03-24	NA	28.000000	20.2606061	26.375000
3737	chic	40.5	30.00000	1997-03-25	NA	25.500000	15.2043478	27.305556
3738	chic	44.0	36.75000	1997-03-26	NA	23.500000	20.7955251	25.867840
3739	chic	60.5	40.12500	1997-03-27	NA	44.000000	26.6074879	26.972222
3740	chic	55.5	53.87500	1997-03-28	NA	39.000000	13.3109903	32.597222
3741	chic	43.5	41.00000	1997-03-29	NA	21.076923	15.2333333	16.819444
3742	chic	37.5	33.75000	1997-03-30	NA	11.000000	22.7833333	18.000000
3743	chic	38.5	22.00000	1997-03-31	NA	18.000000	26.6246377	29.069444
3744	chic	44.5	28.12500	1997-04-01	NA	51.500000	15.0919314	47.718434
3745	chic	53.0	29.87500	1997-04-02	NA	50.500000	13.8210145	42.658213
3746	chic	59.5	49.87500	1997-04-03	NA	45.000000	12.8223485	38.010101
3747	chic	62.5	48.25000	1997-04-04	NA	51.076923	31.1197464	34.291667
3748	chic	60.5	54.37500	1997-04-05	NA	20.000000	28.6547101	17.055556
3749	chic	45.0	21.75000	1997-04-06	NA	35.000000	29.3333333	8.833333
3750	chic	34.0	18.37500	1997-04-07	NA	29.500000	27.3750000	14.152778
3751	chic	28.5	9.25000	1997-04-08	NA	23.000000	22.4378623	22.777778
3752	chic	30.0	18.87500	1997-04-09	NA	18.500000	22.5875000	28.308575
3753	chic	30.5	22.00000	1997-04-10	NA	24.230769	21.6336957	34.892622
3754	chic	33.5	32.00000	1997-04-11	NA	25.000000	25.6224211	26.944444
3755	chic	33.5	30.37500	1997-04-12	NA	20.000000	24.3148148	23.111111
3756	chic	38.5	24.62500	1997-04-13	NA	17.500000	30.5509259	26.333333
3757	chic	41.5	28.12500	1997-04-14	NA	44.500000	19.0505435	43.611111
3758	chic	49.0	36.25000	1997-04-15	NA	57.000000	29.0110507	33.972222
3759	chic	43.0	25.62500	1997-04-16	NA	23.307692	22.2873188	23.780303
3760	chic	40.5	25.75000	1997-04-17	NA	16.000000	18.4827899	24.117754
3761	chic	40.0	34.75000	1997-04-18	NA	42.500000	13.1914855	52.552989
3762	chic	45.5	30.87500	1997-04-19	NA	26.000000	23.6041667	34.177083
3763	chic	49.0	42.25000	1997-04-20	NA	37.500000	23.3875000	37.041667
3764	chic	45.0	31.00000	1997-04-21	NA	19.000000	34.4541667	27.052083
3765	chic	43.0	33.62500	1997-04-22	NA	13.076923	30.0309783	18.687500
3766	chic	48.5	34.00000	1997-04-23	NA	10.000000	26.8789855	22.703442
3767	chic	47.5	36.50000	1997-04-24	NA	12.000000	22.4181159	28.104167
3768	chic	48.0	27.75000	1997-04-25	NA	21.500000	23.7101449	31.500000
3769	chic	49.5	24.25000	1997-04-26	NA	38.500000	23.0875000	40.145833
3770	chic	47.5	40.25000	1997-04-27	NA	28.000000	28.2708333	28.062500
3771	chic	50.5	40.75000	1997-04-28	NA	61.000000	19.5965580	53.010417
3772	chic	60.0	45.25000	1997-04-29	NA	72.000000	35.8416667	33.552083
3773	chic	55.0	50.00000	1997-04-30	NA	47.000000	26.1713768	28.171672
3774	chic	48.5	36.87500	1997-05-01	NA	22.000000	21.2460145	24.543025

3775	chic	48.5	45.50000	1997-05-02	NA	33.000000	10.2949275	33.610507
3776	chic	49.0	40.37500	1997-05-03	NA	18.000000	22.4333333	25.093750
3777	chic	51.5	33.25000	1997-05-04	NA	19.615385	29.0666667	29.843750
3778	chic	62.0	38.87500	1997-05-05	NA	68.000000	30.7701087	22.228673
3779	chic	55.5	35.00000	1997-05-06	NA	29.500000	24.5588768	31.760417
3780	chic	52.5	49.25000	1997-05-07	NA	38.000000	20.6483696	34.779356
3781	chic	61.0	42.75000	1997-05-08	NA	33.500000	29.7259058	20.447917
3782	chic	50.5	36.00000	1997-05-09	NA	19.000000	21.1276186	18.928977
3783	chic	52.5	32.62500	1997-05-10	NA	26.769231	21.8041667	25.135417
3784	chic	59.5	43.87500	1997-05-11	NA	31.500000	27.6875000	18.166667
3785	chic	52.5	32.50000	1997-05-12	NA	35.500000	26.2458333	16.760417
3786	chic	45.5	38.75000	1997-05-13	NA	25.000000	18.1996706	21.478261
3787	chic	49.5	40.62500	1997-05-14	NA	31.000000	13.1291667	32.875000
3788	chic	45.0	35.50000	1997-05-15	NA	15.500000	13.2083333	19.941667
3789	chic	51.0	41.37500	1997-05-16	NA	36.615385	22.8035714	24.024047
3790	chic	50.5	38.25000	1997-05-17	NA	21.000000	29.7541667	17.777899
3791	chic	59.5	63.87500	1997-05-18	NA	34.500000	23.6791667	25.941667
3792	chic	54.0	42.37500	1997-05-19	NA	26.500000	19.7623188	24.627174
3793	chic	51.5	38.12500	1997-05-20	NA	24.500000	17.5827899	28.496970
3794	chic	48.0	34.37500	1997-05-21	NA	12.000000	19.0514397	21.162121
3795	chic	50.5	34.62500	1997-05-22	NA	28.153846	19.3647892	28.726087
3796	chic	58.0	40.75000	1997-05-23	NA	47.000000	26.3353261	33.946509
3797	chic	68.5	56.12500	1997-05-24	NA	54.000000	41.1000000	29.341667
3798	chic	50.0	44.50000	1997-05-25	NA	25.000000	37.2791667	13.158333
3799	chic	50.0	35.87500	1997-05-26	NA	9.500000	33.1291667	10.941667
3800	chic	56.0	39.37500	1997-05-27	NA	26.000000	30.0548913	18.232246
3801	chic	58.5	56.87500	1997-05-28	NA	30.307692	21.8239130	22.051416
3802	chic	58.0	50.75000	1997-05-29	NA	22.500000	18.1927536	22.853623
3803	chic	61.0	51.75000	1997-05-30	NA	32.000000	29.3106555	26.696739
3804	chic	59.0	53.37500	1997-05-31	NA	24.000000	37.3083333	24.625000
3805	chic	60.5	51.25000	1997-06-01	NA	19.500000	44.5875000	12.641667
3806	chic	58.0	54.50000	1997-06-02	NA	21.000000	29.6900362	18.682609
3807	chic	61.5	52.62500	1997-06-03	NA	24.538462	30.5096014	19.369928
3808	chic	59.0	47.50000	1997-06-04	NA	29.000000	30.2195652	33.072101
3809	chic	62.0	56.00000	1997-06-05	NA	44.500000	30.9833851	36.375000
3810	chic	63.5	58.75000	1997-06-06	NA	36.000000	23.2639493	27.608333
3811	chic	58.5	55.37500	1997-06-07	NA	20.500000	22.1833333	21.666667
3812	chic	61.0	48.62500	1997-06-08	NA	21.500000	41.0291667	18.383333
3813	chic	62.5	51.75000	1997-06-09	NA	33.000000	41.0408926	29.197727
3814	chic	66.5	53.87500	1997-06-10	NA	47.500000	40.6208333	38.650758
3815	chic	67.5	63.12500	1997-06-11	NA	54.000000	20.1510705	50.989130
3816	chic	70.0	63.62500	1997-06-12	NA	51.000000	20.7578722	41.913636
3817	chic	71.0	52.00000	1997-06-13	NA	41.500000	28.3413043	34.554348

3818	chic	56.5	41.87500	1997-06-14		NA	11.500000	21.3625000	16.216667
3819	chic	63.0	59.75000	1997-06-15		NA	32.000000	35.6416667	21.266667
3820	chic	67.0	53.37500	1997-06-16		NA	25.000000	32.8179348	22.175000
3821	chic	60.5	50.37500	1997-06-17		NA	19.000000	23.1875000	17.209091
3822	chic	67.0	61.12500	1997-06-18		NA	45.500000	30.5518116	30.962681
3823	chic	70.0	65.87500	1997-06-19		NA	60.500000	32.4356884	39.900132
3824	chic	81.5	72.87500	1997-06-20		NA	65.000000	40.4743116	24.501087
3825	chic	75.5	64.75000	1997-06-21		NA	27.250000	29.6944444	23.158333
3826	chic	77.0	66.87500	1997-06-22		NA	29.000000	37.6916667	32.158333
3827	chic	82.5	69.62500	1997-06-23		NA	58.500000	30.5405797	29.900000
3828	chic	84.0	60.00000	1997-06-24		NA	113.500000	33.2342391	26.116667
3829	chic	78.0	62.75000	1997-06-25		NA	47.000000	29.6572783	26.887121
3830	chic	73.5	55.25000	1997-06-26		NA	29.500000	29.5112319	31.086284
3831	chic	72.5	59.00000	1997-06-27		NA	44.833333	32.0572464	42.156159
3832	chic	74.0	62.00000	1997-06-28		NA	48.500000	46.3000000	36.625000
3833	chic	75.0	65.25000	1997-06-29		NA	66.500000	56.5416667	35.291667
3834	chic	76.0	69.25000	1997-06-30		NA	35.000000	20.7777668	32.141667
3835	chic	77.5	68.62500	1997-07-01		NA	49.000000	38.1458333	33.347826
3836	chic	79.5	55.75000	1997-07-02		NA	70.000000	31.3538043	16.692754
3837	chic	68.5	54.25000	1997-07-03		NA	23.166667	18.1791667	12.183333
3838	chic	61.5	51.87500	1997-07-04		NA	26.000000	10.9375000	14.991667
3839	chic	65.5	50.75000	1997-07-05		NA	25.500000	21.7583333	16.666667
3840	chic	70.0	57.75000	1997-07-06		NA	23.500000	31.9958333	17.216667
3841	chic	65.5	52.50000	1997-07-07		NA	19.000000	27.3589262	13.625000
3842	chic	71.0	58.00000	1997-07-08		NA	42.000000	31.3168478	21.860870
3843	chic	62.0	50.75000	1997-07-09		NA	12.750000	28.3326087	15.497727
3844	chic	64.5	51.00000	1997-07-10		NA	25.500000	25.0759591	22.306522
3845	chic	68.5	59.12500	1997-07-11		NA	45.000000	34.2333333	31.120652
3846	chic	74.5	63.50000	1997-07-12		NA	57.500000	48.2541667	32.925000
3847	chic	82.5	71.75000	1997-07-13		NA	53.000000	39.4625000	19.625000
3848	chic	83.0	62.37500	1997-07-14		NA	43.000000	28.9121377	22.941667
3849	chic	79.0	64.25000	1997-07-15		NA	27.333333	25.1706357	24.190152
3850	chic	82.5	59.87500	1997-07-16		NA	42.000000	33.5333498	25.481431
3851	chic	84.0	68.62500	1997-07-17		NA	60.000000	44.5055642	30.298990
3852	chic	79.0	69.12500	1997-07-18		NA	56.500000	20.8335145	38.127174
3853	chic	74.5	60.62500	1997-07-19		NA	21.000000	30.9708333	14.633333
3854	chic	76.5	71.62500	1997-07-20		NA	32.000000	36.8125000	18.008333
3855	chic	72.0	65.12500	1997-07-21		NA	25.666667	31.6306159	19.775000
3856	chic	69.0	64.37500	1997-07-22		NA	23.500000	27.6534750	17.058333
3857	chic	69.0	59.75000	1997-07-23		NA	26.500000	31.1199275	19.910145
3858	chic	72.5	64.75000	1997-07-24		NA	40.000000	38.3942029	25.147101
3859	chic	76.0	75.75000	1997-07-25		NA	68.000000	37.7351449	24.346667
3860	chic	85.5	73.37500	1997-07-26		NA	57.000000	43.7408333	18.475000

3861	chic	81.5	73.75000	1997-07-27	NA	35.454545	27.6250000	28.625000
3862	chic	74.5	57.37500	1997-07-28	NA	19.000000	21.7446970	14.979545
3863	chic	66.5	50.87500	1997-07-29	NA	8.500000	20.7356884	9.717424
3864	chic	68.5	52.37500	1997-07-30	NA	16.500000	21.3333333	16.495059
3865	chic	69.0	56.25000	1997-07-31	NA	34.000000	24.7958333	26.700000
3866	chic	74.5	58.87500	1997-08-01	NA	67.500000	42.4958333	34.950000
3867	chic	81.5	59.37500	1997-08-02	NA	47.666667	43.7314815	29.016667
3868	chic	78.0	66.50000	1997-08-03	NA	40.000000	37.0462963	30.516667
3869	chic	71.0	57.75000	1997-08-04	NA	14.500000	21.8977456	11.599967
3870	chic	62.5	45.87500	1997-08-05	NA	10.500000	20.2820513	13.353788
3871	chic	64.5	54.00000	1997-08-06	NA	36.500000	16.1416667	33.378656
3872	chic	67.0	55.50000	1997-08-07	NA	54.000000	26.8952899	36.856522
3873	chic	69.5	52.87500	1997-08-08	NA	44.416667	34.7488095	36.100000
3874	chic	70.5	66.00000	1997-08-09	NA	45.000000	26.6333333	23.191667
3875	chic	75.5	65.50000	1997-08-10	NA	39.000000	25.1416667	14.125000
3876	chic	67.5	62.12500	1997-08-11	NA	14.500000	16.0326087	13.366667
3877	chic	69.5	67.87500	1997-08-12	NA	28.500000	5.9250000	21.925000
3878	chic	68.5	58.75000	1997-08-13	NA	17.000000	17.7650362	15.476449
3879	chic	65.5	63.12500	1997-08-14	NA	27.750000	20.4052536	22.434058
3880	chic	77.0	70.00000	1997-08-15	NA	36.500000	21.6637681	22.741667
3881	chic	80.0	69.87500	1997-08-16	NA	32.000000	32.7691667	16.900000
3882	chic	68.5	64.00000	1997-08-17	NA	11.000000	23.0458333	14.333333
3883	chic	63.5	54.37500	1997-08-18	NA	7.500000	17.5952899	11.591667
3884	chic	64.0	60.00000	1997-08-19	NA	27.500000	16.4501812	23.108827
3885	chic	67.0	59.37500	1997-08-20	NA	28.083333	15.1213768	23.897464
3886	chic	63.5	52.87500	1997-08-21	NA	14.500000	17.5981884	19.411905
3887	chic	64.0	54.87500	1997-08-22	NA	22.500000	12.2449275	23.094928
3888	chic	65.5	57.75000	1997-08-23	NA	28.000000	17.7375000	25.850000
3889	chic	70.5	62.75000	1997-08-24	NA	22.000000	28.8833333	12.050000
3890	chic	65.5	59.50000	1997-08-25	NA	29.500000	27.5773551	16.088768
3891	chic	69.0	68.75000	1997-08-26	NA	43.666667	18.8320323	31.504710
3892	chic	77.0	67.50000	1997-08-27	NA	48.000000	16.6823188	31.821970
3893	chic	68.5	58.12500	1997-08-28	NA	15.000000	18.5074275	10.882576
3894	chic	67.0	58.87500	1997-08-29	NA	25.500000	18.5416667	16.564752
3895	chic	65.0	68.12500	1997-08-30	NA	37.500000	18.3041667	19.979167
3896	chic	72.0	62.12500	1997-08-31	NA	21.000000	28.2625000	11.906250
3897	chic	70.5	65.87500	1997-09-01	NA	30.333333	27.0375000	22.135417
3898	chic	68.0	51.75000	1997-09-02	NA	29.500000	12.1960145	18.666667
3899	chic	58.5	47.12500	1997-09-03	NA	7.500000	17.0769928	9.650000
3900	chic	59.0	44.87500	1997-09-04	NA	26.500000	15.1501812	22.179004
3901	chic	60.5	51.00000	1997-09-05	NA	46.500000	16.7928195	32.146212
3902	chic	74.5	64.75000	1997-09-06	NA	40.000000	32.2041667	23.458333
3903	chic	66.0	60.12500	1997-09-07	NA	19.000000	23.1922101	12.733333

3904	chic	67.5	62.87500	1997-09-08	NA	23.000000	18.7751812	15.647464
3905	chic	68.5	60.37500	1997-09-09	NA	28.000000	20.2525362	17.766667
3906	chic	64.5	55.37500	1997-09-10	NA	16.500000	14.6114130	17.501812
3907	chic	61.5	53.75000	1997-09-11	NA	21.500000	8.6878788	20.991667
3908	chic	61.5	52.75000	1997-09-12	NA	34.500000	12.2773551	29.528623
3909	chic	63.5	58.62500	1997-09-13	NA	39.583333	19.7166667	33.641667
3910	chic	69.0	62.37500	1997-09-14	NA	47.500000	33.3041667	30.208333
3911	chic	69.5	65.37500	1997-09-15	NA	73.000000	34.1811594	29.416667
3912	chic	74.5	68.87500	1997-09-16	NA	77.000000	39.7175000	23.390476
3913	chic	70.0	50.87500	1997-09-17	NA	31.000000	15.4704710	26.272859
3914	chic	69.0	50.37500	1997-09-18	NA	96.000000	21.5639493	29.834091
3915	chic	73.0	67.87500	1997-09-19	NA	34.000000	23.1766304	29.018841
3916	chic	58.5	48.50000	1997-09-20	NA	7.500000	16.0958333	11.300000
3917	chic	57.0	46.12500	1997-09-21	NA	13.000000	10.3291667	22.608333
3918	chic	57.5	51.87500	1997-09-22	NA	31.000000	5.8447464	33.058333
3919	chic	59.0	46.37500	1997-09-23	NA	15.500000	11.2255435	20.691667
3920	chic	56.5	47.37500	1997-09-24	NA	27.500000	9.7019928	29.191667
3921	chic	66.0	55.12500	1997-09-25	NA	27.500000	16.3210474	26.432609
3922	chic	60.0	51.12500	1997-09-26	NA	16.500000	15.4775362	16.500000
3923	chic	62.5	54.12500	1997-09-27	NA	27.000000	18.7375000	26.216667
3924	chic	64.0	48.00000	1997-09-28	NA	23.500000	15.3500000	25.708333
3925	chic	65.0	44.12500	1997-09-29	NA	82.500000	17.8685897	16.160507
3926	chic	59.5	47.00000	1997-09-30	NA	20.000000	10.0175725	18.616126
3927	chic	52.0	42.50000	1997-10-01	NA	17.500000	15.6670290	18.302734
3928	chic	61.0	51.87500	1997-10-02	NA	56.500000	15.1144928	30.010417
3929	chic	73.0	60.75000	1997-10-03	NA	68.000000	30.4583333	32.414855
3930	chic	68.0	55.75000	1997-10-04	NA	42.500000	18.2824074	29.604167
3931	chic	70.0	54.87500	1997-10-05	NA	45.000000	28.8518519	24.208333
3932	chic	70.5	56.37500	1997-10-06	NA	66.500000	21.2453704	41.479167
3933	chic	73.5	58.87500	1997-10-07	NA	54.416667	19.7524155	41.027045
3934	chic	72.5	60.37500	1997-10-08	NA	65.000000	32.2568438	27.656250
3935	chic	64.0	44.75000	1997-10-09	NA	35.000000	15.8607085	22.056612
3936	chic	59.0	47.25000	1997-10-10	NA	36.500000	9.1944444	28.833333
3937	chic	61.5	44.25000	1997-10-11	NA	25.500000	18.4953704	28.041667
3938	chic	70.0	56.12500	1997-10-12	NA	34.500000	31.9227053	17.042572
3939	chic	59.5	39.37500	1997-10-13	NA	20.083333	13.2268519	14.947917
3940	chic	42.5	30.25000	1997-10-14	NA	16.500000	8.5785024	19.760417
3941	chic	42.5	36.75000	1997-10-15	NA	39.500000	4.3582931	35.562500
3942	chic	47.5	38.50000	1997-10-16	NA	35.000000	8.6115137	31.442564
3943	chic	45.5	39.25000	1997-10-17	NA	37.500000	7.2973027	36.112058
3944	chic	44.5	36.37500	1997-10-18	NA	40.000000	7.4583333	33.958333
3945	chic	50.0	45.25000	1997-10-19	NA	35.000000	14.5879630	24.722222
3946	chic	45.5	32.62500	1997-10-20	NA	17.000000	7.0404589	23.943910

3947	chic	42.5	20.62500	1997-10-21	NA	24.000000	10.3766103	20.940670
3948	chic	36.0	23.50000	1997-10-22	NA	27.000000	12.4302079	24.982008
3949	chic	44.5	31.25000	1997-10-23	NA	43.500000	3.9094203	28.756250
3950	chic	46.0	44.37500	1997-10-24	NA	31.500000	1.5416667	28.187500
3951	chic	47.0	37.87500	1997-10-25	NA	21.230769	16.2592593	14.885417
3952	chic	40.0	36.00000	1997-10-26	NA	7.500000	22.9398148	8.927083
3953	chic	32.5	25.57143	1997-10-27	NA	14.000000	12.3949275	25.437500
3954	chic	39.0	36.12500	1997-10-28	NA	30.500000	6.0169082	27.761364
3955	chic	44.0	36.00000	1997-10-29	NA	44.500000	3.7073269	36.454257
3956	chic	51.0	50.25000	1997-10-30	NA	44.500000	12.5688406	30.244565
3957	chic	59.5	52.50000	1997-10-31	NA	36.384615	11.8216586	24.152174
3958	chic	50.0	36.12500	1997-11-01	NA	18.500000	8.2916667	14.677083
3959	chic	38.5	30.12500	1997-11-02	NA	8.000000	9.2395833	11.708333
3960	chic	36.5	34.12500	1997-11-03	NA	17.000000	2.3437500	18.354167
3961	chic	39.0	35.25000	1997-11-04	NA	20.000000	1.3854167	18.288496
3962	chic	40.0	40.50000	1997-11-05	NA	28.500000	3.3768116	23.236413
3963	chic	45.0	39.87500	1997-11-06	NA	21.153846	6.8842593	19.781250
3964	chic	43.0	35.25000	1997-11-07	NA	12.500000	15.2291667	20.375000
3965	chic	44.0	34.12500	1997-11-08	NA	17.000000	11.2708333	25.447917
3966	chic	42.5	34.87500	1997-11-09	NA	26.000000	5.2708333	23.718750
3967	chic	36.5	22.12500	1997-11-10	NA	16.500000	4.9166667	26.323370
3968	chic	28.5	18.25000	1997-11-11	NA	24.500000	3.9375000	28.062500
3969	chic	26.5	16.75000	1997-11-12	NA	28.153846	5.5217391	27.916214
3970	chic	31.5	22.25000	1997-11-13	NA	31.000000	7.0416667	29.371377
3971	chic	36.0	31.25000	1997-11-14	NA	14.000000	13.0833333	26.625000
3972	chic	29.0	24.37500	1997-11-15	NA	15.000000	5.2083333	26.895833
3973	chic	22.0	14.00000	1997-11-16	NA	12.500000	12.3958333	23.020833
3974	chic	25.5	24.00000	1997-11-17	NA	37.000000	4.4791667	30.114583
3975	chic	32.0	25.12500	1997-11-18	NA	36.307692	4.0833333	28.942935
3976	chic	27.5	22.62500	1997-11-19	NA	42.000000	2.5652174	32.453228
3977	chic	33.5	37.50000	1997-11-20	NA	50.000000	0.9565217	35.520833
3978	chic	35.5	29.62500	1997-11-21	NA	19.000000	16.9375000	21.510417
3979	chic	34.5	25.62500	1997-11-22	NA	30.000000	8.2500000	23.583333
3980	chic	26.0	20.75000	1997-11-23	NA	18.500000	10.1458333	19.083333
3981	chic	26.5	17.12500	1997-11-24	NA	31.846154	4.8541667	34.587409
3982	chic	47.0	41.25000	1997-11-25	NA	44.000000	7.4538043	27.922425
3983	chic	43.0	23.62500	1997-11-26	NA	33.000000	6.5625000	26.734848
3984	chic	37.5	39.00000	1997-11-27	NA	23.000000	3.8125000	23.916667
3985	chic	49.0	45.25000	1997-11-28	NA	28.000000	2.6458333	20.000000
3986	chic	45.5	47.12500	1997-11-29	NA	41.000000	3.1875000	16.718750
3987	chic	42.0	31.87500	1997-11-30	NA	16.230769	13.0000000	11.895833
3988	chic	37.0	31.12500	1997-12-01	NA	6.000000	19.3750000	16.762311
3989	chic	36.5	30.00000	1997-12-02	NA	25.000000	7.0235507	24.913949

3990	chic	36.5	32.75000	1997-12-03		NA	29.500000	1.4375000	23.418561
3991	chic	32.0	21.37500	1997-12-04		NA	15.500000	4.8125000	20.728714
3992	chic	26.0	17.37500	1997-12-05		NA	22.000000	4.2083333	17.718750
3993	chic	28.5	25.75000	1997-12-06		NA	19.538462	6.7916667	18.333333
3994	chic	30.0	27.00000	1997-12-07		NA	17.500000	6.9375000	17.739583
3995	chic	28.5	26.87500	1997-12-08		NA	25.500000	4.3333333	21.175725
3996	chic	33.0	30.62500	1997-12-09		NA	41.500000	1.6458333	24.446023
3997	chic	34.5	31.00000	1997-12-10		NA	10.000000	11.1875000	24.108243
3998	chic	33.5	25.00000	1997-12-11		NA	13.500000	15.2282609	28.591938
3999	chic	27.5	21.25000	1997-12-12		NA	25.076923	7.7989130	25.270833
4000	chic	26.5	22.25000	1997-12-13		NA	28.500000	4.8333333	24.958333
4001	chic	31.0	25.87500	1997-12-14		NA	35.500000	3.1458333	33.718750
4002	chic	37.5	30.87500	1997-12-15		NA	40.500000	2.5416667	30.419508
4003	chic	39.0	30.00000	1997-12-16		NA	42.000000	2.5625000	32.156250
4004	chic	37.0	26.50000	1997-12-17		NA	40.500000	5.2916667	43.367754
4005	chic	38.5	32.75000	1997-12-18		NA	44.416667	1.6956522	31.250000
4006	chic	40.5	33.12500	1997-12-19		NA	53.000000	1.6875000	37.506629
4007	chic	33.0	23.87500	1997-12-20		NA	15.500000	6.3958333	23.531250
4008	chic	32.5	25.00000	1997-12-21		NA	16.500000	15.5208333	19.479167
4009	chic	34.5	33.00000	1997-12-22		NA	19.500000	5.6250000	22.979167
4010	chic	34.0	27.62500	1997-12-23		NA	36.500000	1.9673913	24.770833
4011	chic	34.0	31.50000	1997-12-24		NA	31.846154	5.6458333	21.760417
4012	chic	30.5	24.50000	1997-12-25		NA	18.000000	5.5000000	19.052083
4013	chic	28.5	23.75000	1997-12-26		NA	26.500000	3.5416667	19.421196
4014	chic	23.0	13.75000	1997-12-27		NA	19.500000	3.6875000	31.010417
4015	chic	25.5	28.75000	1997-12-28		NA	23.500000	3.5833333	22.697917
4016	chic	29.5	23.62500	1997-12-29		NA	22.500000	2.0878623	26.145833
4017	chic	21.5	17.25000	1997-12-30		NA	23.076923	4.1992754	30.788043
4018	chic	18.0	5.25000	1997-12-31		NA	24.500000	8.6041667	29.318388
4019	chic	28.0	22.50000	1998-01-01		NA	23.000000	12.8194444	17.883333
4020	chic	44.0	35.90000	1998-01-02		NA	28.000000	8.4305556	21.425000
4021	chic	47.0	46.90000	1998-01-03		NA	23.500000	10.3194444	16.025000
4022	chic	45.0	40.00000	1998-01-04		NA	12.000000	7.1111111	13.883333
4023	chic	48.0	46.70000	1998-01-05	11.500000	20.615385	2.8000110	20.916074	
4024	chic	43.0	41.10000	1998-01-06		NA	30.000000	5.3888889	19.955303
4025	chic	38.0	34.20000	1998-01-07		NA	6.000000	14.1388889	11.422826
4026	chic	34.0	30.80000	1998-01-08		NA	4.500000	15.9643720	14.633333
4027	chic	25.0	25.30000	1998-01-09		NA	20.000000	10.2777778	20.284420
4028	chic	12.0	2.80000	1998-01-10		NA	23.500000	11.1250000	16.458333
4029	chic	18.0	7.10000	1998-01-11	10.200000	30.750000	5.7083333	28.475000	
4030	chic	23.0	20.60000	1998-01-12		NA	27.000000	2.1944444	24.908333
4031	chic	7.0	-6.00000	1998-01-13		NA	41.500000	6.2107488	33.917424
4032	chic	17.0	15.40000	1998-01-14		NA	46.500000	9.0694444	28.951515

4033	chic	28.0	23.10000	1998-01-15		NA	30.000000	3.4861111	30.745455
4034	chic	28.0	23.60000	1998-01-16		NA	19.500000	8.4190821	23.685507
4035	chic	23.0	21.90000	1998-01-17	38.100000	32.461538	3.1805556	25.300000	
4036	chic	16.0	13.50000	1998-01-18		NA	41.500000	3.6388889	31.216667
4037	chic	24.0	19.10000	1998-01-19		NA	44.500000	1.6805556	35.150000
4038	chic	26.0	21.30000	1998-01-20		NA	51.500000	3.5307971	35.375000
4039	chic	31.0	26.80000	1998-01-21		NA	42.000000	5.1250000	24.725000
4040	chic	32.0	29.90000	1998-01-22		NA	39.000000	1.7946860	26.485507
4041	chic	28.0	25.80000	1998-01-23	33.950000	38.692308	1.7500000	29.376299	
4042	chic	28.0	24.20000	1998-01-24		NA	44.500000	2.2222222	35.166667
4043	chic	28.0	22.90000	1998-01-25		NA	24.000000	8.5555556	23.816667
4044	chic	31.0	28.60000	1998-01-26		NA	38.000000	1.6666667	31.525000
4045	chic	33.0	30.40000	1998-01-27		NA	34.000000	1.4734300	36.417391
4046	chic	36.0	32.50000	1998-01-28		NA	34.000000	1.2234300	33.193116
4047	chic	37.0	30.60000	1998-01-29	21.400000	30.166667	3.0972222	30.316667	
4048	chic	31.0	25.60000	1998-01-30		NA	21.000000	4.6527778	31.122475
4049	chic	35.0	29.10000	1998-01-31		NA	31.500000	4.5000000	27.427273
4050	chic	39.0	31.00000	1998-02-01		NA	23.500000	6.2361111	23.866667
4051	chic	33.0	26.60000	1998-02-02		NA	19.500000	8.7638889	23.975000
4052	chic	34.0	28.90000	1998-02-03		NA	21.500000	12.6527778	25.237582
4053	chic	32.0	25.60000	1998-02-04	13.900000	12.769231	24.7385266	14.084420	
4054	chic	32.0	27.40000	1998-02-05		NA	8.000000	27.6425121	14.639625
4055	chic	36.0	29.40000	1998-02-06		NA	14.500000	22.7397343	23.500000
4056	chic	34.0	28.70000	1998-02-07		NA	25.000000	18.1111111	20.691667
4057	chic	33.0	28.30000	1998-02-08		NA	24.500000	23.4722222	20.883333
4058	chic	35.0	28.80000	1998-02-09		NA	69.000000	4.5416667	45.394697
4059	chic	39.0	33.90000	1998-02-10	29.500000	62.846154	4.9776570	36.241634	
4060	chic	41.0	38.60000	1998-02-11		NA	34.000000	4.2916667	29.301087
4061	chic	35.0	28.30000	1998-02-12		NA	16.000000	12.1805556	24.283333
4062	chic	36.0	31.40000	1998-02-13		NA	30.000000	5.7805556	26.091667
4063	chic	38.0	31.00000	1998-02-14		NA	29.000000	3.9583333	26.633333
4064	chic	43.0	32.00000	1998-02-15		NA	26.000000	7.5833333	25.833333
4065	chic	42.0	35.30000	1998-02-16	22.550000	33.692308	11.4305556	22.216667	
4066	chic	41.0	38.80000	1998-02-17		NA	16.000000	11.2916667	19.681818
4067	chic	39.0	35.30000	1998-02-18		NA	8.000000	14.4368687	22.920870
4068	chic	40.0	35.00000	1998-02-19		NA	20.500000	5.5214646	27.844401
4069	chic	39.0	33.50000	1998-02-20		NA	19.500000	8.3768939	27.870238
4070	chic	38.0	30.10000	1998-02-21		NA	25.500000	12.5833333	28.900000
4071	chic	44.0	35.00000	1998-02-22	27.750000	39.076923	11.8333333	23.300000	
4072	chic	41.0	29.70000	1998-02-23		NA	29.000000	18.9583333	32.002569
4073	chic	45.0	36.70000	1998-02-24		NA	36.500000	7.8955314	30.449242
4074	chic	42.0	34.60000	1998-02-25		NA	34.500000	17.8278986	25.332609
4075	chic	54.0	36.70000	1998-02-26		NA	31.000000	14.4027778	27.867260

4076	chic	42.0	37.70000	1998-02-27		NA	24.500000	14.8230676	26.025000
4077	chic	41.0	33.20000	1998-02-28	16.500000	21.230769	12.6805556	28.108333	
4078	chic	35.0	28.50000	1998-03-01		NA	11.000000	11.0000000	20.116667
4079	chic	33.0	31.50000	1998-03-02		NA	20.000000	4.1666667	29.023551
4080	chic	34.0	30.40000	1998-03-03		NA	9.000000	17.6111111	24.781818
4081	chic	34.0	24.10000	1998-03-04		NA	12.000000	21.4088164	23.242544
4082	chic	36.0	24.10000	1998-03-05		NA	10.500000	19.6105072	21.800725
4083	chic	34.0	27.90000	1998-03-06	19.600000	31.923077	9.0946970	29.224671	
4084	chic	36.0	28.10000	1998-03-07		NA	24.500000	22.5694444	20.491667
4085	chic	38.0	34.20000	1998-03-08		NA	15.000000	21.7638889	12.983333
4086	chic	26.0	20.70000	1998-03-09		NA	23.000000	30.0292398	12.347222
4087	chic	18.0	4.90000	1998-03-10		NA	17.000000	20.4305556	24.927083
4088	chic	18.0	2.30000	1998-03-11		NA	20.000000	16.1388889	29.894928
4089	chic	18.0	6.70000	1998-03-12	18.900000	36.909091	15.0244565	32.538913	
4090	chic	29.0	20.70000	1998-03-13		NA	38.000000	17.2821558	29.351449
4091	chic	28.0	14.00000	1998-03-14		NA	18.000000	28.2638889	22.383333
4092	chic	27.0	20.90000	1998-03-15		NA	15.500000	29.1805556	24.019203
4093	chic	30.0	22.60000	1998-03-16		NA	26.000000	30.2035024	20.558333
4094	chic	36.0	31.70000	1998-03-17		NA	37.500000	16.3055556	26.328869
4095	chic	45.0	41.90000	1998-03-18	26.400000	35.166667	4.8907005	31.310548	
4096	chic	37.0	34.20000	1998-03-19		NA	9.000000	21.2500000	22.075000
4097	chic	35.0	27.10000	1998-03-20		NA	8.000000	39.0500000	13.227536
4098	chic	37.0	24.70000	1998-03-21		NA	6.500000	37.9000000	14.741667
4099	chic	36.0	22.60000	1998-03-22		NA	12.500000	26.8500000	27.058333
4100	chic	38.0	21.60000	1998-03-23		NA	33.500000	18.1833333	38.500000
4101	chic	40.0	23.30000	1998-03-24	15.950000	31.461538	17.6001318	36.113768	
4102	chic	51.0	38.60000	1998-03-25		NA	30.500000	21.8329710	28.981917
4103	chic	68.0	53.90000	1998-03-26		NA	68.500000	35.4648551	17.051515
4104	chic	67.0	52.30000	1998-03-27		NA	68.500000	34.3444444	18.140470
4105	chic	57.0	50.90000	1998-03-28		NA	15.500000	31.2291667	15.270833
4106	chic	62.0	54.30000	1998-03-29		NA	33.000000	22.8645833	16.739583
4107	chic	73.0	59.40000	1998-03-30	15.600000	30.083333	27.2500000	14.665756	
4108	chic	59.0	51.70000	1998-03-31		NA	21.500000	24.6757246	20.316102
4109	chic	44.0	36.60000	1998-04-01		NA	12.500000	20.9637681	19.379348
4110	chic	44.0	37.10000	1998-04-02	9.100000	14.500000	14.8737573	21.367424	
4111	chic	41.0	35.00000	1998-04-03	7.000000	10.500000	20.6045784	16.884420	
4112	chic	41.0	28.10000	1998-04-04	2.100000	6.500000	29.4393939	13.200000	
4113	chic	41.0	23.70000	1998-04-05	6.400000	16.000000	21.3560606	23.016667	
4114	chic	48.0	32.60000	1998-04-06	14.900000	33.500000	20.9166667	29.233333	
4115	chic	52.0	39.40000	1998-04-07	27.600000	43.000000	20.3433161	25.181884	
4116	chic	48.0	46.30000	1998-04-08	22.700000	20.500000	9.6612319	26.203986	
4117	chic	43.0	32.80000	1998-04-09	14.300000	13.500000	26.0441206	16.783498	
4118	chic	46.0	27.00000	1998-04-10	11.900000	15.500000	25.7958333	24.991667	

4119	chic	50.0	34.90000	1998-04-11	16.950000	31.000000	22.4333333	32.575000
4120	chic	64.0	38.50000	1998-04-12	NA	34.000000	44.8833333	13.575000
4121	chic	62.0	46.70000	1998-04-13	NA	40.000000	33.8250000	20.466667
4122	chic	58.0	48.10000	1998-04-14	NA	24.500000	23.5189394	23.731667
4123	chic	53.0	46.60000	1998-04-15	23.600000	36.000000	15.5706971	26.233366
4124	chic	42.0	40.00000	1998-04-16	8.500000	13.000000	11.7908432	20.012242
4125	chic	45.0	30.20000	1998-04-17	11.550000	20.153846	18.4957181	30.188104
4126	chic	50.0	32.10000	1998-04-18	16.100000	36.000000	22.5984848	29.694444
4127	chic	52.0	33.00000	1998-04-19	20.000000	26.000000	29.3030303	29.840278
4128	chic	52.0	40.80000	1998-04-20	NA	41.000000	24.3111001	34.604167
4129	chic	50.0	46.20000	1998-04-21	NA	23.500000	30.6028986	20.207702
4130	chic	53.0	37.10000	1998-04-22	NA	21.500000	31.3150826	25.524832
4131	chic	56.0	35.60000	1998-04-23	18.500000	44.692308	18.3115448	47.815580
4132	chic	62.0	36.50000	1998-04-24	16.800000	44.000000	26.7753623	30.439493
4133	chic	56.0	46.80000	1998-04-25	23.200000	35.000000	30.7045455	22.025000
4134	chic	48.0	43.30000	1998-04-26	18.400000	24.000000	28.3446970	12.675000
4135	chic	45.0	27.50000	1998-04-27	8.500000	10.500000	31.3614954	12.025000
4136	chic	46.0	33.80000	1998-04-28	18.200000	24.500000	22.6856061	21.833333
4137	chic	54.0	48.40000	1998-04-29	29.450000	51.000000	14.4608636	23.542029
4138	chic	55.0	51.30000	1998-04-30	39.400000	34.000000	10.7862319	25.313095
4139	chic	59.0	53.70000	1998-05-01	35.400000	28.500000	14.2951252	31.429046
4140	chic	57.0	52.00000	1998-05-02	33.300000	35.000000	20.6628788	26.798611
4141	chic	53.0	50.30000	1998-05-03	19.300000	18.500000	22.8825758	15.784722
4142	chic	60.0	47.00000	1998-05-04	18.900000	28.000000	21.8173584	27.152778
4143	chic	62.0	54.10000	1998-05-05	28.000000	43.000000	21.3190801	35.479167
4144	chic	68.0	56.80000	1998-05-06	23.900000	35.000000	25.0227273	33.032005
4145	chic	57.0	56.00000	1998-05-07	32.100000	34.500000	24.2704216	33.991667
4146	chic	62.0	51.30000	1998-05-08	16.900000	21.000000	36.5405609	17.867210
4147	chic	58.0	43.50000	1998-05-09	7.900000	13.500000	26.6780303	14.593750
4148	chic	58.0	40.10000	1998-05-10	6.600000	11.000000	29.1174242	14.812500
4149	chic	61.0	48.10000	1998-05-11	11.750000	28.666667	23.0743802	22.232576
4150	chic	63.0	55.10000	1998-05-12	23.500000	46.000000	35.2473500	22.975000
4151	chic	68.0	52.50000	1998-05-13	15.600000	35.000000	31.6682971	28.940010
4152	chic	68.0	55.40000	1998-05-14	26.200000	48.000000	35.2766469	38.431818
4153	chic	75.0	65.80000	1998-05-15	56.500000	91.000000	38.5730072	29.032609
4154	chic	72.0	50.90000	1998-05-16	7.300000	37.500000	36.2541667	15.583333
4155	chic	68.0	49.20000	1998-05-17	10.600000	34.000000	28.7541667	31.841667
4156	chic	76.0	49.40000	1998-05-18	13.200000	79.000000	38.1110507	31.274638
4157	chic	79.0	61.00000	1998-05-19	25.900000	78.000000	37.3800366	44.208333
4158	chic	65.0	52.80000	1998-05-20	12.200000	37.500000	21.9545290	34.276120
4159	chic	64.0	46.90000	1998-05-21	5.700000	26.000000	26.7475789	21.832757
4160	chic	57.0	47.90000	1998-05-22	9.000000	28.000000	22.7348485	17.388889
4161	chic	61.0	45.50000	1998-05-23	10.100000	31.923077	34.0000000	14.541667

4162	chic	61.0	54.30000	1998-05-24	19.400000	27.000000	33.2537879	16.263889
4163	chic	62.0	48.30000	1998-05-25	11.600000	17.500000	37.9469697	17.312500
4164	chic	63.0	45.70000	1998-05-26	27.700000	40.500000	26.9117260	38.246981
4165	chic	67.0	52.80000	1998-05-27	29.500000	59.500000	37.2611989	39.269571
4166	chic	75.0	64.30000	1998-05-28	25.600000	72.000000	34.3322276	30.119565
4167	chic	74.0	62.30000	1998-05-29	12.300000	29.846154	29.0000000	32.944444
4168	chic	73.0	62.70000	1998-05-30	18.900000	49.500000	33.4734848	27.680556
4169	chic	70.0	60.20000	1998-05-31	10.400000	29.500000	40.2651515	11.631944
4170	chic	63.0	45.70000	1998-06-01	10.000000	29.500000	28.1915349	21.736111
4171	chic	63.0	50.70000	1998-06-02	7.800000	38.500000	26.7329321	22.011905
4172	chic	55.0	45.70000	1998-06-03	7.100000	22.000000	14.8677536	24.515646
4173	chic	56.0	37.70000	1998-06-04	6.850000	26.500000	23.3387681	24.673611
4174	chic	50.0	41.60000	1998-06-05	9.400000	9.500000	21.3558959	14.263889
4175	chic	54.0	38.90000	1998-06-06	11.800000	20.500000	9.1250000	28.770833
4176	chic	58.0	41.10000	1998-06-07	8.400000	15.000000	23.8939394	20.020833
4177	chic	56.0	46.00000	1998-06-08	19.000000	33.500000	18.4759552	31.000000
4178	chic	61.0	59.00000	1998-06-09	33.800000	26.000000	17.8908103	25.496679
4179	chic	68.0	58.00000	1998-06-10	27.150000	37.000000	23.2416008	25.755901
4180	chic	68.0	65.80000	1998-06-11	23.100000	31.500000	18.7687747	27.445350
4181	chic	74.0	61.50000	1998-06-12	11.700000	27.000000	33.7623967	19.742452
4182	chic	69.0	58.20000	1998-06-13	15.500000	18.500000	33.5643939	23.368056
4183	chic	67.0	57.50000	1998-06-14	20.000000	26.500000	29.0909091	27.340278
4184	chic	70.0	58.70000	1998-06-15	19.400000	23.000000	29.6342975	21.555556
4185	chic	70.0	61.20000	1998-06-16	14.100000	39.500000	16.0332675	31.314484
4186	chic	73.0	63.70000	1998-06-17	20.300000	37.000000	22.4922596	31.136473
4187	chic	77.0	69.30000	1998-06-18	22.000000	52.500000	37.2627304	25.679293
4188	chic	73.0	61.20000	1998-06-19	9.700000	28.000000	32.8838933	23.270833
4189	chic	78.0	68.00000	1998-06-20	16.700000	33.000000	33.8825758	26.173611
4190	chic	79.0	66.00000	1998-06-21	13.700000	21.500000	34.4696970	22.118056
4191	chic	74.0	61.90000	1998-06-22	12.550000	31.083333	28.7689394	24.361111
4192	chic	74.0	60.60000	1998-06-23	15.700000	38.500000	41.7213439	29.348485
4193	chic	83.0	70.20000	1998-06-24	25.400000	59.000000	37.8826506	28.765206
4194	chic	83.0	70.80000	1998-06-25	21.300000	58.500000	45.4599802	19.775664
4195	chic	79.0	68.40000	1998-06-26	15.600000	34.000000	39.0717676	24.546498
4196	chic	82.0	70.30000	1998-06-27	21.400000	43.000000	49.6555258	21.152778
4197	chic	78.0	69.00000	1998-06-28	11.450000	22.181818	40.8231749	18.326389
4198	chic	77.0	68.20000	1998-06-29	14.600000	31.000000	22.8156879	30.934481
4199	chic	74.0	60.50000	1998-06-30	9.100000	19.500000	28.3203228	18.763285
4200	chic	70.0	56.70000	1998-07-01	22.100000	27.500000	25.4446640	20.173611
4201	chic	73.0	57.80000	1998-07-02	25.700000	53.500000	28.4280303	31.566468
4202	chic	79.0	65.40000	1998-07-03	21.600000	43.500000	35.1439394	24.930556
4203	chic	69.0	62.40000	1998-07-04	15.250000	23.923077	26.5606061	12.430556
4204	chic	70.0	56.30000	1998-07-05	8.200000	19.000000	26.9318182	11.715278

4205	chic	78.0	69.00000	1998-07-06	24.400000	36.500000	31.5879447	24.555556
4206	chic	72.0	66.70000	1998-07-07	18.800000	31.500000	35.7628458	16.185516
4207	chic	74.0	64.90000	1998-07-08	14.700000	19.500000	36.1142951	16.033213
4208	chic	75.0	64.20000	1998-07-09	25.400000	33.000000	33.6043838	26.451449
4209	chic	73.0	62.40000	1998-07-10	20.600000	30.916667	31.4917355	19.546023
4210	chic	71.0	55.90000	1998-07-11	13.500000	23.000000	39.7916667	18.666667
4211	chic	71.0	55.60000	1998-07-12	19.800000	26.000000	39.6893939	25.736111
4212	chic	73.0	60.30000	1998-07-13	30.300000	64.500000	37.0188645	37.930556
4213	chic	78.0	67.10000	1998-07-14	41.400000	75.000000	40.0809017	32.590537
4214	chic	79.0	66.10000	1998-07-15	32.600000	57.500000	40.2307013	24.525966
4215	chic	80.0	57.90000	1998-07-16		NA	32.583333	24.8050725
4216	chic	75.0	64.70000	1998-07-17		NA	39.500000	29.1617965
4217	chic	77.0	65.50000	1998-07-18		NA	52.500000	32.8750000
4218	chic	81.0	71.80000	1998-07-19		NA	32.000000	36.1704545
4219	chic	79.0	68.10000	1998-07-20		NA	36.500000	29.2348485
4220	chic	85.0	72.90000	1998-07-21		NA	60.500000	36.8904919
4221	chic	76.0	67.60000	1998-07-22	9.800000	23.833333	20.5943227	27.948342
4222	chic	73.0	56.60000	1998-07-23	13.700000	35.000000	22.1042490	21.655221
4223	chic	72.0	51.10000	1998-07-24	8.500000	25.500000	22.7068511	23.419686
4224	chic	70.0	55.40000	1998-07-25	11.300000	28.500000	25.3863636	25.284722
4225	chic	70.0	56.80000	1998-07-26	11.600000	23.000000	28.5984848	21.666667
4226	chic	74.0	65.10000	1998-07-27	25.200000	44.000000	30.0037879	22.116793
4227	chic	79.0	64.90000	1998-07-28	11.350000	44.153846	26.9542161	20.075758
4228	chic	77.0	55.20000	1998-07-29	16.000000	20.000000	34.1142951	15.242236
4229	chic	72.0	57.50000	1998-07-30	16.800000	29.000000	21.8555665	23.266606
4230	chic	71.0	54.70000	1998-07-31	13.900000	12.000000	26.3491436	10.124616
4231	chic	72.0	57.30000	1998-08-01	11.800000	30.000000	32.7840909	20.319444
4232	chic	72.0	55.90000	1998-08-02	11.600000	29.000000	40.5530303	23.930556
4233	chic	78.0	64.80000	1998-08-03	36.400000	61.538462	34.8022069	24.715278
4234	chic	70.0	68.60000	1998-08-04	16.000000	25.500000	21.2755570	26.948864
4235	chic	76.0	70.70000	1998-08-05		NA	27.000000	24.0726285
4236	chic	78.0	71.30000	1998-08-06		NA	36.000000	22.8838184
4237	chic	75.0	70.80000	1998-08-07		NA	30.000000	12.6844862
4238	chic	77.0	70.70000	1998-08-08		NA	30.000000	20.8125000
4239	chic	77.0	70.10000	1998-08-09	32.500000	35.615385	22.7666667	23.569444
4240	chic	76.0	68.50000	1998-08-10		NA	33.000000	29.8970772
4241	chic	71.0	63.40000	1998-08-11		NA	35.000000	25.1931818
4242	chic	70.0	60.90000	1998-08-12	20.700000	29.000000	30.5862828	15.432230
4243	chic	71.0	60.20000	1998-08-13	22.900000	41.500000	32.9503234	27.897727
4244	chic	71.0	64.40000	1998-08-14	28.400000	60.000000	28.3109504	42.229167
4245	chic	71.0	64.30000	1998-08-15	13.950000	28.461538	22.9924242	20.743056
4246	chic	72.0	62.90000	1998-08-16	16.400000	24.500000	29.0378788	17.743056
4247	chic	75.0	69.00000	1998-08-17	29.000000	53.500000	25.5788396	31.534722

4248	chic	68.0	63.90000	1998-08-18	8.800000	16.500000	23.2677866	16.220548
4249	chic	69.0	55.10000	1998-08-19	16.000000	34.000000	22.7753388	20.965278
4250	chic	73.0	65.40000	1998-08-20	24.400000	51.500000	27.1338933	32.763450
4251	chic	80.0	70.80000	1998-08-21	29.300000	48.272727	33.1681749	24.826389
4252	chic	78.0	69.50000	1998-08-22	21.300000	40.000000	34.1074561	18.104167
4253	chic	81.0	71.20000	1998-08-23	39.600000	59.000000	45.8636364	14.326389
4254	chic	76.0	71.40000	1998-08-24	23.400000	54.000000	20.8777448	27.116244
4255	chic	76.0	63.90000	1998-08-25	13.200000	26.500000	26.9160426	23.625000
4256	chic	73.0	60.90000	1998-08-26	14.800000	34.000000	26.7824440	26.089839
4257	chic	72.0	64.50000	1998-08-27	18.950000	32.416667	28.2634298	27.307093
4258	chic	69.0	66.40000	1998-08-28	21.500000	35.500000	14.7121212	33.146825
4259	chic	76.0	63.10000	1998-08-29	11.300000	29.000000	22.0378788	23.750000
4260	chic	70.0	55.70000	1998-08-30	7.200000	20.000000	23.4886364	18.805556
4261	chic	69.0	54.60000	1998-08-31	8.600000	28.000000	20.1583423	24.586490
4262	chic	69.0	58.50000	1998-09-01	14.300000	45.000000	19.4769733	31.972132
4263	chic	65.0	50.10000	1998-09-02	24.150000	44.692308	22.6763834	28.077020
4264	chic	68.0	57.90000	1998-09-03	19.300000	42.000000	25.6174242	31.740985
4265	chic	69.0	54.20000	1998-09-04	14.700000	25.500000	36.7898551	20.093254
4266	chic	70.0	61.40000	1998-09-05	27.300000	45.000000	33.0666667	37.041667
4267	chic	81.0	70.40000	1998-09-06	31.500000	50.500000	50.6625000	20.312500
4268	chic	66.0	57.10000	1998-09-07	10.300000	21.500000	30.3750000	14.486111
4269	chic	63.0	46.90000	1998-09-08	5.150000	14.692308	18.0282369	16.906181
4270	chic	63.0	50.30000	1998-09-09	7.400000	17.500000	16.1712780	20.707428
4271	chic	63.0	52.80000	1998-09-10	14.800000	39.500000	17.3251288	35.664773
4272	chic	71.0	53.10000	1998-09-11	21.700000	48.000000	30.5937687	44.892512
4273	chic	74.0	56.70000	1998-09-12	24.500000	57.000000	37.3939394	44.451389
4274	chic	74.0	62.70000	1998-09-13	28.100000	58.500000	37.0757576	37.763889
4275	chic	72.0	67.50000	1998-09-14	26.450000	48.000000	24.1511858	27.875000
4276	chic	70.0	67.00000	1998-09-15	11.200000	18.000000	16.5097167	14.758081
4277	chic	72.0	64.90000	1998-09-16	12.900000	17.500000	25.5892472	12.284456
4278	chic	68.0	58.40000	1998-09-17	15.300000	21.500000	28.6442688	17.197368
4279	chic	68.0	57.80000	1998-09-18	20.900000	46.000000	28.2346838	27.550423
4280	chic	72.0	60.90000	1998-09-19	33.700000	58.500000	37.6250000	35.722222
4281	chic	76.0	66.30000	1998-09-20	30.300000	47.583333	22.0227273	27.798611
4282	chic	63.0	51.80000	1998-09-21	5.500000	13.500000	14.6393281	14.585749
4283	chic	58.0	47.70000	1998-09-22	4.600000	10.000000	19.6769481	13.312500
4284	chic	56.0	41.50000	1998-09-23	9.900000	27.000000	11.9227602	28.824879
4285	chic	59.0	53.60000	1998-09-24	21.300000	37.000000	8.4253953	33.302372
4286	chic	66.0	64.10000	1998-09-25	31.600000	57.500000	12.3043478	34.633454
4287	chic	79.0	65.80000	1998-09-26	29.650000	53.230769	39.5946970	18.534722
4288	chic	73.0	63.80000	1998-09-27	19.200000	34.500000	32.7689394	13.694444
4289	chic	63.0	52.50000	1998-09-28	9.400000	28.500000	19.3859444	22.355072
4290	chic	63.0	57.00000	1998-09-29	21.300000	44.500000	7.9321176	40.131341

4291	chic	64.0	57.90000	1998-09-30	17.700000	35.500000	15.7202809	28.167463
4292	chic	53.0	35.70000	1998-10-01	5.100000	14.500000	11.8074769	20.658696
4293	chic	49.0	41.90000	1998-10-02	7.550000	23.384615	12.8284226	24.241667
4294	chic	55.0	49.30000	1998-10-03	7.100000	12.500000	21.7575758	11.250000
4295	chic	60.0	50.30000	1998-10-04	8.400000	15.000000	21.9696970	9.675000
4296	chic	65.0	61.40000	1998-10-05	32.500000	37.000000	12.3833992	19.400000
4297	chic	65.0	61.20000	1998-10-06	9.300000	15.500000	10.6549407	18.813768
4298	chic	56.0	49.20000	1998-10-07	7.300000	17.000000	4.7053195	17.891667
4299	chic	54.0	44.80000	1998-10-08	5.150000	11.307692	12.6961957	18.250000
4300	chic	53.0	45.60000	1998-10-09	16.300000	29.000000	6.7065217	29.275000
4301	chic	53.0	46.40000	1998-10-10	26.400000	45.500000	9.9666667	31.400000
4302	chic	56.0	49.10000	1998-10-11	30.900000	34.500000	22.1916667	28.341667
4303	chic	60.0	46.90000	1998-10-12	18.100000	39.500000	10.9625000	33.741667
4304	chic	49.0	36.80000	1998-10-13	6.900000	24.000000	7.0092227	21.716667
4305	chic	48.0	40.40000	1998-10-14	6.450000	25.153846	6.1551383	21.386001
4306	chic	58.0	48.40000	1998-10-15	14.800000	26.500000	7.3969203	27.109632
4307	chic	68.0	57.20000	1998-10-16	24.900000	45.500000	25.1534420	27.550000
4308	chic	67.0	64.40000	1998-10-17	32.200000	46.500000	24.3708333	21.250000
4309	chic	57.0	48.10000	1998-10-18	6.300000	14.000000	16.2875000	9.575000
4310	chic	52.0	39.20000	1998-10-19	9.000000	25.000000	7.9376812	23.441667
4311	chic	50.0	33.90000	1998-10-20	6.450000	19.916667	9.8799572	27.524242
4312	chic	48.0	34.50000	1998-10-21	NA	15.500000	10.4311430	22.914394
4313	chic	45.0	31.10000	1998-10-22	NA	23.500000	7.3923419	29.216667
4314	chic	52.0	36.30000	1998-10-23	NA	44.000000	7.6685606	32.061924
4315	chic	54.0	38.90000	1998-10-24	18.200000	45.500000	11.2208333	31.500000
4316	chic	55.0	44.80000	1998-10-25	23.800000	35.500000	7.6708333	34.875000
4317	chic	62.0	49.70000	1998-10-26	28.600000	55.307692	10.7835465	46.733333
4318	chic	63.0	58.60000	1998-10-27	36.100000	64.500000	5.2090580	39.391667
4319	chic	54.0	52.30000	1998-10-28	11.700000	16.500000	12.2939394	20.037879
4320	chic	52.0	51.90000	1998-10-29	29.000000	33.000000	5.1025033	25.136905
4321	chic	61.0	58.40000	1998-10-30	41.000000	45.000000	1.4791667	23.025000
4322	chic	57.0	52.70000	1998-10-31	11.500000	15.500000	4.7250000	13.133333
4323	chic	54.0	50.00000	1998-11-01	5.550000	8.833333	19.6416667	8.800000
4324	chic	49.0	39.80000	1998-11-02	5.500000	8.000000	22.3000000	10.776515
4325	chic	41.0	33.40000	1998-11-03	3.700000	7.500000	28.7750000	10.975000
4326	chic	37.0	32.80000	1998-11-04	10.200000	11.000000	19.6594203	25.927042
4327	chic	39.0	27.40000	1998-11-05	10.800000	20.000000	5.5243590	30.467929
4328	chic	38.0	25.80000	1998-11-06	13.500000	23.000000	6.9876894	30.271821
4329	chic	35.0	26.10000	1998-11-07	21.250000	38.384615	5.7916667	31.635417
4330	chic	37.0	31.80000	1998-11-08	33.700000	34.000000	5.8437500	30.406250
4331	chic	43.0	37.30000	1998-11-09	36.500000	45.000000	6.1385870	28.190670
4332	chic	52.0	41.20000	1998-11-10	9.800000	31.000000	14.7083333	12.616667
4333	chic	41.0	28.50000	1998-11-11	11.300000	25.000000	14.2083333	18.900000

4334	chic	40.0	31.10000	1998-11-12	19.400000	28.000000	1.8055556	33.196970
4335	chic	43.0	34.60000	1998-11-13	20.500000	31.090909	8.5618687	31.847727
4336	chic	50.0	40.20000	1998-11-14	16.600000	27.000000	6.8194444	23.816667
4337	chic	43.0	32.20000	1998-11-15	15.100000	16.000000	14.2500000	16.758333
4338	chic	48.0	39.10000	1998-11-16	23.500000	31.500000	3.5416667	22.250000
4339	chic	42.0	34.60000	1998-11-17	18.900000	27.000000	4.1388889	25.575000
4340	chic	48.0	38.70000	1998-11-18	24.100000	35.500000	3.9772727	25.622727
4341	chic	45.0	31.10000	1998-11-19	12.950000	25.846154	5.3508454	14.993207
4342	chic	31.0	24.40000	1998-11-20	14.800000	17.000000	5.3571429	22.036905
4343	chic	34.0	24.40000	1998-11-21	16.500000	28.000000	5.5000000	27.041667
4344	chic	49.0	34.90000	1998-11-22	11.700000	40.500000	12.5972222	20.558333
4345	chic	50.0	35.40000	1998-11-23	10.900000	34.000000	9.3472222	25.561957
4346	chic	46.0	30.10000	1998-11-24	17.600000	34.500000	3.3750000	37.326515
4347	chic	50.0	35.80000	1998-11-25	14.700000	33.307692	1.1997930	30.541356
4348	chic	50.0	32.30000	1998-11-26	NA	20.000000	6.8750000	21.583333
4349	chic	48.0	35.70000	1998-11-27	NA	50.500000	2.5000000	35.983333
4350	chic	54.0	48.60000	1998-11-28	28.000000	39.000000	8.3055556	28.941667
4351	chic	63.0	58.40000	1998-11-29	31.700000	43.500000	10.3472222	15.516667
4352	chic	52.0	50.70000	1998-11-30	25.100000	31.000000	9.5138889	17.766667
4353	chic	45.0	37.70000	1998-12-01	17.850000	22.846154	3.6376812	25.025000
4354	chic	55.0	45.80000	1998-12-02	14.800000	29.000000	5.8472222	25.816831
4355	chic	61.0	54.90000	1998-12-03	22.900000	37.000000	6.0740558	24.474012
4356	chic	61.0	59.30000	1998-12-04	31.600000	42.500000	0.5555556	24.391667
4357	chic	59.0	56.60000	1998-12-05	23.900000	30.000000	4.8055556	21.250000
4358	chic	50.0	49.20000	1998-12-06	15.600000	17.000000	4.8194444	14.108333
4359	chic	39.0	31.60000	1998-12-07	11.800000	9.166667	15.5277778	19.145238
4360	chic	38.0	29.00000	1998-12-08	24.900000	25.000000	2.9444444	33.539493
4361	chic	39.0	29.50000	1998-12-09	20.700000	27.500000	3.0896465	31.040476
4362	chic	35.0	29.00000	1998-12-10	23.000000	22.500000	1.8925121	30.091667
4363	chic	39.0	26.10000	1998-12-11	15.000000	28.500000	2.9402174	32.025000
4364	chic	38.0	26.10000	1998-12-12	18.000000	27.000000	3.7222222	34.158333
4365	chic	38.0	31.20000	1998-12-13	19.500000	24.615385	9.1666667	28.316667
4366	chic	36.0	32.10000	1998-12-14	22.900000	40.500000	4.6183575	40.964888
4367	chic	44.0	31.20000	1998-12-15	NA	31.500000	3.2032828	28.123715
4368	chic	37.0	27.20000	1998-12-16	NA	18.000000	2.5833333	32.437879
4369	chic	32.0	22.30000	1998-12-17	14.200000	19.500000	5.4317633	29.566667
4370	chic	43.0	30.10000	1998-12-18	14.300000	40.000000	5.2500000	24.247727
4371	chic	35.0	26.30000	1998-12-19	17.750000	21.666667	6.0416667	18.658333
4372	chic	31.0	27.60000	1998-12-20	19.200000	16.500000	2.8055556	24.725000
4373	chic	23.0	18.80000	1998-12-21	22.600000	22.500000	3.6919192	24.796970
4374	chic	10.0	-1.90000	1998-12-22	14.800000	24.000000	11.8985507	23.791304
4375	chic	17.0	5.70000	1998-12-23	15.800000	25.000000	5.8810386	27.947727
4376	chic	19.0	4.80000	1998-12-24	11.000000	24.000000	7.3333333	28.100000

4377	chic	25.0	11.10000	1998-12-25	11.800000	17.583333	11.8888889	19.575000
4378	chic	26.0	12.30000	1998-12-26	NA	31.000000	9.2083333	22.608333
4379	chic	36.0	24.00000	1998-12-27	NA	29.500000	6.8750000	21.758333
4380	chic	29.0	23.30000	1998-12-28	NA	33.000000	2.3774155	32.618643
4381	chic	22.0	18.40000	1998-12-29	NA	28.000000	9.5694444	21.708333
4382	chic	7.0	-1.60000	1998-12-30	NA	28.000000	6.0138889	32.430105
4383	chic	13.0	5.10000	1998-12-31	20.400000	23.900000	6.3888889	28.169763
4384	chic	14.0	7.70000	1999-01-01	NA	21.500000	15.6111111	21.491667
4385	chic	22.0	21.00000	1999-01-02	NA	NA	25.7638889	12.641667
4386	chic	16.0	8.40000	1999-01-03	NA	29.500000	19.3888889	19.041667
4387	chic	-2.0	-6.90000	1999-01-04	NA	16.500000	8.5972222	28.450000
4388	chic	1.0	-6.10000	1999-01-05	NA	28.000000	4.8194444	35.125000
4389	chic	12.0	9.80000	1999-01-06	22.333333	22.000000	5.5169082	32.853623
4390	chic	1.0	-6.70000	1999-01-07	NA	38.000000	3.6527778	45.908333
4391	chic	16.0	10.90000	1999-01-08	14.100000	23.000000	12.7361111	36.250758
4392	chic	4.0	-1.10000	1999-01-09	NA	23.000000	9.1805556	32.183333
4393	chic	6.0	-0.40000	1999-01-10	NA	22.500000	15.6527778	23.375000
4394	chic	5.0	0.00000	1999-01-11	NA	29.000000	6.7222222	40.966667
4395	chic	20.0	14.10000	1999-01-12	NA	31.142857	6.6165459	34.914855
4396	chic	20.0	15.40000	1999-01-13	NA	6.000000	28.2222222	12.397727
4397	chic	18.0	12.60000	1999-01-14	NA	22.500000	14.8055556	26.656061
4398	chic	23.0	20.20000	1999-01-15	NA	33.500000	2.9690382	32.764888
4399	chic	30.0	29.80000	1999-01-16	NA	31.500000	6.3333333	29.075000
4400	chic	28.0	31.30000	1999-01-17	NA	33.500000	5.0416667	30.283333
4401	chic	29.0	25.80000	1999-01-18	13.300000	10.857143	19.0138889	16.890217
4402	chic	27.0	20.00000	1999-01-19	NA	30.000000	6.4722222	40.895455
4403	chic	30.0	28.80000	1999-01-20	28.600000	48.000000	3.9583333	44.491770
4404	chic	37.0	32.60000	1999-01-21	NA	46.000000	4.2916667	35.109058
4405	chic	42.0	41.50000	1999-01-22	NA	18.000000	2.7638889	35.448485
4406	chic	39.0	35.30000	1999-01-23	NA	10.000000	4.9444444	24.016667
4407	chic	33.0	30.00000	1999-01-24	21.450000	16.142857	14.8750000	21.591667
4408	chic	28.0	24.60000	1999-01-25	NA	19.000000	7.4583333	26.241667
4409	chic	29.0	23.40000	1999-01-26	NA	29.500000	5.6135266	31.925000
4410	chic	42.0	34.00000	1999-01-27	NA	40.000000	8.1388889	24.193478
4411	chic	33.0	27.40000	1999-01-28	NA	27.000000	7.6805556	24.819697
4412	chic	33.0	25.60000	1999-01-29	NA	29.500000	9.8399758	31.675000
4413	chic	34.0	28.00000	1999-01-30	31.928571	38.000000	15.2222222	24.666667
4414	chic	36.0	27.50000	1999-01-31	32.500000	22.500000	20.5972222	16.108333
4415	chic	40.0	38.40000	1999-02-01	NA	21.500000	4.3611111	22.255263
4416	chic	38.0	32.40000	1999-02-02	NA	10.500000	4.7548309	28.062500
4417	chic	41.0	27.40000	1999-02-03	NA	28.500000	12.9583333	26.829710
4418	chic	31.0	21.10000	1999-02-04	NA	20.500000	14.0328283	24.194129
4419	chic	31.0	24.20000	1999-02-05	19.637500	23.857143	3.0555556	32.684848

4420	chic	40.0	30.40000	1999-02-06		NA	24.500000	8.4305556	27.500000
4421	chic	33.0	29.80000	1999-02-07		NA	27.500000	11.9722222	19.033333
4422	chic	37.0	36.20000	1999-02-08	27.600000	29.500000	4.4321476	29.679658	
4423	chic	44.0	29.80000	1999-02-09		NA	17.500000	8.5063131	36.087253
4424	chic	44.0	27.20000	1999-02-10		NA	38.000000	9.2083333	41.525000
4425	chic	49.0	47.80000	1999-02-11	17.380000	24.857143	12.0815217	16.270455	
4426	chic	23.0	13.10000	1999-02-12		NA	21.000000	22.0972222	16.966667
4427	chic	23.0	10.80000	1999-02-13		NA	26.000000	14.7638889	27.116667
4428	chic	34.0	21.90000	1999-02-14	13.300000	27.500000	12.6666667	27.075000	
4429	chic	45.0	30.60000	1999-02-15		NA	37.000000	12.7361111	28.841667
4430	chic	39.0	32.10000	1999-02-16		NA	31.000000	6.6944444	22.380435
4431	chic	27.0	20.40000	1999-02-17	15.250000	16.428571	11.1073232	23.645909	
4432	chic	29.0	21.80000	1999-02-18		NA	30.500000	9.3568841	33.460766
4433	chic	28.0	20.90000	1999-02-19		NA	11.000000	22.9293478	20.725000
4434	chic	25.0	17.00000	1999-02-20	10.250000	10.500000	20.7916667	20.916667	
4435	chic	28.0	15.70000	1999-02-21		NA	4.500000	32.1805556	12.475000
4436	chic	26.0	9.40000	1999-02-22		NA	18.500000	23.9722222	22.183333
4437	chic	29.0	14.90000	1999-02-23	19.800000	32.857143	11.4082126	23.343841	
4438	chic	27.0	22.90000	1999-02-24	39.900000	52.500000	3.3750000	31.750000	
4439	chic	33.0	26.50000	1999-02-25		NA	30.000000	6.1618357	30.191304
4440	chic	36.0	27.90000	1999-02-26	48.100000	40.500000	5.6473430	34.739027	
4441	chic	43.0	39.20000	1999-02-27		NA	35.000000	3.8194444	27.716667
4442	chic	37.0	32.10000	1999-02-28		NA	10.500000	12.5000000	15.083333
4443	chic	38.0	25.30000	1999-03-01	10.100000	18.250000	21.2361111	25.358333	
4444	chic	37.0	33.10000	1999-03-02		NA	30.000000	2.2803030	35.934091
4445	chic	31.0	18.70000	1999-03-03		NA	10.500000	17.7361111	22.675000
4446	chic	30.0	18.40000	1999-03-04	18.800000	20.500000	12.7602657	33.443478	
4447	chic	35.0	28.70000	1999-03-05		NA	30.500000	11.8611111	25.453623
4448	chic	25.0	19.70000	1999-03-06		NA	7.000000	32.2083333	12.466667
4449	chic	21.0	14.40000	1999-03-07	11.842857	17.000000	35.0000000	18.733333	
4450	chic	24.0	16.20000	1999-03-08		NA	35.000000	25.1527778	21.950000
4451	chic	29.0	26.40000	1999-03-09		NA	15.000000	21.6805556	20.041667
4452	chic	29.0	20.30000	1999-03-10		NA	6.500000	33.6388889	17.794895
4453	chic	28.0	20.40000	1999-03-11		NA	15.000000	22.3635540	35.116304
4454	chic	27.0	19.60000	1999-03-12		NA	11.000000	28.9157197	26.163768
4455	chic	28.0	18.10000	1999-03-13	10.914286	19.142857	29.9375000	22.408333	
4456	chic	32.0	18.90000	1999-03-14		NA	7.000000	37.2395833	13.266667
4457	chic	31.0	19.20000	1999-03-15		NA	30.000000	14.7287138	45.225000
4458	chic	43.0	29.80000	1999-03-16	20.000000	36.500000	12.8663043	37.568808	
4459	chic	50.0	40.70000	1999-03-17		NA	43.000000	30.2533213	19.120652
4460	chic	38.0	27.10000	1999-03-18		NA	17.000000	27.8996212	19.431818
4461	chic	36.0	23.70000	1999-03-19	10.483333	18.000000	23.6250431	27.475000	
4462	chic	39.0	27.20000	1999-03-20		NA	28.500000	19.6736111	33.740942

4463	chic	38.0	23.20000	1999-03-21		NA	11.000000	32.4513889	15.425000
4464	chic	36.0	21.30000	1999-03-22		NA	22.500000	22.5471014	30.650000
4465	chic	38.0	21.00000	1999-03-23		NA	40.500000	15.4202899	38.803623
4466	chic	35.0	21.90000	1999-03-24		NA	17.500000	34.3242754	21.740580
4467	chic	32.0	23.30000	1999-03-25	9.914286	18.285714	32.4323671	24.883333	
4468	chic	35.0	25.90000	1999-03-26	11.000000	14.000000	31.4513889	25.100000	
4469	chic	41.0	26.30000	1999-03-27		NA	36.000000	22.9305556	35.225000
4470	chic	43.0	33.70000	1999-03-28		NA	49.500000	18.9236111	29.650000
4471	chic	48.0	24.50000	1999-03-29		NA	33.500000	16.8891908	36.406291
4472	chic	55.0	28.50000	1999-03-30		NA	75.000000	25.4435935	33.250000
4473	chic	60.0	41.30000	1999-03-31	26.814286	61.000000	31.0729578	21.197917	
4474	chic	58.0	51.70000	1999-04-01		NA	38.000000	15.7148311	26.250000
4475	chic	64.0	54.60000	1999-04-02		NA	43.500000	15.2765152	34.100000
4476	chic	63.0	57.80000	1999-04-03		NA	35.000000	15.9810606	23.550000
4477	chic	56.0	47.30000	1999-04-04		NA	18.000000	22.4886364	15.983333
4478	chic	50.0	43.20000	1999-04-05		NA	19.000000	20.4144565	19.643478
4479	chic	53.0	42.40000	1999-04-06	11.616667	15.142857	23.4967032	19.837879	
4480	chic	55.0	42.70000	1999-04-07		NA	47.000000	27.8142292	34.547464
4481	chic	55.0	43.70000	1999-04-08	14.500000	35.500000	29.0095520	28.476449	
4482	chic	45.0	40.00000	1999-04-09	8.400000	12.000000	30.8616601	18.100000	
4483	chic	47.0	35.00000	1999-04-10		NA	18.000000	33.8825758	12.783333
4484	chic	46.0	39.70000	1999-04-11		NA	14.500000	22.3522727	16.000000
4485	chic	45.0	32.10000	1999-04-12	10.925000	21.428571	23.5533597	26.883333	
4486	chic	50.0	33.30000	1999-04-13	19.900000	32.500000	19.8962451	32.950000	
4487	chic	49.0	26.00000	1999-04-14		NA	47.000000	26.7829381	38.298551
4488	chic	49.0	39.40000	1999-04-15	16.950000	25.500000	35.4686489	18.658465	
4489	chic	44.0	37.30000	1999-04-16		NA	11.000000	26.3334980	26.910507
4490	chic	44.0	34.00000	1999-04-17		NA	11.500000	16.8440989	25.066667
4491	chic	42.0	37.10000	1999-04-18	19.185714	24.285714	12.3583333	29.741667	
4492	chic	42.0	36.50000	1999-04-19		NA	35.000000	12.7521559	32.350000
4493	chic	45.0	39.40000	1999-04-20	25.900000	35.500000	22.3904809	28.244565	
4494	chic	54.0	48.00000	1999-04-21		NA	31.000000	24.7616930	23.649304
4495	chic	48.0	47.20000	1999-04-22		NA	31.500000	11.6968599	23.236111
4496	chic	43.0	35.60000	1999-04-23		NA	6.000000	29.2937253	15.658730
4497	chic	44.0	24.60000	1999-04-24	7.137500	13.428571	31.8500000	18.625000	
4498	chic	48.0	30.50000	1999-04-25		NA	23.000000	32.2375000	23.625000
4499	chic	51.0	33.40000	1999-04-26		NA	31.000000	37.2500000	29.479167
4500	chic	50.0	41.50000	1999-04-27		NA	32.000000	28.8778147	22.279491
4501	chic	51.0	38.40000	1999-04-28		NA	14.500000	30.0328632	15.645202
4502	chic	52.0	32.70000	1999-04-29		NA	15.500000	34.9648386	16.796219
4503	chic	51.0	29.00000	1999-04-30	9.100000	22.285714	30.8572134	26.467172	
4504	chic	56.0	30.50000	1999-05-01		NA	24.000000	31.0600233	29.541667
4505	chic	58.0	37.30000	1999-05-02		NA	30.500000	43.1250000	27.270833

4506	chic	64.0	42.80000	1999-05-03		NA	44.500000	39.9886364	33.221230
4507	chic	67.0	52.20000	1999-05-04		NA	61.000000	41.2494910	27.319444
4508	chic	70.0	57.20000	1999-05-05		NA	63.500000	35.6200593	18.588768
4509	chic	58.0	52.80000	1999-05-06	11.475000	22.500000	19.7294436	23.285024	
4510	chic	56.0	46.90000	1999-05-07		NA	26.000000	21.5342556	18.185145
4511	chic	53.0	48.20000	1999-05-08		NA	14.000000	12.2901515	16.366667
4512	chic	51.0	42.70000	1999-05-09		NA	11.500000	18.5871212	15.950000
4513	chic	58.0	46.50000	1999-05-10		NA	32.000000	33.3829710	22.433333
4514	chic	67.0	52.10000	1999-05-11		NA	60.000000	34.1333864	28.669565
4515	chic	62.0	52.70000	1999-05-12	21.383333	41.142857	28.8812582	25.807246	
4516	chic	51.0	41.00000	1999-05-13		NA	16.500000	28.3415978	18.086051
4517	chic	53.0	41.30000	1999-05-14		NA	16.000000	26.9986825	18.452778
4518	chic	60.0	54.80000	1999-05-15	45.600000	45.500000	22.4242424	23.555556	
4519	chic	69.0	63.10000	1999-05-16		NA	43.500000	37.0189394	19.895833
4520	chic	69.0	62.60000	1999-05-17		NA	28.000000	29.6730896	18.906944
4521	chic	61.0	52.30000	1999-05-18	8.637500	15.375000	22.2849144	21.830556	
4522	chic	61.0	44.80000	1999-05-19		NA	30.000000	21.0604414	29.319158
4523	chic	64.0	49.10000	1999-05-20		NA	41.000000	36.1734190	30.569005
4524	chic	66.0	56.80000	1999-05-21	34.700000	54.500000	47.5087286	27.777778	
4525	chic	59.0	52.80000	1999-05-22		NA	16.500000	35.4053030	11.291667
4526	chic	60.0	50.70000	1999-05-23		NA	20.500000	18.2424242	20.425000
4527	chic	51.0	40.70000	1999-05-24	6.433333	13.000000	17.4826476	17.662500	
4528	chic	56.0	38.70000	1999-05-25		NA	35.000000	26.7654809	19.277778
4529	chic	60.0	40.40000	1999-05-26		NA	23.000000	24.1317523	22.709569
4530	chic	64.0	41.30000	1999-05-27		NA	53.000000	25.7648371	40.712286
4531	chic	75.0	53.80000	1999-05-28		NA	54.000000	29.5657115	35.814815
4532	chic	76.0	54.40000	1999-05-29		NA	53.500000	46.4583333	33.008333
4533	chic	70.0	56.00000	1999-05-30	32.400000	48.571429	51.8484848	26.758333	
4534	chic	73.0	63.40000	1999-05-31		NA	32.000000	30.5538538	15.500000
4535	chic	65.0	59.70000	1999-06-01		NA	27.500000	17.2887022	20.891667
4536	chic	64.0	57.70000	1999-06-02		NA	16.000000	15.1701252	21.657440
4537	chic	58.0	47.70000	1999-06-03		NA	16.500000	22.8189005	16.962423
4538	chic	64.0	56.60000	1999-06-04		NA	29.500000	32.3335879	23.046717
4539	chic	75.0	68.00000	1999-06-05	17.516667	26.142857	30.3674242	21.183333	
4540	chic	80.0	69.90000	1999-06-06		NA	41.000000	33.0492424	16.891667
4541	chic	81.0	63.80000	1999-06-07		NA	38.500000	36.4055426	19.083333
4542	chic	80.0	63.20000	1999-06-08		NA	45.500000	38.2723979	28.178571
4543	chic	79.0	63.20000	1999-06-09		NA	44.500000	27.1026620	35.266908
4544	chic	79.0	66.70000	1999-06-10		NA	50.000000	28.9107378	36.042874
4545	chic	78.0	67.50000	1999-06-11	32.783333	43.285714	32.7997365	34.839674	
4546	chic	75.0	68.20000	1999-06-12	36.000000	39.500000	39.6780303	30.958333	
4547	chic	65.0	63.50000	1999-06-13		NA	21.500000	28.1969697	19.604167
4548	chic	66.0	55.00000	1999-06-14		NA	13.500000	25.5826746	14.965278

4549	chic	58.0	37.90000	1999-06-15		NA	8.500000	25.8932806	10.791667
4550	chic	61.0	44.70000	1999-06-16		NA	18.000000	28.8123727	16.721014
4551	chic	57.0	42.90000	1999-06-17	6.362500	13.142857	25.3883399	13.232186	
4552	chic	59.0	47.60000	1999-06-18		NA	27.500000	27.4995059	20.489130
4553	chic	68.0	49.90000	1999-06-19		NA	26.500000	38.4469697	20.159722
4554	chic	67.0	54.40000	1999-06-20	26.000000	39.000000	52.9659091	19.263889	
4555	chic	72.0	59.80000	1999-06-21		NA	57.000000	53.4065457	27.722222
4556	chic	74.0	66.20000	1999-06-22		NA	71.000000	33.9745671	40.428030
4557	chic	76.0	67.30000	1999-06-23	49.042857	57.571429	45.5660334	27.472881	
4558	chic	76.0	65.90000	1999-06-24		NA	26.000000	28.3783152	24.169298
4559	chic	75.0	58.20000	1999-06-25		NA	40.500000	30.2672925	34.598128
4560	chic	76.0	66.20000	1999-06-26	24.900000	37.500000	35.5991736	27.090278	
4561	chic	78.0	70.60000	1999-06-27		NA	44.500000	41.5208333	23.000000
4562	chic	77.0	69.20000	1999-06-28		NA	44.000000	31.3669302	21.247475
4563	chic	66.0	51.10000	1999-06-29	8.212500	20.625000	23.5313618	16.964848	
4564	chic	68.0	54.70000	1999-06-30		NA	26.000000	28.6918643	27.283734
4565	chic	74.0	64.30000	1999-07-01		NA	31.500000	27.2788208	23.815152
4566	chic	77.0	67.30000	1999-07-02		NA	30.500000	28.7727273	21.661836
4567	chic	84.0	76.20000	1999-07-03		NA	55.500000	28.9886364	12.738095
4568	chic	86.0	74.10000	1999-07-04		NA	45.000000	29.8939394	10.232051
4569	chic	87.0	74.40000	1999-07-05	24.500000	32.875000	33.2916667	10.270833	
4570	chic	79.0	62.70000	1999-07-06		NA	27.500000	28.4048090	23.151429
4571	chic	75.0	53.70000	1999-07-07		NA	28.000000	29.8133908	30.816667
4572	chic	76.0	60.40000	1999-07-08	20.400000	59.000000	38.9889059	29.396970	
4573	chic	76.0	65.00000	1999-07-09		NA	40.500000	34.6907713	17.176010
4574	chic	64.0	51.50000	1999-07-10		NA	11.500000	23.7916667	10.062500
4575	chic	67.0	50.30000	1999-07-11	10.462500	23.571429	21.3409091	22.208333	
4576	chic	68.0	50.80000	1999-07-12		NA	37.000000	25.5634058	29.357488
4577	chic	70.0	55.70000	1999-07-13		NA	64.000000	33.0295544	35.219066
4578	chic	74.0	59.20000	1999-07-14		NA	71.500000	45.6510061	30.882453
4579	chic	78.0	62.80000	1999-07-15		NA	71.000000	51.4741436	23.051027
4580	chic	82.0	68.30000	1999-07-16		NA	82.500000	45.8812582	22.229167
4581	chic	75.0	70.60000	1999-07-17	19.450000	29.285714	26.0984848	17.416667	
4582	chic	77.0	66.60000	1999-07-18		NA	28.000000	31.9469697	17.152778
4583	chic	79.0	70.10000	1999-07-19		NA	35.000000	26.9342287	19.763889
4584	chic	76.0	70.40000	1999-07-20	23.300000	26.500000	27.9329710	17.044192	
4585	chic	83.0	72.10000	1999-07-21		NA	39.000000	30.2704216	24.256944
4586	chic	82.0	73.40000	1999-07-22		NA	40.000000	27.1665619	21.643116
4587	chic	83.0	72.80000	1999-07-23	18.785714	33.875000	25.6688675	29.458333	
4588	chic	82.0	73.20000	1999-07-24		NA	23.500000	34.6439394	25.135417
4589	chic	85.0	70.60000	1999-07-25		NA	25.000000	37.3750000	18.229167
4590	chic	80.0	69.50000	1999-07-26	20.400000	41.500000	24.0243742	30.175000	
4591	chic	79.0	68.30000	1999-07-27		NA	26.000000	26.2572464	21.608333

4592	chic	82.0	71.80000	1999-07-28		NA	35.500000	34.0021410	22.534091
4593	chic	83.0	76.60000	1999-07-29	22.616667	42.857143	30.4891903	25.026515	
4594	chic	90.0	77.10000	1999-07-30		NA	54.000000	34.1706522	27.479771
4595	chic	83.0	71.40000	1999-07-31		NA	30.000000	37.6958333	18.409722
4596	chic	74.0	60.10000	1999-08-01		NA	12.000000	26.1576923	9.652778
4597	chic	71.0	56.30000	1999-08-02		NA	13.500000	17.2570346	15.361111
4598	chic	71.0	59.00000	1999-08-03		NA	37.000000	23.4925725	30.630556
4599	chic	76.0	58.30000	1999-08-04	13.633333	29.142857	23.7701845	25.261364	
4600	chic	73.0	55.60000	1999-08-05	10.900000	19.500000	20.4930830	22.712596	
4601	chic	76.0	62.00000	1999-08-06		NA	43.000000	28.6839592	23.812720
4602	chic	72.0	67.70000	1999-08-07		NA	38.500000	22.1742424	25.083333
4603	chic	66.0	57.00000	1999-08-08		NA	10.000000	25.3863636	7.881944
4604	chic	66.0	56.20000	1999-08-09		NA	26.000000	22.2824440	19.437500
4605	chic	78.0	63.80000	1999-08-10	15.828571	31.428571	31.2180501	20.361111	
4606	chic	75.0	61.10000	1999-08-11		NA	34.500000	17.9173254	25.759415
4607	chic	70.0	65.90000	1999-08-12		NA	26.000000	14.0435531	29.152256
4608	chic	72.0	65.60000	1999-08-13		NA	28.000000	22.5632411	12.918176
4609	chic	64.0	52.70000	1999-08-14		NA	8.500000	22.2083333	10.048611
4610	chic	66.0	54.40000	1999-08-15		NA	16.500000	20.5871212	20.118056
4611	chic	73.0	57.90000	1999-08-16	21.366667	32.857143	30.0610552	27.993056	
4612	chic	75.0	60.60000	1999-08-17		NA	34.000000	28.6749012	23.433207
4613	chic	67.0	62.70000	1999-08-18		NA	36.000000	6.8282279	36.461490
4614	chic	68.0	62.30000	1999-08-19	12.000000	16.500000	23.5757875	15.085090	
4615	chic	67.0	57.20000	1999-08-20		NA	16.500000	22.6190711	19.804650
4616	chic	65.0	57.40000	1999-08-21		NA	28.500000	18.4772727	34.979167
4617	chic	67.0	57.10000	1999-08-22	20.371429	28.571429	22.6296296	34.340278	
4618	chic	72.0	64.20000	1999-08-23		NA	36.500000	20.5278223	33.979167
4619	chic	71.0	67.10000	1999-08-24		NA	33.500000	29.3176877	19.423611
4620	chic	70.0	66.10000	1999-08-25	28.800000	24.000000	32.6908911	20.802226	
4621	chic	72.0	64.60000	1999-08-26		NA	33.500000	25.9395586	25.147041
4622	chic	74.0	66.10000	1999-08-27	29.300000	57.500000	24.5159420	42.297101	
4623	chic	80.0	69.70000	1999-08-28	39.540000	56.571429	31.5125000	30.650000	
4624	chic	69.0	56.00000	1999-08-29		NA	13.500000	29.9500000	7.641667
4625	chic	62.0	51.80000	1999-08-30		NA	17.500000	26.0186571	12.683333
4626	chic	65.0	54.40000	1999-08-31		NA	28.000000	25.3017128	22.296014
4627	chic	70.0	57.30000	1999-09-01		NA	62.500000	35.8590721	36.589646
4628	chic	74.0	62.10000	1999-09-02		NA	83.500000	40.0575069	49.549242
4629	chic	76.0	61.50000	1999-09-03	44.957143	74.000000	48.1165559	42.982790	
4630	chic	79.0	61.60000	1999-09-04		NA	60.500000	57.4886364	26.701389
4631	chic	77.0	63.50000	1999-09-05		NA	59.000000	54.9621212	25.458333
4632	chic	66.0	54.90000	1999-09-06		NA	14.000000	25.3181818	11.048611
4633	chic	65.0	55.20000	1999-09-07		NA	28.000000	16.3842227	25.791667
4634	chic	71.0	54.20000	1999-09-08		NA	37.500000	19.4150198	31.543561

4635	chic	62.0	46.60000	1999-09-09	8.400000	40.285714	13.4068002	21.221014
4636	chic	62.0	45.20000	1999-09-10	NA	52.000000	15.0385375	29.140042
4637	chic	64.0	48.70000	1999-09-11	NA	48.000000	21.9469697	29.722222
4638	chic	68.0	58.90000	1999-09-12	NA	31.000000	26.4128788	22.833333
4639	chic	59.0	49.90000	1999-09-13	NA	18.500000	7.8633070	16.423611
4640	chic	59.0	44.40000	1999-09-14	NA	23.500000	10.2284256	20.610982
4641	chic	55.0	46.20000	1999-09-15	9.816667	24.285714	10.4568511	22.583745
4642	chic	59.0	47.80000	1999-09-16	8.700000	18.000000	13.7194574	20.670439
4643	chic	59.0	48.10000	1999-09-17	NA	25.000000	14.6641963	23.216486
4644	chic	62.0	49.00000	1999-09-18	NA	42.500000	20.2689394	32.635417
4645	chic	64.0	53.50000	1999-09-19	NA	43.500000	31.4886364	26.090278
4646	chic	58.0	45.90000	1999-09-20	NA	13.000000	13.2434573	12.750000
4647	chic	51.0	44.60000	1999-09-21	5.650000	11.875000	15.8804348	14.549603
4648	chic	57.0	39.80000	1999-09-22	NA	30.000000	13.6994401	33.804799
4649	chic	66.0	46.30000	1999-09-23	NA	44.500000	24.8959157	26.643912
4650	chic	57.0	47.10000	1999-09-24	6.000000	9.000000	21.2514822	10.425615
4651	chic	62.0	48.40000	1999-09-25	NA	38.000000	26.9125000	25.395833
4652	chic	72.0	49.30000	1999-09-26	NA	72.000000	46.6708333	20.756944
4653	chic	66.0	58.70000	1999-09-27	11.100000	23.571429	37.1234848	14.201389
4654	chic	58.0	56.70000	1999-09-28	8.300000	12.500000	18.0453152	19.252976
4655	chic	56.0	43.70000	1999-09-29	NA	11.000000	12.6240119	19.203804
4656	chic	56.0	38.90000	1999-09-30	9.100000	29.500000	13.5112319	26.263466
4657	chic	51.0	35.00000	1999-10-01	NA	27.000000	9.0634881	28.652273
4658	chic	46.0	40.80000	1999-10-02	NA	19.000000	10.1750000	20.833333
4659	chic	44.0	40.20000	1999-10-03	7.450000	14.750000	16.4083333	15.300000
4660	chic	47.0	38.00000	1999-10-04	NA	13.500000	15.7666667	20.685714
4661	chic	51.0	36.80000	1999-10-05	NA	33.000000	9.3844203	30.808333
4662	chic	52.0	41.80000	1999-10-06	10.550000	20.500000	17.6117754	17.569851
4663	chic	59.0	42.40000	1999-10-07	NA	28.500000	14.4694335	28.836726
4664	chic	61.0	54.10000	1999-10-08	NA	49.500000	14.4223485	28.836034
4665	chic	59.0	57.60000	1999-10-09	34.857143	47.000000	5.9458333	24.100000
4666	chic	66.0	58.00000	1999-10-10	NA	24.500000	23.1000000	16.825000
4667	chic	55.0	46.10000	1999-10-11	NA	27.000000	14.3541667	26.108333
4668	chic	62.0	47.20000	1999-10-12	NA	56.500000	20.8960145	28.753788
4669	chic	56.0	44.00000	1999-10-13	NA	27.000000	14.2385870	19.791017
4670	chic	48.0	34.80000	1999-10-14	NA	25.000000	10.8197464	23.230797
4671	chic	64.0	46.30000	1999-10-15	16.400000	44.285714	24.8472826	23.923814
4672	chic	58.0	54.20000	1999-10-16	NA	43.500000	23.2166667	20.833333
4673	chic	45.0	33.80000	1999-10-17	NA	9.500000	14.8958333	17.020833
4674	chic	44.0	34.40000	1999-10-18	14.700000	23.000000	4.7847826	24.533333
4675	chic	50.0	33.50000	1999-10-19	NA	36.500000	9.1001812	24.925000
4676	chic	44.0	30.70000	1999-10-20	NA	31.000000	6.8682971	22.946739
4677	chic	52.0	36.30000	1999-10-21	11.500000	36.428571	10.4373188	27.431522

4678	chic	51.0	26.60000	1999-10-22		NA	29.500000	20.1387681	15.083333
4679	chic	43.0	25.70000	1999-10-23		NA	14.500000	20.7208333	12.208333
4680	chic	40.0	22.10000	1999-10-24		NA	13.500000	13.7500000	23.141667
4681	chic	50.0	28.10000	1999-10-25		NA	51.000000	13.2169887	31.207609
4682	chic	53.0	29.40000	1999-10-26		NA	46.500000	11.3244565	32.700000
4683	chic	48.0	37.00000	1999-10-27	16.262500	38.857143	9.8317523	27.090119	
4684	chic	64.0	43.30000	1999-10-28		NA	68.000000	15.0750000	33.291667
4685	chic	62.0	47.00000	1999-10-29		NA	71.000000	26.6230896	38.090909
4686	chic	66.0	50.70000	1999-10-30		NA	68.500000	38.6916667	23.108333
4687	chic	58.0	49.30000	1999-10-31		NA	46.500000	14.7666667	24.925000
4688	chic	59.0	46.90000	1999-11-01		NA	54.500000	12.7676768	30.241667
4689	chic	42.0	22.60000	1999-11-02	5.180000	20.285714	16.9728261	19.615476	
4690	chic	37.0	17.70000	1999-11-03		NA	28.500000	12.9444444	27.253788
4691	chic	46.0	24.20000	1999-11-04		NA	79.500000	8.7753623	37.851773
4692	chic	55.0	34.30000	1999-11-05	22.200000	51.500000	11.3623188	33.958333	
4693	chic	45.0	20.30000	1999-11-06		NA	29.000000	10.3888889	33.987879
4694	chic	44.0	32.30000	1999-11-07		NA	36.000000	17.3055556	31.298529
4695	chic	55.0	41.00000	1999-11-08	18.414286	42.142857	5.8611111	42.919048	
4696	chic	67.0	48.50000	1999-11-09		NA	51.000000	22.0833333	29.808333
4697	chic	58.0	46.70000	1999-11-10		NA	49.500000	23.1944444	21.435266
4698	chic	44.0	38.00000	1999-11-11		NA	18.000000	18.2777778	20.016667
4699	chic	47.0	41.20000	1999-11-12		NA	61.500000	2.6976285	31.354183
4700	chic	54.0	43.80000	1999-11-13		NA	66.000000	12.4166667	35.141667
4701	chic	45.0	30.50000	1999-11-14	7.728571	23.750000	18.9861111	17.108333	
4702	chic	41.0	26.30000	1999-11-15		NA	22.000000	6.5833333	29.833333
4703	chic	38.0	29.30000	1999-11-16		NA	16.500000	12.0138889	23.341667
4704	chic	40.0	25.00000	1999-11-17	13.700000	25.000000	7.1497585	32.309524	
4705	chic	58.0	36.20000	1999-11-18		NA	91.000000	14.5694444	27.410714
4706	chic	49.0	37.70000	1999-11-19		NA	80.000000	11.7252415	18.190580
4707	chic	39.0	35.20000	1999-11-20	26.212500	37.625000	0.8541667	15.116667	
4708	chic	42.0	42.00000	1999-11-21		NA	51.000000	1.5625000	20.458333
4709	chic	54.0	46.00000	1999-11-22		NA	58.000000	5.5833333	29.204420
4710	chic	52.0	50.00000	1999-11-23		NA	38.000000	6.5467172	19.859058
4711	chic	40.0	30.70000	1999-11-24		NA	19.000000	6.1225845	21.265942
4712	chic	36.0	27.80000	1999-11-25		NA	30.000000	5.7222222	30.683333
4713	chic	37.0	32.20000	1999-11-26	23.450000	29.625000	6.5694444	27.784848	
4714	chic	41.0	30.10000	1999-11-27		NA	15.000000	6.4722222	25.250000
4715	chic	34.0	25.00000	1999-11-28		NA	11.000000	7.0138889	25.975000
4716	chic	32.0	19.90000	1999-11-29	11.200000	17.000000	7.6527778	27.266667	
4717	chic	30.0	15.30000	1999-11-30	20.600000	25.000000	3.9516908	34.206522	
4718	chic	36.0	20.80000	1999-12-01		NA	38.000000	3.9293478	26.774333
4719	chic	50.0	32.90000	1999-12-02	16.440000	31.142857	5.9444444	30.514286	
4720	chic	53.0	48.00000	1999-12-03	18.500000	43.000000	8.2669082	28.415308	

4721	chic	49.0	48.50000	1999-12-04		NA	39.500000	2.4166667	25.937500
4722	chic	39.0	34.30000	1999-12-05		NA	5.500000	10.7638889	13.968750
4723	chic	29.0	22.60000	1999-12-06		NA	16.500000	6.9583333	25.906250
4724	chic	33.0	29.10000	1999-12-07		NA	26.000000	3.4305556	23.187500
4725	chic	38.0	33.50000	1999-12-08	24.957143	28.285714	2.2826087	25.950758	
4726	chic	43.0	38.60000	1999-12-09		NA	44.500000	4.6944444	28.218479
4727	chic	31.0	23.40000	1999-12-10		NA	17.500000	6.9886364	22.785038
4728	chic	31.0	25.00000	1999-12-11	12.600000	24.000000	4.7083333	30.229167	
4729	chic	35.0	30.60000	1999-12-12	23.800000	19.500000	1.5972222	24.958333	
4730	chic	35.0	31.20000	1999-12-13		NA	38.000000	7.5809179	24.312754
4731	chic	38.0	34.20000	1999-12-14	13.762500	15.285714	10.5507246	21.135870	
4732	chic	36.0	33.90000	1999-12-15		NA	19.000000	2.4444444	24.250000
4733	chic	27.0	20.30000	1999-12-16		NA	18.500000	4.0477053	19.069565
4734	chic	23.0	17.90000	1999-12-17	13.500000	17.500000	7.8907005	24.629831	
4735	chic	19.0	14.60000	1999-12-18		NA	26.500000	7.1805556	30.908333
4736	chic	32.0	29.10000	1999-12-19		NA	32.000000	3.4027778	22.416667
4737	chic	21.0	11.00000	1999-12-20	12.700000	24.750000	13.5664251	16.906250	
4738	chic	8.0	-1.60000	1999-12-21	12.600000	27.000000	7.9015152	28.162022	
4739	chic	13.0	5.80000	1999-12-22		NA	24.500000	4.6733092	33.725000
4740	chic	10.0	3.80000	1999-12-23	20.800000	39.000000	6.2361111	29.600000	
4741	chic	14.0	4.70000	1999-12-24		NA	35.000000	7.1111111	31.266667
4742	chic	19.0	14.00000	1999-12-25		NA	45.500000	7.1388889	23.741667
4743	chic	28.0	14.30000	1999-12-26	6.728571	26.750000	20.0277778	15.566667	
4744	chic	19.0	11.60000	1999-12-27		NA	29.500000	10.8484300	27.095238
4745	chic	21.0	16.40000	1999-12-28		NA	23.000000	8.4583333	26.041667
4746	chic	36.0	30.20000	1999-12-29	12.800000	24.500000	3.6443237	25.538571	
4747	chic	34.0	28.90000	1999-12-30		NA	13.000000	9.7518116	25.040267
4748	chic	34.0	25.90000	1999-12-31		NA	21.500000	5.6805556	27.500000
4749	chic	42.0	32.20000	2000-01-01	25.700000	29.333333	4.6212121	24.069444	
4750	chic	48.0	42.30000	2000-01-02	30.600000	47.500000	16.5277778	16.312500	
4751	chic	35.0	33.70000	2000-01-03	12.450000	11.500000	9.0990338	15.114583	
4752	chic	28.0	22.20000	2000-01-04	11.550000	19.000000	11.0591787	23.801786	
4753	chic	20.0	16.60000	2000-01-05	18.600000	23.500000	4.3526570	20.349802	
4754	chic	34.0	25.30000	2000-01-06	18.400000	32.000000	3.7618577	22.088043	
4755	chic	25.0	13.30000	2000-01-07	16.800000	27.000000	7.9381313	26.100000	
4756	chic	37.0	28.50000	2000-01-08	15.500000	27.000000	6.1944444	23.766667	
4757	chic	39.0	38.50000	2000-01-09	25.700000	25.500000	1.8055556	21.241667	
4758	chic	42.0	34.90000	2000-01-10	15.185714	17.000000	7.9444444	19.732143	
4759	chic	33.0	21.50000	2000-01-11	7.800000	24.500000	11.8194444	17.765349	
4760	chic	31.0	21.70000	2000-01-12	11.300000	18.000000	11.9335749	21.394565	
4761	chic	25.0	18.40000	2000-01-13	12.100000	19.142857	8.7361111	26.708696	
4762	chic	20.0	14.50000	2000-01-14	20.450000	28.000000	3.1117150	35.158333	
4763	chic	34.0	24.20000	2000-01-15	19.650000	35.000000	3.3194444	23.841667	

4764	chic	31.0	19.40000	2000-01-16	11.675000	16.000000	20.500000	13.783333
4765	chic	22.0	12.70000	2000-01-17	11.700000	23.500000	17.9444444	20.066667
4766	chic	25.0	20.90000	2000-01-18	20.100000	24.500000	4.1400966	28.315584
4767	chic	21.0	15.70000	2000-01-19	23.050000	33.285714	3.0277778	41.322464
4768	chic	10.0	2.10000	2000-01-20	16.000000	22.500000	12.8345411	27.923810
4769	chic	5.0	-3.20000	2000-01-21	31.800000	46.500000	6.3926768	38.187022
4770	chic	17.0	14.50000	2000-01-22	27.757143	31.500000	5.4305556	36.375000
4771	chic	16.0	4.30000	2000-01-23	19.800000	27.000000	14.6388889	20.100000
4772	chic	6.0	-0.60000	2000-01-24	25.400000	36.000000	6.1805556	36.100000
4773	chic	17.0	8.50000	2000-01-25	15.085714	23.857143	10.5757576	28.091061
4774	chic	15.0	5.40000	2000-01-26	10.100000	31.000000	9.1944444	31.817457
4775	chic	20.0	11.50000	2000-01-27	16.700000	26.000000	10.8532609	35.511364
4776	chic	21.0	14.50000	2000-01-28	30.614286	48.500000	6.1944444	47.250000
4777	chic	24.0	19.10000	2000-01-29	17.100000	32.000000	21.3055556	22.066667
4778	chic	28.0	23.30000	2000-01-30	32.100000	28.000000	8.8194444	30.341667
4779	chic	20.0	14.40000	2000-01-31	32.425000	33.857143	11.6527778	32.775000
4780	chic	25.0	16.50000	2000-02-01	21.100000	28.500000	9.4027778	33.534524
4781	chic	21.0	16.00000	2000-02-02	31.700000	41.000000	6.5000000	37.121320
4782	chic	33.0	26.70000	2000-02-03	25.050000	28.000000	10.1868687	29.039328
4783	chic	25.0	19.00000	2000-02-04	15.500000	20.500000	12.2089372	30.066304
4784	chic	21.0	16.50000	2000-02-05	19.800000	27.000000	11.4722222	28.208333
4785	chic	23.0	21.60000	2000-02-06	34.300000	37.666667	6.3055556	33.281250
4786	chic	26.0	23.30000	2000-02-07	25.000000	25.500000	14.3647343	30.136569
4787	chic	22.0	21.60000	2000-02-08	30.600000	39.000000	9.8611111	42.684783
4788	chic	41.0	30.20000	2000-02-09	37.250000	41.500000	11.5205314	29.142292
4789	chic	35.0	32.10000	2000-02-10	40.400000	55.000000	7.8888889	30.016667
4790	chic	24.0	13.90000	2000-02-11	8.500000	16.000000	19.4305556	24.891667
4791	chic	24.0	14.50000	2000-02-12	20.028571	27.166667	21.3750000	26.491667
4792	chic	30.0	26.80000	2000-02-13	26.750000	36.000000	11.8194444	21.991667
4793	chic	26.0	22.50000	2000-02-14	13.450000	17.000000	13.1780303	30.771212
4794	chic	31.0	28.10000	2000-02-15	26.833333	29.500000	4.9861111	31.991667
4795	chic	28.0	19.00000	2000-02-16	15.400000	25.000000	16.4649758	28.981431
4796	chic	27.0	18.60000	2000-02-17	25.200000	34.000000	14.3007246	30.875947
4797	chic	30.0	27.80000	2000-02-18	14.828571	20.142857	24.0416667	17.511364
4798	chic	29.0	21.70000	2000-02-19	21.500000	16.000000	22.3737374	23.766667
4799	chic	27.0	19.70000	2000-02-20	26.300000	26.000000	23.0833333	28.600000
4800	chic	35.0	29.10000	2000-02-21	24.342857	40.000000	8.3055556	37.345652
4801	chic	49.0	40.30000	2000-02-22	21.100000	39.000000	8.3055556	32.231818
4802	chic	59.0	40.60000	2000-02-23	26.800000	61.000000	26.4861111	31.834058
4803	chic	49.0	49.90000	2000-02-24	19.642857	22.166667	15.2689786	26.655390
4804	chic	55.0	50.30000	2000-02-25	17.200000	48.500000	15.3278986	25.399275
4805	chic	56.0	51.70000	2000-02-26	9.700000	28.500000	24.6111111	15.616667
4806	chic	45.0	30.70000	2000-02-27	4.962500	11.500000	21.8333333	13.068627

4807	chic	43.0	26.80000	2000-02-28	18.100000	37.000000	10.500000	36.415476
4808	chic	54.0	34.40000	2000-02-29	12.400000	35.000000	19.9673913	28.324275
4809	chic	46.0	32.90000	2000-03-01	9.912500	15.833333	23.5912698	18.892236
4810	chic	33.0	23.80000	2000-03-02	7.000000	11.500000	25.7669082	19.247464
4811	chic	35.0	24.10000	2000-03-03	11.600000	27.000000	20.000000	31.033333
4812	chic	46.0	30.70000	2000-03-04	19.962500	37.000000	13.0138889	33.025000
4813	chic	52.0	36.50000	2000-03-05	25.800000	32.000000	11.8611111	31.308333
4814	chic	51.0	32.10000	2000-03-06	23.200000	51.500000	16.6250000	40.408333
4815	chic	66.0	49.70000	2000-03-07	21.287500	38.285714	21.7500000	30.395843
4816	chic	67.0	50.90000	2000-03-08	21.300000	78.000000	27.4861111	24.903623
4817	chic	46.0	32.70000	2000-03-09	7.300000	42.500000	18.1968599	13.316667
4818	chic	30.0	21.90000	2000-03-10	8.987500	11.000000	19.2463768	18.569565
4819	chic	30.0	19.00000	2000-03-11	5.900000	6.000000	27.4583333	14.200000
4820	chic	34.0	19.30000	2000-03-12	17.900000	20.000000	13.4305556	31.575000
4821	chic	39.0	33.40000	2000-03-13	30.262500	33.571429	4.1250000	32.263333
4822	chic	45.0	32.60000	2000-03-14	26.100000	45.500000	13.9939614	25.342029
4823	chic	50.0	41.90000	2000-03-15	29.900000	34.000000	16.5561594	25.854710
4824	chic	33.0	22.30000	2000-03-16	5.614286	5.500000	37.4166667	11.825000
4825	chic	32.0	18.50000	2000-03-17	7.500000	11.000000	34.5056936	15.151812
4826	chic	34.0	20.80000	2000-03-18	15.100000	18.000000	21.2500000	20.733333
4827	chic	39.0	34.10000	2000-03-19	21.742857	26.857143	15.0416667	16.066667
4828	chic	49.0	46.40000	2000-03-20	17.050000	19.500000	14.2833333	21.758333
4829	chic	47.0	45.30000	2000-03-21	28.900000	36.000000	1.8594203	25.616667
4830	chic	51.0	44.00000	2000-03-22	34.462500	52.500000	7.1321429	35.068182
4831	chic	50.0	43.70000	2000-03-23	39.800000	62.500000	14.9054348	36.352743
4832	chic	57.0	49.00000	2000-03-24	25.500000	39.000000	18.0985507	29.600000
4833	chic	53.0	32.80000	2000-03-25	6.628571	18.714286	30.4500000	15.991667
4834	chic	52.0	31.80000	2000-03-26	7.800000	24.500000	30.5916667	22.241667
4835	chic	47.0	31.20000	2000-03-27	7.200000	21.000000	27.8246377	18.866667
4836	chic	39.0	31.10000	2000-03-28	8.128571	14.000000	14.9891304	25.035870
4837	chic	40.0	29.30000	2000-03-29	9.700000	18.500000	16.5295455	23.881258
4838	chic	40.0	31.00000	2000-03-30	15.000000	27.000000	19.7500000	27.900000
4839	chic	45.0	28.10000	2000-03-31	27.957143	51.571429	10.0652174	50.811232
4840	chic	52.0	33.90000	2000-04-01	22.900000	48.000000	14.0694444	37.233333
4841	chic	51.0	42.50000	2000-04-02	40.300000	46.000000	21.6712963	25.925000
4842	chic	52.0	34.30000	2000-04-03	26.342857	45.000000	17.7923913	27.066667
4843	chic	38.0	19.70000	2000-04-04	7.100000	18.500000	23.7969203	24.372727
4844	chic	44.0	23.80000	2000-04-05	14.700000	61.000000	22.3500000	30.960714
4845	chic	53.0	27.30000	2000-04-06	8.428571	78.166667	23.8436594	21.348551
4846	chic	41.0	32.70000	2000-04-07	9.400000	29.000000	13.8905303	23.427083
4847	chic	34.0	23.00000	2000-04-08	8.700000	22.500000	25.8583333	22.864583
4848	chic	45.0	26.70000	2000-04-09	12.112500	21.500000	21.6982456	22.278333
4849	chic	37.0	28.10000	2000-04-10	9.100000	17.500000	26.9801932	16.269203

4850	chic	34.0	33.10000	2000-04-11	12.100000	12.000000	20.9599436	22.373485
4851	chic	39.0	25.30000	2000-04-12	18.037500	28.571429	19.8152174	29.512681
4852	chic	49.0	28.30000	2000-04-13	19.400000	39.000000	21.0615942	33.241667
4853	chic	58.0	42.80000	2000-04-14	21.000000	72.000000	23.7765152	28.108333
4854	chic	56.0	46.90000	2000-04-15	23.462500	46.000000	23.3560606	15.575000
4855	chic	44.0	40.90000	2000-04-16	14.800000	20.000000	17.7977602	15.739583
4856	chic	41.0	38.90000	2000-04-17	16.400000	14.500000	14.6953463	17.045952
4857	chic	48.0	42.50000	2000-04-18	29.385714	35.285714	7.8055456	28.605789
4858	chic	52.0	48.80000	2000-04-19	46.700000	45.500000	8.8286621	25.882251
4859	chic	53.0	50.20000	2000-04-20	25.250000	27.000000	12.6097886	22.566667
4860	chic	44.0	35.00000	2000-04-21	7.571429	8.000000	28.3438735	18.891667
4861	chic	48.0	31.40000	2000-04-22	17.750000	24.500000	20.0331522	37.358333
4862	chic	47.0	40.30000	2000-04-23	13.000000	20.500000	31.5500000	21.491667
4863	chic	52.0	32.60000	2000-04-24	9.266667	18.714286	32.9659420	20.716304
4864	chic	49.0	23.40000	2000-04-25	13.000000	13.000000	34.9130884	21.025000
4865	chic	52.0	24.20000	2000-04-26	12.250000	24.500000	26.4833427	34.115217
4866	chic	53.0	26.30000	2000-04-27	17.628571	60.000000	23.0046113	43.864583
4867	chic	54.0	32.20000	2000-04-28	14.900000	52.500000	28.8450413	34.650000
4868	chic	48.0	39.10000	2000-04-29	5.400000	10.500000	22.2234848	11.191667
4869	chic	54.0	40.00000	2000-04-30	14.662500	35.333333	23.0151515	29.558333
4870	chic	57.0	49.20000	2000-05-01	24.700000	45.000000	21.1313930	39.181187
4871	chic	57.0	43.10000	2000-05-02	12.400000	36.000000	25.7184393	30.612456
4872	chic	63.0	48.60000	2000-05-03	17.325000	45.500000	30.8350252	34.719368
4873	chic	72.0	58.10000	2000-05-04	12.600000	62.500000	31.4991765	23.238095
4874	chic	74.0	59.30000	2000-05-05	18.600000	65.000000	33.8415679	24.069444
4875	chic	74.0	61.30000	2000-05-06	13.487500	38.285714	32.0166667	15.944444
4876	chic	71.0	65.00000	2000-05-07	14.650000	29.500000	25.2875000	15.850198
4877	chic	76.0	67.50000	2000-05-08	23.000000	85.000000	24.9407115	16.354641
4878	chic	59.0	55.00000	2000-05-09	8.657143	15.500000	20.7728920	16.652778
4879	chic	55.0	45.00000	2000-05-10	8.000000	21.500000	20.4873188	23.307065
4880	chic	67.0	59.90000	2000-05-11	22.500000	43.500000	19.2763851	28.437239
4881	chic	73.0	66.80000	2000-05-12	25.725000	38.000000	22.8211462	21.051630
4882	chic	53.0	38.40000	2000-05-13	5.000000	31.500000	24.5378788	13.375000
4883	chic	52.0	33.00000	2000-05-14	7.200000	20.000000	32.1022727	18.972222
4884	chic	57.0	35.00000	2000-05-15	11.475000	37.000000	18.5075758	37.446970
4885	chic	61.0	49.60000	2000-05-16	22.100000	41.000000	19.0441777	32.107955
4886	chic	61.0	56.50000	2000-05-17	40.300000	48.000000	14.4518805	29.492797
4887	chic	58.0	51.80000	2000-05-18	15.050000	24.857143	27.8990448	17.958333
4888	chic	46.0	40.30000	2000-05-19	5.600000	5.500000	25.2396245	14.034722
4889	chic	55.0	37.80000	2000-05-20	9.700000	16.500000	23.3185262	22.016414
4890	chic	57.0	48.60000	2000-05-21	17.814286	29.500000	26.5946970	24.744318
4891	chic	67.0	56.40000	2000-05-22	15.700000	51.500000	19.0360672	32.516908
4892	chic	69.0	52.00000	2000-05-23	9.900000	42.000000	24.7363307	29.841994

4893	chic	68.0	42.20000	2000-05-24	11.012500	59.142857	33.9851779	26.201691
4894	chic	64.0	36.50000	2000-05-25	9.100000	56.500000	29.2757067	26.544643
4895	chic	61.0	48.50000	2000-05-26	18.400000	58.500000	17.3155468	38.584088
4896	chic	60.0	55.90000	2000-05-27	26.612500	31.500000	32.3257576	13.618056
4897	chic	55.0	52.00000	2000-05-28	13.500000	10.500000	25.3901515	11.525000
4898	chic	56.0	47.40000	2000-05-29	7.000000	9.500000	25.8636364	14.250000
4899	chic	65.0	61.40000	2000-05-30	22.828571	32.714286	26.4211433	29.211477
4900	chic	67.0	64.80000	2000-05-31	28.000000	46.500000	13.8697299	28.504371
4901	chic	73.0	65.50000	2000-06-01	22.800000	49.000000	33.4529028	23.623446
4902	chic	60.0	52.80000	2000-06-02	10.025000	22.000000	25.8739669	17.965278
4903	chic	55.0	44.90000	2000-06-03	2.800000	12.000000	29.4507576	13.118056
4904	chic	56.0	50.60000	2000-06-04	12.800000	20.000000	28.0311265	14.449275
4905	chic	54.0	47.00000	2000-06-05	9.575000	15.142857	30.6409151	13.004960
4906	chic	60.0	41.80000	2000-06-06	8.700000	36.000000	20.4231345	28.655236
4907	chic	64.0	46.80000	2000-06-07	13.250000	65.500000	33.5615119	30.248024
4908	chic	78.0	59.80000	2000-06-08	17.228571	55.000000	50.6192358	24.581349
4909	chic	77.0	57.50000	2000-06-09	18.300000	76.000000	55.7610343	24.190476
4910	chic	80.0	67.00000	2000-06-10	15.900000	82.500000	32.0492424	16.166667
4911	chic	70.0	66.80000	2000-06-11	10.671429	21.142857	16.0227273	10.575000
4912	chic	57.0	56.00000	2000-06-12	9.200000	11.500000	8.5941558	10.517532
4913	chic	69.0	63.80000	2000-06-13	13.700000	29.000000	12.9690382	24.729296
4914	chic	72.0	64.60000	2000-06-14	10.642857	33.000000	27.5567358	22.674107
4915	chic	70.0	58.80000	2000-06-15	9.300000	21.000000	26.6968948	16.791667
4916	chic	67.0	60.30000	2000-06-16	8.500000	22.500000	23.0317852	17.958031
4917	chic	60.0	45.30000	2000-06-17	4.200000	11.833333	25.7594697	11.506944
4918	chic	65.0	46.90000	2000-06-18	6.000000	11.500000	29.3939394	15.625000
4919	chic	66.0	57.00000	2000-06-19	15.900000	40.500000	30.6439394	25.998106
4920	chic	74.0	68.60000	2000-06-20	16.262500	31.500000	21.4263085	19.654167
4921	chic	74.0	58.00000	2000-06-21	6.500000	16.500000	26.4754312	15.430089
4922	chic	72.0	56.20000	2000-06-22	7.200000	23.000000	28.5978261	16.611111
4923	chic	71.0	61.70000	2000-06-23	14.228571	27.666667	24.2180501	30.096907
4924	chic	71.0	67.50000	2000-06-24	9.400000	23.500000	22.7613636	17.361111
4925	chic	75.0	65.10000	2000-06-25	16.450000	25.500000	29.9223485	20.555556
4926	chic	72.0	63.90000	2000-06-26	9.925000	19.000000	22.3811983	22.157738
4927	chic	68.0	52.60000	2000-06-27	8.700000	20.500000	19.6862648	22.496032
4928	chic	62.0	57.00000	2000-06-28	11.400000	30.000000	10.0169631	29.578299
4929	chic	66.0	52.30000	2000-06-29	10.262500	22.250000	20.1049901	22.932971
4930	chic	66.0	54.70000	2000-06-30	14.300000	28.000000	20.9635585	29.555556
4931	chic	71.0	61.20000	2000-07-01	18.200000	27.000000	34.7453887	20.003321
4932	chic	74.0	70.00000	2000-07-02	24.257143	32.000000	35.7113801	13.888889
4933	chic	68.0	64.70000	2000-07-03	11.900000	15.000000	21.2736331	13.583333
4934	chic	70.0	64.50000	2000-07-04	15.900000	22.000000	27.2803030	11.965278
4935	chic	76.0	65.00000	2000-07-05	18.750000	31.250000	40.7925725	16.224418

4936	chic	74.0	64.20000	2000-07-06	16.900000	26.500000	38.0099413	15.646465
4937	chic	70.0	58.00000	2000-07-07	7.600000	22.000000	24.5747694	13.753386
4938	chic	73.0	64.00000	2000-07-08	17.525000	38.000000	34.3446970	18.763889
4939	chic	81.0	70.70000	2000-07-09	25.500000	46.500000	37.2045455	12.923611
4940	chic	73.0	68.30000	2000-07-10	10.600000	20.500000	29.3157197	20.948919
4941	chic	69.0	64.00000	2000-07-11	13.712500	25.166667	32.6178442	11.827652
4942	chic	72.0	58.10000	2000-07-12	14.200000	25.500000	36.7943841	17.683333
4943	chic	75.0	64.50000	2000-07-13	18.100000	36.500000	33.1995224	25.795455
4944	chic	77.0	63.40000	2000-07-14	11.514286	23.000000	32.6572793	18.292659
4945	chic	73.0	60.10000	2000-07-15	9.900000	16.000000	26.8712121	11.902778
4946	chic	73.0	57.70000	2000-07-16	14.400000	21.500000	22.6856061	19.312500
4947	chic	77.0	63.40000	2000-07-17	12.900000	29.285714	23.8148880	22.924874
4948	chic	66.0	54.30000	2000-07-18	4.800000	17.000000	21.2627635	7.064513
4949	chic	63.0	53.90000	2000-07-19	5.350000	11.500000	19.4132830	11.021122
4950	chic	67.0	56.30000	2000-07-20	10.250000	36.000000	17.3878309	22.229167
4951	chic	67.0	51.10000	2000-07-21	9.100000	19.500000	16.5859919	20.159852
4952	chic	63.0	53.90000	2000-07-22	6.900000	16.500000	17.1553030	13.593750
4953	chic	63.0	49.70000	2000-07-23	5.757143	13.714286	17.5946970	11.545139
4954	chic	66.0	53.60000	2000-07-24	12.100000	24.000000	29.7289196	17.416667
4955	chic	69.0	56.70000	2000-07-25	17.900000	37.000000	30.7792325	30.227506
4956	chic	73.0	60.80000	2000-07-26	26.262500	62.000000	35.8824934	29.769066
4957	chic	77.0	65.80000	2000-07-27	33.000000	59.000000	32.0309618	32.364899
4958	chic	74.0	65.50000	2000-07-28	20.150000	30.000000	32.2343469	24.692331
4959	chic	73.0	65.90000	2000-07-29	19.962500	27.285714	48.2083333	10.170139
4960	chic	71.0	67.10000	2000-07-30	25.300000	20.500000	35.3130764	11.026872
4961	chic	70.0	66.20000	2000-07-31	17.500000	24.500000	17.7862768	24.437500
4962	chic	73.0	67.20000	2000-08-01	15.771429	31.500000	18.0361271	26.372998
4963	chic	76.0	64.60000	2000-08-02	12.300000	34.000000	26.0803689	15.899256
4964	chic	63.0	54.50000	2000-08-03	3.100000	5.500000	27.6556324	9.829861
4965	chic	67.0	53.80000	2000-08-04	11.014286	27.200000	22.7420949	25.184028
4966	chic	67.0	61.30000	2000-08-05	17.700000	33.500000	23.5359848	25.156250
4967	chic	78.0	70.60000	2000-08-06	22.900000	32.000000	30.5073052	15.062500
4968	chic	76.0	66.50000	2000-08-07	13.412500	22.000000	18.4277726	20.679473
4969	chic	77.0	69.40000	2000-08-08	10.300000	30.000000	20.7565876	21.790261
4970	chic	79.0	67.00000	2000-08-09	13.100000	38.500000	25.8103875	19.152146
4971	chic	74.0	62.30000	2000-08-10	13.112500	26.200000	22.8556489	22.298611
4972	chic	71.0	60.80000	2000-08-11	11.800000	23.500000	17.5833333	20.024206
4973	chic	71.0	61.00000	2000-08-12	12.600000	25.500000	23.5056818	22.270833
4974	chic	74.0	62.50000	2000-08-13	13.562500	23.000000	25.9375000	22.104167
4975	chic	76.0	67.90000	2000-08-14	28.400000	50.000000	30.8886094	25.590593
4976	chic	82.0	68.80000	2000-08-15	29.000000	53.500000	38.9682302	21.005051
4977	chic	70.0	54.90000	2000-08-16	6.012500	17.500000	21.2249671	12.202446
4978	chic	68.0	62.30000	2000-08-17	13.600000	22.000000	21.5627117	19.489773

4979	chic	67.0	59.50000	2000-08-18	8.300000	12.500000	22.8465460	14.868056
4980	chic	64.0	56.00000	2000-08-19	9.487500	19.500000	17.3958333	12.795139
4981	chic	65.0	54.00000	2000-08-20	8.700000	11.500000	27.8371212	12.979167
4982	chic	67.0	56.30000	2000-08-21	19.100000	27.500000	29.0049407	23.159722
4983	chic	76.0	67.60000	2000-08-22	29.825000	41.166667	28.7535408	26.785722
4984	chic	76.0	69.00000	2000-08-23	27.600000	46.500000	28.4123024	24.118056
4985	chic	71.0	58.50000	2000-08-24	20.600000	29.500000	25.2206701	21.807672
4986	chic	70.0	59.00000	2000-08-25	24.937500	53.500000	23.8659420	36.174819
4987	chic	73.0	64.60000	2000-08-26	33.100000	48.000000	29.8768939	23.864583
4988	chic	72.0	64.30000	2000-08-27	15.500000	18.500000	41.7935606	7.295592
4989	chic	75.0	64.20000	2000-08-28	23.687500	37.285714	31.2518939	20.611111
4990	chic	77.0	68.70000	2000-08-29	33.700000	44.500000	28.3520257	18.816919
4991	chic	77.0	70.60000	2000-08-30	41.700000	59.000000	29.6788538	19.302989
4992	chic	80.0	68.20000	2000-08-31	34.650000	56.500000	35.4707729	30.799094
4993	chic	80.0	69.00000	2000-09-01	31.300000	57.500000	40.8192758	32.700000
4994	chic	79.0	67.30000	2000-09-02	15.600000	31.500000	37.3865741	20.308333
4995	chic	77.0	66.80000	2000-09-03	18.771429	33.714286	36.2824074	16.920833
4996	chic	66.0	55.10000	2000-09-04	4.900000	9.000000	24.4097222	6.158333
4997	chic	63.0	45.20000	2000-09-05	3.900000	12.500000	29.8736550	10.993401
4998	chic	61.0	48.40000	2000-09-06	13.562500	30.500000	24.7773551	24.058020
4999	chic	74.0	60.50000	2000-09-07	20.400000	48.000000	26.0270833	29.435833
5000	chic	75.0	66.80000	2000-09-08	20.200000	42.000000	14.9514493	29.669192
5001	chic	76.0	67.40000	2000-09-09	17.750000	26.714286	18.2395833	17.687500
5002	chic	78.0	70.50000	2000-09-10	13.400000	20.000000	13.8291667	13.572917
5003	chic	75.0	67.90000	2000-09-11	15.550000	37.000000	20.0946558	19.396149
5004	chic	63.0	52.90000	2000-09-12	7.642857	16.500000	17.4166667	20.193015
5005	chic	63.0	49.70000	2000-09-13	13.700000	41.500000	11.5561594	35.018763
5006	chic	65.0	52.50000	2000-09-14	8.750000	23.500000	18.6069664	27.326389
5007	chic	56.0	40.10000	2000-09-15	5.250000	13.142857	12.6590909	19.977808
5008	chic	56.0	41.00000	2000-09-16	6.900000	14.500000	13.8200758	23.791667
5009	chic	68.0	47.70000	2000-09-17	10.900000	25.000000	27.9453228	22.972222
5010	chic	69.0	53.20000	2000-09-18	18.071429	57.000000	23.7109684	41.397947
5011	chic	75.0	51.10000	2000-09-19	17.400000	69.500000	39.6236525	30.532828
5012	chic	58.0	53.00000	2000-09-20	10.900000	21.500000	9.2270257	23.494565
5013	chic	54.0	40.50000	2000-09-21	6.312500	17.000000	14.8480207	18.939141
5014	chic	58.0	51.30000	2000-09-22	15.000000	27.000000	7.4078557	26.136926
5015	chic	63.0	58.20000	2000-09-23	13.100000	13.500000	12.3593544	16.839976
5016	chic	53.0	46.20000	2000-09-24	3.875000	4.500000	22.5075758	8.208333
5017	chic	49.0	40.20000	2000-09-25	6.600000	7.000000	17.2075099	15.488519
5018	chic	56.0	41.20000	2000-09-26	12.300000	28.500000	10.1703647	31.640783
5019	chic	59.0	46.60000	2000-09-27	9.925000	22.000000	15.3781291	21.724638
5020	chic	55.0	41.10000	2000-09-28	8.800000	16.000000	15.2486974	17.535326
5021	chic	61.0	42.10000	2000-09-29	11.600000	37.500000	10.2178524	28.962912

5022	chic	65.0	48.10000	2000-09-30	16.150000	47.500000	24.000000	22.920000
5023	chic	72.0	50.70000	2000-10-01	21.500000	65.000000	47.0927536	15.038043
5024	chic	69.0	53.80000	2000-10-02	17.100000	46.000000	29.1939394	23.296970
5025	chic	59.0	49.70000	2000-10-03	14.237500	30.000000	14.3790184	20.650099
5026	chic	57.0	47.10000	2000-10-04	4.800000	10.000000	27.5807971	12.107971
5027	chic	52.0	48.20000	2000-10-05	8.100000	13.500000	16.8499094	18.210178
5028	chic	41.0	29.40000	2000-10-06	8.387500	14.500000	14.4154397	19.394928
5029	chic	40.0	26.70000	2000-10-07	5.300000	13.000000	10.8460145	15.850000
5030	chic	39.0	26.60000	2000-10-08	4.600000	8.000000	12.4270833	16.370175
5031	chic	44.0	25.90000	2000-10-09	10.366667	18.285714	7.8063406	29.331522
5032	chic	49.0	27.00000	2000-10-10	17.400000	33.500000	7.6597003	31.539530
5033	chic	53.0	30.20000	2000-10-11	16.000000	52.500000	8.7750000	39.419048
5034	chic	58.0	36.30000	2000-10-12	16.100000	79.000000	20.0672678	39.757955
5035	chic	66.0	39.60000	2000-10-13	17.900000	81.000000	29.0133152	32.541667
5036	chic	67.0	49.30000	2000-10-14	19.400000	54.500000	24.9229167	31.041667
5037	chic	55.0	47.60000	2000-10-15	11.428571	19.571429	17.0520833	17.529167
5038	chic	51.0	46.60000	2000-10-16	14.800000	27.000000	15.5695652	19.805797
5039	chic	52.0	45.50000	2000-10-17	19.700000	28.500000	10.0142045	26.255952
5040	chic	54.0	45.70000	2000-10-18	23.828571	57.500000	9.2684783	37.993182
5041	chic	62.0	47.30000	2000-10-19	14.450000	45.500000	12.8011117	35.744746
5042	chic	66.0	49.10000	2000-10-20	18.200000	57.000000	22.8370965	35.103571
5043	chic	58.0	50.30000	2000-10-21	19.771429	39.000000	20.6562500	22.891667
5044	chic	59.0	51.80000	2000-10-22	26.050000	35.000000	11.6414855	24.282609
5045	chic	65.0	60.50000	2000-10-23	39.800000	55.500000	3.1515152	37.191667
5046	chic	63.0	60.30000	2000-10-24	34.185714	31.500000	10.1743659	22.916667
5047	chic	62.0	57.90000	2000-10-25	26.400000	33.000000	11.7938406	23.860079
5048	chic	68.0	58.30000	2000-10-26	41.400000	65.500000	18.0453804	32.055435
5049	chic	61.0	53.40000	2000-10-27	21.214286	29.714286	15.2509058	19.826316
5050	chic	50.0	41.40000	2000-10-28	4.000000	8.500000	23.3437500	10.283333
5051	chic	46.0	36.80000	2000-10-29	10.900000	23.500000	16.3750000	17.029167
5052	chic	50.0	32.70000	2000-10-30	12.414286	24.000000	11.0664855	28.008333
5053	chic	59.0	37.60000	2000-10-31	13.850000	36.500000	5.4569746	30.641667
5054	chic	63.0	44.60000	2000-11-01	18.950000	38.500000	7.8472222	32.234649
5055	chic	55.0	48.60000	2000-11-02	20.542857	31.666667	5.6805556	26.637681
5056	chic	48.0	34.80000	2000-11-03	9.350000	30.000000	7.4414251	25.871344
5057	chic	46.0	31.40000	2000-11-04	11.250000	28.500000	6.7192029	28.349638
5058	chic	46.0	31.00000	2000-11-05	12.071429	26.000000	14.3080808	24.694474
5059	chic	49.0	38.00000	2000-11-06	15.650000	30.000000	18.6129227	19.182292
5060	chic	49.0	41.90000	2000-11-07	12.250000	13.500000	4.8617150	16.009923
5061	chic	40.0	31.50000	2000-11-08	10.100000	17.714286	3.0060386	21.739583
5062	chic	39.0	37.00000	2000-11-09	8.300000	10.500000	4.8562802	17.025136
5063	chic	37.0	31.60000	2000-11-10	17.050000	17.500000	3.5694444	19.750000
5064	chic	38.0	32.10000	2000-11-11	18.625000	22.000000	4.9305556	21.989583

5065	chic	45.0	37.30000	2000-11-12	16.500000	14.500000	5.7361111	17.578125
5066	chic	36.0	29.70000	2000-11-13	NA	16.000000	3.8333333	17.031250
5067	chic	32.0	26.40000	2000-11-14	10.866667	13.571429	7.0000000	16.305871
5068	chic	31.0	23.60000	2000-11-15	NA	26.500000	7.5416667	24.258929
5069	chic	36.0	29.20000	2000-11-16	14.850000	26.500000	4.9045894	18.327989
5070	chic	30.0	20.80000	2000-11-17	13.114286	15.000000	8.3490338	19.902627
5071	chic	27.0	18.30000	2000-11-18	15.500000	27.000000	12.2222222	15.948822
5072	chic	30.0	22.00000	2000-11-19	10.900000	17.500000	11.2083333	16.791667
5073	chic	24.0	17.90000	2000-11-20	10.025000	20.428571	10.2159091	16.132102
5074	chic	19.0	8.00000	2000-11-21	11.000000	24.000000	10.7222222	25.378968
5075	chic	22.0	11.00000	2000-11-22	24.700000	30.000000	4.7916667	32.479167
5076	chic	29.0	17.00000	2000-11-23	26.600000	33.000000	4.2916667	34.218750
5077	chic	32.0	19.20000	2000-11-24	28.200000	34.000000	3.7886473	33.384058
5078	chic	38.0	32.60000	2000-11-25	17.750000	28.000000	7.3750000	24.786458
5079	chic	39.0	36.60000	2000-11-26	20.014286	23.285714	1.0416667	19.010417
5080	chic	34.0	30.50000	2000-11-27	41.700000	40.500000	1.1388889	19.360054
5081	chic	34.0	29.70000	2000-11-28	20.450000	28.500000	2.6944444	23.166667
5082	chic	35.0	33.10000	2000-11-29	19.362500	21.000000	1.3194444	22.303977
5083	chic	34.0	30.70000	2000-11-30	16.750000	16.500000	4.8712121	23.851223
5084	chic	34.0	24.80000	2000-12-01	3.950000	7.000000	21.1666667	17.866667
5085	chic	31.0	21.60000	2000-12-02	3.914286	6.428571	27.7083333	15.525000
5086	chic	28.0	19.30000	2000-12-03	13.200000	16.000000	6.1388889	31.409848
5087	chic	32.0	24.00000	2000-12-04	18.050000	30.500000	6.1250000	21.114394
5088	chic	21.0	2.80000	2000-12-05	7.360000	18.000000	13.2071256	22.971739
5089	chic	15.0	8.00000	2000-12-06	18.100000	23.000000	4.8333333	25.436472
5090	chic	25.0	23.50000	2000-12-07	27.600000	26.500000	1.7741546	25.321212
5091	chic	18.0	11.80000	2000-12-08	20.262500	30.000000	7.0694444	27.616667
5092	chic	16.0	13.10000	2000-12-09	26.500000	37.500000	3.1944444	35.258333
5093	chic	30.0	24.80000	2000-12-10	24.450000	27.000000	2.4444444	23.125000
5094	chic	23.0	21.20000	2000-12-11	7.860000	14.000000	15.5694444	18.483333
5095	chic	4.0	0.30000	2000-12-12	25.100000	28.000000	8.2361111	32.116667
5096	chic	8.0	7.90000	2000-12-13	23.400000	37.000000	3.9335749	34.745244
5097	chic	17.0	17.10000	2000-12-14	29.575000	33.571429	2.6527778	41.783333
5098	chic	17.0	17.40000	2000-12-15	39.650000	39.000000	1.4631643	35.468841
5099	chic	25.0	27.00000	2000-12-16	20.550000	16.500000	1.2083333	26.041667
5100	chic	8.0	0.60000	2000-12-17	12.957143	18.500000	13.4166667	16.116667
5101	chic	8.0	3.50000	2000-12-18	24.750000	27.500000	3.6041667	33.525000
5102	chic	14.0	9.20000	2000-12-19	14.150000	25.500000	6.7916667	35.133136
5103	chic	6.0	4.70000	2000-12-20	24.157143	38.571429	3.1657609	39.008772
5104	chic	6.0	0.10000	2000-12-21	19.300000	35.000000	10.9239130	24.349130
5105	chic	-1.0	-7.10000	2000-12-22	16.700000	24.500000	7.7916667	30.888043
5106	chic	8.0	5.10000	2000-12-23	23.233333	33.000000	4.6041667	35.160870
5107	chic	5.0	-1.40000	2000-12-24	21.700000	35.500000	8.9791667	31.766667

5108	chic	5.0	-1.70000	2000-12-25	18.250000	40.500000	4.5000000	41.800000
5109	chic	11.0	9.20000	2000-12-26	20.100000	25.833333	6.9375000	36.850000
5110	chic	12.0	7.60000	2000-12-27	27.250000	38.000000	5.0833333	33.022464
5111	chic	13.0	9.00000	2000-12-28	21.550000	31.500000	7.2708333	36.125774
5112	chic	21.0	16.90000	2000-12-29	17.366667	23.000000	11.7083333	33.303788
5113	chic	27.0	23.00000	2000-12-30	6.200000	8.500000	17.1458333	23.916667
5114	chic	16.0	16.30000	2000-12-31	14.450000	10.500000	12.8541667	30.041667
5115	chic	15.0	9.90000	2001-01-01	18.633333	28.200000	7.2708333	37.041667
5116	chic	12.0	6.10000	2001-01-02	27.100000	26.000000	4.9753788	43.004464
5117	chic	18.0	18.30000	2001-01-03	27.200000	30.000000	5.9166667	31.812500
5118	chic	25.0	21.30000	2001-01-04	25.000000	25.000000	7.6250000	30.750000
5119	chic	29.0	23.70000	2001-01-05	11.050000	24.000000	9.2780797	31.328598
5120	chic	25.0	19.40000	2001-01-06	18.400000	22.000000	6.0000000	33.239583
5121	chic	28.0	22.80000	2001-01-07	15.766667	21.800000	8.6250000	27.750000
5122	chic	19.0	13.00000	2001-01-08	7.500000	17.000000	7.9791667	34.479167
5123	chic	17.0	11.40000	2001-01-09	26.000000	NA	7.6041667	36.062500
5124	chic	26.0	19.10000	2001-01-10	26.650000	31.000000	4.7500000	35.721591
5125	chic	29.0	23.70000	2001-01-11	37.450000	36.000000	2.1974638	42.041990
5126	chic	30.0	29.30000	2001-01-12	41.100000	35.000000	1.8623188	40.528533
5127	chic	34.0	31.60000	2001-01-13	30.300000	31.833333	4.5833333	27.635417
5128	chic	34.0	33.90000	2001-01-14	28.000000	22.000000	0.5000000	26.187500
5129	chic	33.0	31.40000	2001-01-15	19.200000	13.500000	1.5833333	17.510417
5130	chic	29.0	25.00000	2001-01-16	23.580000	15.000000	4.2500000	23.964583
5131	chic	23.0	19.30000	2001-01-17	27.400000	30.000000	4.4375000	30.495536
5132	chic	25.0	20.60000	2001-01-18	34.700000	43.000000	4.3822464	31.302989
5133	chic	22.0	17.80000	2001-01-19	18.137500	26.000000	8.0461957	27.968750
5134	chic	18.0	9.90000	2001-01-20	12.650000	20.000000	10.6250000	29.437500
5135	chic	17.0	10.50000	2001-01-21	30.600000	34.000000	5.1458333	30.906250
5136	chic	18.0	14.60000	2001-01-22	49.471429	68.000000	3.1250000	43.677083
5137	chic	28.0	22.70000	2001-01-23	45.700000	45.000000	3.1875000	36.792045
5138	chic	22.0	16.60000	2001-01-24	19.100000	31.000000	8.1534091	33.667861
5139	chic	19.0	11.00000	2001-01-25	16.500000	28.500000	7.1585145	34.682018
5140	chic	26.0	21.70000	2001-01-26	24.000000	34.000000	4.6250000	28.770833
5141	chic	21.0	12.50000	2001-01-27	11.950000	14.500000	19.0625000	21.781250
5142	chic	22.0	15.20000	2001-01-28	23.457143	29.000000	7.4583333	30.614583
5143	chic	36.0	33.00000	2001-01-29	26.800000	31.000000	4.8522727	29.042749
5144	chic	36.0	33.60000	2001-01-30	17.150000	11.000000	6.2500000	34.385417
5145	chic	31.0	29.00000	2001-01-31	24.066667	24.333333	4.9990942	26.037879
5146	chic	18.0	15.30000	2001-02-01	21.700000	29.000000	10.6458333	28.483734
5147	chic	5.0	-1.70000	2001-02-02	22.000000	32.500000	10.4791667	25.065217
5148	chic	20.0	16.40000	2001-02-03	17.175000	25.500000	5.0833333	23.812500
5149	chic	30.0	29.00000	2001-02-04	26.750000	18.000000	4.5833333	28.604167
5150	chic	29.0	24.40000	2001-02-05	32.950000	35.000000	5.4565217	28.088068

5151	chic	28.0	25.30000	2001-02-06	30.171429	36.500000	5.8632246	33.991667
5152	chic	26.0	24.70000	2001-02-07	47.500000	34.000000	4.7291667	38.598755
5153	chic	44.0	42.20000	2001-02-08	39.500000	44.500000	5.1875000	35.259058
5154	chic	37.0	35.90000	2001-02-09	12.740000	22.500000	14.8750000	23.890399
5155	chic	16.0	7.20000	2001-02-10	10.450000	16.500000	15.8639706	25.057971
5156	chic	19.0	12.40000	2001-02-11	12.850000	19.000000	14.0744048	23.751894
5157	chic	29.0	23.20000	2001-02-12	22.537500	29.000000	6.1458333	26.697917
5158	chic	35.0	29.70000	2001-02-13	37.300000	34.000000	7.1739130	29.547917
5159	chic	33.0	31.10000	2001-02-14	22.800000	18.500000	10.1875000	22.182871
5160	chic	29.0	23.90000	2001-02-15	15.071429	12.000000	23.8541667	18.559330
5161	chic	23.0	17.30000	2001-02-16	20.350000	23.000000	16.5625000	28.982337
5162	chic	13.0	0.30000	2001-02-17	10.100000	11.000000	16.9791667	19.646286
5163	chic	18.0	6.10000	2001-02-18	9.475000	16.400000	17.5000000	18.875000
5164	chic	35.0	26.20000	2001-02-19	22.800000	64.000000	10.5000000	22.819293
5165	chic	27.0	17.10000	2001-02-20	28.650000	30.000000	18.7500000	30.501488
5166	chic	15.0	-0.90000	2001-02-21	8.537500	16.000000	23.1956522	20.681612
5167	chic	23.0	18.60000	2001-02-22	20.300000	21.500000	13.4166667	23.718750
5168	chic	24.0	14.80000	2001-02-23	18.100000	23.500000	25.4166667	24.235548
5169	chic	43.0	35.70000	2001-02-24	28.675000	31.500000	9.5625000	21.093750
5170	chic	42.0	29.10000	2001-02-25	10.000000	12.000000	25.2708333	11.614583
5171	chic	31.0	22.00000	2001-02-26	22.100000	21.000000	18.7282609	28.454257
5172	chic	23.0	8.20000	2001-02-27	9.983333	11.000000	19.5587121	24.554924
5173	chic	20.0	2.00000	2001-02-28	6.800000	18.000000	15.2826087	26.479167
5174	chic	31.0	15.50000	2001-03-01	7.200000	27.000000	14.8750000	25.769886
5175	chic	35.0	29.00000	2001-03-02	30.057143	35.000000	7.5208333	30.250000
5176	chic	36.0	25.10000	2001-03-03	47.400000	49.500000	6.1875000	48.718750
5177	chic	30.0	21.00000	2001-03-04	11.300000	14.500000	23.0000000	20.653986
5178	chic	23.0	11.60000	2001-03-05	7.371429	22.500000	19.3541667	20.297348
5179	chic	28.0	17.10000	2001-03-06	5.700000	20.000000	15.5190217	28.538496
5180	chic	33.0	19.20000	2001-03-07	15.300000	31.000000	17.2916667	28.930556
5181	chic	31.0	21.70000	2001-03-08	16.557143	25.000000	22.2946429	27.116186
5182	chic	31.0	18.00000	2001-03-09	10.200000	19.500000	13.6250000	32.747283
5183	chic	34.0	25.00000	2001-03-10	22.950000	45.500000	16.8333333	33.177083
5184	chic	33.0	23.50000	2001-03-11	10.728571	9.000000	29.1250000	14.010417
5185	chic	40.0	34.20000	2001-03-12	24.700000	31.500000	10.3541667	25.345644
5186	chic	37.0	29.70000	2001-03-13	24.300000	18.500000	22.8958333	21.287879
5187	chic	38.0	32.90000	2001-03-14	15.000000	20.000000	14.3913043	32.673913
5188	chic	39.0	35.70000	2001-03-15	20.050000	17.000000	20.2361111	21.229167
5189	chic	32.0	30.00000	2001-03-16	14.600000	7.000000	33.2777778	16.854167
5190	chic	32.0	24.50000	2001-03-17	7.540000	6.000000	30.3055556	21.721920
5191	chic	32.0	21.50000	2001-03-18	11.500000	16.500000	25.0833333	30.895833
5192	chic	36.0	23.10000	2001-03-19	16.150000	23.000000	24.9255051	35.270833
5193	chic	38.0	25.20000	2001-03-20	15.950000	28.833333	27.9716184	32.845562

5194	chic	41.0	26.60000	2001-03-21	22.900000	34.500000	25.9957729	36.215774
5195	chic	42.0	33.40000	2001-03-22	36.050000	39.000000	18.1527778	41.739912
5196	chic	42.0	30.70000	2001-03-23	27.200000	32.500000	21.2777778	26.677083
5197	chic	29.0	12.60000	2001-03-24	11.650000	20.500000	28.5277778	15.187500
5198	chic	22.0	7.80000	2001-03-25	8.200000	24.000000	20.8472222	14.020833
5199	chic	25.0	11.10000	2001-03-26	10.025000	16.333333	14.7916667	22.678744
5200	chic	32.0	18.80000	2001-03-27	14.300000	20.500000	16.7204106	31.552083
5201	chic	36.0	22.20000	2001-03-28	25.200000	45.000000	19.3544686	35.208333
5202	chic	41.0	32.10000	2001-03-29	34.575000	37.000000	21.3736825	30.944444
5203	chic	42.0	31.90000	2001-03-30	40.300000	49.000000	26.5694444	28.305556
5204	chic	46.0	34.90000	2001-03-31	38.400000	44.500000	21.6111111	25.944444
5205	chic	40.0	24.40000	2001-04-01	10.685714	13.666667	25.7958333	22.027778
5206	chic	45.0	27.20000	2001-04-02	21.750000	37.500000	15.5780303	39.541667
5207	chic	41.0	32.50000	2001-04-03	20.550000	17.000000	37.9985507	19.936111
5208	chic	42.0	30.90000	2001-04-04	27.587500	31.000000	28.7750000	28.488095
5209	chic	48.0	37.40000	2001-04-05	30.400000	55.000000	16.0233696	39.263889
5210	chic	53.0	51.60000	2001-04-06	38.900000	39.000000	11.9098485	25.020833
5211	chic	64.0	48.80000	2001-04-07	14.237500	43.833333	32.4041667	17.614583
5212	chic	61.0	41.70000	2001-04-08	10.500000	22.500000	34.4833333	19.510417
5213	chic	52.0	43.30000	2001-04-09	11.000000	22.500000	26.8713768	22.018569
5214	chic	47.0	43.80000	2001-04-10	25.575000	24.500000	13.9518116	20.809659
5215	chic	64.0	58.00000	2001-04-11	16.400000	24.000000	15.6784420	20.885417
5216	chic	57.0	40.40000	2001-04-12	5.900000	38.000000	30.6807477	14.510281
5217	chic	48.0	36.40000	2001-04-13	9.075000	24.666667	20.6166667	27.510417
5218	chic	52.0	35.10000	2001-04-14	15.400000	26.000000	25.5541667	31.591856
5219	chic	49.0	39.50000	2001-04-15	8.100000	21.500000	39.8666667	15.968750
5220	chic	36.0	24.00000	2001-04-16	8.028571	17.000000	26.2677536	18.406250
5221	chic	38.0	24.00000	2001-04-17	6.950000	14.500000	29.6579710	21.903680
5222	chic	41.0	24.40000	2001-04-18	16.400000	33.000000	16.3295290	41.640399
5223	chic	51.0	31.70000	2001-04-19	13.200000	37.400000	28.2543478	32.465909
5224	chic	64.0	54.50000	2001-04-20	17.300000	56.000000	34.2333333	21.541667
5225	chic	69.0	58.80000	2001-04-21	13.600000	44.500000	29.2250000	15.145833
5226	chic	65.0	55.50000	2001-04-22	13.828571	30.000000	23.5583333	17.489583
5227	chic	58.0	50.20000	2001-04-23	10.850000	53.000000	25.7355072	13.393569
5228	chic	52.0	31.10000	2001-04-24	10.400000	21.000000	27.9536397	25.510417
5229	chic	51.0	38.30000	2001-04-25	13.157143	25.400000	19.1597826	37.823564
5230	chic	61.0	43.30000	2001-04-26	11.800000	63.500000	31.2251153	28.858631
5231	chic	52.0	32.50000	2001-04-27	7.900000	17.000000	35.8992754	21.895833
5232	chic	53.0	35.80000	2001-04-28	10.528571	18.500000	29.2333333	24.437500
5233	chic	61.0	34.50000	2001-04-29	10.400000	28.000000	35.3250000	22.989583
5234	chic	68.0	45.30000	2001-04-30	17.700000	65.500000	36.8586957	33.031250
5235	chic	73.0	53.20000	2001-05-01	20.414286	59.666667	42.8200922	23.715292
5236	chic	73.0	53.40000	2001-05-02	19.600000	89.500000	36.7003623	24.250000

5237	chic	72.0	52.60000	2001-05-03	22.700000	97.500000	42.2202899	27.886364
5238	chic	55.0	46.20000	2001-05-04	8.787500	17.000000	33.5202899	20.692482
5239	chic	58.0	46.30000	2001-05-05	8.100000	18.000000	30.7625000	14.145833
5240	chic	65.0	48.40000	2001-05-06	14.400000	32.500000	32.7708333	19.166667
5241	chic	60.0	54.10000	2001-05-07	15.450000	27.333333	18.7788043	26.791667
5242	chic	62.0	45.30000	2001-05-08	7.300000	51.500000	26.4762681	27.583333
5243	chic	67.0	46.10000	2001-05-09	10.700000	59.000000	36.8536891	29.293561
5244	chic	70.0	55.80000	2001-05-10	15.875000	68.000000	36.1219203	28.094697
5245	chic	54.0	50.20000	2001-05-11	6.250000	16.000000	21.1284420	16.800000
5246	chic	48.0	33.30000	2001-05-12	5.300000	7.500000	31.1568841	13.717029
5247	chic	53.0	33.00000	2001-05-13	13.387500	31.000000	22.9750000	28.325000
5248	chic	54.0	46.30000	2001-05-14	10.400000	42.000000	20.0022563	34.991667
5249	chic	72.0	62.50000	2001-05-15	17.100000	43.000000	30.1335145	29.479348
5250	chic	77.0	62.40000	2001-05-16	25.350000	41.000000	33.3641798	27.705402
5251	chic	74.0	61.70000	2001-05-17	21.900000	46.000000	24.3299819	40.907818
5252	chic	65.0	40.00000	2001-05-18	9.900000	20.500000	37.3773551	18.361775
5253	chic	61.0	41.40000	2001-05-19	8.000000	21.500000	36.1708333	19.800000
5254	chic	63.0	48.60000	2001-05-20	11.900000	23.500000	41.0005435	20.573551
5255	chic	62.0	56.90000	2001-05-21	13.600000	23.500000	24.2177536	19.958333
5256	chic	53.0	42.20000	2001-05-22	6.612500	25.000000	20.5608696	17.898188
5257	chic	54.0	43.50000	2001-05-23	9.500000	26.000000	12.6213627	28.868074
5258	chic	51.0	45.90000	2001-05-24	13.200000	16.500000	14.1075886	26.704167
5259	chic	51.0	44.70000	2001-05-25	14.900000	20.333333	11.6360709	27.949275
5260	chic	48.0	44.30000	2001-05-26	12.700000	13.500000	19.4470612	18.711594
5261	chic	55.0	49.20000	2001-05-27	14.900000	21.000000	25.2532206	20.300000
5262	chic	59.0	51.80000	2001-05-28	20.637500	23.500000	22.5879630	26.358333
5263	chic	53.0	43.60000	2001-05-29	7.800000	11.500000	20.6226852	23.252976
5264	chic	53.0	35.10000	2001-05-30	4.800000	11.500000	27.7185533	18.038060
5265	chic	53.0	44.90000	2001-05-31	13.271429	26.000000	22.4940217	21.697101
5266	chic	57.0	49.50000	2001-06-01	11.200000	15.500000	24.2144763	23.099638
5267	chic	53.0	48.00000	2001-06-02	6.250000	8.500000	22.7708333	15.125000
5268	chic	52.0	44.50000	2001-06-03	4.825000	5.000000	15.4250000	9.670833
5269	chic	51.0	44.00000	2001-06-04	6.100000	8.500000	19.5875000	11.467572
5270	chic	53.0	51.70000	2001-06-05	18.800000	19.000000	12.0006341	20.262500
5271	chic	57.0	54.40000	2001-06-06	29.175000	35.333333	15.4722826	21.536190
5272	chic	59.0	53.20000	2001-06-07	16.100000	21.500000	22.3791667	25.095833
5273	chic	61.0	51.60000	2001-06-08	15.300000	29.000000	21.8159420	32.787319
5274	chic	66.0	55.70000	2001-06-09	17.487500	43.500000	29.4291667	35.516667
5275	chic	74.0	62.00000	2001-06-10	18.200000	35.500000	42.8541667	16.266667
5276	chic	76.0	66.20000	2001-06-11	23.200000	50.000000	34.7547101	29.734091
5277	chic	75.0	65.60000	2001-06-12	16.237500	34.333333	37.9848732	29.325000
5278	chic	80.0	69.50000	2001-06-13	36.300000	61.000000	51.8198370	29.813768
5279	chic	80.0	68.50000	2001-06-14	30.100000	57.500000	41.3428030	21.408333

5280	chic	70.0	62.10000	2001-06-15	9.187500	25.000000	19.9731884	24.133333
5281	chic	71.0	57.50000	2001-06-16	7.800000	24.000000	32.6166667	21.625000
5282	chic	71.0	55.40000	2001-06-17	11.300000	27.000000	34.6229167	25.816667
5283	chic	78.0	61.40000	2001-06-18	13.450000	36.500000	48.3247283	21.878623
5284	chic	75.0	61.50000	2001-06-19	13.700000	39.500000	46.4770422	18.469928
5285	chic	70.0	52.90000	2001-06-20	14.650000	19.000000	30.0812500	24.929058
5286	chic	62.0	54.90000	2001-06-21	16.662500	22.500000	23.3856108	28.537164
5287	chic	60.0	54.30000	2001-06-22	14.200000	20.000000	20.4875000	20.266667
5288	chic	62.0	52.80000	2001-06-23	13.550000	21.000000	19.5416667	24.566667
5289	chic	66.0	55.00000	2001-06-24	21.371429	30.166667	34.1958333	30.383333
5290	chic	72.0	58.90000	2001-06-25	21.850000	45.500000	39.3654891	33.608333
5291	chic	74.0	57.90000	2001-06-26	24.800000	43.000000	42.6815382	36.149275
5292	chic	75.0	61.10000	2001-06-27	31.300000	57.500000	42.1101449	37.222101
5293	chic	75.0	62.90000	2001-06-28	41.300000	66.000000	42.9583333	36.940000
5294	chic	77.0	63.90000	2001-06-29	38.850000	70.500000	42.5458333	35.098551
5295	chic	78.0	64.90000	2001-06-30	30.175000	45.666667	46.9458333	21.816667
5296	chic	64.0	52.00000	2001-07-01	7.200000	16.000000	22.7395833	8.650000
5297	chic	62.0	42.70000	2001-07-02	6.600000	20.500000	21.4062500	17.641667
5298	chic	72.0	63.30000	2001-07-03	9.371429	26.000000	20.2451087	26.371325
5299	chic	78.0	58.80000	2001-07-04	19.000000	27.500000	30.9833333	20.866667
5300	chic	64.0	49.20000	2001-07-05	6.700000	19.500000	22.0190217	14.283333
5301	chic	66.0	49.70000	2001-07-06	10.262500	22.000000	26.0622283	24.902899
5302	chic	74.0	71.80000	2001-07-07	18.150000	34.500000	28.0143116	20.166667
5303	chic	79.0	63.20000	2001-07-08	14.300000	26.000000	23.0966184	24.183333
5304	chic	79.0	67.40000	2001-07-09	22.600000	36.500000	27.0644516	31.742424
5305	chic	81.0	61.20000	2001-07-10	17.000000	35.500000	33.7047101	27.344048
5306	chic	69.0	51.70000	2001-07-11	5.450000	10.000000	24.9645833	13.838636
5307	chic	69.0	53.40000	2001-07-12	8.157143	20.200000	18.0318264	21.222348
5308	chic	68.0	50.90000	2001-07-13	7.600000	20.000000	16.1972332	22.077609
5309	chic	74.0	50.40000	2001-07-14	11.100000	30.500000	28.5125000	27.675000
5310	chic	74.0	57.20000	2001-07-15	19.971429	47.500000	38.2875000	30.833333
5311	chic	75.0	60.50000	2001-07-16	26.100000	58.000000	40.8931159	34.444481
5312	chic	79.0	70.00000	2001-07-17	39.000000	67.500000	41.8674242	33.038636
5313	chic	78.0	72.90000	2001-07-18	31.142857	47.800000	26.6572875	25.624374
5314	chic	77.0	73.00000	2001-07-19	28.500000	42.000000	32.7817761	29.462319
5315	chic	82.0	72.20000	2001-07-20	32.300000	58.500000	33.0038043	33.675000
5316	chic	83.0	73.40000	2001-07-21	21.985714	39.500000	30.4416667	30.291667
5317	chic	82.0	72.00000	2001-07-22	19.300000	25.500000	29.3125000	29.608333
5318	chic	83.0	75.10000	2001-07-23	20.600000	34.000000	21.0333132	32.020833
5319	chic	79.0	71.80000	2001-07-24	15.712500	32.400000	33.2979167	25.050000
5320	chic	71.0	67.50000	2001-07-25	10.400000	20.500000	30.7289855	16.483873
5321	chic	73.0	62.90000	2001-07-26	9.200000	11.000000	27.9526845	12.196970
5322	chic	71.0	58.40000	2001-07-27	10.912500	25.000000	30.5804348	18.833333

5323	chic	72.0	66.20000	2001-07-28	26.300000	37.500000	27.7454545	30.527273
5324	chic	78.0	70.30000	2001-07-29	27.400000	37.500000	37.4354167	17.983333
5325	chic	80.0	69.90000	2001-07-30	29.512500	48.166667	41.0873188	23.325000
5326	chic	83.0	73.10000	2001-07-31	27.100000	45.000000	42.1452122	26.918939
5327	chic	84.0	72.90000	2001-08-01	43.700000	81.500000	45.1773551	27.442391
5328	chic	79.0	73.70000	2001-08-02	15.085714	38.500000	22.3635481	33.087780
5329	chic	75.0	70.50000	2001-08-03	15.200000	23.000000	26.9838768	21.963043
5330	chic	76.0	63.80000	2001-08-04	10.300000	20.000000	23.4395833	21.108333
5331	chic	76.0	68.50000	2001-08-05	21.837500	32.500000	37.8480072	30.058333
5332	chic	81.0	68.10000	2001-08-06	22.700000	50.000000	32.3516304	33.075000
5333	chic	85.0	73.70000	2001-08-07	27.150000	40.500000	39.5966486	28.741667
5334	chic	85.0	72.60000	2001-08-08	38.837500	70.000000	37.9804682	27.627433
5335	chic	84.0	72.60000	2001-08-09	38.200000	66.000000	36.7324522	26.467424
5336	chic	70.0	59.90000	2001-08-10	6.350000	13.500000	23.5074879	13.817624
5337	chic	69.0	56.00000	2001-08-11	5.737500	16.666667	22.4854167	14.366667
5338	chic	72.0	59.30000	2001-08-12	13.800000	27.000000	28.3277174	24.216667
5339	chic	67.0	58.60000	2001-08-13	7.750000	18.000000	25.9020833	15.612500
5340	chic	66.0	52.10000	2001-08-14	6.887500	16.500000	21.6938406	19.519203
5341	chic	67.0	56.00000	2001-08-15	16.300000	38.500000	22.3541749	38.013095
5342	chic	68.0	63.70000	2001-08-16	21.600000	31.000000	21.5771410	25.841667
5343	chic	70.0	55.60000	2001-08-17	8.987500	20.500000	15.3771739	21.834524
5344	chic	66.0	61.00000	2001-08-18	10.800000	22.000000	12.2958333	29.475000
5345	chic	68.0	59.90000	2001-08-19	7.200000	16.500000	23.0354167	12.537500
5346	chic	69.0	55.80000	2001-08-20	10.512500	36.000000	12.1166667	20.870833
5347	chic	72.0	59.70000	2001-08-21	19.900000	48.000000	17.9390399	27.937500
5348	chic	77.0	68.10000	2001-08-22	21.400000	44.000000	23.0271739	29.382143
5349	chic	72.0	67.70000	2001-08-23	22.000000	30.500000	29.8554513	19.111742
5350	chic	74.0	67.70000	2001-08-24	28.850000	38.000000	37.2157115	19.303788
5351	chic	74.0	70.20000	2001-08-25	19.550000	26.000000	20.6333333	22.966667
5352	chic	75.0	65.10000	2001-08-26	11.975000	24.500000	26.6388889	21.433333
5353	chic	74.0	65.20000	2001-08-27	17.100000	39.500000	19.6982689	32.708333
5354	chic	68.0	57.30000	2001-08-28	11.300000	24.500000	19.0765993	18.562500
5355	chic	69.0	57.70000	2001-08-29	15.175000	32.800000	22.8365539	25.857726
5356	chic	77.0	65.10000	2001-08-30	16.600000	36.500000	29.1650492	28.274144
5357	chic	68.0	59.90000	2001-08-31	6.100000	21.500000	18.8584239	16.206818
5358	chic	60.0	49.80000	2001-09-01	4.662500	14.000000	25.5812500	11.325000
5359	chic	64.0	55.00000	2001-09-02	11.650000	27.000000	21.0541667	26.191667
5360	chic	74.0	63.00000	2001-09-03	18.050000	37.000000	34.0229167	19.991667
5361	chic	67.0	57.80000	2001-09-04	5.650000	14.600000	22.1880435	13.195833
5362	chic	66.0	58.50000	2001-09-05	8.950000	31.500000	23.6516304	22.016288
5363	chic	73.0	63.50000	2001-09-06	20.400000	43.000000	32.7273221	29.404084
5364	chic	78.0	69.50000	2001-09-07	12.475000	20.000000	20.8021739	16.993116
5365	chic	72.0	65.10000	2001-09-08	10.000000	30.500000	28.1291667	15.300000

5366	chic	64.0	60.90000	2001-09-09	8.100000	21.000000	11.1875000	19.275000
5367	chic	65.0	50.60000	2001-09-10	7.171429	19.400000	12.9635211	22.308333
5368	chic	64.0	54.90000	2001-09-11	13.600000	28.000000	15.5998188	31.836594
5369	chic	69.0	56.80000	2001-09-12	14.400000	51.500000	26.4399457	34.848913
5370	chic	63.0	51.60000	2001-09-13	5.112500	15.500000	23.3461957	9.831884
5371	chic	59.0	43.80000	2001-09-14	3.800000	15.000000	22.2288208	12.111759
5372	chic	58.0	46.80000	2001-09-15	9.100000	21.000000	18.4645833	18.287121
5373	chic	60.0	49.30000	2001-09-16	16.485714	30.833333	24.0645833	21.395833
5374	chic	59.0	54.30000	2001-09-17	24.800000	38.500000	13.0634058	38.225000
5375	chic	62.0	58.30000	2001-09-18	27.500000	34.500000	34.8092391	23.723188
5376	chic	62.0	59.90000	2001-09-19	16.000000	17.000000	17.1153986	20.868144
5377	chic	63.0	54.60000	2001-09-20	16.900000	55.000000	14.9498188	26.937060
5378	chic	62.0	58.50000	2001-09-21	13.700000	28.500000	10.0938406	26.693841
5379	chic	63.0	54.40000	2001-09-22	14.425000	24.833333	14.5729167	27.175000
5380	chic	58.0	54.50000	2001-09-23	11.000000	21.500000	14.6541667	18.170833
5381	chic	50.0	38.20000	2001-09-24	3.200000	11.000000	15.0020916	16.825296
5382	chic	49.0	34.40000	2001-09-25	5.414286	15.500000	13.7728261	23.937500
5383	chic	60.0	40.20000	2001-09-26	6.000000	20.500000	15.6138230	25.308626
5384	chic	54.0	44.90000	2001-09-27	6.000000	17.000000	15.7999094	23.687500
5385	chic	54.0	47.40000	2001-09-28	5.442857	11.166667	15.3498188	15.905303
5386	chic	56.0	48.80000	2001-09-29	9.500000	17.000000	13.7937500	20.916667
5387	chic	58.0	49.70000	2001-09-30	16.700000	37.500000	11.8083333	31.937500
5388	chic	64.0	52.70000	2001-10-01	18.075000	62.000000	12.4394065	43.912202
5389	chic	64.0	53.70000	2001-10-02	19.400000	74.500000	23.3374780	40.215909
5390	chic	66.0	51.50000	2001-10-03	16.200000	66.500000	35.4860105	21.476974
5391	chic	55.0	48.70000	2001-10-04	12.725000	23.500000	6.4537037	24.864583
5392	chic	46.0	40.60000	2001-10-05	8.700000	18.500000	5.2854908	25.114583
5393	chic	40.0	27.90000	2001-10-06	7.200000	25.500000	10.6597222	20.093750
5394	chic	41.0	27.60000	2001-10-07	12.287500	24.000000	12.0995370	24.833333
5395	chic	52.0	37.90000	2001-10-08	10.700000	30.500000	18.0778986	23.024004
5396	chic	65.0	47.60000	2001-10-09	14.700000	52.000000	29.4004630	21.168561
5397	chic	60.0	56.60000	2001-10-10	14.928571	25.666667	17.1620370	19.048295
5398	chic	58.0	47.10000	2001-10-11	9.400000	36.000000	12.6797504	27.777462
5399	chic	56.0	52.30000	2001-10-12	9.500000	30.500000	9.5833333	24.593750
5400	chic	60.0	57.20000	2001-10-13	11.242857	26.500000	7.8726852	21.166667
5401	chic	53.0	43.30000	2001-10-14	5.800000	12.000000	13.9722222	13.583333
5402	chic	47.0	38.10000	2001-10-15	6.400000	32.500000	6.0454545	18.656250
5403	chic	45.0	35.10000	2001-10-16	6.314286	11.400000	7.9962121	20.002717
5404	chic	42.0	28.60000	2001-10-17	7.050000	41.000000	8.6316425	27.356061
5405	chic	51.0	34.70000	2001-10-18	7.800000	68.500000	13.3630051	27.496377
5406	chic	53.0	35.40000	2001-10-19	8.314286	39.500000	10.5034219	31.250000
5407	chic	56.0	39.30000	2001-10-20	10.100000	58.500000	13.1203704	33.656250
5408	chic	59.0	46.20000	2001-10-21	16.300000	44.500000	17.1180556	25.135417

5409	chic	56.0	53.30000	2001-10-22	21.571429	35.500000	10.4533743	29.072917
5410	chic	62.0	57.70000	2001-10-23	15.400000	44.000000	11.3331320	27.315341
5411	chic	52.0	50.30000	2001-10-24	7.700000	33.000000	10.4893461	19.776042
5412	chic	38.0	26.10000	2001-10-25	7.412500	34.000000	17.8463896	12.592580
5413	chic	39.0	25.50000	2001-10-26	6.500000	22.500000	14.1525765	19.062500
5414	chic	38.0	23.60000	2001-10-27	7.000000	26.000000	15.7492955	24.000000
5415	chic	43.0	28.00000	2001-10-28	10.625000	18.500000	13.2870370	23.035779
5416	chic	52.0	37.50000	2001-10-29	9.100000	39.500000	11.9907407	25.510417
5417	chic	50.0	43.90000	2001-10-30	18.550000	39.500000	3.8758783	23.833333
5418	chic	59.0	38.00000	2001-10-31	16.987500	92.500000	23.7340342	30.033144
5419	chic	62.0	50.40000	2001-11-01	15.100000	83.000000	25.5839372	25.227129
5420	chic	56.0	36.80000	2001-11-02	8.200000	38.500000	13.1250000	24.979167
5421	chic	51.0	33.60000	2001-11-03	14.214286	36.166667	8.9722222	34.864583
5422	chic	49.0	37.50000	2001-11-04	10.300000	35.000000	14.3789683	24.260417
5423	chic	43.0	31.00000	2001-11-05	19.900000	59.000000	4.3472222	41.340774
5424	chic	48.0	31.10000	2001-11-06	13.587500	75.500000	5.6328502	35.536458
5425	chic	56.0	43.30000	2001-11-07	23.500000	84.500000	6.9329710	41.519475
5426	chic	45.0	37.90000	2001-11-08	15.800000	42.000000	9.6250000	26.341033
5427	chic	40.0	29.80000	2001-11-09	14.700000	32.000000	5.6527778	27.833333
5428	chic	49.0	33.40000	2001-11-10	10.100000	40.000000	14.0555556	17.270833
5429	chic	43.0	32.50000	2001-11-11	6.000000	15.500000	19.4583333	19.718750
5430	chic	42.0	32.30000	2001-11-12	20.037500	44.500000	4.0555556	34.218750
5431	chic	52.0	33.40000	2001-11-13	15.900000	78.500000	7.9722222	32.030208
5432	chic	57.0	49.10000	2001-11-14	38.900000	95.000000	9.1781401	38.563156
5433	chic	61.0	53.50000	2001-11-15	39.512500	59.666667	11.1111111	31.740942
5434	chic	50.0	47.00000	2001-11-16	27.050000	46.500000	8.2590580	24.656250
5435	chic	52.0	47.40000	2001-11-17	33.400000	73.000000	2.8333333	29.630208
5436	chic	56.0	51.70000	2001-11-18	38.075000	62.000000	5.6527778	25.109375
5437	chic	46.0	33.90000	2001-11-19	10.700000	28.000000	11.5295894	23.160714
5438	chic	36.0	23.20000	2001-11-20	6.700000	29.000000	7.5000000	26.222222
5439	chic	44.0	29.70000	2001-11-21	11.500000	29.600000	4.7916667	26.172101
5440	chic	48.0	30.30000	2001-11-22	10.800000	35.500000	9.4861111	22.437198
5441	chic	52.0	39.90000	2001-11-23	15.300000	34.500000	12.3282828	26.820707
5442	chic	57.0	51.50000	2001-11-24	10.142857	27.000000	19.1733092	15.276721
5443	chic	46.0	38.50000	2001-11-25	4.400000	12.000000	9.0138889	11.062500
5444	chic	43.0	40.40000	2001-11-26	17.700000	35.500000	6.2693237	21.729167
5445	chic	44.0	37.60000	2001-11-27	13.837500	21.166667	4.9166667	18.802083
5446	chic	39.0	34.30000	2001-11-28	19.100000	23.500000	2.9747475	19.181159
5447	chic	42.0	40.10000	2001-11-29	5.000000	12.500000	2.9861111	17.338542
5448	chic	45.0	42.50000	2001-11-30	6.100000	13.000000	1.2361111	16.476799
5449	chic	36.0	32.80000	2001-12-01	19.000000	33.500000	7.4027778	18.447917
5450	chic	39.0	35.40000	2001-12-02	16.750000	29.000000	6.8611111	24.833333
5451	chic	49.0	42.90000	2001-12-03	20.137500	28.666667	5.6274155	32.226935

5452	chic	58.0	51.10000	2001-12-04	14.300000	58.000000	6.9565217	28.260417
5453	chic	56.0	50.10000	2001-12-05	19.600000	81.500000	22.8611111	21.177083
5454	chic	44.0	30.90000	2001-12-06	9.812500	33.000000	8.5555556	27.128788
5455	chic	41.0	34.10000	2001-12-07	12.900000	23.500000	11.1186369	24.479167
5456	chic	39.0	32.70000	2001-12-08	21.100000	31.500000	10.7361111	24.447917
5457	chic	31.0	21.90000	2001-12-09	19.812500	23.166667	5.6388889	26.375000
5458	chic	39.0	23.10000	2001-12-10	22.350000	51.000000	3.9027778	33.994792
5459	chic	36.0	26.90000	2001-12-11	29.100000	55.000000	3.0772947	38.493433
5460	chic	43.0	40.90000	2001-12-12	27.200000	51.500000	1.7222222	30.199811
5461	chic	39.0	36.60000	2001-12-13	15.000000	19.000000	2.9633838	22.322917
5462	chic	35.0	32.10000	2001-12-14	27.500000	36.500000	2.2850242	26.078125
5463	chic	35.0	34.60000	2001-12-15	22.542857	25.800000	4.2361111	27.770833
5464	chic	42.0	41.80000	2001-12-16	17.600000	20.000000	2.5694444	25.411458
5465	chic	40.0	38.50000	2001-12-17	14.800000	17.000000	3.0422705	21.468750
5466	chic	39.0	32.30000	2001-12-18	19.737500	50.500000	3.7427536	26.566690
5467	chic	36.0	25.60000	2001-12-19	10.700000	22.500000	8.6642512	24.385417
5468	chic	33.0	18.80000	2001-12-20	9.900000	30.000000	5.9722222	29.467597
5469	chic	31.0	20.00000	2001-12-21	18.187500	39.000000	3.5416667	36.513889
5470	chic	41.0	34.40000	2001-12-22	11.000000	24.000000	10.7312802	24.245169
5471	chic	27.0	18.00000	2001-12-23	9.800000	46.000000	17.1340580	10.125000
5472	chic	18.0	12.00000	2001-12-24	7.800000	34.000000	19.5138889	14.013889
5473	chic	17.0	8.30000	2001-12-25	10.200000	23.500000	15.2500000	15.805556
5474	chic	14.0	8.10000	2001-12-26	11.600000	41.500000	8.7727822	19.875000
5475	chic	23.0	17.10000	2001-12-27	15.312500	28.000000	11.9027778	18.819444
5476	chic	21.0	12.10000	2001-12-28	12.100000	37.000000	14.2777778	22.617754
5477	chic	14.0	4.10000	2001-12-29	8.200000	32.000000	17.5694444	18.145833
5478	chic	13.0	4.80000	2001-12-30	11.525000	27.500000	15.0694444	15.479167
5479	chic	14.0	3.70000	2001-12-31	17.400000	31.000000	11.1919192	22.047222
5480	chic	18.0	6.00000	2002-01-01	16.000000	51.500000	5.7083333	30.864583
5481	chic	21.0	11.90000	2002-01-02	25.785714	49.600000	3.6944444	41.875000
5482	chic	20.0	11.30000	2002-01-03	20.100000	50.000000	5.8478261	35.735054
5483	chic	28.0	17.50000	2002-01-04	16.000000	71.000000	8.4070048	24.011775
5484	chic	32.0	25.90000	2002-01-05	20.087500	40.000000	4.3055556	21.708333
5485	chic	29.0	22.60000	2002-01-06	13.300000	26.500000	11.3750000	19.520833
5486	chic	22.0	12.40000	2002-01-07	10.100000	24.000000	9.2336957	25.316423
5487	chic	31.0	22.00000	2002-01-08	14.762500	24.600000	6.0277778	23.031250
5488	chic	47.0	33.70000	2002-01-09	11.400000	29.500000	3.9722222	22.022110
5489	chic	39.0	30.90000	2002-01-10	13.150000	23.000000	5.7210145	27.218750
5490	chic	38.0	27.00000	2002-01-11	12.125000	19.500000	10.6250000	21.802083
5491	chic	35.0	24.70000	2002-01-12	10.400000	16.500000	10.3750000	20.770833
5492	chic	33.0	22.70000	2002-01-13	8.900000	19.500000	7.5416667	22.104167
5493	chic	35.0	30.80000	2002-01-14	16.800000	19.333333	3.6805556	21.555060
5494	chic	32.0	23.60000	2002-01-15	18.600000	17.000000	10.2771739	18.510417

5495	chic	29.0	23.50000	2002-01-16	15.450000	22.500000	5.0277778	24.536849
5496	chic	19.0	14.40000	2002-01-17	17.937500	21.500000	8.0820707	25.354167
5497	chic	16.0	6.50000	2002-01-18	16.100000	28.500000	6.8333333	30.156250
5498	chic	20.0	12.40000	2002-01-19	19.500000	30.000000	7.7361111	30.614583
5499	chic	29.0	22.80000	2002-01-20	20.712500	22.833333	13.4166667	17.979167
5500	chic	31.0	25.70000	2002-01-21	18.500000	24.500000	9.0416667	23.708333
5501	chic	44.0	24.70000	2002-01-22	11.700000	37.500000	10.3611111	27.333333
5502	chic	42.0	39.20000	2002-01-23	18.700000	38.500000	8.0585749	23.135417
5503	chic	36.0	24.20000	2002-01-24	11.800000	17.500000	15.2632850	21.161355
5504	chic	39.0	20.70000	2002-01-25	8.800000	30.000000	12.1014493	22.375000
5505	chic	44.0	25.60000	2002-01-26	9.475000	15.6666667	14.1666667	21.697917
5506	chic	49.0	30.30000	2002-01-27	7.000000	28.000000	19.9027778	18.260417
5507	chic	41.0	33.50000	2002-01-28	16.600000	32.000000	12.2572464	24.218750
5508	chic	34.0	29.60000	2002-01-29	9.585714	15.000000	16.0416667	19.041667
5509	chic	32.0	28.30000	2002-01-30	15.050000	11.500000	15.3520531	22.152627
5510	chic	32.0	NA	2002-01-31	8.650000	9.500000	12.0227273	21.270833
5511	chic	27.0	22.50000	2002-02-01	9.271429	12.000000	15.1899758	26.270833
5512	chic	21.0	17.70000	2002-02-02	19.200000	32.000000	11.5555556	29.895833
5513	chic	27.0	20.10000	2002-02-03	16.800000	22.000000	20.9818841	19.494112
5514	chic	18.0	5.80000	2002-02-04	9.757143	21.000000	14.8948413	27.699728
5515	chic	20.0	12.20000	2002-02-05	18.800000	38.500000	7.9583333	35.482639
5516	chic	29.0	19.20000	2002-02-06	25.000000	49.500000	4.2291667	36.649909
5517	chic	32.0	26.10000	2002-02-07	34.857143	41.1666667	8.2119565	36.704545
5518	chic	36.0	28.30000	2002-02-08	34.850000	60.000000	5.8750000	32.805871
5519	chic	40.0	32.90000	2002-02-09	21.400000	30.500000	11.0833333	28.885417
5520	chic	37.0	29.30000	2002-02-10	10.014286	20.000000	19.4583333	17.906250
5521	chic	29.0	19.80000	2002-02-11	8.100000	28.000000	15.1250000	22.875000
5522	chic	35.0	22.00000	2002-02-12	6.050000	22.500000	20.2708333	17.250000
5523	chic	25.0	11.00000	2002-02-13	7.712500	17.250000	12.7581522	29.395780
5524	chic	38.0	21.70000	2002-02-14	8.200000	46.500000	15.5416667	23.304924
5525	chic	39.0	27.60000	2002-02-15	12.800000	33.500000	12.0573671	19.871212
5526	chic	37.0	24.50000	2002-02-16	6.585714	13.500000	17.7916667	18.291667
5527	chic	33.0	20.20000	2002-02-17	5.800000	11.000000	20.4583333	19.656250
5528	chic	38.0	22.90000	2002-02-18	10.500000	31.000000	12.6805556	24.750000
5529	chic	42.0	39.90000	2002-02-19	14.850000	20.400000	12.9305556	24.306914
5530	chic	44.0	42.80000	2002-02-20	11.400000	20.000000	9.6666667	16.145833
5531	chic	32.0	26.20000	2002-02-21	8.400000	12.500000	13.9374177	21.559783
5532	chic	30.0	18.40000	2002-02-22	8.471429	15.000000	16.0694444	27.664855
5533	chic	36.0	24.80000	2002-02-23	10.500000	25.000000	13.8472222	24.166667
5534	chic	50.0	31.60000	2002-02-24	11.600000	30.500000	20.4722222	16.645833
5535	chic	42.0	30.90000	2002-02-25	9.828571	18.333333	20.7777778	17.117918
5536	chic	26.0	19.60000	2002-02-26	8.400000	26.500000	17.8333333	20.239583
5537	chic	21.0	10.80000	2002-02-27	9.200000	26.000000	18.3152174	23.668616

5538	chic	23.0	14.00000	2002-02-28	14.987500	43.500000	11.6666667	26.348485
5539	chic	26.0	17.20000	2002-03-01	17.800000	27.500000	16.3194444	28.906250
5540	chic	28.0	27.90000	2002-03-02	15.900000	19.000000	12.9166667	32.166667
5541	chic	11.0	3.30000	2002-03-03	7.200000	15.500000	30.1250000	14.885417
5542	chic	6.0	-0.60000	2002-03-04	12.800000	29.000000	18.9510870	25.361607
5543	chic	23.0	17.90000	2002-03-05	22.700000	29.000000	8.8007246	36.723485
5544	chic	35.0	28.10000	2002-03-06	21.942857	20.000000	16.1388889	30.010417
5545	chic	36.0	30.60000	2002-03-07	33.700000	41.000000	16.1962560	25.213768
5546	chic	51.0	46.50000	2002-03-08	13.600000	12.000000	18.9722222	23.166667
5547	chic	42.0	30.90000	2002-03-09	9.457143	23.500000	28.8750000	8.302083
5548	chic	21.0	7.20000	2002-03-10	7.550000	20.500000	27.5507246	12.041667
5549	chic	33.0	21.00000	2002-03-11	13.350000	33.000000	11.1690821	30.697917
5550	chic	40.0	31.30000	2002-03-12	25.325000	53.000000	6.7904589	31.125000
5551	chic	48.0	37.60000	2002-03-13	24.100000	48.000000	13.5138889	30.844656
5552	chic	50.0	41.00000	2002-03-14	27.000000	34.000000	18.8224638	22.166667
5553	chic	47.0	31.50000	2002-03-15	11.114286	19.400000	20.9305556	15.125000
5554	chic	37.0	26.30000	2002-03-16	5.500000	10.500000	36.3055556	11.302083
5555	chic	38.0	30.40000	2002-03-17	16.100000	23.500000	18.4444444	20.812500
5556	chic	42.0	32.00000	2002-03-18	20.925000	23.500000	15.9263285	25.412202
5557	chic	42.0	35.50000	2002-03-19	30.450000	41.000000	9.1111111	28.593750
5558	chic	40.0	34.00000	2002-03-20	16.800000	20.500000	19.8888889	27.083333
5559	chic	28.0	12.90000	2002-03-21	10.928571	20.1666667	22.8750000	16.403986
5560	chic	26.0	8.10000	2002-03-22	10.700000	34.500000	24.1805556	14.734848
5561	chic	39.0	15.80000	2002-03-23	12.100000	39.000000	26.7500000	17.927083
5562	chic	34.0	22.90000	2002-03-24	7.537500	19.000000	35.0972222	11.412138
5563	chic	28.0	19.10000	2002-03-25	7.100000	19.000000	26.3333333	11.368506
5564	chic	32.0	23.70000	2002-03-26	12.250000	16.000000	22.0694444	19.677083
5565	chic	36.0	22.10000	2002-03-27	20.562500	31.1666667	14.3888889	33.911504
5566	chic	40.0	32.60000	2002-03-28	31.500000	52.500000	10.3387681	30.593750
5567	chic	41.0	39.30000	2002-03-29	20.500000	31.500000	9.4166667	34.385417
5568	chic	43.0	29.20000	2002-03-30	8.225000	12.000000	20.3611111	20.177083
5569	chic	38.0	27.30000	2002-03-31	10.600000	17.000000	19.5138889	22.156250
5570	chic	34.0	27.10000	2002-04-01	13.300000	25.000000	14.0338542	28.233696
5571	chic	39.0	34.50000	2002-04-02	19.125000	24.500000	16.2943841	25.730655
5572	chic	35.0	28.10000	2002-04-03	9.700000	15.000000	21.0313118	23.128788
5573	chic	31.0	25.00000	2002-04-04	9.000000	15.000000	23.0562726	22.816123
5574	chic	33.0	24.80000	2002-04-05	18.642857	28.000000	18.1805933	29.197917
5575	chic	34.0	22.80000	2002-04-06	15.900000	25.000000	23.8671875	30.322917
5576	chic	42.0	34.50000	2002-04-07	15.600000	24.000000	22.9348958	21.208333
5577	chic	49.0	48.30000	2002-04-08	23.475000	27.500000	18.5677083	37.102273
5578	chic	43.0	38.80000	2002-04-09	9.800000	18.000000	18.8643569	26.760417
5579	chic	49.0	35.60000	2002-04-10	15.250000	31.000000	21.5643024	29.705492
5580	chic	63.0	41.30000	2002-04-11	11.425000	45.000000	30.1260064	26.417874

5581	chic	57.0	51.40000	2002-04-12	13.700000	36.000000	19.7606500	22.291667
5582	chic	52.0	45.50000	2002-04-13	16.000000	24.000000	19.8472222	30.444444
5583	chic	59.0	50.30000	2002-04-14	17.914286	26.166667	29.4074074	20.250000
5584	chic	75.0	59.00000	2002-04-15	14.100000	62.000000	35.0972222	19.943496
5585	chic	78.0	60.80000	2002-04-16	14.400000	41.000000	36.1854011	17.125000
5586	chic	75.0	58.10000	2002-04-17	13.462500	47.000000	28.6344422	24.339976
5587	chic	76.0	61.10000	2002-04-18	13.700000	67.000000	29.6387791	21.868961
5588	chic	56.0	46.80000	2002-04-19	5.700000	22.000000	30.3912037	17.583333
5589	chic	45.0	29.60000	2002-04-20	4.142857	6.800000	41.0092593	7.802083
5590	chic	41.0	38.30000	2002-04-21	5.700000	9.000000	30.2476852	10.197917
5591	chic	40.0	33.50000	2002-04-22	6.800000	8.000000	25.5663245	22.460417
5592	chic	46.0	36.90000	2002-04-23	17.400000	22.000000	20.1294375	32.925595
5593	chic	58.0	44.50000	2002-04-24	11.500000	19.000000	26.6563003	21.848020
5594	chic	46.0	26.50000	2002-04-25	7.800000	NA	24.8418881	17.044643
5595	chic	45.0	25.70000	2002-04-26	9.900000	30.250000	23.9322665	26.260417
5596	chic	48.0	37.40000	2002-04-27	12.600000	34.000000	24.6574074	20.604167
5597	chic	50.0	41.40000	2002-04-28	6.600000	14.000000	27.8101852	12.317708
5598	chic	51.0	37.80000	2002-04-29	10.928571	38.000000	25.1340488	25.634848
5599	chic	54.0	33.80000	2002-04-30	8.500000	29.000000	20.5936997	29.241667
5600	chic	53.0	35.30000	2002-05-01	9.300000	35.000000	22.4957912	28.692391
5601	chic	49.0	35.30000	2002-05-02	8.512500	13.833333	31.2284805	18.099123
5602	chic	46.0	27.00000	2002-05-03	4.300000	15.000000	20.9058977	22.737500
5603	chic	52.0	34.60000	2002-05-04	9.500000	18.000000	27.7800926	27.212500
5604	chic	59.0	44.60000	2002-05-05	10.325000	16.000000	33.7847222	18.233333
5605	chic	68.0	59.80000	2002-05-06	11.000000	17.000000	26.4014694	24.650000
5606	chic	56.0	44.90000	2002-05-07	6.400000	7.000000	27.5550615	13.945833
5607	chic	55.0	54.20000	2002-05-08	16.225000	23.800000	14.6794485	19.905303
5608	chic	58.0	41.80000	2002-05-09	7.350000	28.000000	25.6113124	14.004167
5609	chic	56.0	28.10000	2002-05-10	9.300000	37.000000	31.4188808	23.250000
5610	chic	51.0	39.20000	2002-05-11	14.550000	29.500000	32.8463542	21.054167
5611	chic	48.0	46.80000	2002-05-12	10.700000	17.000000	24.0208333	20.083333
5612	chic	50.0	40.60000	2002-05-13	9.300000	16.000000	27.6348723	22.710714
5613	chic	54.0	42.20000	2002-05-14	12.312500	19.166667	22.1915258	29.937500
5614	chic	58.0	48.20000	2002-05-15	12.700000	59.000000	33.6334267	24.978409
5615	chic	55.0	50.20000	2002-05-16	8.000000	21.000000	22.4490741	21.418939
5616	chic	41.0	32.70000	2002-05-17	2.912500	6.000000	26.4095066	13.204167
5617	chic	44.0	32.50000	2002-05-18	5.750000	15.000000	25.5231481	18.345833
5618	chic	46.0	35.60000	2002-05-19	10.150000	14.500000	28.1388889	17.966667
5619	chic	41.0	30.10000	2002-05-20	3.485714	7.666667	31.2750421	12.900595
5620	chic	45.0	29.80000	2002-05-21	6.400000	16.000000	20.9094203	27.704167
5621	chic	55.0	37.60000	2002-05-22	14.250000	27.000000	28.3486312	23.074420
5622	chic	65.0	52.40000	2002-05-23	18.987500	56.500000	33.7650966	24.296429
5623	chic	54.0	39.10000	2002-05-24	6.700000	7.000000	24.0637077	14.116667

5624	chic	49.0	46.00000	2002-05-25	11.300000	13.500000	16.3726852	17.912500
5625	chic	55.0	45.40000	2002-05-26	9.775000	17.000000	25.3240741	20.250000
5626	chic	64.0	51.00000	2002-05-27	13.900000	21.500000	37.9953704	20.091667
5627	chic	69.0	57.60000	2002-05-28	27.200000	42.000000	26.1726596	34.948106
5628	chic	73.0	62.00000	2002-05-29	13.925000	49.000000	24.1001409	25.600000
5629	chic	75.0	63.70000	2002-05-30	19.100000	56.000000	30.4930556	25.479745
5630	chic	77.0	56.40000	2002-05-31	10.700000	59.500000	31.5879630	27.033333
5631	chic	76.0	53.10000	2002-06-01	9.875000	39.166667	40.5763889	24.525000
5632	chic	62.0	45.60000	2002-06-02	9.700000	22.000000	33.9745370	17.161905
5633	chic	62.0	56.00000	2002-06-03	18.100000	36.500000	21.8163837	22.636957
5634	chic	65.0	64.10000	2002-06-04	20.562500	35.000000	8.3394360	38.027899
5635	chic	56.0	53.90000	2002-06-05	10.850000	11.000000	14.3436997	18.302717
5636	chic	58.0	51.80000	2002-06-06	11.550000	16.000000	25.1726413	21.294048
5637	chic	64.0	53.10000	2002-06-07	17.175000	29.000000	22.8748994	32.045833
5638	chic	71.0	58.60000	2002-06-08	25.000000	45.000000	43.9537037	27.266667
5639	chic	72.0	59.60000	2002-06-09	30.050000	54.000000	51.7199074	23.587500
5640	chic	80.0	70.60000	2002-06-10	18.637500	48.000000	28.4845008	22.541667
5641	chic	76.0	69.50000	2002-06-11	9.600000	21.000000	22.6320451	18.168506
5642	chic	64.0	60.10000	2002-06-12	9.800000	17.000000	15.8882576	15.563745
5643	chic	60.0	57.20000	2002-06-13	10.437500	20.833333	13.1978663	17.770833
5644	chic	61.0	55.70000	2002-06-14	7.100000	15.500000	15.7533853	24.066667
5645	chic	67.0	54.10000	2002-06-15	7.600000	13.000000	26.5277778	16.358333
5646	chic	66.0	48.40000	2002-06-16	6.485714	12.500000	24.9296875	17.316667
5647	chic	67.0	53.50000	2002-06-17	12.400000	27.500000	18.0872962	32.582971
5648	chic	70.0	55.70000	2002-06-18	15.500000	42.000000	38.2849327	26.000181
5649	chic	75.0	60.60000	2002-06-19	24.962500	47.666667	45.0124547	29.975000
5650	chic	82.0	67.40000	2002-06-20	33.000000	80.500000	47.4267311	30.767029
5651	chic	80.0	69.00000	2002-06-21	31.300000	67.500000	37.3514291	38.541667
5652	chic	80.0	65.40000	2002-06-22	35.400000	75.500000	46.6250000	35.158333
5653	chic	82.0	63.50000	2002-06-23	42.500000	65.000000	54.8804348	30.039130
5654	chic	78.0	63.90000	2002-06-24	34.200000	88.000000	54.4484127	37.985145
5655	chic	81.0	70.30000	2002-06-25	23.987500	39.833333	19.8884680	33.735985
5656	chic	79.0	66.40000	2002-06-26	9.900000	26.500000	34.3665459	20.915422
5657	chic	74.0	64.30000	2002-06-27	8.200000	18.000000	23.5150966	16.556522
5658	chic	74.0	60.30000	2002-06-28	13.662500	29.000000	17.3104871	25.416667
5659	chic	74.0	63.60000	2002-06-29	21.800000	37.000000	30.5509259	27.616667
5660	chic	81.0	73.10000	2002-06-30	20.950000	38.500000	39.4557292	18.516667
5661	chic	84.0	70.60000	2002-07-01	20.042857	65.000000	23.1740137	19.308333
5662	chic	84.0	65.80000	2002-07-02	21.600000	69.500000	22.7783816	20.235507
5663	chic	84.0	70.00000	2002-07-03	28.700000	95.000000	36.3783967	31.369163
5664	chic	80.0	68.30000	2002-07-04	16.637500	35.500000	33.3776042	14.675000
5665	chic	75.0	60.70000	2002-07-05	6.700000	16.500000	30.5648148	10.800000
5666	chic	75.0	61.00000	2002-07-06	17.100000	24.500000	36.3194444	23.908333

5667	chic	77.0	64.60000	2002-07-07	25.412500	44.600000	51.1435185	27.779167
5668	chic	81.0	70.40000	2002-07-08	33.100000	64.000000	45.3496926	27.678571
5669	chic	74.0	70.20000	2002-07-09	12.300000	32.000000	31.5613929	16.886594
5670	chic	74.0	60.10000	2002-07-10	9.942857	19.000000	31.3040459	10.902355
5671	chic	69.0	52.90000	2002-07-11	7.300000	17.000000	32.1349638	12.659091
5672	chic	68.0	53.50000	2002-07-12	10.900000	24.500000	38.7951540	19.794565
5673	chic	70.0	53.40000	2002-07-13	12.271429	23.800000	44.4687500	21.508333
5674	chic	72.0	53.00000	2002-07-14	17.100000	27.500000	45.1197917	30.616667
5675	chic	76.0	60.40000	2002-07-15	26.300000	51.000000	42.8390313	44.934524
5676	chic	79.0	62.70000	2002-07-16	25.528571	63.000000	42.0976248	36.008333
5677	chic	78.0	66.30000	2002-07-17	40.900000	91.500000	40.2255435	40.655698
5678	chic	82.0	66.20000	2002-07-18	38.850000	72.500000	44.9804549	26.069048
5679	chic	74.0	65.10000	2002-07-19	20.375000	34.833333	27.3751006	18.212500
5680	chic	76.0	66.70000	2002-07-20	21.900000	39.000000	39.7106481	18.587500
5681	chic	87.0	74.90000	2002-07-21	21.000000	35.000000	42.1782407	15.108333
5682	chic	83.0	70.30000	2002-07-22	15.587500	44.000000	33.6712963	22.933333
5683	chic	70.0	57.40000	2002-07-23	3.000000	7.500000	27.9461554	11.184964
5684	chic	71.0	52.60000	2002-07-24	5.700000	18.500000	34.0045290	16.287121
5685	chic	73.0	64.80000	2002-07-25	18.800000	30.200000	27.4955717	30.750000
5686	chic	79.0	71.70000	2002-07-26	32.400000	51.500000	36.8382649	28.791667
5687	chic	80.0	73.80000	2002-07-27	17.400000	28.000000	28.9166667	21.358333
5688	chic	81.0	74.60000	2002-07-28	16.057143	23.500000	28.4930556	17.158333
5689	chic	77.0	71.40000	2002-07-29	12.300000	24.500000	20.6176347	21.608333
5690	chic	80.0	68.90000	2002-07-30	13.500000	27.500000	33.5359300	33.966238
5691	chic	82.0	68.10000	2002-07-31	17.987500	30.833333	34.3534622	34.478220
5692	chic	85.0	74.00000	2002-08-01	21.300000	56.500000	39.9837963	26.822917
5693	chic	72.0	62.20000	2002-08-02	6.000000	11.500000	31.2453704	17.518386
5694	chic	75.0	66.90000	2002-08-03	16.412500	38.500000	40.9305556	23.583333
5695	chic	82.0	72.10000	2002-08-04	22.900000	47.500000	43.5416667	18.641667
5696	chic	77.0	68.40000	2002-08-05	12.300000	17.000000	35.7106481	17.929167
5697	chic	69.0	56.60000	2002-08-06	3.637500	11.000000	23.5653363	9.554167
5698	chic	67.0	54.90000	2002-08-07	6.200000	12.000000	25.4704106	14.487500
5699	chic	69.0	58.10000	2002-08-08	8.900000	20.500000	29.1932916	19.005736
5700	chic	70.0	58.40000	2002-08-09	16.537500	33.500000	39.4067824	27.920000
5701	chic	74.0	62.60000	2002-08-10	27.850000	41.500000	47.8935185	29.908333
5702	chic	80.0	67.40000	2002-08-11	30.800000	46.000000	51.0833333	20.691667
5703	chic	79.0	68.60000	2002-08-12	23.050000	40.000000	41.8330680	19.642857
5704	chic	76.0	70.00000	2002-08-13	12.700000	29.500000	29.8009259	19.897134
5705	chic	70.0	63.80000	2002-08-14	9.400000	24.500000	15.8346417	19.519264
5706	chic	74.0	68.00000	2002-08-15	13.912500	39.500000	25.5449605	19.225379
5707	chic	75.0	69.00000	2002-08-16	12.000000	24.000000	14.0427632	22.983333
5708	chic	76.0	69.30000	2002-08-17	12.900000	32.000000	23.5138889	12.491667
5709	chic	66.0	53.40000	2002-08-18	7.700000	19.166667	24.5069444	17.883333

5710	chic	66.0	61.30000	2002-08-19	9.200000	12.000000	19.3902778	19.079167
5711	chic	66.0	58.00000	2002-08-20	10.400000	22.500000	19.7077295	25.419565
5712	chic	75.0	70.00000	2002-08-21	23.075000	41.000000	31.3570670	21.029167
5713	chic	74.0	69.90000	2002-08-22	10.700000	16.000000	25.5067432	26.300000
5714	chic	73.0	70.20000	2002-08-23	18.350000	18.000000	20.3838567	22.961730
5715	chic	74.0	67.80000	2002-08-24	16.687500	27.833333	21.3865741	22.867301
5716	chic	74.0	67.70000	2002-08-25	17.100000	22.500000	28.1782407	21.572917
5717	chic	74.0	65.60000	2002-08-26	11.400000	17.000000	25.0231481	15.755208
5718	chic	74.0	68.00000	2002-08-27	14.112500	23.000000	32.8172303	16.119792
5719	chic	72.0	64.70000	2002-08-28	10.800000	20.000000	27.6018519	13.652273
5720	chic	70.0	62.70000	2002-08-29	13.600000	24.000000	38.2792874	19.507246
5721	chic	73.0	63.30000	2002-08-30	20.528571	35.400000	42.2069243	22.629167
5722	chic	73.0	63.50000	2002-08-31	24.300000	36.000000	45.9976852	21.391667
5723	chic	74.0	66.20000	2002-09-01	31.400000	45.000000	37.7870370	24.566667
5724	chic	74.0	68.80000	2002-09-02	22.171429	46.500000	43.8009259	14.370833
5725	chic	72.0	57.30000	2002-09-03	8.900000	17.500000	25.3721820	20.189394
5726	chic	72.0	57.00000	2002-09-04	8.600000	34.500000	21.1584138	27.596196
5727	chic	72.0	60.50000	2002-09-05	7.900000	24.000000	25.2396062	18.859601
5728	chic	71.0	61.00000	2002-09-06	21.000000	33.000000	31.6829710	37.279167
5729	chic	74.0	61.80000	2002-09-07	31.950000	59.500000	38.8203704	40.058333
5730	chic	76.0	66.00000	2002-09-08	44.042857	65.000000	42.8842593	39.625000
5731	chic	78.0	69.50000	2002-09-09	39.400000	70.500000	29.0620974	45.258333
5732	chic	76.0	64.90000	2002-09-10	25.400000	75.500000	27.1868961	29.116667
5733	chic	64.0	50.80000	2002-09-11	7.157143	15.500000	22.8497383	19.510417
5734	chic	64.0	52.60000	2002-09-12	13.550000	47.000000	16.9884900	34.601490
5735	chic	64.0	55.00000	2002-09-13	15.800000	51.000000	25.6544686	38.203804
5736	chic	68.0	57.30000	2002-09-14	23.814286	41.000000	37.4768519	32.927083
5737	chic	63.0	56.40000	2002-09-15	5.950000	9.000000	26.9467593	11.072917
5738	chic	62.0	51.90000	2002-09-16	9.200000	34.000000	14.7258454	32.937500
5739	chic	65.0	56.20000	2002-09-17	20.562500	41.333333	24.5718142	39.238095
5740	chic	71.0	66.10000	2002-09-18	21.300000	31.000000	25.0585017	28.683053
5741	chic	76.0	71.50000	2002-09-19	12.450000	42.000000	14.3146410	20.989583
5742	chic	67.0	66.60000	2002-09-20	5.714286	40.000000	9.6382850	17.916667
5743	chic	69.0	56.70000	2002-09-21	8.600000	18.000000	24.0755208	19.031250
5744	chic	56.0	45.20000	2002-09-22	5.250000	12.500000	17.8177083	18.916667
5745	chic	54.0	41.60000	2002-09-23	7.600000	21.000000	17.3287879	26.805060
5746	chic	52.0	41.50000	2002-09-24	5.250000	15.000000	18.2843196	22.677083
5747	chic	59.0	47.60000	2002-09-25	10.450000	37.000000	18.4154772	27.525856
5748	chic	62.0	53.80000	2002-09-26	29.914286	53.000000	21.4684103	36.554924
5749	chic	60.0	55.20000	2002-09-27	13.500000	21.500000	27.1701766	20.881250
5750	chic	62.0	57.00000	2002-09-28	29.400000	38.000000	28.3880208	21.833333
5751	chic	72.0	63.70000	2002-09-29	26.957143	40.333333	36.2760417	16.843750
5752	chic	77.0	56.90000	2002-09-30	19.500000	56.500000	36.5648292	22.575893

5753	chic	75.0	64.80000	2002-10-01	23.700000	45.000000	25.5442708	31.870265
5754	chic	66.0	62.70000	2002-10-02	15.212500	23.000000	16.9766757	23.604167
5755	chic	61.0	58.50000	2002-10-03	13.300000	23.500000	14.3696784	17.208333
5756	chic	63.0	59.30000	2002-10-04	11.900000	19.000000	15.1571558	17.416667
5757	chic	55.0	44.20000	2002-10-05	8.162500	17.666667	13.2708333	20.364583
5758	chic	58.0	45.70000	2002-10-06	7.500000	14.000000	23.1484375	15.562500
5759	chic	48.0	33.40000	2002-10-07	7.100000	14.500000	13.9973958	24.884770
5760	chic	56.0	37.40000	2002-10-08	9.375000	35.500000	9.5892857	30.895833
5761	chic	57.0	48.50000	2002-10-09	15.600000	44.500000	9.5737401	31.078598
5762	chic	62.0	51.10000	2002-10-10	22.400000	51.500000	10.5729167	33.760417
5763	chic	61.0	50.60000	2002-10-11	30.485714	54.833333	10.7070879	34.666667
5764	chic	61.0	54.10000	2002-10-12	25.700000	28.500000	14.2187500	21.472222
5765	chic	42.0	27.50000	2002-10-13	5.200000	9.500000	15.5598958	17.416667
5766	chic	44.0	27.10000	2002-10-14	10.114286	27.500000	10.1692708	29.166667
5767	chic	50.0	33.50000	2002-10-15	11.600000	30.000000	11.1271513	29.270202
5768	chic	42.0	30.90000	2002-10-16	8.600000	12.500000	14.8320879	26.602092
5769	chic	41.0	35.80000	2002-10-17	11.700000	20.500000	6.2156929	28.222222
5770	chic	49.0	42.00000	2002-10-18	15.200000	42.000000	7.1250000	25.638889
5771	chic	42.0	32.40000	2002-10-19	7.600000	10.000000	14.8229167	19.902778
5772	chic	41.0	31.20000	2002-10-20	16.280000	19.000000	11.8776042	24.736111
5773	chic	45.0	35.30000	2002-10-21	18.150000	42.000000	11.3255208	32.502525
5774	chic	44.0	34.80000	2002-10-22	14.400000	21.000000	8.6073370	23.838164
5775	chic	43.0	37.80000	2002-10-23	8.012500	14.333333	12.7129917	20.195652
5776	chic	44.0	38.30000	2002-10-24	7.500000	11.000000	11.5936853	21.319444
5777	chic	45.0	43.20000	2002-10-25	19.900000	29.000000	5.3697917	21.634964
5778	chic	43.0	39.80000	2002-10-26	15.862500	14.500000	4.1953125	20.114583
5779	chic	42.0	31.00000	2002-10-27	9.300000	9.000000	14.0076122	16.802083
5780	chic	44.0	36.30000	2002-10-28	8.800000	11.000000	18.0496894	16.812500
5781	chic	44.0	34.50000	2002-10-29	7.875000	12.333333	18.1488095	16.257440
5782	chic	45.0	35.00000	2002-10-30	7.433333	9.000000	20.1616848	20.138134
5783	chic	40.0	32.10000	2002-10-31	15.900000	16.000000	8.9827899	26.125000
5784	chic	33.0	19.90000	2002-11-01	11.475000	18.500000	11.7893939	21.934783
5785	chic	38.0	22.60000	2002-11-02	10.800000	21.000000	11.0416667	21.822917
5786	chic	36.0	27.90000	2002-11-03	19.200000	20.000000	6.9083333	22.687500
5787	chic	39.0	30.00000	2002-11-04	25.485714	36.666667	6.9447826	28.349702
5788	chic	38.0	35.40000	2002-11-05	26.900000	29.500000	2.3854167	28.740036
5789	chic	40.0	33.70000	2002-11-06	26.600000	27.000000	8.3451087	23.375000
5790	chic	44.0	35.60000	2002-11-07	19.614286	51.500000	11.0317029	26.480461
5791	chic	56.0	36.70000	2002-11-08	7.500000	39.000000	22.3645833	21.979167
5792	chic	58.0	52.70000	2002-11-09	15.300000	37.000000	23.3333333	14.083333
5793	chic	51.0	53.10000	2002-11-10	18.062500	26.500000	14.7291667	12.468750
5794	chic	39.0	34.50000	2002-11-11	10.800000	24.000000	4.1770833	16.593750
5795	chic	40.0	30.50000	2002-11-12	17.150000	21.000000	6.0406785	22.958333

5796	chic	46.0	34.20000	2002-11-13	15.500000	36.500000	6.7798913	23.461310
5797	chic	47.0	37.90000	2002-11-14	9.200000	17.500000	12.1979167	21.439764
5798	chic	38.0	28.60000	2002-11-15	4.650000	4.000000	29.1041667	14.250000
5799	chic	34.0	25.80000	2002-11-16	4.100000	7.166667	27.3645833	14.447917
5800	chic	32.0	25.80000	2002-11-17	10.900000	11.500000	14.6354167	25.072917
5801	chic	35.0	30.40000	2002-11-18	27.650000	36.500000	2.8840580	33.195076
5802	chic	44.0	33.50000	2002-11-19	17.885714	22.000000	5.4954710	24.177083
5803	chic	44.0	34.00000	2002-11-20	13.800000	32.500000	3.3020833	30.406250
5804	chic	39.0	32.80000	2002-11-21	13.200000	28.500000	11.1050725	24.449275
5805	chic	31.0	24.90000	2002-11-22	8.487500	15.500000	12.4583333	28.350543
5806	chic	39.0	28.50000	2002-11-23	14.600000	22.000000	8.0833333	25.093750
5807	chic	32.0	24.40000	2002-11-24	7.100000	10.500000	10.6979167	19.364583
5808	chic	26.0	18.10000	2002-11-25	9.585714	19.500000	6.8645833	29.489583
5809	chic	25.0	21.60000	2002-11-26	22.350000	25.500000	2.7930254	37.534226
5810	chic	22.0	16.80000	2002-11-27	21.400000	23.000000	6.0040761	35.473214
5811	chic	24.0	20.20000	2002-11-28	24.814286	32.500000	7.9479167	23.614583
5812	chic	40.0	29.40000	2002-11-29	6.200000	17.000000	12.4479167	15.114583
5813	chic	29.0	15.30000	2002-11-30	4.700000	15.000000	22.6458333	11.906250
5814	chic	25.0	9.80000	2002-12-01	6.550000	18.000000	14.9583333	17.291667
5815	chic	29.0	22.20000	2002-12-02	7.800000	14.500000	13.8854167	26.875947
5816	chic	19.0	14.60000	2002-12-03	11.400000	24.000000	11.8786232	36.635417
5817	chic	19.0	12.80000	2002-12-04	18.462500	35.666667	5.1250000	44.468297
5818	chic	20.0	12.60000	2002-12-05	20.000000	24.000000	9.3229167	30.135417
5819	chic	21.0	13.60000	2002-12-06	19.800000	41.000000	5.5018939	25.827899
5820	chic	35.0	25.80000	2002-12-07	20.528571	25.500000	7.3958333	21.479167
5821	chic	22.0	10.90000	2002-12-08	8.800000	18.500000	14.1250000	24.552083
5822	chic	20.0	10.30000	2002-12-09	19.900000	51.000000	6.1512681	40.920002
5823	chic	34.0	18.80000	2002-12-10	20.800000	43.500000	3.8750000	38.218750
5824	chic	32.0	17.40000	2002-12-11	27.300000	75.000000	3.2432065	47.760417
5825	chic	34.0	30.00000	2002-12-12	28.650000	30.000000	2.0964674	28.335038
5826	chic	36.0	33.30000	2002-12-13	37.937500	35.000000	3.4207428	26.013393
5827	chic	35.0	30.10000	2002-12-14	30.400000	34.500000	6.2187500	20.145833
5828	chic	38.0	30.00000	2002-12-15	13.800000	19.500000	12.2395833	16.458333
5829	chic	32.0	22.30000	2002-12-16	6.314286	14.000000	23.2187500	16.713315
5830	chic	34.0	27.10000	2002-12-17	16.600000	27.500000	8.8532609	22.354167
5831	chic	46.0	47.50000	2002-12-18	15.100000	23.000000	11.8161232	22.385417
5832	chic	45.0	36.10000	2002-12-19	13.687500	17.000000	7.0144928	15.375000
5833	chic	32.0	26.00000	2002-12-20	6.800000	12.000000	11.0312500	12.614583
5834	chic	31.0	24.10000	2002-12-21	8.500000	13.000000	14.7187500	14.343750
5835	chic	28.0	20.40000	2002-12-22	9.057143	15.000000	15.1145833	11.552083
5836	chic	28.0	16.60000	2002-12-23	9.700000	13.500000	12.6770833	17.906250
5837	chic	26.0	21.10000	2002-12-24	13.700000	15.000000	11.3541667	25.531250
5838	chic	26.0	22.40000	2002-12-25	7.675000	10.000000	18.2916667	12.510417

5839	chic	24.0	18.50000	2002-12-26	18.70000	21.50000	9.1666667	19.743371
5840	chic	26.0	22.70000	2002-12-27	25.90000	32.50000	4.8111413	28.260417
5841	chic	31.0	28.20000	2002-12-28	33.342857	36.666667	5.1250000	25.718750
5842	chic	31.0	29.30000	2002-12-29	42.30000	39.00000	6.6354167	25.750000
5843	chic	49.0	43.50000	2002-12-30	16.30000	23.00000	10.4166667	19.907197
5844	chic	35.0	20.70000	2002-12-31	11.57500	15.00000	10.2395833	24.395833
5845	chic	30.0	22.50000	2003-01-01	4.20000	7.00000	26.3020833	10.916667
5846	chic	30.0	25.00000	2003-01-02	9.40000	7.50000	22.6743659	19.367424
5847	chic	27.0	20.90000	2003-01-03	12.657143	21.80000	10.0579710	32.669192
5848	chic	25.0	21.60000	2003-01-04	25.40000	25.50000	5.7500000	33.611111
5849	chic	31.0	30.20000	2003-01-05	32.90000	24.50000	2.5000000	26.027778
5850	chic	30.0	21.50000	2003-01-06	11.042857	15.00000	13.6875000	27.599206
5851	chic	37.0	27.70000	2003-01-07	16.30000	21.50000	8.6354167	18.958333
5852	chic	46.0	30.60000	2003-01-08	11.40000	21.50000	9.1229167	20.402778
5853	chic	37.0	23.80000	2003-01-09	6.657143	14.80000	17.5851449	20.958333
5854	chic	21.0	9.10000	2003-01-10	9.60000	18.00000	20.0394022	19.430556
5855	chic	14.0	2.30000	2003-01-11	6.20000	13.00000	20.3229167	15.875000
5856	chic	21.0	8.10000	2003-01-12	8.957143	20.50000	14.3958333	22.638889
5857	chic	24.0	5.70000	2003-01-13	11.70000	18.50000	17.4184783	24.160714
5858	chic	14.0	5.80000	2003-01-14	NA	22.00000	14.6666667	24.472222
5859	chic	13.0	1.30000	2003-01-15	15.60000	29.80000	11.5937500	31.722222
5860	chic	22.0	4.60000	2003-01-16	NA	37.00000	9.3020833	38.550000
5861	chic	17.0	1.90000	2003-01-17	10.20000	29.00000	17.8093297	29.425505
5862	chic	15.0	6.60000	2003-01-18	15.65000	22.00000	16.8854167	22.791667
5863	chic	16.0	8.90000	2003-01-19	11.70000	27.00000	16.1250000	21.166667
5864	chic	17.0	-0.70000	2003-01-20	10.90000	42.50000	20.2500000	25.722222
5865	chic	12.0	-5.20000	2003-01-21	11.785714	29.60000	17.4796196	27.956349
5866	chic	9.0	-5.30000	2003-01-22	12.50000	20.00000	18.8607955	23.402778
5867	chic	4.0	-9.30000	2003-01-23	11.10000	22.00000	18.7291667	24.932971
5868	chic	9.0	-4.00000	2003-01-24	16.887500	31.00000	10.3745471	29.252193
5869	chic	25.0	11.50000	2003-01-25	NA	30.00000	13.2708333	21.736111
5870	chic	10.0	-2.50000	2003-01-26	9.00000	32.00000	24.5833333	20.180556
5871	chic	7.0	0.10000	2003-01-27	19.242857	37.25000	9.7056159	40.458333
5872	chic	26.0	20.50000	2003-01-28	29.40000	53.00000	4.6109601	36.902778
5873	chic	21.0	17.10000	2003-01-29	19.80000	19.00000	11.4904891	33.513889
5874	chic	25.0	20.30000	2003-01-30	22.80000	30.00000	8.2291667	35.247475
5875	chic	34.0	30.40000	2003-01-31	24.50000	40.00000	3.4479167	26.958333
5876	chic	33.0	29.50000	2003-02-01	30.30000	29.00000	6.6770833	22.605556
5877	chic	37.0	33.90000	2003-02-02	35.228571	44.75000	6.5833333	20.458333
5878	chic	39.0	37.00000	2003-02-03	30.40000	46.00000	3.6417572	29.334596
5879	chic	21.0	12.50000	2003-02-04	8.90000	15.00000	20.5240036	16.513889
5880	chic	18.0	4.50000	2003-02-05	11.65000	27.00000	13.5416667	27.375000
5881	chic	24.0	13.90000	2003-02-06	NA	19.00000	14.2635870	26.486111

5882	chic	13.0	1.80000	2003-02-07	9.300000	19.000000	18.0312500	23.324275
5883	chic	20.0	9.50000	2003-02-08	12.937500	22.666667	19.0208333	18.555556
5884	chic	15.0	0.00000	2003-02-09	NA	18.000000	21.1562500	22.083333
5885	chic	18.0	9.80000	2003-02-10	NA	17.000000	15.3740942	25.119949
5886	chic	19.0	4.90000	2003-02-11	11.171429	39.000000	19.3333333	21.458333
5887	chic	13.0	0.30000	2003-02-12	13.100000	34.000000	22.4687500	21.388889
5888	chic	22.0	7.40000	2003-02-13	18.500000	38.000000	12.4583333	35.694444
5889	chic	25.0	19.90000	2003-02-14	27.628571	60.500000	12.7653986	47.140873
5890	chic	24.0	15.10000	2003-02-15	5.300000	9.500000	34.0833333	12.833333
5891	chic	23.0	12.90000	2003-02-16	3.800000	9.000000	34.7812500	12.444444
5892	chic	27.0	21.80000	2003-02-17	14.350000	20.500000	22.3645833	27.625000
5893	chic	31.0	27.40000	2003-02-18	27.500000	28.000000	10.5480072	30.867063
5894	chic	33.0	19.60000	2003-02-19	15.500000	31.500000	13.0000000	33.180556
5895	chic	39.0	23.80000	2003-02-20	15.400000	24.000000	11.1096014	35.527778
5896	chic	37.0	24.80000	2003-02-21	28.600000	45.500000	5.1666667	40.597222
5897	chic	28.0	24.20000	2003-02-22	13.900000	19.000000	21.0729167	21.027778
5898	chic	20.0	7.10000	2003-02-23	6.737500	15.500000	29.8958333	17.125000
5899	chic	15.0	8.80000	2003-02-24	16.100000	21.500000	19.4823370	28.444444
5900	chic	8.0	-2.50000	2003-02-25	30.900000	35.500000	11.5366848	37.708333
5901	chic	18.0	9.40000	2003-02-26	28.912500	37.200000	11.6553030	41.869048
5902	chic	21.0	12.90000	2003-02-27	NA	37.000000	13.8750000	43.369565
5903	chic	27.0	15.40000	2003-02-28	46.200000	62.500000	8.7753623	57.564394
5904	chic	NA	22.90000	2003-03-01	47.737500	47.500000	9.4166667	37.444444
5905	chic	21.0	15.00000	2003-03-02	18.800000	19.500000	21.1458333	17.694444
5906	chic	20.0	14.60000	2003-03-03	15.200000	24.500000	13.5018116	33.263889
5907	chic	25.0	23.30000	2003-03-04	20.257143	26.600000	13.2672101	32.972222
5908	chic	22.0	15.60000	2003-03-05	14.100000	12.500000	30.4089674	22.583333
5909	chic	20.0	16.80000	2003-03-06	21.300000	20.000000	25.5208333	33.638889
5910	chic	29.0	25.50000	2003-03-07	27.562500	34.000000	10.9433877	30.042730
5911	chic	28.0	22.30000	2003-03-08	28.200000	27.000000	13.6979167	28.694444
5912	chic	10.0	-4.20000	2003-03-09	7.800000	11.500000	31.7395833	13.208333
5913	chic	11.0	0.90000	2003-03-10	12.714286	27.600000	20.8777174	28.769841
5914	chic	31.0	18.40000	2003-03-11	22.900000	47.000000	15.5979084	29.527778
5915	chic	36.0	30.50000	2003-03-12	32.100000	42.000000	15.7395833	29.500000
5916	chic	31.0	24.40000	2003-03-13	14.000000	13.000000	30.0729167	24.380435
5917	chic	39.0	23.60000	2003-03-14	NA	44.000000	12.8645833	41.394444
5918	chic	45.0	37.30000	2003-03-15	22.050000	33.500000	6.9895833	36.263889
5919	chic	55.0	47.00000	2003-03-16	36.428571	43.000000	18.1770833	29.361111
5920	chic	57.0	45.60000	2003-03-17	33.700000	33.500000	13.6064312	40.319115
5921	chic	41.0	38.20000	2003-03-18	37.200000	44.500000	28.5828804	27.538889
5922	chic	43.0	36.40000	2003-03-19	28.062500	30.500000	21.2187500	27.791667
5923	chic	54.0	47.60000	2003-03-20	NA	39.500000	7.9062500	33.767857
5924	chic	44.0	35.00000	2003-03-21	8.300000	15.500000	16.9017210	20.399471

5925	chic	43.0	35.20000	2003-03-22	15.600000	22.400000	17.2916667	18.831349
5926	chic	52.0	34.70000	2003-03-23	20.650000	36.000000	17.9479167	26.626389
5927	chic	58.0	41.00000	2003-03-24	15.100000	49.000000	26.7753623	32.416667
5928	chic	49.0	33.50000	2003-03-25	8.800000	23.000000	19.5416667	31.594444
5929	chic	45.0	28.70000	2003-03-26	NA	45.500000	19.1622024	38.326087
5930	chic	54.0	33.80000	2003-03-27	14.500000	29.500000	22.1562500	31.236111
5931	chic	49.0	42.70000	2003-03-28	11.800000	18.000000	18.4737319	19.111111
5932	chic	32.0	22.30000	2003-03-29	NA	8.000000	30.5000000	15.625000
5933	chic	33.0	20.90000	2003-03-30	NA	13.000000	19.4791667	28.138889
5934	chic	40.0	26.70000	2003-03-31	13.475000	30.000000	20.3677536	27.674242
5935	chic	60.0	40.00000	2003-04-01	25.300000	50.500000	27.0535714	28.413462
5936	chic	54.0	38.40000	2003-04-02	29.800000	51.000000	19.7172619	31.817029
5937	chic	42.0	37.90000	2003-04-03	38.962500	57.000000	7.4135611	23.548309
5938	chic	36.0	35.10000	2003-04-04	NA	10.000000	7.5367495	20.597222
5939	chic	29.0	20.40000	2003-04-05	6.000000	8.500000	32.1994048	12.263889
5940	chic	34.0	23.20000	2003-04-06	6.557143	8.000000	37.8095238	8.888889
5941	chic	32.0	30.30000	2003-04-07	9.600000	12.000000	25.4076087	16.944444
5942	chic	32.0	28.20000	2003-04-08	13.000000	10.000000	31.8095238	19.248188
5943	chic	36.0	25.70000	2003-04-09	7.557143	15.000000	34.4690735	30.013889
5944	chic	42.0	21.80000	2003-04-10	8.900000	28.000000	23.0714286	43.258838
5945	chic	51.0	26.00000	2003-04-11	16.900000	58.500000	22.9523810	43.437500
5946	chic	43.0	29.00000	2003-04-12	3.985714	6.500000	36.9047619	14.108333
5947	chic	48.0	32.90000	2003-04-13	11.700000	22.000000	30.1458333	26.166667
5948	chic	67.0	39.30000	2003-04-14	16.800000	66.500000	39.6344893	19.797348
5949	chic	75.0	42.90000	2003-04-15	12.214286	61.400000	40.4689441	20.404971
5950	chic	55.0	36.80000	2003-04-16	10.700000	35.000000	27.4642857	21.914141
5951	chic	42.0	33.50000	2003-04-17	12.650000	22.000000	23.3203463	23.222222
5952	chic	43.0	35.10000	2003-04-18	17.325000	17.000000	22.4111025	23.611111
5953	chic	60.0	50.00000	2003-04-19	16.700000	39.000000	25.7113095	23.888889
5954	chic	59.0	49.50000	2003-04-20	8.100000	12.500000	33.8035714	12.083333
5955	chic	47.0	37.60000	2003-04-21	6.612500	11.200000	20.0781574	17.208937
5956	chic	46.0	27.50000	2003-04-22	6.600000	13.500000	31.7797619	28.569444
5957	chic	43.0	23.00000	2003-04-23	NA	16.500000	32.1250000	35.204545
5958	chic	49.0	28.40000	2003-04-24	13.542857	37.000000	27.2886905	34.722222
5959	chic	50.0	28.50000	2003-04-25	7.850000	29.500000	34.2573052	28.483333
5960	chic	48.0	24.00000	2003-04-26	5.800000	15.500000	36.1101190	26.569444
5961	chic	56.0	28.00000	2003-04-27	13.512500	34.800000	39.6428571	33.333333
5962	chic	66.0	39.50000	2003-04-28	16.800000	59.000000	28.0705228	41.678571
5963	chic	54.0	38.40000	2003-04-29	10.300000	22.000000	27.8341097	35.761111
5964	chic	57.0	48.00000	2003-04-30	19.114286	24.500000	14.1309524	37.592172
5965	chic	50.0	47.40000	2003-05-01	NA	10.500000	15.9464286	27.552083
5966	chic	45.0	27.40000	2003-05-02	7.200000	12.000000	37.4107143	18.473958
5967	chic	46.0	26.30000	2003-05-03	7.642857	16.600000	31.5267857	23.312500

5968	chic	48.0	35.00000	2003-05-04	12.400000	19.500000	29.5476190	21.041667
5969	chic	61.0	51.90000	2003-05-05	11.300000	18.000000	30.9406056	18.686282
5970	chic	60.0	47.10000	2003-05-06	8.928571	20.500000	28.9900362	24.781703
5971	chic	53.0	46.60000	2003-05-07	14.300000	19.000000	26.8660553	24.005208
5972	chic	55.0	47.80000	2003-05-08	NA	23.000000	23.4713615	25.093750
5973	chic	69.0	56.80000	2003-05-09	15.075000	34.800000	25.7233922	32.510417
5974	chic	65.0	57.90000	2003-05-10	15.700000	21.500000	26.4479167	30.072917
5975	chic	60.0	44.50000	2003-05-11	NA	8.500000	22.8995536	7.947917
5976	chic	59.0	38.30000	2003-05-12	5.657143	30.500000	31.2971735	20.700758
5977	chic	61.0	35.80000	2003-05-13	13.750000	22.000000	26.2274359	29.148551
5978	chic	53.0	44.20000	2003-05-14	16.200000	25.000000	17.0272871	38.218750
5979	chic	52.0	45.40000	2003-05-15	13.000000	19.400000	35.5729167	22.359375
5980	chic	55.0	45.60000	2003-05-16	19.100000	21.000000	30.4505208	28.972335
5981	chic	59.0	50.30000	2003-05-17	26.400000	21.500000	35.6744792	17.593750
5982	chic	60.0	52.30000	2003-05-18	22.628571	22.000000	30.7109375	15.364583
5983	chic	66.0	61.40000	2003-05-19	37.300000	40.500000	13.2149004	22.588542
5984	chic	58.0	45.30000	2003-05-20	11.300000	14.000000	24.9531250	17.765625
5985	chic	51.0	36.00000	2003-05-21	4.750000	12.000000	20.9437274	14.843750
5986	chic	50.0	33.60000	2003-05-22	NA	17.500000	31.2442255	23.499256
5987	chic	53.0	35.20000	2003-05-23	10.800000	24.500000	31.3932292	33.082927
5988	chic	57.0	38.70000	2003-05-24	9.700000	20.000000	33.8645833	23.000000
5989	chic	57.0	42.80000	2003-05-25	6.800000	10.000000	32.7187500	14.510417
5990	chic	59.0	44.80000	2003-05-26	8.300000	12.500000	28.1302083	18.411458
5991	chic	62.0	46.30000	2003-05-27	10.214286	25.000000	21.1617671	28.245739
5992	chic	65.0	52.00000	2003-05-28	20.700000	50.500000	16.2210557	36.030438
5993	chic	58.0	46.80000	2003-05-29	10.100000	17.000000	15.8651495	26.005208
5994	chic	58.0	51.80000	2003-05-30	17.512500	46.500000	17.7474267	36.156250
5995	chic	48.0	42.70000	2003-05-31	6.200000	9.500000	28.4244792	15.333333
5996	chic	51.0	34.40000	2003-06-01	4.800000	13.000000	26.3750000	22.500000
5997	chic	53.0	42.80000	2003-06-02	16.800000	31.000000	19.2054924	37.637784
5998	chic	57.0	46.90000	2003-06-03	24.700000	18.500000	38.9730525	30.192708
5999	chic	58.0	41.80000	2003-06-04	11.300000	25.000000	31.8437500	30.609375
6000	chic	63.0	44.90000	2003-06-05	16.714286	39.000000	27.7083333	41.505952
6001	chic	61.0	51.70000	2003-06-06	25.500000	55.000000	22.7812500	45.916667
6002	chic	66.0	53.30000	2003-06-07	19.400000	28.000000	38.8932292	26.937500
6003	chic	62.0	56.10000	2003-06-08	10.271429	16.000000	26.2005208	20.364583
6004	chic	65.0	53.20000	2003-06-09	9.100000	22.500000	32.8044508	21.875000
6005	chic	66.0	60.30000	2003-06-10	15.100000	36.000000	30.4322917	31.833333
6006	chic	61.0	52.60000	2003-06-11	9.742857	11.500000	31.1901042	16.726935
6007	chic	61.0	55.10000	2003-06-12	17.500000	22.000000	28.4665061	24.690476
6008	chic	64.0	58.30000	2003-06-13	NA	21.000000	21.9270833	28.598958
6009	chic	65.0	54.70000	2003-06-14	10.125000	19.800000	33.9166667	21.807292
6010	chic	66.0	54.40000	2003-06-15	8.600000	13.500000	31.0468750	13.447917

6011	chic	66.0	48.90000	2003-06-16	11.600000	22.000000	34.0840127	24.354455
6012	chic	67.0	47.20000	2003-06-17	15.750000	38.500000	42.6547060	38.439538
6013	chic	74.0	58.70000	2003-06-18	25.600000	75.000000	32.9677413	43.714583
6014	chic	60.0	39.80000	2003-06-19	5.600000	9.000000	33.1667696	11.375000
6015	chic	59.0	40.90000	2003-06-20	6.728571	22.400000	27.3307292	22.447917
6016	chic	64.0	46.90000	2003-06-21	12.900000	28.000000	25.5260417	30.083333
6017	chic	70.0	51.70000	2003-06-22	20.000000	38.000000	40.0078125	32.541667
6018	chic	75.0	55.40000	2003-06-23	22.162500	52.500000	43.3460145	32.510890
6019	chic	79.0	62.40000	2003-06-24	NA	68.500000	56.1660800	26.864583
6020	chic	82.0	65.10000	2003-06-25	33.900000	66.000000	56.1366621	22.949337
6021	chic	68.0	56.00000	2003-06-26	6.742857	18.600000	25.4809783	15.625000
6022	chic	70.0	51.60000	2003-06-27	11.500000	34.000000	33.4479167	20.927083
6023	chic	73.0	60.60000	2003-06-28	11.300000	25.000000	35.2682292	20.687500
6024	chic	74.0	56.60000	2003-06-29	9.775000	22.500000	29.3541667	21.447917
6025	chic	72.0	53.90000	2003-06-30	12.700000	50.000000	28.2216938	32.926178
6026	chic	73.0	53.40000	2003-07-01	19.850000	40.500000	42.0933589	31.552083
6027	chic	75.0	55.50000	2003-07-02	22.385714	45.600000	50.2056159	34.748835
6028	chic	79.0	65.40000	2003-07-03	24.050000	71.500000	35.3435236	34.723958
6029	chic	84.0	68.40000	2003-07-04	32.900000	47.500000	45.6614583	21.343750
6030	chic	78.0	66.20000	2003-07-05	18.271429	24.500000	50.8619792	18.713542
6031	chic	78.0	68.60000	2003-07-06	13.900000	26.500000	40.9322917	16.411458
6032	chic	79.0	70.80000	2003-07-07	12.750000	42.000000	25.2511322	23.828125
6033	chic	72.0	64.60000	2003-07-08	8.612500	18.500000	24.0963542	22.442482
6034	chic	69.0	61.20000	2003-07-09	7.600000	16.500000	30.0947176	17.816288
6035	chic	73.0	63.50000	2003-07-10	6.800000	14.500000	26.0141531	15.661458
6036	chic	69.0	56.50000	2003-07-11	5.662500	18.000000	22.3973652	15.741395
6037	chic	71.0	54.50000	2003-07-12	8.400000	18.000000	22.9479167	21.812500
6038	chic	70.0	56.30000	2003-07-13	15.200000	27.500000	31.3958333	28.354167
6039	chic	70.0	58.90000	2003-07-14	22.912500	35.800000	31.4403306	31.786458
6040	chic	77.0	64.40000	2003-07-15	NA	25.000000	39.3020833	17.843750
6041	chic	72.0	57.10000	2003-07-16	8.700000	19.000000	21.1764040	26.128170
6042	chic	75.0	65.10000	2003-07-17	14.985714	35.500000	29.9040987	29.155844
6043	chic	66.0	53.20000	2003-07-18	6.200000	11.500000	26.1203578	16.070076
6044	chic	68.0	53.20000	2003-07-19	9.000000	22.000000	31.1354167	24.395833
6045	chic	76.0	65.40000	2003-07-20	14.485714	26.750000	30.7213542	20.666667
6046	chic	75.0	64.40000	2003-07-21	10.000000	18.000000	35.6677989	18.290179
6047	chic	68.0	58.20000	2003-07-22	5.800000	9.500000	21.2785326	9.916193
6048	chic	67.0	53.10000	2003-07-23	4.412500	8.500000	19.4765625	11.947917
6049	chic	67.0	47.80000	2003-07-24	6.400000	25.000000	15.7974411	21.166214
6050	chic	71.0	57.70000	2003-07-25	17.500000	52.500000	32.2813632	24.875000
6051	chic	77.0	63.20000	2003-07-26	23.900000	37.800000	49.0651042	14.270833
6052	chic	74.0	63.10000	2003-07-27	14.700000	21.000000	32.1171875	11.802083
6053	chic	65.0	58.00000	2003-07-28	10.200000	22.000000	22.1599864	16.447043

6054	chic	68.0	51.40000	2003-07-29	15.250000	36.500000	24.3081975	25.951993
6055	chic	69.0	55.90000	2003-07-30	20.100000	45.500000	28.6813859	36.993454
6056	chic	75.0	63.00000	2003-07-31	27.300000	54.000000	34.6500947	28.065341
6057	chic	75.0	64.40000	2003-08-01	23.862500	37.000000	32.3828125	30.554924
6058	chic	72.0	62.40000	2003-08-02	10.500000	25.500000	24.6067708	21.479167
6059	chic	71.0	64.10000	2003-08-03	14.500000	20.500000	20.7604167	24.833333
6060	chic	69.0	62.40000	2003-08-04	17.900000	20.500000	29.5211730	22.208333
6061	chic	71.0	62.60000	2003-08-05	19.800000	35.500000	25.6478714	31.870018
6062	chic	74.0	65.60000	2003-08-06	23.200000	47.500000	15.6801816	42.187500
6063	chic	73.0	64.60000	2003-08-07	11.714286	23.000000	22.6413661	19.453218
6064	chic	69.0	64.30000	2003-08-08	6.900000	10.000000	18.9322917	10.735507
6065	chic	70.0	60.80000	2003-08-09	6.200000	11.000000	22.1588542	13.395833
6066	chic	73.0	59.40000	2003-08-10	11.637500	18.500000	24.0651042	16.385417
6067	chic	69.0	64.00000	2003-08-11	9.800000	18.500000	17.3695652	17.275000
6068	chic	71.0	64.40000	2003-08-12	11.300000	13.500000	24.6491477	11.213542
6069	chic	72.0	66.60000	2003-08-13	17.337500	28.600000	29.7570199	14.641304
6070	chic	77.0	71.40000	2003-08-14	33.500000	50.500000	37.6861737	26.687500
6071	chic	79.0	71.60000	2003-08-15	36.800000	55.000000	24.8846241	28.830492
6072	chic	83.0	69.10000	2003-08-16	23.587500	41.500000	41.1093750	16.718750
6073	chic	78.0	63.40000	2003-08-17	14.600000	19.000000	33.0078125	10.442708
6074	chic	73.0	60.00000	2003-08-18	12.600000	26.500000	25.1699811	23.383152
6075	chic	71.0	60.40000	2003-08-19	17.185714	30.250000	25.8825861	31.502717
6076	chic	77.0	67.70000	2003-08-20	37.300000	59.000000	40.3432971	31.072443
6077	chic	84.0	70.40000	2003-08-21	27.400000	63.000000	46.7235054	24.227679
6078	chic	71.0	57.20000	2003-08-22	10.471429	17.000000	24.0101902	14.886837
6079	chic	69.0	55.90000	2003-08-23	6.600000	14.000000	19.7421875	14.557292
6080	chic	72.0	62.30000	2003-08-24	15.000000	25.000000	33.2291667	18.322917
6081	chic	83.0	67.10000	2003-08-25	26.814286	52.400000	47.6337183	26.278986
6082	chic	82.0	69.10000	2003-08-26	19.700000	50.500000	40.3125000	34.075758
6083	chic	74.0	62.60000	2003-08-27	15.300000	20.000000	30.2971014	24.380208
6084	chic	76.0	65.70000	2003-08-28	18.157143	44.500000	37.0817482	26.234375
6085	chic	76.0	63.40000	2003-08-29	13.500000	25.000000	31.0357143	21.333333
6086	chic	68.0	51.30000	2003-08-30	2.500000	7.000000	27.4523810	9.614583
6087	chic	66.0	57.50000	2003-08-31	8.650000	18.000000	26.1696429	13.828125
6088	chic	63.0	61.40000	2003-09-01	6.800000	7.000000	32.9285714	7.697917
6089	chic	67.0	59.90000	2003-09-02	12.500000	21.000000	31.8237578	21.859375
6090	chic	72.0	58.80000	2003-09-03	14.250000	30.500000	22.0120018	25.463768
6091	chic	62.0	51.70000	2003-09-04	5.300000	11.500000	18.6111866	19.200149
6092	chic	62.0	50.90000	2003-09-05	11.400000	32.500000	14.1831975	28.833333
6093	chic	66.0	53.30000	2003-09-06	13.575000	25.500000	24.4531250	32.682292
6094	chic	73.0	60.30000	2003-09-07	16.700000	30.500000	31.0052083	30.739583
6095	chic	72.0	61.70000	2003-09-08	23.300000	68.000000	22.0443841	43.843750
6096	chic	72.0	63.10000	2003-09-09	26.500000	45.000000	29.4544837	30.966856

6097	chic	72.0	63.30000	2003-09-10	37.900000	51.500000	32.3343009	29.671649
6098	chic	74.0	60.60000	2003-09-11	37.800000	58.500000	39.2262228	26.863225
6099	chic	72.0	60.70000	2003-09-12	32.612500	46.250000	29.9504076	29.620833
6100	chic	75.0	63.00000	2003-09-13	35.700000	47.500000	39.8593750	21.885417
6101	chic	67.0	61.20000	2003-09-14	15.900000	17.000000	24.9114583	16.572917
6102	chic	63.0	47.50000	2003-09-15	9.325000	27.500000	13.0118371	26.427083
6103	chic	66.0	50.00000	2003-09-16	9.500000	58.500000	17.4811224	35.979167
6104	chic	68.0	52.70000	2003-09-17	17.600000	41.500000	28.6822917	35.315341
6105	chic	68.0	54.20000	2003-09-18	24.900000	40.200000	37.3906250	31.468750
6106	chic	58.0	47.20000	2003-09-19	16.800000	25.000000	15.9130435	18.270833
6107	chic	56.0	43.00000	2003-09-20	8.700000	26.000000	16.7135417	19.989583
6108	chic	62.0	50.50000	2003-09-21	15.700000	30.000000	32.3906250	19.541667
6109	chic	62.0	54.50000	2003-09-22	6.500000	24.500000	19.1060606	20.427083
6110	chic	59.0	42.60000	2003-09-23	12.200000	29.000000	15.2348279	22.937500
6111	chic	62.0	50.10000	2003-09-24	10.362500	25.000000	17.1460598	24.104167
6112	chic	53.0	38.60000	2003-09-25	12.300000	28.000000	11.9778080	19.780303
6113	chic	57.0	48.70000	2003-09-26	6.700000	28.000000	7.3779438	28.884470
6114	chic	54.0	42.60000	2003-09-27	5.600000	14.500000	12.7083333	12.989583
6115	chic	52.0	41.60000	2003-09-28	7.900000	11.500000	12.4341299	11.270833
6116	chic	50.0	36.60000	2003-09-29	12.700000	23.000000	10.5416667	19.209239
6117	chic	48.0	32.20000	2003-09-30	5.271429	21.000000	11.6161685	19.489583
6118	chic	44.0	26.00000	2003-10-01	6.600000	29.500000	10.7976190	22.444444
6119	chic	42.0	22.20000	2003-10-02	7.700000	34.500000	7.5178571	25.945268
6120	chic	48.0	37.70000	2003-10-03	12.162500	71.000000	7.7864907	31.291667
6121	chic	49.0	36.90000	2003-10-04	14.700000	25.000000	11.6071429	24.527778
6122	chic	47.0	40.50000	2003-10-05	9.400000	23.500000	16.1250000	20.944444
6123	chic	48.0	37.50000	2003-10-06	8.625000	22.600000	16.2424948	27.333333
6124	chic	61.0	49.40000	2003-10-07	7.400000	54.000000	12.2624224	37.666667
6125	chic	64.0	53.10000	2003-10-08	11.600000	68.000000	18.6891822	40.944444
6126	chic	62.0	54.50000	2003-10-09	32.087500	65.000000	8.8245342	47.250000
6127	chic	64.0	57.90000	2003-10-10	34.000000	58.500000	14.4702381	34.361111
6128	chic	66.0	59.30000	2003-10-11	18.300000	33.000000	20.7738095	21.916667
6129	chic	58.0	42.20000	2003-10-12	6.542857	20.000000	17.3630952	16.347222
6130	chic	57.0	41.30000	2003-10-13	17.400000	60.500000	12.3095238	38.194444
6131	chic	53.0	47.60000	2003-10-14	14.600000	10.500000	18.5274327	24.452020
6132	chic	50.0	35.70000	2003-10-15	7.928571	23.500000	12.3690476	26.513889
6133	chic	45.0	35.80000	2003-10-16	8.900000	21.500000	10.3902692	27.940053
6134	chic	44.0	30.50000	2003-10-17	8.100000	30.000000	8.8035714	37.638889
6135	chic	57.0	41.90000	2003-10-18	10.857143	28.000000	12.4285714	30.180556
6136	chic	56.0	47.30000	2003-10-19	10.600000	20.500000	22.5000000	22.000000
6137	chic	66.0	51.60000	2003-10-20	9.600000	58.000000	25.0119048	29.194444
6138	chic	55.0	44.90000	2003-10-21	14.112500	38.500000	17.6322464	25.541667
6139	chic	48.0	38.50000	2003-10-22	12.900000	12.500000	17.4906832	20.638889

6140	chic	46.0	40.80000	2003-10-23	6.800000	28.500000	12.4017653	27.168470
6141	chic	48.0	42.80000	2003-10-24	16.687500	37.400000	10.7559524	29.486111
6142	chic	52.0	45.30000	2003-10-25	17.100000	24.000000	4.6904762	26.361111
6143	chic	40.0	33.50000	2003-10-26	10.000000	8.500000	6.8065476	12.680556
6144	chic	38.0	32.30000	2003-10-27	14.512500	22.000000	4.7494824	19.444444
6145	chic	48.0	38.70000	2003-10-28	8.000000	27.500000	8.2989130	15.993056
6146	chic	44.0	35.70000	2003-10-29	NA	18.500000	7.2603654	16.541035
6147	chic	55.0	49.00000	2003-10-30	10.925000	25.400000	19.2331781	24.240404
6148	chic	58.0	52.60000	2003-10-31	NA	35.500000	10.7559524	16.868056
6149	chic	47.0	41.70000	2003-11-01	NA	15.000000	9.9895833	13.416667
6150	chic	52.0	50.90000	2003-11-02	12.375000	13.500000	3.8645833	14.812500
6151	chic	49.0	49.10000	2003-11-03	9.600000	11.000000	6.5181159	12.000000
6152	chic	59.0	57.00000	2003-11-04	4.700000	28.500000	8.6173007	21.097222
6153	chic	42.0	34.20000	2003-11-05	11.587500	15.600000	8.2500000	17.993056
6154	chic	38.0	22.00000	2003-11-06	NA	15.000000	8.9375000	25.557065
6155	chic	35.0	17.30000	2003-11-07	19.000000	21.500000	14.4361413	26.876984
6156	chic	27.0	18.10000	2003-11-08	7.685714	15.000000	13.1770833	26.347222
6157	chic	31.0	16.90000	2003-11-09	15.000000	19.000000	10.9895833	31.986111
6158	chic	38.0	30.20000	2003-11-10	25.600000	26.500000	6.2006341	33.666667
6159	chic	50.0	50.10000	2003-11-11	21.462500	31.200000	3.3750000	17.194444
6160	chic	48.0	39.90000	2003-11-12	12.500000	48.500000	12.5108696	15.527778
6161	chic	35.0	15.80000	2003-11-13	16.700000	16.000000	14.8319746	23.153382
6162	chic	36.0	23.10000	2003-11-14	9.825000	26.000000	6.2291667	28.135101
6163	chic	40.0	39.80000	2003-11-15	14.200000	17.000000	4.8541667	19.569444
6164	chic	45.0	43.70000	2003-11-16	14.300000	13.000000	2.9166667	18.305556
6165	chic	44.0	44.70000	2003-11-17	22.875000	27.200000	6.6657197	25.152778
6166	chic	55.0	55.10000	2003-11-18	9.100000	15.000000	7.6784420	22.284420
6167	chic	47.0	34.70000	2003-11-19	14.000000	17.000000	9.3750000	27.166667
6168	chic	50.0	40.40000	2003-11-20	7.785714	26.500000	9.4660326	28.031746
6169	chic	46.0	36.50000	2003-11-21	7.700000	10.000000	15.4895833	19.250000
6170	chic	53.0	48.00000	2003-11-22	24.200000	28.500000	5.3541667	23.361111
6171	chic	48.0	47.10000	2003-11-23	8.112500	11.600000	17.7395833	10.819444
6172	chic	25.0	14.00000	2003-11-24	7.400000	32.000000	17.1988225	14.674603
6173	chic	33.0	21.60000	2003-11-25	16.000000	28.500000	8.2812500	26.284091
6174	chic	40.0	28.30000	2003-11-26	15.087500	30.500000	5.5670290	29.805556
6175	chic	41.0	37.40000	2003-11-27	19.500000	17.500000	6.0520833	24.888889
6176	chic	33.0	22.50000	2003-11-28	15.800000	15.500000	17.1979167	19.111111
6177	chic	31.0	21.30000	2003-11-29	9.512500	13.750000	16.1354167	18.819444
6178	chic	46.0	27.40000	2003-11-30	5.600000	12.000000	16.2291667	19.097222
6179	chic	35.0	14.40000	2003-12-01	6.500000	18.500000	18.6290761	23.013889
6180	chic	30.0	13.00000	2003-12-02	6.457143	15.500000	10.5009058	34.828283
6181	chic	34.0	22.30000	2003-12-03	9.000000	23.500000	11.6562500	29.888889
6182	chic	37.0	29.70000	2003-12-04	15.800000	23.000000	3.9393116	28.062710

6183	chic	37.0	30.90000	2003-12-05	8.012500	15.000000	16.1770833	24.500000
6184	chic	34.0	26.90000	2003-12-06	11.800000	16.000000	6.0312500	28.194444
6185	chic	34.0	28.50000	2003-12-07	21.100000	21.000000	4.5833333	24.625000
6186	chic	40.0	33.90000	2003-12-08	21.950000	21.000000	3.0520833	28.868687
6187	chic	45.0	41.90000	2003-12-09	26.800000	33.500000	1.0978261	27.239899
6188	chic	41.0	40.40000	2003-12-10	12.000000	11.500000	6.7187500	23.569444
6189	chic	22.0	14.30000	2003-12-11	7.728571	12.000000	12.1619730	21.533333
6190	chic	17.0	6.40000	2003-12-12	18.800000	27.500000	6.8958333	34.990942
6191	chic	21.0	16.70000	2003-12-13	18.300000	24.000000	10.1666667	35.729167
6192	chic	28.0	23.80000	2003-12-14	17.825000	20.000000	10.6666667	29.062500
6193	chic	31.0	27.70000	2003-12-15	22.500000	18.000000	7.0692935	28.779167
6194	chic	34.0	26.50000	2003-12-16	13.300000	16.000000	9.4266304	19.708333
6195	chic	23.0	18.50000	2003-12-17	15.000000	22.200000	9.1142540	24.166667
6196	chic	23.0	19.70000	2003-12-18	36.300000	26.000000	5.2500000	29.566288
6197	chic	25.0	15.40000	2003-12-19	9.000000	25.500000	15.1770833	22.833333
6198	chic	20.0	8.20000	2003-12-20	7.928571	19.000000	11.1041667	26.458333
6199	chic	37.0	25.90000	2003-12-21	8.500000	21.500000	16.8229167	21.895833
6200	chic	42.0	33.10000	2003-12-22	22.500000	26.000000	4.8958333	25.130682
6201	chic	32.0	27.60000	2003-12-23	14.314286	14.800000	4.6714674	24.708333
6202	chic	22.0	14.50000	2003-12-24	9.600000	19.000000	13.7833333	22.625000
6203	chic	27.0	15.40000	2003-12-25	12.400000	21.000000	10.5208333	27.854167
6204	chic	30.0	22.50000	2003-12-26	17.362500	24.500000	2.8958333	39.687500
6205	chic	39.0	23.90000	2003-12-27	11.300000	18.500000	7.5520833	27.979167
6206	chic	45.0	32.90000	2003-12-28	10.500000	14.500000	13.1354167	20.500000
6207	chic	39.0	26.70000	2003-12-29	8.660000	15.500000	8.5951087	21.208333
6208	chic	34.0	22.70000	2003-12-30	10.000000	17.500000	10.9846014	19.533514
6209	chic	32.0	20.30000	2003-12-31	17.500000	15.500000	12.3854167	24.910714
6210	chic	35.0	30.40000	2004-01-01	14.385714	17.000000	6.8333333	26.520833
6211	chic	49.0	47.50000	2004-01-02	18.400000	20.500000	5.8854167	20.750000
6212	chic	41.0	28.80000	2004-01-03	10.000000	9.000000	10.0729167	20.625000
6213	chic	31.0	25.80000	2004-01-04	4.650000	7.400000	23.0833333	10.687500
6214	chic	17.0	12.40000	2004-01-05	11.000000	16.000000	15.2490942	23.439394
6215	chic	3.0	-6.00000	2004-01-06	17.200000	24.000000	19.5886034	19.111111
6216	chic	15.0	3.50000	2004-01-07	13.800000	24.500000	10.0978261	29.333333
6217	chic	24.0	17.30000	2004-01-08	11.500000	25.000000	8.3125000	32.611111
6218	chic	22.0	17.20000	2004-01-09	13.900000	17.000000	20.5416667	25.782609
6219	chic	21.0	16.50000	2004-01-10	15.412500	24.200000	9.8750000	28.194444
6220	chic	33.0	24.90000	2004-01-11	NA	12.000000	14.3958333	18.861111
6221	chic	35.0	27.40000	2004-01-12	18.000000	14.000000	7.7409420	19.760101
6222	chic	30.0	19.40000	2004-01-13	12.628571	18.000000	12.1229620	27.652778
6223	chic	27.0	21.10000	2004-01-14	15.000000	31.500000	10.6541667	23.410354
6224	chic	19.0	7.10000	2004-01-15	8.100000	29.000000	13.7812500	34.217172
6225	chic	27.0	18.40000	2004-01-16	19.150000	30.400000	7.1746324	27.387681

6226	chic	31.0	28.30000	2004-01-17	19.800000	20.000000	3.3437500	25.902778
6227	chic	18.0	2.80000	2004-01-18	7.600000	14.000000	20.3854167	13.583333
6228	chic	11.0	0.30000	2004-01-19	6.075000	18.000000	17.3437500	25.500000
6229	chic	15.0	2.20000	2004-01-20	15.800000	24.000000	9.4057971	39.204365
6230	chic	24.0	14.30000	2004-01-21	20.200000	26.000000	10.1734601	26.041667
6231	chic	11.0	-7.20000	2004-01-22	5.944444	23.800000	20.8102355	18.307971
6232	chic	15.0	8.60000	2004-01-23	12.800000	36.000000	8.3541667	27.150794
6233	chic	15.0	10.90000	2004-01-24	12.100000	19.000000	13.7708333	29.375000
6234	chic	18.0	7.50000	2004-01-25	7.885714	29.500000	26.7395833	18.166667
6235	chic	22.0	18.30000	2004-01-26	15.000000	24.000000	19.0208333	24.397727
6236	chic	17.0	12.90000	2004-01-27	16.400000	13.000000	13.9144022	29.606280
6237	chic	7.0	-0.80000	2004-01-28	16.300000	30.000000	13.6145833	26.513889
6238	chic	2.0	-6.80000	2004-01-29	18.300000	29.000000	10.7547348	33.500000
6239	chic	-3.0	-12.70000	2004-01-30	18.300000	32.000000	13.2767210	28.497475
6240	chic	4.0	-4.20000	2004-01-31	22.285714	50.000000	8.1562500	36.902778
6241	chic	21.0	10.10000	2004-02-01	22.300000	45.000000	13.4166667	35.513889
6242	chic	28.0	22.20000	2004-02-02	17.000000	49.000000	5.3683712	36.166667
6243	chic	21.0	17.40000	2004-02-03	26.377778	35.000000	8.6077899	33.679293
6244	chic	13.0	3.80000	2004-02-04	19.700000	55.000000	10.5179924	44.510823
6245	chic	26.0	19.60000	2004-02-05	8.200000	24.000000	17.4375000	30.513889
6246	chic	28.0	23.60000	2004-02-06	19.271429	21.500000	9.7604167	34.541667
6247	chic	20.0	20.00000	2004-02-07	20.900000	14.500000	19.5138889	27.888889
6248	chic	16.0	16.00000	2004-02-08	20.450000	19.000000	16.7083333	32.033333
6249	chic	28.0	20.90000	2004-02-09	14.657143	20.600000	26.0027503	24.592947
6250	chic	20.0	14.20000	2004-02-10	28.900000	22.500000	22.9424819	23.430556
6251	chic	23.0	16.50000	2004-02-11	18.500000	31.000000	12.0113636	38.044686
6252	chic	22.0	16.00000	2004-02-12	22.100000	30.000000	16.6666667	28.916667
6253	chic	20.0	11.20000	2004-02-13	24.500000	17.500000	21.7708333	23.258816
6254	chic	26.0	17.60000	2004-02-14	9.300000	26.500000	23.9791667	21.703704
6255	chic	14.0	10.90000	2004-02-15	6.528571	13.750000	28.7291667	21.013889
6256	chic	16.0	7.70000	2004-02-16	NA	31.000000	13.2708333	41.666667
6257	chic	24.0	15.80000	2004-02-17	43.400000	49.000000	8.2780797	44.978175
6258	chic	29.0	23.50000	2004-02-18	48.157143	61.000000	8.1621377	43.708333
6259	chic	36.0	31.70000	2004-02-19	40.000000	41.000000	5.3229167	42.222222
6260	chic	39.0	35.10000	2004-02-20	22.300000	22.000000	18.0416667	30.774758
6261	chic	33.0	26.00000	2004-02-21	7.866667	14.400000	26.6562500	20.986111
6262	chic	34.0	28.10000	2004-02-22	18.200000	22.500000	13.6562500	31.611111
6263	chic	41.0	32.60000	2004-02-23	27.500000	25.000000	11.8971920	29.275966
6264	chic	34.0	29.70000	2004-02-24	19.237500	17.500000	22.5375906	21.444444
6265	chic	31.0	24.60000	2004-02-25	11.000000	19.000000	23.5937500	27.443237
6266	chic	34.0	25.20000	2004-02-26	18.500000	25.000000	17.5520833	29.698413
6267	chic	35.0	24.70000	2004-02-27	30.711111	50.800000	12.0208333	33.794444
6268	chic	40.0	27.60000	2004-02-28	24.000000	37.000000	10.9895833	33.069444

6269	chic	47.0	32.50000	2004-02-29	18.200000	21.000000	20.6689312	32.458333
6270	chic	54.0	42.40000	2004-03-01	10.266667	13.500000	25.1250000	23.645833
6271	chic	44.0	37.20000	2004-03-02	15.950000	17.500000	16.3165761	15.416667
6272	chic	43.0	34.50000	2004-03-03	28.150000	33.000000	12.7007576	27.343434
6273	chic	41.0	39.40000	2004-03-04	29.175000	37.200000	6.8953804	23.415936
6274	chic	50.0	41.80000	2004-03-05	7.600000	19.000000	20.2916667	15.904287
6275	chic	41.0	31.30000	2004-03-06	11.000000	13.500000	23.1979167	17.125000
6276	chic	40.0	28.30000	2004-03-07	7.625000	12.000000	33.4687500	10.638889
6277	chic	34.0	20.80000	2004-03-08	11.800000	20.000000	21.8546196	23.402778
6278	chic	33.0	25.60000	2004-03-09	11.800000	12.500000	25.2249396	25.132850
6279	chic	37.0	25.40000	2004-03-10	13.825000	26.400000	20.6458333	29.797619
6280	chic	31.0	16.80000	2004-03-11	10.500000	47.500000	17.5312500	14.391215
6281	chic	25.0	7.10000	2004-03-12	10.100000	22.500000	16.7291667	23.479167
6282	chic	33.0	18.40000	2004-03-13	17.712500	24.500000	14.7500000	36.708333
6283	chic	39.0	27.90000	2004-03-14	13.400000	17.500000	29.5625000	14.187500
6284	chic	32.0	22.40000	2004-03-15	7.300000	9.500000	27.6956522	26.736842
6285	chic	32.0	26.10000	2004-03-16	10.677778	17.750000	27.3083333	21.826389
6286	chic	32.0	28.40000	2004-03-17	23.100000	22.500000	7.4927536	32.956522
6287	chic	32.0	30.90000	2004-03-18	26.500000	21.000000	8.6941425	38.888889
6288	chic	38.0	30.70000	2004-03-19	20.187500	23.500000	14.9722222	29.902778
6289	chic	47.0	28.80000	2004-03-20	17.000000	24.000000	27.1875000	19.861111
6290	chic	28.0	16.10000	2004-03-21	7.300000	11.500000	31.6875000	12.104167
6291	chic	30.0	10.00000	2004-03-22	10.662500	23.400000	19.7216874	26.854167
6292	chic	46.0	24.40000	2004-03-23	30.000000	43.000000	22.6553119	30.840278
6293	chic	54.0	44.80000	2004-03-24	26.500000	28.000000	18.3515851	29.160024
6294	chic	60.0	52.80000	2004-03-25	17.987500	29.000000	20.3279691	26.430556
6295	chic	56.0	54.90000	2004-03-26	12.050000	23.000000	16.8519226	22.672619
6296	chic	51.0	47.40000	2004-03-27	14.000000	20.500000	16.0119048	24.944444
6297	chic	61.0	52.50000	2004-03-28	11.900000	18.200000	26.3273810	13.212302
6298	chic	51.0	37.80000	2004-03-29	13.300000	18.500000	21.1582633	24.333333
6299	chic	48.0	37.00000	2004-03-30	22.500000	54.500000	19.2109860	29.771135
6300	chic	42.0	32.10000	2004-03-31	5.775000	8.500000	26.1709280	15.322222
6301	chic	42.0	27.90000	2004-04-01	11.100000	11.000000	32.2261905	18.920635
6302	chic	44.0	23.70000	2004-04-02	12.200000	16.000000	28.1730977	25.333333
6303	chic	43.0	23.80000	2004-04-03	7.762500	24.800000	27.4817708	23.541667
6304	chic	37.0	24.50000	2004-04-04	2.600000	6.000000	37.9166667	11.291667
6305	chic	39.0	24.40000	2004-04-05	11.000000	32.500000	29.0331748	29.732323
6306	chic	56.0	37.50000	2004-04-06	21.837500	55.500000	30.8113236	33.324074
6307	chic	52.0	32.40000	2004-04-07	18.500000	31.000000	33.5844979	31.833333
6308	chic	46.0	35.90000	2004-04-08	21.000000	32.000000	27.6816770	27.652778
6309	chic	45.0	29.80000	2004-04-09	12.437500	28.200000	20.2470238	33.333333
6310	chic	44.0	30.30000	2004-04-10	15.500000	25.000000	22.6279762	29.027778
6311	chic	37.0	26.80000	2004-04-11	5.900000	6.500000	32.2857143	12.597222

6312	chic	36.0	21.80000	2004-04-12	3.442857	16.000000	30.2516046	13.152778
6313	chic	38.0	25.40000	2004-04-13	7.050000	15.000000	29.4583333	19.972222
6314	chic	49.0	27.50000	2004-04-14	20.250000	61.000000	17.1102484	43.001984
6315	chic	61.0	33.90000	2004-04-15	14.525000	59.800000	31.1369048	33.344309
6316	chic	70.0	45.60000	2004-04-16	14.450000	40.000000	37.3329451	27.694444
6317	chic	64.0	51.60000	2004-04-17	16.500000	25.000000	44.4761905	24.125000
6318	chic	69.0	50.70000	2004-04-18	13.385714	59.500000	38.7797619	16.777778
6319	chic	60.0	48.40000	2004-04-19	6.900000	54.000000	29.2954193	16.188665
6320	chic	54.0	48.40000	2004-04-20	14.850000	30.500000	18.2650104	21.756643
6321	chic	54.0	48.50000	2004-04-21	8.555556	17.800000	26.3344979	18.555556
6322	chic	48.0	37.50000	2004-04-22	7.400000	9.500000	27.1350108	21.263889
6323	chic	51.0	37.00000	2004-04-23	16.100000	23.500000	22.9702381	33.080918
6324	chic	45.0	39.50000	2004-04-24	16.300000	33.500000	26.9404762	24.972222
6325	chic	54.0	48.70000	2004-04-25	9.300000	13.000000	25.2500000	15.736111
6326	chic	52.0	34.20000	2004-04-26	11.600000	27.000000	27.8839286	19.088854
6327	chic	44.0	21.30000	2004-04-27	6.422222	17.200000	28.2068982	23.708333
6328	chic	64.0	42.30000	2004-04-28	11.600000	82.000000	40.5089447	22.555556
6329	chic	69.0	51.90000	2004-04-29	13.600000	44.500000	44.4824017	20.857488
6330	chic	51.0	45.50000	2004-04-30	11.600000	17.000000	27.2005694	24.688492
6331	chic	46.0	37.80000	2004-05-01	6.900000	7.000000	28.4088542	17.307292
6332	chic	42.0	30.30000	2004-05-02	3.600000	6.500000	32.4062500	10.744792
6333	chic	42.0	28.10000	2004-05-03	6.971429	24.800000	21.7543025	26.640625
6334	chic	55.0	44.30000	2004-05-04	11.100000	44.500000	27.5114357	25.489583
6335	chic	53.0	36.50000	2004-05-05	10.500000	26.000000	25.2940444	25.510349
6336	chic	69.0	57.10000	2004-05-06	18.012500	59.000000	31.4808239	33.784601
6337	chic	51.0	36.40000	2004-05-07	7.450000	17.000000	33.9575408	15.942708
6338	chic	67.0	50.40000	2004-05-08	17.800000	30.000000	29.6197917	24.828125
6339	chic	70.0	60.30000	2004-05-09	15.144444	34.250000	34.1276042	20.083333
6340	chic	70.0	61.60000	2004-05-10	16.150000	52.500000	29.3055933	23.500000
6341	chic	68.0	61.30000	2004-05-11	19.100000	41.500000	33.9370471	24.990489
6342	chic	76.0	65.40000	2004-05-12	14.500000	39.500000	28.9651783	22.052083
6343	chic	72.0	67.30000	2004-05-13	12.700000	13.000000	17.9727355	24.125659
6344	chic	59.0	54.10000	2004-05-14	8.000000	8.000000	11.3244048	19.505208
6345	chic	47.0	38.90000	2004-05-15	3.262500	9.000000	20.5059524	12.364583
6346	chic	54.0	45.80000	2004-05-16	13.000000	20.000000	24.6636905	23.932292
6347	chic	70.0	62.60000	2004-05-17	18.400000	29.000000	29.5905797	22.353070
6348	chic	57.0	47.20000	2004-05-18	6.728571	10.000000	34.0166440	20.200181
6349	chic	58.0	55.60000	2004-05-19	12.800000	19.000000	23.9432745	26.520833
6350	chic	74.0	71.10000	2004-05-20	17.800000	35.000000	23.7651515	22.504735
6351	chic	63.0	58.10000	2004-05-21	11.966667	33.600000	28.0937500	22.401042
6352	chic	65.0	61.60000	2004-05-22	11.750000	25.000000	25.4921875	18.250000
6353	chic	68.0	61.70000	2004-05-23	9.600000	31.500000	28.4635417	13.989583
6354	chic	56.0	47.50000	2004-05-24	5.028571	14.000000	26.7687953	12.229167

6355	chic	59.0	53.60000	2004-05-25	11.300000	29.500000	23.0067832	23.028450
6356	chic	57.0	46.20000	2004-05-26	8.400000	23.500000	17.0275136	23.411458
6357	chic	64.0	55.20000	2004-05-27	12.955556	31.250000	23.2566803	25.471241
6358	chic	53.0	39.40000	2004-05-28	NA	11.500000	25.6718750	17.072917
6359	chic	57.0	47.70000	2004-05-29	8.700000	27.500000	25.7473958	23.182292
6360	chic	66.0	61.00000	2004-05-30	15.787500	25.000000	30.5208333	18.380208
6361	chic	62.0	NA	2004-05-31	5.500000	12.500000	27.0286458	16.609375
6362	chic	65.0	50.40000	2004-06-01	4.300000	33.000000	26.9616168	18.375000
6363	chic	59.0	50.70000	2004-06-02	6.633333	15.800000	21.7192029	18.796875
6364	chic	59.0	40.70000	2004-06-03	4.500000	14.500000	28.8520154	18.412202
6365	chic	58.0	43.70000	2004-06-04	9.500000	23.500000	29.3635643	29.869048
6366	chic	61.0	47.60000	2004-06-05	19.412500	43.000000	38.9479167	29.614583
6367	chic	72.0	58.80000	2004-06-06	22.200000	38.000000	40.7812500	24.156250
6368	chic	74.0	64.60000	2004-06-07	19.800000	68.000000	39.7838542	22.979167
6369	chic	83.0	69.00000	2004-06-08	19.344444	42.000000	30.2193161	21.779891
6370	chic	73.0	67.00000	2004-06-09	10.800000	47.500000	20.7479620	16.417614
6371	chic	64.0	60.50000	2004-06-10	6.600000	21.000000	10.6363225	17.571970
6372	chic	73.0	67.20000	2004-06-11	14.814286	32.500000	14.9852190	19.046402
6373	chic	71.0	64.70000	2004-06-12	10.000000	20.000000	31.0598958	16.702083
6374	chic	72.0	64.50000	2004-06-13	10.600000	19.000000	35.9322917	13.472222
6375	chic	75.0	64.10000	2004-06-14	9.028571	18.200000	31.1039299	20.972222
6376	chic	71.0	57.40000	2004-06-15	11.700000	27.000000	30.5982790	25.656061
6377	chic	72.0	65.40000	2004-06-16	16.900000	30.000000	21.8121603	26.362092
6378	chic	72.0	60.40000	2004-06-17	16.028571	32.500000	26.6804801	22.415761
6379	chic	71.0	58.10000	2004-06-18	13.866667	36.500000	25.6432292	26.708333
6380	chic	56.0	39.70000	2004-06-19	3.800000	9.000000	26.7682292	12.281250
6381	chic	61.0	45.10000	2004-06-20	10.944444	19.800000	26.6041667	22.458333
6382	chic	63.0	57.30000	2004-06-21	14.100000	28.000000	13.2036911	31.862500
6383	chic	65.0	49.70000	2004-06-22	7.200000	26.500000	20.8706975	21.418561
6384	chic	70.0	54.00000	2004-06-23	8.612500	56.000000	28.4839530	23.562500
6385	chic	62.0	47.50000	2004-06-24	5.700000	14.000000	21.8847373	22.839900
6386	chic	61.0	44.20000	2004-06-25	8.500000	22.500000	19.3359375	26.375000
6387	chic	64.0	47.80000	2004-06-26	7.887500	23.200000	23.1354167	21.583333
6388	chic	67.0	51.30000	2004-06-27	12.000000	26.500000	26.0546875	23.229167
6389	chic	65.0	52.80000	2004-06-28	14.500000	22.500000	23.1046196	23.664855
6390	chic	69.0	52.10000	2004-06-29	11.285714	47.500000	22.6679121	26.729167
6391	chic	73.0	56.20000	2004-06-30	15.900000	58.500000	26.4171196	33.661458
6392	chic	71.0	57.00000	2004-07-01	14.700000	54.500000	37.7632576	27.879623
6393	chic	71.0	58.50000	2004-07-02	14.977778	41.400000	40.9322917	18.505208
6394	chic	73.0	67.20000	2004-07-03	18.200000	38.000000	31.7864583	17.406250
6395	chic	76.0	66.60000	2004-07-04	7.300000	25.000000	31.1953125	11.045139
6396	chic	68.0	60.70000	2004-07-05	9.137500	15.500000	31.6354167	7.604167
6397	chic	73.0	64.90000	2004-07-06	4.900000	32.000000	30.9131567	19.381826

6398	chic	64.0	57.60000	2004-07-07	8.000000	21.000000	14.9710145	13.536458
6399	chic	65.0	52.00000	2004-07-08	6.857143	18.000000	28.4744318	15.697443
6400	chic	68.0	58.20000	2004-07-09	13.700000	33.500000	26.4721201	14.822917
6401	chic	73.0	62.70000	2004-07-10	17.400000	24.000000	35.7053571	13.031250
6402	chic	74.0	67.30000	2004-07-11	17.357143	29.500000	38.7797619	14.489583
6403	chic	78.0	67.40000	2004-07-12	15.800000	30.000000	33.0895298	18.640625
6404	chic	78.0	67.10000	2004-07-13	6.400000	44.000000	26.2547554	23.698864
6405	chic	72.0	58.20000	2004-07-14	9.111111	28.750000	32.2190897	18.125000
6406	chic	72.0	56.30000	2004-07-15	15.550000	37.000000	25.0067935	24.601255
6407	chic	73.0	62.80000	2004-07-16	13.100000	52.500000	28.7057292	22.958333
6408	chic	70.0	60.70000	2004-07-17	15.000000	17.000000	32.4062500	7.880208
6409	chic	71.0	59.00000	2004-07-18	17.300000	20.000000	24.9150095	11.734375
6410	chic	71.0	60.00000	2004-07-19	24.200000	59.500000	26.7366395	23.958333
6411	chic	80.0	67.60000	2004-07-20	25.375000	40.200000	35.6300951	25.843750
6412	chic	79.0	72.80000	2004-07-21	20.000000	54.500000	27.0320955	26.237216
6413	chic	79.0	68.40000	2004-07-22	4.800000	35.500000	25.1123188	18.865132
6414	chic	65.0	50.80000	2004-07-23	4.112500	9.000000	26.9984149	10.161232
6415	chic	63.0	51.00000	2004-07-24	6.800000	17.500000	28.1666667	9.156250
6416	chic	67.0	53.20000	2004-07-25	11.700000	11.500000	35.9010417	7.552083
6417	chic	67.0	53.60000	2004-07-26	9.750000	20.400000	29.4442935	21.580357
6418	chic	70.0	52.80000	2004-07-27	18.050000	30.500000	29.4624094	31.315341
6419	chic	70.0	56.10000	2004-07-28	25.900000	62.000000	28.0887681	38.317708
6420	chic	72.0	60.20000	2004-07-29	23.742857	42.500000	33.5643116	27.454937
6421	chic	68.0	62.70000	2004-07-30	25.350000	51.500000	22.4595788	33.963542
6422	chic	74.0	60.20000	2004-07-31	17.200000	29.500000	28.9765625	22.218750
6423	chic	77.0	62.50000	2004-08-01	17.244444	26.000000	30.1718750	26.359375
6424	chic	78.0	67.70000	2004-08-02	15.300000	51.500000	34.9270833	26.135417
6425	chic	78.0	67.70000	2004-08-03	7.700000	36.000000	40.1978446	26.883852
6426	chic	70.0	61.40000	2004-08-04	6.887500	10.000000	27.2918931	11.709336
6427	chic	65.0	51.00000	2004-08-05	8.500000	9.500000	28.5740489	8.208333
6428	chic	65.0	49.20000	2004-08-06	11.400000	20.000000	19.6564764	16.786458
6429	chic	65.0	52.20000	2004-08-07	12.077778	25.000000	26.6093750	21.651042
6430	chic	70.0	57.00000	2004-08-08	19.500000	28.500000	31.4401042	19.890625
6431	chic	75.0	61.30000	2004-08-09	8.300000	55.500000	31.4802989	17.765625
6432	chic	64.0	54.70000	2004-08-10	6.237500	31.500000	12.1788949	9.912364
6433	chic	58.0	49.00000	2004-08-11	5.700000	29.500000	11.7786458	10.807292
6434	chic	56.0	48.20000	2004-08-12	6.700000	17.500000	13.0201231	15.928339
6435	chic	61.0	50.30000	2004-08-13	7.533333	20.200000	16.8072917	19.661685
6436	chic	60.0	48.40000	2004-08-14	8.500000	14.500000	19.0833333	15.197917
6437	chic	62.0	49.00000	2004-08-15	17.700000	19.500000	23.7812500	17.875000
6438	chic	63.0	51.30000	2004-08-16	15.887500	52.500000	26.7139946	28.075893
6439	chic	72.0	62.30000	2004-08-17	19.400000	48.000000	33.6066782	25.429924
6440	chic	70.0	64.40000	2004-08-18	20.000000	35.500000	20.1664402	25.572917

6441	chic	64.0	50.90000	2004-08-19	7.111111	17.800000	20.4440670	14.424517
6442	chic	66.0	50.70000	2004-08-20	11.800000	42.500000	10.9270833	28.000000
6443	chic	63.0	51.20000	2004-08-21	9.800000	22.500000	24.0260417	19.229167
6444	chic	65.0	56.20000	2004-08-22	16.175000	36.000000	30.6875000	20.916667
6445	chic	72.0	63.70000	2004-08-23	17.400000	45.500000	27.4678442	18.958333
6446	chic	73.0	67.40000	2004-08-24	10.000000	30.000000	15.4572237	23.750000
6447	chic	72.0	66.50000	2004-08-25	7.400000	15.000000	12.4052310	20.527778
6448	chic	75.0	70.20000	2004-08-26	16.100000	31.500000	21.2835145	19.215278
6449	chic	78.0	69.50000	2004-08-27	16.500000	36.500000	22.6573822	22.550423
6450	chic	68.0	61.90000	2004-08-28	6.012500	6.000000	22.5468750	10.625000
6451	chic	61.0	53.90000	2004-08-29	5.900000	5.000000	19.6577381	8.993056
6452	chic	64.0	57.20000	2004-08-30	16.400000	32.000000	14.6392663	24.213294
6453	chic	67.0	58.30000	2004-08-31	15.342857	32.400000	19.2197896	27.467172
6454	chic	70.0	60.30000	2004-09-01	NA	47.500000	25.5115489	31.686298
6455	chic	73.0	62.00000	2004-09-02	NA	42.000000	33.8437500	30.298557
6456	chic	73.0	64.30000	2004-09-03	37.285714	51.500000	26.0494792	33.260417
6457	chic	73.0	63.20000	2004-09-04	38.800000	50.500000	29.4609375	31.145833
6458	chic	76.0	66.50000	2004-09-05	41.500000	45.000000	34.2447917	22.406250
6459	chic	68.0	63.20000	2004-09-06	20.762500	30.200000	29.9114583	13.052083
6460	chic	66.0	51.30000	2004-09-07	14.700000	16.000000	21.2864583	15.635417
6461	chic	65.0	53.90000	2004-09-08	5.600000	10.000000	23.7921196	9.661458
6462	chic	64.0	54.50000	2004-09-09	7.171429	17.000000	17.3255208	16.787879
6463	chic	66.0	54.40000	2004-09-10	17.800000	54.000000	19.0677083	30.213542
6464	chic	70.0	57.00000	2004-09-11	19.300000	37.000000	31.7031250	34.473958
6465	chic	71.0	57.90000	2004-09-12	28.528571	42.750000	40.9010417	27.973958
6466	chic	71.0	60.70000	2004-09-13	NA	48.500000	32.2578228	30.426760
6467	chic	75.0	64.70000	2004-09-14	22.750000	46.500000	31.7319252	20.566576
6468	chic	77.0	65.90000	2004-09-15	16.957143	59.000000	25.9983016	19.359375
6469	chic	66.0	53.60000	2004-09-16	9.000000	18.000000	23.8258282	19.984375
6470	chic	62.0	49.10000	2004-09-17	7.300000	13.500000	26.6287879	17.966856
6471	chic	64.0	52.20000	2004-09-18	10.212500	24.200000	24.6309524	23.057292
6472	chic	68.0	49.30000	2004-09-19	10.700000	16.500000	28.2678571	18.854167
6473	chic	64.0	47.50000	2004-09-20	NA	31.000000	26.5124224	28.529665
6474	chic	67.0	50.50000	2004-09-21	17.487500	61.000000	30.2075569	38.338315
6475	chic	66.0	52.40000	2004-09-22	26.000000	71.500000	30.6868530	39.449405
6476	chic	70.0	53.30000	2004-09-23	27.900000	60.500000	33.0178571	39.614583
6477	chic	69.0	50.70000	2004-09-24	12.911111	35.000000	23.2172619	31.166667
6478	chic	62.0	49.90000	2004-09-25	9.800000	15.500000	20.7678571	19.000000
6479	chic	59.0	47.60000	2004-09-26	NA	18.000000	19.1428571	20.406250
6480	chic	61.0	48.20000	2004-09-27	18.471429	42.500000	15.6788302	40.854167
6481	chic	59.0	47.10000	2004-09-28	NA	15.500000	22.4704969	15.342708
6482	chic	54.0	44.90000	2004-09-29	9.600000	12.500000	19.3408385	24.945707
6483	chic	54.0	41.20000	2004-09-30	17.811111	41.600000	12.9523810	35.821429

6484	chic	62.0	49.20000	2004-10-01		NA	51.500000	25.0676407	31.444444
6485	chic	48.0	30.90000	2004-10-02	7.800000	11.500000	17.2500000	17.041667	
6486	chic	53.0	32.50000	2004-10-03	7.737500	21.500000	18.9880952	21.444444	
6487	chic	47.0	30.30000	2004-10-04	9.300000	14.000000	16.5468074	19.777778	
6488	chic	46.0	29.00000	2004-10-05	11.900000	37.500000	7.8039596	32.114734	
6489	chic	61.0	35.90000	2004-10-06	11.437500	41.000000	9.5587121	36.541667	
6490	chic	60.0	41.70000	2004-10-07	18.800000	46.500000	20.4133023	38.617754	
6491	chic	64.0	61.20000	2004-10-08	24.550000	34.000000	16.5148810	22.555556	
6492	chic	57.0	41.00000	2004-10-09	10.350000	18.500000	16.2916667	26.555556	
6493	chic	52.0	42.90000	2004-10-10	9.900000	14.500000	18.8095238	19.444444	
6494	chic	53.0	43.60000	2004-10-11	13.100000	19.000000	20.7440476	23.472222	
6495	chic	51.0	44.40000	2004-10-12	13.200000	29.200000	16.0815217	23.393720	
6496	chic	58.0	47.80000	2004-10-13	24.800000	29.000000	13.8779762	28.666667	
6497	chic	52.0	46.60000	2004-10-14	12.350000	17.000000	11.2648810	23.138889	
6498	chic	49.0	41.10000	2004-10-15	8.600000	11.500000	9.2735507	17.283213	
6499	chic	43.0	29.50000	2004-10-16	4.200000	17.000000	17.6488095	8.250000	
6500	chic	43.0	28.90000	2004-10-17	8.300000	14.000000	14.8422619	19.319444	
6501	chic	45.0	39.30000	2004-10-18	12.387500	18.000000	13.3469085	22.140097	
6502	chic	51.0	46.50000	2004-10-19	13.100000	17.000000	11.6206004	17.584541	
6503	chic	52.0	48.00000	2004-10-20	14.750000	12.500000	14.2859731	18.794591	
6504	chic	53.0	46.10000	2004-10-21	11.687500	19.500000	14.9702381	20.388889	
6505	chic	54.0	49.30000	2004-10-22	25.600000	34.000000	10.1962992	24.833333	
6506	chic	66.0	54.80000	2004-10-23	13.800000	21.000000	13.4761905	15.055556	
6507	chic	55.0	43.40000	2004-10-24	8.233333	14.200000	14.4375000	21.569444	
6508	chic	57.0	44.90000	2004-10-25	18.600000	42.000000	13.5813923	36.084541	
6509	chic	57.0	52.10000	2004-10-26	27.300000	31.000000	12.5618530	26.680210	
6510	chic	58.0	52.10000	2004-10-27	31.612500	28.000000	14.4720262	26.301768	
6511	chic	54.0	52.30000	2004-10-28	43.600000	41.500000	6.2078804	26.347222	
6512	chic	69.0	65.90000	2004-10-29	18.100000	36.500000	10.0980525	19.333333	
6513	chic	61.0	44.20000	2004-10-30	6.000000	18.600000	17.6744792	10.138889	
6514	chic	51.0	41.20000	2004-10-31	5.900000	14.000000	14.3671875	12.305556	
6515	chic	50.0	46.10000	2004-11-01	10.100000	15.000000	10.1145833	19.172222	
6516	chic	47.0	41.60000	2004-11-02	4.850000	9.500000	9.9479167	23.388889	
6517	chic	49.0	38.10000	2004-11-03	8.400000	16.500000	16.4393116	21.950397	
6518	chic	46.0	38.80000	2004-11-04	11.900000	14.000000	12.2404891	25.417863	
6519	chic	45.0	27.50000	2004-11-05	6.975000	16.000000	15.9895833	24.583333	
6520	chic	54.0	36.70000	2004-11-06	10.300000	26.500000	12.5833333	22.500000	
6521	chic	47.0	27.90000	2004-11-07	6.500000	15.000000	20.0833333	16.208333	
6522	chic	39.0	18.90000	2004-11-08	7.000000	25.500000	9.5842391	33.062500	
6523	chic	45.0	24.30000	2004-11-09	13.200000	38.500000	7.6911232	29.916667	
6524	chic	55.0	38.30000	2004-11-10	22.500000	60.500000	10.6612319	32.045290	
6525	chic	44.0	30.80000	2004-11-11	5.650000	11.500000	25.1145833	13.208333	
6526	chic	39.0	26.90000	2004-11-12	8.600000	6.000000	25.0312500	17.277174	

6527	chic	36.0	26.90000	2004-11-13	8.950000	23.000000	17.8437500	24.375000
6528	chic	38.0	26.40000	2004-11-14	16.887500	27.000000	7.8333333	31.625000
6529	chic	40.0	33.10000	2004-11-15	NA	46.500000	2.1965580	34.597222
6530	chic	51.0	47.80000	2004-11-16	29.600000	42.000000	2.7463768	25.602657
6531	chic	59.0	55.80000	2004-11-17	28.166667	35.000000	2.7306548	20.152778
6532	chic	55.0	54.30000	2004-11-18	28.000000	28.000000	4.1041667	20.347222
6533	chic	52.0	51.00000	2004-11-19	21.400000	20.500000	8.6961051	23.472222
6534	chic	49.0	42.80000	2004-11-20	10.525000	11.500000	11.1666667	14.277778
6535	chic	38.0	29.00000	2004-11-21	11.600000	16.500000	11.2395833	19.333333
6536	chic	42.0	33.20000	2004-11-22	22.600000	39.000000	3.5081522	29.274892
6537	chic	45.0	38.60000	2004-11-23	18.388889	24.800000	7.6562500	19.539855
6538	chic	37.0	30.70000	2004-11-24	12.000000	8.000000	25.2291667	14.638889
6539	chic	27.0	21.10000	2004-11-25	11.600000	12.500000	12.9166667	25.111111
6540	chic	37.0	33.00000	2004-11-26	11.657143	17.500000	4.9583333	25.208333
6541	chic	42.0	39.70000	2004-11-27	6.250000	8.000000	14.6527778	16.958333
6542	chic	39.0	24.90000	2004-11-28	7.100000	14.000000	13.9166667	18.854167
6543	chic	35.0	32.80000	2004-11-29	15.512500	17.200000	3.7577341	33.988248
6544	chic	36.0	33.40000	2004-11-30	17.400000	17.500000	5.3750000	25.095411
6545	chic	29.0	23.90000	2004-12-01	20.100000	20.500000	7.9461051	21.958333
6546	chic	31.0	25.00000	2004-12-02	21.525000	31.500000	4.1496212	28.890873
6547	chic	30.0	21.80000	2004-12-03	21.000000	28.000000	6.9166667	27.263889
6548	chic	36.0	30.40000	2004-12-04	14.400000	28.000000	7.5729167	22.750000
6549	chic	37.0	34.90000	2004-12-05	23.575000	28.200000	5.6458333	20.152778
6550	chic	45.0	43.90000	2004-12-06	21.900000	23.000000	4.0208333	23.650362
6551	chic	46.0	43.40000	2004-12-07	11.800000	12.000000	4.4293478	20.458333
6552	chic	39.0	34.20000	2004-12-08	13.942857	27.000000	7.5144928	22.034420
6553	chic	44.0	40.20000	2004-12-09	21.900000	25.500000	3.5000000	26.375000
6554	chic	41.0	39.50000	2004-12-10	23.100000	25.000000	5.0833333	20.125000
6555	chic	35.0	26.60000	2004-12-11	5.850000	8.600000	18.1666667	15.291667
6556	chic	37.0	27.30000	2004-12-12	8.750000	15.500000	18.6439394	10.361111
6557	chic	25.0	13.00000	2004-12-13	10.000000	20.000000	18.6354167	15.743357
6558	chic	22.0	9.40000	2004-12-14	7.912500	17.000000	10.6961051	23.875000
6559	chic	28.0	15.10000	2004-12-15	19.400000	47.000000	6.9008152	24.457729
6560	chic	36.0	20.40000	2004-12-16	10.500000	32.500000	9.8958333	21.525253
6561	chic	26.0	16.10000	2004-12-17	14.242857	24.333333	6.1041667	32.402778
6562	chic	28.0	24.50000	2004-12-18	16.400000	30.500000	8.9166667	18.319444
6563	chic	11.0	-4.50000	2004-12-19	5.000000	47.000000	21.3854167	17.013889
6564	chic	20.0	3.80000	2004-12-20	7.728571	50.000000	10.7794384	25.609783
6565	chic	25.0	13.80000	2004-12-21	17.100000	44.500000	10.4990942	17.045290
6566	chic	11.0	-0.50000	2004-12-22	12.800000	23.000000	12.2187500	23.486111
6567	chic	12.0	-0.10000	2004-12-23	7.675000	26.500000	17.0416667	21.625000
6568	chic	5.0	-7.40000	2004-12-24	11.400000	15.000000	16.5937500	23.250000
6569	chic	15.0	6.70000	2004-12-25	19.000000	27.500000	10.4791667	21.597222

6570	chic	18.0	12.10000	2004-12-26	21.850000	27.500000	8.4895833	24.416667
6571	chic	17.0	12.00000	2004-12-27	37.100000	34.500000	6.5317029	36.505556
6572	chic	33.0	22.70000	2004-12-28	25.500000	41.000000	4.1363225	29.609903
6573	chic	33.0	29.10000	2004-12-29	41.322222	51.750000	3.3333333	27.550505
6574	chic	44.0	41.20000	2004-12-30	35.500000	28.000000	7.0520833	24.847222
6575	chic	43.0	36.10000	2004-12-31	11.300000	14.000000	16.8437500	15.333333
6576	chic	33.0	24.80000	2005-01-01	10.525000	16.500000	9.2083333	14.152778
6577	chic	44.0	39.60000	2005-01-02	NA	16.000000	6.4479167	16.069444
6578	chic	34.0	31.50000	2005-01-03	17.500000	11.500000	12.6875000	18.625845
6579	chic	33.0	29.00000	2005-01-04	8.837500	11.600000	17.5484601	19.315217
6580	chic	29.0	25.50000	2005-01-05	3.300000	9.000000	27.7604167	13.753788
6581	chic	20.0	18.60000	2005-01-06	21.400000	14.000000	15.4583333	28.305556
6582	chic	18.0	16.70000	2005-01-07	15.566667	19.500000	8.3600543	31.041667
6583	chic	26.0	21.40000	2005-01-08	26.700000	24.500000	5.2291667	26.319444
6584	chic	30.0	27.60000	2005-01-09	19.100000	17.000000	11.4270833	19.027778
6585	chic	32.0	26.10000	2005-01-10	16.471429	21.000000	8.1761364	25.319444
6586	chic	33.0	33.40000	2005-01-11	16.200000	20.500000	4.1277174	21.704106
6587	chic	48.0	45.60000	2005-01-12	9.800000	27.500000	8.1875000	24.899155
6588	chic	31.0	25.50000	2005-01-13	10.100000	9.500000	9.2305254	22.939010
6589	chic	10.0	-3.40000	2005-01-14	10.500000	20.500000	17.2062500	26.555556
6590	chic	10.0	-6.40000	2005-01-15	8.800000	14.000000	18.2708333	25.583333
6591	chic	9.0	-5.60000	2005-01-16	8.966667	13.400000	23.8645833	18.375000
6592	chic	7.0	-7.80000	2005-01-17	10.100000	16.000000	16.3333333	28.180556
6593	chic	12.0	1.70000	2005-01-18	19.300000	44.000000	11.4279891	33.094203
6594	chic	29.0	22.30000	2005-01-19	15.042857	25.500000	13.1145833	26.924242
6595	chic	26.0	20.90000	2005-01-20	22.000000	27.500000	13.7708333	26.949495
6596	chic	21.0	13.50000	2005-01-21	16.800000	25.000000	19.2042572	25.194444
6597	chic	17.0	12.20000	2005-01-22	11.285714	19.600000	19.3333333	23.944444
6598	chic	16.0	7.20000	2005-01-23	10.500000	18.500000	19.0729167	31.472222
6599	chic	26.0	17.30000	2005-01-24	18.600000	26.500000	12.2798913	29.763505
6600	chic	33.0	27.10000	2005-01-25	32.771429	38.500000	5.7042572	36.403986
6601	chic	26.0	19.40000	2005-01-26	12.500000	20.000000	19.2812500	26.568182
6602	chic	13.0	9.30000	2005-01-27	10.800000	22.000000	20.7083333	27.344697
6603	chic	15.0	5.10000	2005-01-28	24.500000	35.600000	7.5384964	40.425000
6604	chic	28.0	17.20000	2005-01-29	32.700000	37.500000	3.7604167	39.000000
6605	chic	30.0	26.20000	2005-01-30	NA	23.000000	12.4062500	23.388889
6606	chic	28.0	22.00000	2005-01-31	45.528571	54.000000	7.0833333	43.585317
6607	chic	28.0	23.80000	2005-02-01	26.650000	28.500000	12.8002717	35.041667
6608	chic	26.0	20.00000	2005-02-02	52.000000	50.500000	6.2414773	46.361111
6609	chic	30.0	25.00000	2005-02-03	47.450000	53.600000	7.2690217	48.597222
6610	chic	36.0	32.10000	2005-02-04	61.500000	57.500000	4.8125000	41.527778
6611	chic	46.0	35.50000	2005-02-05	39.500000	40.500000	8.9062500	29.055556
6612	chic	43.0	35.40000	2005-02-06	26.342857	27.000000	6.9375000	28.555556

6613	chic	39.0	39.30000	2005-02-07	19.700000	18.000000	8.9791667	26.331349
6614	chic	29.0	23.00000	2005-02-08	12.900000	5.000000	19.2323370	18.000000
6615	chic	28.0	20.00000	2005-02-09	12.014286	17.800000	12.6979167	28.722222
6616	chic	27.0	16.30000	2005-02-10	22.100000	28.500000	19.1875000	24.347222
6617	chic	33.0	23.50000	2005-02-11	21.800000	33.500000	14.7187500	23.541667
6618	chic	42.0	28.60000	2005-02-12	20.914286	29.000000	13.6770833	27.486111
6619	chic	38.0	34.70000	2005-02-13	23.400000	28.000000	13.4583333	21.208333
6620	chic	43.0	37.50000	2005-02-14	NA	17.000000	11.2083333	19.458333
6621	chic	38.0	34.00000	2005-02-15	20.587500	25.000000	5.0697464	32.763889
6622	chic	30.0	18.20000	2005-02-16	12.800000	27.500000	19.0625000	19.937500
6623	chic	22.0	8.40000	2005-02-17	10.150000	29.500000	24.0932971	18.655303
6624	chic	19.0	2.80000	2005-02-18	7.825000	24.500000	17.9895833	24.933575
6625	chic	32.0	18.00000	2005-02-19	12.000000	23.000000	14.9479167	23.263889
6626	chic	34.0	32.60000	2005-02-20	14.600000	15.000000	11.8854167	24.791667
6627	chic	35.0	28.70000	2005-02-21	17.471429	21.600000	8.7083333	22.291667
6628	chic	29.0	23.10000	2005-02-22	22.800000	28.000000	11.6354167	32.110939
6629	chic	28.0	19.60000	2005-02-23	23.900000	45.500000	10.8066123	43.166667
6630	chic	32.0	24.10000	2005-02-24	27.350000	35.500000	10.8691123	40.518939
6631	chic	34.0	26.00000	2005-02-25	28.600000	40.000000	13.9270833	26.125000
6632	chic	29.0	20.80000	2005-02-26	12.000000	15.500000	30.4791667	19.583333
6633	chic	33.0	23.90000	2005-02-27	20.285714	24.200000	14.9687500	23.930556
6634	chic	31.0	27.40000	2005-02-28	24.200000	21.000000	11.9809783	27.554831
6635	chic	23.0	12.50000	2005-03-01	7.600000	23.000000	27.9814312	22.055556
6636	chic	20.0	5.90000	2005-03-02	6.362500	20.500000	24.0321970	25.666667
6637	chic	24.0	12.70000	2005-03-03	18.000000	38.500000	12.4479167	42.187198
6638	chic	32.0	26.60000	2005-03-04	36.900000	54.500000	5.3958333	46.569444
6639	chic	38.0	30.50000	2005-03-05	28.225000	34.200000	17.8125000	24.194444
6640	chic	50.0	33.60000	2005-03-06	14.700000	26.000000	29.5625000	16.194444
6641	chic	42.0	29.30000	2005-03-07	9.600000	20.500000	26.7187500	18.561508
6642	chic	24.0	7.00000	2005-03-08	7.325000	25.000000	25.7038043	22.078502
6643	chic	24.0	3.90000	2005-03-09	9.700000	24.500000	19.5625000	30.791667
6644	chic	29.0	22.40000	2005-03-10	16.600000	32.000000	9.2187500	33.347222
6645	chic	30.0	22.70000	2005-03-11	11.985714	20.500000	23.0937500	19.944444
6646	chic	26.0	10.70000	2005-03-12	5.500000	24.500000	30.3020833	18.180556
6647	chic	23.0	7.60000	2005-03-13	8.600000	20.500000	23.9479167	26.319444
6648	chic	29.0	19.60000	2005-03-14	19.612500	51.000000	9.9343297	39.874569
6649	chic	31.0	17.40000	2005-03-15	20.800000	49.000000	15.5457428	30.777174
6650	chic	37.0	21.10000	2005-03-16	19.700000	53.500000	16.8201993	30.944444
6651	chic	32.0	26.80000	2005-03-17	13.062500	22.400000	26.1041667	25.958333
6652	chic	39.0	30.90000	2005-03-18	28.700000	43.500000	21.0000000	26.506148
6653	chic	42.0	36.10000	2005-03-19	26.950000	27.500000	19.1458333	18.458333
6654	chic	34.0	25.00000	2005-03-20	12.900000	15.500000	32.5208333	17.486111
6655	chic	32.0	26.50000	2005-03-21	16.700000	19.000000	23.1245471	27.134058

6656	chic	37.0	26.80000	2005-03-22		NA	19.500000	33.7391304	18.411836
6657	chic	34.0	26.20000	2005-03-23	6.385714	12.000000	32.4062500	19.861111	
6658	chic	36.0	25.60000	2005-03-24	21.400000	45.000000	12.1562500	45.944444	
6659	chic	36.0	31.00000	2005-03-25	16.100000	14.000000	29.6770833	23.152778	
6660	chic	37.0	30.80000	2005-03-26	17.685714	22.500000	24.2812500	25.500000	
6661	chic	38.0	28.10000	2005-03-27		NA	34.000000	16.2500000	37.069444
6662	chic	44.0	27.20000	2005-03-28		NA	37.500000	22.6884058	41.097826
6663	chic	52.0	31.00000	2005-03-29	18.557143	36.800000	22.3772645	39.629227	
6664	chic	66.0	44.30000	2005-03-30	13.850000	56.500000	32.8922101	23.069444	
6665	chic	49.0	38.10000	2005-03-31	5.400000	20.500000	24.3125000	21.222222	
6666	chic	45.0	35.50000	2005-04-01	10.800000	24.000000	18.5600414	32.443182	
6667	chic	43.0	30.90000	2005-04-02	6.050000	15.000000	32.2916667	18.125000	
6668	chic	48.0	27.30000	2005-04-03	7.500000	24.000000	22.4404762	31.261473	
6669	chic	52.0	33.70000	2005-04-04	18.100000	47.500000	25.7428830	38.083333	
6670	chic	62.0	48.80000	2005-04-05	16.700000	40.000000	36.1071429	23.625000	
6671	chic	63.0	50.30000	2005-04-06		NA	37.000000	25.3867754	23.602843
6672	chic	48.0	35.50000	2005-04-07	5.871429	11.500000	40.7797619	13.401042	
6673	chic	49.0	31.10000	2005-04-08	5.400000	17.500000	33.9821429	26.531250	
6674	chic	52.0	32.50000	2005-04-09	12.400000	26.500000	30.5952381	25.838542	
6675	chic	62.0	42.30000	2005-04-10	22.385714	46.500000	41.0327381	22.729167	
6676	chic	65.0	32.60000	2005-04-11	13.300000	67.000000	45.9948240	17.824728	
6677	chic	48.0	34.60000	2005-04-12	8.100000	21.000000	28.4838839	22.328869	
6678	chic	47.0	24.90000	2005-04-13	5.150000	16.000000	36.8510611	14.748958	
6679	chic	47.0	23.40000	2005-04-14	6.600000	17.500000	35.6881470	23.557292	
6680	chic	48.0	28.00000	2005-04-15	7.300000	32.500000	27.3555195	35.395833	
6681	chic	56.0	34.40000	2005-04-16	18.550000	47.200000	26.8988095	36.296875	
6682	chic	62.0	44.50000	2005-04-17	29.600000	40.000000	37.1994048	32.687500	
6683	chic	64.0	44.90000	2005-04-18	25.800000	76.500000	34.6884058	47.922554	
6684	chic	71.0	48.00000	2005-04-19	19.085714	69.000000	38.1790890	24.727582	
6685	chic	57.0	46.80000	2005-04-20	9.400000	22.500000	27.4782609	12.957386	
6686	chic	50.0	30.60000	2005-04-21	3.700000	19.500000	31.1130952	16.072917	
6687	chic	42.0	38.40000	2005-04-22	7.512500	14.200000	29.8476967	18.593750	
6688	chic	39.0	26.00000	2005-04-23	3.500000	11.000000	37.9523810	10.739583	
6689	chic	44.0	24.10000	2005-04-24	1.700000	14.000000	37.4404762	10.864583	
6690	chic	53.0	29.40000	2005-04-25	4.842857	40.000000	32.4101967	18.989583	
6691	chic	50.0	35.30000	2005-04-26	5.800000	28.500000	25.3174172	15.274521	
6692	chic	48.0	29.80000	2005-04-27	6.350000	37.500000	27.2850303	15.958333	
6693	chic	48.0	29.70000	2005-04-28	10.312500	28.800000	27.4316770	19.990327	
6694	chic	46.0	25.70000	2005-04-29	8.700000	24.500000	31.0238095	19.807292	
6695	chic	46.0	26.10000	2005-04-30	13.300000	31.500000	26.7619048	25.010417	
6696	chic	42.0	26.60000	2005-05-01	6.185714	25.500000	20.6726190	14.843750	
6697	chic	40.0	25.10000	2005-05-02	8.000000	24.000000	17.0119048	15.359649	
6698	chic	43.0	24.10000	2005-05-03	10.600000	25.500000	22.4749646	22.623868	

6699	chic	48.0	24.00000	2005-05-04	15.900000	44.800000	26.3588509	32.659564
6700	chic	54.0	29.20000	2005-05-05	20.300000	61.500000	34.8928571	34.344882
6701	chic	63.0	43.10000	2005-05-06	19.800000	65.500000	34.5589356	36.904762
6702	chic	53.0	44.00000	2005-05-07	14.050000	25.500000	34.2083333	22.020833
6703	chic	64.0	47.30000	2005-05-08	17.100000	42.000000	43.6130952	23.390625
6704	chic	70.0	56.10000	2005-05-09	16.400000	62.500000	31.9255952	23.296875
6705	chic	71.0	51.70000	2005-05-10	7.662500	33.250000	31.1218944	22.877264
6706	chic	54.0	44.40000	2005-05-11	NA	17.000000	26.6130952	11.953125
6707	chic	49.0	36.70000	2005-05-12	5.100000	17.000000	24.4017857	12.135417
6708	chic	61.0	49.80000	2005-05-13	17.000000	36.000000	18.1696429	25.385417
6709	chic	56.0	43.60000	2005-05-14	6.900000	14.000000	28.8601190	11.166667
6710	chic	48.0	37.50000	2005-05-15	2.400000	10.000000	19.6934524	11.750000
6711	chic	52.0	35.10000	2005-05-16	4.828571	20.750000	24.1470567	17.042120
6712	chic	60.0	42.80000	2005-05-17	13.350000	37.000000	32.8034420	24.450893
6713	chic	66.0	46.30000	2005-05-18	16.800000	48.000000	42.0059524	22.502841
6714	chic	62.0	56.70000	2005-05-19	31.528571	43.500000	21.0605590	27.229167
6715	chic	58.0	44.90000	2005-05-20	13.950000	24.500000	37.5744048	17.197917
6716	chic	58.0	44.00000	2005-05-21	13.800000	42.000000	32.7410714	31.776042
6717	chic	69.0	47.80000	2005-05-22	11.050000	28.000000	34.1250000	22.437500
6718	chic	61.0	48.30000	2005-05-23	9.800000	18.500000	32.4136905	13.956975
6719	chic	57.0	45.50000	2005-05-24	8.700000	13.000000	27.0428313	16.393116
6720	chic	58.0	44.70000	2005-05-25	7.050000	19.000000	25.4633799	20.021307
6721	chic	66.0	43.90000	2005-05-26	10.800000	39.500000	22.0000000	29.894928
6722	chic	59.0	44.00000	2005-05-27	8.700000	37.500000	22.6885352	22.392663
6723	chic	58.0	44.80000	2005-05-28	7.214286	16.400000	21.1845238	21.645833
6724	chic	57.0	44.40000	2005-05-29	NA	17.500000	23.1309524	24.260417
6725	chic	60.0	45.90000	2005-05-30	NA	19.500000	32.2500000	21.713542
6726	chic	59.0	49.00000	2005-05-31	8.328571	14.000000	22.8907867	20.819067
6727	chic	65.0	49.80000	2005-06-01	15.400000	27.500000	37.2199852	21.838542
6728	chic	66.0	54.40000	2005-06-02	19.000000	35.500000	34.7954031	23.166667
6729	chic	67.0	60.90000	2005-06-03	27.112500	39.000000	29.1041667	19.209177
6730	chic	72.0	63.50000	2005-06-04	21.400000	35.500000	36.0989583	21.994792
6731	chic	78.0	62.40000	2005-06-05	16.000000	23.500000	44.1796875	11.968750
6732	chic	78.0	57.60000	2005-06-06	7.228571	33.000000	35.6354167	19.890399
6733	chic	77.0	62.40000	2005-06-07	16.800000	39.500000	39.2944973	27.984828
6734	chic	78.0	65.10000	2005-06-08	19.200000	37.000000	33.4615036	30.131793
6735	chic	77.0	63.40000	2005-06-09	13.771429	29.600000	25.1966712	33.192708
6736	chic	78.0	68.10000	2005-06-10	20.100000	38.000000	32.7043705	25.255208
6737	chic	80.0	67.50000	2005-06-11	14.500000	27.000000	33.7109375	14.291667
6738	chic	75.0	66.50000	2005-06-12	13.185714	18.000000	26.9322917	13.510417
6739	chic	78.0	64.20000	2005-06-13	19.400000	31.000000	37.5447958	19.735863
6740	chic	74.0	60.10000	2005-06-14	6.800000	30.000000	35.2216115	14.392437
6741	chic	64.0	57.30000	2005-06-15	6.187500	17.400000	18.7296196	14.727273

6742	chic	66.0	46.80000	2005-06-16	6.800000	19.500000	26.0099432	19.927083
6743	chic	61.0	49.00000	2005-06-17	5.600000	9.500000	20.9997736	13.807292
6744	chic	62.0	50.70000	2005-06-18	4.200000	8.500000	19.0364583	13.859375
6745	chic	65.0	53.50000	2005-06-19	7.000000	19.000000	26.5885417	14.027778
6746	chic	69.0	54.50000	2005-06-20	16.600000	42.500000	34.6831975	33.992788
6747	chic	75.0	58.00000	2005-06-21	16.471429	41.000000	40.0652174	25.500000
6748	chic	72.0	44.60000	2005-06-22	11.300000	19.000000	31.8234107	20.155838
6749	chic	77.0	60.80000	2005-06-23	23.300000	62.500000	44.3263134	26.838542
6750	chic	86.0	63.40000	2005-06-24	31.857143	74.000000	50.9664855	23.750000
6751	chic	80.0	66.00000	2005-06-25	28.100000	48.000000	46.3988095	22.791667
6752	chic	82.0	66.10000	2005-06-26	23.000000	42.500000	55.2202381	17.197917
6753	chic	82.0	64.60000	2005-06-27	51.537500	79.000000	55.2358572	28.549366
6754	chic	85.0	64.10000	2005-06-28	31.200000	57.500000	50.2914402	26.553977
6755	chic	82.0	67.50000	2005-06-29	22.200000	47.000000	43.0280797	25.859400
6756	chic	82.0	63.40000	2005-06-30	15.885714	38.000000	45.1177536	19.437500
6757	chic	69.0	51.60000	2005-07-01	6.300000	16.000000	30.0364583	9.322917
6758	chic	65.0	50.20000	2005-07-02	4.200000	13.000000	30.7916667	9.277778
6759	chic	70.0	55.80000	2005-07-03	16.112500	26.800000	38.4010417	15.659873
6760	chic	77.0	64.40000	2005-07-04	23.200000	32.500000	36.6041667	12.968750
6761	chic	75.0	61.60000	2005-07-05	NA	22.500000	30.2861187	13.370652
6762	chic	72.0	61.90000	2005-07-06	12.685714	16.000000	33.8668067	10.326389
6763	chic	73.0	58.00000	2005-07-07	9.900000	21.500000	36.0953471	11.253623
6764	chic	73.0	54.10000	2005-07-08	9.300000	18.000000	37.2552083	18.062274
6765	chic	72.0	52.50000	2005-07-09	16.350000	37.500000	42.1927083	21.729167
6766	chic	76.0	53.20000	2005-07-10	15.400000	28.000000	57.9062500	23.958333
6767	chic	76.0	58.80000	2005-07-11	19.100000	38.000000	57.6451540	19.708333
6768	chic	79.0	65.50000	2005-07-12	26.187500	35.000000	58.8412591	14.816220
6769	chic	80.0	66.00000	2005-07-13	19.100000	25.000000	39.3333333	10.162202
6770	chic	79.0	67.00000	2005-07-14	19.600000	31.500000	34.5258152	12.506114
6771	chic	79.0	65.60000	2005-07-15	15.757143	28.400000	27.3966259	16.098958
6772	chic	81.0	63.80000	2005-07-16	19.600000	29.000000	38.0885417	16.593750
6773	chic	84.0	67.00000	2005-07-17	32.700000	42.500000	44.6432292	16.270833
6774	chic	83.0	64.60000	2005-07-18	12.837500	37.500000	36.4478034	13.018957
6775	chic	79.0	57.60000	2005-07-19	10.900000	35.000000	36.9130111	19.398810
6776	chic	78.0	67.80000	2005-07-20	15.600000	37.500000	26.1204298	27.680871
6777	chic	79.0	68.90000	2005-07-21	12.375000	23.800000	35.3736413	22.459541
6778	chic	75.0	65.30000	2005-07-22	10.000000	14.500000	36.3177083	16.033482
6779	chic	74.0	68.30000	2005-07-23	NA	26.000000	28.3958333	19.750000
6780	chic	90.0	70.90000	2005-07-24	22.050000	44.000000	47.6041667	11.963542
6781	chic	81.0	71.40000	2005-07-25	NA	32.500000	30.8409194	27.977679
6782	chic	75.0	66.80000	2005-07-26	NA	23.000000	29.2653061	15.864583
6783	chic	65.0	53.30000	2005-07-27	7.675000	15.400000	21.3832654	14.501637
6784	chic	66.0	52.10000	2005-07-28	14.800000	29.000000	23.0859375	25.852808

6785	chic	72.0	58.20000	2005-07-29		NA	32.500000	26.4765625	22.359375
6786	chic	73.0	59.70000	2005-07-30	12.837500	22.000000	32.4348958	18.911458	
6787	chic	79.0	64.60000	2005-07-31	20.800000	29.500000	40.8489583	20.166667	
6788	chic	81.0	65.00000	2005-08-01	28.700000	56.500000	41.9490489	26.831101	
6789	chic	79.0	66.10000	2005-08-02	44.487500	60.000000	40.6713089	29.280344	
6790	chic	84.0	69.00000	2005-08-03	37.900000	64.000000	39.3211051	23.619318	
6791	chic	82.0	66.10000	2005-08-04	21.600000	45.500000	37.2974411	18.677083	
6792	chic	73.0	56.50000	2005-08-05	7.428571	27.500000	28.0364583	17.817708	
6793	chic	72.0	55.90000	2005-08-06	11.000000	20.500000	33.3958333	19.552083	
6794	chic	74.0	57.80000	2005-08-07	25.900000	40.000000	44.9947917	28.375000	
6795	chic	78.0	57.80000	2005-08-08	31.662500	55.400000	39.6128850	38.869730	
6796	chic	80.0	63.50000	2005-08-09	33.000000	65.500000	43.2863451	28.884511	
6797	chic	79.0	65.90000	2005-08-10	16.000000	33.500000	42.8753059	19.588636	
6798	chic	72.0	67.00000	2005-08-11	14.785714	24.000000	21.5434783	31.854167	
6799	chic	79.0	68.90000	2005-08-12		NA	27.000000	30.7906476	23.987500
6800	chic	72.0	61.00000	2005-08-13	10.100000	14.000000	27.4088542	15.125000	
6801	chic	69.0	57.50000	2005-08-14	7.600000	15.000000	22.7447917	15.861111	
6802	chic	71.0	62.40000	2005-08-15	16.400000	34.500000	27.3875679	29.006944	
6803	chic	74.0	62.00000	2005-08-16	21.400000	36.500000	34.1218297	26.802083	
6804	chic	71.0	60.80000	2005-08-17	20.762500	41.000000	39.4198370	23.953125	
6805	chic	77.0	68.90000	2005-08-18		NA	41.000000	26.4531250	24.411458
6806	chic	79.0	66.90000	2005-08-19	14.500000	28.000000	35.8140625	17.685974	
6807	chic	78.0	67.70000	2005-08-20	9.885714	18.600000	27.2734375	15.791667	
6808	chic	74.0	54.40000	2005-08-21	7.900000	12.000000	24.3802083	13.834239	
6809	chic	67.0	52.70000	2005-08-22	4.000000	8.000000	22.7417346	10.161458	
6810	chic	66.0	52.70000	2005-08-23	5.085714	9.000000	27.1679121	12.967618	
6811	chic	67.0	56.00000	2005-08-24		NA	28.500000	28.0146060	15.166667
6812	chic	72.0	58.50000	2005-08-25	18.500000	46.500000	35.5610119	22.131629	
6813	chic	75.0	64.30000	2005-08-26	31.300000	49.400000	37.4564394	30.952178	
6814	chic	76.0	59.60000	2005-08-27	18.600000	30.000000	31.6562500	19.656250	
6815	chic	75.0	57.60000	2005-08-28	12.000000	19.000000	35.0052083	16.755208	
6816	chic	74.0	59.00000	2005-08-29	13.357143	26.500000	33.4200634	23.711277	
6817	chic	71.0	61.30000	2005-08-30	15.900000	22.000000	32.3285779	19.275815	
6818	chic	71.0	58.90000	2005-08-31	8.100000	18.500000	17.5076993	19.365057	
6819	chic	76.0	51.40000	2005-09-01	9.800000	33.000000	21.3223505	28.192613	
6820	chic	72.0	46.10000	2005-09-02	8.600000	37.500000	22.6129982	26.791667	
6821	chic	69.0	54.60000	2005-09-03	10.250000	17.500000	21.4479167	19.250000	
6822	chic	70.0	55.80000	2005-09-04	12.285714	24.000000	25.5625000	18.166667	
6823	chic	73.0	57.60000	2005-09-05	17.400000	25.000000	39.2343750	17.921875	
6824	chic	74.0	56.80000	2005-09-06	28.900000	50.000000	41.5176630	27.641304	
6825	chic	78.0	60.30000	2005-09-07	32.371429	53.800000	39.4282156	34.723214	
6826	chic	72.0	64.70000	2005-09-08	17.100000	23.000000	41.0919178	16.609375	
6827	chic	74.0	62.80000	2005-09-09	20.100000	39.000000	36.5815217	21.598958	

6828	chic	80.0	62.90000	2005-09-10	37.887500	55.000000	47.5781250	19.385417
6829	chic	80.0	61.80000	2005-09-11	56.500000	65.000000	51.7395833	18.875000
6830	chic	79.0	57.70000	2005-09-12	44.300000	78.500000	44.5423460	28.048363
6831	chic	83.0	59.80000	2005-09-13	28.675000	59.000000	39.3420105	25.748106
6832	chic	67.0	57.90000	2005-09-14	8.500000	18.000000	23.8689236	14.678504
6833	chic	62.0	52.90000	2005-09-15	6.600000	12.000000	23.1953125	14.093750
6834	chic	62.0	55.40000	2005-09-16	7.428571	12.000000	23.9739583	16.250000
6835	chic	65.0	54.40000	2005-09-17	9.700000	21.500000	20.1093750	22.572917
6836	chic	68.0	55.80000	2005-09-18	15.000000	22.000000	25.2031250	24.380208
6837	chic	75.0	64.70000	2005-09-19	19.685714	29.600000	25.5674819	19.968750
6838	chic	69.0	55.90000	2005-09-20	13.200000	32.500000	20.1879529	35.925272
6839	chic	70.0	54.70000	2005-09-21	18.200000	49.000000	29.0465839	33.177083
6840	chic	75.0	64.50000	2005-09-22	22.542857	42.500000	34.2026915	18.883929
6841	chic	65.0	52.90000	2005-09-23	4.800000	9.500000	25.5205628	11.125000
6842	chic	67.0	59.20000	2005-09-24	18.400000	25.500000	14.2261905	22.736111
6843	chic	71.0	67.40000	2005-09-25	21.428571	26.000000	13.5267857	18.347222
6844	chic	60.0	58.60000	2005-09-26	7.600000	14.500000	12.5278209	19.916667
6845	chic	61.0	51.20000	2005-09-27	14.900000	32.500000	13.3602955	30.055556
6846	chic	62.0	53.20000	2005-09-28	9.916667	28.500000	18.4133023	24.750000
6847	chic	53.0	34.90000	2005-09-29	5.300000	14.500000	12.3236284	19.402778
6848	chic	58.0	38.00000	2005-09-30	7.900000	33.500000	15.5639234	26.986111
6849	chic	65.0	48.40000	2005-10-01	16.400000	29.200000	25.9523810	28.277778
6850	chic	69.0	62.00000	2005-10-02	21.700000	28.000000	29.4523810	19.569444
6851	chic	78.0	67.30000	2005-10-03	23.000000	43.000000	25.2397774	21.164683
6852	chic	79.0	66.30000	2005-10-04	23.150000	46.500000	27.5251035	22.652778
6853	chic	77.0	63.20000	2005-10-05	NA	47.000000	30.5253623	24.917874
6854	chic	58.0	38.80000	2005-10-06	6.300000	16.500000	13.3207816	11.680556
6855	chic	49.0	37.60000	2005-10-07	4.271429	10.750000	15.1458333	14.422222
6856	chic	48.0	38.90000	2005-10-08	4.500000	6.500000	26.0000000	11.486111
6857	chic	53.0	43.10000	2005-10-09	4.400000	7.500000	27.7738095	10.736111
6858	chic	54.0	47.20000	2005-10-10	7.871429	12.500000	18.5476190	17.375000
6859	chic	58.0	52.00000	2005-10-11	7.600000	13.500000	11.9583333	15.555556
6860	chic	59.0	54.40000	2005-10-12	18.700000	24.500000	3.0437371	20.986111
6861	chic	61.0	53.20000	2005-10-13	29.800000	48.200000	8.9943064	29.387077
6862	chic	62.0	48.20000	2005-10-14	16.100000	38.500000	15.1458333	28.152778
6863	chic	58.0	34.90000	2005-10-15	5.400000	20.500000	23.7529762	23.222222
6864	chic	52.0	39.50000	2005-10-16	7.900000	12.500000	16.9464286	20.055556
6865	chic	58.0	44.80000	2005-10-17	11.650000	29.500000	14.6687371	28.013889
6866	chic	58.0	42.10000	2005-10-18	11.200000	36.000000	12.8161232	31.493357
6867	chic	56.0	41.30000	2005-10-19	5.612500	16.400000	23.3097591	17.518759
6868	chic	51.0	40.30000	2005-10-20	6.800000	17.000000	18.7500000	17.146135
6869	chic	53.0	41.30000	2005-10-21	9.600000	12.500000	22.2452307	19.839286
6870	chic	46.0	39.90000	2005-10-22	13.337500	18.000000	8.2708333	23.500000

6871	chic	40.0	36.70000	2005-10-23	8.500000	10.000000	11.6428571	18.083333
6872	chic	46.0	37.90000	2005-10-24	5.000000	7.000000	11.7351190	15.404589
6873	chic	45.0	37.70000	2005-10-25	4.487500	8.250000	14.6273292	18.137077
6874	chic	44.0	33.50000	2005-10-26	7.600000	14.000000	10.0982143	25.128968
6875	chic	44.0	35.90000	2005-10-27	10.800000	19.000000	10.0357143	27.666667
6876	chic	44.0	35.10000	2005-10-28	16.925000	25.500000	10.2067805	33.180556
6877	chic	45.0	34.30000	2005-10-29	22.600000	37.000000	11.4910714	27.875000
6878	chic	54.0	37.00000	2005-10-30	20.700000	25.000000	26.1607143	18.041667
6879	chic	54.0	49.40000	2005-10-31	31.925000	39.200000	11.4257952	21.577899
6880	chic	48.0	37.50000	2005-11-01	16.000000	27.000000	6.9360507	22.728535
6881	chic	52.0	35.40000	2005-11-02	8.500000	28.500000	11.8916667	23.010266
6882	chic	62.0	40.70000	2005-11-03	9.675000	34.500000	24.8771739	22.569444
6883	chic	60.0	38.00000	2005-11-04	14.800000	47.500000	18.9062500	24.791667
6884	chic	54.0	50.60000	2005-11-05	27.200000	32.000000	11.4722222	18.208333
6885	chic	51.0	42.00000	2005-11-06	5.987500	10.400000	15.1250000	13.986111
6886	chic	49.0	43.20000	2005-11-07	17.400000	31.000000	7.3707428	25.064182
6887	chic	55.0	49.80000	2005-11-08	40.000000	36.500000	4.1005435	27.222222
6888	chic	54.0	37.80000	2005-11-09	8.437500	25.000000	17.8958333	11.916667
6889	chic	39.0	25.60000	2005-11-10	NA	24.000000	9.5625000	23.805556
6890	chic	47.0	30.50000	2005-11-11	14.800000	41.500000	8.1979167	33.944444
6891	chic	54.0	38.70000	2005-11-12	13.842857	27.500000	20.5520833	22.527778
6892	chic	49.0	35.70000	2005-11-13	5.700000	17.500000	24.9270833	9.763889
6893	chic	39.0	33.60000	2005-11-14	8.300000	17.000000	10.4687500	24.719807
6894	chic	46.0	42.50000	2005-11-15	9.300000	10.500000	8.4510870	16.597222
6895	chic	29.0	19.20000	2005-11-16	4.700000	27.500000	16.9687500	10.347222
6896	chic	22.0	7.80000	2005-11-17	8.800000	20.500000	12.8229167	20.638889
6897	chic	30.0	21.10000	2005-11-18	11.714286	22.400000	4.5277778	24.958333
6898	chic	43.0	28.10000	2005-11-19	15.800000	25.500000	11.3888889	26.729167
6899	chic	39.0	33.00000	2005-11-20	19.100000	17.000000	9.8194444	19.041667
6900	chic	42.0	31.50000	2005-11-21	12.850000	21.000000	11.7083333	14.860870
6901	chic	32.0	19.30000	2005-11-22	NA	19.000000	12.9873188	26.166667
6902	chic	37.0	29.60000	2005-11-23	NA	13.500000	6.8121981	21.854167
6903	chic	29.0	-0.60000	2005-11-24	3.275000	12.500000	26.6944444	8.833333
6904	chic	20.0	5.30000	2005-11-25	5.500000	16.000000	11.5416667	22.687500
6905	chic	32.0	20.40000	2005-11-26	17.900000	21.000000	6.6805556	27.104167
6906	chic	48.0	46.00000	2005-11-27	19.166667	16.000000	11.6666667	20.958333
6907	chic	50.0	44.70000	2005-11-28	12.400000	18.500000	15.2364130	16.075092
6908	chic	33.0	22.90000	2005-11-29	7.900000	14.000000	11.5910326	13.094203
6909	chic	24.0	17.20000	2005-11-30	12.614286	17.800000	9.1902174	21.888889
6910	chic	25.0	18.00000	2005-12-01	18.400000	18.500000	7.0312500	24.444444
6911	chic	19.0	8.50000	2005-12-02	NA	19.500000	9.1562500	23.291667
6912	chic	25.0	19.00000	2005-12-03	13.342857	20.000000	10.3333333	25.194444
6913	chic	20.0	15.80000	2005-12-04	15.300000	15.500000	13.1770833	21.708333

6914	chic	11.0	2.80000	2005-12-05		NA	30.00000	6.4479167	28.388889
6915	chic	11.0	3.20000	2005-12-06	24.616667	33.000000	4.7015399	29.083333	
6916	chic	8.0	-1.80000	2005-12-07	37.800000	39.000000	3.9162138	34.309524	
6917	chic	16.0	15.60000	2005-12-08	24.300000	31.000000	5.9952652	34.222222	
6918	chic	20.0	10.90000	2005-12-09	25.450000	22.000000	5.9583333	31.416667	
6919	chic	22.0	16.20000	2005-12-10	18.200000	30.000000	9.1354167	28.708333	
6920	chic	20.0	17.20000	2005-12-11	10.600000	14.000000	11.3333333	22.555556	
6921	chic	19.0	11.60000	2005-12-12	19.225000	28.750000	5.0312500	39.746212	
6922	chic	26.0	19.80000	2005-12-13	26.500000	21.000000	6.6286232	29.569444	
6923	chic	32.0	27.40000	2005-12-14	26.900000	16.000000	3.8020833	30.633838	
6924	chic	30.0	27.90000	2005-12-15	14.400000	16.500000	4.8958333	25.430556	
6925	chic	21.0	14.70000	2005-12-16	11.000000	22.000000	11.1666667	16.875000	
6926	chic	16.0	7.30000	2005-12-17	13.800000	20.000000	8.5937500	20.736111	
6927	chic	10.0	1.90000	2005-12-18	12.200000	17.500000	13.5520833	19.111111	
6928	chic	5.0	-0.30000	2005-12-19	21.150000	21.000000	8.0588768	31.791667	
6929	chic	13.0	7.70000	2005-12-20	25.750000	32.000000	3.8491848	32.897727	
6930	chic	12.0	7.70000	2005-12-21	37.928571	59.500000	3.6639493	34.861111	
6931	chic	22.0	23.30000	2005-12-22	36.650000	42.500000	5.3854167	33.730263	
6932	chic	41.0	32.60000	2005-12-23	32.900000	34.500000	6.9062500	29.083333	
6933	chic	37.0	35.20000	2005-12-24	30.771429	25.200000	1.7708333	31.986111	
6934	chic	35.0	32.10000	2005-12-25	6.700000	8.000000	14.3541667	13.791667	
6935	chic	35.0	29.60000	2005-12-26	8.400000	8.500000	14.0416667	16.819444	
6936	chic	40.0	33.60000	2005-12-27	23.560000	27.000000	4.4687500	23.500000	
6937	chic	37.0	34.50000	2005-12-28	17.750000	27.500000	3.2604167	19.285628	
6938	chic	35.0	29.40000	2005-12-29	7.450000	23.500000	6.7948370	19.972222	
6939	chic	36.0	31.00000	2005-12-30	15.057143	19.200000	3.0344203	22.805556	
6940	chic	35.0	30.10000	2005-12-31	15.000000	23.500000	2.5312500	13.250000	

212 select()

We use the `select()` function to **select columns you want to focus on**.

Suppose we wanted to take the first 3 columns only.

There are a few ways to do this.

We could for example use numerical indices.

```
names(chicago) [1:3]
```

```
[1] "city" "tmpd" "dptp"
```

But we can also use the names directly.

```
chicago %>%
  select(city:tmpd)
```

```
      city   tmpd      dptp
1    chic  31.5  31.50000
2    chic  33.0  29.87500
3    chic  33.0  27.37500
4    chic  29.0  28.62500
5    chic  32.0  28.87500
6    chic  40.0  35.12500
7    chic  34.5  26.75000
8    chic  29.0  22.00000
9    chic  26.5  29.00000
10   chic  32.5  27.75000
11   chic  29.5  20.12500
12   chic  34.5  26.00000
13   chic  34.0  32.25000
14   chic  37.5  36.37500
15   chic  32.5  24.25000
16   chic  25.0  21.50000
```

17	chic	27.0	24.75000
18	chic	17.5	11.12500
19	chic	23.0	15.75000
20	chic	20.5	11.50000
21	chic	22.0	20.62500
22	chic	19.5	7.37500
23	chic	2.5	-12.25000
24	chic	2.0	-5.62500
25	chic	9.5	-5.25000
26	chic	16.0	4.75000
27	chic	17.5	17.75000
28	chic	29.5	18.25000
29	chic	29.5	32.87500
30	chic	32.5	24.12500
31	chic	27.5	26.50000
32	chic	41.0	32.25000
33	chic	36.5	34.00000
34	chic	34.0	26.25000
35	chic	31.5	24.25000
36	chic	29.5	27.25000
37	chic	37.0	30.37500
38	chic	40.5	35.75000
39	chic	32.5	3.50000
40	chic	24.5	17.37500
41	chic	35.0	27.37500
42	chic	39.5	29.37500
43	chic	34.0	24.75000
44	chic	34.5	30.87500
45	chic	31.5	22.00000
46	chic	23.5	10.12500
47	chic	24.0	18.12500
48	chic	31.5	20.25000
49	chic	31.5	20.00000
50	chic	34.0	19.62500
51	chic	32.5	17.00000
52	chic	38.0	24.50000
53	chic	35.5	25.12500
54	chic	35.5	24.75000
55	chic	31.5	25.25000
56	chic	34.5	21.87500
57	chic	36.0	18.50000
58	chic	39.5	28.25000
59	chic	40.0	38.37500

60	chic	39.0	28.37500
61	chic	41.0	27.87500
62	chic	36.5	14.87500
63	chic	38.0	26.75000
64	chic	44.0	34.37500
65	chic	48.5	39.50000
66	chic	59.5	36.87500
67	chic	54.5	33.62500
68	chic	31.0	14.00000
69	chic	25.5	13.62500
70	chic	28.5	17.00000
71	chic	33.5	22.37500
72	chic	34.0	33.12500
73	chic	37.0	33.00000
74	chic	35.0	24.50000
75	chic	37.5	17.87500
76	chic	38.5	19.37500
77	chic	39.5	30.25000
78	chic	41.5	26.12500
79	chic	43.0	16.62500
80	chic	43.5	22.50000
81	chic	48.0	32.37500
82	chic	53.5	35.25000
83	chic	57.5	46.12500
84	chic	45.0	40.12500
85	chic	45.0	40.25000
86	chic	43.0	38.50000
87	chic	46.0	35.00000
88	chic	39.5	30.12500
89	chic	29.0	12.87500
90	chic	30.0	19.00000
91	chic	41.5	22.87500
92	chic	29.5	14.62500
93	chic	28.0	17.37500
94	chic	35.5	17.12500
95	chic	43.5	33.00000
96	chic	50.0	21.25000
97	chic	49.5	30.87500
98	chic	40.0	31.37500
99	chic	50.0	28.50000
100	chic	59.5	44.87500
101	chic	51.0	45.62500
102	chic	49.5	43.12500

103	chic	48.0	47.25000
104	chic	52.5	51.50000
105	chic	51.5	50.12500
106	chic	54.0	49.25000
107	chic	57.5	47.00000
108	chic	61.5	49.87500
109	chic	64.0	53.00000
110	chic	71.0	55.75000
111	chic	56.0	39.00000
112	chic	47.0	45.62500
113	chic	52.0	43.75000
114	chic	49.0	30.75000
115	chic	51.0	32.50000
116	chic	57.0	33.87500
117	chic	56.5	31.62500
118	chic	53.5	28.62500
119	chic	64.5	34.62500
120	chic	46.0	16.62500
121	chic	53.5	39.00000
122	chic	53.0	47.37500
123	chic	45.0	35.00000
124	chic	48.0	29.37500
125	chic	50.5	32.62500
126	chic	58.0	40.12500
127	chic	59.5	40.87500
128	chic	59.0	33.37500
129	chic	69.5	43.75000
130	chic	74.5	51.50000
131	chic	71.0	58.00000
132	chic	51.5	32.75000
133	chic	59.0	53.00000
134	chic	69.0	53.37500
135	chic	56.5	33.87500
136	chic	62.5	42.62500
137	chic	70.5	63.62500
138	chic	66.5	57.62500
139	chic	67.5	61.12500
140	chic	66.5	59.75000
141	chic	74.0	66.75000
142	chic	61.5	49.75000
143	chic	51.0	45.62500
144	chic	50.5	45.12500
145	chic	57.5	62.87500

146	chic	73.0	67.62500
147	chic	78.5	67.37500
148	chic	78.5	65.75000
149	chic	78.5	67.12500
150	chic	76.0	65.62500
151	chic	76.0	60.12500
152	chic	74.5	68.50000
153	chic	72.0	64.75000
154	chic	69.0	47.25000
155	chic	63.0	45.00000
156	chic	70.0	54.87500
157	chic	71.0	54.62500
158	chic	77.5	58.12500
159	chic	74.5	60.25000
160	chic	57.5	41.12500
161	chic	61.0	51.00000
162	chic	72.5	68.75000
163	chic	80.0	62.00000
164	chic	77.0	62.00000
165	chic	83.0	68.50000
166	chic	73.5	48.50000
167	chic	75.0	52.87500
168	chic	77.0	61.00000
169	chic	80.5	62.75000
170	chic	77.5	61.37500
171	chic	77.0	73.62500
172	chic	76.0	71.12500
173	chic	67.0	59.00000
174	chic	72.5	57.75000
175	chic	76.0	65.75000
176	chic	70.5	62.00000
177	chic	69.0	50.75000
178	chic	64.5	48.25000
179	chic	72.0	53.62500
180	chic	72.5	66.00000
181	chic	70.5	63.00000
182	chic	68.5	60.62500
183	chic	71.0	60.25000
184	chic	77.5	60.37500
185	chic	72.5	59.50000
186	chic	72.5	69.12500
187	chic	80.0	69.00000
188	chic	80.0	69.12500

189	chic	80.5	69.25000
190	chic	80.5	67.62500
191	chic	80.0	67.62500
192	chic	80.0	73.50000
193	chic	79.5	65.50000
194	chic	64.5	58.75000
195	chic	67.0	53.00000
196	chic	63.0	54.37500
197	chic	65.5	58.62500
198	chic	78.0	67.00000
199	chic	79.5	68.37500
200	chic	84.5	73.62500
201	chic	81.5	67.62500
202	chic	81.0	71.25000
203	chic	80.5	69.62500
204	chic	82.0	70.00000
205	chic	83.0	71.25000
206	chic	84.5	71.12500
207	chic	78.5	66.25000
208	chic	71.0	62.62500
209	chic	72.5	63.25000
210	chic	78.0	70.25000
211	chic	79.5	72.37500
212	chic	80.5	75.75000
213	chic	87.0	75.25000
214	chic	86.0	73.87500
215	chic	83.0	68.62500
216	chic	75.0	60.62500
217	chic	72.0	55.75000
218	chic	72.0	62.12500
219	chic	79.5	67.37500
220	chic	73.5	73.62500
221	chic	72.5	64.12500
222	chic	71.0	63.12500
223	chic	74.5	61.87500
224	chic	76.0	63.62500
225	chic	75.5	69.50000
226	chic	74.0	74.62500
227	chic	79.5	75.87500
228	chic	80.0	73.87500
229	chic	73.5	60.25000
230	chic	69.5	64.25000
231	chic	70.0	56.75000

232	chic	70.0	62.62500
233	chic	76.0	72.50000
234	chic	71.5	54.62500
235	chic	63.0	49.00000
236	chic	61.5	51.37500
237	chic	59.0	58.00000
238	chic	62.0	63.25000
239	chic	63.5	61.37500
240	chic	63.5	54.62500
241	chic	65.5	57.00000
242	chic	72.0	59.62500
243	chic	62.0	46.50000
244	chic	64.0	49.50000
245	chic	61.5	50.12500
246	chic	60.5	49.25000
247	chic	69.0	59.12500
248	chic	73.0	57.37500
249	chic	75.0	66.25000
250	chic	70.5	65.62500
251	chic	72.0	63.50000
252	chic	68.5	56.12500
253	chic	67.5	57.75000
254	chic	69.0	57.00000
255	chic	68.0	50.37500
256	chic	59.0	53.25000
257	chic	61.5	58.00000
258	chic	72.0	66.00000
259	chic	69.0	66.87500
260	chic	67.5	64.25000
261	chic	63.5	60.37500
262	chic	61.0	50.25000
263	chic	57.0	50.87500
264	chic	55.5	54.75000
265	chic	61.0	52.50000
266	chic	63.0	51.00000
267	chic	59.5	46.25000
268	chic	56.5	43.00000
269	chic	65.0	53.37500
270	chic	75.5	54.00000
271	chic	69.0	61.12500
272	chic	61.5	52.37500
273	chic	55.0	35.62500
274	chic	55.5	46.37500

275	chic	47.0	32.25000
276	chic	42.5	29.87500
277	chic	52.0	30.75000
278	chic	60.0	41.25000
279	chic	45.5	38.00000
280	chic	39.5	26.87500
281	chic	41.5	26.87500
282	chic	53.5	31.25000
283	chic	42.5	32.62500
284	chic	39.0	25.50000
285	chic	42.5	30.37500
286	chic	49.5	33.37500
287	chic	55.5	38.12500
288	chic	63.0	36.00000
289	chic	62.5	55.12500
290	chic	48.0	42.12500
291	chic	53.5	43.75000
292	chic	49.5	40.25000
293	chic	45.5	32.37500
294	chic	37.0	33.25000
295	chic	43.0	34.25000
296	chic	39.0	31.12500
297	chic	38.5	33.50000
298	chic	42.0	31.12500
299	chic	44.5	45.37500
300	chic	44.5	34.50000
301	chic	38.5	28.87500
302	chic	44.5	37.75000
303	chic	54.5	42.87500
304	chic	52.0	49.37500
305	chic	58.0	58.50000
306	chic	64.0	56.62500
307	chic	66.0	49.87500
308	chic	56.5	38.25000
309	chic	40.5	19.87500
310	chic	39.5	25.75000
311	chic	45.5	29.50000
312	chic	49.5	41.75000
313	chic	35.0	18.50000
314	chic	34.0	24.87500
315	chic	35.0	23.75000
316	chic	43.5	31.12500
317	chic	48.5	31.37500

318	chic	47.0	31.12500
319	chic	50.5	32.00000
320	chic	56.0	56.00000
321	chic	50.0	35.37500
322	chic	38.0	29.25000
323	chic	37.5	26.00000
324	chic	27.5	10.37500
325	chic	25.5	11.50000
326	chic	42.0	28.75000
327	chic	43.5	31.75000
328	chic	39.5	39.37500
329	chic	40.0	36.87500
330	chic	40.0	35.87500
331	chic	40.5	39.50000
332	chic	47.0	45.50000
333	chic	39.0	34.62500
334	chic	37.0	35.50000
335	chic	32.0	24.12500
336	chic	30.0	26.37500
337	chic	30.5	26.25000
338	chic	27.0	19.62500
339	chic	27.0	24.62500
340	chic	31.5	29.00000
341	chic	38.5	36.25000
342	chic	46.5	49.50000
343	chic	49.5	34.37500
344	chic	38.0	31.12500
345	chic	41.0	33.62500
346	chic	35.0	23.75000
347	chic	31.5	23.50000
348	chic	30.0	27.50000
349	chic	31.0	24.25000
350	chic	27.5	16.62500
351	chic	20.5	11.75000
352	chic	23.0	25.75000
353	chic	34.0	35.00000
354	chic	34.0	21.25000
355	chic	33.0	26.12500
356	chic	35.0	29.12500
357	chic	35.5	31.25000
358	chic	41.0	39.75000
359	chic	33.0	25.50000
360	chic	27.5	23.75000

361	chic	29.0	28.37500
362	chic	33.5	30.75000
363	chic	24.5	20.25000
364	chic	25.5	27.62500
365	chic	23.5	7.25000
366	chic	3.5	-3.62500
367	chic	15.0	15.37500
368	chic	24.5	16.75000
369	chic	5.0	-15.87500
370	chic	-6.5	-15.75000
371	chic	-5.5	-15.12500
372	chic	3.0	-1.87500
373	chic	8.5	2.75000
374	chic	0.5	-12.25000
375	chic	1.5	-1.62500
376	chic	24.0	22.25000
377	chic	28.5	15.50000
378	chic	12.0	-0.37500
379	chic	11.0	9.37500
380	chic	28.0	22.75000
381	chic	39.0	29.25000
382	chic	37.0	32.25000
383	chic	33.5	32.37500
384	chic	35.5	34.62500
385	chic	34.0	27.37500
386	chic	28.5	21.12500
387	chic	27.0	23.62500
388	chic	21.0	25.75000
389	chic	24.5	17.00000
390	chic	14.5	-2.75000
391	chic	9.0	-0.50000
392	chic	7.0	11.25000
393	chic	21.5	19.25000
394	chic	35.5	40.50000
395	chic	50.5	47.50000
396	chic	46.0	31.87500
397	chic	28.0	21.37500
398	chic	22.5	17.75000
399	chic	24.0	20.12500
400	chic	16.5	6.62500
401	chic	4.0	-10.75000
402	chic	3.0	-3.12500
403	chic	16.5	8.37500

404	chic	14.5	16.25000
405	chic	17.5	7.12500
406	chic	16.0	17.62500
407	chic	16.0	9.00000
408	chic	9.0	0.25000
409	chic	7.0	3.50000
410	chic	27.5	38.62500
411	chic	26.0	11.87500
412	chic	26.5	27.12500
413	chic	31.0	23.12500
414	chic	31.5	27.00000
415	chic	32.0	29.37500
416	chic	21.5	-2.62500
417	chic	16.5	20.12500
418	chic	40.0	29.00000
419	chic	27.0	13.00000
420	chic	22.0	7.87500
421	chic	20.5	9.75000
422	chic	39.5	29.62500
423	chic	32.0	22.75000
424	chic	34.5	31.62500
425	chic	39.5	26.37500
426	chic	41.0	29.37500
427	chic	35.5	24.37500
428	chic	27.0	17.00000
429	chic	28.5	16.25000
430	chic	31.0	19.25000
431	chic	36.0	32.50000
432	chic	42.0	40.00000
433	chic	48.5	42.75000
434	chic	34.0	27.62500
435	chic	38.0	21.37500
436	chic	46.5	35.12500
437	chic	43.0	28.25000
438	chic	26.5	17.62500
439	chic	24.0	17.50000
440	chic	23.5	19.50000
441	chic	32.5	23.50000
442	chic	34.0	26.00000
443	chic	34.5	17.37500
444	chic	32.0	29.50000
445	chic	28.5	15.00000
446	chic	30.0	15.75000

447	chic	46.5	35.00000
448	chic	56.0	36.25000
449	chic	56.5	54.75000
450	chic	53.0	35.50000
451	chic	39.0	18.50000
452	chic	40.0	28.25000
453	chic	48.5	42.62500
454	chic	45.5	35.75000
455	chic	40.5	27.25000
456	chic	42.0	32.00000
457	chic	42.0	34.25000
458	chic	54.0	56.62500
459	chic	53.5	44.12500
460	chic	57.5	51.62500
461	chic	69.5	57.50000
462	chic	50.0	28.75000
463	chic	50.0	25.25000
464	chic	51.5	28.75000
465	chic	52.5	37.75000
466	chic	43.0	33.75000
467	chic	46.0	22.87500
468	chic	47.5	23.25000
469	chic	53.0	38.50000
470	chic	43.0	28.87500
471	chic	41.5	25.50000
472	chic	47.5	27.50000
473	chic	59.0	37.87500
474	chic	42.5	17.87500
475	chic	40.5	14.75000
476	chic	45.5	35.25000
477	chic	37.0	28.75000
478	chic	45.5	30.37500
479	chic	44.0	34.37500
480	chic	45.0	30.12500
481	chic	54.0	36.37500
482	chic	48.5	35.87500
483	chic	39.5	34.62500
484	chic	48.5	28.37500
485	chic	49.0	25.37500
486	chic	54.0	26.50000
487	chic	53.0	29.62500
488	chic	57.0	27.75000
489	chic	56.5	39.12500

490	chic	52.5	31.87500
491	chic	54.5	34.87500
492	chic	61.5	38.12500
493	chic	62.0	40.87500
494	chic	67.5	53.25000
495	chic	56.0	52.62500
496	chic	57.0	49.50000
497	chic	60.5	41.25000
498	chic	67.0	52.50000
499	chic	58.0	33.62500
500	chic	60.0	39.87500
501	chic	71.0	54.12500
502	chic	55.5	40.25000
503	chic	52.0	34.37500
504	chic	55.0	44.87500
505	chic	60.0	36.62500
506	chic	63.0	51.75000
507	chic	64.5	50.25000
508	chic	66.0	53.62500
509	chic	53.5	52.25000
510	chic	53.0	28.00000
511	chic	48.5	35.50000
512	chic	60.5	42.37500
513	chic	69.5	45.37500
514	chic	73.0	49.75000
515	chic	74.0	51.87500
516	chic	75.5	52.00000
517	chic	76.0	52.75000
518	chic	76.5	54.00000
519	chic	63.0	47.00000
520	chic	58.5	37.50000
521	chic	62.5	40.50000
522	chic	73.0	49.12500
523	chic	78.0	48.75000
524	chic	79.0	51.12500
525	chic	63.0	46.12500
526	chic	56.0	32.37500
527	chic	56.0	34.62500
528	chic	67.0	41.62500
529	chic	72.0	48.25000
530	chic	78.0	48.50000
531	chic	82.0	53.62500
532	chic	81.5	53.62500

533	chic	71.0	47.12500
534	chic	68.5	53.25000
535	chic	74.5	52.87500
536	chic	82.0	55.87500
537	chic	88.5	70.25000
538	chic	86.5	66.12500
539	chic	82.5	67.25000
540	chic	70.0	50.75000
541	chic	77.5	63.25000
542	chic	84.5	57.50000
543	chic	63.5	44.87500
544	chic	64.0	42.87500
545	chic	72.5	58.50000
546	chic	63.0	44.37500
547	chic	61.5	46.12500
548	chic	66.0	47.37500
549	chic	65.0	44.37500
550	chic	69.5	47.87500
551	chic	73.0	49.87500
552	chic	79.5	56.75000
553	chic	82.5	60.62500
554	chic	85.0	58.37500
555	chic	83.0	59.87500
556	chic	82.5	57.25000
557	chic	75.5	64.62500
558	chic	76.5	57.50000
559	chic	71.5	60.37500
560	chic	80.0	65.87500
561	chic	87.0	57.75000
562	chic	86.5	70.50000
563	chic	85.0	69.62500
564	chic	78.0	61.00000
565	chic	71.5	66.25000
566	chic	75.0	58.37500
567	chic	74.0	63.87500
568	chic	71.5	61.12500
569	chic	71.0	59.12500
570	chic	72.0	59.50000
571	chic	75.5	57.37500
572	chic	75.5	64.75000
573	chic	73.5	55.75000
574	chic	76.0	60.37500
575	chic	84.0	62.50000

576	chic	83.0	68.50000
577	chic	82.5	68.87500
578	chic	79.0	62.75000
579	chic	89.0	71.12500
580	chic	89.5	70.37500
581	chic	88.0	67.37500
582	chic	87.0	71.50000
583	chic	76.5	60.12500
584	chic	76.5	51.75000
585	chic	78.0	53.62500
586	chic	84.0	70.75000
587	chic	79.0	73.00000
588	chic	76.5	72.00000
589	chic	82.0	73.37500
590	chic	83.5	69.62500
591	chic	83.5	73.62500
592	chic	83.0	76.62500
593	chic	84.0	70.50000
594	chic	86.0	73.12500
595	chic	88.0	66.37500
596	chic	80.5	68.37500
597	chic	71.5	62.87500
598	chic	73.0	62.12500
599	chic	70.5	54.87500
600	chic	70.0	59.75000
601	chic	75.0	55.37500
602	chic	71.0	52.37500
603	chic	69.5	42.62500
604	chic	66.0	45.37500
605	chic	65.0	60.12500
606	chic	64.0	41.87500
607	chic	60.0	49.00000
608	chic	63.0	49.37500
609	chic	70.5	49.00000
610	chic	72.0	52.50000
611	chic	73.0	57.87500
612	chic	72.0	53.62500
613	chic	63.0	52.37500
614	chic	54.0	38.00000
615	chic	55.0	39.62500
616	chic	60.5	37.62500
617	chic	70.0	47.12500
618	chic	66.0	34.75000

619	chic	67.5	39.75000
620	chic	71.0	62.37500
621	chic	75.5	64.75000
622	chic	63.0	46.87500
623	chic	66.0	48.87500
624	chic	64.5	50.37500
625	chic	65.5	59.75000
626	chic	78.0	61.75000
627	chic	76.5	62.37500
628	chic	67.0	51.25000
629	chic	60.0	47.25000
630	chic	58.5	49.75000
631	chic	70.0	66.25000
632	chic	60.0	42.12500
633	chic	56.5	42.87500
634	chic	61.5	48.25000
635	chic	64.5	45.87500
636	chic	71.0	56.37500
637	chic	61.5	51.62500
638	chic	67.5	56.87500
639	chic	68.5	60.75000
640	chic	62.0	56.87500
641	chic	56.5	45.00000
642	chic	53.5	38.12500
643	chic	43.0	30.25000
644	chic	43.0	32.25000
645	chic	43.5	32.75000
646	chic	47.5	33.00000
647	chic	52.0	41.12500
648	chic	54.5	47.50000
649	chic	58.0	34.62500
650	chic	42.5	26.12500
651	chic	39.0	24.37500
652	chic	39.5	23.87500
653	chic	58.0	42.25000
654	chic	66.5	52.00000
655	chic	62.5	47.87500
656	chic	53.0	55.12500
657	chic	49.5	36.37500
658	chic	43.5	32.25000
659	chic	42.0	37.87500
660	chic	46.5	39.00000
661	chic	42.0	32.50000

662	chic	43.5	30.62500
663	chic	33.5	27.12500
664	chic	35.0	22.12500
665	chic	36.5	26.00000
666	chic	45.0	40.87500
667	chic	37.0	21.00000
668	chic	33.5	12.75000
669	chic	33.0	25.87500
670	chic	39.0	27.62500
671	chic	40.0	28.00000
672	chic	43.5	35.75000
673	chic	50.5	50.62500
674	chic	52.5	51.50000
675	chic	41.5	36.12500
676	chic	33.5	30.62500
677	chic	39.0	38.00000
678	chic	42.0	36.87500
679	chic	43.5	46.00000
680	chic	42.5	30.62500
681	chic	39.5	29.25000
682	chic	41.5	44.00000
683	chic	45.0	40.87500
684	chic	47.5	34.50000
685	chic	56.0	60.37500
686	chic	48.0	24.25000
687	chic	38.5	28.12500
688	chic	43.5	30.12500
689	chic	44.0	40.12500
690	chic	36.5	28.12500
691	chic	33.0	23.37500
692	chic	34.5	28.12500
693	chic	41.5	35.50000
694	chic	46.5	35.00000
695	chic	49.0	44.37500
696	chic	54.0	51.25000
697	chic	37.0	25.00000
698	chic	28.0	21.87500
699	chic	33.5	31.37500
700	chic	30.5	23.87500
701	chic	23.5	16.37500
702	chic	34.0	32.50000
703	chic	43.0	26.00000
704	chic	32.5	23.25000

705	chic	38.5	31.25000
706	chic	42.0	34.87500
707	chic	35.0	20.00000
708	chic	27.0	11.25000
709	chic	21.5	14.25000
710	chic	18.5	2.12500
711	chic	11.0	6.12500
712	chic	18.5	19.37500
713	chic	34.5	28.62500
714	chic	37.5	24.87500
715	chic	18.0	-0.75000
716	chic	10.5	12.12500
717	chic	16.0	7.00000
718	chic	22.0	21.87500
719	chic	39.0	32.25000
720	chic	44.5	27.00000
721	chic	33.0	22.50000
722	chic	36.0	38.75000
723	chic	41.0	26.75000
724	chic	33.5	26.50000
725	chic	23.0	16.62500
726	chic	27.0	29.87500
727	chic	27.5	14.12500
728	chic	14.5	6.87500
729	chic	13.5	12.62500
730	chic	24.5	21.87500
731	chic	26.0	27.00000
732	chic	26.5	26.87500
733	chic	22.0	10.87500
734	chic	23.0	15.75000
735	chic	19.0	15.87500
736	chic	29.5	31.87500
737	chic	35.0	32.37500
738	chic	40.0	39.62500
739	chic	15.0	1.50000
740	chic	16.5	14.62500
741	chic	31.5	21.37500
742	chic	34.5	37.37500
743	chic	31.5	15.87500
744	chic	26.0	17.62500
745	chic	26.5	26.12500
746	chic	29.5	23.87500
747	chic	31.5	26.62500

748	chic	37.0	29.12500
749	chic	37.5	27.87500
750	chic	38.0	30.12500
751	chic	28.5	11.62500
752	chic	26.5	19.75000
753	chic	40.0	25.75000
754	chic	41.5	32.62500
755	chic	38.0	34.12500
756	chic	42.5	42.25000
757	chic	34.0	23.62500
758	chic	37.0	30.75000
759	chic	42.0	31.87500
760	chic	40.0	37.75000
761	chic	40.5	35.50000
762	chic	52.5	44.12500
763	chic	40.5	21.87500
764	chic	25.5	20.37500
765	chic	14.5	2.50000
766	chic	4.5	2.00000
767	chic	9.0	5.25000
768	chic	2.0	-0.25000
769	chic	12.0	9.12500
770	chic	11.5	-3.75000
771	chic	7.0	3.50000
772	chic	15.0	12.37500
773	chic	24.0	19.12500
774	chic	26.5	16.87500
775	chic	32.0	31.12500
776	chic	27.5	20.75000
777	chic	27.5	13.12500
778	chic	17.5	1.87500
779	chic	17.5	14.62500
780	chic	22.0	20.87500
781	chic	28.0	19.12500
782	chic	27.0	25.25000
783	chic	26.0	17.25000
784	chic	17.0	1.62500
785	chic	13.5	10.25000
786	chic	13.0	9.12500
787	chic	27.5	27.75000
788	chic	28.5	15.87500
789	chic	18.5	10.75000
790	chic	23.0	8.50000

791	chic	17.0	8.75000
792	chic	21.5	20.00000
793	chic	32.0	32.12500
794	chic	34.5	24.37500
795	chic	21.5	17.00000
796	chic	26.0	14.62500
797	chic	23.0	10.75000
798	chic	26.5	18.62500
799	chic	34.0	26.12500
800	chic	42.5	32.50000
801	chic	46.0	31.50000
802	chic	35.0	29.25000
803	chic	42.5	36.25000
804	chic	47.0	47.50000
805	chic	33.5	16.00000
806	chic	35.5	27.25000
807	chic	32.0	28.87500
808	chic	24.5	17.37500
809	chic	26.0	26.50000
810	chic	32.5	22.62500
811	chic	28.5	11.75000
812	chic	32.0	22.75000
813	chic	41.5	25.25000
814	chic	48.5	36.25000
815	chic	49.0	34.87500
816	chic	55.5	54.75000
817	chic	66.5	58.75000
818	chic	60.5	56.50000
819	chic	44.0	31.00000
820	chic	42.0	33.00000
821	chic	35.5	22.50000
822	chic	36.5	33.87500
823	chic	46.5	44.62500
824	chic	47.0	47.25000
825	chic	51.0	34.62500
826	chic	41.0	35.50000
827	chic	41.5	24.62500
828	chic	40.0	27.75000
829	chic	38.0	15.62500
830	chic	29.5	13.37500
831	chic	28.5	20.87500
832	chic	37.0	28.87500
833	chic	43.0	26.87500

834	chic	41.0	19.37500
835	chic	52.0	33.00000
836	chic	48.5	30.50000
837	chic	57.0	49.25000
838	chic	48.5	31.87500
839	chic	39.5	35.50000
840	chic	43.5	19.25000
841	chic	54.0	38.00000
842	chic	53.0	36.12500
843	chic	52.0	34.25000
844	chic	50.5	31.37500
845	chic	55.5	41.37500
846	chic	62.5	52.37500
847	chic	58.0	45.25000
848	chic	54.0	43.00000
849	chic	49.5	42.00000
850	chic	55.5	42.00000
851	chic	50.0	35.50000
852	chic	47.5	33.25000
853	chic	45.0	37.50000
854	chic	53.5	32.62500
855	chic	55.5	49.75000
856	chic	50.5	19.87500
857	chic	35.5	24.75000
858	chic	43.0	35.75000
859	chic	50.5	40.75000
860	chic	50.5	25.37500
861	chic	49.5	23.50000
862	chic	48.0	20.25000
863	chic	51.5	36.75000
864	chic	52.0	43.25000
865	chic	55.5	41.37500
866	chic	56.0	43.75000
867	chic	59.0	44.50000
868	chic	63.5	45.37500
869	chic	68.0	51.62500
870	chic	65.5	61.75000
871	chic	64.0	38.62500
872	chic	64.5	44.75000
873	chic	63.0	49.62500
874	chic	69.0	42.87500
875	chic	75.0	65.50000
876	chic	67.5	60.87500

877	chic	62.0	40.12500
878	chic	56.0	39.62500
879	chic	57.0	39.62500
880	chic	67.5	68.25000
881	chic	73.5	67.25000
882	chic	75.0	66.50000
883	chic	68.5	63.37500
884	chic	67.5	52.50000
885	chic	56.5	51.62500
886	chic	62.5	49.50000
887	chic	66.0	47.75000
888	chic	71.0	51.50000
889	chic	71.5	55.62500
890	chic	73.0	57.87500
891	chic	61.0	46.87500
892	chic	58.5	43.75000
893	chic	60.0	50.50000
894	chic	66.0	62.75000
895	chic	66.5	58.75000
896	chic	64.0	52.37500
897	chic	54.5	50.87500
898	chic	61.0	46.75000
899	chic	65.5	47.62500
900	chic	72.5	62.25000
901	chic	71.0	62.87500
902	chic	68.5	60.87500
903	chic	69.0	56.37500
904	chic	79.0	64.37500
905	chic	79.0	68.00000
906	chic	75.0	59.37500
907	chic	73.0	61.50000
908	chic	77.5	64.00000
909	chic	70.5	64.75000
910	chic	64.5	46.25000
911	chic	61.0	48.62500
912	chic	65.5	52.12500
913	chic	72.5	54.50000
914	chic	73.5	66.25000
915	chic	74.0	59.00000
916	chic	75.0	50.50000
917	chic	75.5	62.12500
918	chic	79.0	63.25000
919	chic	78.5	53.50000

920	chic	75.0	65.62500
921	chic	83.0	68.25000
922	chic	86.5	61.37500
923	chic	76.0	64.50000
924	chic	71.0	62.12500
925	chic	69.0	50.12500
926	chic	68.0	45.62500
927	chic	71.0	49.62500
928	chic	72.5	48.87500
929	chic	71.0	54.87500
930	chic	70.0	60.75000
931	chic	67.5	65.12500
932	chic	67.5	61.37500
933	chic	69.0	64.37500
934	chic	74.0	63.75000
935	chic	74.5	65.12500
936	chic	77.0	68.75000
937	chic	78.5	73.87500
938	chic	79.5	72.37500
939	chic	82.5	66.75000
940	chic	67.5	57.50000
941	chic	69.0	67.00000
942	chic	71.5	61.00000
943	chic	71.0	60.50000
944	chic	72.5	60.12500
945	chic	74.0	66.62500
946	chic	79.5	72.62500
947	chic	81.0	77.00000
948	chic	77.0	66.00000
949	chic	63.0	48.75000
950	chic	62.0	50.25000
951	chic	65.0	57.12500
952	chic	70.5	58.75000
953	chic	72.5	62.37500
954	chic	70.5	62.25000
955	chic	72.0	60.00000
956	chic	71.0	62.50000
957	chic	71.0	63.25000
958	chic	69.0	61.62500
959	chic	66.5	56.62500
960	chic	66.0	55.87500
961	chic	66.5	53.87500
962	chic	67.5	60.87500

963	chic	74.5	61.12500
964	chic	74.0	65.50000
965	chic	77.5	72.12500
966	chic	70.5	63.00000
967	chic	70.0	61.50000
968	chic	70.0	58.25000
969	chic	71.5	66.12500
970	chic	74.5	69.25000
971	chic	77.0	70.75000
972	chic	75.0	60.75000
973	chic	70.5	58.87500
974	chic	72.5	67.62500
975	chic	71.0	61.87500
976	chic	64.0	50.50000
977	chic	65.0	53.50000
978	chic	68.0	62.25000
979	chic	70.0	66.62500
980	chic	71.5	69.87500
981	chic	74.5	71.75000
982	chic	76.5	69.00000
983	chic	68.0	60.50000
984	chic	63.0	51.25000
985	chic	65.0	57.12500
986	chic	60.5	45.62500
987	chic	56.5	50.50000
988	chic	58.0	51.37500
989	chic	57.5	49.12500
990	chic	59.5	51.87500
991	chic	63.5	54.12500
992	chic	65.0	55.75000
993	chic	65.0	55.50000
994	chic	65.5	56.87500
995	chic	66.0	58.00000
996	chic	61.5	44.75000
997	chic	45.5	31.62500
998	chic	48.0	36.75000
999	chic	54.5	43.12500
1000	chic	51.5	39.62500
1001	chic	51.0	38.75000
1002	chic	58.0	39.50000
1003	chic	59.5	47.62500
1004	chic	60.0	52.62500
1005	chic	65.5	59.62500

1006	chic	56.5	38.75000
1007	chic	44.5	24.87500
1008	chic	47.0	29.37500
1009	chic	52.5	55.25000
1010	chic	51.5	36.00000
1011	chic	45.0	33.37500
1012	chic	44.0	32.37500
1013	chic	45.5	37.37500
1014	chic	51.0	39.62500
1015	chic	59.0	39.62500
1016	chic	61.0	47.12500
1017	chic	62.5	45.75000
1018	chic	69.5	55.62500
1019	chic	70.5	53.50000
1020	chic	58.5	44.12500
1021	chic	43.0	31.62500
1022	chic	36.0	29.87500
1023	chic	36.0	33.00000
1024	chic	37.0	34.25000
1025	chic	46.0	37.00000
1026	chic	48.0	38.75000
1027	chic	58.5	54.50000
1028	chic	64.0	57.87500
1029	chic	65.5	55.75000
1030	chic	62.5	50.12500
1031	chic	62.5	42.87500
1032	chic	63.5	41.50000
1033	chic	64.5	49.87500
1034	chic	65.0	52.50000
1035	chic	45.5	31.12500
1036	chic	43.0	34.75000
1037	chic	35.0	24.12500
1038	chic	31.0	25.75000
1039	chic	46.5	29.75000
1040	chic	54.0	50.00000
1041	chic	45.5	37.75000
1042	chic	45.5	39.62500
1043	chic	45.0	35.00000
1044	chic	39.5	35.50000
1045	chic	38.0	28.12500
1046	chic	46.5	30.12500
1047	chic	38.5	30.37500
1048	chic	59.0	53.00000

1049	chic	54.0	45.00000
1050	chic	40.5	32.87500
1051	chic	26.0	11.37500
1052	chic	24.5	19.75000
1053	chic	21.0	11.75000
1054	chic	37.0	30.00000
1055	chic	45.5	19.50000
1056	chic	30.0	19.62500
1057	chic	26.5	21.25000
1058	chic	18.5	16.87500
1059	chic	27.5	24.37500
1060	chic	44.0	35.00000
1061	chic	38.5	29.00000
1062	chic	51.0	42.37500
1063	chic	28.5	12.62500
1064	chic	20.5	14.75000
1065	chic	34.0	25.12500
1066	chic	38.0	28.00000
1067	chic	29.0	9.00000
1068	chic	20.0	5.00000
1069	chic	33.5	24.62500
1070	chic	39.5	31.87500
1071	chic	29.0	7.25000
1072	chic	17.0	2.62500
1073	chic	21.5	13.62500
1074	chic	28.5	19.62500
1075	chic	31.0	22.87500
1076	chic	19.5	6.50000
1077	chic	11.0	0.50000
1078	chic	13.0	14.37500
1079	chic	8.0	-6.87500
1080	chic	3.5	2.62500
1081	chic	2.5	-4.50000
1082	chic	9.5	2.62500
1083	chic	9.5	2.62500
1084	chic	7.5	-3.62500
1085	chic	0.0	-2.87500
1086	chic	-6.5	-23.00000
1087	chic	-4.5	-11.87500
1088	chic	-1.0	-9.37500
1089	chic	5.0	7.50000
1090	chic	24.5	26.75000
1091	chic	12.0	3.25000

1092	chic	20.5	20.00000
1093	chic	27.0	32.00000
1094	chic	34.5	30.62500
1095	chic	32.5	32.00000
1096	chic	30.5	24.62500
1097	chic	27.5	19.75000
1098	chic	33.0	28.75000
1099	chic	39.0	39.75000
1100	chic	36.0	23.50000
1101	chic	29.5	27.62500
1102	chic	30.0	25.00000
1103	chic	35.0	30.37500
1104	chic	37.0	33.62500
1105	chic	38.0	31.12500
1106	chic	32.5	29.12500
1107	chic	38.0	21.62500
1108	chic	26.0	10.50000
1109	chic	23.0	18.37500
1110	chic	36.5	27.00000
1111	chic	41.0	31.12500
1112	chic	47.5	52.12500
1113	chic	45.0	37.12500
1114	chic	32.0	22.50000
1115	chic	30.5	22.87500
1116	chic	35.5	34.00000
1117	chic	30.0	27.62500
1118	chic	36.5	30.62500
1119	chic	39.5	38.37500
1120	chic	40.0	31.87500
1121	chic	30.5	20.00000
1122	chic	25.5	27.75000
1123	chic	37.5	19.50000
1124	chic	30.5	18.12500
1125	chic	34.0	17.50000
1126	chic	34.5	21.37500
1127	chic	30.5	33.87500
1128	chic	41.0	31.75000
1129	chic	30.0	25.87500
1130	chic	33.0	31.00000
1131	chic	34.0	28.50000
1132	chic	41.5	36.75000
1133	chic	38.5	36.62500
1134	chic	37.0	37.25000

1135	chic	50.0	47.62500
1136	chic	41.5	22.37500
1137	chic	32.0	24.75000
1138	chic	28.5	20.12500
1139	chic	38.5	40.37500
1140	chic	41.0	23.50000
1141	chic	27.0	25.00000
1142	chic	29.5	29.00000
1143	chic	27.5	15.62500
1144	chic	21.0	14.75000
1145	chic	32.0	26.37500
1146	chic	24.0	6.87500
1147	chic	20.5	15.50000
1148	chic	34.0	30.12500
1149	chic	36.0	32.00000
1150	chic	32.5	25.75000
1151	chic	21.0	-2.50000
1152	chic	11.0	-2.62500
1153	chic	23.0	22.00000
1154	chic	32.5	14.50000
1155	chic	24.5	12.62500
1156	chic	30.5	25.25000
1157	chic	39.5	28.25000
1158	chic	29.0	9.00000
1159	chic	30.5	22.62500
1160	chic	33.0	26.62500
1161	chic	29.0	13.75000
1162	chic	29.5	21.75000
1163	chic	40.5	46.62500
1164	chic	46.0	43.37500
1165	chic	51.0	45.62500
1166	chic	57.5	61.12500
1167	chic	70.5	56.62500
1168	chic	67.0	61.37500
1169	chic	65.0	55.75000
1170	chic	57.5	39.12500
1171	chic	51.0	35.75000
1172	chic	41.0	26.25000
1173	chic	36.0	22.50000
1174	chic	26.5	11.00000
1175	chic	33.0	24.50000
1176	chic	47.5	34.50000
1177	chic	45.0	37.12500

1178	chic	31.0	9.12500
1179	chic	31.0	15.37500
1180	chic	34.5	22.37500
1181	chic	33.0	20.50000
1182	chic	35.5	21.37500
1183	chic	41.5	25.75000
1184	chic	41.5	40.37500
1185	chic	41.5	35.75000
1186	chic	41.5	41.50000
1187	chic	48.0	43.00000
1188	chic	38.0	29.87500
1189	chic	41.5	27.25000
1190	chic	43.0	37.00000
1191	chic	38.0	16.62500
1192	chic	31.0	17.12500
1193	chic	33.5	16.50000
1194	chic	46.0	30.37500
1195	chic	51.0	44.12500
1196	chic	41.5	22.25000
1197	chic	36.0	17.50000
1198	chic	35.0	23.62500
1199	chic	41.5	41.62500
1200	chic	48.5	36.37500
1201	chic	48.5	32.75000
1202	chic	48.0	39.87500
1203	chic	39.0	20.37500
1204	chic	41.5	22.12500
1205	chic	49.5	45.75000
1206	chic	56.0	56.87500
1207	chic	55.5	39.12500
1208	chic	55.5	44.75000
1209	chic	65.5	58.37500
1210	chic	76.5	56.87500
1211	chic	76.5	61.00000
1212	chic	75.0	57.00000
1213	chic	73.5	56.12500
1214	chic	61.0	48.75000
1215	chic	58.5	51.00000
1216	chic	55.0	31.25000
1217	chic	52.0	26.00000
1218	chic	54.0	33.62500
1219	chic	51.5	44.50000
1220	chic	46.5	41.62500

1221	chic	51.0	45.12500
1222	chic	52.5	44.50000
1223	chic	62.5	48.87500
1224	chic	70.5	55.75000
1225	chic	62.5	56.87500
1226	chic	43.5	36.75000
1227	chic	49.5	36.25000
1228	chic	50.5	48.00000
1229	chic	54.5	43.00000
1230	chic	56.5	59.12500
1231	chic	55.5	54.00000
1232	chic	66.5	57.25000
1233	chic	56.0	41.62500
1234	chic	60.5	43.62500
1235	chic	62.5	63.00000
1236	chic	54.5	46.12500
1237	chic	52.5	41.50000
1238	chic	52.5	40.75000
1239	chic	57.0	50.12500
1240	chic	61.5	50.00000
1241	chic	56.5	56.25000
1242	chic	59.5	51.37500
1243	chic	63.0	46.00000
1244	chic	62.5	44.25000
1245	chic	55.0	29.37500
1246	chic	53.5	33.37500
1247	chic	57.5	41.12500
1248	chic	74.0	65.62500
1249	chic	74.5	55.62500
1250	chic	61.0	41.50000
1251	chic	53.0	30.62500
1252	chic	53.0	51.37500
1253	chic	69.0	48.87500
1254	chic	65.5	53.87500
1255	chic	70.0	63.87500
1256	chic	72.5	55.00000
1257	chic	64.5	50.75000
1258	chic	65.5	55.37500
1259	chic	78.0	62.50000
1260	chic	81.5	69.00000
1261	chic	71.0	61.50000
1262	chic	71.0	57.87500
1263	chic	74.0	68.87500

1264	chic	78.5	71.37500
1265	chic	71.0	55.87500
1266	chic	63.0	52.87500
1267	chic	69.0	63.87500
1268	chic	72.0	62.75000
1269	chic	66.5	57.12500
1270	chic	65.0	54.87500
1271	chic	64.0	45.75000
1272	chic	69.5	58.50000
1273	chic	75.5	69.37500
1274	chic	74.5	55.62500
1275	chic	72.5	68.12500
1276	chic	73.5	69.12500
1277	chic	80.0	70.37500
1278	chic	66.5	55.50000
1279	chic	69.5	61.25000
1280	chic	77.0	71.75000
1281	chic	86.5	73.37500
1282	chic	73.5	55.25000
1283	chic	63.0	50.12500
1284	chic	67.0	57.37500
1285	chic	83.5	70.62500
1286	chic	81.0	64.00000
1287	chic	70.5	61.62500
1288	chic	67.0	54.87500
1289	chic	66.0	54.62500
1290	chic	62.5	53.62500
1291	chic	62.0	58.75000
1292	chic	65.0	62.12500
1293	chic	70.5	68.50000
1294	chic	78.0	63.75000
1295	chic	78.5	67.62500
1296	chic	77.5	68.00000
1297	chic	68.0	63.25000
1298	chic	69.5	57.87500
1299	chic	68.5	61.00000
1300	chic	68.5	57.75000
1301	chic	69.5	61.50000
1302	chic	72.0	63.00000
1303	chic	75.5	62.50000
1304	chic	74.5	65.75000
1305	chic	79.0	70.50000
1306	chic	79.5	70.37500

1307	chic	69.5	58.12500
1308	chic	62.0	49.62500
1309	chic	63.5	57.62500
1310	chic	69.0	57.37500
1311	chic	75.5	69.37500
1312	chic	76.5	66.00000
1313	chic	68.5	57.75000
1314	chic	61.0	49.62500
1315	chic	63.5	54.50000
1316	chic	69.0	56.00000
1317	chic	69.0	56.50000
1318	chic	72.0	63.62500
1319	chic	73.0	65.37500
1320	chic	68.5	64.25000
1321	chic	63.0	51.37500
1322	chic	65.5	62.12500
1323	chic	74.5	66.75000
1324	chic	73.0	68.62500
1325	chic	72.0	71.00000
1326	chic	80.5	75.25000
1327	chic	75.5	68.50000
1328	chic	71.5	69.37500
1329	chic	68.0	66.25000
1330	chic	69.0	63.25000
1331	chic	70.5	64.25000
1332	chic	75.0	67.12500
1333	chic	76.5	69.75000
1334	chic	78.5	73.25000
1335	chic	82.5	75.87500
1336	chic	82.5	70.50000
1337	chic	75.5	57.87500
1338	chic	69.0	53.87500
1339	chic	70.0	60.75000
1340	chic	78.0	69.12500
1341	chic	73.0	61.25000
1342	chic	71.0	60.87500
1343	chic	79.0	73.37500
1344	chic	77.0	69.12500
1345	chic	83.0	70.50000
1346	chic	72.0	63.25000
1347	chic	72.0	64.62500
1348	chic	73.0	65.75000
1349	chic	75.5	68.37500

1350	chic	74.0	67.87500
1351	chic	74.5	64.50000
1352	chic	74.5	65.62500
1353	chic	65.5	54.62500
1354	chic	63.0	54.00000
1355	chic	57.0	47.50000
1356	chic	56.0	46.25000
1357	chic	55.5	49.87500
1358	chic	57.5	50.50000
1359	chic	59.5	50.75000
1360	chic	62.0	46.62500
1361	chic	56.5	42.25000
1362	chic	50.5	35.25000
1363	chic	53.5	38.50000
1364	chic	67.0	51.75000
1365	chic	67.5	52.62500
1366	chic	65.5	51.75000
1367	chic	61.0	54.12500
1368	chic	58.5	51.12500
1369	chic	52.5	40.25000
1370	chic	57.0	38.25000
1371	chic	56.5	41.12500
1372	chic	67.0	58.12500
1373	chic	57.5	40.50000
1374	chic	68.5	55.00000
1375	chic	75.0	56.37500
1376	chic	55.0	48.50000
1377	chic	50.5	46.75000
1378	chic	47.0	43.50000
1379	chic	41.5	35.25000
1380	chic	46.5	35.87500
1381	chic	48.5	42.12500
1382	chic	52.0	45.37500
1383	chic	53.5	48.50000
1384	chic	51.0	40.62500
1385	chic	56.0	52.25000
1386	chic	65.0	55.37500
1387	chic	43.0	28.87500
1388	chic	40.5	32.87500
1389	chic	54.5	36.00000
1390	chic	49.0	37.00000
1391	chic	43.5	33.87500
1392	chic	46.5	37.62500

1393	chic	46.5	33.50000
1394	chic	40.0	31.75000
1395	chic	41.0	31.12500
1396	chic	52.5	33.00000
1397	chic	41.0	28.62500
1398	chic	45.5	30.62500
1399	chic	60.0	48.87500
1400	chic	58.0	49.62500
1401	chic	60.0	44.12500
1402	chic	65.5	52.37500
1403	chic	59.5	51.12500
1404	chic	42.0	38.50000
1405	chic	39.5	32.62500
1406	chic	36.5	35.00000
1407	chic	34.0	20.37500
1408	chic	31.5	27.00000
1409	chic	37.0	33.00000
1410	chic	40.5	22.00000
1411	chic	37.5	28.87500
1412	chic	38.0	17.12500
1413	chic	38.0	29.87500
1414	chic	51.0	38.50000
1415	chic	61.0	49.50000
1416	chic	47.5	32.00000
1417	chic	42.0	29.62500
1418	chic	45.5	33.12500
1419	chic	44.0	38.50000
1420	chic	44.5	42.25000
1421	chic	59.5	53.25000
1422	chic	43.5	32.25000
1423	chic	42.0	17.37500
1424	chic	42.0	30.00000
1425	chic	44.5	28.62500
1426	chic	53.0	58.50000
1427	chic	61.0	57.62500
1428	chic	39.5	22.12500
1429	chic	31.5	23.62500
1430	chic	41.0	29.87500
1431	chic	40.5	28.12500
1432	chic	33.0	24.62500
1433	chic	33.0	25.75000
1434	chic	22.0	13.25000
1435	chic	28.5	29.37500

1436	chic	29.5	16.12500
1437	chic	31.0	27.75000
1438	chic	37.0	29.12500
1439	chic	43.0	31.00000
1440	chic	39.5	29.75000
1441	chic	44.0	40.37500
1442	chic	45.5	35.87500
1443	chic	30.5	18.25000
1444	chic	30.5	26.37500
1445	chic	39.5	32.00000
1446	chic	34.5	28.87500
1447	chic	36.5	36.25000
1448	chic	34.0	27.00000
1449	chic	31.0	27.00000
1450	chic	40.0	42.25000
1451	chic	38.0	38.62500
1452	chic	17.0	0.75000
1453	chic	7.0	-3.75000
1454	chic	8.0	7.75000
1455	chic	14.5	-7.87500
1456	chic	3.5	-6.50000
1457	chic	17.5	16.75000
1458	chic	31.0	30.87500
1459	chic	33.5	30.00000
1460	chic	15.0	2.62500
1461	chic	8.0	5.00000
1462	chic	20.5	19.00000
1463	chic	16.0	6.62500
1464	chic	6.5	0.50000
1465	chic	14.0	11.50000
1466	chic	25.5	21.62500
1467	chic	20.5	13.62500
1468	chic	21.5	17.50000
1469	chic	25.5	27.37500
1470	chic	24.0	18.00000
1471	chic	22.0	26.12500
1472	chic	29.5	26.62500
1473	chic	25.5	22.00000
1474	chic	24.5	26.87500
1475	chic	31.5	27.12500
1476	chic	30.5	31.62500
1477	chic	31.0	25.75000
1478	chic	26.0	18.75000

1479	chic	21.5	24.00000
1480	chic	36.5	29.62500
1481	chic	26.5	18.62500
1482	chic	10.5	-1.50000
1483	chic	11.0	12.00000
1484	chic	21.5	5.75000
1485	chic	9.0	-5.75000
1486	chic	7.5	-2.37500
1487	chic	15.5	9.25000
1488	chic	22.0	17.00000
1489	chic	25.5	19.75000
1490	chic	19.0	12.62500
1491	chic	15.0	6.62500
1492	chic	17.0	8.87500
1493	chic	29.0	27.50000
1494	chic	39.0	30.50000
1495	chic	42.5	30.12500
1496	chic	44.0	38.00000
1497	chic	39.0	34.37500
1498	chic	35.5	32.87500
1499	chic	32.5	29.50000
1500	chic	34.0	31.00000
1501	chic	37.5	30.12500
1502	chic	30.0	9.25000
1503	chic	22.0	5.12500
1504	chic	24.5	17.87500
1505	chic	32.5	26.75000
1506	chic	22.0	13.62500
1507	chic	8.5	-6.25000
1508	chic	16.0	17.12500
1509	chic	35.0	29.25000
1510	chic	38.5	38.37500
1511	chic	35.5	23.62500
1512	chic	36.5	30.37500
1513	chic	47.0	40.37500
1514	chic	34.5	14.50000
1515	chic	26.5	18.50000
1516	chic	28.5	13.00000
1517	chic	21.0	7.50000
1518	chic	19.0	16.12500
1519	chic	23.5	19.50000
1520	chic	39.0	30.62500
1521	chic	48.0	46.50000

1522	chic	37.5	22.25000
1523	chic	25.5	18.50000
1524	chic	31.0	20.75000
1525	chic	39.0	31.75000
1526	chic	39.5	20.12500
1527	chic	28.0	11.00000
1528	chic	32.5	28.00000
1529	chic	33.5	23.00000
1530	chic	34.5	23.25000
1531	chic	40.0	28.37500
1532	chic	32.0	24.50000
1533	chic	32.5	23.50000
1534	chic	34.5	26.50000
1535	chic	34.0	26.50000
1536	chic	39.0	28.75000
1537	chic	39.0	39.25000
1538	chic	42.5	35.87500
1539	chic	44.0	38.00000
1540	chic	47.5	44.87500
1541	chic	60.0	51.62500
1542	chic	55.0	55.25000
1543	chic	47.0	32.87500
1544	chic	45.0	34.50000
1545	chic	49.0	39.00000
1546	chic	63.0	63.50000
1547	chic	56.0	43.25000
1548	chic	42.0	29.62500
1549	chic	30.5	17.87500
1550	chic	33.0	17.37500
1551	chic	43.5	33.50000
1552	chic	41.0	23.87500
1553	chic	39.0	24.00000
1554	chic	51.0	34.87500
1555	chic	52.5	52.25000
1556	chic	60.0	50.37500
1557	chic	70.0	47.25000
1558	chic	69.0	60.25000
1559	chic	65.5	58.50000
1560	chic	44.0	38.12500
1561	chic	43.5	28.87500
1562	chic	38.0	28.62500
1563	chic	44.0	32.37500
1564	chic	45.5	44.12500

1565	chic	58.5	50.12500
1566	chic	53.0	38.87500
1567	chic	53.0	42.00000
1568	chic	47.5	33.12500
1569	chic	46.0	37.50000
1570	chic	46.5	36.62500
1571	chic	40.5	31.62500
1572	chic	44.5	20.37500
1573	chic	48.0	30.62500
1574	chic	50.0	38.50000
1575	chic	50.5	28.37500
1576	chic	53.5	37.87500
1577	chic	59.5	47.87500
1578	chic	64.5	61.00000
1579	chic	64.5	55.87500
1580	chic	64.0	55.50000
1581	chic	57.5	39.62500
1582	chic	52.5	34.87500
1583	chic	55.0	35.12500
1584	chic	46.5	37.37500
1585	chic	52.0	41.00000
1586	chic	56.0	51.25000
1587	chic	45.0	35.50000
1588	chic	53.0	38.37500
1589	chic	55.0	51.00000
1590	chic	62.0	52.37500
1591	chic	65.0	55.00000
1592	chic	70.5	64.75000
1593	chic	74.5	62.75000
1594	chic	76.0	64.50000
1595	chic	74.0	56.37500
1596	chic	72.5	57.25000
1597	chic	73.5	65.50000
1598	chic	60.0	46.37500
1599	chic	50.0	44.25000
1600	chic	54.5	38.62500
1601	chic	60.5	53.00000
1602	chic	68.5	62.87500
1603	chic	74.5	66.87500
1604	chic	74.0	67.50000
1605	chic	77.5	64.50000
1606	chic	67.0	58.62500
1607	chic	76.0	67.75000

1608	chic	77.5	69.37500
1609	chic	80.5	67.87500
1610	chic	79.0	67.37500
1611	chic	77.5	66.37500
1612	chic	77.5	67.75000
1613	chic	74.5	66.12500
1614	chic	72.5	63.25000
1615	chic	69.0	56.50000
1616	chic	61.5	48.50000
1617	chic	61.0	46.62500
1618	chic	62.0	45.12500
1619	chic	65.5	48.25000
1620	chic	67.5	49.12500
1621	chic	72.5	53.87500
1622	chic	75.0	59.87500
1623	chic	73.0	60.75000
1624	chic	71.5	58.37500
1625	chic	73.5	64.87500
1626	chic	83.0	65.37500
1627	chic	77.5	65.75000
1628	chic	69.5	53.50000
1629	chic	69.0	50.75000
1630	chic	71.0	55.75000
1631	chic	72.5	58.12500
1632	chic	78.5	60.25000
1633	chic	78.0	62.00000
1634	chic	64.5	56.25000
1635	chic	68.0	53.12500
1636	chic	69.0	50.00000
1637	chic	71.5	53.87500
1638	chic	78.5	66.62500
1639	chic	81.5	62.62500
1640	chic	79.5	65.12500
1641	chic	84.0	69.12500
1642	chic	74.0	64.12500
1643	chic	81.0	69.00000
1644	chic	82.0	61.75000
1645	chic	78.5	66.25000
1646	chic	73.0	61.25000
1647	chic	75.5	63.37500
1648	chic	81.0	69.62500
1649	chic	80.0	68.12500
1650	chic	71.0	56.62500

1651	chic	71.5	55.00000
1652	chic	70.5	55.50000
1653	chic	76.0	64.37500
1654	chic	79.0	65.12500
1655	chic	72.0	59.87500
1656	chic	69.5	54.75000
1657	chic	70.5	54.12500
1658	chic	76.0	58.75000
1659	chic	78.5	66.25000
1660	chic	83.0	63.62500
1661	chic	85.5	65.50000
1662	chic	85.0	65.25000
1663	chic	83.0	71.75000
1664	chic	88.0	71.25000
1665	chic	74.5	51.62500
1666	chic	70.5	53.12500
1667	chic	68.0	52.25000
1668	chic	66.0	51.62500
1669	chic	66.5	54.12500
1670	chic	73.5	59.00000
1671	chic	70.0	57.00000
1672	chic	66.5	54.62500
1673	chic	75.5	62.62500
1674	chic	78.5	52.12500
1675	chic	83.5	65.75000
1676	chic	71.0	61.87500
1677	chic	69.0	51.00000
1678	chic	68.0	50.12500
1679	chic	71.5	57.12500
1680	chic	72.5	63.37500
1681	chic	67.5	61.87500
1682	chic	69.5	54.37500
1683	chic	70.0	53.37500
1684	chic	68.0	47.75000
1685	chic	67.5	57.87500
1686	chic	70.5	54.00000
1687	chic	71.5	52.62500
1688	chic	77.0	61.62500
1689	chic	76.5	61.75000
1690	chic	75.0	61.87500
1691	chic	74.0	60.50000
1692	chic	64.5	59.37500
1693	chic	67.0	54.00000

1694	chic	68.5	57.87500
1695	chic	78.0	58.37500
1696	chic	70.5	57.75000
1697	chic	75.5	62.62500
1698	chic	81.0	65.12500
1699	chic	80.0	61.00000
1700	chic	81.0	66.25000
1701	chic	81.5	67.00000
1702	chic	82.5	69.75000
1703	chic	79.0	71.25000
1704	chic	71.5	60.12500
1705	chic	66.5	59.25000
1706	chic	73.5	60.37500
1707	chic	77.0	66.37500
1708	chic	67.0	52.25000
1709	chic	66.0	51.50000
1710	chic	70.0	54.12500
1711	chic	75.5	54.62500
1712	chic	76.5	53.50000
1713	chic	82.0	66.25000
1714	chic	73.5	61.25000
1715	chic	67.5	56.62500
1716	chic	70.5	65.75000
1717	chic	73.5	65.62500
1718	chic	79.0	68.87500
1719	chic	81.5	68.75000
1720	chic	69.0	50.62500
1721	chic	63.5	49.50000
1722	chic	56.5	35.00000
1723	chic	47.0	29.37500
1724	chic	47.5	35.62500
1725	chic	54.5	35.00000
1726	chic	58.5	52.37500
1727	chic	53.5	38.75000
1728	chic	48.0	43.25000
1729	chic	54.0	40.75000
1730	chic	50.5	29.62500
1731	chic	46.5	35.37500
1732	chic	49.5	35.75000
1733	chic	53.5	46.00000
1734	chic	67.5	50.25000
1735	chic	59.0	47.37500
1736	chic	69.0	60.25000

1737	chic	62.5	53.37500
1738	chic	56.0	54.87500
1739	chic	48.0	31.25000
1740	chic	44.0	33.00000
1741	chic	45.0	33.62500
1742	chic	62.5	47.00000
1743	chic	61.5	46.87500
1744	chic	53.5	42.37500
1745	chic	56.0	38.00000
1746	chic	48.5	38.50000
1747	chic	46.0	37.25000
1748	chic	50.5	34.37500
1749	chic	41.5	24.00000
1750	chic	45.5	33.87500
1751	chic	61.5	40.62500
1752	chic	44.5	36.25000
1753	chic	38.0	24.50000
1754	chic	41.5	25.50000
1755	chic	50.5	44.00000
1756	chic	64.0	47.00000
1757	chic	66.5	60.75000
1758	chic	68.0	63.62500
1759	chic	58.5	48.12500
1760	chic	50.5	46.87500
1761	chic	50.0	51.00000
1762	chic	55.0	53.62500
1763	chic	63.5	60.25000
1764	chic	46.5	38.12500
1765	chic	48.0	49.87500
1766	chic	43.5	28.00000
1767	chic	25.0	10.37500
1768	chic	18.5	16.75000
1769	chic	18.5	9.62500
1770	chic	28.0	26.37500
1771	chic	28.5	6.25000
1772	chic	20.0	-1.62500
1773	chic	22.0	7.87500
1774	chic	26.0	18.12500
1775	chic	33.0	27.25000
1776	chic	34.5	33.12500
1777	chic	35.0	32.00000
1778	chic	45.5	38.62500
1779	chic	48.0	51.62500

1780	chic	50.0	42.00000
1781	chic	41.0	33.37500
1782	chic	42.5	39.25000
1783	chic	57.0	57.62500
1784	chic	57.0	48.75000
1785	chic	40.5	32.25000
1786	chic	40.0	33.12500
1787	chic	43.5	40.62500
1788	chic	34.5	19.62500
1789	chic	23.0	16.50000
1790	chic	17.5	10.12500
1791	chic	23.0	21.12500
1792	chic	38.5	33.00000
1793	chic	36.0	36.75000
1794	chic	49.0	53.50000
1795	chic	43.5	25.75000
1796	chic	27.0	13.37500
1797	chic	30.5	30.00000
1798	chic	22.0	12.37500
1799	chic	8.0	-1.00000
1800	chic	20.5	19.00000
1801	chic	24.0	30.62500
1802	chic	44.0	46.37500
1803	chic	49.0	45.50000
1804	chic	35.5	32.00000
1805	chic	38.5	36.37500
1806	chic	40.0	34.75000
1807	chic	49.0	50.25000
1808	chic	37.5	35.25000
1809	chic	29.0	11.87500
1810	chic	18.0	1.50000
1811	chic	21.0	24.37500
1812	chic	28.5	12.37500
1813	chic	15.5	4.75000
1814	chic	19.0	15.62500
1815	chic	32.5	32.87500
1816	chic	31.0	27.25000
1817	chic	32.5	34.50000
1818	chic	30.5	18.62500
1819	chic	30.0	26.37500
1820	chic	30.0	28.75000
1821	chic	35.5	32.37500
1822	chic	35.5	32.00000

1823	chic	35.0	34.00000
1824	chic	32.5	27.62500
1825	chic	34.0	28.50000
1826	chic	33.0	28.00000
1827	chic	33.5	32.62500
1828	chic	39.5	41.87500
1829	chic	38.5	34.87500
1830	chic	35.0	32.50000
1831	chic	35.0	32.37500
1832	chic	35.0	33.12500
1833	chic	34.5	31.50000
1834	chic	38.5	40.87500
1835	chic	38.0	33.62500
1836	chic	30.0	23.12500
1837	chic	36.0	34.87500
1838	chic	36.5	38.12500
1839	chic	32.5	30.75000
1840	chic	20.5	10.50000
1841	chic	6.0	-9.62500
1842	chic	7.5	15.00000
1843	chic	21.0	3.25000
1844	chic	5.5	-7.25000
1845	chic	14.5	23.37500
1846	chic	24.0	20.50000
1847	chic	33.5	33.00000
1848	chic	35.5	36.87500
1849	chic	28.5	15.87500
1850	chic	18.5	7.25000
1851	chic	25.0	20.50000
1852	chic	19.5	23.12500
1853	chic	30.0	25.87500
1854	chic	29.5	25.75000
1855	chic	30.0	31.50000
1856	chic	33.5	34.37500
1857	chic	32.0	22.37500
1858	chic	30.5	22.62500
1859	chic	37.5	33.50000
1860	chic	43.5	43.00000
1861	chic	36.0	25.37500
1862	chic	32.5	30.25000
1863	chic	34.5	30.37500
1864	chic	28.0	17.37500
1865	chic	18.5	4.62500

1866	chic	17.5	11.50000
1867	chic	31.0	33.00000
1868	chic	27.0	12.50000
1869	chic	23.5	18.37500
1870	chic	30.0	30.50000
1871	chic	33.0	32.50000
1872	chic	35.0	33.62500
1873	chic	34.0	34.62500
1874	chic	37.5	36.37500
1875	chic	40.5	42.37500
1876	chic	37.5	32.87500
1877	chic	39.5	34.50000
1878	chic	31.5	27.37500
1879	chic	42.0	33.87500
1880	chic	37.0	36.87500
1881	chic	36.0	34.12500
1882	chic	33.5	27.25000
1883	chic	33.5	31.37500
1884	chic	39.5	34.12500
1885	chic	39.5	26.62500
1886	chic	30.0	25.12500
1887	chic	54.0	41.12500
1888	chic	45.5	37.87500
1889	chic	38.0	38.12500
1890	chic	49.0	40.75000
1891	chic	53.0	53.75000
1892	chic	55.5	52.12500
1893	chic	48.0	48.00000
1894	chic	52.5	50.37500
1895	chic	44.0	31.37500
1896	chic	20.5	11.00000
1897	chic	19.5	16.00000
1898	chic	22.5	12.37500
1899	chic	25.5	21.87500
1900	chic	29.0	19.75000
1901	chic	29.0	17.00000
1902	chic	34.5	36.87500
1903	chic	38.0	24.00000
1904	chic	34.0	22.00000
1905	chic	36.0	22.75000
1906	chic	35.0	21.12500
1907	chic	30.5	31.12500
1908	chic	27.5	14.12500

1909	chic	30.5	23.12500
1910	chic	43.0	34.25000
1911	chic	44.5	32.37500
1912	chic	41.5	26.87500
1913	chic	34.0	26.00000
1914	chic	36.0	31.25000
1915	chic	39.5	37.75000
1916	chic	42.0	29.50000
1917	chic	41.5	27.00000
1918	chic	33.5	25.25000
1919	chic	31.5	19.50000
1920	chic	38.0	31.87500
1921	chic	36.5	22.12500
1922	chic	38.5	23.25000
1923	chic	49.5	31.87500
1924	chic	52.0	38.50000
1925	chic	50.5	28.12500
1926	chic	48.0	36.00000
1927	chic	57.5	57.37500
1928	chic	49.5	36.37500
1929	chic	37.0	19.00000
1930	chic	38.0	28.62500
1931	chic	42.0	31.87500
1932	chic	48.5	50.37500
1933	chic	53.0	40.25000
1934	chic	41.5	38.75000
1935	chic	51.0	58.12500
1936	chic	65.5	59.75000
1937	chic	66.0	58.25000
1938	chic	48.0	36.50000
1939	chic	43.0	30.87500
1940	chic	48.5	42.75000
1941	chic	44.5	37.62500
1942	chic	43.5	33.62500
1943	chic	46.5	36.50000
1944	chic	40.5	26.25000
1945	chic	44.0	29.50000
1946	chic	58.5	51.62500
1947	chic	49.5	42.12500
1948	chic	64.5	52.50000
1949	chic	64.0	32.50000
1950	chic	48.5	34.87500
1951	chic	44.0	29.87500

1952	chic	43.5	23.12500
1953	chic	44.5	21.25000
1954	chic	52.0	24.75000
1955	chic	56.0	28.00000
1956	chic	58.5	48.25000
1957	chic	65.5	48.50000
1958	chic	72.0	56.37500
1959	chic	69.0	61.50000
1960	chic	55.0	36.87500
1961	chic	54.0	46.00000
1962	chic	60.5	48.87500
1963	chic	73.0	60.25000
1964	chic	67.5	48.62500
1965	chic	52.0	43.50000
1966	chic	57.5	44.12500
1967	chic	67.0	51.12500
1968	chic	71.0	60.50000
1969	chic	73.5	64.12500
1970	chic	55.0	36.12500
1971	chic	40.5	30.62500
1972	chic	41.0	32.75000
1973	chic	44.0	29.37500
1974	chic	48.0	24.62500
1975	chic	50.5	31.37500
1976	chic	55.0	33.75000
1977	chic	58.0	42.37500
1978	chic	60.0	39.75000
1979	chic	59.0	45.50000
1980	chic	61.5	40.25000
1981	chic	65.0	48.25000
1982	chic	65.5	60.75000
1983	chic	67.5	58.37500
1984	chic	67.5	56.62500
1985	chic	66.5	44.50000
1986	chic	62.0	47.75000
1987	chic	65.0	43.87500
1988	chic	64.0	42.50000
1989	chic	67.0	47.25000
1990	chic	69.0	45.75000
1991	chic	73.5	52.12500
1992	chic	75.5	61.00000
1993	chic	71.0	54.37500
1994	chic	75.5	62.00000

1995	chic	75.5	62.75000
1996	chic	73.0	59.12500
1997	chic	59.5	47.12500
1998	chic	51.5	38.50000
1999	chic	49.0	33.37500
2000	chic	52.5	43.00000
2001	chic	66.0	52.25000
2002	chic	62.5	51.25000
2003	chic	64.0	57.50000
2004	chic	61.5	52.37500
2005	chic	58.0	35.37500
2006	chic	62.0	49.00000
2007	chic	71.5	54.25000
2008	chic	66.5	52.50000
2009	chic	74.5	64.62500
2010	chic	77.0	65.62500
2011	chic	67.0	55.37500
2012	chic	71.0	62.00000
2013	chic	68.5	52.12500
2014	chic	66.0	49.00000
2015	chic	67.5	64.62500
2016	chic	79.5	68.25000
2017	chic	74.0	64.62500
2018	chic	76.5	60.25000
2019	chic	73.0	64.50000
2020	chic	73.5	71.62500
2021	chic	69.5	68.75000
2022	chic	65.0	60.12500
2023	chic	68.0	51.87500
2024	chic	68.0	66.87500
2025	chic	74.0	61.87500
2026	chic	68.0	62.62500
2027	chic	72.5	67.87500
2028	chic	68.0	59.37500
2029	chic	62.0	48.75000
2030	chic	63.5	60.12500
2031	chic	62.5	58.00000
2032	chic	67.0	60.87500
2033	chic	67.5	70.62500
2034	chic	74.0	64.12500
2035	chic	71.5	57.62500
2036	chic	71.5	67.12500
2037	chic	66.5	55.25000

2038	chic	61.5	62.75000
2039	chic	67.0	51.50000
2040	chic	68.0	57.37500
2041	chic	69.0	62.50000
2042	chic	65.5	57.25000
2043	chic	62.5	50.12500
2044	chic	63.0	49.75000
2045	chic	67.5	56.87500
2046	chic	68.5	69.37500
2047	chic	75.5	68.50000
2048	chic	80.0	77.25000
2049	chic	79.0	58.37500
2050	chic	70.0	52.37500
2051	chic	62.0	56.75000
2052	chic	60.5	50.12500
2053	chic	61.0	46.37500
2054	chic	62.0	48.75000
2055	chic	63.0	48.87500
2056	chic	63.0	51.12500
2057	chic	66.0	61.00000
2058	chic	63.0	50.50000
2059	chic	62.0	46.37500
2060	chic	64.5	54.12500
2061	chic	67.0	61.87500
2062	chic	75.0	66.12500
2063	chic	78.5	68.12500
2064	chic	79.0	67.75000
2065	chic	66.5	60.37500
2066	chic	59.5	54.87500
2067	chic	59.5	48.50000
2068	chic	65.0	59.25000
2069	chic	66.0	51.37500
2070	chic	63.5	51.75000
2071	chic	63.0	58.25000
2072	chic	70.0	66.50000
2073	chic	67.5	51.12500
2074	chic	65.5	57.62500
2075	chic	70.5	65.75000
2076	chic	75.0	66.75000
2077	chic	73.5	65.50000
2078	chic	64.0	48.12500
2079	chic	63.0	62.87500
2080	chic	60.0	48.75000

2081	chic	58.0	51.62500
2082	chic	62.0	51.00000
2083	chic	67.5	56.25000
2084	chic	72.5	70.00000
2085	chic	76.5	69.12500
2086	chic	77.0	65.25000
2087	chic	71.5	66.62500
2088	chic	62.0	44.50000
2089	chic	53.5	42.37500
2090	chic	59.0	56.37500
2091	chic	64.0	62.50000
2092	chic	51.5	39.25000
2093	chic	49.5	39.37500
2094	chic	53.5	41.25000
2095	chic	59.5	53.75000
2096	chic	63.0	60.00000
2097	chic	59.0	43.12500
2098	chic	49.5	36.75000
2099	chic	49.5	38.50000
2100	chic	53.5	43.12500
2101	chic	58.5	48.00000
2102	chic	63.5	53.62500
2103	chic	66.0	52.62500
2104	chic	59.0	46.50000
2105	chic	53.0	41.87500
2106	chic	53.0	45.50000
2107	chic	58.0	52.00000
2108	chic	57.5	41.00000
2109	chic	49.0	45.75000
2110	chic	51.5	41.75000
2111	chic	51.5	36.37500
2112	chic	53.5	28.62500
2113	chic	47.0	38.25000
2114	chic	55.5	49.00000
2115	chic	50.0	49.37500
2116	chic	40.5	27.50000
2117	chic	38.5	29.37500
2118	chic	35.0	18.12500
2119	chic	33.0	20.00000
2120	chic	45.5	42.37500
2121	chic	47.0	40.25000
2122	chic	57.5	57.87500
2123	chic	67.0	56.87500

2124	chic	51.0	42.50000
2125	chic	49.0	43.12500
2126	chic	49.0	38.12500
2127	chic	46.5	35.75000
2128	chic	50.5	34.75000
2129	chic	45.0	37.12500
2130	chic	45.0	37.87500
2131	chic	44.0	35.87500
2132	chic	45.5	44.12500
2133	chic	48.0	35.75000
2134	chic	37.0	35.00000
2135	chic	35.5	28.75000
2136	chic	32.5	22.50000
2137	chic	34.0	21.75000
2138	chic	34.0	30.87500
2139	chic	38.0	35.12500
2140	chic	48.0	41.62500
2141	chic	49.5	51.00000
2142	chic	44.5	39.37500
2143	chic	40.0	27.62500
2144	chic	30.5	20.87500
2145	chic	28.0	16.87500
2146	chic	29.0	21.62500
2147	chic	36.5	37.37500
2148	chic	38.5	32.75000
2149	chic	39.0	34.25000
2150	chic	40.5	37.12500
2151	chic	52.0	44.50000
2152	chic	48.5	40.37500
2153	chic	41.0	39.50000
2154	chic	38.0	36.37500
2155	chic	39.5	37.87500
2156	chic	43.5	42.50000
2157	chic	36.5	26.00000
2158	chic	29.5	24.12500
2159	chic	30.0	25.62500
2160	chic	35.0	30.87500
2161	chic	33.5	25.25000
2162	chic	32.0	28.00000
2163	chic	32.5	19.87500
2164	chic	28.0	23.37500
2165	chic	25.5	11.87500
2166	chic	19.5	9.25000

2167	chic	23.0	25.75000
2168	chic	27.0	21.12500
2169	chic	26.5	21.62500
2170	chic	27.5	27.62500
2171	chic	32.0	29.37500
2172	chic	33.0	30.37500
2173	chic	32.0	30.25000
2174	chic	32.0	31.00000
2175	chic	29.5	30.75000
2176	chic	44.0	45.50000
2177	chic	37.5	29.62500
2178	chic	30.5	20.12500
2179	chic	30.0	27.12500
2180	chic	31.0	26.25000
2181	chic	19.5	11.75000
2182	chic	26.0	25.50000
2183	chic	33.0	30.12500
2184	chic	21.5	5.25000
2185	chic	10.0	7.75000
2186	chic	18.0	1.75000
2187	chic	14.5	3.25000
2188	chic	30.5	25.37500
2189	chic	38.5	36.62500
2190	chic	41.5	42.12500
2191	chic	45.5	43.62500
2192	chic	26.0	11.00000
2193	chic	14.0	9.37500
2194	chic	25.0	28.25000
2195	chic	40.5	44.87500
2196	chic	38.5	32.50000
2197	chic	27.5	21.50000
2198	chic	21.5	16.50000
2199	chic	24.5	20.62500
2200	chic	21.5	17.87500
2201	chic	24.5	20.25000
2202	chic	24.5	22.37500
2203	chic	26.5	23.25000
2204	chic	30.5	33.00000
2205	chic	27.5	21.25000
2206	chic	21.5	20.25000
2207	chic	18.0	14.50000
2208	chic	22.0	27.62500
2209	chic	20.5	5.00000

2210	chic	18.0	15.25000
2211	chic	18.5	13.50000
2212	chic	27.0	31.62500
2213	chic	35.5	34.00000
2214	chic	34.0	26.12500
2215	chic	36.5	31.62500
2216	chic	28.5	14.00000
2217	chic	23.0	11.62500
2218	chic	30.0	30.00000
2219	chic	31.5	25.25000
2220	chic	30.5	21.37500
2221	chic	15.5	4.00000
2222	chic	25.5	14.25000
2223	chic	38.5	30.75000
2224	chic	30.5	18.00000
2225	chic	28.5	17.00000
2226	chic	35.5	24.87500
2227	chic	38.0	22.50000
2228	chic	36.5	29.25000
2229	chic	29.0	21.37500
2230	chic	32.0	30.00000
2231	chic	30.0	21.25000
2232	chic	32.5	33.37500
2233	chic	35.0	32.37500
2234	chic	32.0	25.62500
2235	chic	29.0	27.25000
2236	chic	28.5	26.62500
2237	chic	27.0	20.37500
2238	chic	24.5	18.75000
2239	chic	25.5	13.37500
2240	chic	10.5	-5.00000
2241	chic	7.5	4.87500
2242	chic	15.0	16.62500
2243	chic	25.5	23.75000
2244	chic	29.0	26.87500
2245	chic	22.0	18.00000
2246	chic	12.0	2.75000
2247	chic	5.0	-1.87500
2248	chic	10.0	15.50000
2249	chic	22.0	12.75000
2250	chic	19.0	13.62500
2251	chic	20.0	19.62500
2252	chic	34.5	31.62500

2253	chic	38.5	34.12500
2254	chic	38.5	32.25000
2255	chic	34.5	29.87500
2256	chic	34.5	18.75000
2257	chic	36.0	29.12500
2258	chic	34.0	33.00000
2259	chic	38.0	27.87500
2260	chic	36.5	26.87500
2261	chic	32.5	27.37500
2262	chic	26.0	21.50000
2263	chic	22.0	12.50000
2264	chic	17.0	1.50000
2265	chic	14.5	2.75000
2266	chic	30.5	30.12500
2267	chic	37.5	30.25000
2268	chic	21.5	6.00000
2269	chic	23.0	15.87500
2270	chic	29.5	30.37500
2271	chic	35.0	32.00000
2272	chic	35.0	31.25000
2273	chic	35.0	35.00000
2274	chic	39.5	38.50000
2275	chic	38.0	37.25000
2276	chic	40.0	37.25000
2277	chic	39.0	35.00000
2278	chic	37.5	33.75000
2279	chic	41.5	33.50000
2280	chic	50.0	33.25000
2281	chic	50.0	45.62500
2282	chic	44.0	36.25000
2283	chic	31.0	27.12500
2284	chic	31.0	19.62500
2285	chic	33.5	25.00000
2286	chic	31.5	27.12500
2287	chic	36.5	30.37500
2288	chic	40.0	32.25000
2289	chic	47.5	43.50000
2290	chic	55.5	52.75000
2291	chic	48.5	35.12500
2292	chic	46.0	32.25000
2293	chic	43.5	34.25000
2294	chic	41.0	31.00000
2295	chic	39.5	29.12500

2296	chic	44.5	42.75000
2297	chic	43.5	42.00000
2298	chic	38.0	32.37500
2299	chic	43.5	37.37500
2300	chic	50.5	46.00000
2301	chic	51.0	50.75000
2302	chic	38.0	27.87500
2303	chic	42.0	19.37500
2304	chic	48.0	25.37500
2305	chic	52.5	41.37500
2306	chic	64.5	46.37500
2307	chic	50.0	38.12500
2308	chic	40.0	29.37500
2309	chic	49.5	46.87500
2310	chic	64.5	48.75000
2311	chic	52.5	49.00000
2312	chic	57.0	38.25000
2313	chic	59.0	48.75000
2314	chic	61.0	59.50000
2315	chic	61.5	57.75000
2316	chic	60.5	56.50000
2317	chic	61.0	54.50000
2318	chic	62.5	48.62500
2319	chic	66.5	48.75000
2320	chic	72.5	51.25000
2321	chic	74.5	57.12500
2322	chic	75.0	59.12500
2323	chic	63.5	45.62500
2324	chic	62.5	32.37500
2325	chic	48.5	33.75000
2326	chic	61.0	49.00000
2327	chic	62.0	37.87500
2328	chic	56.0	36.62500
2329	chic	52.0	34.87500
2330	chic	54.5	41.12500
2331	chic	49.5	38.00000
2332	chic	50.5	36.00000
2333	chic	56.0	37.00000
2334	chic	60.5	55.37500
2335	chic	63.5	65.00000
2336	chic	60.0	49.25000
2337	chic	58.5	45.00000
2338	chic	61.5	47.00000

2339	chic	65.0	49.37500
2340	chic	57.0	44.12500
2341	chic	51.0	44.12500
2342	chic	58.5	64.25000
2343	chic	53.5	42.00000
2344	chic	51.0	44.50000
2345	chic	54.5	51.62500
2346	chic	50.5	44.37500
2347	chic	49.5	46.75000
2348	chic	58.5	46.00000
2349	chic	61.0	53.37500
2350	chic	64.0	65.12500
2351	chic	72.0	67.37500
2352	chic	71.0	57.75000
2353	chic	68.5	61.87500
2354	chic	68.0	57.75000
2355	chic	67.0	57.00000
2356	chic	70.5	67.62500
2357	chic	72.0	54.12500
2358	chic	62.5	50.25000
2359	chic	63.5	59.37500
2360	chic	78.5	69.75000
2361	chic	69.5	60.87500
2362	chic	70.5	69.00000
2363	chic	69.5	61.75000
2364	chic	70.5	62.62500
2365	chic	72.0	56.25000
2366	chic	71.5	67.37500
2367	chic	78.5	67.87500
2368	chic	71.5	55.00000
2369	chic	70.5	62.25000
2370	chic	74.5	62.00000
2371	chic	65.5	52.37500
2372	chic	64.5	56.87500
2373	chic	64.0	60.50000
2374	chic	68.5	63.75000
2375	chic	73.0	71.50000
2376	chic	79.0	73.50000
2377	chic	81.5	70.00000
2378	chic	81.0	71.00000
2379	chic	73.5	66.87500
2380	chic	75.0	69.12500
2381	chic	79.5	74.50000

2382	chic	81.0	68.12500
2383	chic	78.5	70.12500
2384	chic	73.5	68.50000
2385	chic	72.0	56.50000
2386	chic	71.0	67.75000
2387	chic	70.0	58.37500
2388	chic	69.5	55.25000
2389	chic	72.5	64.87500
2390	chic	74.5	71.00000
2391	chic	79.0	72.75000
2392	chic	76.0	65.00000
2393	chic	71.5	59.00000
2394	chic	69.0	55.12500
2395	chic	66.0	54.87500
2396	chic	72.5	65.75000
2397	chic	77.5	71.25000
2398	chic	79.5	73.75000
2399	chic	76.0	66.12500
2400	chic	78.5	78.12500
2401	chic	76.5	62.00000
2402	chic	72.0	60.87500
2403	chic	69.5	59.62500
2404	chic	72.0	68.12500
2405	chic	75.5	63.00000
2406	chic	68.5	57.12500
2407	chic	70.5	55.87500
2408	chic	63.5	49.00000
2409	chic	63.0	57.50000
2410	chic	66.0	51.75000
2411	chic	65.0	59.25000
2412	chic	68.5	59.87500
2413	chic	68.0	66.25000
2414	chic	77.0	70.62500
2415	chic	76.5	70.25000
2416	chic	76.0	71.75000
2417	chic	77.0	70.25000
2418	chic	77.0	67.37500
2419	chic	74.0	71.62500
2420	chic	76.0	68.87500
2421	chic	75.0	69.00000
2422	chic	76.5	69.62500
2423	chic	78.0	72.37500
2424	chic	71.5	61.62500

2425	chic	71.5	61.75000
2426	chic	70.0	64.75000
2427	chic	80.0	71.50000
2428	chic	77.0	68.37500
2429	chic	79.0	72.37500
2430	chic	84.0	74.00000
2431	chic	81.5	71.62500
2432	chic	72.0	61.25000
2433	chic	71.0	69.87500
2434	chic	79.0	72.37500
2435	chic	64.0	52.37500
2436	chic	64.5	56.12500
2437	chic	67.0	69.75000
2438	chic	66.0	58.62500
2439	chic	64.0	59.50000
2440	chic	67.0	60.12500
2441	chic	59.5	47.25000
2442	chic	62.5	51.62500
2443	chic	64.0	52.50000
2444	chic	64.5	54.62500
2445	chic	55.5	40.37500
2446	chic	55.0	49.50000
2447	chic	70.5	64.12500
2448	chic	73.5	70.00000
2449	chic	62.0	53.25000
2450	chic	53.0	45.50000
2451	chic	55.0	49.25000
2452	chic	60.5	47.75000
2453	chic	59.5	53.87500
2454	chic	59.0	53.87500
2455	chic	61.0	61.37500
2456	chic	57.0	53.62500
2457	chic	65.0	63.12500
2458	chic	54.5	45.75000
2459	chic	53.5	47.37500
2460	chic	56.5	54.87500
2461	chic	59.0	53.37500
2462	chic	49.5	39.37500
2463	chic	51.5	39.75000
2464	chic	46.5	37.50000
2465	chic	46.5	39.75000
2466	chic	56.5	36.87500
2467	chic	45.0	25.12500

2468	chic	52.0	47.00000
2469	chic	50.5	40.50000
2470	chic	49.0	40.37500
2471	chic	61.0	56.12500
2472	chic	70.0	56.50000
2473	chic	62.5	51.75000
2474	chic	40.5	27.50000
2475	chic	41.5	32.25000
2476	chic	44.5	37.62500
2477	chic	46.5	35.87500
2478	chic	40.5	33.25000
2479	chic	50.5	42.75000
2480	chic	61.0	55.00000
2481	chic	58.0	55.00000
2482	chic	52.5	45.37500
2483	chic	49.5	48.00000
2484	chic	55.5	50.50000
2485	chic	55.0	53.50000
2486	chic	46.5	27.37500
2487	chic	45.5	32.62500
2488	chic	53.0	42.87500
2489	chic	58.5	40.37500
2490	chic	57.0	39.87500
2491	chic	54.0	40.00000
2492	chic	40.5	29.12500
2493	chic	46.0	33.00000
2494	chic	35.0	20.75000
2495	chic	34.5	28.50000
2496	chic	33.5	21.87500
2497	chic	35.5	23.12500
2498	chic	41.5	38.75000
2499	chic	45.0	37.12500
2500	chic	51.5	46.87500
2501	chic	39.0	31.62500
2502	chic	27.0	16.75000
2503	chic	28.5	22.50000
2504	chic	38.5	28.62500
2505	chic	39.0	33.00000
2506	chic	40.0	32.00000
2507	chic	46.0	35.00000
2508	chic	41.0	43.37500
2509	chic	54.5	42.62500
2510	chic	44.5	42.75000

2511	chic	41.0	34.87500
2512	chic	40.5	37.37500
2513	chic	37.5	33.12500
2514	chic	37.5	39.62500
2515	chic	39.0	16.50000
2516	chic	31.5	27.25000
2517	chic	43.5	32.25000
2518	chic	45.5	36.87500
2519	chic	46.5	36.25000
2520	chic	42.5	37.37500
2521	chic	39.5	40.37500
2522	chic	31.5	16.87500
2523	chic	25.5	24.00000
2524	chic	31.0	20.87500
2525	chic	27.0	19.37500
2526	chic	29.5	23.87500
2527	chic	36.5	30.62500
2528	chic	41.5	33.75000
2529	chic	36.0	38.87500
2530	chic	39.0	34.25000
2531	chic	37.0	34.87500
2532	chic	34.5	24.37500
2533	chic	30.5	26.50000
2534	chic	34.0	29.12500
2535	chic	42.0	45.50000
2536	chic	37.5	18.62500
2537	chic	25.5	18.25000
2538	chic	30.5	22.00000
2539	chic	41.0	25.50000
2540	chic	41.0	32.37500
2541	chic	42.5	35.00000
2542	chic	36.5	32.00000
2543	chic	38.5	38.50000
2544	chic	38.0	29.75000
2545	chic	35.0	31.37500
2546	chic	32.5	23.75000
2547	chic	27.0	21.50000
2548	chic	24.5	16.12500
2549	chic	21.5	13.12500
2550	chic	15.0	7.75000
2551	chic	11.5	-5.12500
2552	chic	9.0	-5.75000
2553	chic	13.5	-1.37500

2554	chic	13.5	10.37500
2555	chic	16.5	-2.37500
2556	chic	14.0	15.87500
2557	chic	32.0	27.87500
2558	chic	35.0	26.87500
2559	chic	30.0	22.50000
2560	chic	29.5	24.87500
2561	chic	26.0	18.25000
2562	chic	18.5	20.50000
2563	chic	29.5	25.37500
2564	chic	12.0	-8.62500
2565	chic	1.0	-2.75000
2566	chic	8.0	8.75000
2567	chic	26.0	30.12500
2568	chic	28.5	19.25000
2569	chic	25.5	25.62500
2570	chic	13.5	2.50000
2571	chic	-4.0	-17.87500
2572	chic	-10.5	-23.12500
2573	chic	-3.5	3.25000
2574	chic	-0.5	-16.25000
2575	chic	-16.0	-25.62500
2576	chic	-8.0	-2.37500
2577	chic	2.5	-4.62500
2578	chic	8.0	14.00000
2579	chic	24.5	23.75000
2580	chic	36.0	33.00000
2581	chic	34.0	29.50000
2582	chic	31.0	27.12500
2583	chic	23.5	17.37500
2584	chic	26.5	32.37500
2585	chic	29.0	21.62500
2586	chic	23.0	19.25000
2587	chic	16.0	11.62500
2588	chic	3.5	-7.50000
2589	chic	1.5	3.00000
2590	chic	17.0	13.87500
2591	chic	9.5	8.12500
2592	chic	15.5	2.25000
2593	chic	19.5	7.25000
2594	chic	23.0	8.00000
2595	chic	11.5	6.37500
2596	chic	15.5	11.87500

2597	chic	6.5	-3.50000
2598	chic	6.0	5.00000
2599	chic	12.5	15.50000
2600	chic	21.0	21.25000
2601	chic	20.5	13.37500
2602	chic	29.5	30.12500
2603	chic	33.5	24.75000
2604	chic	29.0	29.37500
2605	chic	42.5	36.62500
2606	chic	47.0	41.62500
2607	chic	55.5	53.37500
2608	chic	46.0	33.00000
2609	chic	33.0	24.87500
2610	chic	27.0	22.62500
2611	chic	22.5	17.75000
2612	chic	15.5	9.12500
2613	chic	19.5	14.25000
2614	chic	11.0	1.00000
2615	chic	13.0	12.12500
2616	chic	25.0	25.25000
2617	chic	26.0	22.50000
2618	chic	23.5	22.00000
2619	chic	30.5	32.00000
2620	chic	43.0	30.85714
2621	chic	40.0	34.50000
2622	chic	48.5	31.87500
2623	chic	40.5	25.50000
2624	chic	31.0	14.00000
2625	chic	29.0	19.62500
2626	chic	29.5	27.12500
2627	chic	29.5	23.75000
2628	chic	44.0	39.37500
2629	chic	40.0	34.87500
2630	chic	41.5	38.75000
2631	chic	38.5	22.00000
2632	chic	29.0	14.00000
2633	chic	29.5	15.37500
2634	chic	34.0	24.12500
2635	chic	38.0	29.87500
2636	chic	49.5	39.87500
2637	chic	48.0	27.87500
2638	chic	53.5	36.50000
2639	chic	61.0	45.50000

2640	chic	49.0	24.62500
2641	chic	36.5	22.00000
2642	chic	39.0	33.75000
2643	chic	43.0	31.50000
2644	chic	38.0	28.37500
2645	chic	36.0	24.25000
2646	chic	33.5	21.25000
2647	chic	40.0	23.87500
2648	chic	51.5	29.87500
2649	chic	55.0	30.12500
2650	chic	42.0	18.00000
2651	chic	47.0	33.12500
2652	chic	40.5	21.00000
2653	chic	31.0	21.37500
2654	chic	36.5	17.00000
2655	chic	47.5	31.12500
2656	chic	57.5	25.75000
2657	chic	46.0	27.25000
2658	chic	43.5	36.75000
2659	chic	48.5	45.12500
2660	chic	46.5	42.37500
2661	chic	57.0	50.00000
2662	chic	57.5	35.37500
2663	chic	52.5	28.12500
2664	chic	55.5	29.25000
2665	chic	67.5	46.12500
2666	chic	58.0	23.12500
2667	chic	51.0	29.62500
2668	chic	48.5	20.75000
2669	chic	45.5	21.00000
2670	chic	53.0	29.87500
2671	chic	68.5	54.37500
2672	chic	71.0	55.50000
2673	chic	75.0	48.12500
2674	chic	53.5	31.12500
2675	chic	41.5	43.37500
2676	chic	47.5	33.75000
2677	chic	38.5	33.62500
2678	chic	45.5	33.87500
2679	chic	51.0	28.25000
2680	chic	49.0	26.00000
2681	chic	51.0	36.50000
2682	chic	57.5	40.00000

2683	chic	45.5	31.87500
2684	chic	46.0	38.87500
2685	chic	53.5	39.00000
2686	chic	61.5	30.50000
2687	chic	56.5	35.37500
2688	chic	62.5	42.50000
2689	chic	52.0	34.87500
2690	chic	59.5	31.00000
2691	chic	60.5	60.12500
2692	chic	62.5	43.25000
2693	chic	50.5	36.12500
2694	chic	48.5	29.25000
2695	chic	50.5	29.87500
2696	chic	54.0	37.75000
2697	chic	59.5	42.75000
2698	chic	68.0	45.62500
2699	chic	73.0	49.75000
2700	chic	68.5	54.12500
2701	chic	66.5	60.87500
2702	chic	65.5	58.00000
2703	chic	49.0	38.00000
2704	chic	51.0	33.87500
2705	chic	63.0	46.00000
2706	chic	69.5	48.75000
2707	chic	77.0	59.37500
2708	chic	75.0	40.50000
2709	chic	56.0	34.25000
2710	chic	55.0	27.50000
2711	chic	57.0	40.75000
2712	chic	61.0	39.75000
2713	chic	71.0	60.00000
2714	chic	77.0	62.12500
2715	chic	68.5	49.25000
2716	chic	55.5	39.62500
2717	chic	56.0	33.87500
2718	chic	61.5	40.87500
2719	chic	67.0	56.00000
2720	chic	72.5	58.12500
2721	chic	78.0	66.87500
2722	chic	80.0	70.00000
2723	chic	86.0	66.37500
2724	chic	84.0	65.00000
2725	chic	81.5	65.37500

2726	chic	82.0	64.25000
2727	chic	75.5	63.62500
2728	chic	78.0	72.00000
2729	chic	74.0	53.00000
2730	chic	73.5	48.00000
2731	chic	67.5	62.62500
2732	chic	63.5	54.00000
2733	chic	70.5	61.00000
2734	chic	68.5	59.75000
2735	chic	69.5	54.00000
2736	chic	74.5	59.50000
2737	chic	70.5	58.87500
2738	chic	70.0	59.37500
2739	chic	77.0	63.75000
2740	chic	63.5	52.00000
2741	chic	66.5	63.62500
2742	chic	82.0	74.00000
2743	chic	85.5	70.50000
2744	chic	82.5	68.37500
2745	chic	79.5	70.25000
2746	chic	74.0	60.37500
2747	chic	66.5	58.12500
2748	chic	66.0	54.50000
2749	chic	69.5	66.00000
2750	chic	81.0	67.50000
2751	chic	66.5	58.50000
2752	chic	73.5	65.75000
2753	chic	74.0	58.87500
2754	chic	73.5	64.75000
2755	chic	76.0	60.25000
2756	chic	75.0	61.50000
2757	chic	77.0	67.25000
2758	chic	79.5	69.50000
2759	chic	74.5	66.62500
2760	chic	72.5	64.12500
2761	chic	75.5	63.75000
2762	chic	74.5	57.25000
2763	chic	72.5	51.50000
2764	chic	66.0	54.37500
2765	chic	67.5	54.00000
2766	chic	66.0	50.25000
2767	chic	67.5	51.37500
2768	chic	70.0	57.75000

2769	chic	75.0	61.50000
2770	chic	77.0	67.00000
2771	chic	69.0	58.00000
2772	chic	71.5	68.12500
2773	chic	69.5	53.75000
2774	chic	59.0	47.37500
2775	chic	60.0	50.75000
2776	chic	65.0	57.25000
2777	chic	74.0	60.00000
2778	chic	58.5	51.00000
2779	chic	61.0	57.50000
2780	chic	63.5	59.25000
2781	chic	65.5	64.75000
2782	chic	75.0	70.75000
2783	chic	64.5	50.87500
2784	chic	66.5	51.50000
2785	chic	66.5	58.12500
2786	chic	70.0	61.00000
2787	chic	71.0	66.37500
2788	chic	77.0	64.50000
2789	chic	70.0	62.12500
2790	chic	66.0	58.37500
2791	chic	68.0	57.50000
2792	chic	69.5	61.25000
2793	chic	77.5	70.37500
2794	chic	78.5	73.00000
2795	chic	76.5	68.37500
2796	chic	77.0	68.12500
2797	chic	67.5	54.12500
2798	chic	66.0	52.37500
2799	chic	64.0	61.62500
2800	chic	61.5	53.37500
2801	chic	59.0	46.37500
2802	chic	59.0	50.50000
2803	chic	62.0	53.87500
2804	chic	59.5	54.50000
2805	chic	61.5	60.37500
2806	chic	67.0	52.00000
2807	chic	65.0	51.75000
2808	chic	69.5	59.75000
2809	chic	72.0	63.12500
2810	chic	76.5	63.50000
2811	chic	74.5	64.87500

2812	chic	75.5	60.25000
2813	chic	77.0	62.25000
2814	chic	81.0	67.75000
2815	chic	80.5	60.62500
2816	chic	74.0	56.87500
2817	chic	65.5	53.00000
2818	chic	67.0	43.12500
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2820	chic	71.5	53.00000
2821	chic	71.0	48.00000
2822	chic	66.5	59.62500
2823	chic	65.0	59.25000
2824	chic	63.5	61.37500
2825	chic	60.5	50.75000
2826	chic	54.5	51.37500
2827	chic	54.0	49.12500
2828	chic	57.0	43.75000
2829	chic	57.5	46.50000
2830	chic	67.5	56.50000
2831	chic	58.0	47.12500
2832	chic	57.0	41.50000
2833	chic	57.5	45.75000
2834	chic	53.5	44.75000
2835	chic	51.0	42.75000
2836	chic	62.0	49.87500
2837	chic	68.0	62.37500
2838	chic	56.0	47.12500
2839	chic	47.5	32.12500
2840	chic	46.0	31.75000
2841	chic	48.5	40.75000
2842	chic	51.5	47.75000
2843	chic	55.5	49.87500
2844	chic	58.5	51.87500
2845	chic	58.0	53.25000
2846	chic	66.0	54.87500
2847	chic	69.5	54.87500
2848	chic	65.0	60.12500
2849	chic	64.5	47.37500
2850	chic	57.0	46.87500
2851	chic	56.5	45.37500
2852	chic	58.5	45.87500
2853	chic	52.0	35.50000
2854	chic	47.0	27.62500

2855	chic	43.0	30.12500
2856	chic	42.0	30.75000
2857	chic	46.0	34.25000
2858	chic	54.0	34.25000
2859	chic	57.0	40.87500
2860	chic	48.5	43.37500
2861	chic	45.5	39.12500
2862	chic	44.5	32.00000
2863	chic	51.0	35.75000
2864	chic	60.5	62.12500
2865	chic	58.5	55.62500
2866	chic	54.0	55.12500
2867	chic	48.0	35.37500
2868	chic	46.5	39.00000
2869	chic	55.0	50.37500
2870	chic	47.0	33.00000
2871	chic	43.0	34.50000
2872	chic	46.0	30.75000
2873	chic	46.5	46.37500
2874	chic	58.0	56.25000
2875	chic	50.5	38.50000
2876	chic	41.5	34.12500
2877	chic	43.5	35.25000
2878	chic	44.0	44.12500
2879	chic	44.5	29.25000
2880	chic	38.0	31.62500
2881	chic	52.0	38.50000
2882	chic	43.0	28.25000
2883	chic	31.0	16.87500
2884	chic	36.0	23.12500
2885	chic	39.0	33.75000
2886	chic	39.0	16.50000
2887	chic	35.0	24.75000
2888	chic	47.5	44.37500
2889	chic	36.0	24.00000
2890	chic	29.5	22.62500
2891	chic	29.0	24.25000
2892	chic	42.0	29.50000
2893	chic	46.0	33.50000
2894	chic	48.0	44.37500
2895	chic	48.5	47.75000
2896	chic	43.5	39.00000
2897	chic	35.0	33.12500

2898	chic	31.0	23.87500
2899	chic	30.0	27.50000
2900	chic	30.5	22.87500
2901	chic	27.0	15.87500
2902	chic	19.0	8.75000
2903	chic	21.5	18.25000
2904	chic	23.5	16.87500
2905	chic	27.5	25.12500
2906	chic	32.5	34.37500
2907	chic	36.5	36.00000
2908	chic	37.0	31.12500
2909	chic	29.5	22.12500
2910	chic	28.0	27.75000
2911	chic	38.0	33.62500
2912	chic	40.5	31.87500
2913	chic	39.5	36.75000
2914	chic	38.5	37.87500
2915	chic	33.5	28.87500
2916	chic	39.5	27.00000
2917	chic	36.0	33.25000
2918	chic	40.5	37.25000
2919	chic	38.0	30.12500
2920	chic	35.0	22.87500
2921	chic	32.0	24.87500
2922	chic	32.0	29.87500
2923	chic	19.5	5.62500
2924	chic	14.5	10.50000
2925	chic	11.0	-2.87500
2926	chic	3.0	-7.50000
2927	chic	9.0	7.00000
2928	chic	22.5	22.00000
2929	chic	19.5	13.50000
2930	chic	12.0	3.25000
2931	chic	17.5	11.87500
2932	chic	23.5	24.50000
2933	chic	33.0	37.50000
2934	chic	42.0	37.75000
2935	chic	35.5	33.75000
2936	chic	37.0	32.75000
2937	chic	33.0	25.25000
2938	chic	34.0	29.37500
2939	chic	36.5	38.37500
2940	chic	35.5	22.62500

2941	chic	34.5	33.00000
2942	chic	30.0	20.12500
2943	chic	23.5	17.75000
2944	chic	20.0	16.50000
2945	chic	20.0	14.25000
2946	chic	15.0	6.75000
2947	chic	18.0	9.25000
2948	chic	18.0	13.25000
2949	chic	23.5	26.00000
2950	chic	28.5	16.00000
2951	chic	25.0	20.00000
2952	chic	24.0	19.12500
2953	chic	30.5	30.37500
2954	chic	37.0	27.50000
2955	chic	33.5	26.62500
2956	chic	30.5	24.25000
2957	chic	20.0	3.50000
2958	chic	8.5	-4.62500
2959	chic	11.0	0.00000
2960	chic	15.0	3.37500
2961	chic	12.0	1.50000
2962	chic	24.0	25.00000
2963	chic	26.5	4.87500
2964	chic	6.5	-13.25000
2965	chic	7.5	2.37500
2966	chic	17.0	-0.75000
2967	chic	18.5	11.37500
2968	chic	30.5	21.37500
2969	chic	25.0	18.25000
2970	chic	33.0	18.75000
2971	chic	42.5	27.00000
2972	chic	38.0	28.37500
2973	chic	40.5	28.25000
2974	chic	28.0	17.25000
2975	chic	38.0	30.00000
2976	chic	41.0	21.50000
2977	chic	32.0	17.50000
2978	chic	39.0	26.37500
2979	chic	30.5	27.50000
2980	chic	31.5	28.62500
2981	chic	27.5	20.87500
2982	chic	16.5	3.75000
2983	chic	17.5	6.62500

2984	chic	23.0	14.00000
2985	chic	31.5	20.12500
2986	chic	35.0	32.75000
2987	chic	33.0	32.12500
2988	chic	30.5	20.87500
2989	chic	23.5	12.37500
2990	chic	24.5	18.87500
2991	chic	40.5	35.50000
2992	chic	51.0	38.75000
2993	chic	58.5	44.25000
2994	chic	61.5	44.25000
2995	chic	61.0	44.37500
2996	chic	59.0	43.37500
2997	chic	54.0	41.00000
2998	chic	42.5	33.50000
2999	chic	49.0	40.50000
3000	chic	50.0	42.25000
3001	chic	50.5	39.12500
3002	chic	43.5	30.12500
3003	chic	39.0	31.75000
3004	chic	36.0	28.75000
3005	chic	37.0	22.37500
3006	chic	42.0	22.50000
3007	chic	43.5	25.37500
3008	chic	41.5	36.25000
3009	chic	41.0	37.62500
3010	chic	40.0	33.00000
3011	chic	40.5	29.50000
3012	chic	36.5	29.87500
3013	chic	37.0	26.75000
3014	chic	44.0	27.50000
3015	chic	55.0	39.00000
3016	chic	33.0	1.37500
3017	chic	34.5	22.75000
3018	chic	52.0	28.62500
3019	chic	42.5	35.12500
3020	chic	43.0	36.37500
3021	chic	37.5	24.37500
3022	chic	36.5	32.12500
3023	chic	49.5	48.25000
3024	chic	39.5	34.25000
3025	chic	49.0	29.62500
3026	chic	42.5	29.87500

3027	chic	46.5	36.37500
3028	chic	51.5	39.37500
3029	chic	50.5	35.12500
3030	chic	61.0	42.00000
3031	chic	47.5	34.37500
3032	chic	44.0	44.75000
3033	chic	46.5	41.37500
3034	chic	51.0	35.12500
3035	chic	45.0	32.37500
3036	chic	47.5	39.75000
3037	chic	47.0	35.87500
3038	chic	50.0	50.25000
3039	chic	47.5	36.50000
3040	chic	53.0	38.62500
3041	chic	49.5	34.87500
3042	chic	44.5	36.87500
3043	chic	45.5	37.25000
3044	chic	50.5	31.75000
3045	chic	49.5	32.12500
3046	chic	52.5	45.87500
3047	chic	55.0	40.62500
3048	chic	56.0	37.62500
3049	chic	62.5	46.75000
3050	chic	57.5	42.75000
3051	chic	61.5	54.62500
3052	chic	51.0	49.00000
3053	chic	59.5	47.62500
3054	chic	60.0	48.75000
3055	chic	62.0	62.62500
3056	chic	62.5	51.37500
3057	chic	61.5	44.12500
3058	chic	68.5	65.87500
3059	chic	58.5	37.62500
3060	chic	52.5	37.25000
3061	chic	60.5	41.75000
3062	chic	66.0	40.75000
3063	chic	60.5	40.62500
3064	chic	62.0	46.00000
3065	chic	59.5	53.87500
3066	chic	51.5	46.37500
3067	chic	55.0	46.00000
3068	chic	55.0	43.62500
3069	chic	60.5	57.50000

3070	chic	65.5	55.37500
3071	chic	61.0	46.50000
3072	chic	67.5	48.12500
3073	chic	69.5	51.62500
3074	chic	71.5	55.25000
3075	chic	67.5	60.87500
3076	chic	67.0	57.25000
3077	chic	67.0	53.75000
3078	chic	67.5	56.87500
3079	chic	74.0	64.62500
3080	chic	71.5	59.00000
3081	chic	53.5	45.00000
3082	chic	59.0	51.75000
3083	chic	67.5	51.00000
3084	chic	59.0	44.87500
3085	chic	61.0	41.12500
3086	chic	67.5	45.75000
3087	chic	74.0	52.00000
3088	chic	72.0	53.25000
3089	chic	76.5	54.87500
3090	chic	77.5	61.62500
3091	chic	82.0	63.37500
3092	chic	82.5	65.25000
3093	chic	85.0	63.75000
3094	chic	78.0	61.75000
3095	chic	80.0	62.50000
3096	chic	79.5	55.75000
3097	chic	77.5	62.37500
3098	chic	75.5	63.75000
3099	chic	75.5	62.62500
3100	chic	72.5	67.37500
3101	chic	74.0	65.25000
3102	chic	77.0	65.25000
3103	chic	71.5	51.12500
3104	chic	65.5	47.75000
3105	chic	63.5	49.37500
3106	chic	71.0	57.50000
3107	chic	75.5	69.50000
3108	chic	75.0	63.87500
3109	chic	72.0	54.00000
3110	chic	70.5	55.62500
3111	chic	70.5	54.25000
3112	chic	73.0	60.87500

3113	chic	73.5	63.00000
3114	chic	79.0	64.62500
3115	chic	84.5	73.12500
3116	chic	92.0	76.37500
3117	chic	91.5	75.62500
3118	chic	86.0	69.00000
3119	chic	83.0	67.75000
3120	chic	78.5	55.25000
3121	chic	74.0	54.75000
3122	chic	75.5	57.87500
3123	chic	73.5	67.62500
3124	chic	74.0	56.00000
3125	chic	76.0	68.50000
3126	chic	76.0	67.00000
3127	chic	79.0	68.25000
3128	chic	81.5	64.50000
3129	chic	77.0	68.00000
3130	chic	80.5	67.37500
3131	chic	80.5	63.12500
3132	chic	82.5	69.00000
3133	chic	83.5	72.12500
3134	chic	84.5	68.25000
3135	chic	75.0	65.37500
3136	chic	74.0	71.37500
3137	chic	75.0	72.25000
3138	chic	77.0	69.75000
3139	chic	76.5	69.12500
3140	chic	78.0	68.87500
3141	chic	79.5	70.50000
3142	chic	79.5	71.75000
3143	chic	75.0	69.00000
3144	chic	80.0	70.87500
3145	chic	82.0	72.75000
3146	chic	86.5	74.75000
3147	chic	87.0	74.75000
3148	chic	87.0	72.12500
3149	chic	78.0	72.75000
3150	chic	84.0	72.87500
3151	chic	81.5	73.37500
3152	chic	81.0	71.87500
3153	chic	81.0	71.12500
3154	chic	74.0	63.62500
3155	chic	75.5	60.25000

3156	chic	74.0	53.62500
3157	chic	74.0	62.87500
3158	chic	76.0	65.37500
3159	chic	81.0	66.00000
3160	chic	80.0	65.50000
3161	chic	77.5	70.00000
3162	chic	76.0	69.87500
3163	chic	80.0	68.00000
3164	chic	83.0	67.00000
3165	chic	79.0	57.12500
3166	chic	69.5	53.62500
3167	chic	68.5	55.87500
3168	chic	72.0	55.62500
3169	chic	75.0	59.00000
3170	chic	76.5	61.12500
3171	chic	74.5	59.87500
3172	chic	62.0	55.87500
3173	chic	61.0	49.12500
3174	chic	58.5	46.37500
3175	chic	54.5	43.37500
3176	chic	59.0	46.37500
3177	chic	65.5	59.62500
3178	chic	73.0	61.25000
3179	chic	66.5	54.50000
3180	chic	65.5	55.50000
3181	chic	73.5	65.25000
3182	chic	56.5	42.37500
3183	chic	56.0	48.00000
3184	chic	61.5	57.62500
3185	chic	55.0	48.37500
3186	chic	45.5	40.12500
3187	chic	44.0	27.75000
3188	chic	44.0	35.87500
3189	chic	49.5	37.62500
3190	chic	56.0	43.75000
3191	chic	60.0	43.12500
3192	chic	67.0	48.00000
3193	chic	67.0	46.87500
3194	chic	68.0	49.37500
3195	chic	75.0	55.25000
3196	chic	66.5	48.25000
3197	chic	64.0	54.50000
3198	chic	62.0	53.75000

3199	chic	58.0	50.37500
3200	chic	58.0	54.25000
3201	chic	57.5	51.25000
3202	chic	49.5	42.37500
3203	chic	52.5	46.87500
3204	chic	61.5	45.62500
3205	chic	57.0	44.37500
3206	chic	62.5	49.87500
3207	chic	68.5	48.87500
3208	chic	70.0	52.62500
3209	chic	48.0	36.37500
3210	chic	46.5	29.75000
3211	chic	48.0	30.62500
3212	chic	59.5	44.12500
3213	chic	58.0	47.12500
3214	chic	64.0	51.75000
3215	chic	44.5	39.00000
3216	chic	38.5	35.25000
3217	chic	48.0	39.00000
3218	chic	60.0	46.62500
3219	chic	42.5	34.75000
3220	chic	46.5	33.25000
3221	chic	51.5	44.62500
3222	chic	53.0	45.75000
3223	chic	45.5	40.75000
3224	chic	44.0	34.75000
3225	chic	43.0	38.62500
3226	chic	44.5	45.37500
3227	chic	55.5	59.25000
3228	chic	44.5	27.87500
3229	chic	30.0	19.25000
3230	chic	27.5	16.62500
3231	chic	28.5	28.62500
3232	chic	40.5	39.50000
3233	chic	38.0	19.00000
3234	chic	26.0	11.37500
3235	chic	32.5	27.12500
3236	chic	46.5	37.62500
3237	chic	26.5	11.37500
3238	chic	22.5	20.12500
3239	chic	26.0	18.25000
3240	chic	27.0	15.75000
3241	chic	27.0	22.25000

3242	chic	32.5	22.75000
3243	chic	34.5	32.50000
3244	chic	36.5	28.75000
3245	chic	39.0	38.50000
3246	chic	44.5	26.00000
3247	chic	28.5	15.87500
3248	chic	27.5	22.37500
3249	chic	27.0	9.62500
3250	chic	24.0	11.37500
3251	chic	40.0	27.37500
3252	chic	43.0	31.37500
3253	chic	34.5	29.12500
3254	chic	21.0	13.12500
3255	chic	22.0	18.75000
3256	chic	36.5	30.87500
3257	chic	39.0	24.50000
3258	chic	40.5	30.25000
3259	chic	47.0	29.62500
3260	chic	36.5	29.75000
3261	chic	35.0	5.12500
3262	chic	28.0	8.12500
3263	chic	25.0	4.75000
3264	chic	21.5	21.00000
3265	chic	0.5	-2.87500
3266	chic	7.5	-3.75000
3267	chic	4.5	2.50000
3268	chic	15.5	18.62500
3269	chic	28.5	29.50000
3270	chic	38.0	32.12500
3271	chic	34.0	23.50000
3272	chic	27.0	18.25000
3273	chic	30.0	27.00000
3274	chic	35.0	27.87500
3275	chic	30.0	21.87500
3276	chic	26.0	14.87500
3277	chic	24.0	15.37500
3278	chic	22.0	18.12500
3279	chic	27.0	21.25000
3280	chic	25.0	23.75000
3281	chic	22.5	10.50000
3282	chic	21.0	21.00000
3283	chic	23.0	14.37500
3284	chic	23.0	11.87500

3285	chic	25.0	19.00000
3286	chic	29.5	27.12500
3287	chic	34.0	32.25000
3288	chic	35.0	31.25000
3289	chic	27.5	13.50000
3290	chic	21.0	17.62500
3291	chic	21.0	12.62500
3292	chic	16.0	7.87500
3293	chic	19.0	17.37500
3294	chic	18.5	7.37500
3295	chic	13.0	13.00000
3296	chic	27.0	20.62500
3297	chic	21.5	18.12500
3298	chic	26.5	24.50000
3299	chic	28.5	27.12500
3300	chic	32.0	30.75000
3301	chic	37.5	28.50000
3302	chic	24.0	14.25000
3303	chic	32.5	40.00000
3304	chic	47.0	49.12500
3305	chic	36.5	19.75000
3306	chic	9.0	1.50000
3307	chic	15.5	12.00000
3308	chic	25.5	26.25000
3309	chic	37.5	33.00000
3310	chic	33.0	33.00000
3311	chic	20.5	4.37500
3312	chic	20.0	23.37500
3313	chic	32.0	28.37500
3314	chic	16.5	3.87500
3315	chic	19.0	15.12500
3316	chic	18.5	-2.50000
3317	chic	2.0	-13.62500
3318	chic	-3.0	-10.00000
3319	chic	1.5	-12.87500
3320	chic	-10.5	-21.00000
3321	chic	-12.0	-18.87500
3322	chic	-6.0	-7.87500
3323	chic	11.5	5.25000
3324	chic	18.5	20.62500
3325	chic	38.0	34.75000
3326	chic	39.5	34.50000
3327	chic	39.0	37.75000

3328	chic	44.5	29.62500
3329	chic	32.0	19.62500
3330	chic	23.0	14.37500
3331	chic	27.5	26.87500
3332	chic	27.5	19.25000
3333	chic	24.0	20.62500
3334	chic	21.0	14.25000
3335	chic	23.5	10.62500
3336	chic	18.5	19.75000
3337	chic	33.0	31.87500
3338	chic	43.5	41.25000
3339	chic	31.5	31.87500
3340	chic	35.5	34.87500
3341	chic	44.5	37.87500
3342	chic	46.0	30.50000
3343	chic	46.5	39.25000
3344	chic	40.5	40.00000
3345	chic	38.5	28.37500
3346	chic	20.0	6.62500
3347	chic	17.0	6.37500
3348	chic	26.0	21.00000
3349	chic	15.0	-4.50000
3350	chic	12.5	0.75000
3351	chic	25.0	18.87500
3352	chic	31.5	27.75000
3353	chic	20.5	10.00000
3354	chic	11.5	0.12500
3355	chic	8.0	8.25000
3356	chic	17.5	14.00000
3357	chic	26.0	25.87500
3358	chic	37.5	28.37500
3359	chic	43.0	31.50000
3360	chic	45.0	39.75000
3361	chic	47.5	39.50000
3362	chic	40.5	30.75000
3363	chic	34.5	27.87500
3364	chic	31.0	32.62500
3365	chic	34.5	24.62500
3366	chic	35.5	25.87500
3367	chic	31.5	20.37500
3368	chic	29.5	20.12500
3369	chic	35.0	12.12500
3370	chic	39.0	22.12500

3371	chic	50.5	51.00000
3372	chic	35.5	12.12500
3373	chic	18.5	2.25000
3374	chic	24.0	20.25000
3375	chic	37.0	25.50000
3376	chic	38.5	28.50000
3377	chic	42.0	39.87500
3378	chic	36.5	30.62500
3379	chic	35.5	19.62500
3380	chic	47.5	37.37500
3381	chic	52.0	37.50000
3382	chic	33.5	25.50000
3383	chic	32.0	19.75000
3384	chic	33.0	21.25000
3385	chic	32.0	17.37500
3386	chic	30.0	20.87500
3387	chic	36.0	25.75000
3388	chic	45.5	28.12500
3389	chic	64.0	48.50000
3390	chic	53.0	42.62500
3391	chic	40.5	29.37500
3392	chic	37.5	33.12500
3393	chic	40.0	31.75000
3394	chic	42.5	31.62500
3395	chic	47.0	40.62500
3396	chic	63.5	54.37500
3397	chic	62.5	50.12500
3398	chic	52.0	40.50000
3399	chic	52.0	37.87500
3400	chic	51.5	38.37500
3401	chic	45.0	31.12500
3402	chic	52.5	46.12500
3403	chic	61.0	43.87500
3404	chic	45.5	24.87500
3405	chic	45.0	30.37500
3406	chic	44.0	30.62500
3407	chic	40.5	37.25000
3408	chic	43.5	32.62500
3409	chic	50.0	32.62500
3410	chic	52.5	39.00000
3411	chic	52.5	42.62500
3412	chic	47.5	30.62500
3413	chic	49.0	41.25000

3414	chic	45.5	40.25000
3415	chic	50.5	43.37500
3416	chic	57.0	56.50000
3417	chic	58.0	54.14286
3418	chic	51.0	38.25000
3419	chic	45.0	28.50000
3420	chic	42.5	24.12500
3421	chic	45.0	33.25000
3422	chic	47.5	42.87500
3423	chic	54.5	52.12500
3424	chic	53.5	52.12500
3425	chic	69.5	71.87500
3426	chic	81.0	68.87500
3427	chic	81.0	65.25000
3428	chic	64.0	56.00000
3429	chic	65.0	52.62500
3430	chic	67.0	55.25000
3431	chic	56.0	46.75000
3432	chic	52.0	45.50000
3433	chic	51.5	41.25000
3434	chic	54.0	47.00000
3435	chic	51.0	46.75000
3436	chic	51.5	50.00000
3437	chic	51.0	34.87500
3438	chic	51.5	34.00000
3439	chic	57.5	50.37500
3440	chic	62.5	64.00000
3441	chic	67.5	57.14286
3442	chic	60.5	52.37500
3443	chic	57.5	55.87500
3444	chic	61.5	54.87500
3445	chic	63.5	63.75000
3446	chic	54.5	53.25000
3447	chic	53.0	56.62500
3448	chic	56.5	56.75000
3449	chic	61.5	59.12500
3450	chic	60.0	59.12500
3451	chic	65.5	63.75000
3452	chic	75.5	68.50000
3453	chic	71.5	59.62500
3454	chic	71.0	51.75000
3455	chic	72.5	67.00000
3456	chic	74.0	72.50000

3457	chic	73.5	69.75000
3458	chic	69.5	65.62500
3459	chic	73.5	71.00000
3460	chic	76.5	75.12500
3461	chic	71.0	57.12500
3462	chic	61.0	54.00000
3463	chic	68.5	57.75000
3464	chic	65.5	50.75000
3465	chic	68.0	62.37500
3466	chic	74.0	68.00000
3467	chic	77.5	65.87500
3468	chic	83.0	74.25000
3469	chic	83.0	66.12500
3470	chic	75.5	57.62500
3471	chic	73.0	61.75000
3472	chic	65.0	48.87500
3473	chic	64.0	51.50000
3474	chic	70.5	57.12500
3475	chic	73.0	61.75000
3476	chic	78.0	57.12500
3477	chic	71.5	55.12500
3478	chic	63.0	55.00000
3479	chic	63.5	46.62500
3480	chic	66.0	55.25000
3481	chic	73.0	66.37500
3482	chic	74.5	60.62500
3483	chic	69.0	64.62500
3484	chic	71.5	62.37500
3485	chic	76.5	58.87500
3486	chic	73.5	69.75000
3487	chic	79.0	78.25000
3488	chic	72.0	57.37500
3489	chic	65.0	53.75000
3490	chic	61.5	54.00000
3491	chic	65.5	67.62500
3492	chic	70.5	59.00000
3493	chic	73.5	61.62500
3494	chic	68.5	58.25000
3495	chic	69.5	58.62500
3496	chic	68.5	64.12500
3497	chic	67.5	66.62500
3498	chic	70.0	62.75000
3499	chic	68.5	57.87500

3500	chic	65.5	58.12500
3501	chic	66.5	59.87500
3502	chic	67.5	59.62500
3503	chic	68.5	62.62500
3504	chic	74.0	67.87500
3505	chic	82.0	75.37500
3506	chic	79.5	75.62500
3507	chic	83.0	74.37500
3508	chic	77.0	55.00000
3509	chic	71.0	57.87500
3510	chic	68.5	59.75000
3511	chic	69.5	65.12500
3512	chic	71.0	64.12500
3513	chic	74.0	67.62500
3514	chic	76.0	63.62500
3515	chic	69.5	60.00000
3516	chic	68.5	61.12500
3517	chic	69.0	64.12500
3518	chic	70.5	69.37500
3519	chic	76.0	71.37500
3520	chic	77.0	71.25000
3521	chic	78.0	72.75000
3522	chic	79.0	71.12500
3523	chic	70.0	55.12500
3524	chic	71.0	58.87500
3525	chic	69.5	64.50000
3526	chic	72.0	65.75000
3527	chic	70.0	64.87500
3528	chic	68.5	63.00000
3529	chic	69.5	58.75000
3530	chic	69.0	61.25000
3531	chic	70.5	61.50000
3532	chic	73.5	60.75000
3533	chic	71.0	62.50000
3534	chic	73.0	67.00000
3535	chic	73.0	64.75000
3536	chic	74.0	68.37500
3537	chic	74.0	71.12500
3538	chic	73.5	69.62500
3539	chic	73.0	67.25000
3540	chic	68.5	64.62500
3541	chic	69.5	61.37500
3542	chic	67.0	57.12500

3543	chic	58.0	50.25000
3544	chic	56.0	46.62500
3545	chic	53.0	50.75000
3546	chic	59.0	51.87500
3547	chic	58.5	54.37500
3548	chic	60.5	52.25000
3549	chic	62.0	52.62500
3550	chic	61.0	51.75000
3551	chic	58.5	58.25000
3552	chic	64.0	54.87500
3553	chic	62.5	50.25000
3554	chic	59.0	56.87500
3555	chic	57.0	43.12500
3556	chic	53.0	46.12500
3557	chic	60.5	63.37500
3558	chic	58.5	48.00000
3559	chic	53.5	47.00000
3560	chic	57.5	50.37500
3561	chic	63.0	52.87500
3562	chic	62.0	58.25000
3563	chic	57.0	40.87500
3564	chic	46.5	36.75000
3565	chic	47.0	40.37500
3566	chic	53.5	45.50000
3567	chic	63.5	57.12500
3568	chic	53.5	45.62500
3569	chic	45.5	40.25000
3570	chic	47.5	41.62500
3571	chic	42.5	35.75000
3572	chic	42.0	42.37500
3573	chic	61.0	54.25000
3574	chic	66.0	62.12500
3575	chic	57.0	51.00000
3576	chic	64.0	54.62500
3577	chic	63.0	61.12500
3578	chic	59.0	49.12500
3579	chic	46.5	28.37500
3580	chic	45.0	34.62500
3581	chic	47.5	48.25000
3582	chic	53.0	50.00000
3583	chic	55.5	57.87500
3584	chic	43.0	40.62500
3585	chic	48.0	43.87500

3586	chic	52.5	49.12500
3587	chic	62.0	62.25000
3588	chic	59.0	47.50000
3589	chic	46.5	37.62500
3590	chic	50.5	54.12500
3591	chic	44.5	22.85714
3592	chic	33.0	21.25000
3593	chic	31.0	21.62500
3594	chic	29.0	24.12500
3595	chic	35.5	26.87500
3596	chic	42.0	33.50000
3597	chic	46.5	47.37500
3598	chic	54.0	60.25000
3599	chic	43.0	36.87500
3600	chic	37.0	33.25000
3601	chic	34.5	28.00000
3602	chic	28.0	21.87500
3603	chic	26.5	12.62500
3604	chic	23.0	11.00000
3605	chic	22.5	11.37500
3606	chic	25.0	18.85714
3607	chic	40.0	22.50000
3608	chic	48.0	32.12500
3609	chic	41.5	25.00000
3610	chic	31.0	24.75000
3611	chic	29.5	19.00000
3612	chic	29.0	29.62500
3613	chic	34.0	26.37500
3614	chic	34.5	29.37500
3615	chic	35.5	34.62500
3616	chic	35.0	30.37500
3617	chic	26.5	19.12500
3618	chic	20.0	9.62500
3619	chic	22.5	18.75000
3620	chic	29.5	25.62500
3621	chic	33.5	31.37500
3622	chic	40.5	36.75000
3623	chic	30.5	22.87500
3624	chic	27.5	24.87500
3625	chic	30.0	23.00000
3626	chic	26.5	25.25000
3627	chic	32.5	32.25000
3628	chic	33.5	28.62500

3629	chic	30.5	24.87500
3630	chic	28.5	22.25000
3631	chic	28.5	23.37500
3632	chic	35.5	34.75000
3633	chic	37.0	34.50000
3634	chic	36.5	33.75000
3635	chic	34.5	34.75000
3636	chic	36.5	31.75000
3637	chic	38.0	25.37500
3638	chic	29.0	26.12500
3639	chic	24.0	13.37500
3640	chic	13.0	2.12500
3641	chic	8.0	5.75000
3642	chic	9.5	8.62500
3643	chic	26.5	25.62500
3644	chic	34.5	36.87500
3645	chic	42.5	40.62500
3646	chic	20.0	5.37500
3647	chic	4.5	3.00000
3648	chic	14.0	12.00000
3649	chic	26.0	31.75000
3650	chic	37.0	37.75000
3651	chic	30.0	22.87500
3652	chic	27.5	29.87500
3653	chic	27.5	30.12500
3654	chic	36.0	37.50000
3655	chic	45.0	47.25000
3656	chic	40.0	38.00000
3657	chic	51.5	45.50000
3658	chic	27.0	11.25000
3659	chic	17.0	5.75000
3660	chic	16.0	7.00000
3661	chic	19.0	17.75000
3662	chic	26.0	24.00000
3663	chic	16.0	5.37500
3664	chic	1.5	-6.62500
3665	chic	1.0	-8.87500
3666	chic	3.0	1.50000
3667	chic	10.0	11.50000
3668	chic	19.0	23.25000
3669	chic	9.5	-9.75000
3670	chic	-3.0	-10.37500
3671	chic	0.0	-4.12500

3672	chic	14.0	22.62500
3673	chic	31.0	27.25000
3674	chic	35.0	41.62500
3675	chic	36.5	20.75000
3676	chic	26.0	18.75000
3677	chic	32.0	29.50000
3678	chic	14.5	-1.37500
3679	chic	11.0	17.12500
3680	chic	17.0	8.37500
3681	chic	2.0	-6.37500
3682	chic	8.0	11.00000
3683	chic	16.5	16.37500
3684	chic	31.5	33.75000
3685	chic	35.0	29.66667
3686	chic	36.5	29.62500
3687	chic	30.0	28.00000
3688	chic	34.5	32.00000
3689	chic	30.0	24.25000
3690	chic	26.0	21.87500
3691	chic	25.5	23.37500
3692	chic	25.5	22.50000
3693	chic	26.0	21.00000
3694	chic	27.0	21.75000
3695	chic	23.5	19.50000
3696	chic	21.0	11.60000
3697	chic	20.5	16.37500
3698	chic	25.5	23.00000
3699	chic	20.0	15.25000
3700	chic	18.5	8.12500
3701	chic	30.0	32.62500
3702	chic	48.5	41.37500
3703	chic	37.5	27.50000
3704	chic	35.5	44.12500
3705	chic	36.0	29.62500
3706	chic	26.0	24.25000
3707	chic	28.0	14.62500
3708	chic	21.5	10.87500
3709	chic	25.5	27.12500
3710	chic	36.5	35.00000
3711	chic	34.5	30.25000
3712	chic	37.5	36.00000
3713	chic	45.5	44.00000
3714	chic	35.0	27.37500

3715	chic	33.5	29.37500
3716	chic	38.0	28.87500
3717	chic	33.0	28.62500
3718	chic	26.5	13.37500
3719	chic	35.5	35.25000
3720	chic	39.0	28.25000
3721	chic	37.0	32.62500
3722	chic	44.0	33.25000
3723	chic	37.0	23.37500
3724	chic	33.5	25.00000
3725	chic	37.5	30.50000
3726	chic	26.5	15.50000
3727	chic	19.0	8.37500
3728	chic	24.5	23.75000
3729	chic	45.0	33.62500
3730	chic	33.5	27.00000
3731	chic	35.5	28.87500
3732	chic	46.0	31.87500
3733	chic	53.5	42.50000
3734	chic	37.5	28.62500
3735	chic	32.5	20.37500
3736	chic	33.0	32.37500
3737	chic	40.5	30.00000
3738	chic	44.0	36.75000
3739	chic	60.5	40.12500
3740	chic	55.5	53.87500
3741	chic	43.5	41.00000
3742	chic	37.5	33.75000
3743	chic	38.5	22.00000
3744	chic	44.5	28.12500
3745	chic	53.0	29.87500
3746	chic	59.5	49.87500
3747	chic	62.5	48.25000
3748	chic	60.5	54.37500
3749	chic	45.0	21.75000
3750	chic	34.0	18.37500
3751	chic	28.5	9.25000
3752	chic	30.0	18.87500
3753	chic	30.5	22.00000
3754	chic	33.5	32.00000
3755	chic	33.5	30.37500
3756	chic	38.5	24.62500
3757	chic	41.5	28.12500

3758	chic	49.0	36.25000
3759	chic	43.0	25.62500
3760	chic	40.5	25.75000
3761	chic	40.0	34.75000
3762	chic	45.5	30.87500
3763	chic	49.0	42.25000
3764	chic	45.0	31.00000
3765	chic	43.0	33.62500
3766	chic	48.5	34.00000
3767	chic	47.5	36.50000
3768	chic	48.0	27.75000
3769	chic	49.5	24.25000
3770	chic	47.5	40.25000
3771	chic	50.5	40.75000
3772	chic	60.0	45.25000
3773	chic	55.0	50.00000
3774	chic	48.5	36.87500
3775	chic	48.5	45.50000
3776	chic	49.0	40.37500
3777	chic	51.5	33.25000
3778	chic	62.0	38.87500
3779	chic	55.5	35.00000
3780	chic	52.5	49.25000
3781	chic	61.0	42.75000
3782	chic	50.5	36.00000
3783	chic	52.5	32.62500
3784	chic	59.5	43.87500
3785	chic	52.5	32.50000
3786	chic	45.5	38.75000
3787	chic	49.5	40.62500
3788	chic	45.0	35.50000
3789	chic	51.0	41.37500
3790	chic	50.5	38.25000
3791	chic	59.5	63.87500
3792	chic	54.0	42.37500
3793	chic	51.5	38.12500
3794	chic	48.0	34.37500
3795	chic	50.5	34.62500
3796	chic	58.0	40.75000
3797	chic	68.5	56.12500
3798	chic	50.0	44.50000
3799	chic	50.0	35.87500
3800	chic	56.0	39.37500

3801	chic	58.5	56.87500
3802	chic	58.0	50.75000
3803	chic	61.0	51.75000
3804	chic	59.0	53.37500
3805	chic	60.5	51.25000
3806	chic	58.0	54.50000
3807	chic	61.5	52.62500
3808	chic	59.0	47.50000
3809	chic	62.0	56.00000
3810	chic	63.5	58.75000
3811	chic	58.5	55.37500
3812	chic	61.0	48.62500
3813	chic	62.5	51.75000
3814	chic	66.5	53.87500
3815	chic	67.5	63.12500
3816	chic	70.0	63.62500
3817	chic	71.0	52.00000
3818	chic	56.5	41.87500
3819	chic	63.0	59.75000
3820	chic	67.0	53.37500
3821	chic	60.5	50.37500
3822	chic	67.0	61.12500
3823	chic	70.0	65.87500
3824	chic	81.5	72.87500
3825	chic	75.5	64.75000
3826	chic	77.0	66.87500
3827	chic	82.5	69.62500
3828	chic	84.0	60.00000
3829	chic	78.0	62.75000
3830	chic	73.5	55.25000
3831	chic	72.5	59.00000
3832	chic	74.0	62.00000
3833	chic	75.0	65.25000
3834	chic	76.0	69.25000
3835	chic	77.5	68.62500
3836	chic	79.5	55.75000
3837	chic	68.5	54.25000
3838	chic	61.5	51.87500
3839	chic	65.5	50.75000
3840	chic	70.0	57.75000
3841	chic	65.5	52.50000
3842	chic	71.0	58.00000
3843	chic	62.0	50.75000

3844	chic	64.5	51.00000
3845	chic	68.5	59.12500
3846	chic	74.5	63.50000
3847	chic	82.5	71.75000
3848	chic	83.0	62.37500
3849	chic	79.0	64.25000
3850	chic	82.5	59.87500
3851	chic	84.0	68.62500
3852	chic	79.0	69.12500
3853	chic	74.5	60.62500
3854	chic	76.5	71.62500
3855	chic	72.0	65.12500
3856	chic	69.0	64.37500
3857	chic	69.0	59.75000
3858	chic	72.5	64.75000
3859	chic	76.0	75.75000
3860	chic	85.5	73.37500
3861	chic	81.5	73.75000
3862	chic	74.5	57.37500
3863	chic	66.5	50.87500
3864	chic	68.5	52.37500
3865	chic	69.0	56.25000
3866	chic	74.5	58.87500
3867	chic	81.5	59.37500
3868	chic	78.0	66.50000
3869	chic	71.0	57.75000
3870	chic	62.5	45.87500
3871	chic	64.5	54.00000
3872	chic	67.0	55.50000
3873	chic	69.5	52.87500
3874	chic	70.5	66.00000
3875	chic	75.5	65.50000
3876	chic	67.5	62.12500
3877	chic	69.5	67.87500
3878	chic	68.5	58.75000
3879	chic	65.5	63.12500
3880	chic	77.0	70.00000
3881	chic	80.0	69.87500
3882	chic	68.5	64.00000
3883	chic	63.5	54.37500
3884	chic	64.0	60.00000
3885	chic	67.0	59.37500
3886	chic	63.5	52.87500

3887	chic	64.0	54.87500
3888	chic	65.5	57.75000
3889	chic	70.5	62.75000
3890	chic	65.5	59.50000
3891	chic	69.0	68.75000
3892	chic	77.0	67.50000
3893	chic	68.5	58.12500
3894	chic	67.0	58.87500
3895	chic	65.0	68.12500
3896	chic	72.0	62.12500
3897	chic	70.5	65.87500
3898	chic	68.0	51.75000
3899	chic	58.5	47.12500
3900	chic	59.0	44.87500
3901	chic	60.5	51.00000
3902	chic	74.5	64.75000
3903	chic	66.0	60.12500
3904	chic	67.5	62.87500
3905	chic	68.5	60.37500
3906	chic	64.5	55.37500
3907	chic	61.5	53.75000
3908	chic	61.5	52.75000
3909	chic	63.5	58.62500
3910	chic	69.0	62.37500
3911	chic	69.5	65.37500
3912	chic	74.5	68.87500
3913	chic	70.0	50.87500
3914	chic	69.0	50.37500
3915	chic	73.0	67.87500
3916	chic	58.5	48.50000
3917	chic	57.0	46.12500
3918	chic	57.5	51.87500
3919	chic	59.0	46.37500
3920	chic	56.5	47.37500
3921	chic	66.0	55.12500
3922	chic	60.0	51.12500
3923	chic	62.5	54.12500
3924	chic	64.0	48.00000
3925	chic	65.0	44.12500
3926	chic	59.5	47.00000
3927	chic	52.0	42.50000
3928	chic	61.0	51.87500
3929	chic	73.0	60.75000

3930	chic	68.0	55.75000
3931	chic	70.0	54.87500
3932	chic	70.5	56.37500
3933	chic	73.5	58.87500
3934	chic	72.5	60.37500
3935	chic	64.0	44.75000
3936	chic	59.0	47.25000
3937	chic	61.5	44.25000
3938	chic	70.0	56.12500
3939	chic	59.5	39.37500
3940	chic	42.5	30.25000
3941	chic	42.5	36.75000
3942	chic	47.5	38.50000
3943	chic	45.5	39.25000
3944	chic	44.5	36.37500
3945	chic	50.0	45.25000
3946	chic	45.5	32.62500
3947	chic	42.5	20.62500
3948	chic	36.0	23.50000
3949	chic	44.5	31.25000
3950	chic	46.0	44.37500
3951	chic	47.0	37.87500
3952	chic	40.0	36.00000
3953	chic	32.5	25.57143
3954	chic	39.0	36.12500
3955	chic	44.0	36.00000
3956	chic	51.0	50.25000
3957	chic	59.5	52.50000
3958	chic	50.0	36.12500
3959	chic	38.5	30.12500
3960	chic	36.5	34.12500
3961	chic	39.0	35.25000
3962	chic	40.0	40.50000
3963	chic	45.0	39.87500
3964	chic	43.0	35.25000
3965	chic	44.0	34.12500
3966	chic	42.5	34.87500
3967	chic	36.5	22.12500
3968	chic	28.5	18.25000
3969	chic	26.5	16.75000
3970	chic	31.5	22.25000
3971	chic	36.0	31.25000
3972	chic	29.0	24.37500

3973	chic	22.0	14.00000
3974	chic	25.5	24.00000
3975	chic	32.0	25.12500
3976	chic	27.5	22.62500
3977	chic	33.5	37.50000
3978	chic	35.5	29.62500
3979	chic	34.5	25.62500
3980	chic	26.0	20.75000
3981	chic	26.5	17.12500
3982	chic	47.0	41.25000
3983	chic	43.0	23.62500
3984	chic	37.5	39.00000
3985	chic	49.0	45.25000
3986	chic	45.5	47.12500
3987	chic	42.0	31.87500
3988	chic	37.0	31.12500
3989	chic	36.5	30.00000
3990	chic	36.5	32.75000
3991	chic	32.0	21.37500
3992	chic	26.0	17.37500
3993	chic	28.5	25.75000
3994	chic	30.0	27.00000
3995	chic	28.5	26.87500
3996	chic	33.0	30.62500
3997	chic	34.5	31.00000
3998	chic	33.5	25.00000
3999	chic	27.5	21.25000
4000	chic	26.5	22.25000
4001	chic	31.0	25.87500
4002	chic	37.5	30.87500
4003	chic	39.0	30.00000
4004	chic	37.0	26.50000
4005	chic	38.5	32.75000
4006	chic	40.5	33.12500
4007	chic	33.0	23.87500
4008	chic	32.5	25.00000
4009	chic	34.5	33.00000
4010	chic	34.0	27.62500
4011	chic	34.0	31.50000
4012	chic	30.5	24.50000
4013	chic	28.5	23.75000
4014	chic	23.0	13.75000
4015	chic	25.5	28.75000

4016	chic	29.5	23.62500
4017	chic	21.5	17.25000
4018	chic	18.0	5.25000
4019	chic	28.0	22.50000
4020	chic	44.0	35.90000
4021	chic	47.0	46.90000
4022	chic	45.0	40.00000
4023	chic	48.0	46.70000
4024	chic	43.0	41.10000
4025	chic	38.0	34.20000
4026	chic	34.0	30.80000
4027	chic	25.0	25.30000
4028	chic	12.0	2.80000
4029	chic	18.0	7.10000
4030	chic	23.0	20.60000
4031	chic	7.0	-6.00000
4032	chic	17.0	15.40000
4033	chic	28.0	23.10000
4034	chic	28.0	23.60000
4035	chic	23.0	21.90000
4036	chic	16.0	13.50000
4037	chic	24.0	19.10000
4038	chic	26.0	21.30000
4039	chic	31.0	26.80000
4040	chic	32.0	29.90000
4041	chic	28.0	25.80000
4042	chic	28.0	24.20000
4043	chic	28.0	22.90000
4044	chic	31.0	28.60000
4045	chic	33.0	30.40000
4046	chic	36.0	32.50000
4047	chic	37.0	30.60000
4048	chic	31.0	25.60000
4049	chic	35.0	29.10000
4050	chic	39.0	31.00000
4051	chic	33.0	26.60000
4052	chic	34.0	28.90000
4053	chic	32.0	25.60000
4054	chic	32.0	27.40000
4055	chic	36.0	29.40000
4056	chic	34.0	28.70000
4057	chic	33.0	28.30000
4058	chic	35.0	28.80000

4059	chic	39.0	33.90000
4060	chic	41.0	38.60000
4061	chic	35.0	28.30000
4062	chic	36.0	31.40000
4063	chic	38.0	31.00000
4064	chic	43.0	32.00000
4065	chic	42.0	35.30000
4066	chic	41.0	38.80000
4067	chic	39.0	35.30000
4068	chic	40.0	35.00000
4069	chic	39.0	33.50000
4070	chic	38.0	30.10000
4071	chic	44.0	35.00000
4072	chic	41.0	29.70000
4073	chic	45.0	36.70000
4074	chic	42.0	34.60000
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4076	chic	42.0	37.70000
4077	chic	41.0	33.20000
4078	chic	35.0	28.50000
4079	chic	33.0	31.50000
4080	chic	34.0	30.40000
4081	chic	34.0	24.10000
4082	chic	36.0	24.10000
4083	chic	34.0	27.90000
4084	chic	36.0	28.10000
4085	chic	38.0	34.20000
4086	chic	26.0	20.70000
4087	chic	18.0	4.90000
4088	chic	18.0	2.30000
4089	chic	18.0	6.70000
4090	chic	29.0	20.70000
4091	chic	28.0	14.00000
4092	chic	27.0	20.90000
4093	chic	30.0	22.60000
4094	chic	36.0	31.70000
4095	chic	45.0	41.90000
4096	chic	37.0	34.20000
4097	chic	35.0	27.10000
4098	chic	37.0	24.70000
4099	chic	36.0	22.60000
4100	chic	38.0	21.60000
4101	chic	40.0	23.30000

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4103	chic	68.0	53.90000
4104	chic	67.0	52.30000
4105	chic	57.0	50.90000
4106	chic	62.0	54.30000
4107	chic	73.0	59.40000
4108	chic	59.0	51.70000
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4111	chic	41.0	35.00000
4112	chic	41.0	28.10000
4113	chic	41.0	23.70000
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4115	chic	52.0	39.40000
4116	chic	48.0	46.30000
4117	chic	43.0	32.80000
4118	chic	46.0	27.00000
4119	chic	50.0	34.90000
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4121	chic	62.0	46.70000
4122	chic	58.0	48.10000
4123	chic	53.0	46.60000
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4127	chic	52.0	33.00000
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4135	chic	45.0	27.50000
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4137	chic	54.0	48.40000
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4139	chic	59.0	53.70000
4140	chic	57.0	52.00000
4141	chic	53.0	50.30000
4142	chic	60.0	47.00000
4143	chic	62.0	54.10000
4144	chic	68.0	56.80000

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4146	chic	62.0	51.30000
4147	chic	58.0	43.50000
4148	chic	58.0	40.10000
4149	chic	61.0	48.10000
4150	chic	63.0	55.10000
4151	chic	68.0	52.50000
4152	chic	68.0	55.40000
4153	chic	75.0	65.80000
4154	chic	72.0	50.90000
4155	chic	68.0	49.20000
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4157	chic	79.0	61.00000
4158	chic	65.0	52.80000
4159	chic	64.0	46.90000
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4161	chic	61.0	45.50000
4162	chic	61.0	54.30000
4163	chic	62.0	48.30000
4164	chic	63.0	45.70000
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4167	chic	74.0	62.30000
4168	chic	73.0	62.70000
4169	chic	70.0	60.20000
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4187	chic	77.0	69.30000

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4190	chic	79.0	66.00000
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4194	chic	83.0	70.80000
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4198	chic	77.0	68.20000
4199	chic	74.0	60.50000
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4206	chic	72.0	66.70000
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4208	chic	75.0	64.20000
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4211	chic	71.0	55.60000
4212	chic	73.0	60.30000
4213	chic	78.0	67.10000
4214	chic	79.0	66.10000
4215	chic	80.0	57.90000
4216	chic	75.0	64.70000
4217	chic	77.0	65.50000
4218	chic	81.0	71.80000
4219	chic	79.0	68.10000
4220	chic	85.0	72.90000
4221	chic	76.0	67.60000
4222	chic	73.0	56.60000
4223	chic	72.0	51.10000
4224	chic	70.0	55.40000
4225	chic	70.0	56.80000
4226	chic	74.0	65.10000
4227	chic	79.0	64.90000
4228	chic	77.0	55.20000
4229	chic	72.0	57.50000
4230	chic	71.0	54.70000

4231	chic	72.0	57.30000
4232	chic	72.0	55.90000
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4234	chic	70.0	68.60000
4235	chic	76.0	70.70000
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4237	chic	75.0	70.80000
4238	chic	77.0	70.70000
4239	chic	77.0	70.10000
4240	chic	76.0	68.50000
4241	chic	71.0	63.40000
4242	chic	70.0	60.90000
4243	chic	71.0	60.20000
4244	chic	71.0	64.40000
4245	chic	71.0	64.30000
4246	chic	72.0	62.90000
4247	chic	75.0	69.00000
4248	chic	68.0	63.90000
4249	chic	69.0	55.10000
4250	chic	73.0	65.40000
4251	chic	80.0	70.80000
4252	chic	78.0	69.50000
4253	chic	81.0	71.20000
4254	chic	76.0	71.40000
4255	chic	76.0	63.90000
4256	chic	73.0	60.90000
4257	chic	72.0	64.50000
4258	chic	69.0	66.40000
4259	chic	76.0	63.10000
4260	chic	70.0	55.70000
4261	chic	69.0	54.60000
4262	chic	69.0	58.50000
4263	chic	65.0	50.10000
4264	chic	68.0	57.90000
4265	chic	69.0	54.20000
4266	chic	70.0	61.40000
4267	chic	81.0	70.40000
4268	chic	66.0	57.10000
4269	chic	63.0	46.90000
4270	chic	63.0	50.30000
4271	chic	63.0	52.80000
4272	chic	71.0	53.10000
4273	chic	74.0	56.70000

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4275	chic	72.0	67.50000
4276	chic	70.0	67.00000
4277	chic	72.0	64.90000
4278	chic	68.0	58.40000
4279	chic	68.0	57.80000
4280	chic	72.0	60.90000
4281	chic	76.0	66.30000
4282	chic	63.0	51.80000
4283	chic	58.0	47.70000
4284	chic	56.0	41.50000
4285	chic	59.0	53.60000
4286	chic	66.0	64.10000
4287	chic	79.0	65.80000
4288	chic	73.0	63.80000
4289	chic	63.0	52.50000
4290	chic	63.0	57.00000
4291	chic	64.0	57.90000
4292	chic	53.0	35.70000
4293	chic	49.0	41.90000
4294	chic	55.0	49.30000
4295	chic	60.0	50.30000
4296	chic	65.0	61.40000
4297	chic	65.0	61.20000
4298	chic	56.0	49.20000
4299	chic	54.0	44.80000
4300	chic	53.0	45.60000
4301	chic	53.0	46.40000
4302	chic	56.0	49.10000
4303	chic	60.0	46.90000
4304	chic	49.0	36.80000
4305	chic	48.0	40.40000
4306	chic	58.0	48.40000
4307	chic	68.0	57.20000
4308	chic	67.0	64.40000
4309	chic	57.0	48.10000
4310	chic	52.0	39.20000
4311	chic	50.0	33.90000
4312	chic	48.0	34.50000
4313	chic	45.0	31.10000
4314	chic	52.0	36.30000
4315	chic	54.0	38.90000
4316	chic	55.0	44.80000

4317	chic	62.0	49.70000
4318	chic	63.0	58.60000
4319	chic	54.0	52.30000
4320	chic	52.0	51.90000
4321	chic	61.0	58.40000
4322	chic	57.0	52.70000
4323	chic	54.0	50.00000
4324	chic	49.0	39.80000
4325	chic	41.0	33.40000
4326	chic	37.0	32.80000
4327	chic	39.0	27.40000
4328	chic	38.0	25.80000
4329	chic	35.0	26.10000
4330	chic	37.0	31.80000
4331	chic	43.0	37.30000
4332	chic	52.0	41.20000
4333	chic	41.0	28.50000
4334	chic	40.0	31.10000
4335	chic	43.0	34.60000
4336	chic	50.0	40.20000
4337	chic	43.0	32.20000
4338	chic	48.0	39.10000
4339	chic	42.0	34.60000
4340	chic	48.0	38.70000
4341	chic	45.0	31.10000
4342	chic	31.0	24.40000
4343	chic	34.0	24.40000
4344	chic	49.0	34.90000
4345	chic	50.0	35.40000
4346	chic	46.0	30.10000
4347	chic	50.0	35.80000
4348	chic	50.0	32.30000
4349	chic	48.0	35.70000
4350	chic	54.0	48.60000
4351	chic	63.0	58.40000
4352	chic	52.0	50.70000
4353	chic	45.0	37.70000
4354	chic	55.0	45.80000
4355	chic	61.0	54.90000
4356	chic	61.0	59.30000
4357	chic	59.0	56.60000
4358	chic	50.0	49.20000
4359	chic	39.0	31.60000

4360	chic	38.0	29.00000
4361	chic	39.0	29.50000
4362	chic	35.0	29.00000
4363	chic	39.0	26.10000
4364	chic	38.0	26.10000
4365	chic	38.0	31.20000
4366	chic	36.0	32.10000
4367	chic	44.0	31.20000
4368	chic	37.0	27.20000
4369	chic	32.0	22.30000
4370	chic	43.0	30.10000
4371	chic	35.0	26.30000
4372	chic	31.0	27.60000
4373	chic	23.0	18.80000
4374	chic	10.0	-1.90000
4375	chic	17.0	5.70000
4376	chic	19.0	4.80000
4377	chic	25.0	11.10000
4378	chic	26.0	12.30000
4379	chic	36.0	24.00000
4380	chic	29.0	23.30000
4381	chic	22.0	18.40000
4382	chic	7.0	-1.60000
4383	chic	13.0	5.10000
4384	chic	14.0	7.70000
4385	chic	22.0	21.00000
4386	chic	16.0	8.40000
4387	chic	-2.0	-6.90000
4388	chic	1.0	-6.10000
4389	chic	12.0	9.80000
4390	chic	1.0	-6.70000
4391	chic	16.0	10.90000
4392	chic	4.0	-1.10000
4393	chic	6.0	-0.40000
4394	chic	5.0	0.00000
4395	chic	20.0	14.10000
4396	chic	20.0	15.40000
4397	chic	18.0	12.60000
4398	chic	23.0	20.20000
4399	chic	30.0	29.80000
4400	chic	28.0	31.30000
4401	chic	29.0	25.80000
4402	chic	27.0	20.00000

4403	chic	30.0	28.80000
4404	chic	37.0	32.60000
4405	chic	42.0	41.50000
4406	chic	39.0	35.30000
4407	chic	33.0	30.00000
4408	chic	28.0	24.60000
4409	chic	29.0	23.40000
4410	chic	42.0	34.00000
4411	chic	33.0	27.40000
4412	chic	33.0	25.60000
4413	chic	34.0	28.00000
4414	chic	36.0	27.50000
4415	chic	40.0	38.40000
4416	chic	38.0	32.40000
4417	chic	41.0	27.40000
4418	chic	31.0	21.10000
4419	chic	31.0	24.20000
4420	chic	40.0	30.40000
4421	chic	33.0	29.80000
4422	chic	37.0	36.20000
4423	chic	44.0	29.80000
4424	chic	44.0	27.20000
4425	chic	49.0	47.80000
4426	chic	23.0	13.10000
4427	chic	23.0	10.80000
4428	chic	34.0	21.90000
4429	chic	45.0	30.60000
4430	chic	39.0	32.10000
4431	chic	27.0	20.40000
4432	chic	29.0	21.80000
4433	chic	28.0	20.90000
4434	chic	25.0	17.00000
4435	chic	28.0	15.70000
4436	chic	26.0	9.40000
4437	chic	29.0	14.90000
4438	chic	27.0	22.90000
4439	chic	33.0	26.50000
4440	chic	36.0	27.90000
4441	chic	43.0	39.20000
4442	chic	37.0	32.10000
4443	chic	38.0	25.30000
4444	chic	37.0	33.10000
4445	chic	31.0	18.70000

4446	chic	30.0	18.40000
4447	chic	35.0	28.70000
4448	chic	25.0	19.70000
4449	chic	21.0	14.40000
4450	chic	24.0	16.20000
4451	chic	29.0	26.40000
4452	chic	29.0	20.30000
4453	chic	28.0	20.40000
4454	chic	27.0	19.60000
4455	chic	28.0	18.10000
4456	chic	32.0	18.90000
4457	chic	31.0	19.20000
4458	chic	43.0	29.80000
4459	chic	50.0	40.70000
4460	chic	38.0	27.10000
4461	chic	36.0	23.70000
4462	chic	39.0	27.20000
4463	chic	38.0	23.20000
4464	chic	36.0	21.30000
4465	chic	38.0	21.00000
4466	chic	35.0	21.90000
4467	chic	32.0	23.30000
4468	chic	35.0	25.90000
4469	chic	41.0	26.30000
4470	chic	43.0	33.70000
4471	chic	48.0	24.50000
4472	chic	55.0	28.50000
4473	chic	60.0	41.30000
4474	chic	58.0	51.70000
4475	chic	64.0	54.60000
4476	chic	63.0	57.80000
4477	chic	56.0	47.30000
4478	chic	50.0	43.20000
4479	chic	53.0	42.40000
4480	chic	55.0	42.70000
4481	chic	55.0	43.70000
4482	chic	45.0	40.00000
4483	chic	47.0	35.00000
4484	chic	46.0	39.70000
4485	chic	45.0	32.10000
4486	chic	50.0	33.30000
4487	chic	49.0	26.00000
4488	chic	49.0	39.40000

4489	chic	44.0	37.30000
4490	chic	44.0	34.00000
4491	chic	42.0	37.10000
4492	chic	42.0	36.50000
4493	chic	45.0	39.40000
4494	chic	54.0	48.00000
4495	chic	48.0	47.20000
4496	chic	43.0	35.60000
4497	chic	44.0	24.60000
4498	chic	48.0	30.50000
4499	chic	51.0	33.40000
4500	chic	50.0	41.50000
4501	chic	51.0	38.40000
4502	chic	52.0	32.70000
4503	chic	51.0	29.00000
4504	chic	56.0	30.50000
4505	chic	58.0	37.30000
4506	chic	64.0	42.80000
4507	chic	67.0	52.20000
4508	chic	70.0	57.20000
4509	chic	58.0	52.80000
4510	chic	56.0	46.90000
4511	chic	53.0	48.20000
4512	chic	51.0	42.70000
4513	chic	58.0	46.50000
4514	chic	67.0	52.10000
4515	chic	62.0	52.70000
4516	chic	51.0	41.00000
4517	chic	53.0	41.30000
4518	chic	60.0	54.80000
4519	chic	69.0	63.10000
4520	chic	69.0	62.60000
4521	chic	61.0	52.30000
4522	chic	61.0	44.80000
4523	chic	64.0	49.10000
4524	chic	66.0	56.80000
4525	chic	59.0	52.80000
4526	chic	60.0	50.70000
4527	chic	51.0	40.70000
4528	chic	56.0	38.70000
4529	chic	60.0	40.40000
4530	chic	64.0	41.30000
4531	chic	75.0	53.80000

4532	chic	76.0	54.40000
4533	chic	70.0	56.00000
4534	chic	73.0	63.40000
4535	chic	65.0	59.70000
4536	chic	64.0	57.70000
4537	chic	58.0	47.70000
4538	chic	64.0	56.60000
4539	chic	75.0	68.00000
4540	chic	80.0	69.90000
4541	chic	81.0	63.80000
4542	chic	80.0	63.20000
4543	chic	79.0	63.20000
4544	chic	79.0	66.70000
4545	chic	78.0	67.50000
4546	chic	75.0	68.20000
4547	chic	65.0	63.50000
4548	chic	66.0	55.00000
4549	chic	58.0	37.90000
4550	chic	61.0	44.70000
4551	chic	57.0	42.90000
4552	chic	59.0	47.60000
4553	chic	68.0	49.90000
4554	chic	67.0	54.40000
4555	chic	72.0	59.80000
4556	chic	74.0	66.20000
4557	chic	76.0	67.30000
4558	chic	76.0	65.90000
4559	chic	75.0	58.20000
4560	chic	76.0	66.20000
4561	chic	78.0	70.60000
4562	chic	77.0	69.20000
4563	chic	66.0	51.10000
4564	chic	68.0	54.70000
4565	chic	74.0	64.30000
4566	chic	77.0	67.30000
4567	chic	84.0	76.20000
4568	chic	86.0	74.10000
4569	chic	87.0	74.40000
4570	chic	79.0	62.70000
4571	chic	75.0	53.70000
4572	chic	76.0	60.40000
4573	chic	76.0	65.00000
4574	chic	64.0	51.50000

4575	chic	67.0	50.30000
4576	chic	68.0	50.80000
4577	chic	70.0	55.70000
4578	chic	74.0	59.20000
4579	chic	78.0	62.80000
4580	chic	82.0	68.30000
4581	chic	75.0	70.60000
4582	chic	77.0	66.60000
4583	chic	79.0	70.10000
4584	chic	76.0	70.40000
4585	chic	83.0	72.10000
4586	chic	82.0	73.40000
4587	chic	83.0	72.80000
4588	chic	82.0	73.20000
4589	chic	85.0	70.60000
4590	chic	80.0	69.50000
4591	chic	79.0	68.30000
4592	chic	82.0	71.80000
4593	chic	83.0	76.60000
4594	chic	90.0	77.10000
4595	chic	83.0	71.40000
4596	chic	74.0	60.10000
4597	chic	71.0	56.30000
4598	chic	71.0	59.00000
4599	chic	76.0	58.30000
4600	chic	73.0	55.60000
4601	chic	76.0	62.00000
4602	chic	72.0	67.70000
4603	chic	66.0	57.00000
4604	chic	66.0	56.20000
4605	chic	78.0	63.80000
4606	chic	75.0	61.10000
4607	chic	70.0	65.90000
4608	chic	72.0	65.60000
4609	chic	64.0	52.70000
4610	chic	66.0	54.40000
4611	chic	73.0	57.90000
4612	chic	75.0	60.60000
4613	chic	67.0	62.70000
4614	chic	68.0	62.30000
4615	chic	67.0	57.20000
4616	chic	65.0	57.40000
4617	chic	67.0	57.10000

4618	chic	72.0	64.20000
4619	chic	71.0	67.10000
4620	chic	70.0	66.10000
4621	chic	72.0	64.60000
4622	chic	74.0	66.10000
4623	chic	80.0	69.70000
4624	chic	69.0	56.00000
4625	chic	62.0	51.80000
4626	chic	65.0	54.40000
4627	chic	70.0	57.30000
4628	chic	74.0	62.10000
4629	chic	76.0	61.50000
4630	chic	79.0	61.60000
4631	chic	77.0	63.50000
4632	chic	66.0	54.90000
4633	chic	65.0	55.20000
4634	chic	71.0	54.20000
4635	chic	62.0	46.60000
4636	chic	62.0	45.20000
4637	chic	64.0	48.70000
4638	chic	68.0	58.90000
4639	chic	59.0	49.90000
4640	chic	59.0	44.40000
4641	chic	55.0	46.20000
4642	chic	59.0	47.80000
4643	chic	59.0	48.10000
4644	chic	62.0	49.00000
4645	chic	64.0	53.50000
4646	chic	58.0	45.90000
4647	chic	51.0	44.60000
4648	chic	57.0	39.80000
4649	chic	66.0	46.30000
4650	chic	57.0	47.10000
4651	chic	62.0	48.40000
4652	chic	72.0	49.30000
4653	chic	66.0	58.70000
4654	chic	58.0	56.70000
4655	chic	56.0	43.70000
4656	chic	56.0	38.90000
4657	chic	51.0	35.00000
4658	chic	46.0	40.80000
4659	chic	44.0	40.20000
4660	chic	47.0	38.00000

4661	chic	51.0	36.80000
4662	chic	52.0	41.80000
4663	chic	59.0	42.40000
4664	chic	61.0	54.10000
4665	chic	59.0	57.60000
4666	chic	66.0	58.00000
4667	chic	55.0	46.10000
4668	chic	62.0	47.20000
4669	chic	56.0	44.00000
4670	chic	48.0	34.80000
4671	chic	64.0	46.30000
4672	chic	58.0	54.20000
4673	chic	45.0	33.80000
4674	chic	44.0	34.40000
4675	chic	50.0	33.50000
4676	chic	44.0	30.70000
4677	chic	52.0	36.30000
4678	chic	51.0	26.60000
4679	chic	43.0	25.70000
4680	chic	40.0	22.10000
4681	chic	50.0	28.10000
4682	chic	53.0	29.40000
4683	chic	48.0	37.00000
4684	chic	64.0	43.30000
4685	chic	62.0	47.00000
4686	chic	66.0	50.70000
4687	chic	58.0	49.30000
4688	chic	59.0	46.90000
4689	chic	42.0	22.60000
4690	chic	37.0	17.70000
4691	chic	46.0	24.20000
4692	chic	55.0	34.30000
4693	chic	45.0	20.30000
4694	chic	44.0	32.30000
4695	chic	55.0	41.00000
4696	chic	67.0	48.50000
4697	chic	58.0	46.70000
4698	chic	44.0	38.00000
4699	chic	47.0	41.20000
4700	chic	54.0	43.80000
4701	chic	45.0	30.50000
4702	chic	41.0	26.30000
4703	chic	38.0	29.30000

4704	chic	40.0	25.00000
4705	chic	58.0	36.20000
4706	chic	49.0	37.70000
4707	chic	39.0	35.20000
4708	chic	42.0	42.00000
4709	chic	54.0	46.00000
4710	chic	52.0	50.00000
4711	chic	40.0	30.70000
4712	chic	36.0	27.80000
4713	chic	37.0	32.20000
4714	chic	41.0	30.10000
4715	chic	34.0	25.00000
4716	chic	32.0	19.90000
4717	chic	30.0	15.30000
4718	chic	36.0	20.80000
4719	chic	50.0	32.90000
4720	chic	53.0	48.00000
4721	chic	49.0	48.50000
4722	chic	39.0	34.30000
4723	chic	29.0	22.60000
4724	chic	33.0	29.10000
4725	chic	38.0	33.50000
4726	chic	43.0	38.60000
4727	chic	31.0	23.40000
4728	chic	31.0	25.00000
4729	chic	35.0	30.60000
4730	chic	35.0	31.20000
4731	chic	38.0	34.20000
4732	chic	36.0	33.90000
4733	chic	27.0	20.30000
4734	chic	23.0	17.90000
4735	chic	19.0	14.60000
4736	chic	32.0	29.10000
4737	chic	21.0	11.00000
4738	chic	8.0	-1.60000
4739	chic	13.0	5.80000
4740	chic	10.0	3.80000
4741	chic	14.0	4.70000
4742	chic	19.0	14.00000
4743	chic	28.0	14.30000
4744	chic	19.0	11.60000
4745	chic	21.0	16.40000
4746	chic	36.0	30.20000

4747	chic	34.0	28.90000
4748	chic	34.0	25.90000
4749	chic	42.0	32.20000
4750	chic	48.0	42.30000
4751	chic	35.0	33.70000
4752	chic	28.0	22.20000
4753	chic	20.0	16.60000
4754	chic	34.0	25.30000
4755	chic	25.0	13.30000
4756	chic	37.0	28.50000
4757	chic	39.0	38.50000
4758	chic	42.0	34.90000
4759	chic	33.0	21.50000
4760	chic	31.0	21.70000
4761	chic	25.0	18.40000
4762	chic	20.0	14.50000
4763	chic	34.0	24.20000
4764	chic	31.0	19.40000
4765	chic	22.0	12.70000
4766	chic	25.0	20.90000
4767	chic	21.0	15.70000
4768	chic	10.0	2.10000
4769	chic	5.0	-3.20000
4770	chic	17.0	14.50000
4771	chic	16.0	4.30000
4772	chic	6.0	-0.60000
4773	chic	17.0	8.50000
4774	chic	15.0	5.40000
4775	chic	20.0	11.50000
4776	chic	21.0	14.50000
4777	chic	24.0	19.10000
4778	chic	28.0	23.30000
4779	chic	20.0	14.40000
4780	chic	25.0	16.50000
4781	chic	21.0	16.00000
4782	chic	33.0	26.70000
4783	chic	25.0	19.00000
4784	chic	21.0	16.50000
4785	chic	23.0	21.60000
4786	chic	26.0	23.30000
4787	chic	22.0	21.60000
4788	chic	41.0	30.20000
4789	chic	35.0	32.10000

4790	chic	24.0	13.90000
4791	chic	24.0	14.50000
4792	chic	30.0	26.80000
4793	chic	26.0	22.50000
4794	chic	31.0	28.10000
4795	chic	28.0	19.00000
4796	chic	27.0	18.60000
4797	chic	30.0	27.80000
4798	chic	29.0	21.70000
4799	chic	27.0	19.70000
4800	chic	35.0	29.10000
4801	chic	49.0	40.30000
4802	chic	59.0	40.60000
4803	chic	49.0	49.90000
4804	chic	55.0	50.30000
4805	chic	56.0	51.70000
4806	chic	45.0	30.70000
4807	chic	43.0	26.80000
4808	chic	54.0	34.40000
4809	chic	46.0	32.90000
4810	chic	33.0	23.80000
4811	chic	35.0	24.10000
4812	chic	46.0	30.70000
4813	chic	52.0	36.50000
4814	chic	51.0	32.10000
4815	chic	66.0	49.70000
4816	chic	67.0	50.90000
4817	chic	46.0	32.70000
4818	chic	30.0	21.90000
4819	chic	30.0	19.00000
4820	chic	34.0	19.30000
4821	chic	39.0	33.40000
4822	chic	45.0	32.60000
4823	chic	50.0	41.90000
4824	chic	33.0	22.30000
4825	chic	32.0	18.50000
4826	chic	34.0	20.80000
4827	chic	39.0	34.10000
4828	chic	49.0	46.40000
4829	chic	47.0	45.30000
4830	chic	51.0	44.00000
4831	chic	50.0	43.70000
4832	chic	57.0	49.00000

4833	chic	53.0	32.80000
4834	chic	52.0	31.80000
4835	chic	47.0	31.20000
4836	chic	39.0	31.10000
4837	chic	40.0	29.30000
4838	chic	40.0	31.00000
4839	chic	45.0	28.10000
4840	chic	52.0	33.90000
4841	chic	51.0	42.50000
4842	chic	52.0	34.30000
4843	chic	38.0	19.70000
4844	chic	44.0	23.80000
4845	chic	53.0	27.30000
4846	chic	41.0	32.70000
4847	chic	34.0	23.00000
4848	chic	45.0	26.70000
4849	chic	37.0	28.10000
4850	chic	34.0	33.10000
4851	chic	39.0	25.30000
4852	chic	49.0	28.30000
4853	chic	58.0	42.80000
4854	chic	56.0	46.90000
4855	chic	44.0	40.90000
4856	chic	41.0	38.90000
4857	chic	48.0	42.50000
4858	chic	52.0	48.80000
4859	chic	53.0	50.20000
4860	chic	44.0	35.00000
4861	chic	48.0	31.40000
4862	chic	47.0	40.30000
4863	chic	52.0	32.60000
4864	chic	49.0	23.40000
4865	chic	52.0	24.20000
4866	chic	53.0	26.30000
4867	chic	54.0	32.20000
4868	chic	48.0	39.10000
4869	chic	54.0	40.00000
4870	chic	57.0	49.20000
4871	chic	57.0	43.10000
4872	chic	63.0	48.60000
4873	chic	72.0	58.10000
4874	chic	74.0	59.30000
4875	chic	74.0	61.30000

4876	chic	71.0	65.00000
4877	chic	76.0	67.50000
4878	chic	59.0	55.00000
4879	chic	55.0	45.00000
4880	chic	67.0	59.90000
4881	chic	73.0	66.80000
4882	chic	53.0	38.40000
4883	chic	52.0	33.00000
4884	chic	57.0	35.00000
4885	chic	61.0	49.60000
4886	chic	61.0	56.50000
4887	chic	58.0	51.80000
4888	chic	46.0	40.30000
4889	chic	55.0	37.80000
4890	chic	57.0	48.60000
4891	chic	67.0	56.40000
4892	chic	69.0	52.00000
4893	chic	68.0	42.20000
4894	chic	64.0	36.50000
4895	chic	61.0	48.50000
4896	chic	60.0	55.90000
4897	chic	55.0	52.00000
4898	chic	56.0	47.40000
4899	chic	65.0	61.40000
4900	chic	67.0	64.80000
4901	chic	73.0	65.50000
4902	chic	60.0	52.80000
4903	chic	55.0	44.90000
4904	chic	56.0	50.60000
4905	chic	54.0	47.00000
4906	chic	60.0	41.80000
4907	chic	64.0	46.80000
4908	chic	78.0	59.80000
4909	chic	77.0	57.50000
4910	chic	80.0	67.00000
4911	chic	70.0	66.80000
4912	chic	57.0	56.00000
4913	chic	69.0	63.80000
4914	chic	72.0	64.60000
4915	chic	70.0	58.80000
4916	chic	67.0	60.30000
4917	chic	60.0	45.30000
4918	chic	65.0	46.90000

4919	chic	66.0	57.00000
4920	chic	74.0	68.60000
4921	chic	74.0	58.00000
4922	chic	72.0	56.20000
4923	chic	71.0	61.70000
4924	chic	71.0	67.50000
4925	chic	75.0	65.10000
4926	chic	72.0	63.90000
4927	chic	68.0	52.60000
4928	chic	62.0	57.00000
4929	chic	66.0	52.30000
4930	chic	66.0	54.70000
4931	chic	71.0	61.20000
4932	chic	74.0	70.00000
4933	chic	68.0	64.70000
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4935	chic	76.0	65.00000
4936	chic	74.0	64.20000
4937	chic	70.0	58.00000
4938	chic	73.0	64.00000
4939	chic	81.0	70.70000
4940	chic	73.0	68.30000
4941	chic	69.0	64.00000
4942	chic	72.0	58.10000
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4944	chic	77.0	63.40000
4945	chic	73.0	60.10000
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4949	chic	63.0	53.90000
4950	chic	67.0	56.30000
4951	chic	67.0	51.10000
4952	chic	63.0	53.90000
4953	chic	63.0	49.70000
4954	chic	66.0	53.60000
4955	chic	69.0	56.70000
4956	chic	73.0	60.80000
4957	chic	77.0	65.80000
4958	chic	74.0	65.50000
4959	chic	73.0	65.90000
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4961	chic	70.0	66.20000

4962	chic	73.0	67.20000
4963	chic	76.0	64.60000
4964	chic	63.0	54.50000
4965	chic	67.0	53.80000
4966	chic	67.0	61.30000
4967	chic	78.0	70.60000
4968	chic	76.0	66.50000
4969	chic	77.0	69.40000
4970	chic	79.0	67.00000
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4973	chic	71.0	61.00000
4974	chic	74.0	62.50000
4975	chic	76.0	67.90000
4976	chic	82.0	68.80000
4977	chic	70.0	54.90000
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4979	chic	67.0	59.50000
4980	chic	64.0	56.00000
4981	chic	65.0	54.00000
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4984	chic	76.0	69.00000
4985	chic	71.0	58.50000
4986	chic	70.0	59.00000
4987	chic	73.0	64.60000
4988	chic	72.0	64.30000
4989	chic	75.0	64.20000
4990	chic	77.0	68.70000
4991	chic	77.0	70.60000
4992	chic	80.0	68.20000
4993	chic	80.0	69.00000
4994	chic	79.0	67.30000
4995	chic	77.0	66.80000
4996	chic	66.0	55.10000
4997	chic	63.0	45.20000
4998	chic	61.0	48.40000
4999	chic	74.0	60.50000
5000	chic	75.0	66.80000
5001	chic	76.0	67.40000
5002	chic	78.0	70.50000
5003	chic	75.0	67.90000
5004	chic	63.0	52.90000

5005	chic	63.0	49.70000
5006	chic	65.0	52.50000
5007	chic	56.0	40.10000
5008	chic	56.0	41.00000
5009	chic	68.0	47.70000
5010	chic	69.0	53.20000
5011	chic	75.0	51.10000
5012	chic	58.0	53.00000
5013	chic	54.0	40.50000
5014	chic	58.0	51.30000
5015	chic	63.0	58.20000
5016	chic	53.0	46.20000
5017	chic	49.0	40.20000
5018	chic	56.0	41.20000
5019	chic	59.0	46.60000
5020	chic	55.0	41.10000
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5022	chic	65.0	48.10000
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5024	chic	69.0	53.80000
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5032	chic	49.0	27.00000
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5040	chic	54.0	45.70000
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5042	chic	66.0	49.10000
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5045	chic	65.0	60.50000
5046	chic	63.0	60.30000
5047	chic	62.0	57.90000

5048	chic	68.0	58.30000
5049	chic	61.0	53.40000
5050	chic	50.0	41.40000
5051	chic	46.0	36.80000
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5055	chic	55.0	48.60000
5056	chic	48.0	34.80000
5057	chic	46.0	31.40000
5058	chic	46.0	31.00000
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5060	chic	49.0	41.90000
5061	chic	40.0	31.50000
5062	chic	39.0	37.00000
5063	chic	37.0	31.60000
5064	chic	38.0	32.10000
5065	chic	45.0	37.30000
5066	chic	36.0	29.70000
5067	chic	32.0	26.40000
5068	chic	31.0	23.60000
5069	chic	36.0	29.20000
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5071	chic	27.0	18.30000
5072	chic	30.0	22.00000
5073	chic	24.0	17.90000
5074	chic	19.0	8.00000
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5076	chic	29.0	17.00000
5077	chic	32.0	19.20000
5078	chic	38.0	32.60000
5079	chic	39.0	36.60000
5080	chic	34.0	30.50000
5081	chic	34.0	29.70000
5082	chic	35.0	33.10000
5083	chic	34.0	30.70000
5084	chic	34.0	24.80000
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5086	chic	28.0	19.30000
5087	chic	32.0	24.00000
5088	chic	21.0	2.80000
5089	chic	15.0	8.00000
5090	chic	25.0	23.50000

5091	chic	18.0	11.80000
5092	chic	16.0	13.10000
5093	chic	30.0	24.80000
5094	chic	23.0	21.20000
5095	chic	4.0	0.30000
5096	chic	8.0	7.90000
5097	chic	17.0	17.10000
5098	chic	17.0	17.40000
5099	chic	25.0	27.00000
5100	chic	8.0	0.60000
5101	chic	8.0	3.50000
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5103	chic	6.0	4.70000
5104	chic	6.0	0.10000
5105	chic	-1.0	-7.10000
5106	chic	8.0	5.10000
5107	chic	5.0	-1.40000
5108	chic	5.0	-1.70000
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5110	chic	12.0	7.60000
5111	chic	13.0	9.00000
5112	chic	21.0	16.90000
5113	chic	27.0	23.00000
5114	chic	16.0	16.30000
5115	chic	15.0	9.90000
5116	chic	12.0	6.10000
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5133	chic	22.0	17.80000

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5136	chic	18.0	14.60000
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5139	chic	19.0	11.00000
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5143	chic	36.0	33.00000
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5146	chic	18.0	15.30000
5147	chic	5.0	-1.70000
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5152	chic	26.0	24.70000
5153	chic	44.0	42.20000
5154	chic	37.0	35.90000
5155	chic	16.0	7.20000
5156	chic	19.0	12.40000
5157	chic	29.0	23.20000
5158	chic	35.0	29.70000
5159	chic	33.0	31.10000
5160	chic	29.0	23.90000
5161	chic	23.0	17.30000
5162	chic	13.0	0.30000
5163	chic	18.0	6.10000
5164	chic	35.0	26.20000
5165	chic	27.0	17.10000
5166	chic	15.0	-0.90000
5167	chic	23.0	18.60000
5168	chic	24.0	14.80000
5169	chic	43.0	35.70000
5170	chic	42.0	29.10000
5171	chic	31.0	22.00000
5172	chic	23.0	8.20000
5173	chic	20.0	2.00000
5174	chic	31.0	15.50000
5175	chic	35.0	29.00000
5176	chic	36.0	25.10000

5177	chic	30.0	21.00000
5178	chic	23.0	11.60000
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5189	chic	32.0	30.00000
5190	chic	32.0	24.50000
5191	chic	32.0	21.50000
5192	chic	36.0	23.10000
5193	chic	38.0	25.20000
5194	chic	41.0	26.60000
5195	chic	42.0	33.40000
5196	chic	42.0	30.70000
5197	chic	29.0	12.60000
5198	chic	22.0	7.80000
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5207	chic	41.0	32.50000
5208	chic	42.0	30.90000
5209	chic	48.0	37.40000
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5211	chic	64.0	48.80000
5212	chic	61.0	41.70000
5213	chic	52.0	43.30000
5214	chic	47.0	43.80000
5215	chic	64.0	58.00000
5216	chic	57.0	40.40000
5217	chic	48.0	36.40000
5218	chic	52.0	35.10000
5219	chic	49.0	39.50000

5220	chic	36.0	24.00000
5221	chic	38.0	24.00000
5222	chic	41.0	24.40000
5223	chic	51.0	31.70000
5224	chic	64.0	54.50000
5225	chic	69.0	58.80000
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5227	chic	58.0	50.20000
5228	chic	52.0	31.10000
5229	chic	51.0	38.30000
5230	chic	61.0	43.30000
5231	chic	52.0	32.50000
5232	chic	53.0	35.80000
5233	chic	61.0	34.50000
5234	chic	68.0	45.30000
5235	chic	73.0	53.20000
5236	chic	73.0	53.40000
5237	chic	72.0	52.60000
5238	chic	55.0	46.20000
5239	chic	58.0	46.30000
5240	chic	65.0	48.40000
5241	chic	60.0	54.10000
5242	chic	62.0	45.30000
5243	chic	67.0	46.10000
5244	chic	70.0	55.80000
5245	chic	54.0	50.20000
5246	chic	48.0	33.30000
5247	chic	53.0	33.00000
5248	chic	54.0	46.30000
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5250	chic	77.0	62.40000
5251	chic	74.0	61.70000
5252	chic	65.0	40.00000
5253	chic	61.0	41.40000
5254	chic	63.0	48.60000
5255	chic	62.0	56.90000
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5257	chic	54.0	43.50000
5258	chic	51.0	45.90000
5259	chic	51.0	44.70000
5260	chic	48.0	44.30000
5261	chic	55.0	49.20000
5262	chic	59.0	51.80000

5263	chic	53.0	43.60000
5264	chic	53.0	35.10000
5265	chic	53.0	44.90000
5266	chic	57.0	49.50000
5267	chic	53.0	48.00000
5268	chic	52.0	44.50000
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5270	chic	53.0	51.70000
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5272	chic	59.0	53.20000
5273	chic	61.0	51.60000
5274	chic	66.0	55.70000
5275	chic	74.0	62.00000
5276	chic	76.0	66.20000
5277	chic	75.0	65.60000
5278	chic	80.0	69.50000
5279	chic	80.0	68.50000
5280	chic	70.0	62.10000
5281	chic	71.0	57.50000
5282	chic	71.0	55.40000
5283	chic	78.0	61.40000
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5285	chic	70.0	52.90000
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5293	chic	75.0	62.90000
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5296	chic	64.0	52.00000
5297	chic	62.0	42.70000
5298	chic	72.0	63.30000
5299	chic	78.0	58.80000
5300	chic	64.0	49.20000
5301	chic	66.0	49.70000
5302	chic	74.0	71.80000
5303	chic	79.0	63.20000
5304	chic	79.0	67.40000
5305	chic	81.0	61.20000

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5308	chic	68.0	50.90000
5309	chic	74.0	50.40000
5310	chic	74.0	57.20000
5311	chic	75.0	60.50000
5312	chic	79.0	70.00000
5313	chic	78.0	72.90000
5314	chic	77.0	73.00000
5315	chic	82.0	72.20000
5316	chic	83.0	73.40000
5317	chic	82.0	72.00000
5318	chic	83.0	75.10000
5319	chic	79.0	71.80000
5320	chic	71.0	67.50000
5321	chic	73.0	62.90000
5322	chic	71.0	58.40000
5323	chic	72.0	66.20000
5324	chic	78.0	70.30000
5325	chic	80.0	69.90000
5326	chic	83.0	73.10000
5327	chic	84.0	72.90000
5328	chic	79.0	73.70000
5329	chic	75.0	70.50000
5330	chic	76.0	63.80000
5331	chic	76.0	68.50000
5332	chic	81.0	68.10000
5333	chic	85.0	73.70000
5334	chic	85.0	72.60000
5335	chic	84.0	72.60000
5336	chic	70.0	59.90000
5337	chic	69.0	56.00000
5338	chic	72.0	59.30000
5339	chic	67.0	58.60000
5340	chic	66.0	52.10000
5341	chic	67.0	56.00000
5342	chic	68.0	63.70000
5343	chic	70.0	55.60000
5344	chic	66.0	61.00000
5345	chic	68.0	59.90000
5346	chic	69.0	55.80000
5347	chic	72.0	59.70000
5348	chic	77.0	68.10000

5349	chic	72.0	67.70000
5350	chic	74.0	67.70000
5351	chic	74.0	70.20000
5352	chic	75.0	65.10000
5353	chic	74.0	65.20000
5354	chic	68.0	57.30000
5355	chic	69.0	57.70000
5356	chic	77.0	65.10000
5357	chic	68.0	59.90000
5358	chic	60.0	49.80000
5359	chic	64.0	55.00000
5360	chic	74.0	63.00000
5361	chic	67.0	57.80000
5362	chic	66.0	58.50000
5363	chic	73.0	63.50000
5364	chic	78.0	69.50000
5365	chic	72.0	65.10000
5366	chic	64.0	60.90000
5367	chic	65.0	50.60000
5368	chic	64.0	54.90000
5369	chic	69.0	56.80000
5370	chic	63.0	51.60000
5371	chic	59.0	43.80000
5372	chic	58.0	46.80000
5373	chic	60.0	49.30000
5374	chic	59.0	54.30000
5375	chic	62.0	58.30000
5376	chic	62.0	59.90000
5377	chic	63.0	54.60000
5378	chic	62.0	58.50000
5379	chic	63.0	54.40000
5380	chic	58.0	54.50000
5381	chic	50.0	38.20000
5382	chic	49.0	34.40000
5383	chic	60.0	40.20000
5384	chic	54.0	44.90000
5385	chic	54.0	47.40000
5386	chic	56.0	48.80000
5387	chic	58.0	49.70000
5388	chic	64.0	52.70000
5389	chic	64.0	53.70000
5390	chic	66.0	51.50000
5391	chic	55.0	48.70000

5392	chic	46.0	40.60000
5393	chic	40.0	27.90000
5394	chic	41.0	27.60000
5395	chic	52.0	37.90000
5396	chic	65.0	47.60000
5397	chic	60.0	56.60000
5398	chic	58.0	47.10000
5399	chic	56.0	52.30000
5400	chic	60.0	57.20000
5401	chic	53.0	43.30000
5402	chic	47.0	38.10000
5403	chic	45.0	35.10000
5404	chic	42.0	28.60000
5405	chic	51.0	34.70000
5406	chic	53.0	35.40000
5407	chic	56.0	39.30000
5408	chic	59.0	46.20000
5409	chic	56.0	53.30000
5410	chic	62.0	57.70000
5411	chic	52.0	50.30000
5412	chic	38.0	26.10000
5413	chic	39.0	25.50000
5414	chic	38.0	23.60000
5415	chic	43.0	28.00000
5416	chic	52.0	37.50000
5417	chic	50.0	43.90000
5418	chic	59.0	38.00000
5419	chic	62.0	50.40000
5420	chic	56.0	36.80000
5421	chic	51.0	33.60000
5422	chic	49.0	37.50000
5423	chic	43.0	31.00000
5424	chic	48.0	31.10000
5425	chic	56.0	43.30000
5426	chic	45.0	37.90000
5427	chic	40.0	29.80000
5428	chic	49.0	33.40000
5429	chic	43.0	32.50000
5430	chic	42.0	32.30000
5431	chic	52.0	33.40000
5432	chic	57.0	49.10000
5433	chic	61.0	53.50000
5434	chic	50.0	47.00000

5435	chic	52.0	47.40000
5436	chic	56.0	51.70000
5437	chic	46.0	33.90000
5438	chic	36.0	23.20000
5439	chic	44.0	29.70000
5440	chic	48.0	30.30000
5441	chic	52.0	39.90000
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5443	chic	46.0	38.50000
5444	chic	43.0	40.40000
5445	chic	44.0	37.60000
5446	chic	39.0	34.30000
5447	chic	42.0	40.10000
5448	chic	45.0	42.50000
5449	chic	36.0	32.80000
5450	chic	39.0	35.40000
5451	chic	49.0	42.90000
5452	chic	58.0	51.10000
5453	chic	56.0	50.10000
5454	chic	44.0	30.90000
5455	chic	41.0	34.10000
5456	chic	39.0	32.70000
5457	chic	31.0	21.90000
5458	chic	39.0	23.10000
5459	chic	36.0	26.90000
5460	chic	43.0	40.90000
5461	chic	39.0	36.60000
5462	chic	35.0	32.10000
5463	chic	35.0	34.60000
5464	chic	42.0	41.80000
5465	chic	40.0	38.50000
5466	chic	39.0	32.30000
5467	chic	36.0	25.60000
5468	chic	33.0	18.80000
5469	chic	31.0	20.00000
5470	chic	41.0	34.40000
5471	chic	27.0	18.00000
5472	chic	18.0	12.00000
5473	chic	17.0	8.30000
5474	chic	14.0	8.10000
5475	chic	23.0	17.10000
5476	chic	21.0	12.10000
5477	chic	14.0	4.10000

5478	chic	13.0	4.80000
5479	chic	14.0	3.70000
5480	chic	18.0	6.00000
5481	chic	21.0	11.90000
5482	chic	20.0	11.30000
5483	chic	28.0	17.50000
5484	chic	32.0	25.90000
5485	chic	29.0	22.60000
5486	chic	22.0	12.40000
5487	chic	31.0	22.00000
5488	chic	47.0	33.70000
5489	chic	39.0	30.90000
5490	chic	38.0	27.00000
5491	chic	35.0	24.70000
5492	chic	33.0	22.70000
5493	chic	35.0	30.80000
5494	chic	32.0	23.60000
5495	chic	29.0	23.50000
5496	chic	19.0	14.40000
5497	chic	16.0	6.50000
5498	chic	20.0	12.40000
5499	chic	29.0	22.80000
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5501	chic	44.0	24.70000
5502	chic	42.0	39.20000
5503	chic	36.0	24.20000
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5506	chic	49.0	30.30000
5507	chic	41.0	33.50000
5508	chic	34.0	29.60000
5509	chic	32.0	28.30000
5510	chic	32.0	NA
5511	chic	27.0	22.50000
5512	chic	21.0	17.70000
5513	chic	27.0	20.10000
5514	chic	18.0	5.80000
5515	chic	20.0	12.20000
5516	chic	29.0	19.20000
5517	chic	32.0	26.10000
5518	chic	36.0	28.30000
5519	chic	40.0	32.90000
5520	chic	37.0	29.30000

5521	chic	29.0	19.80000
5522	chic	35.0	22.00000
5523	chic	25.0	11.00000
5524	chic	38.0	21.70000
5525	chic	39.0	27.60000
5526	chic	37.0	24.50000
5527	chic	33.0	20.20000
5528	chic	38.0	22.90000
5529	chic	42.0	39.90000
5530	chic	44.0	42.80000
5531	chic	32.0	26.20000
5532	chic	30.0	18.40000
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5534	chic	50.0	31.60000
5535	chic	42.0	30.90000
5536	chic	26.0	19.60000
5537	chic	21.0	10.80000
5538	chic	23.0	14.00000
5539	chic	26.0	17.20000
5540	chic	28.0	27.90000
5541	chic	11.0	3.30000
5542	chic	6.0	-0.60000
5543	chic	23.0	17.90000
5544	chic	35.0	28.10000
5545	chic	36.0	30.60000
5546	chic	51.0	46.50000
5547	chic	42.0	30.90000
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5550	chic	40.0	31.30000
5551	chic	48.0	37.60000
5552	chic	50.0	41.00000
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5554	chic	37.0	26.30000
5555	chic	38.0	30.40000
5556	chic	42.0	32.00000
5557	chic	42.0	35.50000
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5559	chic	28.0	12.90000
5560	chic	26.0	8.10000
5561	chic	39.0	15.80000
5562	chic	34.0	22.90000
5563	chic	28.0	19.10000

5564	chic	32.0	23.70000
5565	chic	36.0	22.10000
5566	chic	40.0	32.60000
5567	chic	41.0	39.30000
5568	chic	43.0	29.20000
5569	chic	38.0	27.30000
5570	chic	34.0	27.10000
5571	chic	39.0	34.50000
5572	chic	35.0	28.10000
5573	chic	31.0	25.00000
5574	chic	33.0	24.80000
5575	chic	34.0	22.80000
5576	chic	42.0	34.50000
5577	chic	49.0	48.30000
5578	chic	43.0	38.80000
5579	chic	49.0	35.60000
5580	chic	63.0	41.30000
5581	chic	57.0	51.40000
5582	chic	52.0	45.50000
5583	chic	59.0	50.30000
5584	chic	75.0	59.00000
5585	chic	78.0	60.80000
5586	chic	75.0	58.10000
5587	chic	76.0	61.10000
5588	chic	56.0	46.80000
5589	chic	45.0	29.60000
5590	chic	41.0	38.30000
5591	chic	40.0	33.50000
5592	chic	46.0	36.90000
5593	chic	58.0	44.50000
5594	chic	46.0	26.50000
5595	chic	45.0	25.70000
5596	chic	48.0	37.40000
5597	chic	50.0	41.40000
5598	chic	51.0	37.80000
5599	chic	54.0	33.80000
5600	chic	53.0	35.30000
5601	chic	49.0	35.30000
5602	chic	46.0	27.00000
5603	chic	52.0	34.60000
5604	chic	59.0	44.60000
5605	chic	68.0	59.80000
5606	chic	56.0	44.90000

5607	chic	55.0	54.20000
5608	chic	58.0	41.80000
5609	chic	56.0	28.10000
5610	chic	51.0	39.20000
5611	chic	48.0	46.80000
5612	chic	50.0	40.60000
5613	chic	54.0	42.20000
5614	chic	58.0	48.20000
5615	chic	55.0	50.20000
5616	chic	41.0	32.70000
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5619	chic	41.0	30.10000
5620	chic	45.0	29.80000
5621	chic	55.0	37.60000
5622	chic	65.0	52.40000
5623	chic	54.0	39.10000
5624	chic	49.0	46.00000
5625	chic	55.0	45.40000
5626	chic	64.0	51.00000
5627	chic	69.0	57.60000
5628	chic	73.0	62.00000
5629	chic	75.0	63.70000
5630	chic	77.0	56.40000
5631	chic	76.0	53.10000
5632	chic	62.0	45.60000
5633	chic	62.0	56.00000
5634	chic	65.0	64.10000
5635	chic	56.0	53.90000
5636	chic	58.0	51.80000
5637	chic	64.0	53.10000
5638	chic	71.0	58.60000
5639	chic	72.0	59.60000
5640	chic	80.0	70.60000
5641	chic	76.0	69.50000
5642	chic	64.0	60.10000
5643	chic	60.0	57.20000
5644	chic	61.0	55.70000
5645	chic	67.0	54.10000
5646	chic	66.0	48.40000
5647	chic	67.0	53.50000
5648	chic	70.0	55.70000
5649	chic	75.0	60.60000

5650	chic	82.0	67.40000
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5652	chic	80.0	65.40000
5653	chic	82.0	63.50000
5654	chic	78.0	63.90000
5655	chic	81.0	70.30000
5656	chic	79.0	66.40000
5657	chic	74.0	64.30000
5658	chic	74.0	60.30000
5659	chic	74.0	63.60000
5660	chic	81.0	73.10000
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5662	chic	84.0	65.80000
5663	chic	84.0	70.00000
5664	chic	80.0	68.30000
5665	chic	75.0	60.70000
5666	chic	75.0	61.00000
5667	chic	77.0	64.60000
5668	chic	81.0	70.40000
5669	chic	74.0	70.20000
5670	chic	74.0	60.10000
5671	chic	69.0	52.90000
5672	chic	68.0	53.50000
5673	chic	70.0	53.40000
5674	chic	72.0	53.00000
5675	chic	76.0	60.40000
5676	chic	79.0	62.70000
5677	chic	78.0	66.30000
5678	chic	82.0	66.20000
5679	chic	74.0	65.10000
5680	chic	76.0	66.70000
5681	chic	87.0	74.90000
5682	chic	83.0	70.30000
5683	chic	70.0	57.40000
5684	chic	71.0	52.60000
5685	chic	73.0	64.80000
5686	chic	79.0	71.70000
5687	chic	80.0	73.80000
5688	chic	81.0	74.60000
5689	chic	77.0	71.40000
5690	chic	80.0	68.90000
5691	chic	82.0	68.10000
5692	chic	85.0	74.00000

5693	chic	72.0	62.20000
5694	chic	75.0	66.90000
5695	chic	82.0	72.10000
5696	chic	77.0	68.40000
5697	chic	69.0	56.60000
5698	chic	67.0	54.90000
5699	chic	69.0	58.10000
5700	chic	70.0	58.40000
5701	chic	74.0	62.60000
5702	chic	80.0	67.40000
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5704	chic	76.0	70.00000
5705	chic	70.0	63.80000
5706	chic	74.0	68.00000
5707	chic	75.0	69.00000
5708	chic	76.0	69.30000
5709	chic	66.0	53.40000
5710	chic	66.0	61.30000
5711	chic	66.0	58.00000
5712	chic	75.0	70.00000
5713	chic	74.0	69.90000
5714	chic	73.0	70.20000
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5717	chic	74.0	65.60000
5718	chic	74.0	68.00000
5719	chic	72.0	64.70000
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5722	chic	73.0	63.50000
5723	chic	74.0	66.20000
5724	chic	74.0	68.80000
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5726	chic	72.0	57.00000
5727	chic	72.0	60.50000
5728	chic	71.0	61.00000
5729	chic	74.0	61.80000
5730	chic	76.0	66.00000
5731	chic	78.0	69.50000
5732	chic	76.0	64.90000
5733	chic	64.0	50.80000
5734	chic	64.0	52.60000
5735	chic	64.0	55.00000

5736	chic	68.0	57.30000
5737	chic	63.0	56.40000
5738	chic	62.0	51.90000
5739	chic	65.0	56.20000
5740	chic	71.0	66.10000
5741	chic	76.0	71.50000
5742	chic	67.0	66.60000
5743	chic	69.0	56.70000
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5745	chic	54.0	41.60000
5746	chic	52.0	41.50000
5747	chic	59.0	47.60000
5748	chic	62.0	53.80000
5749	chic	60.0	55.20000
5750	chic	62.0	57.00000
5751	chic	72.0	63.70000
5752	chic	77.0	56.90000
5753	chic	75.0	64.80000
5754	chic	66.0	62.70000
5755	chic	61.0	58.50000
5756	chic	63.0	59.30000
5757	chic	55.0	44.20000
5758	chic	58.0	45.70000
5759	chic	48.0	33.40000
5760	chic	56.0	37.40000
5761	chic	57.0	48.50000
5762	chic	62.0	51.10000
5763	chic	61.0	50.60000
5764	chic	61.0	54.10000
5765	chic	42.0	27.50000
5766	chic	44.0	27.10000
5767	chic	50.0	33.50000
5768	chic	42.0	30.90000
5769	chic	41.0	35.80000
5770	chic	49.0	42.00000
5771	chic	42.0	32.40000
5772	chic	41.0	31.20000
5773	chic	45.0	35.30000
5774	chic	44.0	34.80000
5775	chic	43.0	37.80000
5776	chic	44.0	38.30000
5777	chic	45.0	43.20000
5778	chic	43.0	39.80000

5779	chic	42.0	31.00000
5780	chic	44.0	36.30000
5781	chic	44.0	34.50000
5782	chic	45.0	35.00000
5783	chic	40.0	32.10000
5784	chic	33.0	19.90000
5785	chic	38.0	22.60000
5786	chic	36.0	27.90000
5787	chic	39.0	30.00000
5788	chic	38.0	35.40000
5789	chic	40.0	33.70000
5790	chic	44.0	35.60000
5791	chic	56.0	36.70000
5792	chic	58.0	52.70000
5793	chic	51.0	53.10000
5794	chic	39.0	34.50000
5795	chic	40.0	30.50000
5796	chic	46.0	34.20000
5797	chic	47.0	37.90000
5798	chic	38.0	28.60000
5799	chic	34.0	25.80000
5800	chic	32.0	25.80000
5801	chic	35.0	30.40000
5802	chic	44.0	33.50000
5803	chic	44.0	34.00000
5804	chic	39.0	32.80000
5805	chic	31.0	24.90000
5806	chic	39.0	28.50000
5807	chic	32.0	24.40000
5808	chic	26.0	18.10000
5809	chic	25.0	21.60000
5810	chic	22.0	16.80000
5811	chic	24.0	20.20000
5812	chic	40.0	29.40000
5813	chic	29.0	15.30000
5814	chic	25.0	9.80000
5815	chic	29.0	22.20000
5816	chic	19.0	14.60000
5817	chic	19.0	12.80000
5818	chic	20.0	12.60000
5819	chic	21.0	13.60000
5820	chic	35.0	25.80000
5821	chic	22.0	10.90000

5822	chic	20.0	10.30000
5823	chic	34.0	18.80000
5824	chic	32.0	17.40000
5825	chic	34.0	30.00000
5826	chic	36.0	33.30000
5827	chic	35.0	30.10000
5828	chic	38.0	30.00000
5829	chic	32.0	22.30000
5830	chic	34.0	27.10000
5831	chic	46.0	47.50000
5832	chic	45.0	36.10000
5833	chic	32.0	26.00000
5834	chic	31.0	24.10000
5835	chic	28.0	20.40000
5836	chic	28.0	16.60000
5837	chic	26.0	21.10000
5838	chic	26.0	22.40000
5839	chic	24.0	18.50000
5840	chic	26.0	22.70000
5841	chic	31.0	28.20000
5842	chic	31.0	29.30000
5843	chic	49.0	43.50000
5844	chic	35.0	20.70000
5845	chic	30.0	22.50000
5846	chic	30.0	25.00000
5847	chic	27.0	20.90000
5848	chic	25.0	21.60000
5849	chic	31.0	30.20000
5850	chic	30.0	21.50000
5851	chic	37.0	27.70000
5852	chic	46.0	30.60000
5853	chic	37.0	23.80000
5854	chic	21.0	9.10000
5855	chic	14.0	2.30000
5856	chic	21.0	8.10000
5857	chic	24.0	5.70000
5858	chic	14.0	5.80000
5859	chic	13.0	1.30000
5860	chic	22.0	4.60000
5861	chic	17.0	1.90000
5862	chic	15.0	6.60000
5863	chic	16.0	8.90000
5864	chic	17.0	-0.70000

5865	chic	12.0	-5.20000
5866	chic	9.0	-5.30000
5867	chic	4.0	-9.30000
5868	chic	9.0	-4.00000
5869	chic	25.0	11.50000
5870	chic	10.0	-2.50000
5871	chic	7.0	0.10000
5872	chic	26.0	20.50000
5873	chic	21.0	17.10000
5874	chic	25.0	20.30000
5875	chic	34.0	30.40000
5876	chic	33.0	29.50000
5877	chic	37.0	33.90000
5878	chic	39.0	37.00000
5879	chic	21.0	12.50000
5880	chic	18.0	4.50000
5881	chic	24.0	13.90000
5882	chic	13.0	1.80000
5883	chic	20.0	9.50000
5884	chic	15.0	0.00000
5885	chic	18.0	9.80000
5886	chic	19.0	4.90000
5887	chic	13.0	0.30000
5888	chic	22.0	7.40000
5889	chic	25.0	19.90000
5890	chic	24.0	15.10000
5891	chic	23.0	12.90000
5892	chic	27.0	21.80000
5893	chic	31.0	27.40000
5894	chic	33.0	19.60000
5895	chic	39.0	23.80000
5896	chic	37.0	24.80000
5897	chic	28.0	24.20000
5898	chic	20.0	7.10000
5899	chic	15.0	8.80000
5900	chic	8.0	-2.50000
5901	chic	18.0	9.40000
5902	chic	21.0	12.90000
5903	chic	27.0	15.40000
5904	chic	NA	22.90000
5905	chic	21.0	15.00000
5906	chic	20.0	14.60000
5907	chic	25.0	23.30000

5908	chic	22.0	15.60000
5909	chic	20.0	16.80000
5910	chic	29.0	25.50000
5911	chic	28.0	22.30000
5912	chic	10.0	-4.20000
5913	chic	11.0	0.90000
5914	chic	31.0	18.40000
5915	chic	36.0	30.50000
5916	chic	31.0	24.40000
5917	chic	39.0	23.60000
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5920	chic	57.0	45.60000
5921	chic	41.0	38.20000
5922	chic	43.0	36.40000
5923	chic	54.0	47.60000
5924	chic	44.0	35.00000
5925	chic	43.0	35.20000
5926	chic	52.0	34.70000
5927	chic	58.0	41.00000
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5930	chic	54.0	33.80000
5931	chic	49.0	42.70000
5932	chic	32.0	22.30000
5933	chic	33.0	20.90000
5934	chic	40.0	26.70000
5935	chic	60.0	40.00000
5936	chic	54.0	38.40000
5937	chic	42.0	37.90000
5938	chic	36.0	35.10000
5939	chic	29.0	20.40000
5940	chic	34.0	23.20000
5941	chic	32.0	30.30000
5942	chic	32.0	28.20000
5943	chic	36.0	25.70000
5944	chic	42.0	21.80000
5945	chic	51.0	26.00000
5946	chic	43.0	29.00000
5947	chic	48.0	32.90000
5948	chic	67.0	39.30000
5949	chic	75.0	42.90000
5950	chic	55.0	36.80000

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5953	chic	60.0	50.00000
5954	chic	59.0	49.50000
5955	chic	47.0	37.60000
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5957	chic	43.0	23.00000
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5960	chic	48.0	24.00000
5961	chic	56.0	28.00000
5962	chic	66.0	39.50000
5963	chic	54.0	38.40000
5964	chic	57.0	48.00000
5965	chic	50.0	47.40000
5966	chic	45.0	27.40000
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5968	chic	48.0	35.00000
5969	chic	61.0	51.90000
5970	chic	60.0	47.10000
5971	chic	53.0	46.60000
5972	chic	55.0	47.80000
5973	chic	69.0	56.80000
5974	chic	65.0	57.90000
5975	chic	60.0	44.50000
5976	chic	59.0	38.30000
5977	chic	61.0	35.80000
5978	chic	53.0	44.20000
5979	chic	52.0	45.40000
5980	chic	55.0	45.60000
5981	chic	59.0	50.30000
5982	chic	60.0	52.30000
5983	chic	66.0	61.40000
5984	chic	58.0	45.30000
5985	chic	51.0	36.00000
5986	chic	50.0	33.60000
5987	chic	53.0	35.20000
5988	chic	57.0	38.70000
5989	chic	57.0	42.80000
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5991	chic	62.0	46.30000
5992	chic	65.0	52.00000
5993	chic	58.0	46.80000

5994	chic	58.0	51.80000
5995	chic	48.0	42.70000
5996	chic	51.0	34.40000
5997	chic	53.0	42.80000
5998	chic	57.0	46.90000
5999	chic	58.0	41.80000
6000	chic	63.0	44.90000
6001	chic	61.0	51.70000
6002	chic	66.0	53.30000
6003	chic	62.0	56.10000
6004	chic	65.0	53.20000
6005	chic	66.0	60.30000
6006	chic	61.0	52.60000
6007	chic	61.0	55.10000
6008	chic	64.0	58.30000
6009	chic	65.0	54.70000
6010	chic	66.0	54.40000
6011	chic	66.0	48.90000
6012	chic	67.0	47.20000
6013	chic	74.0	58.70000
6014	chic	60.0	39.80000
6015	chic	59.0	40.90000
6016	chic	64.0	46.90000
6017	chic	70.0	51.70000
6018	chic	75.0	55.40000
6019	chic	79.0	62.40000
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6024	chic	74.0	56.60000
6025	chic	72.0	53.90000
6026	chic	73.0	53.40000
6027	chic	75.0	55.50000
6028	chic	79.0	65.40000
6029	chic	84.0	68.40000
6030	chic	78.0	66.20000
6031	chic	78.0	68.60000
6032	chic	79.0	70.80000
6033	chic	72.0	64.60000
6034	chic	69.0	61.20000
6035	chic	73.0	63.50000
6036	chic	69.0	56.50000

6037	chic	71.0	54.50000
6038	chic	70.0	56.30000
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6040	chic	77.0	64.40000
6041	chic	72.0	57.10000
6042	chic	75.0	65.10000
6043	chic	66.0	53.20000
6044	chic	68.0	53.20000
6045	chic	76.0	65.40000
6046	chic	75.0	64.40000
6047	chic	68.0	58.20000
6048	chic	67.0	53.10000
6049	chic	67.0	47.80000
6050	chic	71.0	57.70000
6051	chic	77.0	63.20000
6052	chic	74.0	63.10000
6053	chic	65.0	58.00000
6054	chic	68.0	51.40000
6055	chic	69.0	55.90000
6056	chic	75.0	63.00000
6057	chic	75.0	64.40000
6058	chic	72.0	62.40000
6059	chic	71.0	64.10000
6060	chic	69.0	62.40000
6061	chic	71.0	62.60000
6062	chic	74.0	65.60000
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6065	chic	70.0	60.80000
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6067	chic	69.0	64.00000
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6069	chic	72.0	66.60000
6070	chic	77.0	71.40000
6071	chic	79.0	71.60000
6072	chic	83.0	69.10000
6073	chic	78.0	63.40000
6074	chic	73.0	60.00000
6075	chic	71.0	60.40000
6076	chic	77.0	67.70000
6077	chic	84.0	70.40000
6078	chic	71.0	57.20000
6079	chic	69.0	55.90000

6080	chic	72.0	62.30000
6081	chic	83.0	67.10000
6082	chic	82.0	69.10000
6083	chic	74.0	62.60000
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6093	chic	66.0	53.30000
6094	chic	73.0	60.30000
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6097	chic	72.0	63.30000
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6101	chic	67.0	61.20000
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6104	chic	68.0	52.70000
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6115	chic	52.0	41.60000
6116	chic	50.0	36.60000
6117	chic	48.0	32.20000
6118	chic	44.0	26.00000
6119	chic	42.0	22.20000
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6122	chic	47.0	40.50000

6123	chic	48.0	37.50000
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6127	chic	64.0	57.90000
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6154	chic	38.0	22.00000
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6156	chic	27.0	18.10000
6157	chic	31.0	16.90000
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6165	chic	44.0	44.70000

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6208	chic	34.0	22.70000

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6217	chic	24.0	17.30000
6218	chic	22.0	17.20000
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6224	chic	19.0	7.10000
6225	chic	27.0	18.40000
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6230	chic	24.0	14.30000
6231	chic	11.0	-7.20000
6232	chic	15.0	8.60000
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6235	chic	22.0	18.30000
6236	chic	17.0	12.90000
6237	chic	7.0	-0.80000
6238	chic	2.0	-6.80000
6239	chic	-3.0	-12.70000
6240	chic	4.0	-4.20000
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6251	chic	23.0	16.50000

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6264	chic	34.0	29.70000
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6290	chic	28.0	16.10000
6291	chic	30.0	10.00000
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6294	chic	60.0	52.80000

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6297	chic	61.0	52.50000
6298	chic	51.0	37.80000
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6300	chic	42.0	32.10000
6301	chic	42.0	27.90000
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6317	chic	64.0	51.60000
6318	chic	69.0	50.70000
6319	chic	60.0	48.40000
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6328	chic	64.0	42.30000
6329	chic	69.0	51.90000
6330	chic	51.0	45.50000
6331	chic	46.0	37.80000
6332	chic	42.0	30.30000
6333	chic	42.0	28.10000
6334	chic	55.0	44.30000
6335	chic	53.0	36.50000
6336	chic	69.0	57.10000
6337	chic	51.0	36.40000

6338	chic	67.0	50.40000
6339	chic	70.0	60.30000
6340	chic	70.0	61.60000
6341	chic	68.0	61.30000
6342	chic	76.0	65.40000
6343	chic	72.0	67.30000
6344	chic	59.0	54.10000
6345	chic	47.0	38.90000
6346	chic	54.0	45.80000
6347	chic	70.0	62.60000
6348	chic	57.0	47.20000
6349	chic	58.0	55.60000
6350	chic	74.0	71.10000
6351	chic	63.0	58.10000
6352	chic	65.0	61.60000
6353	chic	68.0	61.70000
6354	chic	56.0	47.50000
6355	chic	59.0	53.60000
6356	chic	57.0	46.20000
6357	chic	64.0	55.20000
6358	chic	53.0	39.40000
6359	chic	57.0	47.70000
6360	chic	66.0	61.00000
6361	chic	62.0	NA
6362	chic	65.0	50.40000
6363	chic	59.0	50.70000
6364	chic	59.0	40.70000
6365	chic	58.0	43.70000
6366	chic	61.0	47.60000
6367	chic	72.0	58.80000
6368	chic	74.0	64.60000
6369	chic	83.0	69.00000
6370	chic	73.0	67.00000
6371	chic	64.0	60.50000
6372	chic	73.0	67.20000
6373	chic	71.0	64.70000
6374	chic	72.0	64.50000
6375	chic	75.0	64.10000
6376	chic	71.0	57.40000
6377	chic	72.0	65.40000
6378	chic	72.0	60.40000
6379	chic	71.0	58.10000
6380	chic	56.0	39.70000

6381	chic	61.0	45.10000
6382	chic	63.0	57.30000
6383	chic	65.0	49.70000
6384	chic	70.0	54.00000
6385	chic	62.0	47.50000
6386	chic	61.0	44.20000
6387	chic	64.0	47.80000
6388	chic	67.0	51.30000
6389	chic	65.0	52.80000
6390	chic	69.0	52.10000
6391	chic	73.0	56.20000
6392	chic	71.0	57.00000
6393	chic	71.0	58.50000
6394	chic	73.0	67.20000
6395	chic	76.0	66.60000
6396	chic	68.0	60.70000
6397	chic	73.0	64.90000
6398	chic	64.0	57.60000
6399	chic	65.0	52.00000
6400	chic	68.0	58.20000
6401	chic	73.0	62.70000
6402	chic	74.0	67.30000
6403	chic	78.0	67.40000
6404	chic	78.0	67.10000
6405	chic	72.0	58.20000
6406	chic	72.0	56.30000
6407	chic	73.0	62.80000
6408	chic	70.0	60.70000
6409	chic	71.0	59.00000
6410	chic	71.0	60.00000
6411	chic	80.0	67.60000
6412	chic	79.0	72.80000
6413	chic	79.0	68.40000
6414	chic	65.0	50.80000
6415	chic	63.0	51.00000
6416	chic	67.0	53.20000
6417	chic	67.0	53.60000
6418	chic	70.0	52.80000
6419	chic	70.0	56.10000
6420	chic	72.0	60.20000
6421	chic	68.0	62.70000
6422	chic	74.0	60.20000
6423	chic	77.0	62.50000

6424	chic	78.0	67.70000
6425	chic	78.0	67.70000
6426	chic	70.0	61.40000
6427	chic	65.0	51.00000
6428	chic	65.0	49.20000
6429	chic	65.0	52.20000
6430	chic	70.0	57.00000
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6435	chic	61.0	50.30000
6436	chic	60.0	48.40000
6437	chic	62.0	49.00000
6438	chic	63.0	51.30000
6439	chic	72.0	62.30000
6440	chic	70.0	64.40000
6441	chic	64.0	50.90000
6442	chic	66.0	50.70000
6443	chic	63.0	51.20000
6444	chic	65.0	56.20000
6445	chic	72.0	63.70000
6446	chic	73.0	67.40000
6447	chic	72.0	66.50000
6448	chic	75.0	70.20000
6449	chic	78.0	69.50000
6450	chic	68.0	61.90000
6451	chic	61.0	53.90000
6452	chic	64.0	57.20000
6453	chic	67.0	58.30000
6454	chic	70.0	60.30000
6455	chic	73.0	62.00000
6456	chic	73.0	64.30000
6457	chic	73.0	63.20000
6458	chic	76.0	66.50000
6459	chic	68.0	63.20000
6460	chic	66.0	51.30000
6461	chic	65.0	53.90000
6462	chic	64.0	54.50000
6463	chic	66.0	54.40000
6464	chic	70.0	57.00000
6465	chic	71.0	57.90000
6466	chic	71.0	60.70000

6467	chic	75.0	64.70000
6468	chic	77.0	65.90000
6469	chic	66.0	53.60000
6470	chic	62.0	49.10000
6471	chic	64.0	52.20000
6472	chic	68.0	49.30000
6473	chic	64.0	47.50000
6474	chic	67.0	50.50000
6475	chic	66.0	52.40000
6476	chic	70.0	53.30000
6477	chic	69.0	50.70000
6478	chic	62.0	49.90000
6479	chic	59.0	47.60000
6480	chic	61.0	48.20000
6481	chic	59.0	47.10000
6482	chic	54.0	44.90000
6483	chic	54.0	41.20000
6484	chic	62.0	49.20000
6485	chic	48.0	30.90000
6486	chic	53.0	32.50000
6487	chic	47.0	30.30000
6488	chic	46.0	29.00000
6489	chic	61.0	35.90000
6490	chic	60.0	41.70000
6491	chic	64.0	61.20000
6492	chic	57.0	41.00000
6493	chic	52.0	42.90000
6494	chic	53.0	43.60000
6495	chic	51.0	44.40000
6496	chic	58.0	47.80000
6497	chic	52.0	46.60000
6498	chic	49.0	41.10000
6499	chic	43.0	29.50000
6500	chic	43.0	28.90000
6501	chic	45.0	39.30000
6502	chic	51.0	46.50000
6503	chic	52.0	48.00000
6504	chic	53.0	46.10000
6505	chic	54.0	49.30000
6506	chic	66.0	54.80000
6507	chic	55.0	43.40000
6508	chic	57.0	44.90000
6509	chic	57.0	52.10000

6510	chic	58.0	52.10000
6511	chic	54.0	52.30000
6512	chic	69.0	65.90000
6513	chic	61.0	44.20000
6514	chic	51.0	41.20000
6515	chic	50.0	46.10000
6516	chic	47.0	41.60000
6517	chic	49.0	38.10000
6518	chic	46.0	38.80000
6519	chic	45.0	27.50000
6520	chic	54.0	36.70000
6521	chic	47.0	27.90000
6522	chic	39.0	18.90000
6523	chic	45.0	24.30000
6524	chic	55.0	38.30000
6525	chic	44.0	30.80000
6526	chic	39.0	26.90000
6527	chic	36.0	26.90000
6528	chic	38.0	26.40000
6529	chic	40.0	33.10000
6530	chic	51.0	47.80000
6531	chic	59.0	55.80000
6532	chic	55.0	54.30000
6533	chic	52.0	51.00000
6534	chic	49.0	42.80000
6535	chic	38.0	29.00000
6536	chic	42.0	33.20000
6537	chic	45.0	38.60000
6538	chic	37.0	30.70000
6539	chic	27.0	21.10000
6540	chic	37.0	33.00000
6541	chic	42.0	39.70000
6542	chic	39.0	24.90000
6543	chic	35.0	32.80000
6544	chic	36.0	33.40000
6545	chic	29.0	23.90000
6546	chic	31.0	25.00000
6547	chic	30.0	21.80000
6548	chic	36.0	30.40000
6549	chic	37.0	34.90000
6550	chic	45.0	43.90000
6551	chic	46.0	43.40000
6552	chic	39.0	34.20000

6553	chic	44.0	40.20000
6554	chic	41.0	39.50000
6555	chic	35.0	26.60000
6556	chic	37.0	27.30000
6557	chic	25.0	13.00000
6558	chic	22.0	9.40000
6559	chic	28.0	15.10000
6560	chic	36.0	20.40000
6561	chic	26.0	16.10000
6562	chic	28.0	24.50000
6563	chic	11.0	-4.50000
6564	chic	20.0	3.80000
6565	chic	25.0	13.80000
6566	chic	11.0	-0.50000
6567	chic	12.0	-0.10000
6568	chic	5.0	-7.40000
6569	chic	15.0	6.70000
6570	chic	18.0	12.10000
6571	chic	17.0	12.00000
6572	chic	33.0	22.70000
6573	chic	33.0	29.10000
6574	chic	44.0	41.20000
6575	chic	43.0	36.10000
6576	chic	33.0	24.80000
6577	chic	44.0	39.60000
6578	chic	34.0	31.50000
6579	chic	33.0	29.00000
6580	chic	29.0	25.50000
6581	chic	20.0	18.60000
6582	chic	18.0	16.70000
6583	chic	26.0	21.40000
6584	chic	30.0	27.60000
6585	chic	32.0	26.10000
6586	chic	33.0	33.40000
6587	chic	48.0	45.60000
6588	chic	31.0	25.50000
6589	chic	10.0	-3.40000
6590	chic	10.0	-6.40000
6591	chic	9.0	-5.60000
6592	chic	7.0	-7.80000
6593	chic	12.0	1.70000
6594	chic	29.0	22.30000
6595	chic	26.0	20.90000

6596	chic	21.0	13.50000
6597	chic	17.0	12.20000
6598	chic	16.0	7.20000
6599	chic	26.0	17.30000
6600	chic	33.0	27.10000
6601	chic	26.0	19.40000
6602	chic	13.0	9.30000
6603	chic	15.0	5.10000
6604	chic	28.0	17.20000
6605	chic	30.0	26.20000
6606	chic	28.0	22.00000
6607	chic	28.0	23.80000
6608	chic	26.0	20.00000
6609	chic	30.0	25.00000
6610	chic	36.0	32.10000
6611	chic	46.0	35.50000
6612	chic	43.0	35.40000
6613	chic	39.0	39.30000
6614	chic	29.0	23.00000
6615	chic	28.0	20.00000
6616	chic	27.0	16.30000
6617	chic	33.0	23.50000
6618	chic	42.0	28.60000
6619	chic	38.0	34.70000
6620	chic	43.0	37.50000
6621	chic	38.0	34.00000
6622	chic	30.0	18.20000
6623	chic	22.0	8.40000
6624	chic	19.0	2.80000
6625	chic	32.0	18.00000
6626	chic	34.0	32.60000
6627	chic	35.0	28.70000
6628	chic	29.0	23.10000
6629	chic	28.0	19.60000
6630	chic	32.0	24.10000
6631	chic	34.0	26.00000
6632	chic	29.0	20.80000
6633	chic	33.0	23.90000
6634	chic	31.0	27.40000
6635	chic	23.0	12.50000
6636	chic	20.0	5.90000
6637	chic	24.0	12.70000
6638	chic	32.0	26.60000

6639	chic	38.0	30.50000
6640	chic	50.0	33.60000
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6642	chic	24.0	7.00000
6643	chic	24.0	3.90000
6644	chic	29.0	22.40000
6645	chic	30.0	22.70000
6646	chic	26.0	10.70000
6647	chic	23.0	7.60000
6648	chic	29.0	19.60000
6649	chic	31.0	17.40000
6650	chic	37.0	21.10000
6651	chic	32.0	26.80000
6652	chic	39.0	30.90000
6653	chic	42.0	36.10000
6654	chic	34.0	25.00000
6655	chic	32.0	26.50000
6656	chic	37.0	26.80000
6657	chic	34.0	26.20000
6658	chic	36.0	25.60000
6659	chic	36.0	31.00000
6660	chic	37.0	30.80000
6661	chic	38.0	28.10000
6662	chic	44.0	27.20000
6663	chic	52.0	31.00000
6664	chic	66.0	44.30000
6665	chic	49.0	38.10000
6666	chic	45.0	35.50000
6667	chic	43.0	30.90000
6668	chic	48.0	27.30000
6669	chic	52.0	33.70000
6670	chic	62.0	48.80000
6671	chic	63.0	50.30000
6672	chic	48.0	35.50000
6673	chic	49.0	31.10000
6674	chic	52.0	32.50000
6675	chic	62.0	42.30000
6676	chic	65.0	32.60000
6677	chic	48.0	34.60000
6678	chic	47.0	24.90000
6679	chic	47.0	23.40000
6680	chic	48.0	28.00000
6681	chic	56.0	34.40000

6682	chic	62.0	44.50000
6683	chic	64.0	44.90000
6684	chic	71.0	48.00000
6685	chic	57.0	46.80000
6686	chic	50.0	30.60000
6687	chic	42.0	38.40000
6688	chic	39.0	26.00000
6689	chic	44.0	24.10000
6690	chic	53.0	29.40000
6691	chic	50.0	35.30000
6692	chic	48.0	29.80000
6693	chic	48.0	29.70000
6694	chic	46.0	25.70000
6695	chic	46.0	26.10000
6696	chic	42.0	26.60000
6697	chic	40.0	25.10000
6698	chic	43.0	24.10000
6699	chic	48.0	24.00000
6700	chic	54.0	29.20000
6701	chic	63.0	43.10000
6702	chic	53.0	44.00000
6703	chic	64.0	47.30000
6704	chic	70.0	56.10000
6705	chic	71.0	51.70000
6706	chic	54.0	44.40000
6707	chic	49.0	36.70000
6708	chic	61.0	49.80000
6709	chic	56.0	43.60000
6710	chic	48.0	37.50000
6711	chic	52.0	35.10000
6712	chic	60.0	42.80000
6713	chic	66.0	46.30000
6714	chic	62.0	56.70000
6715	chic	58.0	44.90000
6716	chic	58.0	44.00000
6717	chic	69.0	47.80000
6718	chic	61.0	48.30000
6719	chic	57.0	45.50000
6720	chic	58.0	44.70000
6721	chic	66.0	43.90000
6722	chic	59.0	44.00000
6723	chic	58.0	44.80000
6724	chic	57.0	44.40000

6725	chic	60.0	45.90000
6726	chic	59.0	49.00000
6727	chic	65.0	49.80000
6728	chic	66.0	54.40000
6729	chic	67.0	60.90000
6730	chic	72.0	63.50000
6731	chic	78.0	62.40000
6732	chic	78.0	57.60000
6733	chic	77.0	62.40000
6734	chic	78.0	65.10000
6735	chic	77.0	63.40000
6736	chic	78.0	68.10000
6737	chic	80.0	67.50000
6738	chic	75.0	66.50000
6739	chic	78.0	64.20000
6740	chic	74.0	60.10000
6741	chic	64.0	57.30000
6742	chic	66.0	46.80000
6743	chic	61.0	49.00000
6744	chic	62.0	50.70000
6745	chic	65.0	53.50000
6746	chic	69.0	54.50000
6747	chic	75.0	58.00000
6748	chic	72.0	44.60000
6749	chic	77.0	60.80000
6750	chic	86.0	63.40000
6751	chic	80.0	66.00000
6752	chic	82.0	66.10000
6753	chic	82.0	64.60000
6754	chic	85.0	64.10000
6755	chic	82.0	67.50000
6756	chic	82.0	63.40000
6757	chic	69.0	51.60000
6758	chic	65.0	50.20000
6759	chic	70.0	55.80000
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6762	chic	72.0	61.90000
6763	chic	73.0	58.00000
6764	chic	73.0	54.10000
6765	chic	72.0	52.50000
6766	chic	76.0	53.20000
6767	chic	76.0	58.80000

6768	chic	79.0	65.50000
6769	chic	80.0	66.00000
6770	chic	79.0	67.00000
6771	chic	79.0	65.60000
6772	chic	81.0	63.80000
6773	chic	84.0	67.00000
6774	chic	83.0	64.60000
6775	chic	79.0	57.60000
6776	chic	78.0	67.80000
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6778	chic	75.0	65.30000
6779	chic	74.0	68.30000
6780	chic	90.0	70.90000
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6783	chic	65.0	53.30000
6784	chic	66.0	52.10000
6785	chic	72.0	58.20000
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6787	chic	79.0	64.60000
6788	chic	81.0	65.00000
6789	chic	79.0	66.10000
6790	chic	84.0	69.00000
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6792	chic	73.0	56.50000
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6794	chic	74.0	57.80000
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6797	chic	79.0	65.90000
6798	chic	72.0	67.00000
6799	chic	79.0	68.90000
6800	chic	72.0	61.00000
6801	chic	69.0	57.50000
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6804	chic	71.0	60.80000
6805	chic	77.0	68.90000
6806	chic	79.0	66.90000
6807	chic	78.0	67.70000
6808	chic	74.0	54.40000
6809	chic	67.0	52.70000
6810	chic	66.0	52.70000

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6812	chic	72.0	58.50000
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6825	chic	78.0	60.30000
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6830	chic	79.0	57.70000
6831	chic	83.0	59.80000
6832	chic	67.0	57.90000
6833	chic	62.0	52.90000
6834	chic	62.0	55.40000
6835	chic	65.0	54.40000
6836	chic	68.0	55.80000
6837	chic	75.0	64.70000
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6839	chic	70.0	54.70000
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6844	chic	60.0	58.60000
6845	chic	61.0	51.20000
6846	chic	62.0	53.20000
6847	chic	53.0	34.90000
6848	chic	58.0	38.00000
6849	chic	65.0	48.40000
6850	chic	69.0	62.00000
6851	chic	78.0	67.30000
6852	chic	79.0	66.30000
6853	chic	77.0	63.20000

6854	chic	58.0	38.80000
6855	chic	49.0	37.60000
6856	chic	48.0	38.90000
6857	chic	53.0	43.10000
6858	chic	54.0	47.20000
6859	chic	58.0	52.00000
6860	chic	59.0	54.40000
6861	chic	61.0	53.20000
6862	chic	62.0	48.20000
6863	chic	58.0	34.90000
6864	chic	52.0	39.50000
6865	chic	58.0	44.80000
6866	chic	58.0	42.10000
6867	chic	56.0	41.30000
6868	chic	51.0	40.30000
6869	chic	53.0	41.30000
6870	chic	46.0	39.90000
6871	chic	40.0	36.70000
6872	chic	46.0	37.90000
6873	chic	45.0	37.70000
6874	chic	44.0	33.50000
6875	chic	44.0	35.90000
6876	chic	44.0	35.10000
6877	chic	45.0	34.30000
6878	chic	54.0	37.00000
6879	chic	54.0	49.40000
6880	chic	48.0	37.50000
6881	chic	52.0	35.40000
6882	chic	62.0	40.70000
6883	chic	60.0	38.00000
6884	chic	54.0	50.60000
6885	chic	51.0	42.00000
6886	chic	49.0	43.20000
6887	chic	55.0	49.80000
6888	chic	54.0	37.80000
6889	chic	39.0	25.60000
6890	chic	47.0	30.50000
6891	chic	54.0	38.70000
6892	chic	49.0	35.70000
6893	chic	39.0	33.60000
6894	chic	46.0	42.50000
6895	chic	29.0	19.20000
6896	chic	22.0	7.80000

6897	chic	30.0	21.10000
6898	chic	43.0	28.10000
6899	chic	39.0	33.00000
6900	chic	42.0	31.50000
6901	chic	32.0	19.30000
6902	chic	37.0	29.60000
6903	chic	29.0	-0.60000
6904	chic	20.0	5.30000
6905	chic	32.0	20.40000
6906	chic	48.0	46.00000
6907	chic	50.0	44.70000
6908	chic	33.0	22.90000
6909	chic	24.0	17.20000
6910	chic	25.0	18.00000
6911	chic	19.0	8.50000
6912	chic	25.0	19.00000
6913	chic	20.0	15.80000
6914	chic	11.0	2.80000
6915	chic	11.0	3.20000
6916	chic	8.0	-1.80000
6917	chic	16.0	15.60000
6918	chic	20.0	10.90000
6919	chic	22.0	16.20000
6920	chic	20.0	17.20000
6921	chic	19.0	11.60000
6922	chic	26.0	19.80000
6923	chic	32.0	27.40000
6924	chic	30.0	27.90000
6925	chic	21.0	14.70000
6926	chic	16.0	7.30000
6927	chic	10.0	1.90000
6928	chic	5.0	-0.30000
6929	chic	13.0	7.70000
6930	chic	12.0	7.70000
6931	chic	22.0	23.30000
6932	chic	41.0	32.60000
6933	chic	37.0	35.20000
6934	chic	35.0	32.10000
6935	chic	35.0	29.60000
6936	chic	40.0	33.60000
6937	chic	37.0	34.50000
6938	chic	35.0	29.40000
6939	chic	36.0	31.00000

```
6940 chic 35.0 30.10000
```

Note the use of : inside the `select()` — you can use it to specify a range of variable names.

You can also *omit* variables using the `select()` function by using **the negative sign**. With `select()` you can do

```
select(chicago, -(city:dptp))
```

This indicates that we should include every variable *except* the variables `city` through `dptp`.

The equivalent code in base R would be

```
i <- match("city", names(chicago))
j <- match("dptp", names(chicago))
head(chicago[, -(i:j)])
```

Not super intuitive, right?

The `select()` function also allows a special syntax that allows you to specify **variable names based on patterns**.

So, for example, if you wanted to keep every variable that ends with a “2”, we could do

```
chicago %>%
  select(ends_with("2"))
```

	pm25tmean2	pm10tmean2	o3tmean2	no2tmean2
1	NA	34.000000	4.2500000	19.988095
2	NA	NA	3.3043478	23.190994
3	NA	34.166667	3.3333333	23.815476
4	NA	47.000000	4.3750000	30.434524
5	NA	NA	4.7500000	30.333333
6	NA	48.000000	5.8333333	25.772331
7	NA	41.000000	9.2916667	20.581710
8	NA	36.000000	11.2916667	17.037231
9	NA	33.285714	4.5000000	23.388889
10	NA	NA	4.9583333	19.541667
11	NA	22.000000	17.5416667	13.701389
12	NA	26.000000	8.0000000	33.020833
13	NA	53.000000	4.9583333	38.061418
14	NA	43.000000	4.2083333	32.194444
15	NA	28.833333	4.4583333	18.871310
16	NA	19.000000	7.9166667	19.466667

17	NA	NA	5.8333333	20.708333
18	NA	39.000000	6.3750000	21.033333
19	NA	32.000000	14.8750000	17.174094
20	NA	38.000000	7.2500000	21.610211
21	NA	32.857143	8.9130435	24.520833
22	NA	52.000000	10.5000000	16.987978
23	NA	55.000000	14.6250000	14.662500
24	NA	38.000000	10.0833333	18.691667
25	NA	NA	6.6666667	26.304167
26	NA	71.000000	4.5833333	32.421429
27	NA	39.333333	6.0000000	30.693056
28	NA	47.000000	6.8750000	29.129428
29	NA	35.000000	2.9166667	28.145290
30	NA	59.000000	8.7916667	19.798611
31	NA	36.000000	10.3750000	25.267361
32	NA	NA	8.0416667	21.701389
33	NA	41.166667	6.0416667	30.784722
34	NA	59.000000	8.0416667	20.146149
35	NA	37.000000	10.5000000	29.999275
36	NA	70.000000	5.7291667	38.909091
37	NA	63.000000	6.4148551	27.994709
38	NA	44.000000	5.7500000	25.090278
39	NA	18.250000	24.9375000	10.646825
40	NA	42.000000	9.2083333	25.579861
41	NA	36.000000	8.3125000	31.327459
42	NA	83.000000	8.1215415	42.001125
43	NA	84.000000	7.6875000	34.993056
44	NA	39.000000	10.3695652	33.430857
45	NA	24.857143	11.1666667	21.243056
46	NA	12.000000	28.1041667	10.490972
47	NA	14.000000	24.1875000	15.854167
48	NA	23.000000	24.9375000	19.180556
49	NA	27.000000	24.1702899	29.860119
50	NA	49.000000	15.5018116	44.480676
51	NA	69.857143	8.5000000	51.253247
52	NA	59.000000	4.5833333	41.381944
53	NA	46.000000	10.8333333	21.861111
54	NA	47.000000	13.0416667	32.562500
55	NA	48.000000	13.2291667	36.477437
56	NA	48.000000	17.1250000	38.137716
57	NA	29.000000	16.0000000	32.854167
58	NA	56.000000	14.2083333	33.691964
59	NA	31.000000	6.8750000	23.458333

60	NA	15.000000	15.6208333	18.614583
61	NA	36.000000	20.8125000	21.631944
62	NA	32.000000	19.7500000	28.578208
63	NA	39.428571	5.5000000	38.409722
64	NA	30.000000	13.5833333	29.388889
65	NA	76.000000	9.0760870	47.169988
66	NA	49.000000	25.4166667	41.743056
67	NA	61.000000	31.1666667	39.045139
68	NA	25.000000	29.8333333	12.469381
69	NA	19.571429	28.3750000	19.747163
70	NA	38.000000	19.7708333	29.906099
71	NA	72.000000	20.4375000	41.127525
72	NA	47.000000	22.4791667	31.555556
73	NA	49.000000	17.7291667	27.652778
74	NA	NA	36.8958333	18.034722
75	NA	27.000000	36.3722826	22.423611
76	NA	55.000000	27.8125000	25.986111
77	NA	63.000000	18.6666667	32.207799
78	NA	32.000000	31.6755952	33.296014
79	NA	28.000000	36.6250000	45.958333
80	NA	40.000000	38.2083333	43.903080
81	NA	37.857143	37.6666667	36.239583
82	NA	70.000000	31.4541667	33.738647
83	NA	58.000000	25.6250000	30.555556
84	NA	14.000000	14.8750000	23.204545
85	NA	43.000000	15.1174242	23.493687
86	NA	47.000000	16.4375000	32.315025
87	NA	34.500000	20.1041667	31.180556
88	NA	37.000000	20.9722222	22.340278
89	NA	27.000000	30.4375000	19.655676
90	NA	43.000000	24.0448718	24.611111
91	NA	36.000000	21.4531250	19.298611
92	NA	44.000000	22.5663496	22.036534
93	NA	22.428571	16.8697917	35.481433
94	NA	26.000000	28.3906250	21.281250
95	NA	18.000000	36.0312500	12.190972
96	NA	19.000000	31.8020833	19.855745
97	NA	28.000000	25.4947917	28.246212
98	NA	19.000000	21.0104167	28.991244
99	NA	78.285714	15.4010417	57.525423
100	NA	69.000000	21.8593750	39.354167
101	NA	24.000000	28.9739583	23.145833
102	NA	37.000000	25.6785714	26.020833

103	NA	47.000000	17.7678571	37.932449
104	NA	33.000000	13.2440476	35.722222
105	NA	30.000000	17.1428571	32.020065
106	NA	28.000000	22.1071429	30.750000
107	NA	43.000000	19.3095238	44.208333
108	NA	106.000000	31.5297619	55.416667
109	NA	NA	32.8392857	45.159722
110	NA	55.000000	41.3906250	40.534722
111	NA	36.200000	20.4687500	19.177838
112	NA	28.000000	9.0781250	23.234217
113	NA	26.000000	10.0946558	23.493056
114	NA	16.000000	27.5729167	20.661156
115	NA	30.000000	28.0625000	27.766667
116	NA	58.000000	33.1458333	33.458333
117	NA	37.333333	35.9276042	27.052083
118	NA	72.000000	22.6458333	32.036534
119	NA	61.000000	34.8522727	24.106061
120	NA	19.000000	35.4895833	18.320572
121	NA	66.000000	19.5615942	45.944444
122	NA	30.000000	24.1845238	31.508333
123	NA	20.285714	27.2023810	22.116667
124	NA	26.000000	31.2243590	23.026175
125	NA	60.000000	23.4375000	39.609217
126	NA	NA	32.3705739	51.285354
127	NA	41.000000	30.1893116	29.518281
128	NA	54.000000	16.8048246	38.774123
129	NA	56.166667	42.7968750	22.152778
130	NA	NA	43.0125000	20.173611
131	NA	81.000000	44.9862745	24.222222
132	NA	12.000000	25.3385417	18.017677
133	NA	20.000000	26.5591033	35.523359
134	NA	NA	38.8489583	29.545139
135	NA	21.571429	24.0208333	19.023359
136	NA	47.000000	31.6755359	28.177234
137	NA	63.000000	50.4481431	22.879529
138	NA	NA	24.8336730	27.201389
139	NA	42.000000	26.0721726	28.051772
140	NA	47.000000	15.2747283	21.791982
141	NA	46.166667	33.2518116	26.697917
142	NA	NA	12.3206522	12.742150
143	NA	13.000000	10.5781250	11.714015
144	NA	NA	18.9843750	11.673611
145	NA	50.000000	13.0089286	19.256944

146	NA	28.000000	29.8712121	26.819444
147	NA	40.600000	30.5468750	25.158103
148	NA	49.000000	28.9122283	32.130435
149	NA	50.000000	26.1302083	36.056169
150	NA	35.000000	21.8593750	33.566667
151	NA	32.000000	31.4434524	22.208333
152	NA	30.000000	34.1875000	28.341667
153	NA	33.666667	18.3385417	37.350000
154	NA	42.000000	23.3133605	21.743056
155	NA	45.000000	20.4272274	25.611111
156	NA	61.000000	33.1927083	35.627525
157	NA	57.000000	43.7447917	34.167929
158	NA	46.000000	50.7916667	15.739583
159	NA	51.500000	49.2121830	23.107639
160	NA	15.000000	29.6111866	15.299306
161	NA	50.000000	28.7330163	29.298611
162	NA	46.000000	27.7461174	32.455177
163	NA	41.000000	29.2907691	24.245896
164	NA	73.000000	39.6510417	35.425000
165	NA	43.666667	45.4218750	25.995833
166	NA	28.000000	33.7540761	22.205918
167	NA	46.000000	33.2013889	30.632639
168	NA	71.000000	54.9618918	47.925423
169	NA	90.000000	62.9696558	43.816667
170	NA	80.000000	47.2689145	51.175000
171	NA	59.833333	45.6979167	32.875000
172	NA	42.000000	32.7782738	20.381944
173	NA	52.000000	25.0539349	25.232435
174	NA	49.000000	32.2184524	39.979167
175	NA	63.000000	49.0802083	42.871222
176	NA	53.000000	33.8786580	29.284906
177	NA	31.800000	20.4687500	20.697917
178	NA	36.000000	21.6197917	15.802083
179	NA	34.000000	31.9637681	15.935326
180	NA	43.000000	27.7812500	24.575000
181	NA	43.000000	18.4687500	28.152778
182	NA	22.000000	32.2968750	20.018579
183	NA	45.500000	36.2670455	27.246112
184	NA	48.000000	42.9166667	18.784722
185	NA	24.000000	31.8958333	13.871528
186	NA		22.6302083	16.260417
187	NA	33.000000	31.1118421	22.660221
188	NA		34.3426178	23.083333

189	NA	38.000000	30.8516757	23.014795
190	NA	31.000000	24.9479167	20.157828
191	NA	33.000000	23.3802083	21.625000
192	NA	79.000000	29.1250000	16.548611
193	NA	47.000000	29.6406250	13.017361
194	NA	33.000000	9.6912202	18.666667
195	NA	21.400000	21.8638393	20.562500
196	NA	17.000000	23.1822917	20.879104
197	NA	28.000000	31.5208333	19.961422
198	NA	39.000000	42.8727679	25.000992
199	NA	51.000000	47.7916667	19.190972
200	NA	72.000000	47.0520833	13.371528
201	NA	65.428571	40.4989583	18.458333
202	NA	58.000000	58.1679121	36.628011
203	NA	98.000000	45.2827381	36.354167
204	NA	117.000000	59.1562500	25.981061
205	NA	79.000000	35.6902174	23.213225
206	NA	53.000000	43.8154762	22.654167
207	NA	29.500000	27.7738095	20.004167
208	NA	32.000000	15.7738095	30.754167
209	NA	37.000000	20.2678571	29.615909
210	NA	25.000000	25.0290116	33.510714
211	NA	75.000000	50.3690476	27.391667
212	NA	48.000000	38.4171843	28.429499
213	NA	57.571429	40.2321429	21.694444
214	NA	46.000000	46.6547619	15.486111
215	NA	54.000000	30.9745671	29.805556
216	NA	21.000000	20.5492788	14.288194
217	NA	15.000000	20.2916667	12.784722
218	NA	50.000000	29.5766446	32.699206
219	NA	51.285714	45.3229167	27.652778
220	NA	56.000000	23.0312500	24.600694
221	NA	29.000000	26.7552083	10.305556
222	NA	24.000000	29.4107143	20.023810
223	NA	41.000000	33.8437500	25.666667
224	NA	80.000000	37.0885417	33.645833
225	NA	63.400000	36.1979167	36.482186
226	NA	49.500000	24.2328431	18.595734
227	NA	41.000000	33.3750000	13.159269
228	NA	44.500000	32.2729592	9.338294
229	NA	39.000000	26.6763393	14.927083
230	NA	48.000000	14.0587798	31.393720
231	NA	31.666667	18.3888889	23.345644

232	NA	49.000000	30.5187500	26.729167
233	NA	43.000000	37.9427083	20.905934
234	NA	32.000000	23.8645833	12.909722
235	NA	24.000000	17.7278080	14.427778
236	NA	43.000000	12.5949836	21.585417
237	NA	36.000000	6.6656250	30.631944
238	NA	50.000000	8.2075216	22.983333
239	NA	20.000000	13.7187500	19.690025
240	NA	32.000000	21.9427083	22.045833
241	NA	NA	18.1562500	26.399306
242	NA	35.000000	22.6227355	16.859409
243	NA	25.000000	15.9218750	18.118293
244	NA	38.500000	17.9322917	22.520833
245	NA	17.000000	21.1614583	15.746528
246	NA	24.000000	20.3020833	22.481065
247	NA	NA	31.3385417	37.317235
248	NA	NA	46.0572917	36.465278
249	NA	60.666667	38.1979167	32.510417
250	NA	NA	22.7869112	21.312500
251	NA	NA	25.4010417	31.868056
252	NA	NA	18.8333333	22.885417
253	NA	NA	26.5052083	27.686896
254	NA	NA	22.4402174	31.030797
255	NA	33.500000	15.8125000	23.503472
256	NA	NA	12.3593750	21.166667
257	NA	NA	18.8958333	27.961806
258	NA	NA	15.4347826	28.386171
259	NA	33.000000	10.2047101	25.618056
260	NA	30.000000	13.5238095	18.876263
261	NA	25.250000	6.8928571	17.644886
262	NA	NA	12.6428571	16.395833
263	NA	NA	7.4047619	11.820833
264	NA	29.000000	4.9523810	16.641667
265	NA	NA	7.2639752	15.906813
266	NA	38.000000	13.1369048	20.427083
267	NA	23.000000	16.1309524	16.267361
268	NA	55.000000	14.0178571	30.210145
269	NA	42.000000	22.4940476	35.895833
270	NA	49.000000	27.5476190	30.091667
271	NA	57.000000	30.0178571	33.758333
272	NA	34.000000	12.7321429	16.118452
273	NA	26.800000	10.9097222	18.558333
274	NA	44.000000	17.3035714	20.962500

275	NA	52.000000	15.0282091	9.966848
276	NA	52.000000	15.3928571	19.545833
277	NA	50.000000	19.1488095	19.566667
278	NA	48.000000	14.8130952	18.313333
279	NA	24.166667	6.9729437	9.258333
280	NA	36.000000	13.3154762	13.863587
281	NA	41.000000	10.5181159	27.595833
282	NA	38.000000	11.5636646	19.609028
283	NA	28.000000	8.7380952	21.152778
284	NA	32.000000	14.6333333	23.298611
285	NA	41.500000	12.4146825	39.048611
286	NA	NA	15.1156093	40.270652
287	NA	41.000000	10.7985934	40.230676
288	NA	52.000000	24.4475932	43.208333
289	NA	58.000000	28.5654762	35.803571
290	NA	19.000000	9.2202381	11.263889
291	NA	26.857143	15.9702381	23.086806
292	NA	11.000000	18.8690476	22.225694
293	NA	24.000000	15.2810990	17.855655
294	NA	20.500000	6.4679487	14.982639
295	NA	25.000000	6.7532468	23.254227
296	NA	50.000000	8.3148810	25.238636
297	NA	28.400000	7.5357143	23.812500
298	NA	NA	11.1250000	23.892361
299	NA	33.000000	5.0714286	27.041667
300	NA	31.000000	10.1757246	19.588068
301	NA	31.000000	5.0713364	24.832054
302	NA	48.000000	7.2569444	33.360205
303	NA	50.666667	16.9345238	31.461806
304	NA	60.000000	12.5714286	22.510417
305	NA	30.000000	9.7445652	30.340278
306	NA	46.000000	11.5508658	35.236111
307	NA	NA	29.4583333	32.503788
308	NA	47.000000	19.1666667	19.041604
309	NA	25.500000	20.1666667	19.131439
310	NA	43.000000	9.5000000	27.254167
311	NA	46.000000	2.7500000	31.687500
312	NA	66.000000	23.2916667	25.416667
313	NA	18.000000	25.6666667	24.619792
314	NA	12.000000	27.7500000	25.354167
315	NA	31.285714	7.9583333	27.569444
316	NA	47.000000	7.0000000	31.238678
317	NA	55.000000	2.8750000	29.825181

318	NA	18.000000	9.8750000	28.666667
319	NA	51.000000	19.2500000	36.916667
320	NA	34.000000	17.6666667	30.385417
321	NA	18.333333	12.7083333	10.677989
322	NA	NA	10.3478261	15.733360
323	NA	29.000000	10.8333333	20.044643
324	NA	34.000000	25.0416667	13.951894
325	NA	27.000000	11.2916667	23.741667
326	NA	NA	11.3333333	18.966667
327	NA	30.333333	8.7727273	12.654167
328	NA	52.000000	8.8333333	14.596491
329	NA	10.000000	13.1250000	14.988561
330	NA	15.000000	23.5833333	7.866667
331	NA	NA	11.0000000	13.041667
332	NA	NA	4.4583333	17.491667
333	NA	12.142857	2.1250000	11.645833
334	NA	NA	4.1666667	13.620833
335	NA	28.000000	13.4782609	16.891667
336	NA	23.000000	9.2500000	15.241667
337	NA	30.000000	6.6250000	19.433333
338	NA	35.000000	12.5416667	21.457576
339	NA	24.666667	13.8750000	24.675000
340	NA	22.000000	15.2916667	21.966667
341	NA	25.000000	6.4166667	21.766667
342	NA	28.000000	2.9583333	22.649638
343	NA	21.000000	9.0416667	12.475000
344	NA	32.000000	7.2500000	17.917935
345	NA	23.000000	2.5833333	23.375000
346	NA	29.000000	11.0416667	9.204167
347	NA	34.000000	13.1666667	13.295833
348	NA	43.000000	13.0000000	24.991667
349	NA	19.000000	9.0526316	11.124123
350	NA	36.000000	12.0833333	11.262500
351	NA	27.200000	8.0869565	23.483333
352	NA	36.000000	2.8704710	22.741667
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354	NA	25.000000	9.8125000	15.675000
355	NA	NA	6.8750000	21.953804
356	NA	NA	2.7391304	29.456522
357	NA	36.000000	3.5000000	24.966667
358	NA	NA	2.3958333	21.675000
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360	NA	NA	18.6250000	17.391667

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362	NA		18.2291667	15.641667
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364	NA		4.3458333	31.690657
365	NA	21.000000	16.0833333	16.770833
366	NA		19.9583333	14.138889
367	NA		7.8125000	25.736111
368	NA	25.000000	8.6458333	21.722222
369	NA	26.000000	18.2113095	12.665714
370	NA	24.000000	13.1666667	17.220833
371	NA	75.000000	7.1458333	27.665942
372	NA	74.000000	2.5208333	52.100000
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374	NA	48.000000	7.3958333	26.450000
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376	NA	39.000000	6.4791667	25.883333
377	NA	43.000000	16.9375000	16.528623
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379	NA	46.000000	3.4583333	32.825000
380	NA	28.000000	4.2291667	24.600000
381	NA	32.000000	14.1458333	19.229167
382	NA	26.000000	6.3541667	24.820833
383	NA		8.7171053	28.923810
384	NA	39.000000	13.1250000	23.518182
385	NA	23.500000	6.5069444	21.038043
386	NA	20.000000	16.2291667	21.358333
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393	NA	46.000000	9.3333333	31.377536
394	NA	37.000000	13.4583333	33.374848
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396	NA	42.000000	19.1250000	13.845833
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398	NA	23.000000	29.0833333	16.725000
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400	NA	52.000000	13.6250000	25.327536
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402	NA	39.000000	19.8333333	13.854167
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412	NA	34.000000	6.4166667	29.487500
413	NA	60.000000	9.9583333	39.709369
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420	NA	65.000000	22.2500000	24.922348
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455	NA	33.000000	18.6369048	25.262578
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472	NA	43.000000	21.7738095	25.684896
473	NA	76.000000	39.0000000	16.380208
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482	NA	19.000000	22.3831522	21.613095
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487	NA	33.000000	32.2738095	32.911458
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489	NA	46.000000	35.2916667	26.319414

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527	NA	30.000000	26.1190476	25.774621
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547	NA	11.000000	23.6197917	13.523810
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595	NA	71.000000	39.3123971	23.505208
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598	NA	31.000000	37.1145833	20.342799
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671	NA	35.000000	12.5572917	22.751235
672	NA	28.000000	12.2068603	30.771212
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691	NA	21.000000	5.4166667	26.420846
692	NA	31.000000	4.7500000	27.928125
693	NA	39.000000	3.4166667	31.905461
694	NA	22.000000	7.7916667	30.739583
695	NA	28.000000	13.0416667	35.718750
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707	NA	30.000000	6.6458333	25.661458
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714	NA	NA	5.9166667	21.726190
715	NA	NA	14.3500000	20.410102
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720	NA	NA	12.6086957	16.398810
721	NA	NA	10.5000000	22.507846
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723	NA	23.000000	11.5652174	19.952381
724	NA	NA	4.5416667	24.803571
725	NA	NA	10.0833333	13.776656
726	NA	NA	9.0000000	23.785714
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730	NA	NA	5.6666667	35.900000
731	NA	61.000000	2.7500000	44.666667
732	NA	66.000000	9.3913043	33.131567
733	NA	28.000000	11.3333333	18.328125
734	NA	NA	7.8750000	22.615942
735	NA	43.400000	5.1250000	30.972661
736	NA	20.000000	3.1250000	33.144907
737	NA	27.000000	2.0000000	30.708333
738	NA	NA	2.8750000	25.794271
739	NA	NA	17.9583333	9.580729
740	NA	52.000000	13.4666667	20.080350
741	NA	37.428571	4.8666667	26.239394
742	NA	31.000000	8.5000000	25.424716
743	NA	NA	9.0000000	23.716486
744	NA	NA	6.4285714	27.541667
745	NA	20.000000	3.5833333	23.327381
746	NA	NA	7.6666667	15.029762
747	NA	27.142857	6.2500000	19.886905

748	NA	24.000000	6.9583333	24.775023
749	NA		9.6956522	21.457860
750	NA		11.2083333	22.241745
751	NA		15.6250000	19.156250
752	NA	27.000000	8.3750000	28.190476
753	NA	22.875000	8.7500000	23.321429
754	NA	17.000000	4.9166667	33.184453
755	NA	45.000000	6.2272727	27.774715
756	NA	36.000000	5.4166667	24.188466
757	NA	37.000000	8.2500000	21.831245
758	NA	25.000000	7.5000000	26.568213
759	NA	27.125000	6.5833333	26.140625
760	NA		3.5000000	20.546875
761	NA		7.7916667	20.877944
762	NA		9.8333333	24.047279
763	NA	12.000000	19.0000000	14.140077
764	NA	49.000000	16.0416667	19.109375
765	NA	20.571429	11.3888889	21.750000
766	NA	45.000000	6.5882353	22.322917
767	NA		6.0833333	24.614583
768	NA	32.000000	12.0000000	21.175663
769	NA	56.000000	14.7500000	28.512681
770	NA	86.000000	17.0000000	16.970170
771	NA	34.857143	16.2727273	21.229167
772	NA	36.000000	14.3750000	28.448822
773	NA	33.000000	15.4166667	26.244048
774	NA	26.000000	15.0416667	27.875000
775	NA		7.8750000	29.291667
776	NA	52.000000	19.2916667	25.646480
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778	NA	25.000000	11.4761905	31.580782
779	NA	13.000000	14.6250000	30.630952
780	NA	23.000000	16.9166667	30.636905
781	NA		12.2916667	32.321429
782	NA		16.9583333	33.077381
783	NA	43.750000	19.9583333	33.241300
784	NA	56.000000	21.3750000	25.635426
785	NA	37.000000	13.3333333	29.148592
786	NA	61.000000	12.7083333	42.183333
787	NA		15.2500000	37.916667
788	NA		28.7500000	17.974896
789	NA	33.714286	15.0714286	29.361134
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794	NA	30.000000	7.2083333	23.521280
795	NA	13.625000	26.3750000	10.411458
796	NA	20.000000	33.3750000	12.715672
797	NA	41.000000	29.2916667	18.471354
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804	NA	NA	8.0833333	40.225835
805	NA	NA	18.4583333	23.247056
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808	NA	23.000000	26.8333333	22.921875
809	NA	NA	16.6666667	32.765625
810	NA	31.000000	22.2272727	30.658356
811	NA	22.000000	24.4166667	27.664062
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814	NA	40.000000	11.3750000	42.343750
815	NA	41.000000	23.4166667	26.890625
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818	NA	28.000000	12.8611111	22.358057
819	NA	15.000000	27.0411905	17.922101
820	NA	34.000000	17.4916667	23.254836
821	NA	32.000000	25.8437500	20.675000
822	NA	23.000000	23.1250000	28.447917
823	NA	NA	22.1250000	25.177083
824	NA	NA	13.2083333	33.152433
825	NA	32.625000	18.8260870	25.619630
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827	NA	50.000000	19.6091393	31.648438
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836	NA	54.000000	25.5238095	39.182292
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842	NA	49.000000	31.4940476	32.758832
843	NA	44.375000	30.5520833	28.020833
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847	NA	NA	45.6166667	30.468006
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851	NA	NA	34.5892857	16.276042
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854	NA	NA	24.7729861	32.222917
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856	NA	NA	30.9404762	17.119906
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859	NA	NA	25.3214286	36.127145
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861	NA	27.000000	35.7142857	19.708807
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863	NA	NA	28.5654762	24.345170
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866	NA	NA	27.6829945	42.913542
867	NA	79.875000	35.6324013	51.115530
868	NA	98.000000	47.1192094	44.950634
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871	NA	NA	26.6510417	24.109375
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874	NA	68.000000	37.8125000	43.731793
875	NA	NA	43.5929677	30.211180
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881	NA	25.000000	39.2528409	24.504735
882	NA	NA	26.3734149	27.027497
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886	NA	NA	27.7380952	24.324405
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888	NA	NA	31.7445652	37.759740
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892	NA	NA	21.0000000	13.846354
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895	NA	45.000000	27.4881629	32.325613
896	NA	NA	30.8865901	28.597545
897	NA	27.714286	13.6884470	17.178646
898	NA	35.000000	14.6659873	22.341146
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902	NA	28.000000	49.6128472	23.752841
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912	NA	NA	32.8541667	39.770833
913	NA	NA	52.1754202	43.463542
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915	NA	57.285714	40.6269493	29.604959
916	NA	NA	35.1990741	23.815476
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919	NA	56.000000	32.7301587	30.464286

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927	NA	30.000000	25.7083333	22.827381
928	NA	32.000000	36.1419173	25.357143
929	NA	68.000000	28.6607143	49.435096
930	NA	56.000000	36.1599327	35.933114
931	NA	47.000000	39.1399136	23.270442
932	NA	26.000000	31.4907407	12.909935
933	NA	41.500000	33.2037037	22.000000
934	NA	39.000000	36.4629630	26.234375
935	NA	54.000000	38.3842593	28.257812
936	NA	77.000000	43.4009662	34.942708
937	NA	55.000000	39.7708333	47.690632
938	NA	61.000000	20.7049366	34.765625
939	NA	43.000000	33.2653894	22.014699
940	NA	37.500000	30.7447917	13.877232
941	NA	29.000000	41.8593750	22.302083
942	NA	46.000000	44.9114583	11.157986
943	NA	69.000000	57.3072917	22.440104
944	NA	48.000000	51.7239583	33.779624
945	NA	74.625000	35.4218750	44.781250
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948	NA	38.000000	38.1250000	20.600000
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953	NA	50.000000	27.4490132	41.193277
954	NA	96.000000	31.1191878	55.905215
955	NA	86.000000	28.3072917	44.255208
956	NA	53.000000	35.2604167	32.130208
957	NA	58.375000	22.9237939	32.130952
958	NA	18.000000	20.8740530	21.213194
959	NA	NA	24.0667614	24.439062
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961	NA	NA	26.8630394	25.552083
962	NA	NA	36.1267361	27.572917

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964	NA	59.000000	27.8750000	32.084754
965	NA	31.000000	18.9051178	25.196237
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967	NA	37.000000	32.0291667	14.976326
968	NA	NA	31.7836792	20.432292
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970	NA	50.000000	35.8072917	30.450521
971	NA	49.000000	20.1197917	28.637153
972	NA	50.000000	16.7343750	22.375947
973	NA	54.000000	20.8645833	30.901042
974	NA	35.000000	19.1822917	31.488095
975	NA	21.875000	26.9270833	18.184508
976	NA	15.000000	24.0885417	14.822917
977	NA	23.000000	22.4947917	20.755208
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979	NA	NA	25.8906250	39.236639
980	NA	43.000000	15.4531250	30.396307
981	NA	57.142857	19.6809330	34.247218
982	NA	38.000000	17.5416667	29.098011
983	NA	NA	19.1250000	16.375000
984	NA	23.000000	16.7291667	14.429688
985	NA	40.000000	16.4375000	31.209280
986	NA	32.000000	18.8667037	21.208704
987	NA	14.000000	20.5534420	19.217957
988	NA	15.000000	21.6927083	16.773438
989	NA	NA	23.6576705	22.674953
990	NA	33.000000	22.8281250	28.169271
991	NA	51.000000	26.8273810	33.036458
992	NA	49.000000	31.7423469	44.815641
993	NA	47.500000	23.7050866	41.935033
994	NA	61.000000	27.3645833	43.975379
995	NA	76.000000	25.3958333	46.408267
996	NA	115.000000	25.1979167	31.972633
997	NA	35.000000	17.0625000	13.351562
998	NA	24.000000	12.8541667	24.095238
999	NA	46.625000	15.8125000	31.523263
1000	NA	24.000000	19.5104167	16.692595
1001	NA	41.000000	16.9895833	33.281629
1002	NA	53.000000	16.4046649	36.627976
1003	NA	37.000000	19.1302083	26.140625
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1008	NA	69.000000	10.5999053	33.345833
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1010	NA	25.000000	11.6995265	19.678883
1011	NA	23.857143	11.4375000	20.406250
1012	NA	22.500000	14.3593750	21.195312
1013	NA	NA	14.4270833	28.119792
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1015	NA	52.000000	18.7395833	27.953125
1016	NA	58.000000	18.4791667	32.621686
1017	NA	91.875000	11.0416667	59.515625
1018	NA	62.000000	23.7916667	48.359375
1019	NA	47.500000	29.1354167	26.223958
1020	NA	27.000000	19.5357143	15.908659
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1022	NA	13.500000	23.4285714	15.984848
1023	NA	9.375000	21.1371636	15.049172
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1029	NA	52.625000	15.4166667	42.884502
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1033	NA	44.500000	25.5654762	35.979167
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1037	NA	25.000000	8.8333333	17.281114
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1039	NA	27.500000	8.2916667	20.973958
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1044	NA	20.000000	8.4583333	15.607481
1045	NA	25.000000	7.9583333	12.925595
1046	NA	28.000000	6.0833333	18.305556
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1050	NA	15.000000	3.4444444	14.952863
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1054	NA	25.500000	9.9583333	21.026786
1055	NA	43.500000	12.4375000	16.005952
1056	NA	29.000000	18.6666667	22.294203
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1058	NA	29.000000	10.2500000	20.705729
1059	NA	29.285714	6.6250000	24.791667
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1063	NA	25.500000	19.0000000	15.461222
1064	NA	20.000000	9.1250000	19.629261
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1066	NA	49.000000	5.3750000	31.767857
1067	NA	52.000000	16.1250000	12.375000
1068	NA	14.000000	20.2500000	14.385417
1069	NA	31.000000	5.0416667	21.088068
1070	NA	38.000000	2.3333333	26.708333
1071	NA	24.250000	13.6666667	19.158535
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1081	NA	33.000000	7.9583333	25.708333
1082	NA	31.000000	6.3333333	26.182292
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1094	NA	40.000000	5.7500000	27.099432
1095	NA	38.000000	2.1666667	27.156250
1096	NA	42.000000	7.4583333	19.114583
1097	NA	NA	16.4166667	11.330729
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1101	NA	35.142857	4.4583333	27.156250
1102	NA	42.500000	7.9166667	24.541667
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1104	NA	28.000000	6.1250000	29.550858
1105	NA	30.000000	9.2916667	23.113765
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1107	NA	104.625000	17.8750000	12.424479
1108	NA	55.000000	20.0833333	13.197917
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1113	NA	27.000000	12.4583333	19.167572
1114	NA	37.000000	12.0416667	16.605161
1115	NA	48.000000	9.9583333	27.612798
1116	NA	31.500000	4.7916667	20.739583
1117	NA	16.000000	7.4375000	14.377604
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1119	NA	34.250000	7.7916667	26.346354
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1121	NA	22.000000	11.0555556	17.508117
1122	NA	30.000000	8.5000000	27.309524
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1124	NA	27.000000	7.0416667	21.036458
1125	NA	50.125000	3.2916667	41.353039
1126	NA	28.500000	9.0869565	21.586215
1127	NA	35.000000	8.4583333	28.289025
1128	NA	32.000000	14.9583333	21.696332
1129	NA	32.000000	20.8333333	17.099977
1130	NA	25.500000	7.8750000	21.026042
1131	NA	20.875000	20.0416667	19.268229
1132	NA	24.000000	8.5416667	24.763258
1133	NA	31.500000	2.5000000	28.570340
1134	NA	36.500000	5.4583333	24.379386

1135	NA	31.000000	21.250000	24.596875
1136	NA	40.000000	17.5416667	21.541667
1137	NA	23.375000	12.500000	25.890625
1138	NA	29.500000	15.8750000	24.666667
1139	NA	36.000000	7.4166667	28.328125
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1141	NA	14.000000	28.9166667	12.095342
1142	NA	22.500000	22.7500000	16.353074
1143	NA	23.500000	17.2916667	21.535486
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1145	NA	28.000000	20.1666667	21.595238
1146	NA	30.500000	22.2916667	26.692708
1147	NA	53.000000	8.4761905	44.859046
1148	NA	30.500000	7.1250000	40.127936
1149	NA	23.000000	11.9166667	28.320749
1150	NA	19.000000	21.0416667	26.718750
1151	NA	75.000000	29.1250000	11.471354
1152	NA	23.500000	23.5000000	19.288690
1153	NA	25.000000	11.3750000	27.511732
1154	NA	34.000000	16.8333333	28.327536
1155	NA	31.500000	19.6666667	30.244339
1156	NA	35.000000	15.4583333	30.645833
1157	NA	44.000000	13.6666667	27.999337
1158	NA	20.500000	26.1666667	18.855729
1159	NA	33.000000	16.0416667	29.031250
1160	NA	24.500000	22.0416667	20.694792
1161	NA	28.333333	32.2500000	17.006168
1162	NA	41.500000	24.2916667	26.784400
1163	NA	29.000000	8.3636364	31.005855
1164	NA	33.000000	9.9583333	27.461466
1165	NA	36.000000	6.2916667	29.761905
1166	NA	26.500000	16.7083333	21.833333
1167	NA	26.857143	25.8750000	16.840368
1168	NA	28.500000	11.8888889	24.863122
1169	NA	27.000000	20.8333333	25.153341
1170	NA	20.500000	23.9166667	22.854167
1171	NA	28.000000	26.6250000	21.169196
1172	NA	26.000000	31.2083333	9.856771
1173	NA	16.285714	29.5416667	11.372396
1174	NA	27.500000	21.8095238	18.555999
1175	NA	35.000000	14.7979798	31.562405
1176	NA	44.000000	20.3020833	31.395154
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1179	NA	25.625000	24.6145833	20.203125
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1182	NA	58.000000	13.5286797	42.348958
1183	NA	41.000000	16.5923316	41.567708
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1185	NA	38.000000	19.5449811	24.705348
1186	NA	57.000000	17.3281250	29.140625
1187	NA	34.000000	14.9583333	27.002976
1188	NA	17.500000	16.9702381	15.132143
1189	NA	27.000000	21.9166667	23.171372
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1192	NA	37.500000	17.4345238	27.318452
1193	NA	23.000000	18.2023810	26.913690
1194	NA	28.000000	21.3630952	31.904762
1195	NA	36.000000	17.6562500	32.768892
1196	NA	23.000000	20.0476190	23.508023
1197	NA	25.428571	18.9979296	24.398810
1198	NA	28.500000	18.8750000	28.168245
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1202	NA	NA	21.4254658	31.083333
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1207	NA	28.000000	17.8988095	26.285714
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1214	NA	26.000000	24.9464286	17.800595
1215	NA	33.142857	16.8273810	15.854167
1216	NA	47.000000	15.7916667	21.783550
1217	NA	55.000000	26.1469979	23.863672
1218	NA	61.500000	23.8750000	34.251553
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1223	NA	49.000000	34.3876812	24.443237
1224	NA	63.000000	44.7321429	18.606710
1225	NA	80.000000	30.6502193	24.555556
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1227	NA	32.250000	24.3593750	32.536616
1228	NA	26.500000	27.2812500	21.839209
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1231	NA	51.500000	15.5449811	27.200560
1232	NA	26.500000	24.8910985	21.063889
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1238	NA	18.500000	22.9424819	23.106061
1239	NA	52.625000	22.0389493	38.378586
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1243	NA	41.000000	50.4166667	18.351190
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1251	NA	25.285714	22.7154768	17.919571
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1260	NA	60.000000	48.7223011	23.750000
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1270	NA	28.500000	18.9791667	9.333333
1271	NA	27.000000	23.2500000	18.135417
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1274	NA	43.000000	30.7291667	32.912563
1275	NA	52.375000	29.3489583	32.902929
1276	NA	21.500000	33.5354167	27.320350
1277	NA	40.000000	35.3281250	24.381944
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1281	NA	60.625000	52.2291667	12.816789
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1284	NA	28.000000	31.7291667	19.225694
1285	NA	53.000000	45.2500000	14.961806
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1288	NA	17.000000	28.3072917	15.128517
1289	NA	18.000000	24.4627193	11.504816
1290	NA	13.000000	22.9739583	13.714286
1291	NA	28.000000	17.2080270	15.122024
1292	NA	29.000000	16.0677083	22.458333
1293	NA	32.250000	27.1086957	25.846014
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1295	NA	47.000000	26.3803282	29.241071
1296	NA	47.500000	18.4901316	26.910714
1297	NA	20.000000	19.5520833	22.897998
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1299	NA	15.375000	29.3750000	12.035714
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1303	NA	51.000000	31.2620389	30.907468
1304	NA	74.000000	47.5416667	30.035714
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1311	NA	66.000000	38.2696687	30.567177
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1313	NA	13.000000	20.0451389	11.267857
1314	NA	9.500000	17.3671875	10.600298
1315	NA	38.000000	19.7537879	24.015847
1316	NA	48.500000	21.4490166	36.179113
1317	NA	55.857143	33.7916667	38.496212
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1319	NA	60.500000	48.1458333	21.114583
1320	NA	29.000000	31.2291667	22.812500
1321	NA	20.500000	17.1960565	13.273552
1322	NA	26.000000	17.1834239	21.779796
1323	NA	54.285714	28.4107143	20.538690
1324	NA	55.000000	30.9642857	23.191558
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1326	NA	25.000000	35.1614583	18.988095
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1335	NA	90.285714	36.3097826	22.996683
1336	NA	53.500000	33.4047619	22.595833
1337	NA	36.000000	29.4863807	21.707477
1338	NA	25.500000	40.9166667	30.166667
1339	NA	58.000000	50.6388889	46.194444
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1341	NA	34.166667	24.2410714	21.437500
1342	NA	23.500000	22.8571429	23.027778
1343	NA	84.000000	28.5654762	29.381121
1344	NA	52.000000	30.8928571	25.943182
1345	NA	56.500000	30.6738095	31.047619
1346	NA	13.500000	28.5781250	14.495942
1347	NA	41.000000	19.7447917	17.431548
1348	NA	43.000000	22.6979167	26.473214
1349	NA	69.000000	36.1736111	34.218795

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1351	NA	94.000000	28.3810688	42.130952
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1353	NA	38.625000	15.2864583	15.576441
1354	NA	23.500000	15.2968750	18.491071
1355	NA	10.500000	20.3645833	11.820833
1356	NA	19.000000	17.7500000	17.892857
1357	NA	17.000000	11.8961730	28.154374
1358	NA	28.000000	5.5066288	19.921433
1359	NA	37.428571	17.2822176	30.337407
1360	NA	26.000000	10.5535714	29.527778
1361	NA	21.000000	9.0476190	17.843750
1362	NA	17.500000	15.3273810	16.111111
1363	NA	34.000000	16.8979592	24.854437
1364	NA	42.000000	20.9642857	25.738095
1365	NA	46.875000	14.6785714	31.351732
1366	NA	45.500000	19.6007493	40.898026
1367	NA	48.000000	18.1815908	26.439218
1368	NA	12.500000	15.2738095	10.381944
1369	NA	17.000000	11.7440476	14.177976
1370	NA	43.500000	9.4800725	26.854814
1371	NA	47.750000	15.4671325	34.520526
1372	NA	28.500000	21.6568323	21.453487
1373	NA	32.000000	10.2678571	18.399660
1374	NA	29.000000	24.3452381	21.010359
1375	NA	39.000000	34.9464286	15.423137
1376	NA	5.500000	20.2380952	6.726172
1377	NA	8.000000	13.0238095	9.726190
1378	NA	NA	20.1283644	10.336310
1379	NA	10.000000	11.2440476	11.947360
1380	NA	46.500000	9.4216486	28.239130
1381	NA	65.000000	9.6262940	41.480590
1382	NA	50.500000	14.8392857	30.982143
1383	NA	25.857143	18.3214286	20.589286
1384	NA	30.500000	5.0195578	21.789441
1385	NA	27.000000	13.2440476	26.627976
1386	NA	45.000000	34.6726190	17.565476
1387	NA	16.500000	13.5595238	8.327252
1388	NA	21.000000	7.9285714	21.467885
1389	NA	26.625000	13.8750000	21.349915
1390	NA	25.000000	15.5535714	13.488095
1391	NA	47.000000	8.4047619	24.833722
1392	NA	49.000000	6.7343074	32.386669

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1394	NA	22.000000	9.7797619	19.250000
1395	NA	45.625000	6.2313665	27.047675
1396	NA	51.000000	13.6369048	14.878472
1397	NA	17.000000	12.9166667	14.854167
1398	NA	29.500000	7.7142857	24.482639
1399	NA	58.000000	16.7673395	31.951389
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1401	NA	60.428571	23.0416667	29.623188
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1406	NA	24.000000	5.2500000	18.553571
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1414	NA	40.500000	5.9166667	30.977226
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1416	NA	38.000000	13.3750000	19.394571
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1419	NA	58.571429	3.0833333	27.663812
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1421	NA	35.000000	11.0416667	22.336806
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1423	NA	18.000000	15.4166667	11.638636
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1431	NA	19.000000	8.8333333	20.125000
1432	NA	14.000000	19.2500000	11.841667
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1434	NA	24.000000	18.7083333	19.591502
1435	NA	27.000000	5.5416667	27.125000

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1437	NA	28.857143	4.2173913	24.773737
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1439	NA	28.000000	6.4166667	24.000000
1440	NA	24.500000	11.4166667	27.716766
1441	NA	33.000000	7.9565217	31.505736
1442	NA	35.000000	14.2941176	23.839869
1443	NA	16.571429	15.2083333	15.821759
1444	NA	19.500000	11.2173913	20.389997
1445	NA	18.000000	4.0000000	14.595238
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1447	NA	16.000000	3.1250000	14.784632
1448	NA	24.500000	5.3750000	12.472364
1449	NA	28.333333	6.5000000	20.453204
1450	NA	25.000000	6.6666667	20.804607
1451	NA	29.500000	3.4166667	19.880952
1452	NA	24.000000	9.8333333	14.386905
1453	NA	40.000000	17.4166667	12.949405
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1455	NA	20.428571	13.8750000	11.725694
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1457	NA	18.000000	11.4583333	26.708694
1458	NA	28.000000	2.7916667	22.010743
1459	NA	12.500000	3.6250000	12.951389
1460	NA	NA	12.1041667	10.236111
1461	NA	26.250000	11.7732843	17.360975
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1463	NA	NA	9.8750000	24.272879
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1465	NA	43.000000	6.8750000	26.783081
1466	NA	NA	3.9583333	24.250000
1467	NA	27.000000	14.6250000	22.632738
1468	NA	NA	22.0000000	19.851537
1469	NA	28.500000	11.2916667	24.282738
1470	NA	37.000000	4.7916667	22.935516
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1472	NA	24.000000	8.6250000	17.697718
1473	NA	23.000000	9.1666667	22.708333
1474	NA	33.000000	10.7083333	20.944444
1475	NA	44.500000	7.7083333	27.758152
1476	NA	46.000000	4.6666667	30.881944
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1478	NA	34.000000	12.3333333	19.332931

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1480	NA	19.000000	14.500000	24.072917
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1482	NA	27.000000	20.2916667	19.875000
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1484	NA	34.000000	14.1666667	15.030303
1485	NA	34.750000	13.9166667	26.574621
1486	NA	55.000000	9.9166667	32.636580
1487	NA	41.000000	12.5416667	22.191667
1488	NA	25.000000	12.7083333	23.008333
1489	NA	54.000000	12.2083333	31.426087
1490	NA	12.000000	20.4166667	23.550000
1491	NA	42.125000	11.9583333	26.264493
1492	NA	40.000000	14.6666667	21.780032
1493	NA	52.500000	7.9166667	30.486111
1494	NA	NA	12.0416667	29.597222
1495	NA	39.000000	16.6666667	31.625000
1496	NA	32.000000	12.5833333	28.055556
1497	NA	47.250000	13.0416667	28.597619
1498	NA	39.000000	15.3333333	18.517857
1499	NA	28.000000	8.3333333	25.013889
1500	NA	42.000000	6.5833333	24.444444
1501	NA	35.500000	8.8333333	23.888889
1502	NA	33.000000	18.4166667	15.281250
1503	NA	24.000000	18.3750000	16.891606
1504	NA	35.000000	8.0000000	27.715278
1505	NA	37.000000	8.4583333	23.506944
1506	NA	35.000000	16.0833333	17.283611
1507	NA	39.500000	22.1666667	12.237939
1508	NA	23.000000	12.5833333	16.364583
1509	NA	29.375000	15.5000000	18.869565
1510	NA	39.000000	8.2916667	18.037121
1511	NA	NA	10.8750000	14.559028
1512	NA	36.500000	16.3750000	18.834575
1513	NA	46.000000	10.6666667	23.642512
1514	NA	27.000000	19.0833333	14.617740
1515	NA	22.875000	20.8333333	16.819444
1516	NA	26.000000	14.9583333	14.336806
1517	NA	25.000000	17.4166667	18.958333
1518	NA	41.000000	13.9583333	25.236111
1519	NA	37.000000	14.7500000	22.263889
1520	NA	40.000000	13.3333333	25.984492
1521	NA	29.571429	21.5000000	25.921086

1522	NA	26.000000	17.3750000	11.836806
1523	NA	15.000000	21.3750000	9.840278
1524	NA	30.000000	10.6666667	25.638889
1525	NA	53.000000	6.8750000	27.310606
1526	NA	35.000000	15.1666667	14.382937
1527	NA	22.142857	17.5833333	20.152778
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1530	NA	40.000000	20.3333333	17.743056
1531	NA	57.500000	17.9583333	18.722222
1532	NA	33.000000	16.2083333	15.513573
1533	NA	15.000000	25.6666667	12.434028
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1535	NA	25.000000	17.0000000	23.822285
1536	NA	26.000000	22.5000000	29.993056
1537	NA	33.500000	10.5000000	25.409722
1538	NA	51.000000	15.0733696	24.676932
1539	NA	43.714286	12.9166667	28.777503
1540	NA	33.000000	18.6521739	32.847222
1541	NA	63.000000	25.0434783	29.568182
1542	NA	17.000000	18.4166667	21.381944
1543	NA	21.000000	21.4166667	8.899306
1544	NA	21.000000	17.7500000	13.138889
1545	NA	40.571429	9.3750000	36.229469
1546	NA	31.000000	22.1151369	25.243056
1547	NA	72.000000	15.6865079	15.281250
1548	NA	28.000000	24.6575405	10.428571
1549	NA	14.500000	28.5208333	10.550000
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1551	NA	26.285714	23.4821860	17.666667
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1553	NA	28.000000	19.8257861	26.025000
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1555	NA	35.000000	15.0688776	27.944697
1556	NA	41.000000	25.1738173	27.296998
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1561	NA	18.000000	28.5781250	14.170139
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1564	NA	25.000000	12.9642857	15.423611

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1567	NA	NA	19.7094156	28.335366
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1570	NA	22.000000	25.9746377	12.787893
1571	NA	14.000000	30.6130952	9.451389
1572	NA	15.000000	30.3667184	11.857639
1573	NA	45.500000	23.0680272	29.742560
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1576	NA	NA	26.0714286	29.503562
1577	NA	72.500000	27.8414502	28.106944
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1579	NA	36.000000	15.1467391	17.902778
1580	NA	20.000000	20.6428571	16.036706
1581	NA	36.857143	24.4510870	12.871528
1582	NA	42.000000	21.1669255	16.790278
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1585	NA	29.500000	16.5952381	18.003472
1586	NA	26.000000	20.0059524	17.575694
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1590	NA	46.000000	30.3333333	28.125000
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1595	NA	70.000000	22.9495342	39.286411
1596	NA	85.000000	35.1294643	38.959410
1597	NA	88.500000	22.6979167	48.212500
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1601	NA	42.000000	29.7453463	30.895960
1602	NA	93.000000	35.1500947	31.149306
1603	NA	63.000000	13.3091033	31.309343
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1605	NA	34.714286	28.0104167	20.449179
1606	NA	26.000000	15.0973465	21.246528
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1611	NA	36.625000	30.4599185	20.756944
1612	NA	48.000000	25.9649004	26.200442
1613	NA	41.000000	34.0208333	29.454861
1614	NA	48.000000	38.4642857	23.762500
1615	NA	31.500000	35.6051136	18.156250
1616	NA	16.000000	32.0624588	8.579724
1617	NA	22.571429	25.8293190	12.708686
1618	NA	26.000000	27.2511322	16.985476
1619	NA	45.000000	29.0364583	20.821212
1620	NA	48.000000	33.7968750	25.150000
1621	NA	59.500000	48.1145833	29.991667
1622	NA	86.000000	42.6666667	24.857143
1623	NA	38.125000	25.7395833	29.586667
1624	NA	25.000000	22.5781250	27.814286
1625	NA	52.500000	41.7334692	15.866667
1626	NA	42.000000	42.7656250	17.293841
1627	NA	33.500000	38.1354167	11.425000
1628	NA	21.000000	33.0681612	10.512500
1629	NA	30.500000	28.2153533	21.923485
1630	NA	33.000000	45.1093750	23.510101
1631	NA	43.000000	51.9062500	30.142292
1632	NA	60.000000	63.1041667	25.173611
1633	NA	85.000000	45.8333333	39.733333
1634	NA	18.000000	21.4614583	6.804167
1635	NA	16.625000	31.8906250	6.385417
1636	NA	33.000000	40.2961957	19.471726
1637	NA	52.500000	53.8711504	25.473214
1638	NA	96.000000	49.6781250	28.889583
1639	NA	95.000000	48.6875000	19.607143
1640	NA	49.000000	43.0885417	23.197917
1641	NA	51.500000	42.9114583	20.484954
1642	NA	NA	34.1614583	11.186012
1643	NA	69.000000	31.7843526	25.539069
1644	NA	34.000000	31.3563113	31.446920
1645	NA	61.500000	24.1388134	28.375000
1646	NA	NA	24.9934330	17.591667
1647	NA	35.625000	31.3906250	24.544318
1648	NA	32.000000	40.6093750	25.037500
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1650	NA	NA	30.9463315	11.485615

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1652	NA	22.000000	35.4947917	25.709596
1653	NA	44.500000	42.2160326	22.236477
1654	NA	58.000000	34.7117301	18.619634
1655	NA	22.500000	31.8645833	12.197917
1656	NA	NA	24.9739583	9.163345
1657	NA	50.500000	31.0520833	24.788194
1658	NA	57.000000	40.5364583	36.470328
1659	NA	83.000000	50.3958333	32.156250
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1661	NA	85.500000	58.0455044	27.463284
1662	NA	49.000000	52.7857143	16.694444
1663	NA	54.000000	48.2713033	22.246528
1664	NA	70.000000	34.8578077	24.551226
1665	NA	30.000000	31.0742814	19.223007
1666	NA	51.000000	25.5197011	26.802381
1667	NA	16.000000	23.2526042	16.458333
1668	NA	24.500000	24.4494048	20.275000
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1670	NA	NA	41.6510417	18.125000
1671	NA	38.375000	34.9861111	25.411364
1672	NA	27.000000	26.1712963	22.883333
1673	NA	64.500000	35.6207200	33.136905
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1675	NA	131.000000	39.5185185	55.489583
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1677	NA	14.285714	22.4490741	12.927083
1678	NA	NA	27.8606902	18.512500
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1681	NA	32.500000	27.7153113	24.330177
1682	NA	15.000000	29.2586554	16.142740
1683	NA	24.500000	23.4440236	21.045139
1684	NA	28.000000	28.1805556	25.253472
1685	NA	36.500000	24.5185185	27.351389
1686	NA	31.000000	27.9590456	24.745581
1687	NA	65.000000	28.7954545	44.432881
1688	NA	63.000000	30.9512882	32.950442
1689	NA	58.500000	33.9629630	35.698370
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1691	NA	34.500000	26.0231481	17.491667
1692	NA	18.000000	17.5202020	11.962500
1693	NA	25.500000	18.7527778	15.521329

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1697	NA	43.500000	40.3014706	22.437500
1698	NA	62.000000	52.7864332	24.970833
1699	NA	80.500000	43.0511900	35.922727
1700	NA	42.000000	28.0271164	25.481159
1701	NA	69.857143	31.7638889	34.105429
1702	NA	73.000000	31.3333333	33.757891
1703	NA	47.500000	16.9722222	38.177234
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1705	NA	24.500000	29.9479167	12.520833
1706	NA	NA	31.1190476	22.840278
1707	NA	34.750000	15.4635417	28.659407
1708	NA	13.000000	21.3327295	18.278684
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1710	NA	19.000000	24.5364583	43.989583
1711	NA	63.500000	31.0792572	40.722222
1712	NA	41.000000	38.0104167	26.538194
1713	NA	50.625000	26.7552083	19.288194
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1715	NA	21.000000	18.2282243	13.678355
1716	NA	34.000000	19.5132850	28.766667
1717	NA	53.500000	24.5989583	29.625000
1718	NA	33.000000	17.4531250	25.812500
1719	NA	34.285714	22.2135417	16.869792
1720	NA	43.000000	18.1197917	18.071212
1721	NA	40.500000	11.3802083	24.925694
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1723	NA	38.000000	12.6296296	16.666667
1724	NA	28.000000	11.8666243	28.105114
1725	NA	34.000000	19.6250000	30.902778
1726	NA	25.000000	18.7261905	20.819444
1727	NA	32.000000	9.7494163	17.643382
1728	NA	28.000000	5.6664654	28.229167
1729	NA	36.000000	8.1322464	22.581124
1730	NA	40.000000	11.1276167	18.904672
1731	NA	33.625000	8.9385522	28.660354
1732	NA	16.000000	15.3657407	23.423611
1733	NA	32.000000	20.5000000	22.805556
1734	NA	76.000000	26.6382275	24.611111
1735	NA	60.000000	15.9343800	26.242109
1736	NA	47.000000	19.6429894	27.821759

1737	NA	31.375000	16.6247331	20.353311
1738	NA	15.000000	15.3645833	17.009615
1739	NA	19.000000	16.7916667	9.270833
1740	NA	16.000000	10.3958333	10.266265
1741	NA	28.500000	8.4575465	18.265700
1742	NA	29.000000	22.9154589	20.155495
1743	NA	51.428571	17.1594203	32.995567
1744	NA	63.000000	14.0224185	30.263033
1745	NA	38.000000	11.3148148	29.819444
1746	NA	25.000000	14.3564815	15.267361
1747	NA	17.500000	13.1574074	15.850379
1748	NA	NA	6.1018519	12.427083
1749	NA	27.625000	5.9810606	15.882095
1750	NA	37.000000	9.7916667	24.465278
1751	NA	78.500000	15.1859903	21.127306
1752	NA	26.000000	14.9987374	14.236427
1753	NA	27.500000	13.2962963	16.607639
1754	NA	20.000000	11.8842593	23.031250
1755	NA	46.000000	14.8935185	26.486111
1756	NA	46.000000	24.9475644	27.062500
1757	NA	61.500000	19.3931472	21.327381
1758	NA	25.000000	9.2652308	15.264389
1759	NA	16.000000	5.7343750	11.662500
1760	NA	20.000000	9.0625000	11.191667
1761	NA	10.000000	8.0312500	7.158333
1762	NA	2.000000	7.4166667	13.051786
1763	NA	39.000000	5.2031250	19.870833
1764	NA	8.000000	5.7675601	10.260985
1765	NA	NA	7.7559524	13.383333
1766	NA	NA	10.2916667	15.689773
1767	NA	23.000000	18.7708333	7.916667
1768	NA	17.000000	16.0625000	8.475000
1769	NA	45.500000	11.4791667	17.087500
1770	NA	26.000000	5.3469203	23.133333
1771	NA	35.000000	11.5208333	18.975362
1772	NA	30.000000	6.4583333	22.967879
1773	NA	39.250000	5.0208333	31.208333
1774	NA	7.000000	6.4672619	32.825000
1775	NA	45.000000	3.4166667	35.575000
1776	NA	NA	2.1666667	24.320833
1777	NA	39.500000	2.8750000	20.747115
1778	NA	28.000000	3.8541667	25.662500
1779	NA	36.000000	3.8750000	27.636957

1780	NA	38.000000	9.4166667	23.547414
1781	NA	28.500000	19.2708333	13.937500
1782	NA	NA	12.2916667	17.633333
1783	NA	36.000000	8.7916667	21.925000
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1785	NA	21.875000	5.5416667	22.166667
1786	NA	NA	4.1875000	42.639689
1787	NA	45.500000	2.3333333	33.593750
1788	NA	20.000000	6.2500000	16.385417
1789	NA	33.000000	15.1041667	12.427083
1790	NA	27.000000	6.4285714	23.290152
1791	NA	37.375000	3.5625000	28.688669
1792	NA	35.000000	6.7246377	17.983333
1793	NA	10.000000	11.7291667	16.641667
1794	NA	NA	10.7291667	20.179167
1795	NA	19.000000	14.0000000	10.608333
1796	NA	19.000000	5.8958333	15.513889
1797	NA	16.625000	11.3541667	16.939915
1798	NA	22.000000	8.4375000	19.619003
1799	NA	35.000000	8.1458333	20.131313
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1803	NA	24.285714	6.2708333	17.319444
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1805	NA	25.500000	3.3125000	21.496843
1806	NA	28.000000	3.4375000	22.667435
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1808	NA	41.000000	2.8750000	22.541667
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1810	NA	26.000000	12.0625000	13.336806
1811	NA	27.500000	4.8541667	21.079230
1812	NA	46.000000	7.5208333	18.568452
1813	NA	31.000000	8.7500000	17.583929
1814	NA	37.000000	3.8125000	30.991667
1815	NA	29.375000	2.1250000	20.132479
1816	NA	20.000000	2.0000000	18.107639
1817	NA	11.500000	3.2500000	14.504386
1818	NA	22.000000	6.2916667	20.166982
1819	NA	29.000000	4.5416667	21.777778
1820	NA	39.000000	3.3125000	25.444444
1821	NA	33.000000	4.1041667	22.201389
1822	NA	31.000000	9.1875000	14.225393

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1824	NA	42.000000	3.7291667	14.739583
1825	NA	29.000000	5.0458333	21.153409
1826	NA	21.000000	6.0969203	18.226234
1827	NA	33.428571	5.4583333	19.697917
1828	NA	31.000000	2.4166667	24.822917
1829	NA	32.000000	2.1250000	24.607008
1830	NA	22.000000	6.1250000	19.416667
1831	NA	25.500000	8.0000000	16.645833
1832	NA	30.000000	3.0416667	19.475000
1833	NA	41.428571	2.4791667	23.460598
1834	NA	26.500000	3.3750000	21.708333
1835	NA	33.500000	2.0000000	14.178030
1836	NA	32.000000	4.4782609	19.343750
1837	NA	25.000000	4.9791667	20.552083
1838	NA	23.000000	7.4166667	18.479167
1839	NA	18.125000	6.7708333	17.343750
1840	NA	24.000000	11.5625000	21.927083
1841	NA	38.000000	8.2518939	24.614583
1842	NA	39.000000	7.8143939	24.224784
1843	NA	34.500000	11.1666667	18.072917
1844	NA	NA	11.6250000	22.200634
1845	NA	27.500000	7.2291667	26.805556
1846	NA	42.000000	6.3333333	25.875000
1847	NA	44.000000	4.5000000	30.797078
1848	NA	34.000000	4.3333333	28.500000
1849	NA	50.000000	8.5952381	16.222222
1850	NA	65.000000	11.8958333	20.611111
1851	NA	24.750000	7.2291667	23.597222
1852	NA	29.000000	7.7708333	28.430556
1853	NA	45.500000	3.7083333	25.739583
1854	NA	41.000000	5.4166667	30.712862
1855	NA	46.500000	6.1875000	22.260417
1856	NA	40.500000	2.2916667	27.135417
1857	NA	20.125000	9.8541667	21.219656
1858	NA	41.500000	16.3125000	22.473958
1859	NA	23.500000	4.4166667	27.531250
1860	NA	82.500000	2.5833333	40.895833
1861	NA	26.500000	9.1666667	20.333333
1862	NA	23.000000	7.9791667	26.281250
1863	NA	37.000000	5.4166667	24.701705
1864	NA	34.500000	10.7291667	20.779438
1865	NA	25.000000	13.2291667	14.885417

1866	NA	43.500000	7.5208333	23.614583
1867	NA	78.000000	3.2083333	24.083333
1868	NA	19.000000	10.5208333	20.114583
1869	NA	31.375000	13.8958333	20.614583
1870	NA	37.500000	2.2083333	23.549366
1871	NA	31.500000	6.3625000	21.504735
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1873	NA	26.000000	7.0000000	20.041667
1874	NA	36.000000	9.4583333	22.583333
1875	NA	37.857143	3.6979167	24.928571
1876	NA	26.000000	5.6837945	27.843750
1877	NA	37.000000	9.8809524	23.875000
1878	NA	25.000000	14.7481061	27.451136
1879	NA	30.000000	10.8333333	24.208333
1880	NA	35.000000	17.6666667	21.260417
1881	NA	38.125000	10.4791667	25.833333
1882	NA	36.500000	11.3049242	25.981061
1883	NA	36.000000	13.4791667	25.291667
1884	NA	34.000000	7.9772727	29.427083
1885	NA	27.000000	13.4583333	20.979167
1886	NA	22.000000	22.7083333	20.968750
1887	NA	36.375000	18.4166667	24.864583
1888	NA	44.500000	11.3541667	30.375000
1889	NA	59.000000	6.8958333	26.401721
1890	NA	77.000000	8.7500000	35.074811
1891	NA	99.000000	6.8333333	41.430556
1892	NA	50.000000	8.1250000	32.708333
1893	NA	43.714286	3.5416667	28.152778
1894	NA	27.500000	9.0000000	24.472222
1895	NA	34.000000	14.4583333	26.020833
1896	NA	32.500000	23.0208333	22.107708
1897	NA	34.000000	21.1875000	26.916667
1898	NA	31.500000	18.0833333	30.229167
1899	NA	33.750000	17.7500000	29.791667
1900	NA	27.000000	19.7916667	28.652778
1901	NA	28.500000	18.9375000	31.333333
1902	NA	28.500000	12.1969697	30.611111
1903	NA	26.500000	21.3333333	23.541667
1904	NA	20.500000	26.5416667	21.203283
1905	NA	24.000000	28.7626812	29.672619
1906	NA	40.000000	15.8333333	35.103220
1907	NA	33.000000	29.5416667	27.427083
1908	NA	19.500000	25.5208333	25.635417

1909	NA	54.000000	13.4375000	48.930707
1910	NA	58.000000	16.5958333	37.094697
1911	NA	40.750000	12.1875000	31.697917
1912	NA	46.500000	15.8333333	28.066176
1913	NA	26.500000	23.8333333	27.125000
1914	NA	39.500000	18.0208333	42.347222
1915	NA	25.000000	27.2708333	24.388889
1916	NA	34.000000	20.4791667	32.871732
1917	NA	35.375000	16.6666667	34.536232
1918	NA	20.000000	23.2253472	24.388889
1919	NA	32.000000	18.5161713	29.972222
1920	NA	45.500000	13.4895833	31.472222
1921	NA	20.000000	26.9375000	25.041667
1922	NA	29.000000	20.9062500	32.055556
1923	NA	42.125000	17.8437500	37.802083
1924	NA	76.500000	14.4962121	40.706250
1925	NA	53.000000	19.3726326	37.683333
1926	NA	37.000000	26.9226985	28.316403
1927	NA	45.000000	19.9838574	31.738106
1928	NA	18.000000	17.1510417	26.675000
1929	NA	14.857143	32.0572917	13.816667
1930	NA	32.000000	15.9185606	22.418561
1931	NA	44.500000	9.7651721	26.128478
1932	NA	53.000000	10.2738095	31.979167
1933	NA	26.000000	17.2395833	28.182292
1934	NA	23.000000	22.9218750	24.541667
1935	NA	40.500000	10.4531250	25.625000
1936	NA	24.000000	23.7395833	18.333333
1937	NA	22.500000	21.5833333	18.973958
1938	NA	34.500000	12.9316604	16.638134
1939	NA	37.000000	17.5453869	21.234848
1940	NA	40.500000	7.9802989	33.349206
1941	NA	33.571429	8.5214461	27.854167
1942	NA	14.000000	17.3630952	21.958333
1943	NA	11.500000	19.5178571	14.066123
1944	NA	20.000000	24.4785779	17.051954
1945	NA	55.000000	18.0939764	41.552083
1946	NA	52.500000	16.4055707	31.028080
1947	NA	55.375000	15.1370018	29.309912
1948	NA	141.000000	32.9173460	25.358333
1949	NA	67.000000	27.5833333	20.500000
1950	NA	34.500000	18.0952381	15.505208
1951	NA	23.500000	19.3870874	22.494318

1952	NA	56.000000	31.3052721	17.303954
1953	NA	31.857143	21.3403680	27.504167
1954	NA	100.000000	21.7422360	41.423188
1955	NA	65.000000	35.0000000	49.777136
1956	NA	49.000000	45.6093750	29.700000
1957	NA	53.000000	41.3593750	25.866667
1958	NA	84.000000	33.7580287	26.235507
1959	NA	47.571429	26.4166667	28.781522
1960	NA	NA	22.9789402	18.975000
1961	NA	19.000000	13.5031379	28.609848
1962	NA	81.000000	18.7237319	38.108333
1963	NA	67.000000	41.3571429	30.812500
1964	NA	35.000000	35.0238095	16.953125
1965	NA	21.125000	21.8757440	17.330616
1966	NA	38.000000	22.1046196	33.574621
1967	NA	NA	36.1385870	40.437987
1968	NA	92.000000	33.6017992	43.004545
1969	NA	83.000000	24.7776680	34.583333
1970	NA	54.000000	19.0064700	14.529167
1971	NA	10.875000	29.2440476	9.962500
1972	NA	NA	29.1309524	14.266667
1973	NA	18.000000	25.2335389	25.081341
1974	NA	38.000000	16.5625000	32.575000
1975	NA	70.000000	22.4479167	40.576197
1976	NA	56.000000	32.3768116	33.348485
1977	NA	33.625000	40.7015306	29.575000
1978	NA	42.000000	36.1250000	39.825000
1979	NA	43.000000	22.9470109	42.683333
1980	NA	21.000000	22.3935688	32.640909
1981	NA	55.000000	42.6927083	36.607246
1982	NA	51.000000	24.6718750	34.140476
1983	NA	53.714286	32.2926136	34.132143
1984	NA	53.000000	33.1093750	36.166667
1985	NA	19.000000	33.3958333	18.483333
1986	NA	19.000000	22.9479167	25.445833
1987	NA	18.000000	26.0276268	20.358333
1988	NA	27.000000	28.0512599	31.868297
1989	NA	41.857143	27.0556418	38.266667
1990	NA	35.000000	40.7231571	42.414130
1991	NA	61.000000	45.3281250	49.575000
1992	NA	45.000000	41.2447917	23.391667
1993	NA	45.000000	33.0303442	23.694565
1994	NA	76.000000	44.3906250	24.071146

1995	NA	72.285714	27.7550725	24.667754
1996	NA	42.000000	27.6248297	24.811759
1997	NA	NA	19.2288647	14.175000
1998	NA	2.000000	20.4928977	11.012121
1999	NA	9.000000	20.6822917	13.675000
2000	NA	62.000000	13.6607143	35.841667
2001	NA	48.142857	31.1379630	35.350000
2002	NA	40.000000	31.9844276	29.803810
2003	NA	50.000000	23.8234702	34.505303
2004	NA	41.000000	26.1209340	24.732246
2005	NA	17.000000	21.5937500	15.591667
2006	NA	38.000000	25.1197917	36.658333
2007	NA	53.500000	33.4093837	31.865476
2008	NA	18.000000	29.0138889	20.408333
2009	NA	75.000000	50.8287037	37.975000
2010	NA	79.000000	22.1914983	32.668478
2011	NA	24.000000	19.1041667	16.483333
2012	NA	24.000000	29.5312500	18.333333
2013	NA	19.714286	21.5781250	17.083333
2014	NA	NA	18.7339884	20.687879
2015	NA	59.000000	19.0673401	28.441667
2016	NA	66.000000	29.1580113	23.409211
2017	NA	32.000000	13.8949275	33.066667
2018	NA	32.000000	24.1034622	30.325000
2019	NA	31.625000	25.9120370	29.125000
2020	NA	25.000000	19.0468750	16.760417
2021	NA	14.000000	20.7349034	22.164493
2022	NA	11.000000	18.6648099	18.716667
2023	NA	19.000000	23.5387205	19.446443
2024	NA	41.000000	13.3979469	35.372727
2025	NA	28.000000	17.7500000	26.125000
2026	NA	23.000000	17.3935185	21.620833
2027	NA	24.000000	26.6435185	22.033333
2028	NA	18.000000	18.9472625	19.999242
2029	NA	7.000000	20.7447665	12.631159
2030	NA	29.000000	18.8892915	21.339150
2031	NA	29.000000	20.1201691	19.775000
2032	NA	24.000000	26.9297138	21.240476
2033	NA	33.000000	18.1435185	28.875000
2034	NA	35.000000	20.2916667	20.779167
2035	NA	29.000000	17.2003968	24.737500
2036	NA	42.000000	20.5984300	27.650000
2037	NA	23.125000	14.4122383	17.147694

2038	NA	17.000000	13.4907407	17.845833
2039	NA	19.000000	20.4134461	21.048214
2040	NA	NA	23.6203704	21.137500
2041	NA	23.000000	22.8055556	21.358333
2042	NA	34.000000	11.6376812	27.119242
2043	NA	22.500000	13.2962963	18.103080
2044	NA	24.000000	22.3870974	17.948480
2045	NA	28.000000	30.3643378	26.273864
2046	NA	61.500000	30.3716238	30.138889
2047	NA	45.000000	32.4427083	19.236111
2048	NA	46.000000	28.2604167	19.923611
2049	NA	33.250000	23.2708333	17.027778
2050	NA	26.000000	23.4866052	21.575873
2051	NA	26.000000	10.3691077	22.745833
2052	NA	22.500000	19.1508198	17.457413
2053	NA	26.000000	17.2292673	21.308333
2054	NA	13.000000	26.8888889	13.854167
2055	NA	24.285714	26.2962963	21.025000
2056	NA	82.000000	22.5092593	41.375000
2057	NA	56.500000	21.9605475	30.875000
2058	NA	18.000000	15.1904187	19.800774
2059	NA	63.000000	15.5722625	24.325000
2060	NA	76.500000	23.3305153	41.591342
2061	NA	56.000000	33.5462963	38.516667
2062	NA	59.500000	30.5740741	24.850000
2063	NA	77.500000	20.6833187	27.141667
2064	NA	46.000000	23.9583333	23.912771
2065	NA	19.500000	12.1758658	16.383679
2066	NA	31.000000	8.4612795	14.697727
2067	NA	22.750000	11.5670107	21.250379
2068	NA	51.500000	23.3703704	21.675000
2069	NA	31.000000	22.1203704	11.358333
2070	NA	38.000000	12.8101852	24.700000
2071	NA	63.000000	16.6111111	30.570455
2072	NA	56.000000	16.8967391	25.284420
2073	NA	32.285714	16.3750915	25.167391
2074	NA	33.000000	19.2175926	33.710507
2075	NA	34.500000	23.3593750	21.183333
2076	NA	36.000000	27.8802083	18.545833
2077	NA	34.500000	31.5335145	22.766667
2078	NA	54.000000	16.5157295	19.051630
2079	NA	18.750000	6.3256844	29.427070
2080	NA	41.500000	11.0179879	17.479167

2081	NA	38.500000	10.1141304	24.728030
2082	NA	39.000000	20.7222222	30.108333
2083	NA	50.000000	33.4074074	23.575000
2084	NA	69.500000	23.6620370	35.316667
2085	NA	44.857143	19.9551127	34.818182
2086	NA	103.500000	33.7055153	25.985145
2087	NA	66.000000	20.7419485	32.653623
2088	NA	41.500000	19.2435222	21.690476
2089	NA	30.500000	13.9596561	28.650000
2090	NA	27.000000	18.1145833	24.941667
2091	NA	36.142857	6.3088768	26.116667
2092	NA	37.000000	12.1795743	20.206977
2093	NA	25.000000	12.9270833	23.393182
2094	NA	36.500000	15.1979167	27.886111
2095	NA	53.500000	16.3389946	35.408333
2096	NA	28.000000	14.5625000	25.008333
2097	NA	18.125000	13.7031250	19.500000
2098	NA	37.500000	12.0332880	26.808333
2099	NA	76.500000	8.7325634	37.902141
2100	NA	95.500000	11.8079710	48.361153
2101	NA	89.500000	15.5253623	48.046377
2102	NA	86.000000	21.4043881	42.696485
2103	NA	40.857143	29.6712963	28.637319
2104	NA	30.500000	23.6527778	13.883333
2105	NA	23.000000	15.4583333	23.469048
2106	NA	72.000000	11.1418350	38.144862
2107	NA	87.000000	19.6596399	38.310870
2108	NA	46.000000	16.3357488	25.582971
2109	NA	19.285714	7.1649832	18.458333
2110	NA	50.000000	11.9120370	24.531250
2111	NA	59.500000	13.4722222	22.760417
2112	NA	57.000000	14.9861111	26.072917
2113	NA	64.000000	9.3085017	30.580303
2114	NA	44.500000	9.9874339	30.807576
2115	NA	19.000000	4.8630888	20.436232
2116	NA	31.500000	6.7962963	19.920833
2117	NA	32.500000	8.9629630	28.191667
2118	NA	37.000000	15.7638889	20.408333
2119	NA	30.000000	9.2962963	33.641667
2120	NA	41.000000	9.7786195	25.368478
2121	NA	43.250000	9.9302811	25.076252
2122	NA	63.000000	11.8659555	41.165382
2123	NA	129.000000	17.2592844	35.675000

2124	NA	30.500000	17.5885417	22.516667
2125	NA	37.000000	12.1944444	29.925000
2126	NA	40.500000	15.2401369	26.141667
2127	NA	77.428571	6.1851852	45.059554
2128	NA	119.000000	7.9973650	40.455435
2129	NA	30.000000	14.5253623	20.317029
2130	NA	24.500000	13.3611111	20.033333
2131	NA	18.000000	13.5509259	20.833333
2132	NA	30.000000	12.1145833	15.150000
2133	NA	11.714286	3.4605978	18.000000
2134	NA	15.000000	5.8645833	25.241667
2135	NA	13.000000	5.1934289	21.593939
2136	NA	26.000000	4.3257576	27.244231
2137	NA	21.000000	4.7735507	29.645833
2138	NA	27.500000	5.6000000	28.770833
2139	NA	27.125000	4.1041667	22.822917
2140	NA	32.000000	7.2083333	26.687500
2141	NA	37.000000	5.3333333	26.891667
2142	NA	24.000000	6.2083333	19.833333
2143	NA	NA	6.8409091	21.129381
2144	NA	27.500000	11.7500000	20.700000
2145	NA	18.714286	7.6666667	21.850000
2146	NA	27.000000	7.5416667	22.258333
2147	NA	33.000000	3.7500000	28.408333
2148	NA	42.500000	3.7777778	25.696667
2149	NA	28.500000	9.0845411	19.987500
2150	NA	33.500000	7.7171717	24.470690
2151	NA	32.857143	6.2083333	32.075000
2152	NA	20.500000	5.3750000	15.125000
2153	NA	11.500000	11.8333333	12.383333
2154	NA	34.500000	3.7500000	26.529529
2155	NA	26.000000	3.6712121	23.966667
2156	NA	37.500000	2.4166667	18.746739
2157	NA	11.714286	7.6944444	13.566667
2158	NA	30.500000	5.5694444	23.625000
2159	NA	32.500000	4.9027778	24.241667
2160	NA	28.000000	6.3194444	23.100000
2161	NA	53.000000	4.1884058	21.833333
2162	NA	18.000000	3.6944444	23.150000
2163	NA	21.428571	7.1998792	22.583333
2164	NA	21.000000	6.5067523	26.841667
2165	NA	48.000000	7.1805556	24.198913
2166	NA	25.000000	7.5694444	25.975000

2167	NA	23.500000	2.7361111	25.691667
2168	NA	36.500000	5.0138889	27.158333
2169	NA	32.000000	6.5883838	29.179928
2170	NA	42.000000	3.2536232	27.333333
2171	NA	47.500000	2.0434783	30.658333
2172	NA	32.500000	2.0000000	29.916667
2173	NA	32.000000	8.5972222	27.033333
2174	NA	26.000000	9.0833333	20.133333
2175	NA	37.285714	2.6044686	27.940476
2176	NA	28.000000	3.2866162	27.065942
2177	NA	26.000000	2.6666667	20.537500
2178	NA	36.000000	3.0000000	24.158333
2179	NA	30.500000	2.4027778	22.608333
2180	NA	32.000000	2.5416667	22.441667
2181	NA	23.875000	7.0972222	21.433333
2182	NA	46.500000	2.2500000	28.893841
2183	NA	44.500000	2.0000000	31.813636
2184	NA	53.000000	4.5314010	24.325362
2185	NA	39.000000	6.8194444	21.908333
2186	NA	75.000000	14.2222222	12.375000
2187	NA	27.142857	7.2222222	23.916667
2188	NA	31.000000	4.4305556	24.766667
2189	NA	36.000000	2.0000000	22.497727
2190	NA	43.000000	2.0000000	21.177451
2191	NA	43.000000	2.0000000	20.392172
2192	NA	44.000000	2.0833333	17.558333
2193	NA	18.142857	4.3055556	22.608333
2194	NA	17.500000	1.5416667	23.808333
2195	NA	21.500000	0.5277778	19.825000
2196	NA	17.000000	0.8333333	18.166667
2197	NA	12.000000	0.9532828	22.087088
2198	NA	34.000000	1.7777778	26.718182
2199	NA	19.875000	1.6900527	27.083333
2200	NA	14.000000	14.2506039	25.600000
2201	NA	3.000000	24.9583333	11.658333
2202	NA	8.000000	24.1666667	13.283333
2203	NA	14.500000	12.8194444	22.508333
2204	NA	32.000000	1.5277778	27.104348
2205	NA	20.875000	3.0492424	29.516667
2206	NA	12.500000	4.0241546	37.076812
2207	NA	31.500000	5.7815657	31.814394
2208	NA	25.500000	3.2361111	33.025000
2209	NA	22.000000	17.5972222	22.258333

2210	NA	51.000000	8.0555556	34.408333
2211	NA	49.571429	6.0289855	43.205435
2212	NA	41.500000	4.3888889	33.197464
2213	NA	19.000000	0.6527778	27.002841
2214	NA	24.500000	5.9444444	28.281250
2215	NA	20.000000	9.5972222	24.145833
2216	NA	26.000000	16.5277778	14.885417
2217	NA	29.875000	7.7500000	30.077083
2218	NA	52.500000	6.5772947	27.176449
2219	NA	31.500000	7.7312802	29.664827
2220	NA	36.500000	7.2350427	24.816667
2221	NA	19.500000	11.7500000	21.658333
2222	NA	41.500000	14.3888889	17.533333
2223	NA	20.500000	13.2083333	19.625000
2224	NA	13.500000	20.6944444	16.219118
2225	NA	12.000000	7.2125604	34.135705
2226	NA	64.000000	3.0997475	39.545787
2227	NA	96.500000	7.2916667	43.349781
2228	NA	74.500000	7.8586957	36.236045
2229	NA	12.375000	17.4861111	17.263889
2230	NA	26.500000	6.8055556	21.451389
2231	NA	11.500000	15.6805556	18.471230
2232	NA	40.500000	1.0492424	26.394895
2233	NA	20.000000	6.8550725	22.660804
2234	NA	16.500000	14.4583333	15.575000
2235	NA	20.375000	13.9055556	19.110000
2236	NA	11.000000	7.5000000	26.208333
2237	NA	23.000000	17.6666667	18.444444
2238	NA	37.000000	9.8750000	28.444444
2239	NA	22.000000	15.4154040	27.038333
2240	NA	39.000000	15.7638889	23.984848
2241	NA	27.750000	13.8756039	25.609058
2242	NA	66.500000	9.3888889	39.246032
2243	NA	44.500000	13.1388889	39.658333
2244	NA	23.000000	11.3750000	24.050000
2245	NA	18.500000	12.8194444	32.944979
2246	NA	36.500000	11.9861111	30.125000
2247	NA	39.750000	9.1148990	35.112374
2248	NA	37.000000	12.4166667	35.233440
2249	NA	16.500000	18.5132850	30.334678
2250	NA	52.500000	10.3611111	48.901389
2251	NA	44.500000	28.4444444	46.232488
2252	NA	47.000000	23.6944444	43.209038

2253	NA	52.000000	8.2182540	47.176587
2254	NA	27.000000	31.3659420	31.632071
2255	NA	20.500000	30.3333333	20.312500
2256	NA	36.000000	16.9556159	31.128568
2257	NA	20.000000	9.5416667	38.618056
2258	NA	27.000000	10.3125000	24.812500
2259	NA	24.625000	10.5000000	24.755682
2260	NA	26.000000	19.3055556	23.604167
2261	NA	22.500000	7.4053030	30.028968
2262	NA	35.000000	9.5138889	28.062500
2263	NA	48.000000	11.5921717	35.888889
2264	NA	43.000000	17.4583333	22.708333
2265	NA	24.875000	15.8888889	23.937500
2266	NA	85.000000	16.7708333	31.486111
2267	NA	24.000000	17.3750000	27.022947
2268	NA	26.000000	26.3376068	19.491667
2269	NA	10.000000	26.4381313	23.357049
2270	NA	29.000000	8.1224747	29.447691
2271	NA	40.571429	4.1177536	27.790761
2272	NA	42.000000	12.3888889	30.201389
2273	NA	26.500000	17.5996377	24.281401
2274	NA	27.000000	7.0039683	29.065355
2275	NA	33.000000	5.9166667	28.910564
2276	NA	36.500000	8.6920290	26.769841
2277	NA	33.375000	24.7874396	27.711655
2278	NA	19.000000	29.0833333	23.430556
2279	NA	17.000000	27.6944444	27.611111
2280	NA	40.000000	23.6527778	41.844807
2281	NA	41.500000	24.2620773	41.421196
2282	NA	31.500000	21.8365385	21.987103
2283	NA	11.625000	26.9351852	15.086310
2284	NA	41.000000	18.8820451	29.449907
2285	NA	24.500000	17.7175926	33.937500
2286	NA	32.500000	23.8703704	27.861111
2287	NA	32.000000	21.0946055	23.902778
2288	NA	34.000000	21.5108696	31.069444
2289	NA	57.250000	15.9351486	33.365036
2290	NA	45.500000	14.3041282	32.318182
2291	NA	35.000000	20.2129630	25.611111
2292	NA	26.500000	22.1388889	24.937500
2293	NA	15.000000	19.8333333	15.743056
2294	NA	20.000000	27.9364478	18.180556
2295	NA	31.428571	25.2692139	22.841540

2296	NA	41.000000	18.6226577	27.149457
2297	NA	22.500000	10.4394985	29.124008
2298	NA	24.000000	16.8240741	22.888889
2299	NA	37.000000	23.5231481	25.930556
2300	NA	28.000000	29.7731481	22.673611
2301	NA	30.875000	14.7175926	33.416667
2302	NA	28.000000	24.2445652	18.457071
2303	NA	43.500000	20.2952188	31.155696
2304	NA	63.500000	18.2182540	41.152778
2305	NA	63.500000	24.6382484	40.133838
2306	NA	100.000000	34.1851852	15.465278
2307	NA	18.000000	31.0925926	15.750000
2308	NA	18.500000	21.3110269	17.627553
2309	NA	67.000000	21.3657407	25.908213
2310	NA	46.000000	21.0408615	33.756944
2311	NA	48.500000	7.5201105	38.163345
2312	NA	42.500000	12.1064815	36.868056
2313	NA	35.000000	30.7268519	22.326389
2314	NA	31.000000	25.1472222	25.604167
2315	NA	31.500000	20.0703071	27.121291
2316	NA	34.000000	16.2316462	34.496404
2317	NA	53.500000	12.8896166	37.206349
2318	NA	71.500000	15.6750842	48.282119
2319	NA	60.375000	33.6874144	42.745833
2320	NA	52.000000	44.3009259	28.215278
2321	NA	59.000000	36.9583333	29.097222
2322	NA	72.000000	36.1708333	35.180556
2323	NA	37.500000	28.3630508	28.667298
2324	NA	50.500000	21.4507905	24.145574
2325	NA	23.125000	16.9920290	17.555556
2326	NA	52.000000	24.3202899	27.707882
2327	NA	73.500000	28.8125000	19.652778
2328	NA	44.500000	28.2916667	21.319444
2329	NA	30.500000	17.1579710	30.262255
2330	NA	51.000000	18.8254529	27.685579
2331	NA	24.625000	17.0335145	24.452295
2332	NA	61.500000	10.7178571	34.156566
2333	NA	53.000000	17.1538043	36.979167
2334	NA	43.000000	27.1458333	30.534722
2335	NA	20.000000	29.8833333	15.180556
2336	NA	34.000000	19.5721014	12.409722
2337	NA	28.000000	16.6827734	26.664526
2338	NA	50.000000	19.6416667	33.611111

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2340	NA	92.500000	18.6224638	20.211988
2341	NA	16.000000	23.4629630	14.034722
2342	NA	28.000000	16.2500000	23.076389
2343	NA	11.500000	26.0370370	10.319444
2344	NA	31.000000	14.1727273	26.022096
2345	NA	32.000000	19.1234848	28.194664
2346	NA	31.500000	19.8540679	23.819444
2347	NA	19.500000	17.8911232	17.566943
2348	NA	23.000000	22.8875000	25.652778
2349	NA	31.625000	26.4125000	22.472222
2350	NA	36.000000	6.1296212	33.868056
2351	NA	25.000000	13.4642256	30.505462
2352	NA	34.000000	26.8257576	18.293561
2353	NA	63.000000	24.6500000	36.159722
2354	NA	36.000000	35.5093478	33.729167
2355	NA	40.571429	35.7208333	26.966667
2356	NA	52.000000	32.6458333	28.500000
2357	NA	43.000000	25.7684524	25.555952
2358	NA	33.000000	19.8937681	19.601087
2359	NA	NA	28.2992260	26.013225
2360	NA	62.000000	44.1802536	29.585870
2361	NA	32.500000	30.4458333	27.250000
2362	NA	28.000000	25.9537037	25.093750
2363	NA	18.000000	25.0694444	14.691667
2364	NA	30.000000	15.7244674	29.016204
2365	NA	47.000000	25.8967391	38.609127
2366	NA	59.000000	38.0438406	26.814915
2367	NA	49.875000	31.0643939	27.381944
2368	NA	34.000000	16.7433136	25.752345
2369	NA	35.000000	20.2441667	23.888889
2370	NA	27.000000	26.4791667	20.072917
2371	NA	19.000000	18.6049431	23.563095
2372	NA	24.000000	22.1983747	23.790687
2373	NA	33.250000	16.4796066	21.772865
2374	NA	36.000000	10.0480072	29.243659
2375	NA	NA	11.8518939	37.633838
2376	NA	NA	26.7083333	30.590278
2377	NA	70.000000	29.3541667	15.666667
2378	NA	NA	33.6541667	10.937500
2379	NA	23.750000	25.1070652	24.499369
2380	NA	31.000000	17.3366977	28.416667
2381	NA	47.000000	23.9311594	25.363043

2382	NA	NA	23.5853261	23.233333
2383	NA	25.000000	20.8791667	29.400000
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2385	NA	28.285714	26.5750000	23.358333
2386	NA	40.000000	30.1625000	26.598333
2387	NA	NA	27.9927536	27.013889
2388	NA	15.000000	30.5229167	17.055556
2389	NA	47.000000	34.9458333	24.515399
2390	NA	60.000000	29.7750000	23.034722
2391	NA	38.625000	25.0556818	24.118056
2392	NA	43.000000	28.8250000	21.826389
2393	NA	33.000000	21.9233484	22.378157
2394	NA	29.000000	17.4902174	18.907828
2395	NA	24.000000	20.5943841	16.548611
2396	NA	57.000000	26.1639493	28.435414
2397	NA	46.500000	24.2186594	27.451169
2398	NA	36.000000	29.7083333	15.909722
2399	NA	33.000000	20.5818841	20.951389
2400	NA	66.000000	24.4192029	26.477273
2401	NA	51.000000	25.8407867	16.401389
2402	NA	34.000000	17.9174078	17.273853
2403	NA	31.625000	19.0258235	23.002525
2404	NA	46.000000	24.4583333	26.861111
2405	NA	26.500000	27.5583333	13.598128
2406	NA	42.500000	15.9000000	20.531944
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2408	NA	38.500000	15.6845356	19.437500
2409	NA	36.875000	13.6126812	26.466667
2410	NA	32.000000	15.4938406	22.537879
2411	NA	26.000000	22.9291667	22.800000
2412	NA	37.500000	35.9445652	30.291667
2413	NA	55.000000	19.9250000	31.800000
2414	NA	67.500000	26.2540415	26.756159
2415	NA	79.250000	33.6243083	37.703788
2416	NA	59.000000	24.4883564	28.176389
2417	NA	71.000000	38.8621739	28.704980
2418	NA	83.500000	32.0882576	34.885101
2419	NA	52.500000	19.9000000	30.138889
2420	NA	41.000000	20.5368357	28.152778
2421	NA	40.285714	38.7960950	18.655303
2422	NA	56.000000	37.8836957	30.311308
2423	NA	57.500000	12.9125000	36.639520
2424	NA	28.000000	19.0284420	20.423611

2425	NA	20.000000	20.950000	12.270833
2426	NA	26.500000	22.2583333	18.958333
2427	NA	55.250000	30.3715909	22.344907
2428	NA	40.000000	19.4242424	25.112864
2429	NA	52.000000	24.6742424	34.880682
2430	NA	66.500000	24.2098485	31.784722
2431	NA	85.500000	30.5262821	24.065217
2432	NA	14.000000	19.2608696	12.506944
2433	NA	26.285714	19.9916667	18.930556
2434	NA	78.000000	25.7924431	22.755478
2435	NA	24.000000	15.5011905	19.695048
2436	NA	31.500000	16.8591874	31.441468
2437	NA	36.000000	2.7121706	25.368056
2438	NA	36.000000	12.0500000	21.230374
2439	NA	24.000000	13.0375000	17.541667
2440	NA	18.000000	12.3333333	15.808333
2441	NA	18.000000	12.4208333	14.975000
2442	NA	65.000000	11.1795455	33.091667
2443	NA	38.000000	11.5538043	31.594697
2444	NA	40.000000	14.0847497	20.726010
2445	NA	34.285714	12.6507576	20.990278
2446	NA	40.500000	12.6125000	22.266667
2447	NA	44.500000	33.6791667	13.925000
2448	NA	36.000000	29.2501812	22.075000
2449	NA	23.000000	7.8304348	14.628877
2450	NA	15.000000	7.4208333	16.983333
2451	NA	29.875000	4.4994048	24.270833
2452	NA	36.000000	10.6083333	33.914855
2453	NA	39.000000	9.9458333	26.625000
2454	NA	26.000000	20.5375000	14.083333
2455	NA	44.500000	8.6125000	28.930556
2456	NA	31.500000	6.6268775	20.957071
2457	NA	33.250000	6.3972050	27.163087
2458	NA	24.500000	8.5541667	19.249242
2459	NA	50.000000	8.2206522	33.958333
2460	NA	33.500000	9.7728070	21.364583
2461	NA	26.000000	18.9120370	21.500000
2462	NA	30.000000	5.2327441	18.093750
2463	NA	25.750000	7.2977602	23.267754
2464	NA	31.000000	3.5954545	21.619394
2465	NA	45.000000	11.1924172	22.668780
2466	NA	37.000000	15.9300725	21.560826
2467	NA	30.500000	12.5916667	21.523359

2468	NA	33.000000	19.7875000	13.250000
2469	NA	23.500000	13.7075828	19.326667
2470	NA	57.000000	7.2540942	37.211353
2471	NA	45.000000	18.9572464	29.656243
2472	NA	91.500000	26.6460145	34.983333
2473	NA	82.500000	24.4547101	31.329710
2474	NA	7.500000	19.9675926	10.263768
2475	NA	18.428571	9.5958333	25.769928
2476	NA	87.000000	10.9416667	30.139493
2477	NA	24.000000	10.8409420	21.888768
2478	NA	41.500000	11.4708724	28.917641
2479	NA	69.500000	5.3501812	35.309037
2480	NA	58.000000	14.2620365	38.235507
2481	NA	30.750000	9.1291667	27.153080
2482	NA	15.500000	17.6125000	19.029315
2483	NA	70.500000	7.0436594	43.862511
2484	NA	37.000000	6.5556159	25.969386
2485	NA	39.000000	1.1443511	25.915404
2486	NA	27.000000	11.7460145	18.486111
2487	NA	40.750000	5.9416667	37.731151
2488	NA	45.000000	13.8541667	34.527778
2489	NA	32.000000	15.7708333	33.319444
2490	NA	81.000000	9.1778986	42.319444
2491	NA	55.000000	7.5487813	25.967172
2492	NA	36.500000	8.2216667	23.187500
2493	NA	47.125000	8.3981578	22.648359
2494	NA	39.500000	10.9721014	18.693332
2495	NA	21.000000	11.1938725	20.958333
2496	NA	16.500000	11.8125000	20.925000
2497	NA	48.000000	5.8460145	31.590580
2498	NA	51.500000	3.1182148	28.797714
2499	NA	36.428571	4.5572464	26.298611
2500	NA	36.000000	7.1689394	26.617624
2501	NA	25.000000	3.6583333	18.880411
2502	NA	17.500000	12.3500000	18.527778
2503	NA	36.500000	9.7666667	18.076389
2504	NA	65.500000	3.7333333	28.540761
2505	NA	47.428571	3.9516018	33.806376
2506	NA	56.500000	3.2975543	38.701389
2507	NA	67.000000	9.3333333	36.354167
2508	NA	51.500000	10.0312500	25.275884
2509	NA	21.500000	11.7500000	19.825000
2510	NA	11.500000	6.6333333	14.666667

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2512	NA	42.000000	5.2906522	23.104084
2513	NA	24.000000	8.9981884	21.417545
2514	NA	43.000000	4.5316667	30.199708
2515	NA	31.000000	8.5000000	20.737121
2516	NA	21.000000	8.8000000	22.716667
2517	NA	17.125000	10.9333333	20.775000
2518	NA	48.500000	3.1750000	32.791667
2519	NA	27.000000	2.4562112	35.581522
2520	NA	48.500000	6.9637681	18.189614
2521	NA	20.000000	12.4000000	15.520833
2522	NA	15.500000	5.1916667	20.930556
2523	NA	20.428571	7.6166667	27.395833
2524	NA	25.000000	10.3583333	22.715278
2525	NA	35.000000	6.0750000	28.847222
2526	NA	40.000000	3.7000000	33.065657
2527	NA	35.000000	2.9289526	31.307367
2528	NA	34.000000	7.1471014	27.854167
2529	NA	44.000000	3.2083333	33.777174
2530	NA	19.500000	6.6453030	19.133333
2531	NA	23.500000	4.3083333	27.250000
2532	NA	21.500000	3.5666667	21.691667
2533	NA	36.000000	2.7750000	30.227183
2534	NA	37.500000	1.7742424	24.966414
2535	NA	36.250000	2.6598485	29.480072
2536	NA	34.500000	6.2708333	21.155797
2537	NA	17.500000	8.5833333	25.576389
2538	NA	19.000000	4.0833333	25.965278
2539	NA	24.500000	2.2604167	30.125000
2540	NA	23.500000	2.5206439	31.350049
2541	NA	7.571429	14.9850543	20.495773
2542	NA	18.000000	9.2291667	19.501812
2543	NA	16.000000	0.4270833	23.923611
2544	NA	16.500000	2.8854167	23.000000
2545	NA	14.500000	3.0520833	20.729167
2546	NA	21.500000	3.9166667	23.979167
2547	NA	20.375000	2.6358696	21.973018
2548	NA	25.000000	1.9252717	27.483825
2549	NA	31.500000	5.0000000	25.888889
2550	NA	18.000000	5.6875000	22.854167
2551	NA	26.000000	14.2604167	18.944444
2552	NA	42.500000	10.5520833	26.158333
2553	NA	44.000000	4.6875000	33.416667

2554	NA	46.000000	2.8532197	38.107680
2555	NA	59.000000	8.5907738	24.777778
2556	NA	44.000000	6.0631313	28.807359
2557	NA	19.500000	3.4861111	28.208333
2558	NA	13.500000	9.6111111	19.097222
2559	NA	13.750000	15.6875000	19.555556
2560	NA	16.000000	9.1770833	22.519324
2561	NA	33.500000	10.8396739	24.812026
2562	NA	25.500000	7.2774621	26.827267
2563	NA	23.000000	3.5801630	26.480072
2564	NA	24.000000	5.4375000	28.131944
2565	NA	24.857143	6.8125000	26.458333
2566	NA	35.500000	3.3750000	43.027778
2567	NA	27.000000	2.3854167	29.840909
2568	NA	28.000000	9.0208333	26.558657
2569	NA	33.500000	4.4510870	32.264191
2570	NA	43.000000	4.9888258	33.018308
2571	NA	36.125000	11.9071558	28.047403
2572	NA	36.000000	12.0104167	24.701389
2573	NA	22.000000	3.5000000	31.881944
2574	NA	39.000000	10.2771739	26.574879
2575	NA	27.000000	14.6562500	22.102355
2576	NA	24.500000	4.8645833	36.597963
2577	NA	43.125000	2.7594697	48.875000
2578	NA	38.000000	4.1979167	39.720328
2579	NA	48.000000	3.5416667	48.097222
2580	NA	23.000000	5.9583333	25.590278
2581	NA	28.500000	4.8165761	30.104167
2582	NA	20.000000	8.5579710	25.031401
2583	NA	14.250000	18.2574405	20.673309
2584	NA	25.000000	2.1865942	30.853865
2585	NA	23.000000	2.4148551	32.034722
2586	NA	16.500000	7.4458333	31.658333
2587	NA	11.000000	19.1666667	17.468750
2588	NA	32.000000	7.2940705	37.288559
2589	NA	34.375000	4.7638889	41.847222
2590	NA	38.000000	9.3075181	30.417443
2591	NA	35.500000	11.5965909	31.256944
2592	NA	35.000000	10.7604167	35.229167
2593	NA	25.500000	10.3854167	35.590278
2594	NA	30.000000	13.3020833	34.458333
2595	NA	22.375000	14.5729167	27.430556
2596	NA	18.000000	17.5778986	21.617754

2597	NA	30.500000	9.4320652	33.210145
2598	NA	35.000000	10.6770833	38.976840
2599	NA	35.000000	10.6875000	37.152778
2600	NA	37.000000	4.2395833	41.826389
2601	NA	33.875000	14.5937500	35.555556
2602	NA	101.000000	7.7500000	44.013889
2603	NA	29.000000	11.6112484	40.021245
2604	NA	36.000000	7.1662138	44.667743
2605	NA	43.500000	5.3333333	46.806818
2606	NA	50.000000	13.2395833	44.645833
2607	NA	26.250000	15.0208333	23.833333
2608	NA	22.000000	13.6770833	19.513889
2609	NA	22.000000	15.1875000	22.930556
2610	NA	18.000000	19.7083333	15.277778
2611	NA	8.000000	13.1250000	23.674874
2612	NA	24.000000	12.1191123	35.704710
2613	NA	32.285714	9.8428442	35.835749
2614	NA	27.500000	10.3437500	35.548611
2615	NA	31.000000	12.3958333	42.277778
2616	NA	30.500000	9.8541667	48.625000
2617	NA	27.500000	22.7532115	32.813192
2618	NA	32.000000	17.3229167	47.238768
2619	NA	68.750000	8.6508152	53.894845
2620	NA	39.000000	9.7119565	44.548611
2621	NA	42.500000	10.9861111	45.826389
2622	NA	27.500000	11.5833333	31.319444
2623	NA	35.000000	12.4479167	29.338384
2624	NA	26.000000	18.5767045	22.313296
2625	NA	24.000000	15.3709239	24.885913
2626	NA	45.000000	10.0729167	36.097222
2627	NA	36.000000	23.1666667	30.076389
2628	NA	42.500000	14.0833333	34.770833
2629	NA	35.000000	8.2187500	34.423611
2630	NA	50.500000	6.7291667	35.041667
2631	NA	18.714286	16.9557395	24.011273
2632	NA	20.500000	22.0213274	24.984007
2633	NA	31.000000	11.7975543	38.496970
2634	NA	38.000000	10.8079710	35.915476
2635	NA	82.500000	10.0625000	40.916667
2636	NA	43.000000	20.8437500	31.525000
2637	NA	32.625000	13.8229167	33.458333
2638	NA	39.000000	19.0539773	35.339277
2639	NA	60.000000	21.7812500	33.878472

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2641	NA	82.000000	26.8174819	23.321256
2642	NA	70.500000	14.4062500	30.319444
2643	NA	33.875000	13.0000000	28.097222
2644	NA	26.000000	10.8551136	39.668561
2645	NA	30.000000	14.2083333	34.673803
2646	NA	42.500000	9.3936512	45.063543
2647	NA	41.000000	15.4941123	35.948232
2648	NA	65.000000	16.4635417	44.097222
2649	NA	46.250000	24.4270833	27.513889
2650	NA	21.500000	24.8750000	24.145833
2651	NA	131.000000	20.0795455	31.569444
2652	NA	14.000000	25.2905504	16.428030
2653	NA	13.500000	26.8420698	18.247565
2654	NA	35.500000	16.3957327	35.041667
2655	NA	56.875000	21.1444518	34.878321
2656	NA	32.000000	24.2407407	28.069444
2657	NA	32.500000	35.9655797	15.458333
2658	NA	21.000000	24.2824074	23.892512
2659	NA	21.000000	14.4428341	27.347854
2660	NA	22.500000	12.7870370	26.444444
2661	NA	37.000000	22.0808081	41.143088
2662	NA	36.000000	29.1431901	20.085317
2663	NA	31.000000	30.0879630	18.090278
2664	NA	23.500000	26.8287037	25.868056
2665	NA	60.500000	33.3941224	31.111111
2666	NA	40.500000	35.4716550	22.938022
2667	NA	42.750000	20.8128019	38.451389
2668	NA	27.000000	28.0529754	27.407005
2669	NA	71.000000	25.8433977	30.101389
2670	NA	82.500000	29.1481481	32.062500
2671	NA	49.000000	47.9490741	20.520833
2672	NA	99.000000	34.5507246	27.444444
2673	NA	121.750000	28.2612721	23.161820
2674	NA	24.000000	20.9855072	14.500992
2675	NA	20.000000	9.6256039	17.345960
2676	NA	24.500000	16.0123701	18.256944
2677	NA	13.500000	20.3518519	16.605072
2678	NA	26.000000	25.4861111	22.243056
2679	NA	33.375000	22.3283011	33.370040
2680	NA	47.000000	27.8447205	30.395698
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2682	NA	60.500000	21.9102254	36.179567

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2689	NA	28.500000	25.4003623	21.921086
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2692	NA	22.500000	30.0125000	15.326389
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2695	NA	17.500000	24.2236157	20.854057
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2698	NA	86.500000	38.4708333	49.616667
2699	NA	70.500000	45.5375000	49.916667
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2703	NA	15.875000	23.5983696	16.239268
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2705	NA	43.500000	33.9416667	29.909722
2706	NA	48.000000	46.1916667	23.000000
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2708	NA	53.500000	28.7820652	28.056159
2709	NA	28.875000	24.8087286	21.439696
2710	NA	18.500000	27.5966897	20.883929
2711	NA	59.000000	25.7440217	37.097222
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2713	NA	88.000000	44.5708333	27.208333
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2715	NA	61.000000	22.1956522	35.613730
2716	NA	29.000000	21.2123188	16.269406
2717	NA	37.500000	28.2365942	32.361111
2718	NA	53.000000	23.8268939	50.709596
2719	NA	53.500000	24.9750000	39.465278
2720	NA	25.000000	32.0250000	21.986111
2721	NA	36.125000	35.2936594	23.888889
2722	NA	55.000000	30.2427536	24.009964
2723	NA	90.000000	31.3559783	25.245581
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2730	NA	47.500000	26.5375000	32.442798
2731	NA	39.000000	22.6447464	32.873106
2732	NA	27.500000	32.5845850	17.645833
2733	NA	31.500000	25.7875000	27.812500
2734	NA	41.000000	33.4460145	21.020833
2735	NA	33.500000	24.6596014	25.895290
2736	NA	51.500000	28.0973810	27.458333
2737	NA	37.000000	26.6397727	25.248957
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2739	NA	47.875000	33.7433300	32.459486
2740	NA	15.500000	17.4333333	14.673611
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2742	NA	41.500000	38.3240741	15.666667
2743	NA	12.000000	35.6755051	25.638131
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2745	NA	47.875000	18.3833333	35.250000
2746	NA	42.000000	21.7622036	18.659722
2747	NA	22.000000	13.9916667	12.055556
2748	NA	13.500000	20.1666667	10.944444
2749	NA	68.500000	24.7291667	23.495370
2750	NA	50.500000	35.1886775	26.389651
2751	NA	25.000000	16.6447262	20.631061
2752	NA	56.500000	29.0963745	26.780195
2753	NA	41.000000	22.5087235	25.783333
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2756	NA	35.500000	21.3867424	31.238333
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2760	NA	32.000000	13.1070652	22.384420
2761	NA	25.500000	21.2685185	21.083333
2762	NA	20.000000	22.7833333	18.358333
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2765	NA	24.500000	13.6899704	18.569774
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2768	NA	72.500000	27.9490741	39.574495

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2774	NA	19.000000	18.7079875	14.008333
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2776	NA	26.000000	31.0916667	31.191667
2777	NA	51.500000	29.1492754	24.722222
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2781	NA	41.250000	16.1179677	34.125000
2782	NA	41.000000	23.1342593	23.825000
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2784	NA	32.000000	14.7570455	29.796717
2785	NA	68.500000	19.5812888	40.183333
2786	NA	52.500000	26.9083333	44.806752
2787	NA	62.875000	23.6250000	45.620422
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2789	NA	31.000000	30.8333333	18.131944
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2791	NA	46.500000	13.1960145	26.566123
2792	NA	61.500000	21.8208333	34.092172
2793	NA	59.428571	33.6864130	31.646739
2794	NA	92.000000	27.7278986	37.271135
2795	NA	65.500000	22.3902174	37.937500
2796	NA	106.500000	33.7458333	27.743056
2797	NA	36.000000	19.6458333	20.277778
2798	NA	32.000000	18.0813900	31.488829
2799	NA	39.571429	8.9353818	37.105676
2800	NA	28.000000	13.6326490	22.682540
2801	NA	14.500000	13.8906250	20.083333
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2806	NA	NA	14.5045290	28.918939
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2811	NA	44.125000	24.9114583	32.991667

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2815	NA	119.500000	34.0184659	27.486905
2816	NA	77.000000	34.6822917	24.173452
2817	NA	38.125000	9.2656250	24.391667
2818	NA	28.000000	11.5364583	28.366667
2819	NA	61.500000	15.5842803	43.616667
2820	NA	80.500000	20.1358696	46.722101
2821	NA	82.000000	30.4940476	48.477174
2822	NA	61.500000	21.7431065	35.633333
2823	NA	49.125000	11.7007212	34.410931
2824	NA	33.000000	11.3489583	25.850000
2825	NA	24.000000	16.1666667	29.975000
2826	NA	25.000000	8.0511775	28.629545
2827	NA	23.000000	5.5261652	17.733333
2828	NA	34.000000	9.8156703	24.358333
2829	NA	37.571429	6.3229167	31.758333
2830	NA	63.000000	18.7916667	41.925000
2831	NA	15.500000	20.5729167	18.391667
2832	NA	12.500000	22.7291667	11.466667
2833	NA	18.000000	22.6313406	19.723188
2834	NA	27.000000	9.1486742	23.035498
2835	NA	40.125000	5.5420166	31.900000
2836	NA	42.000000	21.4218750	33.350000
2837	NA	82.500000	30.0052083	26.094697
2838	NA	20.000000	2.7760417	20.266667
2839	NA	16.000000	10.1093750	20.250000
2840	NA	NA	9.6510417	26.058333
2841	NA	36.375000	11.9670002	32.336025
2842	NA	48.000000	8.2185236	33.437846
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2844	NA	46.500000	13.5738225	29.864526
2845	NA	45.000000	14.6666667	25.675000
2846	NA	38.000000	19.7500000	30.475000
2847	NA	39.285714	20.5187953	32.275000
2848	NA	48.500000	9.5678113	22.019203
2849	NA	25.000000	11.2892992	21.090152
2850	NA	33.000000	6.9759964	27.334552
2851	NA	104.000000	8.0018116	42.115909
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2853	NA	21.125000	10.9531250	18.506667
2854	NA	33.500000	11.5288826	20.708333

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2857	NA	77.500000	6.1055254	30.354620
2858	NA	193.000000	14.1834239	29.033333
2859	NA	41.875000	16.7604167	28.475000
2860	NA	39.000000	7.4270833	37.250000
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2862	NA	24.000000	7.5911836	26.309190
2863	NA	59.000000	9.1805556	31.550000
2864	NA	63.000000	8.3194444	29.666667
2865	NA	16.125000	1.8931159	22.655383
2866	NA	11.000000	7.4861111	15.491667
2867	NA	13.500000	11.7916667	18.200000
2868	NA	19.000000	6.5833333	29.944697
2869	NA	38.500000	4.2777778	30.050000
2870	NA	10.000000	23.2868357	15.988570
2871	NA	16.375000	23.0303030	20.833004
2872	NA	30.500000	9.7638889	28.916667
2873	NA	29.000000	3.0277778	23.300000
2874	NA	24.000000	11.5694444	15.575000
2875	NA	NA	5.5694444	17.941667
2876	NA	18.000000	9.1111111	26.215260
2877	NA	38.750000	10.1111111	31.608333
2878	NA	42.000000	1.7741546	24.083333
2879	NA	NA	9.3725845	18.373551
2880	NA	45.000000	1.7916667	32.683333
2881	NA	24.500000	6.6388889	25.841667
2882	NA	17.500000	14.8285024	16.674275
2883	NA	16.625000	10.5253623	20.934651
2884	NA	38.000000	5.6250000	25.666667
2885	NA	17.000000	9.7916667	19.633333
2886	NA	17.000000	6.1388889	30.708333
2887	NA	20.500000	18.1388889	17.383333
2888	NA	22.000000	9.6111111	15.175000
2889	NA	14.625000	12.4323671	12.297727
2890	NA	25.000000	7.6250000	19.434524
2891	NA	36.000000	2.9204545	27.334091
2892	NA	75.500000	6.5694444	27.169401
2893	NA	52.000000	8.6388889	30.916667
2894	NA	27.500000	4.3472222	26.800000
2895	NA	43.000000	1.4444444	27.733333
2896	NA	47.500000	0.1527778	27.203986
2897	NA	8.500000	4.7260101	16.659848

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2901	NA	31.000000	3.2916667	31.733333
2902	NA	23.000000	8.1666667	25.141667
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2904	NA	48.500000	0.4915459	33.342424
2905	NA	36.000000	4.2364405	28.835145
2906	NA	43.500000	0.3611111	30.454519
2907	NA	41.000000	0.6944444	34.391667
2908	NA	31.500000	3.4861111	27.408333
2909	NA	19.000000	9.0972222	25.050000
2910	NA	26.500000	3.3514493	29.600000
2911	NA	33.500000	0.8174682	32.256818
2912	NA	58.500000	0.9160628	44.295588
2913	NA	69.875000	1.8888889	50.281538
2914	NA	16.000000	8.2620773	24.474967
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2917	NA	34.500000	2.3333333	40.374635
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2919	NA	16.142857	7.8260870	23.162879
2920	NA	14.000000	18.8055556	17.516667
2921	NA	34.000000	5.7222222	28.079293
2922	NA	32.000000	1.2638889	25.922101
2923	NA	22.500000	14.7020202	15.723214
2924	NA	20.000000	12.7777778	21.239583
2925	NA	22.555556	9.1957071	25.055871
2926	NA	27.000000	9.0000000	27.240489
2927	NA	35.500000	5.0966184	29.370924
2928	NA	32.000000	1.3725845	31.114583
2929	NA	24.500000	5.0833333	28.187500
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2931	NA	37.777778	4.7222222	38.479167
2932	NA	45.500000	4.8834541	36.199275
2933	NA	68.000000	0.5169082	37.770833
2934	NA	29.000000	1.2101449	30.312500
2935	NA	21.000000	0.8629227	27.260417
2936	NA	10.500000	1.6250000	19.135417
2937	NA	9.857143	9.2916667	15.640399
2938	NA	16.000000	11.3194444	19.552083
2939	NA	28.000000	0.9734300	23.110054
2940	NA	24.500000	3.9027778	25.552083

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2942	NA	16.500000	8.6950483	22.598526
2943	NA	20.222222	8.9444444	18.395833
2944	NA	19.000000	8.4722222	24.593750
2945	NA	24.500000	3.7500000	33.156250
2946	NA	45.000000	2.8143939	42.213809
2947	NA	66.500000	1.6666667	52.446970
2948	NA	58.000000	3.2246377	50.437500
2949	NA	63.111111	4.1008454	45.310071
2950	NA	17.000000	22.3611111	20.875000
2951	NA	9.000000	22.2500000	18.052083
2952	NA	47.000000	6.8573232	41.541667
2953	NA	32.000000	9.5555556	26.546402
2954	NA	19.500000	9.7681159	27.489130
2955	NA	16.444444	17.4375000	23.677083
2956	NA	31.000000	8.0262681	28.362813
2957	NA	17.000000	18.6875000	16.343750
2958	NA	17.500000	18.3958333	19.916667
2959	NA	22.000000	7.4375000	30.354167
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2961	NA	25.555556	13.1250000	25.614583
2962	NA	34.500000	4.6781401	29.151268
2963	NA	38.000000	12.2916667	20.315670
2964	NA	69.500000	20.1388889	13.843750
2965	NA	22.500000	11.7222222	20.864583
2966	NA	37.000000	8.9166667	28.989583
2967	NA	39.285714	6.1817633	32.524868
2968	NA	25.000000	3.7222222	24.197917
2969	NA	36.500000	7.4740338	31.481102
2970	NA	55.000000	4.2045455	39.675231
2971	NA	42.500000	9.1250000	30.645833
2972	NA	24.500000	13.6666667	23.302083
2973	NA	33.000000	9.9027778	27.541667
2974	NA	17.000000	18.3623188	23.991477
2975	NA	41.000000	3.5972222	31.239583
2976	NA	43.000000	13.2457729	28.050189
2977	NA	15.500000	15.3055556	26.770833
2978	NA	21.000000	12.0694444	24.093750
2979	NA	23.333333	13.0972222	19.614583
2980	NA	16.500000	15.1515700	23.786685
2981	NA	18.500000	15.7752525	26.373641
2982	NA	21.500000	11.7717391	24.307971
2983	NA	26.000000	7.1250000	36.642992

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2985	NA	41.111111	10.2777778	38.510417
2986	NA	39.000000	4.5694444	27.458333
2987	NA	29.500000	10.8888889	26.843750
2988	NA	19.000000	7.7083333	30.531250
2989	NA	22.500000	17.6388889	28.937500
2990	NA	36.500000	9.9233092	39.157156
2991	NA	34.333333	13.4722222	29.046131
2992	NA	30.500000	27.5972222	28.695833
2993	NA	31.500000	29.3055556	23.809028
2994	NA	56.000000	17.5609903	40.388587
2995	NA	67.500000	15.5000000	52.487689
2996	NA	65.000000	18.1419082	49.556238
2997	NA	44.222222	13.4698068	48.319129
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3001	NA	34.500000	10.7934783	20.681069
3002	NA	22.000000	13.5972222	24.766667
3003	NA	14.777778	19.1338384	23.324405
3004	NA	10.000000	21.2192029	23.742754
3005	NA	16.500000	21.9184783	31.290179
3006	NA	24.500000	22.2916667	31.729167
3007	NA	27.500000	21.3888889	24.093750
3008	NA	22.000000	11.2361111	27.731061
3009	NA	21.222222	1.1316425	28.483902
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3011	NA	21.500000	6.7916667	31.986413
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3014	NA	18.000000	21.7500000	21.250000
3015	NA	24.333333	20.9321946	23.854167
3016	NA	23.000000	22.2604167	18.145833
3017	NA	37.500000	15.6354167	27.489583
3018	NA	42.000000	23.2971014	21.869565
3019	NA	37.500000	21.9519928	22.208333
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3022	NA	16.000000	18.1988225	18.956975
3023	NA	36.500000	10.4646099	25.760417
3024	NA	14.000000	18.0458937	21.280344
3025	NA	21.000000	31.6199678	19.184783
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3028	NA	37.000000	18.1000000	33.104167
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3031	NA	17.500000	24.4914855	19.287138
3032	NA	27.500000	17.2801383	23.147398
3033	NA	29.222222	10.6159420	22.822917
3034	NA	19.500000	22.1916667	25.593750
3035	NA	19.000000	21.6458333	28.104167
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3037	NA	30.000000	20.1088933	26.921377
3038	NA	34.000000	10.1533267	38.482749
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3041	NA	28.500000	16.5333333	31.843750
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3047	NA	48.500000	20.8371377	34.989079
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3058	NA	47.500000	24.1594697	34.918841
3059	NA	15.000000	21.9222826	19.511594
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3061	NA	36.500000	20.9451087	35.125000
3062	NA	39.500000	26.9541667	19.075000
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3066	NA	10.500000	22.6101449	17.177536
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3068	NA	21.500000	22.5548913	24.291667
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3092	NA	61.000000	45.0050322	41.608333
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3094	NA	53.000000	37.9911232	25.312121
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3110	NA	42.000000	27.3125000	22.128261
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3118	NA	51.000000	50.5508333	20.233333
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3122	NA	44.000000	25.9170125	32.865909
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3136	NA	28.000000	23.4036232	27.067029
3137	NA	34.000000	7.7307971	37.175033
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3139	NA	36.000000	26.1018519	22.391667
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3142	NA	57.500000	28.3109190	24.164912
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3146	NA	58.500000	43.3943182	24.558333
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3149	NA	30.000000	26.2679348	22.364361
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3160	NA	74.000000	42.4250000	33.847222
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3169	NA	60.500000	47.0458333	36.406250
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3171	NA	65.142857	36.3414855	36.571970
3172	NA	22.000000	16.5902339	18.481522
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3174	NA	13.000000	23.3083333	17.566667
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3180	NA	35.500000	14.9724638	26.171377
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3197	NA	53.000000	11.9907407	33.680556
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3201	NA	26.125000	5.6976651	20.014946
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3220	NA	46.000000	7.2105475	31.274004
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3222	NA	21.000000	11.5623628	19.203063
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3224	NA	12.500000	9.6250000	18.229167
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3226	NA	14.500000	6.3590982	18.012311
3227	NA	28.500000	3.3611111	27.937500
3228	NA	12.000000	4.0235507	15.730525
3229	NA	16.500000	10.0416667	17.665226
3230	NA	12.500000	8.8194444	20.864583
3231	NA	18.444444	5.2777778	26.645833
3232	NA	36.000000	4.6250000	26.729167
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3234	NA	18.500000	9.9969807	25.758243
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3236	NA	29.000000	6.5972222	25.750000
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3238	NA	17.500000	4.7638889	27.562500
3239	NA	31.000000	1.7361111	37.218750
3240	NA	34.000000	3.9462560	41.512228
3241	NA	27.000000	4.9166667	34.943452

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3246	NA	44.000000	9.3750000	21.833333
3247	NA	26.500000	10.7500000	24.346920
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3249	NA	16.000000	9.1805556	23.416667
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3253	NA	25.000000	6.5694444	29.347826
3254	NA	23.000000	6.6461353	39.226010
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3262	NA	28.500000	7.6425121	27.122247
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3265	NA	75.000000	20.1527778	13.458333
3266	NA	37.500000	16.9444444	18.114583
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3269	NA	37.500000	4.7916667	28.446558
3270	NA	33.500000	1.4698068	24.182971
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3272	NA	35.500000	5.8194444	32.885417
3273	NA	29.444444	8.2083333	24.354167
3274	NA	16.000000	11.4444444	19.354167
3275	NA	11.000000	24.5471014	16.191964
3276	NA	24.500000	7.2361111	28.041667
3277	NA	19.000000	7.2638889	33.125000
3278	NA	19.000000	5.2777778	38.007850
3279	NA	22.777778	5.7222222	28.555556
3280	NA	24.000000	10.1250000	18.333333
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3282	NA	26.000000	3.3097826	32.000000
3283	NA	30.500000	4.2946860	34.195199
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3286	NA	31.500000	1.9583333	29.656250
3287	NA	35.000000	1.9166667	23.312500
3288	NA	30.000000	6.5694444	17.916667
3289	NA	8.000000	22.000000	14.533213
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3291	NA	30.916667	2.8218599	41.682518
3292	NA	40.500000	3.9861111	38.406250
3293	NA	20.500000	11.4027778	31.833333
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3296	NA	37.500000	5.5307971	34.289079
3297	NA	33.416667	5.3375604	38.477657
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3299	NA	31.500000	4.5416667	31.534091
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3301	NA	19.000000	10.6041667	24.562500
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3303	NA	36.416667	1.1666667	29.266304
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3306	NA	25.000000	15.1630435	23.000000
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3309	NA	27.615385	6.5694444	26.194444
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3312	NA	35.000000	4.0917874	35.521780
3313	NA	27.000000	5.8750000	29.188159
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3318	NA	34.500000	8.1325758	34.547472
3319	NA	33.000000	9.8997585	32.092391
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3322	NA	21.000000	9.5833333	29.958333
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3325	NA	37.000000	4.7916667	31.250000
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3330	NA	17.000000	14.5625000	27.072917
3331	NA	29.000000	4.1186869	30.937371
3332	NA	21.000000	6.6237374	32.552083
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3334	NA	23.000000	13.3888889	26.780344
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3336	NA	32.000000	10.4444444	31.177083
3337	NA	35.000000	5.0138889	36.906250
3338	NA	43.000000	2.9667874	36.044508
3339	NA	19.846154	14.3635266	22.645833
3340	NA	35.000000	6.9885266	23.226449
3341	NA	42.000000	3.9444444	24.283991
3342	NA	19.000000	14.8888889	24.072917
3343	NA	31.000000	7.3055556	36.813859
3344	NA	50.500000	4.6944444	32.993659
3345	NA	31.916667	4.5229469	26.562500
3346	NA	25.000000	17.3991546	15.173136
3347	NA	20.000000	15.9507576	23.821429
3348	NA	36.000000	13.2790404	26.229167
3349	NA	39.000000	22.7638889	13.861111
3350	NA	22.000000	16.1111111	18.041667
3351	NA	29.923077	5.2777778	37.361111
3352	NA	23.500000	11.6805556	24.591856
3353	NA	17.000000	25.1111111	21.494112
3354	NA	18.000000	14.6300505	27.531250
3355	NA	31.000000	15.1920290	23.533967
3356	NA	29.000000	12.5000000	34.140152
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3358	NA	31.000000	9.2708333	35.656250
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3360	NA	59.000000	7.6618357	52.688496
3361	NA	54.000000	16.8888889	39.843750
3362	NA	32.000000	16.4722222	31.247736
3363	NA	24.692308	20.6527778	22.520833
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3365	NA	54.000000	9.5416667	39.531703
3366	NA	26.000000	32.4791667	22.373106
3367	NA	23.000000	34.0588768	14.135417
3368	NA	18.000000	20.6363872	26.982790
3369	NA	28.727273	20.0597826	34.019928
3370	NA	57.000000	17.9166667	42.104167

3371	NA	29.000000	31.2166667	20.770833
3372	NA	33.000000	23.6950000	13.976449
3373	NA	24.500000	28.7708333	20.913826
3374	NA	26.000000	24.5937500	31.441288
3375	NA	34.454545	19.4756410	33.364583
3376	NA	32.000000	27.1666667	37.562500
3377	NA	45.000000	15.0312500	33.364583
3378	NA	24.000000	29.9583333	21.750000
3379	NA	15.000000	29.4589372	25.520833
3380	NA	52.000000	19.5550981	34.617795
3381	NA	42.384615	16.9744364	36.979167
3382	NA	23.000000	21.1334541	24.072917
3383	NA	8.000000	27.6898148	25.604167
3384	NA	9.000000	27.1157407	24.489583
3385	NA	9.000000	25.1250000	22.270833
3386	NA	17.500000	17.5245572	33.354167
3387	NA	26.846154	14.2695911	34.250000
3388	NA	58.000000	17.2596014	46.134058
3389	NA	128.000000	33.6128623	34.272727
3390	NA	40.000000	20.0626812	37.964674
3391	NA	15.000000	19.5333333	18.041667
3392	NA	15.000000	33.2375000	13.822917
3393	NA	20.846154	19.6076087	29.208333
3394	NA	21.000000	22.0231884	30.714962
3395	NA	32.000000	20.5081522	36.891757
3396	NA	54.000000	30.4634058	26.714427
3397	NA	35.000000	22.3755435	27.145833
3398	NA	25.000000	15.1916667	18.927083
3399	NA	25.583333	21.4625000	26.333333
3400	NA	27.000000	18.2064394	33.520833
3401	NA	16.000000	22.3003623	24.461174
3402	NA	28.000000	20.0211957	27.966667
3403	NA	52.000000	25.5555665	22.433333
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3405	NA	28.846154	19.4398148	29.291667
3406	NA	37.500000	19.2083333	26.166667
3407	NA	14.000000	21.0222826	23.566667
3408	NA	20.000000	24.8038043	23.362121
3409	NA	41.000000	24.0019928	24.786836
3410	NA	38.000000	22.4824275	32.112609
3411	NA	34.538462	24.9916667	28.750000
3412	NA	17.000000	26.2458333	23.058333
3413	NA	20.000000	21.9708333	22.950000

3414	NA	17.000000	20.3875000	23.283333
3415	NA	37.000000	14.5673913	28.763636
3416	NA	57.000000	5.2159783	30.056884
3417	NA	36.166667	4.0615942	32.312681
3418	NA	16.000000	15.6525000	21.783333
3419	NA	8.000000	23.6250000	15.791667
3420	NA	15.000000	28.3583333	15.675000
3421	NA	21.000000	15.6787879	38.358333
3422	NA	28.000000	21.8606884	31.408333
3423	NA	50.384615	17.2739130	30.450362
3424	NA	38.000000	6.5557336	30.032378
3425	NA	38.000000	27.0250000	23.983333
3426	NA	38.000000	38.0500000	17.308333
3427	NA	86.000000	33.7833333	12.800000
3428	NA	28.000000	22.6750000	26.641667
3429	NA	26.461538	23.7018116	30.816667
3430	NA	46.000000	24.0317852	38.571667
3431	NA	27.000000	15.4533267	34.254875
3432	NA	17.000000	21.2375000	22.303986
3433	NA	17.000000	28.0083333	21.258333
3434	NA	18.000000	37.1666667	14.333333
3435	NA	23.307692	32.3625000	12.416667
3436	NA	24.000000	28.2440217	25.903788
3437	NA	19.000000	29.4519928	24.584848
3438	NA	18.000000	22.8746377	28.632453
3439	NA	41.000000	30.6815217	34.632971
3440	NA	52.000000	31.3833333	35.516667
3441	NA	18.846154	41.1166667	13.758333
3442	NA	20.000000	21.5666667	19.016667
3443	NA	23.000000	6.2288043	22.470290
3444	NA	38.000000	30.1786232	24.050000
3445	NA	31.000000	20.8565217	29.179880
3446	NA	24.000000	16.8708333	28.666667
3447	NA	28.615385	20.7291667	19.891667
3448	NA	17.000000	23.7500000	16.425000
3449	NA	29.000000	21.6826087	25.206884
3450	NA	22.000000	28.4201087	28.489394
3451	NA	53.000000	23.6226449	46.031159
3452	NA	55.500000	32.2322299	36.674242
3453	NA	43.923077	29.5039614	33.223913
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3455	NA	64.000000	38.8000000	33.937500
3456	NA	57.000000	33.5183489	26.336429

3457	NA	31.000000	23.8479649	23.109058
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3459	NA	47.583333	28.2146739	36.878261
3460	NA	71.000000	27.3091568	40.753030
3461	NA	28.000000	33.0875000	16.066667
3462	NA	28.000000	28.2500000	20.616667
3463	NA	31.000000	22.4121377	21.266667
3464	NA	24.000000	24.8867754	21.875000
3465	NA	47.307692	29.5288043	40.062549
3466	NA	63.000000	45.8902174	52.208333
3467	NA	76.000000	39.7313406	51.605435
3468	NA	73.000000	58.3958333	22.475000
3469	NA	36.000000	38.0166667	19.358333
3470	NA	31.000000	30.4536232	30.250000
3471	NA	38.500000	30.8650362	33.822464
3472	NA	13.000000	24.3958333	15.816667
3473	NA	66.000000	24.2666667	19.608333
3474	NA	69.000000	30.8125000	39.901515
3475	NA	60.000000	55.0250000	34.333333
3476	NA	49.000000	52.6708333	25.425000
3477	NA	42.076923	26.5583333	27.741667
3478	NA	19.000000	18.5141304	18.912319
3479	NA	24.000000	19.3023551	22.707609
3480	NA	45.000000	35.2405797	30.493478
3481	NA	51.000000	33.1923913	37.241667
3482	NA	31.000000	29.7875000	20.258333
3483	NA	21.923077	17.1458333	24.616667
3484	NA	37.000000	22.4083333	25.833333
3485	NA	37.000000	25.4878623	34.177767
3486	NA	32.000000	18.8953197	39.257576
3487	NA	28.000000	24.4543478	25.386298
3488	NA	17.000000	20.5472222	14.045652
3489	NA	15.666667	24.2875000	10.991667
3490	NA	19.000000	21.7750000	17.558333
3491	NA	35.000000	22.5322464	26.641667
3492	NA	35.000000	17.8949934	27.815152
3493	NA	25.000000	17.1608696	27.521091
3494	NA	25.000000	15.3775362	23.801087
3495	NA	24.583333	16.6989130	22.108333
3496	NA	21.000000	19.5875000	22.383333
3497	NA	26.000000	24.3166667	24.345000
3498	NA	34.000000	22.1875000	27.283333
3499	NA	25.500000	16.1250000	26.764394

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3501	NA	28.769231	16.4188808	30.679348
3502	NA	29.000000	18.6806836	28.228261
3503	NA	41.000000	22.5555556	28.145833
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3505	NA	69.000000	38.8480676	18.093750
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3507	NA	45.076923	27.9098229	25.833333
3508	NA	24.000000	24.8057568	24.791667
3509	NA	25.000000	17.7201178	23.145833
3510	NA	12.000000	22.1149356	11.958333
3511	NA	30.000000	16.9583333	29.520833
3512	NA	46.000000	22.3802910	32.114583
3513	NA	44.307692	25.8393720	30.001488
3514	NA	45.000000	22.5803872	26.120842
3515	NA	27.000000	15.0432770	24.314383
3516	NA	19.000000	14.0215378	19.468750
3517	NA	29.000000	21.0277778	25.833333
3518	NA	34.000000	25.9259259	22.739583
3519	NA	42.076923	25.1423108	23.416667
3520	NA	48.000000	20.0674316	26.847826
3521	NA	58.000000	20.7338054	41.495224
3522	NA	59.000000	30.7667874	27.001218
3523	NA	17.000000	14.8263134	17.406250
3524	NA	22.000000	21.7083333	23.885417
3525	NA	33.923077	26.7604167	30.937500
3526	NA	46.000000	32.5579710	29.583333
3527	NA	24.000000	25.5140902	13.063406
3528	NA	39.000000	21.3516506	22.750947
3529	NA	20.000000	31.9267311	20.354167
3530	NA	23.000000	29.7737520	20.697917
3531	NA	48.076923	32.7361111	22.864583
3532	NA	53.000000	37.2638889	31.031250
3533	NA	53.000000	42.9027778	26.343750
3534	NA	83.000000	37.3146135	33.219697
3535	NA	112.000000	38.2415459	41.947917
3536	NA	68.000000	45.0873591	24.185688
3537	NA	53.461538	38.5805153	20.415761
3538	NA	51.000000	21.9398148	27.093750
3539	NA	62.000000	20.9895833	29.593750
3540	NA	32.000000	20.8435673	22.927083
3541	NA	48.000000	16.4059984	35.650298
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3543	NA	16.818182	8.5787037	18.610960
3544	NA	22.000000	10.0106683	19.856431
3545	NA	19.000000	6.3888889	18.333333
3546	NA	21.000000	10.6203704	19.812500
3547	NA	17.000000	13.8399758	14.581975
3548	NA	11.000000	17.9440419	10.458333
3549	NA	17.307692	11.7250403	14.947334
3550	NA	29.000000	17.2312619	21.885417
3551	NA	40.000000	9.6743156	39.104167
3552	NA	42.000000	9.9305556	33.104167
3553	NA	28.000000	16.1338567	20.238678
3554	NA	43.000000	4.6729066	36.256793
3555	NA	24.230769	13.6966769	27.196558
3556	NA	46.000000	12.3476248	29.983863
3557	NA	28.000000	14.8120921	23.416667
3558	NA	14.000000	6.5246914	17.739583
3559	NA	17.000000	6.0892857	21.125000
3560	NA	20.000000	11.1666667	21.694444
3561	NA	27.461538	13.8690476	35.250000
3562	NA	44.000000	20.2395833	35.861111
3563	NA	24.000000	13.9166667	20.516414
3564	NA	12.000000	18.5104167	18.777778
3565	NA	25.000000	10.8020833	30.428140
3566	NA	25.000000	8.0312500	33.750000
3567	NA	38.230769	25.0781250	29.486111
3568	NA	14.000000	12.3906250	18.836353
3569	NA	9.000000	7.0700758	20.529040
3570	NA	32.000000	4.4531250	32.416667
3571	NA	13.000000	6.7244112	21.309783
3572	NA	23.000000	7.0781250	29.625000
3573	NA	29.833333	15.3177083	29.388889
3574	NA	40.000000	24.0572917	32.902778
3575	NA	18.000000	17.3229167	15.972222
3576	NA	48.000000	12.3960598	39.472222
3577	NA	33.000000	5.8122118	36.619949
3578	NA	39.000000	21.6906703	25.539251
3579	NA	20.153846	9.2742301	22.059343
3580	NA	24.000000	6.9047619	28.402778
3581	NA	35.000000	6.2440476	31.222222
3582	NA	34.000000	6.3780797	37.185386
3583	NA	33.000000	4.9472991	27.145696
3584	NA	15.500000	4.8145380	17.430556
3585	NA	26.153846	6.0905797	24.180556

3586	NA	32.000000	11.9352355	32.916667
3587	NA	34.000000	8.8489583	23.180556
3588	NA	21.000000	12.1614583	14.579710
3589	NA	38.000000	6.0717844	28.958333
3590	NA	27.000000	6.3358243	30.709541
3591	NA	18.384615	13.9482337	16.205314
3592	NA	30.000000	12.6764040	19.432367
3593	NA	25.000000	8.6458333	24.888889
3594	NA	18.000000	8.5991848	24.055556
3595	NA	30.000000	6.5104167	25.708333
3596	NA	37.000000	2.1562500	31.208333
3597	NA	34.692308	1.8020833	34.370773
3598	NA	32.000000	3.2379658	29.944444
3599	NA	20.000000	2.6805556	28.210145
3600	NA	32.000000	2.7306763	28.861111
3601	NA	13.500000	9.9305556	20.333333
3602	NA	15.000000	12.5555556	19.833333
3603	NA	13.384615	9.9722222	28.638889
3604	NA	20.000000	7.3611111	32.388889
3605	NA	28.000000	3.3888889	36.500000
3606	NA	23.000000	10.8291063	30.599747
3607	NA	30.000000	6.3611111	28.916667
3608	NA	31.000000	6.9722222	25.569444
3609	NA	14.083333	10.1805556	14.236111
3610	NA	21.000000	4.1666667	23.625000
3611	NA	19.000000	3.4782609	29.108696
3612	NA	23.000000	8.9722222	26.945906
3613	NA	17.500000	9.5277778	28.784091
3614	NA	31.000000	4.9305556	32.271355
3615	NA	28.583333	1.8194444	20.972222
3616	NA	18.000000	6.1527778	19.125000
3617	NA	11.000000	14.0948068	23.234127
3618	NA	26.000000	7.7361111	29.680556
3619	NA	36.000000	2.4836957	31.219203
3620	NA	28.000000	4.2083333	26.430556
3621	NA	26.583333	2.8472222	29.666667
3622	NA	16.000000	3.5277778	18.305556
3623	NA	17.000000	8.5277778	17.138889
3624	NA	28.000000	7.7638889	24.611111
3625	NA	27.000000	2.1262626	28.277778
3626	NA	35.000000	1.8882850	30.988691
3627	NA	22.846154	2.1962560	26.802536
3628	NA	26.000000	1.9021739	27.628843

3629	NA	25.500000	7.0833333	26.875000
3630	NA	19.000000	13.9583333	16.736111
3631	NA	22.000000	5.4722222	21.152778
3632	NA	39.000000	1.8888889	28.643116
3633	NA	18.769231	5.0609903	20.017512
3634	NA	22.000000	3.2777778	17.472826
3635	NA	28.000000	2.1533816	25.629831
3636	NA	28.000000	2.5833333	23.208333
3637	NA	17.000000	6.4027778	17.388889
3638	NA	29.000000	8.4166667	24.902778
3639	NA	26.846154	4.2958937	21.958333
3640	NA	33.000000	9.2361111	17.590909
3641	NA	41.000000	7.1250000	19.361111
3642	NA	30.000000	5.6906566	23.295290
3643	NA	37.000000	7.0000000	21.388889
3644	NA	20.000000	2.9722222	25.055556
3645	NA	17.583333	2.0694444	24.986111
3646	NA	24.000000	15.6871981	15.986111
3647	NA	17.000000	12.5972222	19.583333
3648	NA	30.500000	4.7638889	35.259058
3649	NA	36.500000	1.9396135	32.751208
3650	NA	23.000000	1.6805556	22.347222
3651	NA	29.307692	3.2361111	19.986111
3652	NA	42.000000	1.9722222	24.194444
3653	NA	33.000000	2.9287440	27.573232
3654	NA	19.000000	1.7777778	19.416667
3655	NA	41.500000	1.5959596	21.243687
3656	NA	31.000000	2.4027778	19.277778
3657	NA	24.384615	2.8339372	15.520833
3658	NA	22.500000	16.3194444	7.729167
3659	NA	18.500000	12.8333333	19.833333
3660	NA	25.500000	9.5646135	28.348732
3661	NA	34.500000	5.1884058	31.444444
3662	NA	21.500000	9.8194444	27.763889
3663	NA	24.230769	6.1594203	23.015097
3664	NA	21.500000	11.9444444	22.555556
3665	NA	21.000000	12.1805556	22.583333
3666	NA	33.500000	4.6527778	33.612319
3667	NA	53.000000	2.9679952	40.696256
3668	NA	30.000000	2.1998792	35.220960
3669	NA	26.545455	18.6944444	20.861111
3670	NA	24.000000	12.6884058	28.236111
3671	NA	32.000000	10.8750000	32.166667

3672	NA	31.500000	4.8888889	32.361111
3673	NA	25.500000	13.2777778	32.486111
3674	NA	31.000000	9.7083333	32.569444
3675	NA	17.375000	17.4393939	19.413889
3676	NA	18.500000	14.5235507	25.375000
3677	NA	31.000000	4.6932367	24.986111
3678	NA	24.500000	12.8611111	21.069444
3679	NA	28.000000	7.8055556	30.722222
3680	NA	29.500000	6.2500000	33.500000
3681	NA	27.461538	11.2210145	35.432971
3682	NA	52.500000	4.1944444	48.902778
3683	NA	45.500000	2.7083333	40.273990
3684	NA	27.500000	9.2807971	32.486111
3685	NA	28.500000	12.8623188	34.577899
3686	NA	34.500000	9.5277778	32.319444
3687	NA	20.615385	19.1250000	26.125000
3688	NA	24.000000	9.2192029	24.566339
3689	NA	17.500000	14.0694444	26.686594
3690	NA	22.500000	14.8556763	27.402778
3691	NA	31.500000	12.3194444	31.208333
3692	NA	18.500000	14.6458333	26.652778
3693	NA	28.769231	8.2083333	39.041667
3694	NA	29.000000	11.3541667	35.347222
3695	NA	28.000000	15.9166667	29.750000
3696	NA	18.500000	18.5000000	26.902778
3697	NA	28.500000	15.5833333	29.944444
3698	NA	38.500000	10.8541667	31.893720
3699	NA	27.230769	16.5208333	30.638889
3700	NA	22.000000	14.7291667	30.569444
3701	NA	33.000000	12.7500000	33.166667
3702	NA	27.000000	25.5799517	29.143939
3703	NA	26.000000	17.2083333	30.583333
3704	NA	34.000000	3.5138889	37.262681
3705	NA	6.538462	14.4710145	21.116546
3706	NA	14.500000	21.8750000	25.777778
3707	NA	16.500000	22.4761905	19.347222
3708	NA	23.000000	15.7928744	34.555556
3709	NA	40.000000	11.0090580	35.722222
3710	NA	33.500000	5.3907005	33.891963
3711	NA	18.538462	9.0972222	31.042271
3712	NA	33.000000	12.0277778	27.681159
3713	NA	32.000000	12.7222222	25.694444
3714	NA	18.500000	28.4583333	17.236111

3715	NA	19.000000	25.0277778	23.000000
3716	NA	30.000000	12.1388889	26.837121
3717	NA	29.692308	14.1250000	26.272947
3718	NA	29.000000	21.9359903	24.897343
3719	NA	29.500000	14.1805556	33.513889
3720	NA	20.500000	25.9583333	21.180556
3721	NA	27.000000	9.5694444	26.819444
3722	NA	27.000000	16.5972222	28.055556
3723	NA	18.769231	25.6666667	27.513889
3724	NA	18.500000	28.2385266	30.878788
3725	NA	27.500000	24.0416667	22.930556
3726	NA	22.000000	21.4305556	21.083333
3727	NA	16.000000	28.6666667	19.166667
3728	NA	19.000000	24.2361111	21.305556
3729	NA	31.307692	18.6388889	29.125000
3730	NA	19.500000	36.0944444	19.259259
3731	NA	28.500000	27.4166667	32.628968
3732	NA	37.500000	25.9452381	37.621032
3733	NA	53.000000	19.1949275	31.578502
3734	NA	21.500000	26.9500000	29.500000
3735	NA	14.230769	25.4250000	19.027778
3736	NA	28.000000	20.2606061	26.375000
3737	NA	25.500000	15.2043478	27.305556
3738	NA	23.500000	20.7955251	25.867840
3739	NA	44.000000	26.6074879	26.972222
3740	NA	39.000000	13.3109903	32.597222
3741	NA	21.076923	15.2333333	16.819444
3742	NA	11.000000	22.7833333	18.000000
3743	NA	18.000000	26.6246377	29.069444
3744	NA	51.500000	15.0919314	47.718434
3745	NA	50.500000	13.8210145	42.658213
3746	NA	45.000000	12.8223485	38.010101
3747	NA	51.076923	31.1197464	34.291667
3748	NA	20.000000	28.6547101	17.055556
3749	NA	35.000000	29.3333333	8.833333
3750	NA	29.500000	27.3750000	14.152778
3751	NA	23.000000	22.4378623	22.777778
3752	NA	18.500000	22.5875000	28.308575
3753	NA	24.230769	21.6336957	34.892622
3754	NA	25.000000	25.6224211	26.944444
3755	NA	20.000000	24.3148148	23.111111
3756	NA	17.500000	30.5509259	26.333333
3757	NA	44.500000	19.0505435	43.611111

3758	NA	57.000000	29.0110507	33.972222
3759	NA	23.307692	22.2873188	23.780303
3760	NA	16.000000	18.4827899	24.117754
3761	NA	42.500000	13.1914855	52.552989
3762	NA	26.000000	23.6041667	34.177083
3763	NA	37.500000	23.3875000	37.041667
3764	NA	19.000000	34.4541667	27.052083
3765	NA	13.076923	30.0309783	18.687500
3766	NA	10.000000	26.8789855	22.703442
3767	NA	12.000000	22.4181159	28.104167
3768	NA	21.500000	23.7101449	31.500000
3769	NA	38.500000	23.0875000	40.145833
3770	NA	28.000000	28.2708333	28.062500
3771	NA	61.000000	19.5965580	53.010417
3772	NA	72.000000	35.8416667	33.552083
3773	NA	47.000000	26.1713768	28.171672
3774	NA	22.000000	21.2460145	24.543025
3775	NA	33.000000	10.2949275	33.610507
3776	NA	18.000000	22.4333333	25.093750
3777	NA	19.615385	29.0666667	29.843750
3778	NA	68.000000	30.7701087	22.228673
3779	NA	29.500000	24.5588768	31.760417
3780	NA	38.000000	20.6483696	34.779356
3781	NA	33.500000	29.7259058	20.447917
3782	NA	19.000000	21.1276186	18.928977
3783	NA	26.769231	21.8041667	25.135417
3784	NA	31.500000	27.6875000	18.166667
3785	NA	35.500000	26.2458333	16.760417
3786	NA	25.000000	18.1996706	21.478261
3787	NA	31.000000	13.1291667	32.875000
3788	NA	15.500000	13.2083333	19.941667
3789	NA	36.615385	22.8035714	24.024047
3790	NA	21.000000	29.7541667	17.777899
3791	NA	34.500000	23.6791667	25.941667
3792	NA	26.500000	19.7623188	24.627174
3793	NA	24.500000	17.5827899	28.496970
3794	NA	12.000000	19.0514397	21.162121
3795	NA	28.153846	19.3647892	28.726087
3796	NA	47.000000	26.3353261	33.946509
3797	NA	54.000000	41.1000000	29.341667
3798	NA	25.000000	37.2791667	13.158333
3799	NA	9.500000	33.1291667	10.941667
3800	NA	26.000000	30.0548913	18.232246

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3802	NA	22.500000	18.1927536	22.853623
3803	NA	32.000000	29.3106555	26.696739
3804	NA	24.000000	37.3083333	24.625000
3805	NA	19.500000	44.5875000	12.641667
3806	NA	21.000000	29.6900362	18.682609
3807	NA	24.538462	30.5096014	19.369928
3808	NA	29.000000	30.2195652	33.072101
3809	NA	44.500000	30.9833851	36.375000
3810	NA	36.000000	23.2639493	27.608333
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3813	NA	33.000000	41.0408926	29.197727
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3815	NA	54.000000	20.1510705	50.989130
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3818	NA	11.500000	21.3625000	16.216667
3819	NA	32.000000	35.6416667	21.266667
3820	NA	25.000000	32.8179348	22.175000
3821	NA	19.000000	23.1875000	17.209091
3822	NA	45.500000	30.5518116	30.962681
3823	NA	60.500000	32.4356884	39.900132
3824	NA	65.000000	40.4743116	24.501087
3825	NA	27.250000	29.6944444	23.158333
3826	NA	29.000000	37.6916667	32.158333
3827	NA	58.500000	30.5405797	29.900000
3828	NA	113.500000	33.2342391	26.116667
3829	NA	47.000000	29.6572783	26.887121
3830	NA	29.500000	29.5112319	31.086284
3831	NA	44.833333	32.0572464	42.156159
3832	NA	48.500000	46.3000000	36.625000
3833	NA	66.500000	56.5416667	35.291667
3834	NA	35.000000	20.7777668	32.141667
3835	NA	49.000000	38.1458333	33.347826
3836	NA	70.000000	31.3538043	16.692754
3837	NA	23.166667	18.1791667	12.183333
3838	NA	26.000000	10.9375000	14.991667
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3840	NA	23.500000	31.9958333	17.216667
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3843	NA	12.750000	28.3326087	15.497727

3844	NA	25.500000	25.0759591	22.306522
3845	NA	45.000000	34.2333333	31.120652
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3847	NA	53.000000	39.4625000	19.625000
3848	NA	43.000000	28.9121377	22.941667
3849	NA	27.333333	25.1706357	24.190152
3850	NA	42.000000	33.5333498	25.481431
3851	NA	60.000000	44.5055642	30.298990
3852	NA	56.500000	20.8335145	38.127174
3853	NA	21.000000	30.9708333	14.633333
3854	NA	32.000000	36.8125000	18.008333
3855	NA	25.666667	31.6306159	19.775000
3856	NA	23.500000	27.6534750	17.058333
3857	NA	26.500000	31.1199275	19.910145
3858	NA	40.000000	38.3942029	25.147101
3859	NA	68.000000	37.7351449	24.346667
3860	NA	57.000000	43.7408333	18.475000
3861	NA	35.454545	27.6250000	28.625000
3862	NA	19.000000	21.7446970	14.979545
3863	NA	8.500000	20.7356884	9.717424
3864	NA	16.500000	21.3333333	16.495059
3865	NA	34.000000	24.7958333	26.700000
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3867	NA	47.666667	43.7314815	29.016667
3868	NA	40.000000	37.0462963	30.516667
3869	NA	14.500000	21.8977456	11.599967
3870	NA	10.500000	20.2820513	13.353788
3871	NA	36.500000	16.1416667	33.378656
3872	NA	54.000000	26.8952899	36.856522
3873	NA	44.416667	34.7488095	36.100000
3874	NA	45.000000	26.6333333	23.191667
3875	NA	39.000000	25.1416667	14.125000
3876	NA	14.500000	16.0326087	13.366667
3877	NA	28.500000	5.9250000	21.925000
3878	NA	17.000000	17.7650362	15.476449
3879	NA	27.750000	20.4052536	22.434058
3880	NA	36.500000	21.6637681	22.741667
3881	NA	32.000000	32.7691667	16.900000
3882	NA	11.000000	23.0458333	14.333333
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3884	NA	27.500000	16.4501812	23.108827
3885	NA	28.083333	15.1213768	23.897464
3886	NA	14.500000	17.5981884	19.411905

3887	NA	22.500000	12.2449275	23.094928
3888	NA	28.000000	17.7375000	25.850000
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3890	NA	29.500000	27.5773551	16.088768
3891	NA	43.666667	18.8320323	31.504710
3892	NA	48.000000	16.6823188	31.821970
3893	NA	15.000000	18.5074275	10.882576
3894	NA	25.500000	18.5416667	16.564752
3895	NA	37.500000	18.3041667	19.979167
3896	NA	21.000000	28.2625000	11.906250
3897	NA	30.333333	27.0375000	22.135417
3898	NA	29.500000	12.1960145	18.666667
3899	NA	7.500000	17.0769928	9.650000
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3901	NA	46.500000	16.7928195	32.146212
3902	NA	40.000000	32.2041667	23.458333
3903	NA	19.000000	23.1922101	12.733333
3904	NA	23.000000	18.7751812	15.647464
3905	NA	28.000000	20.2525362	17.766667
3906	NA	16.500000	14.6114130	17.501812
3907	NA	21.500000	8.6878788	20.991667
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3909	NA	39.583333	19.7166667	33.641667
3910	NA	47.500000	33.3041667	30.208333
3911	NA	73.000000	34.1811594	29.416667
3912	NA	77.000000	39.7175000	23.390476
3913	NA	31.000000	15.4704710	26.272859
3914	NA	96.000000	21.5639493	29.834091
3915	NA	34.000000	23.1766304	29.018841
3916	NA	7.500000	16.0958333	11.300000
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3918	NA	31.000000	5.8447464	33.058333
3919	NA	15.500000	11.2255435	20.691667
3920	NA	27.500000	9.7019928	29.191667
3921	NA	27.500000	16.3210474	26.432609
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3923	NA	27.000000	18.7375000	26.216667
3924	NA	23.500000	15.3500000	25.708333
3925	NA	82.500000	17.8685897	16.160507
3926	NA	20.000000	10.0175725	18.616126
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3928	NA	56.500000	15.1144928	30.010417
3929	NA	68.000000	30.4583333	32.414855

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3933	NA	54.416667	19.7524155	41.027045
3934	NA	65.000000	32.2568438	27.656250
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3936	NA	36.500000	9.1944444	28.833333
3937	NA	25.500000	18.4953704	28.041667
3938	NA	34.500000	31.9227053	17.042572
3939	NA	20.083333	13.2268519	14.947917
3940	NA	16.500000	8.5785024	19.760417
3941	NA	39.500000	4.3582931	35.562500
3942	NA	35.000000	8.6115137	31.442564
3943	NA	37.500000	7.2973027	36.112058
3944	NA	40.000000	7.4583333	33.958333
3945	NA	35.000000	14.5879630	24.722222
3946	NA	17.000000	7.0404589	23.943910
3947	NA	24.000000	10.3766103	20.940670
3948	NA	27.000000	12.4302079	24.982008
3949	NA	43.500000	3.9094203	28.756250
3950	NA	31.500000	1.5416667	28.187500
3951	NA	21.230769	16.2592593	14.885417
3952	NA	7.500000	22.9398148	8.927083
3953	NA	14.000000	12.3949275	25.437500
3954	NA	30.500000	6.0169082	27.761364
3955	NA	44.500000	3.7073269	36.454257
3956	NA	44.500000	12.5688406	30.244565
3957	NA	36.384615	11.8216586	24.152174
3958	NA	18.500000	8.2916667	14.677083
3959	NA	8.000000	9.2395833	11.708333
3960	NA	17.000000	2.3437500	18.354167
3961	NA	20.000000	1.3854167	18.288496
3962	NA	28.500000	3.3768116	23.236413
3963	NA	21.153846	6.8842593	19.781250
3964	NA	12.500000	15.2291667	20.375000
3965	NA	17.000000	11.2708333	25.447917
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3967	NA	16.500000	4.9166667	26.323370
3968	NA	24.500000	3.9375000	28.062500
3969	NA	28.153846	5.5217391	27.916214
3970	NA	31.000000	7.0416667	29.371377
3971	NA	14.000000	13.0833333	26.625000
3972	NA	15.000000	5.2083333	26.895833

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3975	NA	36.307692	4.0833333	28.942935
3976	NA	42.000000	2.5652174	32.453228
3977	NA	50.000000	0.9565217	35.520833
3978	NA	19.000000	16.9375000	21.510417
3979	NA	30.000000	8.2500000	23.583333
3980	NA	18.500000	10.1458333	19.083333
3981	NA	31.846154	4.8541667	34.587409
3982	NA	44.000000	7.4538043	27.922425
3983	NA	33.000000	6.5625000	26.734848
3984	NA	23.000000	3.8125000	23.916667
3985	NA	28.000000	2.6458333	20.000000
3986	NA	41.000000	3.1875000	16.718750
3987	NA	16.230769	13.0000000	11.895833
3988	NA	6.000000	19.3750000	16.762311
3989	NA	25.000000	7.0235507	24.913949
3990	NA	29.500000	1.4375000	23.418561
3991	NA	15.500000	4.8125000	20.728714
3992	NA	22.000000	4.2083333	17.718750
3993	NA	19.538462	6.7916667	18.333333
3994	NA	17.500000	6.9375000	17.739583
3995	NA	25.500000	4.3333333	21.175725
3996	NA	41.500000	1.6458333	24.446023
3997	NA	10.000000	11.1875000	24.108243
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3999	NA	25.076923	7.7989130	25.270833
4000	NA	28.500000	4.8333333	24.958333
4001	NA	35.500000	3.1458333	33.718750
4002	NA	40.500000	2.5416667	30.419508
4003	NA	42.000000	2.5625000	32.156250
4004	NA	40.500000	5.2916667	43.367754
4005	NA	44.416667	1.6956522	31.250000
4006	NA	53.000000	1.6875000	37.506629
4007	NA	15.500000	6.3958333	23.531250
4008	NA	16.500000	15.5208333	19.479167
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4010	NA	36.500000	1.9673913	24.770833
4011	NA	31.846154	5.6458333	21.760417
4012	NA	18.000000	5.5000000	19.052083
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4014	NA	19.500000	3.6875000	31.010417
4015	NA	23.500000	3.5833333	22.697917

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4017	NA	23.076923	4.1992754	30.788043
4018	NA	24.500000	8.6041667	29.318388
4019	NA	23.000000	12.8194444	17.883333
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4021	NA	23.500000	10.3194444	16.025000
4022	NA	12.000000	7.1111111	13.883333
4023	11.500000	20.615385	2.8000110	20.916074
4024	NA	30.000000	5.3888889	19.955303
4025	NA	6.000000	14.1388889	11.422826
4026	NA	4.500000	15.9643720	14.633333
4027	NA	20.000000	10.2777778	20.284420
4028	NA	23.500000	11.1250000	16.458333
4029	10.200000	30.750000	5.7083333	28.475000
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4031	NA	41.500000	6.2107488	33.917424
4032	NA	46.500000	9.0694444	28.951515
4033	NA	30.000000	3.4861111	30.745455
4034	NA	19.500000	8.4190821	23.685507
4035	38.100000	32.461538	3.1805556	25.300000
4036	NA	41.500000	3.6388889	31.216667
4037	NA	44.500000	1.6805556	35.150000
4038	NA	51.500000	3.5307971	35.375000
4039	NA	42.000000	5.1250000	24.725000
4040	NA	39.000000	1.7946860	26.485507
4041	33.950000	38.692308	1.7500000	29.376299
4042	NA	44.500000	2.2222222	35.166667
4043	NA	24.000000	8.5555556	23.816667
4044	NA	38.000000	1.6666667	31.525000
4045	NA	34.000000	1.4734300	36.417391
4046	NA	34.000000	1.2234300	33.193116
4047	21.400000	30.166667	3.0972222	30.316667
4048	NA	21.000000	4.6527778	31.122475
4049	NA	31.500000	4.5000000	27.427273
4050	NA	23.500000	6.2361111	23.866667
4051	NA	19.500000	8.7638889	23.975000
4052	NA	21.500000	12.6527778	25.237582
4053	13.900000	12.769231	24.7385266	14.084420
4054	NA	8.000000	27.6425121	14.639625
4055	NA	14.500000	22.7397343	23.500000
4056	NA	25.000000	18.1111111	20.691667
4057	NA	24.500000	23.4722222	20.883333
4058	NA	69.000000	4.5416667	45.394697

4059	29.500000	62.846154	4.9776570	36.241634
4060	NA	34.000000	4.2916667	29.301087
4061	NA	16.000000	12.1805556	24.283333
4062	NA	30.000000	5.7805556	26.091667
4063	NA	29.000000	3.9583333	26.633333
4064	NA	26.000000	7.5833333	25.833333
4065	22.550000	33.692308	11.4305556	22.216667
4066	NA	16.000000	11.2916667	19.681818
4067	NA	8.000000	14.4368687	22.920870
4068	NA	20.500000	5.5214646	27.844401
4069	NA	19.500000	8.3768939	27.870238
4070	NA	25.500000	12.5833333	28.900000
4071	27.750000	39.076923	11.8333333	23.300000
4072	NA	29.000000	18.9583333	32.002569
4073	NA	36.500000	7.8955314	30.449242
4074	NA	34.500000	17.8278986	25.332609
4075	NA	31.000000	14.4027778	27.867260
4076	NA	24.500000	14.8230676	26.025000
4077	16.500000	21.230769	12.6805556	28.108333
4078	NA	11.000000	11.0000000	20.116667
4079	NA	20.000000	4.1666667	29.023551
4080	NA	9.000000	17.6111111	24.781818
4081	NA	12.000000	21.4088164	23.242544
4082	NA	10.500000	19.6105072	21.800725
4083	19.600000	31.923077	9.0946970	29.224671
4084	NA	24.500000	22.5694444	20.491667
4085	NA	15.000000	21.7638889	12.983333
4086	NA	23.000000	30.0292398	12.347222
4087	NA	17.000000	20.4305556	24.927083
4088	NA	20.000000	16.1388889	29.894928
4089	18.900000	36.909091	15.0244565	32.538913
4090	NA	38.000000	17.2821558	29.351449
4091	NA	18.000000	28.2638889	22.383333
4092	NA	15.500000	29.1805556	24.019203
4093	NA	26.000000	30.2035024	20.558333
4094	NA	37.500000	16.3055556	26.328869
4095	26.400000	35.166667	4.8907005	31.310548
4096	NA	9.000000	21.250000	22.075000
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4099	NA	12.500000	26.8500000	27.058333
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4102	NA	30.500000	21.8329710	28.981917
4103	NA	68.500000	35.4648551	17.051515
4104	NA	68.500000	34.3444444	18.140470
4105	NA	15.500000	31.2291667	15.270833
4106	NA	33.000000	22.8645833	16.739583
4107	15.600000	30.083333	27.2500000	14.665756
4108	NA	21.500000	24.6757246	20.316102
4109	NA	12.500000	20.9637681	19.379348
4110	9.100000	14.500000	14.8737573	21.367424
4111	7.000000	10.500000	20.6045784	16.884420
4112	2.100000	6.500000	29.4393939	13.200000
4113	6.400000	16.000000	21.3560606	23.016667
4114	14.900000	33.500000	20.9166667	29.233333
4115	27.600000	43.000000	20.3433161	25.181884
4116	22.700000	20.500000	9.6612319	26.203986
4117	14.300000	13.500000	26.0441206	16.783498
4118	11.900000	15.500000	25.7958333	24.991667
4119	16.950000	31.000000	22.4333333	32.575000
4120	NA	34.000000	44.8833333	13.575000
4121	NA	40.000000	33.8250000	20.466667
4122	NA	24.500000	23.5189394	23.731667
4123	23.600000	36.000000	15.5706971	26.233366
4124	8.500000	13.000000	11.7908432	20.012242
4125	11.550000	20.153846	18.4957181	30.188104
4126	16.100000	36.000000	22.5984848	29.694444
4127	20.000000	26.000000	29.3030303	29.840278
4128	NA	41.000000	24.3111001	34.604167
4129	NA	23.500000	30.6028986	20.207702
4130	NA	21.500000	31.3150826	25.524832
4131	18.500000	44.692308	18.3115448	47.815580
4132	16.800000	44.000000	26.7753623	30.439493
4133	23.200000	35.000000	30.7045455	22.025000
4134	18.400000	24.000000	28.3446970	12.675000
4135	8.500000	10.500000	31.3614954	12.025000
4136	18.200000	24.500000	22.6856061	21.833333
4137	29.450000	51.000000	14.4608636	23.542029
4138	39.400000	34.000000	10.7862319	25.313095
4139	35.400000	28.500000	14.2951252	31.429046
4140	33.300000	35.000000	20.6628788	26.798611
4141	19.300000	18.500000	22.8825758	15.784722
4142	18.900000	28.000000	21.8173584	27.152778
4143	28.000000	43.000000	21.3190801	35.479167
4144	23.900000	35.000000	25.0227273	33.032005

4145	32.100000	34.500000	24.2704216	33.991667
4146	16.900000	21.000000	36.5405609	17.867210
4147	7.900000	13.500000	26.6780303	14.593750
4148	6.600000	11.000000	29.1174242	14.812500
4149	11.750000	28.666667	23.0743802	22.232576
4150	23.500000	46.000000	35.2473500	22.975000
4151	15.600000	35.000000	31.6682971	28.940010
4152	26.200000	48.000000	35.2766469	38.431818
4153	56.500000	91.000000	38.5730072	29.032609
4154	7.300000	37.500000	36.2541667	15.583333
4155	10.600000	34.000000	28.7541667	31.841667
4156	13.200000	79.000000	38.1110507	31.274638
4157	25.900000	78.000000	37.3800366	44.208333
4158	12.200000	37.500000	21.9545290	34.276120
4159	5.700000	26.000000	26.7475789	21.832757
4160	9.000000	28.000000	22.7348485	17.388889
4161	10.100000	31.923077	34.0000000	14.541667
4162	19.400000	27.000000	33.2537879	16.263889
4163	11.600000	17.500000	37.9469697	17.312500
4164	27.700000	40.500000	26.9117260	38.246981
4165	29.500000	59.500000	37.2611989	39.269571
4166	25.600000	72.000000	34.3322276	30.119565
4167	12.300000	29.846154	29.0000000	32.944444
4168	18.900000	49.500000	33.4734848	27.680556
4169	10.400000	29.500000	40.2651515	11.631944
4170	10.000000	29.500000	28.1915349	21.736111
4171	7.800000	38.500000	26.7329321	22.011905
4172	7.100000	22.000000	14.8677536	24.515646
4173	6.850000	26.500000	23.3387681	24.673611
4174	9.400000	9.500000	21.3558959	14.263889
4175	11.800000	20.500000	9.1250000	28.770833
4176	8.400000	15.000000	23.8939394	20.020833
4177	19.000000	33.500000	18.4759552	31.000000
4178	33.800000	26.000000	17.8908103	25.496679
4179	27.150000	37.000000	23.2416008	25.755901
4180	23.100000	31.500000	18.7687747	27.445350
4181	11.700000	27.000000	33.7623967	19.742452
4182	15.500000	18.500000	33.5643939	23.368056
4183	20.000000	26.500000	29.0909091	27.340278
4184	19.400000	23.000000	29.6342975	21.555556
4185	14.100000	39.500000	16.0332675	31.314484
4186	20.300000	37.000000	22.4922596	31.136473
4187	22.000000	52.500000	37.2627304	25.679293

4188	9.700000	28.000000	32.8838933	23.270833
4189	16.700000	33.000000	33.8825758	26.173611
4190	13.700000	21.500000	34.4696970	22.118056
4191	12.550000	31.083333	28.7689394	24.361111
4192	15.700000	38.500000	41.7213439	29.348485
4193	25.400000	59.000000	37.8826506	28.765206
4194	21.300000	58.500000	45.4599802	19.775664
4195	15.600000	34.000000	39.0717676	24.546498
4196	21.400000	43.000000	49.6555258	21.152778
4197	11.450000	22.181818	40.8231749	18.326389
4198	14.600000	31.000000	22.8156879	30.934481
4199	9.100000	19.500000	28.3203228	18.763285
4200	22.100000	27.500000	25.4446640	20.173611
4201	25.700000	53.500000	28.4280303	31.566468
4202	21.600000	43.500000	35.1439394	24.930556
4203	15.250000	23.923077	26.5606061	12.430556
4204	8.200000	19.000000	26.9318182	11.715278
4205	24.400000	36.500000	31.5879447	24.555556
4206	18.800000	31.500000	35.7628458	16.185516
4207	14.700000	19.500000	36.1142951	16.033213
4208	25.400000	33.000000	33.6043838	26.451449
4209	20.600000	30.9166667	31.4917355	19.546023
4210	13.500000	23.000000	39.7916667	18.666667
4211	19.800000	26.000000	39.6893939	25.736111
4212	30.300000	64.500000	37.0188645	37.930556
4213	41.400000	75.000000	40.0809017	32.590537
4214	32.600000	57.500000	40.2307013	24.525966
4215	NA	32.583333	24.8050725	23.044219
4216	NA	39.500000	29.1617965	17.798611
4217	NA	52.500000	32.8750000	31.395833
4218	NA	32.000000	36.1704545	17.125000
4219	NA	36.500000	29.2348485	26.868056
4220	NA	60.500000	36.8904919	22.136364
4221	9.800000	23.833333	20.5943227	27.948342
4222	13.700000	35.000000	22.1042490	21.655221
4223	8.500000	25.500000	22.7068511	23.419686
4224	11.300000	28.500000	25.3863636	25.284722
4225	11.600000	23.000000	28.5984848	21.666667
4226	25.200000	44.000000	30.0037879	22.116793
4227	11.350000	44.153846	26.9542161	20.075758
4228	16.000000	20.000000	34.1142951	15.242236
4229	16.800000	29.000000	21.8555665	23.266606
4230	13.900000	12.000000	26.3491436	10.124616

4231	11.800000	30.000000	32.7840909	20.319444
4232	11.600000	29.000000	40.5530303	23.930556
4233	36.400000	61.538462	34.8022069	24.715278
4234	16.000000	25.500000	21.2755570	26.948864
4235	NA	27.000000	24.0726285	20.229167
4236	NA	36.000000	22.8838184	20.115173
4237	NA	30.000000	12.6844862	25.680556
4238	NA	30.000000	20.8125000	19.076389
4239	32.500000	35.615385	22.7666667	23.569444
4240	NA	33.000000	29.8970772	22.177632
4241	NA	35.000000	25.1931818	15.688982
4242	20.700000	29.000000	30.5862828	15.432230
4243	22.900000	41.500000	32.9503234	27.897727
4244	28.400000	60.000000	28.3109504	42.229167
4245	13.950000	28.461538	22.9924242	20.743056
4246	16.400000	24.500000	29.0378788	17.743056
4247	29.000000	53.500000	25.5788396	31.534722
4248	8.800000	16.500000	23.2677866	16.220548
4249	16.000000	34.000000	22.7753388	20.965278
4250	24.400000	51.500000	27.1338933	32.763450
4251	29.300000	48.272727	33.1681749	24.826389
4252	21.300000	40.000000	34.1074561	18.104167
4253	39.600000	59.000000	45.8636364	14.326389
4254	23.400000	54.000000	20.8777448	27.116244
4255	13.200000	26.500000	26.9160426	23.625000
4256	14.800000	34.000000	26.7824440	26.089839
4257	18.950000	32.416667	28.2634298	27.307093
4258	21.500000	35.500000	14.7121212	33.146825
4259	11.300000	29.000000	22.0378788	23.750000
4260	7.200000	20.000000	23.4886364	18.805556
4261	8.600000	28.000000	20.1583423	24.586490
4262	14.300000	45.000000	19.4769733	31.972132
4263	24.150000	44.692308	22.6763834	28.077020
4264	19.300000	42.000000	25.6174242	31.740985
4265	14.700000	25.500000	36.7898551	20.093254
4266	27.300000	45.000000	33.0666667	37.041667
4267	31.500000	50.500000	50.6625000	20.312500
4268	10.300000	21.500000	30.3750000	14.486111
4269	5.150000	14.692308	18.0282369	16.906181
4270	7.400000	17.500000	16.1712780	20.707428
4271	14.800000	39.500000	17.3251288	35.664773
4272	21.700000	48.000000	30.5937687	44.892512
4273	24.500000	57.000000	37.3939394	44.451389

4274	28.100000	58.500000	37.0757576	37.763889
4275	26.450000	48.000000	24.1511858	27.875000
4276	11.200000	18.000000	16.5097167	14.758081
4277	12.900000	17.500000	25.5892472	12.284456
4278	15.300000	21.500000	28.6442688	17.197368
4279	20.900000	46.000000	28.2346838	27.550423
4280	33.700000	58.500000	37.6250000	35.722222
4281	30.300000	47.583333	22.0227273	27.798611
4282	5.500000	13.500000	14.6393281	14.585749
4283	4.600000	10.000000	19.6769481	13.312500
4284	9.900000	27.000000	11.9227602	28.824879
4285	21.300000	37.000000	8.4253953	33.302372
4286	31.600000	57.500000	12.3043478	34.633454
4287	29.650000	53.230769	39.5946970	18.534722
4288	19.200000	34.500000	32.7689394	13.694444
4289	9.400000	28.500000	19.3859444	22.355072
4290	21.300000	44.500000	7.9321176	40.131341
4291	17.700000	35.500000	15.7202809	28.167463
4292	5.100000	14.500000	11.8074769	20.658696
4293	7.550000	23.384615	12.8284226	24.241667
4294	7.100000	12.500000	21.7575758	11.250000
4295	8.400000	15.000000	21.9696970	9.675000
4296	32.500000	37.000000	12.3833992	19.400000
4297	9.300000	15.500000	10.6549407	18.813768
4298	7.300000	17.000000	4.7053195	17.891667
4299	5.150000	11.307692	12.6961957	18.250000
4300	16.300000	29.000000	6.7065217	29.275000
4301	26.400000	45.500000	9.9666667	31.400000
4302	30.900000	34.500000	22.1916667	28.341667
4303	18.100000	39.500000	10.9625000	33.741667
4304	6.900000	24.000000	7.0092227	21.716667
4305	6.450000	25.153846	6.1551383	21.386001
4306	14.800000	26.500000	7.3969203	27.109632
4307	24.900000	45.500000	25.1534420	27.550000
4308	32.200000	46.500000	24.3708333	21.250000
4309	6.300000	14.000000	16.2875000	9.575000
4310	9.000000	25.000000	7.9376812	23.441667
4311	6.450000	19.916667	9.8799572	27.524242
4312	NA	15.500000	10.4311430	22.914394
4313	NA	23.500000	7.3923419	29.216667
4314	NA	44.000000	7.6685606	32.061924
4315	18.200000	45.500000	11.2208333	31.500000
4316	23.800000	35.500000	7.6708333	34.875000

4317	28.600000	55.307692	10.7835465	46.733333
4318	36.100000	64.500000	5.2090580	39.391667
4319	11.700000	16.500000	12.2939394	20.037879
4320	29.000000	33.000000	5.1025033	25.136905
4321	41.000000	45.000000	1.4791667	23.025000
4322	11.500000	15.500000	4.7250000	13.133333
4323	5.550000	8.833333	19.6416667	8.800000
4324	5.500000	8.000000	22.3000000	10.776515
4325	3.700000	7.500000	28.7750000	10.975000
4326	10.200000	11.000000	19.6594203	25.927042
4327	10.800000	20.000000	5.5243590	30.467929
4328	13.500000	23.000000	6.9876894	30.271821
4329	21.250000	38.384615	5.7916667	31.635417
4330	33.700000	34.000000	5.8437500	30.406250
4331	36.500000	45.000000	6.1385870	28.190670
4332	9.800000	31.000000	14.7083333	12.616667
4333	11.300000	25.000000	14.2083333	18.900000
4334	19.400000	28.000000	1.8055556	33.196970
4335	20.500000	31.090909	8.5618687	31.847727
4336	16.600000	27.000000	6.8194444	23.816667
4337	15.100000	16.000000	14.2500000	16.758333
4338	23.500000	31.500000	3.5416667	22.250000
4339	18.900000	27.000000	4.1388889	25.575000
4340	24.100000	35.500000	3.9772727	25.622727
4341	12.950000	25.846154	5.3508454	14.993207
4342	14.800000	17.000000	5.3571429	22.036905
4343	16.500000	28.000000	5.5000000	27.041667
4344	11.700000	40.500000	12.5972222	20.558333
4345	10.900000	34.000000	9.3472222	25.561957
4346	17.600000	34.500000	3.3750000	37.326515
4347	14.700000	33.307692	1.1997930	30.541356
4348	NA	20.000000	6.8750000	21.583333
4349	NA	50.500000	2.5000000	35.983333
4350	28.000000	39.000000	8.3055556	28.941667
4351	31.700000	43.500000	10.3472222	15.516667
4352	25.100000	31.000000	9.5138889	17.766667
4353	17.850000	22.846154	3.6376812	25.025000
4354	14.800000	29.000000	5.8472222	25.816831
4355	22.900000	37.000000	6.0740558	24.474012
4356	31.600000	42.500000	0.5555556	24.391667
4357	23.900000	30.000000	4.8055556	21.250000
4358	15.600000	17.000000	4.8194444	14.108333
4359	11.800000	9.166667	15.5277778	19.145238

4360	24.900000	25.000000	2.9444444	33.539493
4361	20.700000	27.500000	3.0896465	31.040476
4362	23.000000	22.500000	1.8925121	30.091667
4363	15.000000	28.500000	2.9402174	32.025000
4364	18.000000	27.000000	3.7222222	34.158333
4365	19.500000	24.615385	9.1666667	28.316667
4366	22.900000	40.500000	4.6183575	40.964888
4367	NA	31.500000	3.2032828	28.123715
4368	NA	18.000000	2.5833333	32.437879
4369	14.200000	19.500000	5.4317633	29.566667
4370	14.300000	40.000000	5.2500000	24.247727
4371	17.750000	21.666667	6.0416667	18.658333
4372	19.200000	16.500000	2.8055556	24.725000
4373	22.600000	22.500000	3.6919192	24.796970
4374	14.800000	24.000000	11.8985507	23.791304
4375	15.800000	25.000000	5.8810386	27.947727
4376	11.000000	24.000000	7.3333333	28.100000
4377	11.800000	17.583333	11.8888889	19.575000
4378	NA	31.000000	9.2083333	22.608333
4379	NA	29.500000	6.8750000	21.758333
4380	NA	33.000000	2.3774155	32.618643
4381	NA	28.000000	9.5694444	21.708333
4382	NA	28.000000	6.0138889	32.430105
4383	20.400000	23.900000	6.3888889	28.169763
4384	NA	21.500000	15.6111111	21.491667
4385	NA	NA	25.7638889	12.641667
4386	NA	29.500000	19.3888889	19.041667
4387	NA	16.500000	8.5972222	28.450000
4388	NA	28.000000	4.8194444	35.125000
4389	22.333333	22.000000	5.5169082	32.853623
4390	NA	38.000000	3.6527778	45.908333
4391	14.100000	23.000000	12.7361111	36.250758
4392	NA	23.000000	9.1805556	32.183333
4393	NA	22.500000	15.6527778	23.375000
4394	NA	29.000000	6.7222222	40.966667
4395	NA	31.142857	6.6165459	34.914855
4396	NA	6.000000	28.2222222	12.397727
4397	NA	22.500000	14.8055556	26.656061
4398	NA	33.500000	2.9690382	32.764888
4399	NA	31.500000	6.3333333	29.075000
4400	NA	33.500000	5.0416667	30.283333
4401	13.300000	10.857143	19.0138889	16.890217
4402	NA	30.000000	6.4722222	40.895455

4403	28.600000	48.000000	3.9583333	44.491770
4404	NA	46.000000	4.2916667	35.109058
4405	NA	18.000000	2.7638889	35.448485
4406	NA	10.000000	4.9444444	24.016667
4407	21.450000	16.142857	14.8750000	21.591667
4408	NA	19.000000	7.4583333	26.241667
4409	NA	29.500000	5.6135266	31.925000
4410	NA	40.000000	8.1388889	24.193478
4411	NA	27.000000	7.6805556	24.819697
4412	NA	29.500000	9.8399758	31.675000
4413	31.928571	38.000000	15.2222222	24.666667
4414	32.500000	22.500000	20.5972222	16.108333
4415	NA	21.500000	4.3611111	22.255263
4416	NA	10.500000	4.7548309	28.062500
4417	NA	28.500000	12.9583333	26.829710
4418	NA	20.500000	14.0328283	24.194129
4419	19.637500	23.857143	3.0555556	32.684848
4420	NA	24.500000	8.4305556	27.500000
4421	NA	27.500000	11.9722222	19.033333
4422	27.600000	29.500000	4.4321476	29.679658
4423	NA	17.500000	8.5063131	36.087253
4424	NA	38.000000	9.2083333	41.525000
4425	17.380000	24.857143	12.0815217	16.270455
4426	NA	21.000000	22.0972222	16.966667
4427	NA	26.000000	14.7638889	27.116667
4428	13.300000	27.500000	12.6666667	27.075000
4429	NA	37.000000	12.7361111	28.841667
4430	NA	31.000000	6.6944444	22.380435
4431	15.250000	16.428571	11.1073232	23.645909
4432	NA	30.500000	9.3568841	33.460766
4433	NA	11.000000	22.9293478	20.725000
4434	10.250000	10.500000	20.7916667	20.916667
4435	NA	4.500000	32.1805556	12.475000
4436	NA	18.500000	23.9722222	22.183333
4437	19.800000	32.857143	11.4082126	23.343841
4438	39.900000	52.500000	3.3750000	31.750000
4439	NA	30.000000	6.1618357	30.191304
4440	48.100000	40.500000	5.6473430	34.739027
4441	NA	35.000000	3.8194444	27.716667
4442	NA	10.500000	12.5000000	15.083333
4443	10.100000	18.250000	21.2361111	25.358333
4444	NA	30.000000	2.2803030	35.934091
4445	NA	10.500000	17.7361111	22.675000

4446	18.800000	20.500000	12.7602657	33.443478
4447	NA	30.500000	11.8611111	25.453623
4448	NA	7.000000	32.2083333	12.466667
4449	11.842857	17.000000	35.0000000	18.733333
4450	NA	35.000000	25.1527778	21.950000
4451	NA	15.000000	21.6805556	20.041667
4452	NA	6.500000	33.6388889	17.794895
4453	NA	15.000000	22.3635540	35.116304
4454	NA	11.000000	28.9157197	26.163768
4455	10.914286	19.142857	29.9375000	22.408333
4456	NA	7.000000	37.2395833	13.266667
4457	NA	30.000000	14.7287138	45.225000
4458	20.000000	36.500000	12.8663043	37.568808
4459	NA	43.000000	30.2533213	19.120652
4460	NA	17.000000	27.8996212	19.431818
4461	10.483333	18.000000	23.6250431	27.475000
4462	NA	28.500000	19.6736111	33.740942
4463	NA	11.000000	32.4513889	15.425000
4464	NA	22.500000	22.5471014	30.650000
4465	NA	40.500000	15.4202899	38.803623
4466	NA	17.500000	34.3242754	21.740580
4467	9.914286	18.285714	32.4323671	24.883333
4468	11.000000	14.000000	31.4513889	25.100000
4469	NA	36.000000	22.9305556	35.225000
4470	NA	49.500000	18.9236111	29.650000
4471	NA	33.500000	16.8891908	36.406291
4472	NA	75.000000	25.4435935	33.250000
4473	26.814286	61.000000	31.0729578	21.197917
4474	NA	38.000000	15.7148311	26.250000
4475	NA	43.500000	15.2765152	34.100000
4476	NA	35.000000	15.9810606	23.550000
4477	NA	18.000000	22.4886364	15.983333
4478	NA	19.000000	20.4144565	19.643478
4479	11.616667	15.142857	23.4967032	19.837879
4480	NA	47.000000	27.8142292	34.547464
4481	14.500000	35.500000	29.0095520	28.476449
4482	8.400000	12.000000	30.8616601	18.100000
4483	NA	18.000000	33.8825758	12.783333
4484	NA	14.500000	22.3522727	16.000000
4485	10.925000	21.428571	23.5533597	26.883333
4486	19.900000	32.500000	19.8962451	32.950000
4487	NA	47.000000	26.7829381	38.298551
4488	16.950000	25.500000	35.4686489	18.658465

4489	NA	11.000000	26.3334980	26.910507
4490	NA	11.500000	16.8440989	25.066667
4491	19.185714	24.285714	12.3583333	29.741667
4492	NA	35.000000	12.7521559	32.350000
4493	25.900000	35.500000	22.3904809	28.244565
4494	NA	31.000000	24.7616930	23.649304
4495	NA	31.500000	11.6968599	23.236111
4496	NA	6.000000	29.2937253	15.658730
4497	7.137500	13.428571	31.8500000	18.625000
4498	NA	23.000000	32.2375000	23.625000
4499	NA	31.000000	37.2500000	29.479167
4500	NA	32.000000	28.8778147	22.279491
4501	NA	14.500000	30.0328632	15.645202
4502	NA	15.500000	34.9648386	16.796219
4503	9.100000	22.285714	30.8572134	26.467172
4504	NA	24.000000	31.0600233	29.541667
4505	NA	30.500000	43.1250000	27.270833
4506	NA	44.500000	39.9886364	33.221230
4507	NA	61.000000	41.2494910	27.319444
4508	NA	63.500000	35.6200593	18.588768
4509	11.475000	22.500000	19.7294436	23.285024
4510	NA	26.000000	21.5342556	18.185145
4511	NA	14.000000	12.2901515	16.366667
4512	NA	11.500000	18.5871212	15.950000
4513	NA	32.000000	33.3829710	22.433333
4514	NA	60.000000	34.1333864	28.669565
4515	21.383333	41.142857	28.8812582	25.807246
4516	NA	16.500000	28.3415978	18.086051
4517	NA	16.000000	26.9986825	18.452778
4518	45.600000	45.500000	22.4242424	23.555556
4519	NA	43.500000	37.0189394	19.895833
4520	NA	28.000000	29.6730896	18.906944
4521	8.637500	15.375000	22.2849144	21.830556
4522	NA	30.000000	21.0604414	29.319158
4523	NA	41.000000	36.1734190	30.569005
4524	34.700000	54.500000	47.5087286	27.777778
4525	NA	16.500000	35.4053030	11.291667
4526	NA	20.500000	18.2424242	20.425000
4527	6.433333	13.000000	17.4826476	17.662500
4528	NA	35.000000	26.7654809	19.277778
4529	NA	23.000000	24.1317523	22.709569
4530	NA	53.000000	25.7648371	40.712286
4531	NA	54.000000	29.5657115	35.814815

4532	NA	53.500000	46.4583333	33.008333
4533	32.400000	48.571429	51.8484848	26.758333
4534	NA	32.000000	30.5538538	15.500000
4535	NA	27.500000	17.2887022	20.891667
4536	NA	16.000000	15.1701252	21.657440
4537	NA	16.500000	22.8189005	16.962423
4538	NA	29.500000	32.3335879	23.046717
4539	17.516667	26.142857	30.3674242	21.183333
4540	NA	41.000000	33.0492424	16.891667
4541	NA	38.500000	36.4055426	19.083333
4542	NA	45.500000	38.2723979	28.178571
4543	NA	44.500000	27.1026620	35.266908
4544	NA	50.000000	28.9107378	36.042874
4545	32.783333	43.285714	32.7997365	34.839674
4546	36.000000	39.500000	39.6780303	30.958333
4547	NA	21.500000	28.1969697	19.604167
4548	NA	13.500000	25.5826746	14.965278
4549	NA	8.500000	25.8932806	10.791667
4550	NA	18.000000	28.8123727	16.721014
4551	6.362500	13.142857	25.3883399	13.232186
4552	NA	27.500000	27.4995059	20.489130
4553	NA	26.500000	38.4469697	20.159722
4554	26.000000	39.000000	52.9659091	19.263889
4555	NA	57.000000	53.4065457	27.722222
4556	NA	71.000000	33.9745671	40.428030
4557	49.042857	57.571429	45.5660334	27.472881
4558	NA	26.000000	28.3783152	24.169298
4559	NA	40.500000	30.2672925	34.598128
4560	24.900000	37.500000	35.5991736	27.090278
4561	NA	44.500000	41.5208333	23.000000
4562	NA	44.000000	31.3669302	21.247475
4563	8.212500	20.625000	23.5313618	16.964848
4564	NA	26.000000	28.6918643	27.283734
4565	NA	31.500000	27.2788208	23.815152
4566	NA	30.500000	28.7727273	21.661836
4567	NA	55.500000	28.9886364	12.738095
4568	NA	45.000000	29.8939394	10.232051
4569	24.500000	32.875000	33.2916667	10.270833
4570	NA	27.500000	28.4048090	23.151429
4571	NA	28.000000	29.8133908	30.816667
4572	20.400000	59.000000	38.9889059	29.396970
4573	NA	40.500000	34.6907713	17.176010
4574	NA	11.500000	23.7916667	10.062500

4575	10.462500	23.571429	21.3409091	22.208333
4576	NA	37.000000	25.5634058	29.357488
4577	NA	64.000000	33.0295544	35.219066
4578	NA	71.500000	45.6510061	30.882453
4579	NA	71.000000	51.4741436	23.051027
4580	NA	82.500000	45.8812582	22.229167
4581	19.450000	29.285714	26.0984848	17.416667
4582	NA	28.000000	31.9469697	17.152778
4583	NA	35.000000	26.9342287	19.763889
4584	23.300000	26.500000	27.9329710	17.044192
4585	NA	39.000000	30.2704216	24.256944
4586	NA	40.000000	27.1665619	21.643116
4587	18.785714	33.875000	25.6688675	29.458333
4588	NA	23.500000	34.6439394	25.135417
4589	NA	25.000000	37.3750000	18.229167
4590	20.400000	41.500000	24.0243742	30.175000
4591	NA	26.000000	26.2572464	21.608333
4592	NA	35.500000	34.0021410	22.534091
4593	22.616667	42.857143	30.4891903	25.026515
4594	NA	54.000000	34.1706522	27.479771
4595	NA	30.000000	37.6958333	18.409722
4596	NA	12.000000	26.1576923	9.652778
4597	NA	13.500000	17.2570346	15.361111
4598	NA	37.000000	23.4925725	30.630556
4599	13.633333	29.142857	23.7701845	25.261364
4600	10.900000	19.500000	20.4930830	22.712596
4601	NA	43.000000	28.6839592	23.812720
4602	NA	38.500000	22.1742424	25.083333
4603	NA	10.000000	25.3863636	7.881944
4604	NA	26.000000	22.2824440	19.437500
4605	15.828571	31.428571	31.2180501	20.361111
4606	NA	34.500000	17.9173254	25.759415
4607	NA	26.000000	14.0435531	29.152256
4608	NA	28.000000	22.5632411	12.918176
4609	NA	8.500000	22.2083333	10.048611
4610	NA	16.500000	20.5871212	20.118056
4611	21.366667	32.857143	30.0610552	27.993056
4612	NA	34.000000	28.6749012	23.433207
4613	NA	36.000000	6.8282279	36.461490
4614	12.000000	16.500000	23.5757875	15.085090
4615	NA	16.500000	22.6190711	19.804650
4616	NA	28.500000	18.4772727	34.979167
4617	20.371429	28.571429	22.6296296	34.340278

4618	NA	36.500000	20.5278223	33.979167
4619	NA	33.500000	29.3176877	19.423611
4620	28.800000	24.000000	32.6908911	20.802226
4621	NA	33.500000	25.9395586	25.147041
4622	29.300000	57.500000	24.5159420	42.297101
4623	39.540000	56.571429	31.5125000	30.650000
4624	NA	13.500000	29.9500000	7.641667
4625	NA	17.500000	26.0186571	12.683333
4626	NA	28.000000	25.3017128	22.296014
4627	NA	62.500000	35.8590721	36.589646
4628	NA	83.500000	40.0575069	49.549242
4629	44.957143	74.000000	48.1165559	42.982790
4630	NA	60.500000	57.4886364	26.701389
4631	NA	59.000000	54.9621212	25.458333
4632	NA	14.000000	25.3181818	11.048611
4633	NA	28.000000	16.3842227	25.791667
4634	NA	37.500000	19.4150198	31.543561
4635	8.400000	40.285714	13.4068002	21.221014
4636	NA	52.000000	15.0385375	29.140042
4637	NA	48.000000	21.9469697	29.722222
4638	NA	31.000000	26.4128788	22.833333
4639	NA	18.500000	7.8633070	16.423611
4640	NA	23.500000	10.2284256	20.610982
4641	9.816667	24.285714	10.4568511	22.583745
4642	8.700000	18.000000	13.7194574	20.670439
4643	NA	25.000000	14.6641963	23.216486
4644	NA	42.500000	20.2689394	32.635417
4645	NA	43.500000	31.4886364	26.090278
4646	NA	13.000000	13.2434573	12.750000
4647	5.650000	11.875000	15.8804348	14.549603
4648	NA	30.000000	13.6994401	33.804799
4649	NA	44.500000	24.8959157	26.643912
4650	6.000000	9.000000	21.2514822	10.425615
4651	NA	38.000000	26.9125000	25.395833
4652	NA	72.000000	46.6708333	20.756944
4653	11.100000	23.571429	37.1234848	14.201389
4654	8.300000	12.500000	18.0453152	19.252976
4655	NA	11.000000	12.6240119	19.203804
4656	9.100000	29.500000	13.5112319	26.263466
4657	NA	27.000000	9.0634881	28.652273
4658	NA	19.000000	10.1750000	20.833333
4659	7.450000	14.750000	16.4083333	15.300000
4660	NA	13.500000	15.7666667	20.685714

4661	NA	33.000000	9.3844203	30.808333
4662	10.550000	20.500000	17.6117754	17.569851
4663	NA	28.500000	14.4694335	28.836726
4664	NA	49.500000	14.4223485	28.836034
4665	34.857143	47.000000	5.9458333	24.100000
4666	NA	24.500000	23.100000	16.825000
4667	NA	27.000000	14.3541667	26.108333
4668	NA	56.500000	20.8960145	28.753788
4669	NA	27.000000	14.2385870	19.791017
4670	NA	25.000000	10.8197464	23.230797
4671	16.400000	44.285714	24.8472826	23.923814
4672	NA	43.500000	23.2166667	20.833333
4673	NA	9.500000	14.8958333	17.020833
4674	14.700000	23.000000	4.7847826	24.533333
4675	NA	36.500000	9.1001812	24.925000
4676	NA	31.000000	6.8682971	22.946739
4677	11.500000	36.428571	10.4373188	27.431522
4678	NA	29.500000	20.1387681	15.083333
4679	NA	14.500000	20.7208333	12.208333
4680	NA	13.500000	13.7500000	23.141667
4681	NA	51.000000	13.2169887	31.207609
4682	NA	46.500000	11.3244565	32.700000
4683	16.262500	38.857143	9.8317523	27.090119
4684	NA	68.000000	15.0750000	33.291667
4685	NA	71.000000	26.6230896	38.090909
4686	NA	68.500000	38.6916667	23.108333
4687	NA	46.500000	14.7666667	24.925000
4688	NA	54.500000	12.7676768	30.241667
4689	5.180000	20.285714	16.9728261	19.615476
4690	NA	28.500000	12.9444444	27.253788
4691	NA	79.500000	8.7753623	37.851773
4692	22.200000	51.500000	11.3623188	33.958333
4693	NA	29.000000	10.3888889	33.987879
4694	NA	36.000000	17.3055556	31.298529
4695	18.414286	42.142857	5.8611111	42.919048
4696	NA	51.000000	22.0833333	29.808333
4697	NA	49.500000	23.1944444	21.435266
4698	NA	18.000000	18.2777778	20.016667
4699	NA	61.500000	2.6976285	31.354183
4700	NA	66.000000	12.4166667	35.141667
4701	7.728571	23.750000	18.9861111	17.108333
4702	NA	22.000000	6.5833333	29.833333
4703	NA	16.500000	12.0138889	23.341667

4704	13.700000	25.000000	7.1497585	32.309524
4705	NA	91.000000	14.5694444	27.410714
4706	NA	80.000000	11.7252415	18.190580
4707	26.212500	37.625000	0.8541667	15.116667
4708	NA	51.000000	1.5625000	20.458333
4709	NA	58.000000	5.5833333	29.204420
4710	NA	38.000000	6.5467172	19.859058
4711	NA	19.000000	6.1225845	21.265942
4712	NA	30.000000	5.7222222	30.683333
4713	23.450000	29.625000	6.5694444	27.784848
4714	NA	15.000000	6.4722222	25.250000
4715	NA	11.000000	7.0138889	25.975000
4716	11.200000	17.000000	7.6527778	27.266667
4717	20.600000	25.000000	3.9516908	34.206522
4718	NA	38.000000	3.9293478	26.774333
4719	16.440000	31.142857	5.9444444	30.514286
4720	18.500000	43.000000	8.2669082	28.415308
4721	NA	39.500000	2.4166667	25.937500
4722	NA	5.500000	10.7638889	13.968750
4723	NA	16.500000	6.9583333	25.906250
4724	NA	26.000000	3.4305556	23.187500
4725	24.957143	28.285714	2.2826087	25.950758
4726	NA	44.500000	4.6944444	28.218479
4727	NA	17.500000	6.9886364	22.785038
4728	12.600000	24.000000	4.7083333	30.229167
4729	23.800000	19.500000	1.5972222	24.958333
4730	NA	38.000000	7.5809179	24.312754
4731	13.762500	15.285714	10.5507246	21.135870
4732	NA	19.000000	2.4444444	24.250000
4733	NA	18.500000	4.0477053	19.069565
4734	13.500000	17.500000	7.8907005	24.629831
4735	NA	26.500000	7.1805556	30.908333
4736	NA	32.000000	3.4027778	22.416667
4737	12.700000	24.750000	13.5664251	16.906250
4738	12.600000	27.000000	7.9015152	28.162022
4739	NA	24.500000	4.6733092	33.725000
4740	20.800000	39.000000	6.2361111	29.600000
4741	NA	35.000000	7.1111111	31.266667
4742	NA	45.500000	7.1388889	23.741667
4743	6.728571	26.750000	20.0277778	15.566667
4744	NA	29.500000	10.8484300	27.095238
4745	NA	23.000000	8.4583333	26.041667
4746	12.800000	24.500000	3.6443237	25.538571

4747	NA	13.000000	9.7518116	25.040267
4748	NA	21.500000	5.6805556	27.500000
4749	25.700000	29.333333	4.6212121	24.069444
4750	30.600000	47.500000	16.5277778	16.312500
4751	12.450000	11.500000	9.0990338	15.114583
4752	11.550000	19.000000	11.0591787	23.801786
4753	18.600000	23.500000	4.3526570	20.349802
4754	18.400000	32.000000	3.7618577	22.088043
4755	16.800000	27.000000	7.9381313	26.100000
4756	15.500000	27.000000	6.1944444	23.766667
4757	25.700000	25.500000	1.8055556	21.241667
4758	15.185714	17.000000	7.9444444	19.732143
4759	7.800000	24.500000	11.8194444	17.765349
4760	11.300000	18.000000	11.9335749	21.394565
4761	12.100000	19.142857	8.7361111	26.708696
4762	20.450000	28.000000	3.1117150	35.158333
4763	19.650000	35.000000	3.3194444	23.841667
4764	11.675000	16.000000	20.500000	13.783333
4765	11.700000	23.500000	17.9444444	20.066667
4766	20.100000	24.500000	4.1400966	28.315584
4767	23.050000	33.285714	3.0277778	41.322464
4768	16.000000	22.500000	12.8345411	27.923810
4769	31.800000	46.500000	6.3926768	38.187022
4770	27.757143	31.500000	5.4305556	36.375000
4771	19.800000	27.000000	14.6388889	20.100000
4772	25.400000	36.000000	6.1805556	36.100000
4773	15.085714	23.857143	10.5757576	28.091061
4774	10.100000	31.000000	9.1944444	31.817457
4775	16.700000	26.000000	10.8532609	35.511364
4776	30.614286	48.500000	6.1944444	47.250000
4777	17.100000	32.000000	21.3055556	22.066667
4778	32.100000	28.000000	8.8194444	30.341667
4779	32.425000	33.857143	11.6527778	32.775000
4780	21.100000	28.500000	9.4027778	33.534524
4781	31.700000	41.000000	6.5000000	37.121320
4782	25.050000	28.000000	10.1868687	29.039328
4783	15.500000	20.500000	12.2089372	30.066304
4784	19.800000	27.000000	11.4722222	28.208333
4785	34.300000	37.666667	6.3055556	33.281250
4786	25.000000	25.500000	14.3647343	30.136569
4787	30.600000	39.000000	9.8611111	42.684783
4788	37.250000	41.500000	11.5205314	29.142292
4789	40.400000	55.000000	7.8888889	30.016667

4790	8.500000	16.000000	19.4305556	24.891667
4791	20.028571	27.166667	21.3750000	26.491667
4792	26.750000	36.000000	11.8194444	21.991667
4793	13.450000	17.000000	13.1780303	30.771212
4794	26.833333	29.500000	4.9861111	31.991667
4795	15.400000	25.000000	16.4649758	28.981431
4796	25.200000	34.000000	14.3007246	30.875947
4797	14.828571	20.142857	24.0416667	17.511364
4798	21.500000	16.000000	22.3737374	23.766667
4799	26.300000	26.000000	23.0833333	28.600000
4800	24.342857	40.000000	8.3055556	37.345652
4801	21.100000	39.000000	8.3055556	32.231818
4802	26.800000	61.000000	26.4861111	31.834058
4803	19.642857	22.166667	15.2689786	26.655390
4804	17.200000	48.500000	15.3278986	25.399275
4805	9.700000	28.500000	24.6111111	15.616667
4806	4.962500	11.500000	21.8333333	13.068627
4807	18.100000	37.000000	10.5000000	36.415476
4808	12.400000	35.000000	19.9673913	28.324275
4809	9.912500	15.833333	23.5912698	18.892236
4810	7.000000	11.500000	25.7669082	19.247464
4811	11.600000	27.000000	20.0000000	31.033333
4812	19.962500	37.000000	13.0138889	33.025000
4813	25.800000	32.000000	11.8611111	31.308333
4814	23.200000	51.500000	16.6250000	40.408333
4815	21.287500	38.285714	21.7500000	30.395843
4816	21.300000	78.000000	27.4861111	24.903623
4817	7.300000	42.500000	18.1968599	13.316667
4818	8.987500	11.000000	19.2463768	18.569565
4819	5.900000	6.000000	27.4583333	14.200000
4820	17.900000	20.000000	13.4305556	31.575000
4821	30.262500	33.571429	4.1250000	32.263333
4822	26.100000	45.500000	13.9939614	25.342029
4823	29.900000	34.000000	16.5561594	25.854710
4824	5.614286	5.500000	37.4166667	11.825000
4825	7.500000	11.000000	34.5056936	15.151812
4826	15.100000	18.000000	21.2500000	20.733333
4827	21.742857	26.857143	15.0416667	16.066667
4828	17.050000	19.500000	14.2833333	21.758333
4829	28.900000	36.000000	1.8594203	25.616667
4830	34.462500	52.500000	7.1321429	35.068182
4831	39.800000	62.500000	14.9054348	36.352743
4832	25.500000	39.000000	18.0985507	29.600000

4833	6.628571	18.714286	30.4500000	15.991667
4834	7.800000	24.500000	30.5916667	22.241667
4835	7.200000	21.000000	27.8246377	18.866667
4836	8.128571	14.000000	14.9891304	25.035870
4837	9.700000	18.500000	16.5295455	23.881258
4838	15.000000	27.000000	19.7500000	27.900000
4839	27.957143	51.571429	10.0652174	50.811232
4840	22.900000	48.000000	14.0694444	37.233333
4841	40.300000	46.000000	21.6712963	25.925000
4842	26.342857	45.000000	17.7923913	27.066667
4843	7.100000	18.500000	23.7969203	24.372727
4844	14.700000	61.000000	22.3500000	30.960714
4845	8.428571	78.166667	23.8436594	21.348551
4846	9.400000	29.000000	13.8905303	23.427083
4847	8.700000	22.500000	25.8583333	22.864583
4848	12.112500	21.500000	21.6982456	22.278333
4849	9.100000	17.500000	26.9801932	16.269203
4850	12.100000	12.000000	20.9599436	22.373485
4851	18.037500	28.571429	19.8152174	29.512681
4852	19.400000	39.000000	21.0615942	33.241667
4853	21.000000	72.000000	23.7765152	28.108333
4854	23.462500	46.000000	23.3560606	15.575000
4855	14.800000	20.000000	17.7977602	15.739583
4856	16.400000	14.500000	14.6953463	17.045952
4857	29.385714	35.285714	7.8055456	28.605789
4858	46.700000	45.500000	8.8286621	25.882251
4859	25.250000	27.000000	12.6097886	22.566667
4860	7.571429	8.000000	28.3438735	18.891667
4861	17.750000	24.500000	20.0331522	37.358333
4862	13.000000	20.500000	31.5500000	21.491667
4863	9.266667	18.714286	32.9659420	20.716304
4864	13.000000	13.000000	34.9130884	21.025000
4865	12.250000	24.500000	26.4833427	34.115217
4866	17.628571	60.000000	23.0046113	43.864583
4867	14.900000	52.500000	28.8450413	34.650000
4868	5.400000	10.500000	22.2234848	11.191667
4869	14.662500	35.333333	23.0151515	29.558333
4870	24.700000	45.000000	21.1313930	39.181187
4871	12.400000	36.000000	25.7184393	30.612456
4872	17.325000	45.500000	30.8350252	34.719368
4873	12.600000	62.500000	31.4991765	23.238095
4874	18.600000	65.000000	33.8415679	24.069444
4875	13.487500	38.285714	32.0166667	15.944444

4876	14.650000	29.500000	25.2875000	15.850198
4877	23.000000	85.000000	24.9407115	16.354641
4878	8.657143	15.500000	20.7728920	16.652778
4879	8.000000	21.500000	20.4873188	23.307065
4880	22.500000	43.500000	19.2763851	28.437239
4881	25.725000	38.000000	22.8211462	21.051630
4882	5.000000	31.500000	24.5378788	13.375000
4883	7.200000	20.000000	32.1022727	18.972222
4884	11.475000	37.000000	18.5075758	37.446970
4885	22.100000	41.000000	19.0441777	32.107955
4886	40.300000	48.000000	14.4518805	29.492797
4887	15.050000	24.857143	27.8990448	17.958333
4888	5.600000	5.500000	25.2396245	14.034722
4889	9.700000	16.500000	23.3185262	22.016414
4890	17.814286	29.500000	26.5946970	24.744318
4891	15.700000	51.500000	19.0360672	32.516908
4892	9.900000	42.000000	24.7363307	29.841994
4893	11.012500	59.142857	33.9851779	26.201691
4894	9.100000	56.500000	29.2757067	26.544643
4895	18.400000	58.500000	17.3155468	38.584088
4896	26.612500	31.500000	32.3257576	13.618056
4897	13.500000	10.500000	25.3901515	11.525000
4898	7.000000	9.500000	25.8636364	14.250000
4899	22.828571	32.714286	26.4211433	29.211477
4900	28.000000	46.500000	13.8697299	28.504371
4901	22.800000	49.000000	33.4529028	23.623446
4902	10.025000	22.000000	25.8739669	17.965278
4903	2.800000	12.000000	29.4507576	13.118056
4904	12.800000	20.000000	28.0311265	14.449275
4905	9.575000	15.142857	30.6409151	13.004960
4906	8.700000	36.000000	20.4231345	28.655236
4907	13.250000	65.500000	33.5615119	30.248024
4908	17.228571	55.000000	50.6192358	24.581349
4909	18.300000	76.000000	55.7610343	24.190476
4910	15.900000	82.500000	32.0492424	16.166667
4911	10.671429	21.142857	16.0227273	10.575000
4912	9.200000	11.500000	8.5941558	10.517532
4913	13.700000	29.000000	12.9690382	24.729296
4914	10.642857	33.000000	27.5567358	22.674107
4915	9.300000	21.000000	26.6968948	16.791667
4916	8.500000	22.500000	23.0317852	17.958031
4917	4.200000	11.833333	25.7594697	11.506944
4918	6.000000	11.500000	29.3939394	15.625000

4919	15.900000	40.500000	30.6439394	25.998106
4920	16.262500	31.500000	21.4263085	19.654167
4921	6.500000	16.500000	26.4754312	15.430089
4922	7.200000	23.000000	28.5978261	16.611111
4923	14.228571	27.666667	24.2180501	30.096907
4924	9.400000	23.500000	22.7613636	17.361111
4925	16.450000	25.500000	29.9223485	20.555556
4926	9.925000	19.000000	22.3811983	22.157738
4927	8.700000	20.500000	19.6862648	22.496032
4928	11.400000	30.000000	10.0169631	29.578299
4929	10.262500	22.250000	20.1049901	22.932971
4930	14.300000	28.000000	20.9635585	29.555556
4931	18.200000	27.000000	34.7453887	20.003321
4932	24.257143	32.000000	35.7113801	13.888889
4933	11.900000	15.000000	21.2736331	13.583333
4934	15.900000	22.000000	27.2803030	11.965278
4935	18.750000	31.250000	40.7925725	16.224418
4936	16.900000	26.500000	38.0099413	15.646465
4937	7.600000	22.000000	24.5747694	13.753386
4938	17.525000	38.000000	34.3446970	18.763889
4939	25.500000	46.500000	37.2045455	12.923611
4940	10.600000	20.500000	29.3157197	20.948919
4941	13.712500	25.166667	32.6178442	11.827652
4942	14.200000	25.500000	36.7943841	17.683333
4943	18.100000	36.500000	33.1995224	25.795455
4944	11.514286	23.000000	32.6572793	18.292659
4945	9.900000	16.000000	26.8712121	11.902778
4946	14.400000	21.500000	22.6856061	19.312500
4947	12.900000	29.285714	23.8148880	22.924874
4948	4.800000	17.000000	21.2627635	7.064513
4949	5.350000	11.500000	19.4132830	11.021122
4950	10.250000	36.000000	17.3878309	22.229167
4951	9.100000	19.500000	16.5859919	20.159852
4952	6.900000	16.500000	17.1553030	13.593750
4953	5.757143	13.714286	17.5946970	11.545139
4954	12.100000	24.000000	29.7289196	17.416667
4955	17.900000	37.000000	30.7792325	30.227506
4956	26.262500	62.000000	35.8824934	29.769066
4957	33.000000	59.000000	32.0309618	32.364899
4958	20.150000	30.000000	32.2343469	24.692331
4959	19.962500	27.285714	48.2083333	10.170139
4960	25.300000	20.500000	35.3130764	11.026872
4961	17.500000	24.500000	17.7862768	24.437500

4962	15.771429	31.500000	18.0361271	26.372998
4963	12.300000	34.000000	26.0803689	15.899256
4964	3.100000	5.500000	27.6556324	9.829861
4965	11.014286	27.200000	22.7420949	25.184028
4966	17.700000	33.500000	23.5359848	25.156250
4967	22.900000	32.000000	30.5073052	15.062500
4968	13.412500	22.000000	18.4277726	20.679473
4969	10.300000	30.000000	20.7565876	21.790261
4970	13.100000	38.500000	25.8103875	19.152146
4971	13.112500	26.200000	22.8556489	22.298611
4972	11.800000	23.500000	17.5833333	20.024206
4973	12.600000	25.500000	23.5056818	22.270833
4974	13.562500	23.000000	25.9375000	22.104167
4975	28.400000	50.000000	30.8886094	25.590593
4976	29.000000	53.500000	38.9682302	21.005051
4977	6.012500	17.500000	21.2249671	12.202446
4978	13.600000	22.000000	21.5627117	19.489773
4979	8.300000	12.500000	22.8465460	14.868056
4980	9.487500	19.500000	17.3958333	12.795139
4981	8.700000	11.500000	27.8371212	12.979167
4982	19.100000	27.500000	29.0049407	23.159722
4983	29.825000	41.166667	28.7535408	26.785722
4984	27.600000	46.500000	28.4123024	24.118056
4985	20.600000	29.500000	25.2206701	21.807672
4986	24.937500	53.500000	23.8659420	36.174819
4987	33.100000	48.000000	29.8768939	23.864583
4988	15.500000	18.500000	41.7935606	7.295592
4989	23.687500	37.285714	31.2518939	20.611111
4990	33.700000	44.500000	28.3520257	18.816919
4991	41.700000	59.000000	29.6788538	19.302989
4992	34.650000	56.500000	35.4707729	30.799094
4993	31.300000	57.500000	40.8192758	32.700000
4994	15.600000	31.500000	37.3865741	20.308333
4995	18.771429	33.714286	36.2824074	16.920833
4996	4.900000	9.000000	24.4097222	6.158333
4997	3.900000	12.500000	29.8736550	10.993401
4998	13.562500	30.500000	24.7773551	24.058020
4999	20.400000	48.000000	26.0270833	29.435833
5000	20.200000	42.000000	14.9514493	29.669192
5001	17.750000	26.714286	18.2395833	17.687500
5002	13.400000	20.000000	13.8291667	13.572917
5003	15.550000	37.000000	20.0946558	19.396149
5004	7.642857	16.500000	17.4166667	20.193015

5005	13.700000	41.500000	11.5561594	35.018763
5006	8.750000	23.500000	18.6069664	27.326389
5007	5.250000	13.142857	12.6590909	19.977808
5008	6.900000	14.500000	13.8200758	23.791667
5009	10.900000	25.000000	27.9453228	22.972222
5010	18.071429	57.000000	23.7109684	41.397947
5011	17.400000	69.500000	39.6236525	30.532828
5012	10.900000	21.500000	9.2270257	23.494565
5013	6.312500	17.000000	14.8480207	18.939141
5014	15.000000	27.000000	7.4078557	26.136926
5015	13.100000	13.500000	12.3593544	16.839976
5016	3.875000	4.500000	22.5075758	8.208333
5017	6.600000	7.000000	17.2075099	15.488519
5018	12.300000	28.500000	10.1703647	31.640783
5019	9.925000	22.000000	15.3781291	21.724638
5020	8.800000	16.000000	15.2486974	17.535326
5021	11.600000	37.500000	10.2178524	28.962912
5022	16.150000	47.500000	24.0000000	22.920000
5023	21.500000	65.000000	47.0927536	15.038043
5024	17.100000	46.000000	29.1939394	23.296970
5025	14.237500	30.000000	14.3790184	20.650099
5026	4.800000	10.000000	27.5807971	12.107971
5027	8.100000	13.500000	16.8499094	18.210178
5028	8.387500	14.500000	14.4154397	19.394928
5029	5.300000	13.000000	10.8460145	15.850000
5030	4.600000	8.000000	12.4270833	16.370175
5031	10.366667	18.285714	7.8063406	29.331522
5032	17.400000	33.500000	7.6597003	31.539530
5033	16.000000	52.500000	8.7750000	39.419048
5034	16.100000	79.000000	20.0672678	39.757955
5035	17.900000	81.000000	29.0133152	32.541667
5036	19.400000	54.500000	24.9229167	31.041667
5037	11.428571	19.571429	17.0520833	17.529167
5038	14.800000	27.000000	15.5695652	19.805797
5039	19.700000	28.500000	10.0142045	26.255952
5040	23.828571	57.500000	9.2684783	37.993182
5041	14.450000	45.500000	12.8011117	35.744746
5042	18.200000	57.000000	22.8370965	35.103571
5043	19.771429	39.000000	20.6562500	22.891667
5044	26.050000	35.000000	11.6414855	24.282609
5045	39.800000	55.500000	3.1515152	37.191667
5046	34.185714	31.500000	10.1743659	22.916667
5047	26.400000	33.000000	11.7938406	23.860079

5048	41.400000	65.500000	18.0453804	32.055435
5049	21.214286	29.714286	15.2509058	19.826316
5050	4.000000	8.500000	23.3437500	10.283333
5051	10.900000	23.500000	16.3750000	17.029167
5052	12.414286	24.000000	11.0664855	28.008333
5053	13.850000	36.500000	5.4569746	30.641667
5054	18.950000	38.500000	7.8472222	32.234649
5055	20.542857	31.666667	5.6805556	26.637681
5056	9.350000	30.000000	7.4414251	25.871344
5057	11.250000	28.500000	6.7192029	28.349638
5058	12.071429	26.000000	14.3080808	24.694474
5059	15.650000	30.000000	18.6129227	19.182292
5060	12.250000	13.500000	4.8617150	16.009923
5061	10.100000	17.714286	3.0060386	21.739583
5062	8.300000	10.500000	4.8562802	17.025136
5063	17.050000	17.500000	3.5694444	19.750000
5064	18.625000	22.000000	4.9305556	21.989583
5065	16.500000	14.500000	5.7361111	17.578125
5066	NA	16.000000	3.8333333	17.031250
5067	10.866667	13.571429	7.0000000	16.305871
5068	NA	26.500000	7.5416667	24.258929
5069	14.850000	26.500000	4.9045894	18.327989
5070	13.114286	15.000000	8.3490338	19.902627
5071	15.500000	27.000000	12.2222222	15.948822
5072	10.900000	17.500000	11.2083333	16.791667
5073	10.025000	20.428571	10.2159091	16.132102
5074	11.000000	24.000000	10.7222222	25.378968
5075	24.700000	30.000000	4.7916667	32.479167
5076	26.600000	33.000000	4.2916667	34.218750
5077	28.200000	34.000000	3.7886473	33.384058
5078	17.750000	28.000000	7.3750000	24.786458
5079	20.014286	23.285714	1.0416667	19.010417
5080	41.700000	40.500000	1.1388889	19.360054
5081	20.450000	28.500000	2.6944444	23.166667
5082	19.362500	21.000000	1.3194444	22.303977
5083	16.750000	16.500000	4.8712121	23.851223
5084	3.950000	7.000000	21.1666667	17.866667
5085	3.914286	6.428571	27.7083333	15.525000
5086	13.200000	16.000000	6.1388889	31.409848
5087	18.050000	30.500000	6.1250000	21.114394
5088	7.360000	18.000000	13.2071256	22.971739
5089	18.100000	23.000000	4.8333333	25.436472
5090	27.600000	26.500000	1.7741546	25.321212

5091	20.262500	30.000000	7.0694444	27.616667
5092	26.500000	37.500000	3.1944444	35.258333
5093	24.450000	27.000000	2.4444444	23.125000
5094	7.860000	14.000000	15.5694444	18.483333
5095	25.100000	28.000000	8.2361111	32.116667
5096	23.400000	37.000000	3.9335749	34.745244
5097	29.575000	33.571429	2.6527778	41.783333
5098	39.650000	39.000000	1.4631643	35.468841
5099	20.550000	16.500000	1.2083333	26.041667
5100	12.957143	18.500000	13.4166667	16.116667
5101	24.750000	27.500000	3.6041667	33.525000
5102	14.150000	25.500000	6.7916667	35.133136
5103	24.157143	38.571429	3.1657609	39.008772
5104	19.300000	35.000000	10.9239130	24.349130
5105	16.700000	24.500000	7.7916667	30.888043
5106	23.233333	33.000000	4.6041667	35.160870
5107	21.700000	35.500000	8.9791667	31.766667
5108	18.250000	40.500000	4.5000000	41.800000
5109	20.100000	25.833333	6.9375000	36.850000
5110	27.250000	38.000000	5.0833333	33.022464
5111	21.550000	31.500000	7.2708333	36.125774
5112	17.366667	23.000000	11.7083333	33.303788
5113	6.200000	8.500000	17.1458333	23.916667
5114	14.450000	10.500000	12.8541667	30.041667
5115	18.633333	28.200000	7.2708333	37.041667
5116	27.100000	26.000000	4.9753788	43.004464
5117	27.200000	30.000000	5.9166667	31.812500
5118	25.000000	25.000000	7.6250000	30.750000
5119	11.050000	24.000000	9.2780797	31.328598
5120	18.400000	22.000000	6.0000000	33.239583
5121	15.766667	21.800000	8.6250000	27.750000
5122	7.500000	17.000000	7.9791667	34.479167
5123	26.000000	NA	7.6041667	36.062500
5124	26.650000	31.000000	4.7500000	35.721591
5125	37.450000	36.000000	2.1974638	42.041990
5126	41.100000	35.000000	1.8623188	40.528533
5127	30.300000	31.833333	4.5833333	27.635417
5128	28.000000	22.000000	0.5000000	26.187500
5129	19.200000	13.500000	1.5833333	17.510417
5130	23.580000	15.000000	4.2500000	23.964583
5131	27.400000	30.000000	4.4375000	30.495536
5132	34.700000	43.000000	4.3822464	31.302989
5133	18.137500	26.000000	8.0461957	27.968750

5134	12.650000	20.000000	10.6250000	29.437500
5135	30.600000	34.000000	5.1458333	30.906250
5136	49.471429	68.000000	3.1250000	43.677083
5137	45.700000	45.000000	3.1875000	36.792045
5138	19.100000	31.000000	8.1534091	33.667861
5139	16.500000	28.500000	7.1585145	34.682018
5140	24.000000	34.000000	4.6250000	28.770833
5141	11.950000	14.500000	19.0625000	21.781250
5142	23.457143	29.000000	7.4583333	30.614583
5143	26.800000	31.000000	4.8522727	29.042749
5144	17.150000	11.000000	6.2500000	34.385417
5145	24.066667	24.333333	4.9990942	26.037879
5146	21.700000	29.000000	10.6458333	28.483734
5147	22.000000	32.500000	10.4791667	25.065217
5148	17.175000	25.500000	5.0833333	23.812500
5149	26.750000	18.000000	4.5833333	28.604167
5150	32.950000	35.000000	5.4565217	28.088068
5151	30.171429	36.500000	5.8632246	33.991667
5152	47.500000	34.000000	4.7291667	38.598755
5153	39.500000	44.500000	5.1875000	35.259058
5154	12.740000	22.500000	14.8750000	23.890399
5155	10.450000	16.500000	15.8639706	25.057971
5156	12.850000	19.000000	14.0744048	23.751894
5157	22.537500	29.000000	6.1458333	26.697917
5158	37.300000	34.000000	7.1739130	29.547917
5159	22.800000	18.500000	10.1875000	22.182871
5160	15.071429	12.000000	23.8541667	18.559330
5161	20.350000	23.000000	16.5625000	28.982337
5162	10.100000	11.000000	16.9791667	19.646286
5163	9.475000	16.400000	17.5000000	18.875000
5164	22.800000	64.000000	10.5000000	22.819293
5165	28.650000	30.000000	18.7500000	30.501488
5166	8.537500	16.000000	23.1956522	20.681612
5167	20.300000	21.500000	13.4166667	23.718750
5168	18.100000	23.500000	25.4166667	24.235548
5169	28.675000	31.500000	9.5625000	21.093750
5170	10.000000	12.000000	25.2708333	11.614583
5171	22.100000	21.000000	18.7282609	28.454257
5172	9.983333	11.000000	19.5587121	24.554924
5173	6.800000	18.000000	15.2826087	26.479167
5174	7.200000	27.000000	14.8750000	25.769886
5175	30.057143	35.000000	7.5208333	30.250000
5176	47.400000	49.500000	6.1875000	48.718750

5177	11.300000	14.500000	23.000000	20.653986
5178	7.371429	22.500000	19.3541667	20.297348
5179	5.700000	20.000000	15.5190217	28.538496
5180	15.300000	31.000000	17.2916667	28.930556
5181	16.557143	25.000000	22.2946429	27.116186
5182	10.200000	19.500000	13.6250000	32.747283
5183	22.950000	45.500000	16.8333333	33.177083
5184	10.728571	9.000000	29.1250000	14.010417
5185	24.700000	31.500000	10.3541667	25.345644
5186	24.300000	18.500000	22.8958333	21.287879
5187	15.000000	20.000000	14.3913043	32.673913
5188	20.050000	17.000000	20.2361111	21.229167
5189	14.600000	7.000000	33.2777778	16.854167
5190	7.540000	6.000000	30.3055556	21.721920
5191	11.500000	16.500000	25.0833333	30.895833
5192	16.150000	23.000000	24.9255051	35.270833
5193	15.950000	28.833333	27.9716184	32.845562
5194	22.900000	34.500000	25.9957729	36.215774
5195	36.050000	39.000000	18.1527778	41.739912
5196	27.200000	32.500000	21.2777778	26.677083
5197	11.650000	20.500000	28.5277778	15.187500
5198	8.200000	24.000000	20.8472222	14.020833
5199	10.025000	16.333333	14.7916667	22.678744
5200	14.300000	20.500000	16.7204106	31.552083
5201	25.200000	45.000000	19.3544686	35.208333
5202	34.575000	37.000000	21.3736825	30.944444
5203	40.300000	49.000000	26.5694444	28.305556
5204	38.400000	44.500000	21.6111111	25.944444
5205	10.685714	13.666667	25.7958333	22.027778
5206	21.750000	37.500000	15.5780303	39.541667
5207	20.550000	17.000000	37.9985507	19.936111
5208	27.587500	31.000000	28.7750000	28.488095
5209	30.400000	55.000000	16.0233696	39.263889
5210	38.900000	39.000000	11.9098485	25.020833
5211	14.237500	43.833333	32.4041667	17.614583
5212	10.500000	22.500000	34.4833333	19.510417
5213	11.000000	22.500000	26.8713768	22.018569
5214	25.575000	24.500000	13.9518116	20.809659
5215	16.400000	24.000000	15.6784420	20.885417
5216	5.900000	38.000000	30.6807477	14.510281
5217	9.075000	24.666667	20.6166667	27.510417
5218	15.400000	26.000000	25.5541667	31.591856
5219	8.100000	21.500000	39.8666667	15.968750

5220	8.028571	17.000000	26.2677536	18.406250
5221	6.950000	14.500000	29.6579710	21.903680
5222	16.400000	33.000000	16.3295290	41.640399
5223	13.200000	37.400000	28.2543478	32.465909
5224	17.300000	56.000000	34.2333333	21.541667
5225	13.600000	44.500000	29.2250000	15.145833
5226	13.828571	30.000000	23.5583333	17.489583
5227	10.850000	53.000000	25.7355072	13.393569
5228	10.400000	21.000000	27.9536397	25.510417
5229	13.157143	25.400000	19.1597826	37.823564
5230	11.800000	63.500000	31.2251153	28.858631
5231	7.900000	17.000000	35.8992754	21.895833
5232	10.528571	18.500000	29.2333333	24.437500
5233	10.400000	28.000000	35.3250000	22.989583
5234	17.700000	65.500000	36.8586957	33.031250
5235	20.414286	59.666667	42.8200922	23.715292
5236	19.600000	89.500000	36.7003623	24.250000
5237	22.700000	97.500000	42.2202899	27.886364
5238	8.787500	17.000000	33.5202899	20.692482
5239	8.100000	18.000000	30.7625000	14.145833
5240	14.400000	32.500000	32.7708333	19.166667
5241	15.450000	27.333333	18.7788043	26.791667
5242	7.300000	51.500000	26.4762681	27.583333
5243	10.700000	59.000000	36.8536891	29.293561
5244	15.875000	68.000000	36.1219203	28.094697
5245	6.250000	16.000000	21.1284420	16.800000
5246	5.300000	7.500000	31.1568841	13.717029
5247	13.387500	31.000000	22.9750000	28.325000
5248	10.400000	42.000000	20.0022563	34.991667
5249	17.100000	43.000000	30.1335145	29.479348
5250	25.350000	41.000000	33.3641798	27.705402
5251	21.900000	46.000000	24.3299819	40.907818
5252	9.900000	20.500000	37.3773551	18.361775
5253	8.000000	21.500000	36.1708333	19.800000
5254	11.900000	23.500000	41.0005435	20.573551
5255	13.600000	23.500000	24.2177536	19.958333
5256	6.612500	25.000000	20.5608696	17.898188
5257	9.500000	26.000000	12.6213627	28.868074
5258	13.200000	16.500000	14.1075886	26.704167
5259	14.900000	20.333333	11.6360709	27.949275
5260	12.700000	13.500000	19.4470612	18.711594
5261	14.900000	21.000000	25.2532206	20.300000
5262	20.637500	23.500000	22.5879630	26.358333

5263	7.800000	11.500000	20.6226852	23.252976
5264	4.800000	11.500000	27.7185533	18.038060
5265	13.271429	26.000000	22.4940217	21.697101
5266	11.200000	15.500000	24.2144763	23.099638
5267	6.250000	8.500000	22.7708333	15.125000
5268	4.825000	5.000000	15.4250000	9.670833
5269	6.100000	8.500000	19.5875000	11.467572
5270	18.800000	19.000000	12.0006341	20.262500
5271	29.175000	35.333333	15.4722826	21.536190
5272	16.100000	21.500000	22.3791667	25.095833
5273	15.300000	29.000000	21.8159420	32.787319
5274	17.487500	43.500000	29.4291667	35.516667
5275	18.200000	35.500000	42.8541667	16.266667
5276	23.200000	50.000000	34.7547101	29.734091
5277	16.237500	34.333333	37.9848732	29.325000
5278	36.300000	61.000000	51.8198370	29.813768
5279	30.100000	57.500000	41.3428030	21.408333
5280	9.187500	25.000000	19.9731884	24.133333
5281	7.800000	24.000000	32.6166667	21.625000
5282	11.300000	27.000000	34.6229167	25.816667
5283	13.450000	36.500000	48.3247283	21.878623
5284	13.700000	39.500000	46.4770422	18.469928
5285	14.650000	19.000000	30.0812500	24.929058
5286	16.662500	22.500000	23.3856108	28.537164
5287	14.200000	20.000000	20.4875000	20.266667
5288	13.550000	21.000000	19.5416667	24.566667
5289	21.371429	30.166667	34.1958333	30.383333
5290	21.850000	45.500000	39.3654891	33.608333
5291	24.800000	43.000000	42.6815382	36.149275
5292	31.300000	57.500000	42.1101449	37.222101
5293	41.300000	66.000000	42.9583333	36.940000
5294	38.850000	70.500000	42.5458333	35.098551
5295	30.175000	45.666667	46.9458333	21.816667
5296	7.200000	16.000000	22.7395833	8.650000
5297	6.600000	20.500000	21.4062500	17.641667
5298	9.371429	26.000000	20.2451087	26.371325
5299	19.000000	27.500000	30.9833333	20.866667
5300	6.700000	19.500000	22.0190217	14.283333
5301	10.262500	22.000000	26.0622283	24.902899
5302	18.150000	34.500000	28.0143116	20.166667
5303	14.300000	26.000000	23.0966184	24.183333
5304	22.600000	36.500000	27.0644516	31.742424
5305	17.000000	35.500000	33.7047101	27.344048

5306	5.450000	10.000000	24.9645833	13.838636
5307	8.157143	20.200000	18.0318264	21.222348
5308	7.600000	20.000000	16.1972332	22.077609
5309	11.100000	30.500000	28.5125000	27.675000
5310	19.971429	47.500000	38.2875000	30.833333
5311	26.100000	58.000000	40.8931159	34.444481
5312	39.000000	67.500000	41.8674242	33.038636
5313	31.142857	47.800000	26.6572875	25.624374
5314	28.500000	42.000000	32.7817761	29.462319
5315	32.300000	58.500000	33.0038043	33.675000
5316	21.985714	39.500000	30.4416667	30.291667
5317	19.300000	25.500000	29.3125000	29.608333
5318	20.600000	34.000000	21.0333132	32.020833
5319	15.712500	32.400000	33.2979167	25.050000
5320	10.400000	20.500000	30.7289855	16.483873
5321	9.200000	11.000000	27.9526845	12.196970
5322	10.912500	25.000000	30.5804348	18.833333
5323	26.300000	37.500000	27.7454545	30.527273
5324	27.400000	37.500000	37.4354167	17.983333
5325	29.512500	48.166667	41.0873188	23.325000
5326	27.100000	45.000000	42.1452122	26.918939
5327	43.700000	81.500000	45.1773551	27.442391
5328	15.085714	38.500000	22.3635481	33.087780
5329	15.200000	23.000000	26.9838768	21.963043
5330	10.300000	20.000000	23.4395833	21.108333
5331	21.837500	32.500000	37.8480072	30.058333
5332	22.700000	50.000000	32.3516304	33.075000
5333	27.150000	40.500000	39.5966486	28.741667
5334	38.837500	70.000000	37.9804682	27.627433
5335	38.200000	66.000000	36.7324522	26.467424
5336	6.350000	13.500000	23.5074879	13.817624
5337	5.737500	16.666667	22.4854167	14.366667
5338	13.800000	27.000000	28.3277174	24.216667
5339	7.750000	18.000000	25.9020833	15.612500
5340	6.887500	16.500000	21.6938406	19.519203
5341	16.300000	38.500000	22.3541749	38.013095
5342	21.600000	31.000000	21.5771410	25.841667
5343	8.987500	20.500000	15.3771739	21.834524
5344	10.800000	22.000000	12.2958333	29.475000
5345	7.200000	16.500000	23.0354167	12.537500
5346	10.512500	36.000000	12.1166667	20.870833
5347	19.900000	48.000000	17.9390399	27.937500
5348	21.400000	44.000000	23.0271739	29.382143

5349	22.000000	30.500000	29.8554513	19.111742
5350	28.850000	38.000000	37.2157115	19.303788
5351	19.550000	26.000000	20.6333333	22.966667
5352	11.975000	24.500000	26.6388889	21.433333
5353	17.100000	39.500000	19.6982689	32.708333
5354	11.300000	24.500000	19.0765993	18.562500
5355	15.175000	32.800000	22.8365539	25.857726
5356	16.600000	36.500000	29.1650492	28.274144
5357	6.100000	21.500000	18.8584239	16.206818
5358	4.662500	14.000000	25.5812500	11.325000
5359	11.650000	27.000000	21.0541667	26.191667
5360	18.050000	37.000000	34.0229167	19.991667
5361	5.650000	14.600000	22.1880435	13.195833
5362	8.950000	31.500000	23.6516304	22.016288
5363	20.400000	43.000000	32.7273221	29.404084
5364	12.475000	20.000000	20.8021739	16.993116
5365	10.000000	30.500000	28.1291667	15.300000
5366	8.100000	21.000000	11.1875000	19.275000
5367	7.171429	19.400000	12.9635211	22.308333
5368	13.600000	28.000000	15.5998188	31.836594
5369	14.400000	51.500000	26.4399457	34.848913
5370	5.112500	15.500000	23.3461957	9.831884
5371	3.800000	15.000000	22.2288208	12.111759
5372	9.100000	21.000000	18.4645833	18.287121
5373	16.485714	30.833333	24.0645833	21.395833
5374	24.800000	38.500000	13.0634058	38.225000
5375	27.500000	34.500000	34.8092391	23.723188
5376	16.000000	17.000000	17.1153986	20.868144
5377	16.900000	55.000000	14.9498188	26.937060
5378	13.700000	28.500000	10.0938406	26.693841
5379	14.425000	24.833333	14.5729167	27.175000
5380	11.000000	21.500000	14.6541667	18.170833
5381	3.200000	11.000000	15.0020916	16.825296
5382	5.414286	15.500000	13.7728261	23.937500
5383	6.000000	20.500000	15.6138230	25.308626
5384	6.000000	17.000000	15.7999094	23.687500
5385	5.442857	11.166667	15.3498188	15.905303
5386	9.500000	17.000000	13.7937500	20.916667
5387	16.700000	37.500000	11.8083333	31.937500
5388	18.075000	62.000000	12.4394065	43.912202
5389	19.400000	74.500000	23.3374780	40.215909
5390	16.200000	66.500000	35.4860105	21.476974
5391	12.725000	23.500000	6.4537037	24.864583

5392	8.700000	18.500000	5.2854908	25.114583
5393	7.200000	25.500000	10.6597222	20.093750
5394	12.287500	24.000000	12.0995370	24.833333
5395	10.700000	30.500000	18.0778986	23.024004
5396	14.700000	52.000000	29.4004630	21.168561
5397	14.928571	25.666667	17.1620370	19.048295
5398	9.400000	36.000000	12.6797504	27.777462
5399	9.500000	30.500000	9.5833333	24.593750
5400	11.242857	26.500000	7.8726852	21.166667
5401	5.800000	12.000000	13.9722222	13.583333
5402	6.400000	32.500000	6.0454545	18.656250
5403	6.314286	11.400000	7.9962121	20.002717
5404	7.050000	41.000000	8.6316425	27.356061
5405	7.800000	68.500000	13.3630051	27.496377
5406	8.314286	39.500000	10.5034219	31.250000
5407	10.100000	58.500000	13.1203704	33.656250
5408	16.300000	44.500000	17.1180556	25.135417
5409	21.571429	35.500000	10.4533743	29.072917
5410	15.400000	44.000000	11.3331320	27.315341
5411	7.700000	33.000000	10.4893461	19.776042
5412	7.412500	34.000000	17.8463896	12.592580
5413	6.500000	22.500000	14.1525765	19.062500
5414	7.000000	26.000000	15.7492955	24.000000
5415	10.625000	18.500000	13.2870370	23.035779
5416	9.100000	39.500000	11.9907407	25.510417
5417	18.550000	39.500000	3.8758783	23.833333
5418	16.987500	92.500000	23.7340342	30.033144
5419	15.100000	83.000000	25.5839372	25.227129
5420	8.200000	38.500000	13.1250000	24.979167
5421	14.214286	36.166667	8.9722222	34.864583
5422	10.300000	35.000000	14.3789683	24.260417
5423	19.900000	59.000000	4.3472222	41.340774
5424	13.587500	75.500000	5.6328502	35.536458
5425	23.500000	84.500000	6.9329710	41.519475
5426	15.800000	42.000000	9.6250000	26.341033
5427	14.700000	32.000000	5.6527778	27.833333
5428	10.100000	40.000000	14.0555556	17.270833
5429	6.000000	15.500000	19.4583333	19.718750
5430	20.037500	44.500000	4.0555556	34.218750
5431	15.900000	78.500000	7.9722222	32.030208
5432	38.900000	95.000000	9.1781401	38.563156
5433	39.512500	59.666667	11.1111111	31.740942
5434	27.050000	46.500000	8.2590580	24.656250

5435	33.400000	73.000000	2.8333333	29.630208
5436	38.075000	62.000000	5.6527778	25.109375
5437	10.700000	28.000000	11.5295894	23.160714
5438	6.700000	29.000000	7.5000000	26.222222
5439	11.500000	29.600000	4.7916667	26.172101
5440	10.800000	35.500000	9.4861111	22.437198
5441	15.300000	34.500000	12.3282828	26.820707
5442	10.142857	27.000000	19.1733092	15.276721
5443	4.400000	12.000000	9.0138889	11.062500
5444	17.700000	35.500000	6.2693237	21.729167
5445	13.837500	21.166667	4.9166667	18.802083
5446	19.100000	23.500000	2.9747475	19.181159
5447	5.000000	12.500000	2.9861111	17.338542
5448	6.100000	13.000000	1.2361111	16.476799
5449	19.000000	33.500000	7.4027778	18.447917
5450	16.750000	29.000000	6.8611111	24.833333
5451	20.137500	28.666667	5.6274155	32.226935
5452	14.300000	58.000000	6.9565217	28.260417
5453	19.600000	81.500000	22.8611111	21.177083
5454	9.812500	33.000000	8.5555556	27.128788
5455	12.900000	23.500000	11.1186869	24.479167
5456	21.100000	31.500000	10.7361111	24.447917
5457	19.812500	23.166667	5.6388889	26.375000
5458	22.350000	51.000000	3.9027778	33.994792
5459	29.100000	55.000000	3.0772947	38.493433
5460	27.200000	51.500000	1.7222222	30.199811
5461	15.000000	19.000000	2.9633838	22.322917
5462	27.500000	36.500000	2.2850242	26.078125
5463	22.542857	25.800000	4.2361111	27.770833
5464	17.600000	20.000000	2.5694444	25.411458
5465	14.800000	17.000000	3.0422705	21.468750
5466	19.737500	50.500000	3.7427536	26.566690
5467	10.700000	22.500000	8.6642512	24.385417
5468	9.900000	30.000000	5.9722222	29.467597
5469	18.187500	39.000000	3.5416667	36.513889
5470	11.000000	24.000000	10.7312802	24.245169
5471	9.800000	46.000000	17.1340580	10.125000
5472	7.800000	34.000000	19.5138889	14.013889
5473	10.200000	23.500000	15.2500000	15.805556
5474	11.600000	41.500000	8.7727822	19.875000
5475	15.312500	28.000000	11.9027778	18.819444
5476	12.100000	37.000000	14.2777778	22.617754
5477	8.200000	32.000000	17.5694444	18.145833

5478	11.525000	27.500000	15.0694444	15.479167
5479	17.400000	31.000000	11.1919192	22.047222
5480	16.000000	51.500000	5.7083333	30.864583
5481	25.785714	49.600000	3.6944444	41.875000
5482	20.100000	50.000000	5.8478261	35.735054
5483	16.000000	71.000000	8.4070048	24.011775
5484	20.087500	40.000000	4.3055556	21.708333
5485	13.300000	26.500000	11.3750000	19.520833
5486	10.100000	24.000000	9.2336957	25.316423
5487	14.762500	24.600000	6.0277778	23.031250
5488	11.400000	29.500000	3.9722222	22.022110
5489	13.150000	23.000000	5.7210145	27.218750
5490	12.125000	19.500000	10.6250000	21.802083
5491	10.400000	16.500000	10.3750000	20.770833
5492	8.900000	19.500000	7.5416667	22.104167
5493	16.800000	19.333333	3.6805556	21.555060
5494	18.600000	17.000000	10.2771739	18.510417
5495	15.450000	22.500000	5.0277778	24.536849
5496	17.937500	21.500000	8.0820707	25.354167
5497	16.100000	28.500000	6.8333333	30.156250
5498	19.500000	30.000000	7.7361111	30.614583
5499	20.712500	22.833333	13.4166667	17.979167
5500	18.500000	24.500000	9.0416667	23.708333
5501	11.700000	37.500000	10.3611111	27.333333
5502	18.700000	38.500000	8.0585749	23.135417
5503	11.800000	17.500000	15.2632850	21.161355
5504	8.800000	30.000000	12.1014493	22.375000
5505	9.475000	15.666667	14.1666667	21.697917
5506	7.000000	28.000000	19.9027778	18.260417
5507	16.600000	32.000000	12.2572464	24.218750
5508	9.585714	15.000000	16.0416667	19.041667
5509	15.050000	11.500000	15.3520531	22.152627
5510	8.650000	9.500000	12.0227273	21.270833
5511	9.271429	12.000000	15.1899758	26.270833
5512	19.200000	32.000000	11.5555556	29.895833
5513	16.800000	22.000000	20.9818841	19.494112
5514	9.757143	21.000000	14.8948413	27.699728
5515	18.800000	38.500000	7.9583333	35.482639
5516	25.000000	49.500000	4.2291667	36.649909
5517	34.857143	41.166667	8.2119565	36.704545
5518	34.850000	60.000000	5.8750000	32.805871
5519	21.400000	30.500000	11.0833333	28.885417
5520	10.014286	20.000000	19.4583333	17.906250

5521	8.100000	28.000000	15.1250000	22.875000
5522	6.050000	22.500000	20.2708333	17.250000
5523	7.712500	17.250000	12.7581522	29.395780
5524	8.200000	46.500000	15.5416667	23.304924
5525	12.800000	33.500000	12.0573671	19.871212
5526	6.585714	13.500000	17.7916667	18.291667
5527	5.800000	11.000000	20.4583333	19.656250
5528	10.500000	31.000000	12.6805556	24.750000
5529	14.850000	20.400000	12.9305556	24.306914
5530	11.400000	20.000000	9.6666667	16.145833
5531	8.400000	12.500000	13.9374177	21.559783
5532	8.471429	15.000000	16.0694444	27.664855
5533	10.500000	25.000000	13.8472222	24.166667
5534	11.600000	30.500000	20.4722222	16.645833
5535	9.828571	18.333333	20.7777778	17.117918
5536	8.400000	26.500000	17.8333333	20.239583
5537	9.200000	26.000000	18.3152174	23.668616
5538	14.987500	43.500000	11.6666667	26.348485
5539	17.800000	27.500000	16.3194444	28.906250
5540	15.900000	19.000000	12.9166667	32.166667
5541	7.200000	15.500000	30.1250000	14.885417
5542	12.800000	29.000000	18.9510870	25.361607
5543	22.700000	29.000000	8.8007246	36.723485
5544	21.942857	20.000000	16.1388889	30.010417
5545	33.700000	41.000000	16.1962560	25.213768
5546	13.600000	12.000000	18.9722222	23.166667
5547	9.457143	23.500000	28.8750000	8.302083
5548	7.550000	20.500000	27.5507246	12.041667
5549	13.350000	33.000000	11.1690821	30.697917
5550	25.325000	53.000000	6.7904589	31.125000
5551	24.100000	48.000000	13.5138889	30.844656
5552	27.000000	34.000000	18.8224638	22.166667
5553	11.114286	19.400000	20.9305556	15.125000
5554	5.500000	10.500000	36.3055556	11.302083
5555	16.100000	23.500000	18.4444444	20.812500
5556	20.925000	23.500000	15.9263285	25.412202
5557	30.450000	41.000000	9.1111111	28.593750
5558	16.800000	20.500000	19.8888889	27.083333
5559	10.928571	20.166667	22.8750000	16.403986
5560	10.700000	34.500000	24.1805556	14.734848
5561	12.100000	39.000000	26.7500000	17.927083
5562	7.537500	19.000000	35.0972222	11.412138
5563	7.100000	19.000000	26.3333333	11.368506

5564	12.250000	16.000000	22.0694444	19.677083
5565	20.562500	31.166667	14.3888889	33.911504
5566	31.500000	52.500000	10.3387681	30.593750
5567	20.500000	31.500000	9.4166667	34.385417
5568	8.225000	12.000000	20.3611111	20.177083
5569	10.600000	17.000000	19.5138889	22.156250
5570	13.300000	25.000000	14.0338542	28.233696
5571	19.125000	24.500000	16.2943841	25.730655
5572	9.700000	15.000000	21.0313118	23.128788
5573	9.000000	15.000000	23.0562726	22.816123
5574	18.642857	28.000000	18.1805933	29.197917
5575	15.900000	25.000000	23.8671875	30.322917
5576	15.600000	24.000000	22.9348958	21.208333
5577	23.475000	27.500000	18.5677083	37.102273
5578	9.800000	18.000000	18.8643569	26.760417
5579	15.250000	31.000000	21.5643024	29.705492
5580	11.425000	45.000000	30.1260064	26.417874
5581	13.700000	36.000000	19.7606500	22.291667
5582	16.000000	24.000000	19.8472222	30.444444
5583	17.914286	26.166667	29.4074074	20.250000
5584	14.100000	62.000000	35.0972222	19.943496
5585	14.400000	41.000000	36.1854011	17.125000
5586	13.462500	47.000000	28.6344422	24.339976
5587	13.700000	67.000000	29.6387791	21.868961
5588	5.700000	22.000000	30.3912037	17.583333
5589	4.142857	6.800000	41.0092593	7.802083
5590	5.700000	9.000000	30.2476852	10.197917
5591	6.800000	8.000000	25.5663245	22.460417
5592	17.400000	22.000000	20.1294375	32.925595
5593	11.500000	19.000000	26.6563003	21.848020
5594	7.800000	NA	24.8418881	17.044643
5595	9.900000	30.250000	23.9322665	26.260417
5596	12.600000	34.000000	24.6574074	20.604167
5597	6.600000	14.000000	27.8101852	12.317708
5598	10.928571	38.000000	25.1340488	25.634848
5599	8.500000	29.000000	20.5936997	29.241667
5600	9.300000	35.000000	22.4957912	28.692391
5601	8.512500	13.833333	31.2284805	18.099123
5602	4.300000	15.000000	20.9058977	22.737500
5603	9.500000	18.000000	27.7800926	27.212500
5604	10.325000	16.000000	33.7847222	18.233333
5605	11.000000	17.000000	26.4014694	24.650000
5606	6.400000	7.000000	27.5550615	13.945833

5607	16.225000	23.800000	14.6794485	19.905303
5608	7.350000	28.000000	25.6113124	14.004167
5609	9.300000	37.000000	31.4188808	23.250000
5610	14.550000	29.500000	32.8463542	21.054167
5611	10.700000	17.000000	24.0208333	20.083333
5612	9.300000	16.000000	27.6348723	22.710714
5613	12.312500	19.166667	22.1915258	29.937500
5614	12.700000	59.000000	33.6334267	24.978409
5615	8.000000	21.000000	22.4490741	21.418939
5616	2.912500	6.000000	26.4095066	13.204167
5617	5.750000	15.000000	25.5231481	18.345833
5618	10.150000	14.500000	28.1388889	17.966667
5619	3.485714	7.666667	31.2750421	12.900595
5620	6.400000	16.000000	20.9094203	27.704167
5621	14.250000	27.000000	28.3486312	23.074420
5622	18.987500	56.500000	33.7650966	24.296429
5623	6.700000	7.000000	24.0637077	14.116667
5624	11.300000	13.500000	16.3726852	17.912500
5625	9.775000	17.000000	25.3240741	20.250000
5626	13.900000	21.500000	37.9953704	20.091667
5627	27.200000	42.000000	26.1726596	34.948106
5628	13.925000	49.000000	24.1001409	25.600000
5629	19.100000	56.000000	30.4930556	25.479745
5630	10.700000	59.500000	31.5879630	27.033333
5631	9.875000	39.166667	40.5763889	24.525000
5632	9.700000	22.000000	33.9745370	17.161905
5633	18.100000	36.500000	21.8163837	22.636957
5634	20.562500	35.000000	8.3394360	38.027899
5635	10.850000	11.000000	14.3436997	18.302717
5636	11.550000	16.000000	25.1726413	21.294048
5637	17.175000	29.000000	22.8748994	32.045833
5638	25.000000	45.000000	43.9537037	27.266667
5639	30.050000	54.000000	51.7199074	23.587500
5640	18.637500	48.000000	28.4845008	22.541667
5641	9.600000	21.000000	22.6320451	18.168506
5642	9.800000	17.000000	15.8882576	15.563745
5643	10.437500	20.833333	13.1978663	17.770833
5644	7.100000	15.500000	15.7533853	24.066667
5645	7.600000	13.000000	26.5277778	16.358333
5646	6.485714	12.500000	24.9296875	17.316667
5647	12.400000	27.500000	18.0872962	32.582971
5648	15.500000	42.000000	38.2849327	26.000181
5649	24.962500	47.666667	45.0124547	29.975000

5650	33.000000	80.500000	47.4267311	30.767029
5651	31.300000	67.500000	37.3514291	38.541667
5652	35.400000	75.500000	46.6250000	35.158333
5653	42.500000	65.000000	54.8804348	30.039130
5654	34.200000	88.000000	54.4484127	37.985145
5655	23.987500	39.833333	19.8884680	33.735985
5656	9.900000	26.500000	34.3665459	20.915422
5657	8.200000	18.000000	23.5150966	16.556522
5658	13.662500	29.000000	17.3104871	25.416667
5659	21.800000	37.000000	30.5509259	27.616667
5660	20.950000	38.500000	39.4557292	18.516667
5661	20.042857	65.000000	23.1740137	19.308333
5662	21.600000	69.500000	22.7783816	20.235507
5663	28.700000	95.000000	36.3783967	31.369163
5664	16.637500	35.500000	33.3776042	14.675000
5665	6.700000	16.500000	30.5648148	10.800000
5666	17.100000	24.500000	36.3194444	23.908333
5667	25.412500	44.600000	51.1435185	27.779167
5668	33.100000	64.000000	45.3496926	27.678571
5669	12.300000	32.000000	31.5613929	16.886594
5670	9.942857	19.000000	31.3040459	10.902355
5671	7.300000	17.000000	32.1349638	12.659091
5672	10.900000	24.500000	38.7951540	19.794565
5673	12.271429	23.800000	44.4687500	21.508333
5674	17.100000	27.500000	45.1197917	30.616667
5675	26.300000	51.000000	42.8390313	44.934524
5676	25.528571	63.000000	42.0976248	36.008333
5677	40.900000	91.500000	40.2255435	40.655698
5678	38.850000	72.500000	44.9804549	26.069048
5679	20.375000	34.833333	27.3751006	18.212500
5680	21.900000	39.000000	39.7106481	18.587500
5681	21.000000	35.000000	42.1782407	15.108333
5682	15.587500	44.000000	33.6712963	22.933333
5683	3.000000	7.500000	27.9461554	11.184964
5684	5.700000	18.500000	34.0045290	16.287121
5685	18.800000	30.200000	27.4955717	30.750000
5686	32.400000	51.500000	36.8382649	28.791667
5687	17.400000	28.000000	28.9166667	21.358333
5688	16.057143	23.500000	28.4930556	17.158333
5689	12.300000	24.500000	20.6176347	21.608333
5690	13.500000	27.500000	33.5359300	33.966238
5691	17.987500	30.833333	34.3534622	34.478220
5692	21.300000	56.500000	39.9837963	26.822917

5693	6.000000	11.500000	31.2453704	17.518386
5694	16.412500	38.500000	40.9305556	23.583333
5695	22.900000	47.500000	43.5416667	18.641667
5696	12.300000	17.000000	35.7106481	17.929167
5697	3.637500	11.000000	23.5653363	9.554167
5698	6.200000	12.000000	25.4704106	14.487500
5699	8.900000	20.500000	29.1932916	19.005736
5700	16.537500	33.500000	39.4067824	27.920000
5701	27.850000	41.500000	47.8935185	29.908333
5702	30.800000	46.000000	51.0833333	20.691667
5703	23.050000	40.000000	41.8330680	19.642857
5704	12.700000	29.500000	29.8009259	19.897134
5705	9.400000	24.500000	15.8346417	19.519264
5706	13.912500	39.500000	25.5449605	19.225379
5707	12.000000	24.000000	14.0427632	22.983333
5708	12.900000	32.000000	23.5138889	12.491667
5709	7.700000	19.166667	24.5069444	17.883333
5710	9.200000	12.000000	19.3902778	19.079167
5711	10.400000	22.500000	19.7077295	25.419565
5712	23.075000	41.000000	31.3570670	21.029167
5713	10.700000	16.000000	25.5067432	26.300000
5714	18.350000	18.000000	20.3838567	22.961730
5715	16.687500	27.833333	21.3865741	22.867301
5716	17.100000	22.500000	28.1782407	21.572917
5717	11.400000	17.000000	25.0231481	15.755208
5718	14.112500	23.000000	32.8172303	16.119792
5719	10.800000	20.000000	27.6018519	13.652273
5720	13.600000	24.000000	38.2792874	19.507246
5721	20.528571	35.400000	42.2069243	22.629167
5722	24.300000	36.000000	45.9976852	21.391667
5723	31.400000	45.000000	37.7870370	24.566667
5724	22.171429	46.500000	43.8009259	14.370833
5725	8.900000	17.500000	25.3721820	20.189394
5726	8.600000	34.500000	21.1584138	27.596196
5727	7.900000	24.000000	25.2396062	18.859601
5728	21.000000	33.000000	31.6829710	37.279167
5729	31.950000	59.500000	38.8203704	40.058333
5730	44.042857	65.000000	42.8842593	39.625000
5731	39.400000	70.500000	29.0620974	45.258333
5732	25.400000	75.500000	27.1868961	29.116667
5733	7.157143	15.500000	22.8497383	19.510417
5734	13.550000	47.000000	16.9884900	34.601490
5735	15.800000	51.000000	25.6544686	38.203804

5736	23.814286	41.000000	37.4768519	32.927083
5737	5.950000	9.000000	26.9467593	11.072917
5738	9.200000	34.000000	14.7258454	32.937500
5739	20.562500	41.333333	24.5718142	39.238095
5740	21.300000	31.000000	25.0585017	28.683053
5741	12.450000	42.000000	14.3146410	20.989583
5742	5.714286	40.000000	9.6382850	17.916667
5743	8.600000	18.000000	24.0755208	19.031250
5744	5.250000	12.500000	17.8177083	18.916667
5745	7.600000	21.000000	17.3287879	26.805060
5746	5.250000	15.000000	18.2843196	22.677083
5747	10.450000	37.000000	18.4154772	27.525856
5748	29.914286	53.000000	21.4684103	36.554924
5749	13.500000	21.500000	27.1701766	20.881250
5750	29.400000	38.000000	28.3880208	21.833333
5751	26.957143	40.333333	36.2760417	16.843750
5752	19.500000	56.500000	36.5648292	22.575893
5753	23.700000	45.000000	25.5442708	31.870265
5754	15.212500	23.000000	16.9766757	23.604167
5755	13.300000	23.500000	14.3696784	17.208333
5756	11.900000	19.000000	15.1571558	17.416667
5757	8.162500	17.666667	13.2708333	20.364583
5758	7.500000	14.000000	23.1484375	15.562500
5759	7.100000	14.500000	13.9973958	24.884770
5760	9.375000	35.500000	9.5892857	30.895833
5761	15.600000	44.500000	9.5737401	31.078598
5762	22.400000	51.500000	10.5729167	33.760417
5763	30.485714	54.833333	10.7070879	34.666667
5764	25.700000	28.500000	14.2187500	21.472222
5765	5.200000	9.500000	15.5598958	17.416667
5766	10.114286	27.500000	10.1692708	29.166667
5767	11.600000	30.000000	11.1271513	29.270202
5768	8.600000	12.500000	14.8320879	26.602092
5769	11.700000	20.500000	6.2156929	28.222222
5770	15.200000	42.000000	7.1250000	25.638889
5771	7.600000	10.000000	14.8229167	19.902778
5772	16.280000	19.000000	11.8776042	24.736111
5773	18.150000	42.000000	11.3255208	32.502525
5774	14.400000	21.000000	8.6073370	23.838164
5775	8.012500	14.333333	12.7129917	20.195652
5776	7.500000	11.000000	11.5936853	21.319444
5777	19.900000	29.000000	5.3697917	21.634964
5778	15.862500	14.500000	4.1953125	20.114583

5779	9.300000	9.000000	14.0076122	16.802083
5780	8.800000	11.000000	18.0496894	16.812500
5781	7.875000	12.333333	18.1488095	16.257440
5782	7.433333	9.000000	20.1616848	20.138134
5783	15.900000	16.000000	8.9827899	26.125000
5784	11.475000	18.500000	11.7893939	21.934783
5785	10.800000	21.000000	11.0416667	21.822917
5786	19.200000	20.000000	6.9083333	22.687500
5787	25.485714	36.666667	6.9447826	28.349702
5788	26.900000	29.500000	2.3854167	28.740036
5789	26.600000	27.000000	8.3451087	23.375000
5790	19.614286	51.500000	11.0317029	26.480461
5791	7.500000	39.000000	22.3645833	21.979167
5792	15.300000	37.000000	23.3333333	14.083333
5793	18.062500	26.500000	14.7291667	12.468750
5794	10.800000	24.000000	4.1770833	16.593750
5795	17.150000	21.000000	6.0406785	22.958333
5796	15.500000	36.500000	6.7798913	23.461310
5797	9.200000	17.500000	12.1979167	21.439764
5798	4.650000	4.000000	29.1041667	14.250000
5799	4.100000	7.166667	27.3645833	14.447917
5800	10.900000	11.500000	14.6354167	25.072917
5801	27.650000	36.500000	2.8840580	33.195076
5802	17.885714	22.000000	5.4954710	24.177083
5803	13.800000	32.500000	3.3020833	30.406250
5804	13.200000	28.500000	11.1050725	24.449275
5805	8.487500	15.500000	12.4583333	28.350543
5806	14.600000	22.000000	8.0833333	25.093750
5807	7.100000	10.500000	10.6979167	19.364583
5808	9.585714	19.500000	6.8645833	29.489583
5809	22.350000	25.500000	2.7930254	37.534226
5810	21.400000	23.000000	6.0040761	35.473214
5811	24.814286	32.500000	7.9479167	23.614583
5812	6.200000	17.000000	12.4479167	15.114583
5813	4.700000	15.000000	22.6458333	11.906250
5814	6.550000	18.000000	14.9583333	17.291667
5815	7.800000	14.500000	13.8854167	26.875947
5816	11.400000	24.000000	11.8786232	36.635417
5817	18.462500	35.666667	5.1250000	44.468297
5818	20.000000	24.000000	9.3229167	30.135417
5819	19.800000	41.000000	5.5018939	25.827899
5820	20.528571	25.500000	7.3958333	21.479167
5821	8.800000	18.500000	14.1250000	24.552083

5822	19.900000	51.000000	6.1512681	40.920002
5823	20.800000	43.500000	3.8750000	38.218750
5824	27.300000	75.000000	3.2432065	47.760417
5825	28.650000	30.000000	2.0964674	28.335038
5826	37.937500	35.000000	3.4207428	26.013393
5827	30.400000	34.500000	6.2187500	20.145833
5828	13.800000	19.500000	12.2395833	16.458333
5829	6.314286	14.000000	23.2187500	16.713315
5830	16.600000	27.500000	8.8532609	22.354167
5831	15.100000	23.000000	11.8161232	22.385417
5832	13.687500	17.000000	7.0144928	15.375000
5833	6.800000	12.000000	11.0312500	12.614583
5834	8.500000	13.000000	14.7187500	14.343750
5835	9.057143	15.000000	15.1145833	11.552083
5836	9.700000	13.500000	12.6770833	17.906250
5837	13.700000	15.000000	11.3541667	25.531250
5838	7.675000	10.000000	18.2916667	12.510417
5839	18.700000	21.500000	9.1666667	19.743371
5840	25.900000	32.500000	4.8111413	28.260417
5841	33.342857	36.666667	5.1250000	25.718750
5842	42.300000	39.000000	6.6354167	25.750000
5843	16.300000	23.000000	10.4166667	19.907197
5844	11.575000	15.000000	10.2395833	24.395833
5845	4.200000	7.000000	26.3020833	10.916667
5846	9.400000	7.500000	22.6743659	19.367424
5847	12.657143	21.800000	10.0579710	32.669192
5848	25.400000	25.500000	5.7500000	33.611111
5849	32.900000	24.500000	2.5000000	26.027778
5850	11.042857	15.000000	13.6875000	27.599206
5851	16.300000	21.500000	8.6354167	18.958333
5852	11.400000	21.500000	9.1229167	20.402778
5853	6.657143	14.800000	17.5851449	20.958333
5854	9.600000	18.000000	20.0394022	19.430556
5855	6.200000	13.000000	20.3229167	15.875000
5856	8.957143	20.500000	14.3958333	22.638889
5857	11.700000	18.500000	17.4184783	24.160714
5858	NA	22.000000	14.6666667	24.472222
5859	15.600000	29.800000	11.5937500	31.722222
5860	NA	37.000000	9.3020833	38.550000
5861	10.200000	29.000000	17.8093297	29.425505
5862	15.650000	22.000000	16.8854167	22.791667
5863	11.700000	27.000000	16.1250000	21.166667
5864	10.900000	42.500000	20.2500000	25.722222

5865	11.785714	29.600000	17.4796196	27.956349
5866	12.500000	20.000000	18.8607955	23.402778
5867	11.100000	22.000000	18.7291667	24.932971
5868	16.887500	31.000000	10.3745471	29.252193
5869	NA	30.000000	13.2708333	21.736111
5870	9.000000	32.000000	24.5833333	20.180556
5871	19.242857	37.250000	9.7056159	40.458333
5872	29.400000	53.000000	4.6109601	36.902778
5873	19.800000	19.000000	11.4904891	33.513889
5874	22.800000	30.000000	8.2291667	35.247475
5875	24.500000	40.000000	3.4479167	26.958333
5876	30.300000	29.000000	6.6770833	22.605556
5877	35.228571	44.750000	6.5833333	20.458333
5878	30.400000	46.000000	3.6417572	29.334596
5879	8.900000	15.000000	20.5240036	16.513889
5880	11.650000	27.000000	13.5416667	27.375000
5881	NA	19.000000	14.2635870	26.486111
5882	9.300000	19.000000	18.0312500	23.324275
5883	12.937500	22.666667	19.0208333	18.555556
5884	NA	18.000000	21.1562500	22.083333
5885	NA	17.000000	15.3740942	25.119949
5886	11.171429	39.000000	19.3333333	21.458333
5887	13.100000	34.000000	22.4687500	21.388889
5888	18.500000	38.000000	12.4583333	35.694444
5889	27.628571	60.500000	12.7653986	47.140873
5890	5.300000	9.500000	34.0833333	12.833333
5891	3.800000	9.000000	34.7812500	12.444444
5892	14.350000	20.500000	22.3645833	27.625000
5893	27.500000	28.000000	10.5480072	30.867063
5894	15.500000	31.500000	13.0000000	33.180556
5895	15.400000	24.000000	11.1096014	35.527778
5896	28.600000	45.500000	5.1666667	40.597222
5897	13.900000	19.000000	21.0729167	21.027778
5898	6.737500	15.500000	29.8958333	17.125000
5899	16.100000	21.500000	19.4823370	28.444444
5900	30.900000	35.500000	11.5366848	37.708333
5901	28.912500	37.200000	11.6553030	41.869048
5902	NA	37.000000	13.8750000	43.369565
5903	46.200000	62.500000	8.7753623	57.564394
5904	47.737500	47.500000	9.4166667	37.444444
5905	18.800000	19.500000	21.1458333	17.694444
5906	15.200000	24.500000	13.5018116	33.263889
5907	20.257143	26.600000	13.2672101	32.972222

5908	14.100000	12.500000	30.4089674	22.583333
5909	21.300000	20.000000	25.5208333	33.638889
5910	27.562500	34.000000	10.9433877	30.042730
5911	28.200000	27.000000	13.6979167	28.694444
5912	7.800000	11.500000	31.7395833	13.208333
5913	12.714286	27.600000	20.8777174	28.769841
5914	22.900000	47.000000	15.5979084	29.527778
5915	32.100000	42.000000	15.7395833	29.500000
5916	14.000000	13.000000	30.0729167	24.380435
5917	NA	44.000000	12.8645833	41.394444
5918	22.050000	33.500000	6.9895833	36.263889
5919	36.428571	43.000000	18.1770833	29.361111
5920	33.700000	33.500000	13.6064312	40.319115
5921	37.200000	44.500000	28.5828804	27.538889
5922	28.062500	30.500000	21.2187500	27.791667
5923	NA	39.500000	7.9062500	33.767857
5924	8.300000	15.500000	16.9017210	20.399471
5925	15.600000	22.400000	17.2916667	18.831349
5926	20.650000	36.000000	17.9479167	26.626389
5927	15.100000	49.000000	26.7753623	32.416667
5928	8.800000	23.000000	19.5416667	31.594444
5929	NA	45.500000	19.1622024	38.326087
5930	14.500000	29.500000	22.1562500	31.236111
5931	11.800000	18.000000	18.4737319	19.111111
5932	NA	8.000000	30.500000	15.625000
5933	NA	13.000000	19.4791667	28.138889
5934	13.475000	30.000000	20.3677536	27.674242
5935	25.300000	50.500000	27.0535714	28.413462
5936	29.800000	51.000000	19.7172619	31.817029
5937	38.962500	57.000000	7.4135611	23.548309
5938	NA	10.000000	7.5367495	20.597222
5939	6.000000	8.500000	32.1994048	12.263889
5940	6.557143	8.000000	37.8095238	8.888889
5941	9.600000	12.000000	25.4076087	16.944444
5942	13.000000	10.000000	31.8095238	19.248188
5943	7.557143	15.000000	34.4690735	30.013889
5944	8.900000	28.000000	23.0714286	43.258838
5945	16.900000	58.500000	22.9523810	43.437500
5946	3.985714	6.500000	36.9047619	14.108333
5947	11.700000	22.000000	30.1458333	26.166667
5948	16.800000	66.500000	39.6344893	19.797348
5949	12.214286	61.400000	40.4689441	20.404971
5950	10.700000	35.000000	27.4642857	21.914141

5951	12.650000	22.000000	23.3203463	23.222222
5952	17.325000	17.000000	22.4111025	23.611111
5953	16.700000	39.000000	25.7113095	23.888889
5954	8.100000	12.500000	33.8035714	12.083333
5955	6.612500	11.200000	20.0781574	17.208937
5956	6.600000	13.500000	31.7797619	28.569444
5957	NA	16.500000	32.1250000	35.204545
5958	13.542857	37.000000	27.2886905	34.722222
5959	7.850000	29.500000	34.2573052	28.483333
5960	5.800000	15.500000	36.1101190	26.569444
5961	13.512500	34.800000	39.6428571	33.333333
5962	16.800000	59.000000	28.0705228	41.678571
5963	10.300000	22.000000	27.8341097	35.761111
5964	19.114286	24.500000	14.1309524	37.592172
5965	NA	10.500000	15.9464286	27.552083
5966	7.200000	12.000000	37.4107143	18.473958
5967	7.642857	16.600000	31.5267857	23.312500
5968	12.400000	19.500000	29.5476190	21.041667
5969	11.300000	18.000000	30.9406056	18.686282
5970	8.928571	20.500000	28.9900362	24.781703
5971	14.300000	19.000000	26.8660553	24.005208
5972	NA	23.000000	23.4713615	25.093750
5973	15.075000	34.800000	25.7233922	32.510417
5974	15.700000	21.500000	26.4479167	30.072917
5975	NA	8.500000	22.8995536	7.947917
5976	5.657143	30.500000	31.2971735	20.700758
5977	13.750000	22.000000	26.2274359	29.148551
5978	16.200000	25.000000	17.0272871	38.218750
5979	13.000000	19.400000	35.5729167	22.359375
5980	19.100000	21.000000	30.4505208	28.972335
5981	26.400000	21.500000	35.6744792	17.593750
5982	22.628571	22.000000	30.7109375	15.364583
5983	37.300000	40.500000	13.2149004	22.588542
5984	11.300000	14.000000	24.9531250	17.765625
5985	4.750000	12.000000	20.9437274	14.843750
5986	NA	17.500000	31.2442255	23.499256
5987	10.800000	24.500000	31.3932292	33.082927
5988	9.700000	20.000000	33.8645833	23.000000
5989	6.800000	10.000000	32.7187500	14.510417
5990	8.300000	12.500000	28.1302083	18.411458
5991	10.214286	25.000000	21.1617671	28.245739
5992	20.700000	50.500000	16.2210557	36.030438
5993	10.100000	17.000000	15.8651495	26.005208

5994	17.512500	46.500000	17.7474267	36.156250
5995	6.200000	9.500000	28.4244792	15.333333
5996	4.800000	13.000000	26.3750000	22.500000
5997	16.800000	31.000000	19.2054924	37.637784
5998	24.700000	18.500000	38.9730525	30.192708
5999	11.300000	25.000000	31.8437500	30.609375
6000	16.714286	39.000000	27.7083333	41.505952
6001	25.500000	55.000000	22.7812500	45.916667
6002	19.400000	28.000000	38.8932292	26.937500
6003	10.271429	16.000000	26.2005208	20.364583
6004	9.100000	22.500000	32.8044508	21.875000
6005	15.100000	36.000000	30.4322917	31.833333
6006	9.742857	11.500000	31.1901042	16.726935
6007	17.500000	22.000000	28.4665061	24.690476
6008	NA	21.000000	21.9270833	28.598958
6009	10.125000	19.800000	33.9166667	21.807292
6010	8.600000	13.500000	31.0468750	13.447917
6011	11.600000	22.000000	34.0840127	24.354455
6012	15.750000	38.500000	42.6547060	38.439538
6013	25.600000	75.000000	32.9677413	43.714583
6014	5.600000	9.000000	33.1667696	11.375000
6015	6.728571	22.400000	27.3307292	22.447917
6016	12.900000	28.000000	25.5260417	30.083333
6017	20.000000	38.000000	40.0078125	32.541667
6018	22.162500	52.500000	43.3460145	32.510890
6019	NA	68.500000	56.1660800	26.864583
6020	33.900000	66.000000	56.1366621	22.949337
6021	6.742857	18.600000	25.4809783	15.625000
6022	11.500000	34.000000	33.4479167	20.927083
6023	11.300000	25.000000	35.2682292	20.687500
6024	9.775000	22.500000	29.3541667	21.447917
6025	12.700000	50.000000	28.2216938	32.926178
6026	19.850000	40.500000	42.0933589	31.552083
6027	22.385714	45.600000	50.2056159	34.748835
6028	24.050000	71.500000	35.3435236	34.723958
6029	32.900000	47.500000	45.6614583	21.343750
6030	18.271429	24.500000	50.8619792	18.713542
6031	13.900000	26.500000	40.9322917	16.411458
6032	12.750000	42.000000	25.2511322	23.828125
6033	8.612500	18.500000	24.0963542	22.442482
6034	7.600000	16.500000	30.0947176	17.816288
6035	6.800000	14.500000	26.0141531	15.661458
6036	5.662500	18.000000	22.3973652	15.741395

6037	8.400000	18.000000	22.9479167	21.812500
6038	15.200000	27.500000	31.3958333	28.354167
6039	22.912500	35.800000	31.4403306	31.786458
6040	NA	25.000000	39.3020833	17.843750
6041	8.700000	19.000000	21.1764040	26.128170
6042	14.985714	35.500000	29.9040987	29.155844
6043	6.200000	11.500000	26.1203578	16.070076
6044	9.000000	22.000000	31.1354167	24.395833
6045	14.485714	26.750000	30.7213542	20.666667
6046	10.000000	18.000000	35.6677989	18.290179
6047	5.800000	9.500000	21.2785326	9.916193
6048	4.412500	8.500000	19.4765625	11.947917
6049	6.400000	25.000000	15.7974411	21.166214
6050	17.500000	52.500000	32.2813632	24.875000
6051	23.900000	37.800000	49.0651042	14.270833
6052	14.700000	21.000000	32.1171875	11.802083
6053	10.200000	22.000000	22.1599864	16.447043
6054	15.250000	36.500000	24.3081975	25.951993
6055	20.100000	45.500000	28.6813859	36.993454
6056	27.300000	54.000000	34.6500947	28.065341
6057	23.862500	37.000000	32.3828125	30.554924
6058	10.500000	25.500000	24.6067708	21.479167
6059	14.500000	20.500000	20.7604167	24.833333
6060	17.900000	20.500000	29.5211730	22.208333
6061	19.800000	35.500000	25.6478714	31.870018
6062	23.200000	47.500000	15.6801816	42.187500
6063	11.714286	23.000000	22.6413661	19.453218
6064	6.900000	10.000000	18.9322917	10.735507
6065	6.200000	11.000000	22.1588542	13.395833
6066	11.637500	18.500000	24.0651042	16.385417
6067	9.800000	18.500000	17.3695652	17.275000
6068	11.300000	13.500000	24.6491477	11.213542
6069	17.337500	28.600000	29.7570199	14.641304
6070	33.500000	50.500000	37.6861737	26.687500
6071	36.800000	55.000000	24.8846241	28.830492
6072	23.587500	41.500000	41.1093750	16.718750
6073	14.600000	19.000000	33.0078125	10.442708
6074	12.600000	26.500000	25.1699811	23.383152
6075	17.185714	30.250000	25.8825861	31.502717
6076	37.300000	59.000000	40.3432971	31.072443
6077	27.400000	63.000000	46.7235054	24.227679
6078	10.471429	17.000000	24.0101902	14.886837
6079	6.600000	14.000000	19.7421875	14.557292

6080	15.000000	25.000000	33.2291667	18.322917
6081	26.814286	52.400000	47.6337183	26.278986
6082	19.700000	50.500000	40.3125000	34.075758
6083	15.300000	20.000000	30.2971014	24.380208
6084	18.157143	44.500000	37.0817482	26.234375
6085	13.500000	25.000000	31.0357143	21.333333
6086	2.500000	7.000000	27.4523810	9.614583
6087	8.650000	18.000000	26.1696429	13.828125
6088	6.800000	7.000000	32.9285714	7.697917
6089	12.500000	21.000000	31.8237578	21.859375
6090	14.250000	30.500000	22.0120018	25.463768
6091	5.300000	11.500000	18.6111866	19.200149
6092	11.400000	32.500000	14.1831975	28.833333
6093	13.575000	25.500000	24.4531250	32.682292
6094	16.700000	30.500000	31.0052083	30.739583
6095	23.300000	68.000000	22.0443841	43.843750
6096	26.500000	45.000000	29.4544837	30.966856
6097	37.900000	51.500000	32.3343009	29.671649
6098	37.800000	58.500000	39.2262228	26.863225
6099	32.612500	46.250000	29.9504076	29.620833
6100	35.700000	47.500000	39.8593750	21.885417
6101	15.900000	17.000000	24.9114583	16.572917
6102	9.325000	27.500000	13.0118371	26.427083
6103	9.500000	58.500000	17.4811224	35.979167
6104	17.600000	41.500000	28.6822917	35.315341
6105	24.900000	40.200000	37.3906250	31.468750
6106	16.800000	25.000000	15.9130435	18.270833
6107	8.700000	26.000000	16.7135417	19.989583
6108	15.700000	30.000000	32.3906250	19.541667
6109	6.500000	24.500000	19.1060606	20.427083
6110	12.200000	29.000000	15.2348279	22.937500
6111	10.362500	25.000000	17.1460598	24.104167
6112	12.300000	28.000000	11.9778080	19.780303
6113	6.700000	28.000000	7.3779438	28.884470
6114	5.600000	14.500000	12.7083333	12.989583
6115	7.900000	11.500000	12.4341299	11.270833
6116	12.700000	23.000000	10.5416667	19.209239
6117	5.271429	21.000000	11.6161685	19.489583
6118	6.600000	29.500000	10.7976190	22.444444
6119	7.700000	34.500000	7.5178571	25.945268
6120	12.162500	71.000000	7.7864907	31.291667
6121	14.700000	25.000000	11.6071429	24.527778
6122	9.400000	23.500000	16.1250000	20.944444

6123	8.625000	22.600000	16.2424948	27.333333
6124	7.400000	54.000000	12.2624224	37.666667
6125	11.600000	68.000000	18.6891822	40.944444
6126	32.087500	65.000000	8.8245342	47.250000
6127	34.000000	58.500000	14.4702381	34.361111
6128	18.300000	33.000000	20.7738095	21.916667
6129	6.542857	20.000000	17.3630952	16.347222
6130	17.400000	60.500000	12.3095238	38.194444
6131	14.600000	10.500000	18.5274327	24.452020
6132	7.928571	23.500000	12.3690476	26.513889
6133	8.900000	21.500000	10.3902692	27.940053
6134	8.100000	30.000000	8.8035714	37.638889
6135	10.857143	28.000000	12.4285714	30.180556
6136	10.600000	20.500000	22.5000000	22.000000
6137	9.600000	58.000000	25.0119048	29.194444
6138	14.112500	38.500000	17.6322464	25.541667
6139	12.900000	12.500000	17.4906832	20.638889
6140	6.800000	28.500000	12.4017653	27.168470
6141	16.687500	37.400000	10.7559524	29.486111
6142	17.100000	24.000000	4.6904762	26.361111
6143	10.000000	8.500000	6.8065476	12.680556
6144	14.512500	22.000000	4.7494824	19.444444
6145	8.000000	27.500000	8.2989130	15.993056
6146	NA	18.500000	7.2603654	16.541035
6147	10.925000	25.400000	19.2331781	24.240404
6148	NA	35.500000	10.7559524	16.868056
6149	NA	15.000000	9.9895833	13.416667
6150	12.375000	13.500000	3.8645833	14.812500
6151	9.600000	11.000000	6.5181159	12.000000
6152	4.700000	28.500000	8.6173007	21.097222
6153	11.587500	15.600000	8.2500000	17.993056
6154	NA	15.000000	8.9375000	25.557065
6155	19.000000	21.500000	14.4361413	26.876984
6156	7.685714	15.000000	13.1770833	26.347222
6157	15.000000	19.000000	10.9895833	31.986111
6158	25.600000	26.500000	6.2006341	33.666667
6159	21.462500	31.200000	3.3750000	17.194444
6160	12.500000	48.500000	12.5108696	15.527778
6161	16.700000	16.000000	14.8319746	23.153382
6162	9.825000	26.000000	6.2291667	28.135101
6163	14.200000	17.000000	4.8541667	19.569444
6164	14.300000	13.000000	2.9166667	18.305556
6165	22.875000	27.200000	6.6657197	25.152778

6166	9.100000	15.000000	7.6784420	22.284420
6167	14.000000	17.000000	9.3750000	27.166667
6168	7.785714	26.500000	9.4660326	28.031746
6169	7.700000	10.000000	15.4895833	19.250000
6170	24.200000	28.500000	5.3541667	23.361111
6171	8.112500	11.600000	17.7395833	10.819444
6172	7.400000	32.000000	17.1988225	14.674603
6173	16.000000	28.500000	8.2812500	26.284091
6174	15.087500	30.500000	5.5670290	29.805556
6175	19.500000	17.500000	6.0520833	24.888889
6176	15.800000	15.500000	17.1979167	19.111111
6177	9.512500	13.750000	16.1354167	18.819444
6178	5.600000	12.000000	16.2291667	19.097222
6179	6.500000	18.500000	18.6290761	23.013889
6180	6.457143	15.500000	10.5009058	34.828283
6181	9.000000	23.500000	11.6562500	29.888889
6182	15.800000	23.000000	3.9393116	28.062710
6183	8.012500	15.000000	16.1770833	24.500000
6184	11.800000	16.000000	6.0312500	28.194444
6185	21.100000	21.000000	4.5833333	24.625000
6186	21.950000	21.000000	3.0520833	28.868687
6187	26.800000	33.500000	1.0978261	27.239899
6188	12.000000	11.500000	6.7187500	23.569444
6189	7.728571	12.000000	12.1619730	21.533333
6190	18.800000	27.500000	6.8958333	34.990942
6191	18.300000	24.000000	10.1666667	35.729167
6192	17.825000	20.000000	10.6666667	29.062500
6193	22.500000	18.000000	7.0692935	28.779167
6194	13.300000	16.000000	9.4266304	19.708333
6195	15.000000	22.200000	9.1142540	24.166667
6196	36.300000	26.000000	5.2500000	29.566288
6197	9.000000	25.500000	15.1770833	22.833333
6198	7.928571	19.000000	11.1041667	26.458333
6199	8.500000	21.500000	16.8229167	21.895833
6200	22.500000	26.000000	4.8958333	25.130682
6201	14.314286	14.800000	4.6714674	24.708333
6202	9.600000	19.000000	13.7833333	22.625000
6203	12.400000	21.000000	10.5208333	27.854167
6204	17.362500	24.500000	2.8958333	39.687500
6205	11.300000	18.500000	7.5520833	27.979167
6206	10.500000	14.500000	13.1354167	20.500000
6207	8.660000	15.500000	8.5951087	21.208333
6208	10.000000	17.500000	10.9846014	19.533514

6209	17.500000	15.500000	12.3854167	24.910714
6210	14.385714	17.000000	6.8333333	26.520833
6211	18.400000	20.500000	5.8854167	20.750000
6212	10.000000	9.000000	10.0729167	20.625000
6213	4.650000	7.400000	23.0833333	10.687500
6214	11.000000	16.000000	15.2490942	23.439394
6215	17.200000	24.000000	19.5886034	19.111111
6216	13.800000	24.500000	10.0978261	29.333333
6217	11.500000	25.000000	8.3125000	32.611111
6218	13.900000	17.000000	20.5416667	25.782609
6219	15.412500	24.200000	9.8750000	28.194444
6220	NA	12.000000	14.3958333	18.861111
6221	18.000000	14.000000	7.7409420	19.760101
6222	12.628571	18.000000	12.1229620	27.652778
6223	15.000000	31.500000	10.6541667	23.410354
6224	8.100000	29.000000	13.7812500	34.217172
6225	19.150000	30.400000	7.1746324	27.387681
6226	19.800000	20.000000	3.3437500	25.902778
6227	7.600000	14.000000	20.3854167	13.583333
6228	6.075000	18.000000	17.3437500	25.500000
6229	15.800000	24.000000	9.4057971	39.204365
6230	20.200000	26.000000	10.1734601	26.041667
6231	5.944444	23.800000	20.8102355	18.307971
6232	12.800000	36.000000	8.3541667	27.150794
6233	12.100000	19.000000	13.7708333	29.375000
6234	7.885714	29.500000	26.7395833	18.166667
6235	15.000000	24.000000	19.0208333	24.397727
6236	16.400000	13.000000	13.9144022	29.606280
6237	16.300000	30.000000	13.6145833	26.513889
6238	18.300000	29.000000	10.7547348	33.500000
6239	18.300000	32.000000	13.2767210	28.497475
6240	22.285714	50.000000	8.1562500	36.902778
6241	22.300000	45.000000	13.4166667	35.513889
6242	17.000000	49.000000	5.3683712	36.166667
6243	26.377778	35.000000	8.6077899	33.679293
6244	19.700000	55.000000	10.5179924	44.510823
6245	8.200000	24.000000	17.4375000	30.513889
6246	19.271429	21.500000	9.7604167	34.541667
6247	20.900000	14.500000	19.5138889	27.888889
6248	20.450000	19.000000	16.7083333	32.033333
6249	14.657143	20.600000	26.0027503	24.592947
6250	28.900000	22.500000	22.9424819	23.430556
6251	18.500000	31.000000	12.0113636	38.044686

6252	22.100000	30.000000	16.6666667	28.916667
6253	24.500000	17.500000	21.7708333	23.258816
6254	9.300000	26.500000	23.9791667	21.703704
6255	6.528571	13.750000	28.7291667	21.013889
6256	NA	31.000000	13.2708333	41.666667
6257	43.400000	49.000000	8.2780797	44.978175
6258	48.157143	61.000000	8.1621377	43.708333
6259	40.000000	41.000000	5.3229167	42.222222
6260	22.300000	22.000000	18.0416667	30.774758
6261	7.866667	14.400000	26.6562500	20.986111
6262	18.200000	22.500000	13.6562500	31.611111
6263	27.500000	25.000000	11.8971920	29.275966
6264	19.237500	17.500000	22.5375906	21.444444
6265	11.000000	19.000000	23.5937500	27.443237
6266	18.500000	25.000000	17.5520833	29.698413
6267	30.711111	50.800000	12.0208333	33.794444
6268	24.000000	37.000000	10.9895833	33.069444
6269	18.200000	21.000000	20.6689312	32.458333
6270	10.266667	13.500000	25.1250000	23.645833
6271	15.950000	17.500000	16.3165761	15.416667
6272	28.150000	33.000000	12.7007576	27.343434
6273	29.175000	37.200000	6.8953804	23.415936
6274	7.600000	19.000000	20.2916667	15.904287
6275	11.000000	13.500000	23.1979167	17.125000
6276	7.625000	12.000000	33.4687500	10.638889
6277	11.800000	20.000000	21.8546196	23.402778
6278	11.800000	12.500000	25.2249396	25.132850
6279	13.825000	26.400000	20.6458333	29.797619
6280	10.500000	47.500000	17.5312500	14.391215
6281	10.100000	22.500000	16.7291667	23.479167
6282	17.712500	24.500000	14.7500000	36.708333
6283	13.400000	17.500000	29.5625000	14.187500
6284	7.300000	9.500000	27.6956522	26.736842
6285	10.677778	17.750000	27.3083333	21.826389
6286	23.100000	22.500000	7.4927536	32.956522
6287	26.500000	21.000000	8.6941425	38.888889
6288	20.187500	23.500000	14.9722222	29.902778
6289	17.000000	24.000000	27.1875000	19.861111
6290	7.300000	11.500000	31.6875000	12.104167
6291	10.662500	23.400000	19.7216874	26.854167
6292	30.000000	43.000000	22.6553119	30.840278
6293	26.500000	28.000000	18.3515851	29.160024
6294	17.987500	29.000000	20.3279691	26.430556

6295	12.050000	23.000000	16.8519226	22.672619
6296	14.000000	20.500000	16.0119048	24.944444
6297	11.900000	18.200000	26.3273810	13.212302
6298	13.300000	18.500000	21.1582633	24.333333
6299	22.500000	54.500000	19.2109860	29.771135
6300	5.775000	8.500000	26.1709280	15.322222
6301	11.100000	11.000000	32.2261905	18.920635
6302	12.200000	16.000000	28.1730977	25.333333
6303	7.762500	24.800000	27.4817708	23.541667
6304	2.600000	6.000000	37.9166667	11.291667
6305	11.000000	32.500000	29.0331748	29.732323
6306	21.837500	55.500000	30.8113236	33.324074
6307	18.500000	31.000000	33.5844979	31.833333
6308	21.000000	32.000000	27.6816770	27.652778
6309	12.437500	28.200000	20.2470238	33.333333
6310	15.500000	25.000000	22.6279762	29.027778
6311	5.900000	6.500000	32.2857143	12.597222
6312	3.442857	16.000000	30.2516046	13.152778
6313	7.050000	15.000000	29.4583333	19.972222
6314	20.250000	61.000000	17.1102484	43.001984
6315	14.525000	59.800000	31.1369048	33.344309
6316	14.450000	40.000000	37.3329451	27.694444
6317	16.500000	25.000000	44.4761905	24.125000
6318	13.385714	59.500000	38.7797619	16.777778
6319	6.900000	54.000000	29.2954193	16.188665
6320	14.850000	30.500000	18.2650104	21.756643
6321	8.555556	17.800000	26.3344979	18.555556
6322	7.400000	9.500000	27.1350108	21.263889
6323	16.100000	23.500000	22.9702381	33.080918
6324	16.300000	33.500000	26.9404762	24.972222
6325	9.300000	13.000000	25.2500000	15.736111
6326	11.600000	27.000000	27.8839286	19.088854
6327	6.422222	17.200000	28.2068982	23.708333
6328	11.600000	82.000000	40.5089447	22.555556
6329	13.600000	44.500000	44.4824017	20.857488
6330	11.600000	17.000000	27.2005694	24.688492
6331	6.900000	7.000000	28.4088542	17.307292
6332	3.600000	6.500000	32.4062500	10.744792
6333	6.971429	24.800000	21.7543025	26.640625
6334	11.100000	44.500000	27.5114357	25.489583
6335	10.500000	26.000000	25.2940444	25.510349
6336	18.012500	59.000000	31.4808239	33.784601
6337	7.450000	17.000000	33.9575408	15.942708

6338	17.800000	30.000000	29.6197917	24.828125
6339	15.144444	34.250000	34.1276042	20.083333
6340	16.150000	52.500000	29.3055933	23.500000
6341	19.100000	41.500000	33.9370471	24.990489
6342	14.500000	39.500000	28.9651783	22.052083
6343	12.700000	13.000000	17.9727355	24.125659
6344	8.000000	8.000000	11.3244048	19.505208
6345	3.262500	9.000000	20.5059524	12.364583
6346	13.000000	20.000000	24.6636905	23.932292
6347	18.400000	29.000000	29.5905797	22.353070
6348	6.728571	10.000000	34.0166440	20.200181
6349	12.800000	19.000000	23.9432745	26.520833
6350	17.800000	35.000000	23.7651515	22.504735
6351	11.966667	33.600000	28.0937500	22.401042
6352	11.750000	25.000000	25.4921875	18.250000
6353	9.600000	31.500000	28.4635417	13.989583
6354	5.028571	14.000000	26.7687953	12.229167
6355	11.300000	29.500000	23.0067832	23.028450
6356	8.400000	23.500000	17.0275136	23.411458
6357	12.955556	31.250000	23.2566803	25.471241
6358	NA	11.500000	25.6718750	17.072917
6359	8.700000	27.500000	25.7473958	23.182292
6360	15.787500	25.000000	30.5208333	18.380208
6361	5.500000	12.500000	27.0286458	16.609375
6362	4.300000	33.000000	26.9616168	18.375000
6363	6.633333	15.800000	21.7192029	18.796875
6364	4.500000	14.500000	28.8520154	18.412202
6365	9.500000	23.500000	29.3635643	29.869048
6366	19.412500	43.000000	38.9479167	29.614583
6367	22.200000	38.000000	40.7812500	24.156250
6368	19.800000	68.000000	39.7838542	22.979167
6369	19.344444	42.000000	30.2193161	21.779891
6370	10.800000	47.500000	20.7479620	16.417614
6371	6.600000	21.000000	10.6363225	17.571970
6372	14.814286	32.500000	14.9852190	19.046402
6373	10.000000	20.000000	31.0598958	16.702083
6374	10.600000	19.000000	35.9322917	13.472222
6375	9.028571	18.200000	31.1039299	20.972222
6376	11.700000	27.000000	30.5982790	25.656061
6377	16.900000	30.000000	21.8121603	26.362092
6378	16.028571	32.500000	26.6804801	22.415761
6379	13.866667	36.500000	25.6432292	26.708333
6380	3.800000	9.000000	26.7682292	12.281250

6381	10.944444	19.800000	26.6041667	22.458333
6382	14.100000	28.000000	13.2036911	31.862500
6383	7.200000	26.500000	20.8706975	21.418561
6384	8.612500	56.000000	28.4839530	23.562500
6385	5.700000	14.000000	21.8847373	22.839900
6386	8.500000	22.500000	19.3359375	26.375000
6387	7.887500	23.200000	23.1354167	21.583333
6388	12.000000	26.500000	26.0546875	23.229167
6389	14.500000	22.500000	23.1046196	23.664855
6390	11.285714	47.500000	22.6679121	26.729167
6391	15.900000	58.500000	26.4171196	33.661458
6392	14.700000	54.500000	37.7632576	27.879623
6393	14.977778	41.400000	40.9322917	18.505208
6394	18.200000	38.000000	31.7864583	17.406250
6395	7.300000	25.000000	31.1953125	11.045139
6396	9.137500	15.500000	31.6354167	7.604167
6397	4.900000	32.000000	30.9131567	19.381826
6398	8.000000	21.000000	14.9710145	13.536458
6399	6.857143	18.000000	28.4744318	15.697443
6400	13.700000	33.500000	26.4721201	14.822917
6401	17.400000	24.000000	35.7053571	13.031250
6402	17.357143	29.500000	38.7797619	14.489583
6403	15.800000	30.000000	33.0895298	18.640625
6404	6.400000	44.000000	26.2547554	23.698864
6405	9.111111	28.750000	32.2190897	18.125000
6406	15.550000	37.000000	25.0067935	24.601255
6407	13.100000	52.500000	28.7057292	22.958333
6408	15.000000	17.000000	32.4062500	7.880208
6409	17.300000	20.000000	24.9150095	11.734375
6410	24.200000	59.500000	26.7366395	23.958333
6411	25.375000	40.200000	35.6300951	25.843750
6412	20.000000	54.500000	27.0320955	26.237216
6413	4.800000	35.500000	25.1123188	18.865132
6414	4.112500	9.000000	26.9984149	10.161232
6415	6.800000	17.500000	28.1666667	9.156250
6416	11.700000	11.500000	35.9010417	7.552083
6417	9.750000	20.400000	29.4442935	21.580357
6418	18.050000	30.500000	29.4624094	31.315341
6419	25.900000	62.000000	28.0887681	38.317708
6420	23.742857	42.500000	33.5643116	27.454937
6421	25.350000	51.500000	22.4595788	33.963542
6422	17.200000	29.500000	28.9765625	22.218750
6423	17.244444	26.000000	30.1718750	26.359375

6424	15.300000	51.500000	34.9270833	26.135417
6425	7.700000	36.000000	40.1978446	26.883852
6426	6.887500	10.000000	27.2918931	11.709336
6427	8.500000	9.500000	28.5740489	8.208333
6428	11.400000	20.000000	19.6564764	16.786458
6429	12.077778	25.000000	26.6093750	21.651042
6430	19.500000	28.500000	31.4401042	19.890625
6431	8.300000	55.500000	31.4802989	17.765625
6432	6.237500	31.500000	12.1788949	9.912364
6433	5.700000	29.500000	11.7786458	10.807292
6434	6.700000	17.500000	13.0201231	15.928339
6435	7.533333	20.200000	16.8072917	19.661685
6436	8.500000	14.500000	19.0833333	15.197917
6437	17.700000	19.500000	23.7812500	17.875000
6438	15.887500	52.500000	26.7139946	28.075893
6439	19.400000	48.000000	33.6066782	25.429924
6440	20.000000	35.500000	20.1664402	25.572917
6441	7.111111	17.800000	20.4440670	14.424517
6442	11.800000	42.500000	10.9270833	28.000000
6443	9.800000	22.500000	24.0260417	19.229167
6444	16.175000	36.000000	30.6875000	20.916667
6445	17.400000	45.500000	27.4678442	18.958333
6446	10.000000	30.000000	15.4572237	23.750000
6447	7.400000	15.000000	12.4052310	20.527778
6448	16.100000	31.500000	21.2835145	19.215278
6449	16.500000	36.500000	22.6573822	22.550423
6450	6.012500	6.000000	22.5468750	10.625000
6451	5.900000	5.000000	19.6577381	8.993056
6452	16.400000	32.000000	14.6392663	24.213294
6453	15.342857	32.400000	19.2197896	27.467172
6454	NA	47.500000	25.5115489	31.686298
6455	NA	42.000000	33.8437500	30.298557
6456	37.285714	51.500000	26.0494792	33.260417
6457	38.800000	50.500000	29.4609375	31.145833
6458	41.500000	45.000000	34.2447917	22.406250
6459	20.762500	30.200000	29.9114583	13.052083
6460	14.700000	16.000000	21.2864583	15.635417
6461	5.600000	10.000000	23.7921196	9.661458
6462	7.171429	17.000000	17.3255208	16.787879
6463	17.800000	54.000000	19.0677083	30.213542
6464	19.300000	37.000000	31.7031250	34.473958
6465	28.528571	42.750000	40.9010417	27.973958
6466	NA	48.500000	32.2578228	30.426760

6467	22.750000	46.500000	31.7319252	20.566576
6468	16.957143	59.000000	25.9983016	19.359375
6469	9.000000	18.000000	23.8258282	19.984375
6470	7.300000	13.500000	26.6287879	17.966856
6471	10.212500	24.200000	24.6309524	23.057292
6472	10.700000	16.500000	28.2678571	18.854167
6473	NA	31.000000	26.5124224	28.529665
6474	17.487500	61.000000	30.2075569	38.338315
6475	26.000000	71.500000	30.6868530	39.449405
6476	27.900000	60.500000	33.0178571	39.614583
6477	12.911111	35.000000	23.2172619	31.166667
6478	9.800000	15.500000	20.7678571	19.000000
6479	NA	18.000000	19.1428571	20.406250
6480	18.471429	42.500000	15.6788302	40.854167
6481	NA	15.500000	22.4704969	15.342708
6482	9.600000	12.500000	19.3408385	24.945707
6483	17.811111	41.600000	12.9523810	35.821429
6484	NA	51.500000	25.0676407	31.444444
6485	7.800000	11.500000	17.2500000	17.041667
6486	7.737500	21.500000	18.9880952	21.444444
6487	9.300000	14.000000	16.5468074	19.777778
6488	11.900000	37.500000	7.8039596	32.114734
6489	11.437500	41.000000	9.5587121	36.541667
6490	18.800000	46.500000	20.4133023	38.617754
6491	24.550000	34.000000	16.5148810	22.555556
6492	10.350000	18.500000	16.2916667	26.555556
6493	9.900000	14.500000	18.8095238	19.444444
6494	13.100000	19.000000	20.7440476	23.472222
6495	13.200000	29.200000	16.0815217	23.393720
6496	24.800000	29.000000	13.8779762	28.666667
6497	12.350000	17.000000	11.2648810	23.138889
6498	8.600000	11.500000	9.2735507	17.283213
6499	4.200000	17.000000	17.6488095	8.250000
6500	8.300000	14.000000	14.8422619	19.319444
6501	12.387500	18.000000	13.3469085	22.140097
6502	13.100000	17.000000	11.6206004	17.584541
6503	14.750000	12.500000	14.2859731	18.794591
6504	11.687500	19.500000	14.9702381	20.388889
6505	25.600000	34.000000	10.1962992	24.833333
6506	13.800000	21.000000	13.4761905	15.055556
6507	8.233333	14.200000	14.4375000	21.569444
6508	18.600000	42.000000	13.5813923	36.084541
6509	27.300000	31.000000	12.5618530	26.680210

6510	31.612500	28.000000	14.4720262	26.301768
6511	43.600000	41.500000	6.2078804	26.347222
6512	18.100000	36.500000	10.0980525	19.333333
6513	6.000000	18.600000	17.6744792	10.138889
6514	5.900000	14.000000	14.3671875	12.305556
6515	10.100000	15.000000	10.1145833	19.172222
6516	4.850000	9.500000	9.9479167	23.388889
6517	8.400000	16.500000	16.4393116	21.950397
6518	11.900000	14.000000	12.2404891	25.417863
6519	6.975000	16.000000	15.9895833	24.583333
6520	10.300000	26.500000	12.5833333	22.500000
6521	6.500000	15.000000	20.0833333	16.208333
6522	7.000000	25.500000	9.5842391	33.062500
6523	13.200000	38.500000	7.6911232	29.916667
6524	22.500000	60.500000	10.6612319	32.045290
6525	5.650000	11.500000	25.1145833	13.208333
6526	8.600000	6.000000	25.0312500	17.277174
6527	8.950000	23.000000	17.8437500	24.375000
6528	16.887500	27.000000	7.8333333	31.625000
6529	NA	46.500000	2.1965580	34.597222
6530	29.600000	42.000000	2.7463768	25.602657
6531	28.166667	35.000000	2.7306548	20.152778
6532	28.000000	28.000000	4.1041667	20.347222
6533	21.400000	20.500000	8.6961051	23.472222
6534	10.525000	11.500000	11.1666667	14.277778
6535	11.600000	16.500000	11.2395833	19.333333
6536	22.600000	39.000000	3.5081522	29.274892
6537	18.388889	24.800000	7.6562500	19.539855
6538	12.000000	8.000000	25.2291667	14.638889
6539	11.600000	12.500000	12.9166667	25.111111
6540	11.657143	17.500000	4.9583333	25.208333
6541	6.250000	8.000000	14.6527778	16.958333
6542	7.100000	14.000000	13.9166667	18.854167
6543	15.512500	17.200000	3.7577341	33.988248
6544	17.400000	17.500000	5.3750000	25.095411
6545	20.100000	20.500000	7.9461051	21.958333
6546	21.525000	31.500000	4.1496212	28.890873
6547	21.000000	28.000000	6.9166667	27.263889
6548	14.400000	28.000000	7.5729167	22.750000
6549	23.575000	28.200000	5.6458333	20.152778
6550	21.900000	23.000000	4.0208333	23.650362
6551	11.800000	12.000000	4.4293478	20.458333
6552	13.942857	27.000000	7.5144928	22.034420

6553	21.900000	25.500000	3.500000	26.375000
6554	23.100000	25.000000	5.0833333	20.125000
6555	5.850000	8.600000	18.1666667	15.291667
6556	8.750000	15.500000	18.6439394	10.361111
6557	10.000000	20.000000	18.6354167	15.743357
6558	7.912500	17.000000	10.6961051	23.875000
6559	19.400000	47.000000	6.9008152	24.457729
6560	10.500000	32.500000	9.8958333	21.525253
6561	14.242857	24.333333	6.1041667	32.402778
6562	16.400000	30.500000	8.9166667	18.319444
6563	5.000000	47.000000	21.3854167	17.013889
6564	7.728571	50.000000	10.7794384	25.609783
6565	17.100000	44.500000	10.4990942	17.045290
6566	12.800000	23.000000	12.2187500	23.486111
6567	7.675000	26.500000	17.0416667	21.625000
6568	11.400000	15.000000	16.5937500	23.250000
6569	19.000000	27.500000	10.4791667	21.597222
6570	21.850000	27.500000	8.4895833	24.416667
6571	37.100000	34.500000	6.5317029	36.505556
6572	25.500000	41.000000	4.1363225	29.609903
6573	41.322222	51.750000	3.3333333	27.550505
6574	35.500000	28.000000	7.0520833	24.847222
6575	11.300000	14.000000	16.8437500	15.333333
6576	10.525000	16.500000	9.2083333	14.152778
6577	NA	16.000000	6.4479167	16.069444
6578	17.500000	11.500000	12.6875000	18.625845
6579	8.837500	11.600000	17.5484601	19.315217
6580	3.300000	9.000000	27.7604167	13.753788
6581	21.400000	14.000000	15.4583333	28.305556
6582	15.566667	19.500000	8.3600543	31.041667
6583	26.700000	24.500000	5.2291667	26.319444
6584	19.100000	17.000000	11.4270833	19.027778
6585	16.471429	21.000000	8.1761364	25.319444
6586	16.200000	20.500000	4.1277174	21.704106
6587	9.800000	27.500000	8.1875000	24.899155
6588	10.100000	9.500000	9.2305254	22.939010
6589	10.500000	20.500000	17.2062500	26.555556
6590	8.800000	14.000000	18.2708333	25.583333
6591	8.966667	13.400000	23.8645833	18.375000
6592	10.100000	16.000000	16.3333333	28.180556
6593	19.300000	44.000000	11.4279891	33.094203
6594	15.042857	25.500000	13.1145833	26.924242
6595	22.000000	27.500000	13.7708333	26.949495

6596	16.800000	25.000000	19.2042572	25.194444
6597	11.285714	19.600000	19.3333333	23.944444
6598	10.500000	18.500000	19.0729167	31.472222
6599	18.600000	26.500000	12.2798913	29.763505
6600	32.771429	38.500000	5.7042572	36.403986
6601	12.500000	20.000000	19.2812500	26.568182
6602	10.800000	22.000000	20.7083333	27.344697
6603	24.500000	35.600000	7.5384964	40.425000
6604	32.700000	37.500000	3.7604167	39.000000
6605	NA	23.000000	12.4062500	23.388889
6606	45.528571	54.000000	7.0833333	43.585317
6607	26.650000	28.500000	12.8002717	35.041667
6608	52.000000	50.500000	6.2414773	46.361111
6609	47.450000	53.600000	7.2690217	48.597222
6610	61.500000	57.500000	4.8125000	41.527778
6611	39.500000	40.500000	8.9062500	29.055556
6612	26.342857	27.000000	6.9375000	28.555556
6613	19.700000	18.000000	8.9791667	26.331349
6614	12.900000	5.000000	19.2323370	18.000000
6615	12.014286	17.800000	12.6979167	28.722222
6616	22.100000	28.500000	19.1875000	24.347222
6617	21.800000	33.500000	14.7187500	23.541667
6618	20.914286	29.000000	13.6770833	27.486111
6619	23.400000	28.000000	13.4583333	21.208333
6620	NA	17.000000	11.2083333	19.458333
6621	20.587500	25.000000	5.0697464	32.763889
6622	12.800000	27.500000	19.0625000	19.937500
6623	10.150000	29.500000	24.0932971	18.655303
6624	7.825000	24.500000	17.9895833	24.933575
6625	12.000000	23.000000	14.9479167	23.263889
6626	14.600000	15.000000	11.8854167	24.791667
6627	17.471429	21.600000	8.7083333	22.291667
6628	22.800000	28.000000	11.6354167	32.110939
6629	23.900000	45.500000	10.8066123	43.166667
6630	27.350000	35.500000	10.8691123	40.518939
6631	28.600000	40.000000	13.9270833	26.125000
6632	12.000000	15.500000	30.4791667	19.583333
6633	20.285714	24.200000	14.9687500	23.930556
6634	24.200000	21.000000	11.9809783	27.554831
6635	7.600000	23.000000	27.9814312	22.055556
6636	6.362500	20.500000	24.0321970	25.666667
6637	18.000000	38.500000	12.4479167	42.187198
6638	36.900000	54.500000	5.3958333	46.569444

6639	28.225000	34.200000	17.8125000	24.194444
6640	14.700000	26.000000	29.5625000	16.194444
6641	9.600000	20.500000	26.7187500	18.561508
6642	7.325000	25.000000	25.7038043	22.078502
6643	9.700000	24.500000	19.5625000	30.791667
6644	16.600000	32.000000	9.2187500	33.347222
6645	11.985714	20.500000	23.0937500	19.944444
6646	5.500000	24.500000	30.3020833	18.180556
6647	8.600000	20.500000	23.9479167	26.319444
6648	19.612500	51.000000	9.9343297	39.874569
6649	20.800000	49.000000	15.5457428	30.777174
6650	19.700000	53.500000	16.8201993	30.944444
6651	13.062500	22.400000	26.1041667	25.958333
6652	28.700000	43.500000	21.0000000	26.506148
6653	26.950000	27.500000	19.1458333	18.458333
6654	12.900000	15.500000	32.5208333	17.486111
6655	16.700000	19.000000	23.1245471	27.134058
6656	NA	19.500000	33.7391304	18.411836
6657	6.385714	12.000000	32.4062500	19.861111
6658	21.400000	45.000000	12.1562500	45.944444
6659	16.100000	14.000000	29.6770833	23.152778
6660	17.685714	22.500000	24.2812500	25.500000
6661	NA	34.000000	16.2500000	37.069444
6662	NA	37.500000	22.6884058	41.097826
6663	18.557143	36.800000	22.3772645	39.629227
6664	13.850000	56.500000	32.8922101	23.069444
6665	5.400000	20.500000	24.3125000	21.222222
6666	10.800000	24.000000	18.5600414	32.443182
6667	6.050000	15.000000	32.2916667	18.125000
6668	7.500000	24.000000	22.4404762	31.261473
6669	18.100000	47.500000	25.7428830	38.083333
6670	16.700000	40.000000	36.1071429	23.625000
6671	NA	37.000000	25.3867754	23.602843
6672	5.871429	11.500000	40.7797619	13.401042
6673	5.400000	17.500000	33.9821429	26.531250
6674	12.400000	26.500000	30.5952381	25.838542
6675	22.385714	46.500000	41.0327381	22.729167
6676	13.300000	67.000000	45.9948240	17.824728
6677	8.100000	21.000000	28.4838839	22.328869
6678	5.150000	16.000000	36.8510611	14.748958
6679	6.600000	17.500000	35.6881470	23.557292
6680	7.300000	32.500000	27.3555195	35.395833
6681	18.550000	47.200000	26.8988095	36.296875

6682	29.600000	40.000000	37.1994048	32.687500
6683	25.800000	76.500000	34.6884058	47.922554
6684	19.085714	69.000000	38.1790890	24.727582
6685	9.400000	22.500000	27.4782609	12.957386
6686	3.700000	19.500000	31.1130952	16.072917
6687	7.512500	14.200000	29.8476967	18.593750
6688	3.500000	11.000000	37.9523810	10.739583
6689	1.700000	14.000000	37.4404762	10.864583
6690	4.842857	40.000000	32.4101967	18.989583
6691	5.800000	28.500000	25.3174172	15.274521
6692	6.350000	37.500000	27.2850303	15.958333
6693	10.312500	28.800000	27.4316770	19.990327
6694	8.700000	24.500000	31.0238095	19.807292
6695	13.300000	31.500000	26.7619048	25.010417
6696	6.185714	25.500000	20.6726190	14.843750
6697	8.000000	24.000000	17.0119048	15.359649
6698	10.600000	25.500000	22.4749646	22.623868
6699	15.900000	44.800000	26.3588509	32.659564
6700	20.300000	61.500000	34.8928571	34.344882
6701	19.800000	65.500000	34.5589356	36.904762
6702	14.050000	25.500000	34.2083333	22.020833
6703	17.100000	42.000000	43.6130952	23.390625
6704	16.400000	62.500000	31.9255952	23.296875
6705	7.662500	33.250000	31.1218944	22.877264
6706	NA	17.000000	26.6130952	11.953125
6707	5.100000	17.000000	24.4017857	12.135417
6708	17.000000	36.000000	18.1696429	25.385417
6709	6.900000	14.000000	28.8601190	11.166667
6710	2.400000	10.000000	19.6934524	11.750000
6711	4.828571	20.750000	24.1470567	17.042120
6712	13.350000	37.000000	32.8034420	24.450893
6713	16.800000	48.000000	42.0059524	22.502841
6714	31.528571	43.500000	21.0605590	27.229167
6715	13.950000	24.500000	37.5744048	17.197917
6716	13.800000	42.000000	32.7410714	31.776042
6717	11.050000	28.000000	34.1250000	22.437500
6718	9.800000	18.500000	32.4136905	13.956975
6719	8.700000	13.000000	27.0428313	16.393116
6720	7.050000	19.000000	25.4633799	20.021307
6721	10.800000	39.500000	22.0000000	29.894928
6722	8.700000	37.500000	22.6885352	22.392663
6723	7.214286	16.400000	21.1845238	21.645833
6724	NA	17.500000	23.1309524	24.260417

6725	NA	19.500000	32.250000	21.713542
6726	8.328571	14.000000	22.8907867	20.819067
6727	15.400000	27.500000	37.2199852	21.838542
6728	19.000000	35.500000	34.7954031	23.166667
6729	27.112500	39.000000	29.1041667	19.209177
6730	21.400000	35.500000	36.0989583	21.994792
6731	16.000000	23.500000	44.1796875	11.968750
6732	7.228571	33.000000	35.6354167	19.890399
6733	16.800000	39.500000	39.2944973	27.984828
6734	19.200000	37.000000	33.4615036	30.131793
6735	13.771429	29.600000	25.1966712	33.192708
6736	20.100000	38.000000	32.7043705	25.255208
6737	14.500000	27.000000	33.7109375	14.291667
6738	13.185714	18.000000	26.9322917	13.510417
6739	19.400000	31.000000	37.5447958	19.735863
6740	6.800000	30.000000	35.2216115	14.392437
6741	6.187500	17.400000	18.7296196	14.727273
6742	6.800000	19.500000	26.0099432	19.927083
6743	5.600000	9.500000	20.9997736	13.807292
6744	4.200000	8.500000	19.0364583	13.859375
6745	7.000000	19.000000	26.5885417	14.027778
6746	16.600000	42.500000	34.6831975	33.992788
6747	16.471429	41.000000	40.0652174	25.500000
6748	11.300000	19.000000	31.8234107	20.155838
6749	23.300000	62.500000	44.3263134	26.838542
6750	31.857143	74.000000	50.9664855	23.750000
6751	28.100000	48.000000	46.3988095	22.791667
6752	23.000000	42.500000	55.2202381	17.197917
6753	51.537500	79.000000	55.2358572	28.549366
6754	31.200000	57.500000	50.2914402	26.553977
6755	22.200000	47.000000	43.0280797	25.859400
6756	15.885714	38.000000	45.1177536	19.437500
6757	6.300000	16.000000	30.0364583	9.322917
6758	4.200000	13.000000	30.7916667	9.277778
6759	16.112500	26.800000	38.4010417	15.659873
6760	23.200000	32.500000	36.6041667	12.968750
6761	NA	22.500000	30.2861187	13.370652
6762	12.685714	16.000000	33.8668067	10.326389
6763	9.900000	21.500000	36.0953471	11.253623
6764	9.300000	18.000000	37.2552083	18.062274
6765	16.350000	37.500000	42.1927083	21.729167
6766	15.400000	28.000000	57.9062500	23.958333
6767	19.100000	38.000000	57.6451540	19.708333

6768	26.187500	35.000000	58.8412591	14.816220
6769	19.100000	25.000000	39.3333333	10.162202
6770	19.600000	31.500000	34.5258152	12.506114
6771	15.757143	28.400000	27.3966259	16.098958
6772	19.600000	29.000000	38.0885417	16.593750
6773	32.700000	42.500000	44.6432292	16.270833
6774	12.837500	37.500000	36.4478034	13.018957
6775	10.900000	35.000000	36.9130111	19.398810
6776	15.600000	37.500000	26.1204298	27.680871
6777	12.375000	23.800000	35.3736413	22.459541
6778	10.000000	14.500000	36.3177083	16.033482
6779	NA	26.000000	28.3958333	19.750000
6780	22.050000	44.000000	47.6041667	11.963542
6781	NA	32.500000	30.8409194	27.977679
6782	NA	23.000000	29.2653061	15.864583
6783	7.675000	15.400000	21.3832654	14.501637
6784	14.800000	29.000000	23.0859375	25.852808
6785	NA	32.500000	26.4765625	22.359375
6786	12.837500	22.000000	32.4348958	18.911458
6787	20.800000	29.500000	40.8489583	20.166667
6788	28.700000	56.500000	41.9490489	26.831101
6789	44.487500	60.000000	40.6713089	29.280344
6790	37.900000	64.000000	39.3211051	23.619318
6791	21.600000	45.500000	37.2974411	18.677083
6792	7.428571	27.500000	28.0364583	17.817708
6793	11.000000	20.500000	33.3958333	19.552083
6794	25.900000	40.000000	44.9947917	28.375000
6795	31.662500	55.400000	39.6128850	38.869730
6796	33.000000	65.500000	43.2863451	28.884511
6797	16.000000	33.500000	42.8753059	19.588636
6798	14.785714	24.000000	21.5434783	31.854167
6799	NA	27.000000	30.7906476	23.987500
6800	10.100000	14.000000	27.4088542	15.125000
6801	7.600000	15.000000	22.7447917	15.861111
6802	16.400000	34.500000	27.3875679	29.006944
6803	21.400000	36.500000	34.1218297	26.802083
6804	20.762500	41.000000	39.4198370	23.953125
6805	NA	41.000000	26.4531250	24.411458
6806	14.500000	28.000000	35.8140625	17.685974
6807	9.885714	18.600000	27.2734375	15.791667
6808	7.900000	12.000000	24.3802083	13.834239
6809	4.000000	8.000000	22.7417346	10.161458
6810	5.085714	9.000000	27.1679121	12.967618

6811	NA	28.500000	28.0146060	15.166667
6812	18.500000	46.500000	35.5610119	22.131629
6813	31.300000	49.400000	37.4564394	30.952178
6814	18.600000	30.000000	31.6562500	19.656250
6815	12.000000	19.000000	35.0052083	16.755208
6816	13.357143	26.500000	33.4200634	23.711277
6817	15.900000	22.000000	32.3285779	19.275815
6818	8.100000	18.500000	17.5076993	19.365057
6819	9.800000	33.000000	21.3223505	28.192613
6820	8.600000	37.500000	22.6129982	26.791667
6821	10.250000	17.500000	21.4479167	19.250000
6822	12.285714	24.000000	25.5625000	18.166667
6823	17.400000	25.000000	39.2343750	17.921875
6824	28.900000	50.000000	41.5176630	27.641304
6825	32.371429	53.800000	39.4282156	34.723214
6826	17.100000	23.000000	41.0919178	16.609375
6827	20.100000	39.000000	36.5815217	21.598958
6828	37.887500	55.000000	47.5781250	19.385417
6829	56.500000	65.000000	51.7395833	18.875000
6830	44.300000	78.500000	44.5423460	28.048363
6831	28.675000	59.000000	39.3420105	25.748106
6832	8.500000	18.000000	23.8689236	14.678504
6833	6.600000	12.000000	23.1953125	14.093750
6834	7.428571	12.000000	23.9739583	16.250000
6835	9.700000	21.500000	20.1093750	22.572917
6836	15.000000	22.000000	25.2031250	24.380208
6837	19.685714	29.600000	25.5674819	19.968750
6838	13.200000	32.500000	20.1879529	35.925272
6839	18.200000	49.000000	29.0465839	33.177083
6840	22.542857	42.500000	34.2026915	18.883929
6841	4.800000	9.500000	25.5205628	11.125000
6842	18.400000	25.500000	14.2261905	22.736111
6843	21.428571	26.000000	13.5267857	18.347222
6844	7.600000	14.500000	12.5278209	19.916667
6845	14.900000	32.500000	13.3602955	30.055556
6846	9.916667	28.500000	18.4133023	24.750000
6847	5.300000	14.500000	12.3236284	19.402778
6848	7.900000	33.500000	15.5639234	26.986111
6849	16.400000	29.200000	25.9523810	28.277778
6850	21.700000	28.000000	29.4523810	19.569444
6851	23.000000	43.000000	25.2397774	21.164683
6852	23.150000	46.500000	27.5251035	22.652778
6853	NA	47.000000	30.5253623	24.917874

6854	6.300000	16.500000	13.3207816	11.680556
6855	4.271429	10.750000	15.1458333	14.422222
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6857	4.400000	7.500000	27.7738095	10.736111
6858	7.871429	12.500000	18.5476190	17.375000
6859	7.600000	13.500000	11.9583333	15.555556
6860	18.700000	24.500000	3.0437371	20.986111
6861	29.800000	48.200000	8.9943064	29.387077
6862	16.100000	38.500000	15.1458333	28.152778
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6864	7.900000	12.500000	16.9464286	20.055556
6865	11.650000	29.500000	14.6687371	28.013889
6866	11.200000	36.000000	12.8161232	31.493357
6867	5.612500	16.400000	23.3097591	17.518759
6868	6.800000	17.000000	18.7500000	17.146135
6869	9.600000	12.500000	22.2452307	19.839286
6870	13.337500	18.000000	8.2708333	23.500000
6871	8.500000	10.000000	11.6428571	18.083333
6872	5.000000	7.000000	11.7351190	15.404589
6873	4.487500	8.250000	14.6273292	18.137077
6874	7.600000	14.000000	10.0982143	25.128968
6875	10.800000	19.000000	10.0357143	27.666667
6876	16.925000	25.500000	10.2067805	33.180556
6877	22.600000	37.000000	11.4910714	27.875000
6878	20.700000	25.000000	26.1607143	18.041667
6879	31.925000	39.200000	11.4257952	21.577899
6880	16.000000	27.000000	6.9360507	22.728535
6881	8.500000	28.500000	11.8916667	23.010266
6882	9.675000	34.500000	24.8771739	22.569444
6883	14.800000	47.500000	18.9062500	24.791667
6884	27.200000	32.000000	11.4722222	18.208333
6885	5.987500	10.400000	15.1250000	13.986111
6886	17.400000	31.000000	7.3707428	25.064182
6887	40.000000	36.500000	4.1005435	27.222222
6888	8.437500	25.000000	17.8958333	11.916667
6889	NA	24.000000	9.5625000	23.805556
6890	14.800000	41.500000	8.1979167	33.944444
6891	13.842857	27.500000	20.5520833	22.527778
6892	5.700000	17.500000	24.9270833	9.763889
6893	8.300000	17.000000	10.4687500	24.719807
6894	9.300000	10.500000	8.4510870	16.597222
6895	4.700000	27.500000	16.9687500	10.347222
6896	8.800000	20.500000	12.8229167	20.638889

6897	11.714286	22.400000	4.5277778	24.958333
6898	15.800000	25.500000	11.3888889	26.729167
6899	19.100000	17.000000	9.8194444	19.041667
6900	12.850000	21.000000	11.7083333	14.860870
6901	NA	19.000000	12.9873188	26.166667
6902	NA	13.500000	6.8121981	21.854167
6903	3.275000	12.500000	26.6944444	8.833333
6904	5.500000	16.000000	11.5416667	22.687500
6905	17.900000	21.000000	6.6805556	27.104167
6906	19.166667	16.000000	11.6666667	20.958333
6907	12.400000	18.500000	15.2364130	16.075092
6908	7.900000	14.000000	11.5910326	13.094203
6909	12.614286	17.800000	9.1902174	21.888889
6910	18.400000	18.500000	7.0312500	24.444444
6911	NA	19.500000	9.1562500	23.291667
6912	13.342857	20.000000	10.3333333	25.194444
6913	15.300000	15.500000	13.1770833	21.708333
6914	NA	30.000000	6.4479167	28.388889
6915	24.616667	33.000000	4.7015399	29.083333
6916	37.800000	39.000000	3.9162138	34.309524
6917	24.300000	31.000000	5.9952652	34.222222
6918	25.450000	22.000000	5.9583333	31.416667
6919	18.200000	30.000000	9.1354167	28.708333
6920	10.600000	14.000000	11.3333333	22.555556
6921	19.225000	28.750000	5.0312500	39.746212
6922	26.500000	21.000000	6.6286232	29.569444
6923	26.900000	16.000000	3.8020833	30.633838
6924	14.400000	16.500000	4.8958333	25.430556
6925	11.000000	22.000000	11.1666667	16.875000
6926	13.800000	20.000000	8.5937500	20.736111
6927	12.200000	17.500000	13.5520833	19.111111
6928	21.150000	21.000000	8.0588768	31.791667
6929	25.750000	32.000000	3.8491848	32.897727
6930	37.928571	59.500000	3.6639493	34.861111
6931	36.650000	42.500000	5.3854167	33.730263
6932	32.900000	34.500000	6.9062500	29.083333
6933	30.771429	25.200000	1.7708333	31.986111
6934	6.700000	8.000000	14.3541667	13.791667
6935	8.400000	8.500000	14.0416667	16.819444
6936	23.560000	27.000000	4.4687500	23.500000
6937	17.750000	27.500000	3.2604167	19.285628
6938	7.450000	23.500000	6.7948370	19.972222
6939	15.057143	19.200000	3.0344203	22.805556

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6940 15.000000 23.500000 2.5312500 13.250000
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Or if we wanted to keep every variable that starts with a “d”, we could do

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chicago %>%  
  select(starts_with("d"))
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1    31.50000 1987-01-01  
2    29.87500 1987-01-02  
3    27.37500 1987-01-03  
4    28.62500 1987-01-04  
5    28.87500 1987-01-05  
6    35.12500 1987-01-06  
7    26.75000 1987-01-07  
8    22.00000 1987-01-08  
9    29.00000 1987-01-09  
10   27.75000 1987-01-10  
11   20.12500 1987-01-11  
12   26.00000 1987-01-12  
13   32.25000 1987-01-13  
14   36.37500 1987-01-14  
15   24.25000 1987-01-15  
16   21.50000 1987-01-16  
17   24.75000 1987-01-17  
18   11.12500 1987-01-18  
19   15.75000 1987-01-19  
20   11.50000 1987-01-20  
21   20.62500 1987-01-21  
22    7.37500 1987-01-22  
23   -12.25000 1987-01-23  
24   -5.62500 1987-01-24  
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26    4.75000 1987-01-26  
27   17.75000 1987-01-27  
28   18.25000 1987-01-28  
29   32.87500 1987-01-29  
30   24.12500 1987-01-30  
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33   34.00000 1987-02-02  
34   26.25000 1987-02-03
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36	27.25000	1987-02-05
37	30.37500	1987-02-06
38	35.75000	1987-02-07
39	3.50000	1987-02-08
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41	27.37500	1987-02-10
42	29.37500	1987-02-11
43	24.75000	1987-02-12
44	30.87500	1987-02-13
45	22.00000	1987-02-14
46	10.12500	1987-02-15
47	18.12500	1987-02-16
48	20.25000	1987-02-17
49	20.00000	1987-02-18
50	19.62500	1987-02-19
51	17.00000	1987-02-20
52	24.50000	1987-02-21
53	25.12500	1987-02-22
54	24.75000	1987-02-23
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57	18.50000	1987-02-26
58	28.25000	1987-02-27
59	38.37500	1987-02-28
60	28.37500	1987-03-01
61	27.87500	1987-03-02
62	14.87500	1987-03-03
63	26.75000	1987-03-04
64	34.37500	1987-03-05
65	39.50000	1987-03-06
66	36.87500	1987-03-07
67	33.62500	1987-03-08
68	14.00000	1987-03-09
69	13.62500	1987-03-10
70	17.00000	1987-03-11
71	22.37500	1987-03-12
72	33.12500	1987-03-13
73	33.00000	1987-03-14
74	24.50000	1987-03-15
75	17.87500	1987-03-16
76	19.37500	1987-03-17
77	30.25000	1987-03-18

78	26.12500	1987-03-19
79	16.62500	1987-03-20
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81	32.37500	1987-03-22
82	35.25000	1987-03-23
83	46.12500	1987-03-24
84	40.12500	1987-03-25
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86	38.50000	1987-03-27
87	35.00000	1987-03-28
88	30.12500	1987-03-29
89	12.87500	1987-03-30
90	19.00000	1987-03-31
91	22.87500	1987-04-01
92	14.62500	1987-04-02
93	17.37500	1987-04-03
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97	30.87500	1987-04-07
98	31.37500	1987-04-08
99	28.50000	1987-04-09
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103	47.25000	1987-04-13
104	51.50000	1987-04-14
105	50.12500	1987-04-15
106	49.25000	1987-04-16
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108	49.87500	1987-04-18
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112	45.62500	1987-04-22
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114	30.75000	1987-04-24
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118	28.62500	1987-04-28
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123	35.00000	1987-05-03
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146	67.62500	1987-05-26
147	67.37500	1987-05-27
148	65.75000	1987-05-28
149	67.12500	1987-05-29
150	65.62500	1987-05-30
151	60.12500	1987-05-31
152	68.50000	1987-06-01
153	64.75000	1987-06-02
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163	62.00000	1987-06-12

164	62.00000	1987-06-13
165	68.50000	1987-06-14
166	48.50000	1987-06-15
167	52.87500	1987-06-16
168	61.00000	1987-06-17
169	62.75000	1987-06-18
170	61.37500	1987-06-19
171	73.62500	1987-06-20
172	71.12500	1987-06-21
173	59.00000	1987-06-22
174	57.75000	1987-06-23
175	65.75000	1987-06-24
176	62.00000	1987-06-25
177	50.75000	1987-06-26
178	48.25000	1987-06-27
179	53.62500	1987-06-28
180	66.00000	1987-06-29
181	63.00000	1987-06-30
182	60.62500	1987-07-01
183	60.25000	1987-07-02
184	60.37500	1987-07-03
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186	69.12500	1987-07-05
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188	69.12500	1987-07-07
189	69.25000	1987-07-08
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196	54.37500	1987-07-15
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198	67.00000	1987-07-17
199	68.37500	1987-07-18
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201	67.62500	1987-07-20
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203	69.62500	1987-07-22
204	70.00000	1987-07-23
205	71.25000	1987-07-24
206	71.12500	1987-07-25

207	66.25000	1987-07-26
208	62.62500	1987-07-27
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217	55.75000	1987-08-05
218	62.12500	1987-08-06
219	67.37500	1987-08-07
220	73.62500	1987-08-08
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222	63.12500	1987-08-10
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231	56.75000	1987-08-19
232	62.62500	1987-08-20
233	72.50000	1987-08-21
234	54.62500	1987-08-22
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236	51.37500	1987-08-24
237	58.00000	1987-08-25
238	63.25000	1987-08-26
239	61.37500	1987-08-27
240	54.62500	1987-08-28
241	57.00000	1987-08-29
242	59.62500	1987-08-30
243	46.50000	1987-08-31
244	49.50000	1987-09-01
245	50.12500	1987-09-02
246	49.25000	1987-09-03
247	59.12500	1987-09-04
248	57.37500	1987-09-05
249	66.25000	1987-09-06

250	65.62500	1987-09-07
251	63.50000	1987-09-08
252	56.12500	1987-09-09
253	57.75000	1987-09-10
254	57.00000	1987-09-11
255	50.37500	1987-09-12
256	53.25000	1987-09-13
257	58.00000	1987-09-14
258	66.00000	1987-09-15
259	66.87500	1987-09-16
260	64.25000	1987-09-17
261	60.37500	1987-09-18
262	50.25000	1987-09-19
263	50.87500	1987-09-20
264	54.75000	1987-09-21
265	52.50000	1987-09-22
266	51.00000	1987-09-23
267	46.25000	1987-09-24
268	43.00000	1987-09-25
269	53.37500	1987-09-26
270	54.00000	1987-09-27
271	61.12500	1987-09-28
272	52.37500	1987-09-29
273	35.62500	1987-09-30
274	46.37500	1987-10-01
275	32.25000	1987-10-02
276	29.87500	1987-10-03
277	30.75000	1987-10-04
278	41.25000	1987-10-05
279	38.00000	1987-10-06
280	26.87500	1987-10-07
281	26.87500	1987-10-08
282	31.25000	1987-10-09
283	32.62500	1987-10-10
284	25.50000	1987-10-11
285	30.37500	1987-10-12
286	33.37500	1987-10-13
287	38.12500	1987-10-14
288	36.00000	1987-10-15
289	55.12500	1987-10-16
290	42.12500	1987-10-17
291	43.75000	1987-10-18
292	40.25000	1987-10-19

293	32.37500	1987-10-20
294	33.25000	1987-10-21
295	34.25000	1987-10-22
296	31.12500	1987-10-23
297	33.50000	1987-10-24
298	31.12500	1987-10-25
299	45.37500	1987-10-26
300	34.50000	1987-10-27
301	28.87500	1987-10-28
302	37.75000	1987-10-29
303	42.87500	1987-10-30
304	49.37500	1987-10-31
305	58.50000	1987-11-01
306	56.62500	1987-11-02
307	49.87500	1987-11-03
308	38.25000	1987-11-04
309	19.87500	1987-11-05
310	25.75000	1987-11-06
311	29.50000	1987-11-07
312	41.75000	1987-11-08
313	18.50000	1987-11-09
314	24.87500	1987-11-10
315	23.75000	1987-11-11
316	31.12500	1987-11-12
317	31.37500	1987-11-13
318	31.12500	1987-11-14
319	32.00000	1987-11-15
320	56.00000	1987-11-16
321	35.37500	1987-11-17
322	29.25000	1987-11-18
323	26.00000	1987-11-19
324	10.37500	1987-11-20
325	11.50000	1987-11-21
326	28.75000	1987-11-22
327	31.75000	1987-11-23
328	39.37500	1987-11-24
329	36.87500	1987-11-25
330	35.87500	1987-11-26
331	39.50000	1987-11-27
332	45.50000	1987-11-28
333	34.62500	1987-11-29
334	35.50000	1987-11-30
335	24.12500	1987-12-01

336	26.37500	1987-12-02
337	26.25000	1987-12-03
338	19.62500	1987-12-04
339	24.62500	1987-12-05
340	29.00000	1987-12-06
341	36.25000	1987-12-07
342	49.50000	1987-12-08
343	34.37500	1987-12-09
344	31.12500	1987-12-10
345	33.62500	1987-12-11
346	23.75000	1987-12-12
347	23.50000	1987-12-13
348	27.50000	1987-12-14
349	24.25000	1987-12-15
350	16.62500	1987-12-16
351	11.75000	1987-12-17
352	25.75000	1987-12-18
353	35.00000	1987-12-19
354	21.25000	1987-12-20
355	26.12500	1987-12-21
356	29.12500	1987-12-22
357	31.25000	1987-12-23
358	39.75000	1987-12-24
359	25.50000	1987-12-25
360	23.75000	1987-12-26
361	28.37500	1987-12-27
362	30.75000	1987-12-28
363	20.25000	1987-12-29
364	27.62500	1987-12-30
365	7.25000	1987-12-31
366	-3.62500	1988-01-01
367	15.37500	1988-01-02
368	16.75000	1988-01-03
369	-15.87500	1988-01-04
370	-15.75000	1988-01-05
371	-15.12500	1988-01-06
372	-1.87500	1988-01-07
373	2.75000	1988-01-08
374	-12.25000	1988-01-09
375	-1.62500	1988-01-10
376	22.25000	1988-01-11
377	15.50000	1988-01-12
378	-0.37500	1988-01-13

379	9.37500	1988-01-14
380	22.75000	1988-01-15
381	29.25000	1988-01-16
382	32.25000	1988-01-17
383	32.37500	1988-01-18
384	34.62500	1988-01-19
385	27.37500	1988-01-20
386	21.12500	1988-01-21
387	23.62500	1988-01-22
388	25.75000	1988-01-23
389	17.00000	1988-01-24
390	-2.75000	1988-01-25
391	-0.50000	1988-01-26
392	11.25000	1988-01-27
393	19.25000	1988-01-28
394	40.50000	1988-01-29
395	47.50000	1988-01-30
396	31.87500	1988-01-31
397	21.37500	1988-02-01
398	17.75000	1988-02-02
399	20.12500	1988-02-03
400	6.62500	1988-02-04
401	-10.75000	1988-02-05
402	-3.12500	1988-02-06
403	8.37500	1988-02-07
404	16.25000	1988-02-08
405	7.12500	1988-02-09
406	17.62500	1988-02-10
407	9.00000	1988-02-11
408	0.25000	1988-02-12
409	3.50000	1988-02-13
410	38.62500	1988-02-14
411	11.87500	1988-02-15
412	27.12500	1988-02-16
413	23.12500	1988-02-17
414	27.00000	1988-02-18
415	29.37500	1988-02-19
416	-2.62500	1988-02-20
417	20.12500	1988-02-21
418	29.00000	1988-02-22
419	13.00000	1988-02-23
420	7.87500	1988-02-24
421	9.75000	1988-02-25

422	29.62500	1988-02-26
423	22.75000	1988-02-27
424	31.62500	1988-02-28
425	26.37500	1988-02-29
426	29.37500	1988-03-01
427	24.37500	1988-03-02
428	17.00000	1988-03-03
429	16.25000	1988-03-04
430	19.25000	1988-03-05
431	32.50000	1988-03-06
432	40.00000	1988-03-07
433	42.75000	1988-03-08
434	27.62500	1988-03-09
435	21.37500	1988-03-10
436	35.12500	1988-03-11
437	28.25000	1988-03-12
438	17.62500	1988-03-13
439	17.50000	1988-03-14
440	19.50000	1988-03-15
441	23.50000	1988-03-16
442	26.00000	1988-03-17
443	17.37500	1988-03-18
444	29.50000	1988-03-19
445	15.00000	1988-03-20
446	15.75000	1988-03-21
447	35.00000	1988-03-22
448	36.25000	1988-03-23
449	54.75000	1988-03-24
450	35.50000	1988-03-25
451	18.50000	1988-03-26
452	28.25000	1988-03-27
453	42.62500	1988-03-28
454	35.75000	1988-03-29
455	27.25000	1988-03-30
456	32.00000	1988-03-31
457	34.25000	1988-04-01
458	56.62500	1988-04-02
459	44.12500	1988-04-03
460	51.62500	1988-04-04
461	57.50000	1988-04-05
462	28.75000	1988-04-06
463	25.25000	1988-04-07
464	28.75000	1988-04-08

465	37.75000	1988-04-09
466	33.75000	1988-04-10
467	22.87500	1988-04-11
468	23.25000	1988-04-12
469	38.50000	1988-04-13
470	28.87500	1988-04-14
471	25.50000	1988-04-15
472	27.50000	1988-04-16
473	37.87500	1988-04-17
474	17.87500	1988-04-18
475	14.75000	1988-04-19
476	35.25000	1988-04-20
477	28.75000	1988-04-21
478	30.37500	1988-04-22
479	34.37500	1988-04-23
480	30.12500	1988-04-24
481	36.37500	1988-04-25
482	35.87500	1988-04-26
483	34.62500	1988-04-27
484	28.37500	1988-04-28
485	25.37500	1988-04-29
486	26.50000	1988-04-30
487	29.62500	1988-05-01
488	27.75000	1988-05-02
489	39.12500	1988-05-03
490	31.87500	1988-05-04
491	34.87500	1988-05-05
492	38.12500	1988-05-06
493	40.87500	1988-05-07
494	53.25000	1988-05-08
495	52.62500	1988-05-09
496	49.50000	1988-05-10
497	41.25000	1988-05-11
498	52.50000	1988-05-12
499	33.62500	1988-05-13
500	39.87500	1988-05-14
501	54.12500	1988-05-15
502	40.25000	1988-05-16
503	34.37500	1988-05-17
504	44.87500	1988-05-18
505	36.62500	1988-05-19
506	51.75000	1988-05-20
507	50.25000	1988-05-21

508	53.62500	1988-05-22
509	52.25000	1988-05-23
510	28.00000	1988-05-24
511	35.50000	1988-05-25
512	42.37500	1988-05-26
513	45.37500	1988-05-27
514	49.75000	1988-05-28
515	51.87500	1988-05-29
516	52.00000	1988-05-30
517	52.75000	1988-05-31
518	54.00000	1988-06-01
519	47.00000	1988-06-02
520	37.50000	1988-06-03
521	40.50000	1988-06-04
522	49.12500	1988-06-05
523	48.75000	1988-06-06
524	51.12500	1988-06-07
525	46.12500	1988-06-08
526	32.37500	1988-06-09
527	34.62500	1988-06-10
528	41.62500	1988-06-11
529	48.25000	1988-06-12
530	48.50000	1988-06-13
531	53.62500	1988-06-14
532	53.62500	1988-06-15
533	47.12500	1988-06-16
534	53.25000	1988-06-17
535	52.87500	1988-06-18
536	55.87500	1988-06-19
537	70.25000	1988-06-20
538	66.12500	1988-06-21
539	67.25000	1988-06-22
540	50.75000	1988-06-23
541	63.25000	1988-06-24
542	57.50000	1988-06-25
543	44.87500	1988-06-26
544	42.87500	1988-06-27
545	58.50000	1988-06-28
546	44.37500	1988-06-29
547	46.12500	1988-06-30
548	47.37500	1988-07-01
549	44.37500	1988-07-02
550	47.87500	1988-07-03

551	49.87500	1988-07-04
552	56.75000	1988-07-05
553	60.62500	1988-07-06
554	58.37500	1988-07-07
555	59.87500	1988-07-08
556	57.25000	1988-07-09
557	64.62500	1988-07-10
558	57.50000	1988-07-11
559	60.37500	1988-07-12
560	65.87500	1988-07-13
561	57.75000	1988-07-14
562	70.50000	1988-07-15
563	69.62500	1988-07-16
564	61.00000	1988-07-17
565	66.25000	1988-07-18
566	58.37500	1988-07-19
567	63.87500	1988-07-20
568	61.12500	1988-07-21
569	59.12500	1988-07-22
570	59.50000	1988-07-23
571	57.37500	1988-07-24
572	64.75000	1988-07-25
573	55.75000	1988-07-26
574	60.37500	1988-07-27
575	62.50000	1988-07-28
576	68.50000	1988-07-29
577	68.87500	1988-07-30
578	62.75000	1988-07-31
579	71.12500	1988-08-01
580	70.37500	1988-08-02
581	67.37500	1988-08-03
582	71.50000	1988-08-04
583	60.12500	1988-08-05
584	51.75000	1988-08-06
585	53.62500	1988-08-07
586	70.75000	1988-08-08
587	73.00000	1988-08-09
588	72.00000	1988-08-10
589	73.37500	1988-08-11
590	69.62500	1988-08-12
591	73.62500	1988-08-13
592	76.62500	1988-08-14
593	70.50000	1988-08-15

594	73.12500	1988-08-16
595	66.37500	1988-08-17
596	68.37500	1988-08-18
597	62.87500	1988-08-19
598	62.12500	1988-08-20
599	54.87500	1988-08-21
600	59.75000	1988-08-22
601	55.37500	1988-08-23
602	52.37500	1988-08-24
603	42.62500	1988-08-25
604	45.37500	1988-08-26
605	60.12500	1988-08-27
606	41.87500	1988-08-28
607	49.00000	1988-08-29
608	49.37500	1988-08-30
609	49.00000	1988-08-31
610	52.50000	1988-09-01
611	57.87500	1988-09-02
612	53.62500	1988-09-03
613	52.37500	1988-09-04
614	38.00000	1988-09-05
615	39.62500	1988-09-06
616	37.62500	1988-09-07
617	47.12500	1988-09-08
618	34.75000	1988-09-09
619	39.75000	1988-09-10
620	62.37500	1988-09-11
621	64.75000	1988-09-12
622	46.87500	1988-09-13
623	48.87500	1988-09-14
624	50.37500	1988-09-15
625	59.75000	1988-09-16
626	61.75000	1988-09-17
627	62.37500	1988-09-18
628	51.25000	1988-09-19
629	47.25000	1988-09-20
630	49.75000	1988-09-21
631	66.25000	1988-09-22
632	42.12500	1988-09-23
633	42.87500	1988-09-24
634	48.25000	1988-09-25
635	45.87500	1988-09-26
636	56.37500	1988-09-27

637	51.62500	1988-09-28
638	56.87500	1988-09-29
639	60.75000	1988-09-30
640	56.87500	1988-10-01
641	45.00000	1988-10-02
642	38.12500	1988-10-03
643	30.25000	1988-10-04
644	32.25000	1988-10-05
645	32.75000	1988-10-06
646	33.00000	1988-10-07
647	41.12500	1988-10-08
648	47.50000	1988-10-09
649	34.62500	1988-10-10
650	26.12500	1988-10-11
651	24.37500	1988-10-12
652	23.87500	1988-10-13
653	42.25000	1988-10-14
654	52.00000	1988-10-15
655	47.87500	1988-10-16
656	55.12500	1988-10-17
657	36.37500	1988-10-18
658	32.25000	1988-10-19
659	37.87500	1988-10-20
660	39.00000	1988-10-21
661	32.50000	1988-10-22
662	30.62500	1988-10-23
663	27.12500	1988-10-24
664	22.12500	1988-10-25
665	26.00000	1988-10-26
666	40.87500	1988-10-27
667	21.00000	1988-10-28
668	12.75000	1988-10-29
669	25.87500	1988-10-30
670	27.62500	1988-10-31
671	28.00000	1988-11-01
672	35.75000	1988-11-02
673	50.62500	1988-11-03
674	51.50000	1988-11-04
675	36.12500	1988-11-05
676	30.62500	1988-11-06
677	38.00000	1988-11-07
678	36.87500	1988-11-08
679	46.00000	1988-11-09

680	30.62500	1988-11-10
681	29.25000	1988-11-11
682	44.00000	1988-11-12
683	40.87500	1988-11-13
684	34.50000	1988-11-14
685	60.37500	1988-11-15
686	24.25000	1988-11-16
687	28.12500	1988-11-17
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689	40.12500	1988-11-19
690	28.12500	1988-11-20
691	23.37500	1988-11-21
692	28.12500	1988-11-22
693	35.50000	1988-11-23
694	35.00000	1988-11-24
695	44.37500	1988-11-25
696	51.25000	1988-11-26
697	25.00000	1988-11-27
698	21.87500	1988-11-28
699	31.37500	1988-11-29
700	23.87500	1988-11-30
701	16.37500	1988-12-01
702	32.50000	1988-12-02
703	26.00000	1988-12-03
704	23.25000	1988-12-04
705	31.25000	1988-12-05
706	34.87500	1988-12-06
707	20.00000	1988-12-07
708	11.25000	1988-12-08
709	14.25000	1988-12-09
710	2.12500	1988-12-10
711	6.12500	1988-12-11
712	19.37500	1988-12-12
713	28.62500	1988-12-13
714	24.87500	1988-12-14
715	-0.75000	1988-12-15
716	12.12500	1988-12-16
717	7.00000	1988-12-17
718	21.87500	1988-12-18
719	32.25000	1988-12-19
720	27.00000	1988-12-20
721	22.50000	1988-12-21
722	38.75000	1988-12-22

723	26.75000	1988-12-23
724	26.50000	1988-12-24
725	16.62500	1988-12-25
726	29.87500	1988-12-26
727	14.12500	1988-12-27
728	6.87500	1988-12-28
729	12.62500	1988-12-29
730	21.87500	1988-12-30
731	27.00000	1988-12-31
732	26.87500	1989-01-01
733	10.87500	1989-01-02
734	15.75000	1989-01-03
735	15.87500	1989-01-04
736	31.87500	1989-01-05
737	32.37500	1989-01-06
738	39.62500	1989-01-07
739	1.50000	1989-01-08
740	14.62500	1989-01-09
741	21.37500	1989-01-10
742	37.37500	1989-01-11
743	15.87500	1989-01-12
744	17.62500	1989-01-13
745	26.12500	1989-01-14
746	23.87500	1989-01-15
747	26.62500	1989-01-16
748	29.12500	1989-01-17
749	27.87500	1989-01-18
750	30.12500	1989-01-19
751	11.62500	1989-01-20
752	19.75000	1989-01-21
753	25.75000	1989-01-22
754	32.62500	1989-01-23
755	34.12500	1989-01-24
756	42.25000	1989-01-25
757	23.62500	1989-01-26
758	30.75000	1989-01-27
759	31.87500	1989-01-28
760	37.75000	1989-01-29
761	35.50000	1989-01-30
762	44.12500	1989-01-31
763	21.87500	1989-02-01
764	20.37500	1989-02-02
765	2.50000	1989-02-03

766	2.00000	1989-02-04
767	5.25000	1989-02-05
768	-0.25000	1989-02-06
769	9.12500	1989-02-07
770	-3.75000	1989-02-08
771	3.50000	1989-02-09
772	12.37500	1989-02-10
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774	16.87500	1989-02-12
775	31.12500	1989-02-13
776	20.75000	1989-02-14
777	13.12500	1989-02-15
778	1.87500	1989-02-16
779	14.62500	1989-02-17
780	20.87500	1989-02-18
781	19.12500	1989-02-19
782	25.25000	1989-02-20
783	17.25000	1989-02-21
784	1.62500	1989-02-22
785	10.25000	1989-02-23
786	9.12500	1989-02-24
787	27.75000	1989-02-25
788	15.87500	1989-02-26
789	10.75000	1989-02-27
790	8.50000	1989-02-28
791	8.75000	1989-03-01
792	20.00000	1989-03-02
793	32.12500	1989-03-03
794	24.37500	1989-03-04
795	17.00000	1989-03-05
796	14.62500	1989-03-06
797	10.75000	1989-03-07
798	18.62500	1989-03-08
799	26.12500	1989-03-09
800	32.50000	1989-03-10
801	31.50000	1989-03-11
802	29.25000	1989-03-12
803	36.25000	1989-03-13
804	47.50000	1989-03-14
805	16.00000	1989-03-15
806	27.25000	1989-03-16
807	28.87500	1989-03-17
808	17.37500	1989-03-18

809	26.50000	1989-03-19
810	22.62500	1989-03-20
811	11.75000	1989-03-21
812	22.75000	1989-03-22
813	25.25000	1989-03-23
814	36.25000	1989-03-24
815	34.87500	1989-03-25
816	54.75000	1989-03-26
817	58.75000	1989-03-27
818	56.50000	1989-03-28
819	31.00000	1989-03-29
820	33.00000	1989-03-30
821	22.50000	1989-03-31
822	33.87500	1989-04-01
823	44.62500	1989-04-02
824	47.25000	1989-04-03
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827	24.62500	1989-04-06
828	27.75000	1989-04-07
829	15.62500	1989-04-08
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831	20.87500	1989-04-10
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833	26.87500	1989-04-12
834	19.37500	1989-04-13
835	33.00000	1989-04-14
836	30.50000	1989-04-15
837	49.25000	1989-04-16
838	31.87500	1989-04-17
839	35.50000	1989-04-18
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841	38.00000	1989-04-20
842	36.12500	1989-04-21
843	34.25000	1989-04-22
844	31.37500	1989-04-23
845	41.37500	1989-04-24
846	52.37500	1989-04-25
847	45.25000	1989-04-26
848	43.00000	1989-04-27
849	42.00000	1989-04-28
850	42.00000	1989-04-29
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852	33.25000	1989-05-01
853	37.50000	1989-05-02
854	32.62500	1989-05-03
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857	24.75000	1989-05-06
858	35.75000	1989-05-07
859	40.75000	1989-05-08
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861	23.50000	1989-05-10
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863	36.75000	1989-05-12
864	43.25000	1989-05-13
865	41.37500	1989-05-14
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868	45.37500	1989-05-17
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871	38.62500	1989-05-20
872	44.75000	1989-05-21
873	49.62500	1989-05-22
874	42.87500	1989-05-23
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876	60.87500	1989-05-25
877	40.12500	1989-05-26
878	39.62500	1989-05-27
879	39.62500	1989-05-28
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885	51.62500	1989-06-03
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887	47.75000	1989-06-05
888	51.50000	1989-06-06
889	55.62500	1989-06-07
890	57.87500	1989-06-08
891	46.87500	1989-06-09
892	43.75000	1989-06-10
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905	68.00000	1989-06-23
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907	61.50000	1989-06-25
908	64.00000	1989-06-26
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919	53.50000	1989-07-07
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923	64.50000	1989-07-11
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925	50.12500	1989-07-13
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937	73.87500	1989-07-25

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941	67.00000	1989-07-29
942	61.00000	1989-07-30
943	60.50000	1989-07-31
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991	54.12500	1989-09-17
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1019	53.50000	1989-10-15
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1021	31.62500	1989-10-17
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1193	16.50000	1990-04-07
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1380	35.87500	1990-10-11
1381	42.12500	1990-10-12
1382	45.37500	1990-10-13
1383	48.50000	1990-10-14
1384	40.62500	1990-10-15
1385	52.25000	1990-10-16
1386	55.37500	1990-10-17
1387	28.87500	1990-10-18
1388	32.87500	1990-10-19
1389	36.00000	1990-10-20
1390	37.00000	1990-10-21
1391	33.87500	1990-10-22
1392	37.62500	1990-10-23
1393	33.50000	1990-10-24
1394	31.75000	1990-10-25
1395	31.12500	1990-10-26
1396	33.00000	1990-10-27
1397	28.62500	1990-10-28
1398	30.62500	1990-10-29
1399	48.87500	1990-10-30
1400	49.62500	1990-10-31
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1407	20.37500	1990-11-07
1408	27.00000	1990-11-08
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1410	22.00000	1990-11-10

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1423	17.37500	1990-11-23
1424	30.00000	1990-11-24
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1426	58.50000	1990-11-26
1427	57.62500	1990-11-27
1428	22.12500	1990-11-28
1429	23.62500	1990-11-29
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1431	28.12500	1990-12-01
1432	24.62500	1990-12-02
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1436	16.12500	1990-12-06
1437	27.75000	1990-12-07
1438	29.12500	1990-12-08
1439	31.00000	1990-12-09
1440	29.75000	1990-12-10
1441	40.37500	1990-12-11
1442	35.87500	1990-12-12
1443	18.25000	1990-12-13
1444	26.37500	1990-12-14
1445	32.00000	1990-12-15
1446	28.87500	1990-12-16
1447	36.25000	1990-12-17
1448	27.00000	1990-12-18
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1453	-3.75000	1990-12-23

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1455	-7.87500	1990-12-25
1456	-6.50000	1990-12-26
1457	16.75000	1990-12-27
1458	30.87500	1990-12-28
1459	30.00000	1990-12-29
1460	2.62500	1990-12-30
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1466	21.62500	1991-01-05
1467	13.62500	1991-01-06
1468	17.50000	1991-01-07
1469	27.37500	1991-01-08
1470	18.00000	1991-01-09
1471	26.12500	1991-01-10
1472	26.62500	1991-01-11
1473	22.00000	1991-01-12
1474	26.87500	1991-01-13
1475	27.12500	1991-01-14
1476	31.62500	1991-01-15
1477	25.75000	1991-01-16
1478	18.75000	1991-01-17
1479	24.00000	1991-01-18
1480	29.62500	1991-01-19
1481	18.62500	1991-01-20
1482	-1.50000	1991-01-21
1483	12.00000	1991-01-22
1484	5.75000	1991-01-23
1485	-5.75000	1991-01-24
1486	-2.37500	1991-01-25
1487	9.25000	1991-01-26
1488	17.00000	1991-01-27
1489	19.75000	1991-01-28
1490	12.62500	1991-01-29
1491	6.62500	1991-01-30
1492	8.87500	1991-01-31
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1495	30.12500	1991-02-03
1496	38.00000	1991-02-04

1497	34.37500	1991-02-05
1498	32.87500	1991-02-06
1499	29.50000	1991-02-07
1500	31.00000	1991-02-08
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1515	18.50000	1991-02-23
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1519	19.50000	1991-02-27
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1527	11.00000	1991-03-07
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1533	23.50000	1991-03-13
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1535	26.50000	1991-03-15
1536	28.75000	1991-03-16
1537	39.25000	1991-03-17
1538	35.87500	1991-03-18
1539	38.00000	1991-03-19

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1542	55.25000	1991-03-22
1543	32.87500	1991-03-23
1544	34.50000	1991-03-24
1545	39.00000	1991-03-25
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1547	43.25000	1991-03-27
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1549	17.87500	1991-03-29
1550	17.37500	1991-03-30
1551	33.50000	1991-03-31
1552	23.87500	1991-04-01
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1555	52.25000	1991-04-04
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1564	44.12500	1991-04-13
1565	50.12500	1991-04-14
1566	38.87500	1991-04-15
1567	42.00000	1991-04-16
1568	33.12500	1991-04-17
1569	37.50000	1991-04-18
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1575	28.37500	1991-04-24
1576	37.87500	1991-04-25
1577	47.87500	1991-04-26
1578	61.00000	1991-04-27
1579	55.87500	1991-04-28
1580	55.50000	1991-04-29
1581	39.62500	1991-04-30
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1603	66.87500	1991-05-22
1604	67.50000	1991-05-23
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1608	69.37500	1991-05-27
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1610	67.37500	1991-05-29
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1625	64.87500	1991-06-13

1626	65.37500	1991-06-14
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1628	53.50000	1991-06-16
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1638	66.62500	1991-06-26
1639	62.62500	1991-06-27
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1642	64.12500	1991-06-30
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1650	56.62500	1991-07-08
1651	55.00000	1991-07-09
1652	55.50000	1991-07-10
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1655	59.87500	1991-07-13
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1667	52.25000	1991-07-25
1668	51.62500	1991-07-26

1669	54.12500	1991-07-27
1670	59.00000	1991-07-28
1671	57.00000	1991-07-29
1672	54.62500	1991-07-30
1673	62.62500	1991-07-31
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1676	61.87500	1991-08-03
1677	51.00000	1991-08-04
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1680	63.37500	1991-08-07
1681	61.87500	1991-08-08
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1688	61.62500	1991-08-15
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1690	61.87500	1991-08-17
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1693	54.00000	1991-08-20
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1698	65.12500	1991-08-25
1699	61.00000	1991-08-26
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1738	54.87500	1991-10-04
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1748	34.37500	1991-10-14
1749	24.00000	1991-10-15
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1751	40.62500	1991-10-17
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1757	60.75000	1991-10-23
1758	63.62500	1991-10-24
1759	48.12500	1991-10-25
1760	46.87500	1991-10-26
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1762	53.62500	1991-10-28
1763	60.25000	1991-10-29
1764	38.12500	1991-10-30
1765	49.87500	1991-10-31
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1769	9.62500	1991-11-04
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1776	33.12500	1991-11-11
1777	32.00000	1991-11-12
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1779	51.62500	1991-11-14
1780	42.00000	1991-11-15
1781	33.37500	1991-11-16
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1788	19.62500	1991-11-23
1789	16.50000	1991-11-24
1790	10.12500	1991-11-25
1791	21.12500	1991-11-26
1792	33.00000	1991-11-27
1793	36.75000	1991-11-28
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1795	25.75000	1991-11-30
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1799	-1.00000	1991-12-04
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1803	45.50000	1991-12-08
1804	32.00000	1991-12-09
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1812	12.37500	1991-12-17
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1820	28.75000	1991-12-25
1821	32.37500	1991-12-26
1822	32.00000	1991-12-27
1823	34.00000	1991-12-28
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1826	28.00000	1991-12-31
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1833	31.50000	1992-01-07
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1839	30.75000	1992-01-13
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1851	20.50000	1992-01-25
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1853	25.87500	1992-01-27
1854	25.75000	1992-01-28
1855	31.50000	1992-01-29
1856	34.37500	1992-01-30
1857	22.37500	1992-01-31
1858	22.62500	1992-02-01
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1870	30.50000	1992-02-13
1871	32.50000	1992-02-14
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1874	36.37500	1992-02-17
1875	42.37500	1992-02-18
1876	32.87500	1992-02-19
1877	34.50000	1992-02-20
1878	27.37500	1992-02-21
1879	33.87500	1992-02-22
1880	36.87500	1992-02-23
1881	34.12500	1992-02-24
1882	27.25000	1992-02-25
1883	31.37500	1992-02-26

1884	34.12500	1992-02-27
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1886	25.12500	1992-02-29
1887	41.12500	1992-03-01
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1889	38.12500	1992-03-03
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1895	31.37500	1992-03-09
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1899	21.87500	1992-03-13
1900	19.75000	1992-03-14
1901	17.00000	1992-03-15
1902	36.87500	1992-03-16
1903	24.00000	1992-03-17
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1906	21.12500	1992-03-20
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1909	23.12500	1992-03-23
1910	34.25000	1992-03-24
1911	32.37500	1992-03-25
1912	26.87500	1992-03-26
1913	26.00000	1992-03-27
1914	31.25000	1992-03-28
1915	37.75000	1992-03-29
1916	29.50000	1992-03-30
1917	27.00000	1992-03-31
1918	25.25000	1992-04-01
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1920	31.87500	1992-04-03
1921	22.12500	1992-04-04
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1926	36.00000	1992-04-09

1927	57.37500	1992-04-10
1928	36.37500	1992-04-11
1929	19.00000	1992-04-12
1930	28.62500	1992-04-13
1931	31.87500	1992-04-14
1932	50.37500	1992-04-15
1933	40.25000	1992-04-16
1934	38.75000	1992-04-17
1935	58.12500	1992-04-18
1936	59.75000	1992-04-19
1937	58.25000	1992-04-20
1938	36.50000	1992-04-21
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1940	42.75000	1992-04-23
1941	37.62500	1992-04-24
1942	33.62500	1992-04-25
1943	36.50000	1992-04-26
1944	26.25000	1992-04-27
1945	29.50000	1992-04-28
1946	51.62500	1992-04-29
1947	42.12500	1992-04-30
1948	52.50000	1992-05-01
1949	32.50000	1992-05-02
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1951	29.87500	1992-05-04
1952	23.12500	1992-05-05
1953	21.25000	1992-05-06
1954	24.75000	1992-05-07
1955	28.00000	1992-05-08
1956	48.25000	1992-05-09
1957	48.50000	1992-05-10
1958	56.37500	1992-05-11
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1960	36.87500	1992-05-13
1961	46.00000	1992-05-14
1962	48.87500	1992-05-15
1963	60.25000	1992-05-16
1964	48.62500	1992-05-17
1965	43.50000	1992-05-18
1966	44.12500	1992-05-19
1967	51.12500	1992-05-20
1968	60.50000	1992-05-21
1969	64.12500	1992-05-22

1970	36.12500	1992-05-23
1971	30.62500	1992-05-24
1972	32.75000	1992-05-25
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1974	24.62500	1992-05-27
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1976	33.75000	1992-05-29
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1981	48.25000	1992-06-03
1982	60.75000	1992-06-04
1983	58.37500	1992-06-05
1984	56.62500	1992-06-06
1985	44.50000	1992-06-07
1986	47.75000	1992-06-08
1987	43.87500	1992-06-09
1988	42.50000	1992-06-10
1989	47.25000	1992-06-11
1990	45.75000	1992-06-12
1991	52.12500	1992-06-13
1992	61.00000	1992-06-14
1993	54.37500	1992-06-15
1994	62.00000	1992-06-16
1995	62.75000	1992-06-17
1996	59.12500	1992-06-18
1997	47.12500	1992-06-19
1998	38.50000	1992-06-20
1999	33.37500	1992-06-21
2000	43.00000	1992-06-22
2001	52.25000	1992-06-23
2002	51.25000	1992-06-24
2003	57.50000	1992-06-25
2004	52.37500	1992-06-26
2005	35.37500	1992-06-27
2006	49.00000	1992-06-28
2007	54.25000	1992-06-29
2008	52.50000	1992-06-30
2009	64.62500	1992-07-01
2010	65.62500	1992-07-02
2011	55.37500	1992-07-03
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2013	52.12500	1992-07-05
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2016	68.25000	1992-07-08
2017	64.62500	1992-07-09
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2066	54.87500	1992-08-27
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2077	65.50000	1992-09-07
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2094	41.25000	1992-09-24
2095	53.75000	1992-09-25
2096	60.00000	1992-09-26
2097	43.12500	1992-09-27
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2100	43.12500	1992-09-30
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2107	52.00000	1992-10-07
2108	41.00000	1992-10-08
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2115	49.37500	1992-10-15
2116	27.50000	1992-10-16
2117	29.37500	1992-10-17
2118	18.12500	1992-10-18
2119	20.00000	1992-10-19
2120	42.37500	1992-10-20
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2122	57.87500	1992-10-22
2123	56.87500	1992-10-23
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2125	43.12500	1992-10-25
2126	38.12500	1992-10-26
2127	35.75000	1992-10-27
2128	34.75000	1992-10-28
2129	37.12500	1992-10-29
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2131	35.87500	1992-10-31
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2134	35.00000	1992-11-03
2135	28.75000	1992-11-04
2136	22.50000	1992-11-05
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2138	30.87500	1992-11-07
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2144	20.87500	1992-11-13
2145	16.87500	1992-11-14
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2150	37.12500	1992-11-19
2151	44.50000	1992-11-20
2152	40.37500	1992-11-21
2153	39.50000	1992-11-22
2154	36.37500	1992-11-23
2155	37.87500	1992-11-24
2156	42.50000	1992-11-25
2157	26.00000	1992-11-26
2158	24.12500	1992-11-27
2159	25.62500	1992-11-28
2160	30.87500	1992-11-29
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2162	28.00000	1992-12-01
2163	19.87500	1992-12-02
2164	23.37500	1992-12-03
2165	11.87500	1992-12-04
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2172	30.37500	1992-12-11
2173	30.25000	1992-12-12
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2178	20.12500	1992-12-17
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2181	11.75000	1992-12-20
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2184	5.25000	1992-12-23

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2190	42.12500	1992-12-29
2191	43.62500	1992-12-30
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2195	44.87500	1993-01-03
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2203	23.25000	1993-01-11
2204	33.00000	1993-01-12
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2206	20.25000	1993-01-14
2207	14.50000	1993-01-15
2208	27.62500	1993-01-16
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2215	31.62500	1993-01-23
2216	14.00000	1993-01-24
2217	11.62500	1993-01-25
2218	30.00000	1993-01-26
2219	25.25000	1993-01-27
2220	21.37500	1993-01-28
2221	4.00000	1993-01-29
2222	14.25000	1993-01-30
2223	30.75000	1993-01-31
2224	18.00000	1993-02-01
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2226	24.87500	1993-02-03
2227	22.50000	1993-02-04

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2229	21.37500	1993-02-06
2230	30.00000	1993-02-07
2231	21.25000	1993-02-08
2232	33.37500	1993-02-09
2233	32.37500	1993-02-10
2234	25.62500	1993-02-11
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2237	20.37500	1993-02-14
2238	18.75000	1993-02-15
2239	13.37500	1993-02-16
2240	-5.00000	1993-02-17
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2242	16.62500	1993-02-19
2243	23.75000	1993-02-20
2244	26.87500	1993-02-21
2245	18.00000	1993-02-22
2246	2.75000	1993-02-23
2247	-1.87500	1993-02-24
2248	15.50000	1993-02-25
2249	12.75000	1993-02-26
2250	13.62500	1993-02-27
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2252	31.62500	1993-03-01
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2258	33.00000	1993-03-07
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2261	27.37500	1993-03-10
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2278	33.75000	1993-03-27
2279	33.50000	1993-03-28
2280	33.25000	1993-03-29
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2299	37.37500	1993-04-17
2300	46.00000	1993-04-18
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2305	41.37500	1993-04-23
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2308	29.37500	1993-04-26
2309	46.87500	1993-04-27
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2367	67.87500	1993-06-24
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2390	71.00000	1993-07-17
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2480	55.00000	1993-10-15
2481	55.00000	1993-10-16
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2484	50.50000	1993-10-19
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2490	39.87500	1993-10-25
2491	40.00000	1993-10-26
2492	29.12500	1993-10-27
2493	33.00000	1993-10-28
2494	20.75000	1993-10-29
2495	28.50000	1993-10-30
2496	21.87500	1993-10-31
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2503	22.50000	1993-11-07
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2520	37.37500	1993-11-24
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2522	16.87500	1993-11-26
2523	24.00000	1993-11-27
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2525	19.37500	1993-11-29
2526	23.87500	1993-11-30
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2550	7.75000	1993-12-24
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2635	29.87500	1994-03-19
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2643	31.50000	1994-03-27
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2665	46.12500	1994-04-18
2666	23.12500	1994-04-19
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2670	29.87500	1994-04-23
2671	54.37500	1994-04-24
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2673	48.12500	1994-04-26
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2677	33.62500	1994-04-30
2678	33.87500	1994-05-01
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2736	59.50000	1994-06-28
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2765	54.00000	1994-07-27
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2767	51.37500	1994-07-29
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2780	59.25000	1994-08-11
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2939	38.37500	1995-01-17
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6879	49.40000	2005-10-31
6880	37.50000	2005-11-01
6881	35.40000	2005-11-02
6882	40.70000	2005-11-03
6883	38.00000	2005-11-04
6884	50.60000	2005-11-05
6885	42.00000	2005-11-06
6886	43.20000	2005-11-07
6887	49.80000	2005-11-08
6888	37.80000	2005-11-09
6889	25.60000	2005-11-10
6890	30.50000	2005-11-11
6891	38.70000	2005-11-12
6892	35.70000	2005-11-13
6893	33.60000	2005-11-14
6894	42.50000	2005-11-15
6895	19.20000	2005-11-16
6896	7.80000	2005-11-17
6897	21.10000	2005-11-18
6898	28.10000	2005-11-19
6899	33.00000	2005-11-20
6900	31.50000	2005-11-21
6901	19.30000	2005-11-22
6902	29.60000	2005-11-23
6903	-0.60000	2005-11-24
6904	5.30000	2005-11-25
6905	20.40000	2005-11-26
6906	46.00000	2005-11-27
6907	44.70000	2005-11-28
6908	22.90000	2005-11-29
6909	17.20000	2005-11-30
6910	18.00000	2005-12-01
6911	8.50000	2005-12-02
6912	19.00000	2005-12-03
6913	15.80000	2005-12-04
6914	2.80000	2005-12-05

```
6915  3.20000 2005-12-06
6916 -1.80000 2005-12-07
6917 15.60000 2005-12-08
6918 10.90000 2005-12-09
6919 16.20000 2005-12-10
6920 17.20000 2005-12-11
6921 11.60000 2005-12-12
6922 19.80000 2005-12-13
6923 27.40000 2005-12-14
6924 27.90000 2005-12-15
6925 14.70000 2005-12-16
6926 7.30000 2005-12-17
6927 1.90000 2005-12-18
6928 -0.30000 2005-12-19
6929 7.70000 2005-12-20
6930 7.70000 2005-12-21
6931 23.30000 2005-12-22
6932 32.60000 2005-12-23
6933 35.20000 2005-12-24
6934 32.10000 2005-12-25
6935 29.60000 2005-12-26
6936 33.60000 2005-12-27
6937 34.50000 2005-12-28
6938 29.40000 2005-12-29
6939 31.00000 2005-12-30
6940 30.10000 2005-12-31
```

This is super useful if you have a table with prefixes, such as `doc_`.

You can also use more general **regular expressions** if necessary.

See `?select` for more info.

```
?select
```

213 filter()

The `filter()` function extracts **subsets of rows** from a data frame.

`select()` is a **column-wise** operation, `filter()` is **row-wise**.

This function is similar to the existing `subset()` function in R but is quite a bit faster.

Suppose we wanted to extract the rows of the `chicago` data frame where **the levels of PM2.5 are greater than 30** (which is a reasonably high level), we could do

```
chicago %>%  
  filter(pm25tmean2 > 30)
```

	city	tmpd	dptp	date	pm25tmean2	pm10tmean2	o3tmean2	no2tmean2
1	chic	23	21.9	1998-01-17	38.10000	32.46154	3.1805556	25.30000
2	chic	28	25.8	1998-01-23	33.95000	38.69231	1.7500000	29.37630
3	chic	55	51.3	1998-04-30	39.40000	34.00000	10.7862319	25.31310
4	chic	59	53.7	1998-05-01	35.40000	28.50000	14.2951252	31.42905
5	chic	57	52.0	1998-05-02	33.30000	35.00000	20.6628788	26.79861
6	chic	57	56.0	1998-05-07	32.10000	34.50000	24.2704216	33.99167
7	chic	75	65.8	1998-05-15	56.50000	91.00000	38.5730072	29.03261
8	chic	61	59.0	1998-06-09	33.80000	26.00000	17.8908103	25.49668
9	chic	73	60.3	1998-07-13	30.30000	64.50000	37.0188645	37.93056
10	chic	78	67.1	1998-07-14	41.40000	75.00000	40.0809017	32.59054
11	chic	79	66.1	1998-07-15	32.60000	57.50000	40.2307013	24.52597
12	chic	78	64.8	1998-08-03	36.40000	61.53846	34.8022069	24.71528
13	chic	77	70.1	1998-08-09	32.50000	35.61538	22.7666667	23.56944
14	chic	81	71.2	1998-08-23	39.60000	59.00000	45.8636364	14.32639
15	chic	81	70.4	1998-09-06	31.50000	50.50000	50.6625000	20.31250
16	chic	72	60.9	1998-09-19	33.70000	58.50000	37.6250000	35.72222
17	chic	76	66.3	1998-09-20	30.30000	47.58333	22.0227273	27.79861
18	chic	66	64.1	1998-09-25	31.60000	57.50000	12.3043478	34.63345
19	chic	65	61.4	1998-10-05	32.50000	37.00000	12.3833992	19.40000
20	chic	56	49.1	1998-10-11	30.90000	34.50000	22.1916667	28.34167
21	chic	67	64.4	1998-10-17	32.20000	46.50000	24.3708333	21.25000
22	chic	63	58.6	1998-10-27	36.10000	64.50000	5.2090580	39.39167

23	chic	61	58.4	1998-10-30	41.00000	45.00000	1.4791667	23.02500
24	chic	37	31.8	1998-11-08	33.70000	34.00000	5.8437500	30.40625
25	chic	43	37.3	1998-11-09	36.50000	45.00000	6.1385870	28.19067
26	chic	63	58.4	1998-11-29	31.70000	43.50000	10.3472222	15.51667
27	chic	61	59.3	1998-12-04	31.60000	42.50000	0.5555556	24.39167
28	chic	34	28.0	1999-01-30	31.92857	38.00000	15.2222222	24.66667
29	chic	36	27.5	1999-01-31	32.50000	22.50000	20.5972222	16.10833
30	chic	27	22.9	1999-02-24	39.90000	52.50000	3.3750000	31.75000
31	chic	36	27.9	1999-02-26	48.10000	40.50000	5.6473430	34.73903
32	chic	60	54.8	1999-05-15	45.60000	45.50000	22.4242424	23.55556
33	chic	66	56.8	1999-05-21	34.70000	54.50000	47.5087286	27.77778
34	chic	70	56.0	1999-05-30	32.40000	48.57143	51.8484848	26.75833
35	chic	78	67.5	1999-06-11	32.78333	43.28571	32.7997365	34.83967
36	chic	75	68.2	1999-06-12	36.00000	39.50000	39.6780303	30.95833
37	chic	76	67.3	1999-06-23	49.04286	57.57143	45.5660334	27.47288
38	chic	80	69.7	1999-08-28	39.54000	56.57143	31.5125000	30.65000
39	chic	76	61.5	1999-09-03	44.95714	74.00000	48.1165559	42.98279
40	chic	59	57.6	1999-10-09	34.85714	47.00000	5.9458333	24.10000
41	chic	48	42.3	2000-01-02	30.60000	47.50000	16.5277778	16.31250
42	chic	5	-3.2	2000-01-21	31.80000	46.50000	6.3926768	38.18702
43	chic	21	14.5	2000-01-28	30.61429	48.50000	6.1944444	47.25000
44	chic	28	23.3	2000-01-30	32.10000	28.00000	8.8194444	30.34167
45	chic	20	14.4	2000-01-31	32.42500	33.85714	11.6527778	32.77500
46	chic	21	16.0	2000-02-02	31.70000	41.00000	6.5000000	37.12132
47	chic	23	21.6	2000-02-06	34.30000	37.66667	6.3055556	33.28125
48	chic	22	21.6	2000-02-08	30.60000	39.00000	9.8611111	42.68478
49	chic	41	30.2	2000-02-09	37.25000	41.50000	11.5205314	29.14229
50	chic	35	32.1	2000-02-10	40.40000	55.00000	7.8888889	30.01667
51	chic	39	33.4	2000-03-13	30.26250	33.57143	4.1250000	32.26333
52	chic	51	44.0	2000-03-22	34.46250	52.50000	7.1321429	35.06818
53	chic	50	43.7	2000-03-23	39.80000	62.50000	14.9054348	36.35274
54	chic	51	42.5	2000-04-02	40.30000	46.00000	21.6712963	25.92500
55	chic	52	48.8	2000-04-19	46.70000	45.50000	8.8286621	25.88225
56	chic	61	56.5	2000-05-17	40.30000	48.00000	14.4518805	29.49280
57	chic	77	65.8	2000-07-27	33.00000	59.00000	32.0309618	32.36490
58	chic	73	64.6	2000-08-26	33.10000	48.00000	29.8768939	23.86458
59	chic	77	68.7	2000-08-29	33.70000	44.50000	28.3520257	18.81692
60	chic	77	70.6	2000-08-30	41.70000	59.00000	29.6788538	19.30299
61	chic	80	68.2	2000-08-31	34.65000	56.50000	35.4707729	30.79909
62	chic	80	69.0	2000-09-01	31.30000	57.50000	40.8192758	32.70000
63	chic	65	60.5	2000-10-23	39.80000	55.50000	3.1515152	37.19167
64	chic	63	60.3	2000-10-24	34.18571	31.50000	10.1743659	22.91667
65	chic	68	58.3	2000-10-26	41.40000	65.50000	18.0453804	32.05543

66	chic	34	30.5	2000-11-27	41.70000	40.50000	1.1388889	19.36005
67	chic	17	17.4	2000-12-15	39.65000	39.00000	1.4631643	35.46884
68	chic	29	23.7	2001-01-11	37.45000	36.00000	2.1974638	42.04199
69	chic	30	29.3	2001-01-12	41.10000	35.00000	1.8623188	40.52853
70	chic	34	31.6	2001-01-13	30.30000	31.83333	4.5833333	27.63542
71	chic	25	20.6	2001-01-18	34.70000	43.00000	4.3822464	31.30299
72	chic	17	10.5	2001-01-21	30.60000	34.00000	5.1458333	30.90625
73	chic	18	14.6	2001-01-22	49.47143	68.00000	3.1250000	43.67708
74	chic	28	22.7	2001-01-23	45.70000	45.00000	3.1875000	36.79205
75	chic	29	24.4	2001-02-05	32.95000	35.00000	5.4565217	28.08807
76	chic	28	25.3	2001-02-06	30.17143	36.50000	5.8632246	33.99167
77	chic	26	24.7	2001-02-07	47.50000	34.00000	4.7291667	38.59876
78	chic	44	42.2	2001-02-08	39.50000	44.50000	5.1875000	35.25906
79	chic	35	29.7	2001-02-13	37.30000	34.00000	7.1739130	29.54792
80	chic	35	29.0	2001-03-02	30.05714	35.00000	7.5208333	30.25000
81	chic	36	25.1	2001-03-03	47.40000	49.50000	6.1875000	48.71875
82	chic	42	33.4	2001-03-22	36.05000	39.00000	18.1527778	41.73991
83	chic	41	32.1	2001-03-29	34.57500	37.00000	21.3736825	30.94444
84	chic	42	31.9	2001-03-30	40.30000	49.00000	26.5694444	28.30556
85	chic	46	34.9	2001-03-31	38.40000	44.50000	21.6111111	25.94444
86	chic	48	37.4	2001-04-05	30.40000	55.00000	16.0233696	39.26389
87	chic	53	51.6	2001-04-06	38.90000	39.00000	11.9098485	25.02083
88	chic	80	69.5	2001-06-13	36.30000	61.00000	51.8198370	29.81377
89	chic	80	68.5	2001-06-14	30.10000	57.50000	41.3428030	21.40833
90	chic	75	61.1	2001-06-27	31.30000	57.50000	42.1101449	37.22210
91	chic	75	62.9	2001-06-28	41.30000	66.00000	42.9583333	36.94000
92	chic	77	63.9	2001-06-29	38.85000	70.50000	42.5458333	35.09855
93	chic	78	64.9	2001-06-30	30.17500	45.66667	46.9458333	21.81667
94	chic	79	70.0	2001-07-17	39.00000	67.50000	41.8674242	33.03864
95	chic	78	72.9	2001-07-18	31.14286	47.80000	26.6572875	25.62437
96	chic	82	72.2	2001-07-20	32.30000	58.50000	33.0038043	33.67500
97	chic	84	72.9	2001-08-01	43.70000	81.50000	45.1773551	27.44239
98	chic	85	72.6	2001-08-08	38.83750	70.00000	37.9804682	27.62743
99	chic	84	72.6	2001-08-09	38.20000	66.00000	36.7324522	26.46742
100	chic	57	49.1	2001-11-14	38.90000	95.00000	9.1781401	38.56316
101	chic	61	53.5	2001-11-15	39.51250	59.66667	11.1111111	31.74094
102	chic	52	47.4	2001-11-17	33.40000	73.00000	2.8333333	29.63021
103	chic	56	51.7	2001-11-18	38.07500	62.00000	5.6527778	25.10938
104	chic	32	26.1	2002-02-07	34.85714	41.16667	8.2119565	36.70455
105	chic	36	28.3	2002-02-08	34.85000	60.00000	5.8750000	32.80587
106	chic	36	30.6	2002-03-07	33.70000	41.00000	16.1962560	25.21377
107	chic	42	35.5	2002-03-19	30.45000	41.00000	9.1111111	28.59375
108	chic	40	32.6	2002-03-28	31.50000	52.50000	10.3387681	30.59375

109	chic	72	59.6	2002-06-09	30.05000	54.00000	51.7199074	23.58750
110	chic	82	67.4	2002-06-20	33.00000	80.50000	47.4267311	30.76703
111	chic	80	69.0	2002-06-21	31.30000	67.50000	37.3514291	38.54167
112	chic	80	65.4	2002-06-22	35.40000	75.50000	46.6250000	35.15833
113	chic	82	63.5	2002-06-23	42.50000	65.00000	54.8804348	30.03913
114	chic	78	63.9	2002-06-24	34.20000	88.00000	54.4484127	37.98514
115	chic	81	70.4	2002-07-08	33.10000	64.00000	45.3496926	27.67857
116	chic	78	66.3	2002-07-17	40.90000	91.50000	40.2255435	40.65570
117	chic	82	66.2	2002-07-18	38.85000	72.50000	44.9804549	26.06905
118	chic	79	71.7	2002-07-26	32.40000	51.50000	36.8382649	28.79167
119	chic	80	67.4	2002-08-11	30.80000	46.00000	51.0833333	20.69167
120	chic	74	66.2	2002-09-01	31.40000	45.00000	37.7870370	24.56667
121	chic	74	61.8	2002-09-07	31.95000	59.50000	38.8203704	40.05833
122	chic	76	66.0	2002-09-08	44.04286	65.00000	42.8842593	39.62500
123	chic	78	69.5	2002-09-09	39.40000	70.50000	29.0620974	45.25833
124	chic	61	50.6	2002-10-11	30.48571	54.83333	10.7070879	34.66667
125	chic	36	33.3	2002-12-13	37.93750	35.00000	3.4207428	26.01339
126	chic	35	30.1	2002-12-14	30.40000	34.50000	6.2187500	20.14583
127	chic	31	28.2	2002-12-28	33.34286	36.66667	5.1250000	25.71875
128	chic	31	29.3	2002-12-29	42.30000	39.00000	6.6354167	25.75000
129	chic	31	30.2	2003-01-05	32.90000	24.50000	2.5000000	26.02778
130	chic	33	29.5	2003-02-01	30.30000	29.00000	6.6770833	22.60556
131	chic	37	33.9	2003-02-02	35.22857	44.75000	6.5833333	20.45833
132	chic	39	37.0	2003-02-03	30.40000	46.00000	3.6417572	29.33460
133	chic	8	-2.5	2003-02-25	30.90000	35.50000	11.5366848	37.70833
134	chic	27	15.4	2003-02-28	46.20000	62.50000	8.7753623	57.56439
135	chic	NA	22.9	2003-03-01	47.73750	47.50000	9.4166667	37.44444
136	chic	36	30.5	2003-03-12	32.10000	42.00000	15.7395833	29.50000
137	chic	55	47.0	2003-03-16	36.42857	43.00000	18.1770833	29.36111
138	chic	57	45.6	2003-03-17	33.70000	33.50000	13.6064312	40.31912
139	chic	41	38.2	2003-03-18	37.20000	44.50000	28.5828804	27.53889
140	chic	42	37.9	2003-04-03	38.96250	57.00000	7.4135611	23.54831
141	chic	66	61.4	2003-05-19	37.30000	40.50000	13.2149004	22.58854
142	chic	82	65.1	2003-06-25	33.90000	66.00000	56.1366621	22.94934
143	chic	84	68.4	2003-07-04	32.90000	47.50000	45.6614583	21.34375
144	chic	77	71.4	2003-08-14	33.50000	50.50000	37.6861737	26.68750
145	chic	79	71.6	2003-08-15	36.80000	55.00000	24.8846241	28.83049
146	chic	77	67.7	2003-08-20	37.30000	59.00000	40.3432971	31.07244
147	chic	72	63.3	2003-09-10	37.90000	51.50000	32.3343009	29.67165
148	chic	74	60.6	2003-09-11	37.80000	58.50000	39.2262228	26.86322
149	chic	72	60.7	2003-09-12	32.61250	46.25000	29.9504076	29.62083
150	chic	75	63.0	2003-09-13	35.70000	47.50000	39.8593750	21.88542
151	chic	62	54.5	2003-10-09	32.08750	65.00000	8.8245342	47.25000

152	chic	64	57.9	2003-10-10	34.00000	58.50000	14.4702381	34.36111
153	chic	23	19.7	2003-12-18	36.30000	26.00000	5.2500000	29.56629
154	chic	24	15.8	2004-02-17	43.40000	49.00000	8.2780797	44.97817
155	chic	29	23.5	2004-02-18	48.15714	61.00000	8.1621377	43.70833
156	chic	36	31.7	2004-02-19	40.00000	41.00000	5.3229167	42.22222
157	chic	35	24.7	2004-02-27	30.71111	50.80000	12.0208333	33.79444
158	chic	73	64.3	2004-09-03	37.28571	51.50000	26.0494792	33.26042
159	chic	73	63.2	2004-09-04	38.80000	50.50000	29.4609375	31.14583
160	chic	76	66.5	2004-09-05	41.50000	45.00000	34.2447917	22.40625
161	chic	58	52.1	2004-10-27	31.61250	28.00000	14.4720262	26.30177
162	chic	54	52.3	2004-10-28	43.60000	41.50000	6.2078804	26.34722
163	chic	17	12.0	2004-12-27	37.10000	34.50000	6.5317029	36.50556
164	chic	33	29.1	2004-12-29	41.32222	51.75000	3.3333333	27.55051
165	chic	44	41.2	2004-12-30	35.50000	28.00000	7.0520833	24.84722
166	chic	33	27.1	2005-01-25	32.77143	38.50000	5.7042572	36.40399
167	chic	28	17.2	2005-01-29	32.70000	37.50000	3.7604167	39.00000
168	chic	28	22.0	2005-01-31	45.52857	54.00000	7.0833333	43.58532
169	chic	26	20.0	2005-02-02	52.00000	50.50000	6.2414773	46.36111
170	chic	30	25.0	2005-02-03	47.45000	53.60000	7.2690217	48.59722
171	chic	36	32.1	2005-02-04	61.50000	57.50000	4.8125000	41.52778
172	chic	46	35.5	2005-02-05	39.50000	40.50000	8.9062500	29.05556
173	chic	32	26.6	2005-03-04	36.90000	54.50000	5.3958333	46.56944
174	chic	62	56.7	2005-05-19	31.52857	43.50000	21.0605590	27.22917
175	chic	86	63.4	2005-06-24	31.85714	74.00000	50.9664855	23.75000
176	chic	82	64.6	2005-06-27	51.53750	79.00000	55.2358572	28.54937
177	chic	85	64.1	2005-06-28	31.20000	57.50000	50.2914402	26.55398
178	chic	84	67.0	2005-07-17	32.70000	42.50000	44.6432292	16.27083
179	chic	79	66.1	2005-08-02	44.48750	60.00000	40.6713089	29.28034
180	chic	84	69.0	2005-08-03	37.90000	64.00000	39.3211051	23.61932
181	chic	78	57.8	2005-08-08	31.66250	55.40000	39.6128850	38.86973
182	chic	80	63.5	2005-08-09	33.00000	65.50000	43.2863451	28.88451
183	chic	75	64.3	2005-08-26	31.30000	49.40000	37.4564394	30.95218
184	chic	78	60.3	2005-09-07	32.37143	53.80000	39.4282156	34.72321
185	chic	80	62.9	2005-09-10	37.88750	55.00000	47.5781250	19.38542
186	chic	80	61.8	2005-09-11	56.50000	65.00000	51.7395833	18.87500
187	chic	79	57.7	2005-09-12	44.30000	78.50000	44.5423460	28.04836
188	chic	54	49.4	2005-10-31	31.92500	39.20000	11.4257952	21.57790
189	chic	55	49.8	2005-11-08	40.00000	36.50000	4.1005435	27.22222
190	chic	8	-1.8	2005-12-07	37.80000	39.00000	3.9162138	34.30952
191	chic	12	7.7	2005-12-21	37.92857	59.50000	3.6639493	34.86111
192	chic	22	23.3	2005-12-22	36.65000	42.50000	5.3854167	33.73026
193	chic	41	32.6	2005-12-23	32.90000	34.50000	6.9062500	29.08333
194	chic	37	35.2	2005-12-24	30.77143	25.20000	1.7708333	31.98611

You can see that there are now only 194 rows in the data frame and the distribution of the pm25tmean2 values is.

```
summary(chicago$pm25tmean2)
```

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.	NA's
1.70	9.70	14.66	16.23	20.60	61.50	4447

We can place an arbitrarily complex logical sequence inside of `filter()`, so we could for example extract the rows where PM2.5 is greater than 30 *and* temperature is greater than 80 degrees Fahrenheit.

```
chicago %>%
  filter(pm25tmean2 > 30 & tmpd > 80) %>%
  select(date, tmpd, pm25tmean2)
```

	date	tmpd	pm25tmean2
1	1998-08-23	81	39.60000
2	1998-09-06	81	31.50000
3	2001-07-20	82	32.30000
4	2001-08-01	84	43.70000
5	2001-08-08	85	38.83750
6	2001-08-09	84	38.20000
7	2002-06-20	82	33.00000
8	2002-06-23	82	42.50000
9	2002-07-08	81	33.10000
10	2002-07-18	82	38.85000
11	2003-06-25	82	33.90000
12	2003-07-04	84	32.90000
13	2005-06-24	86	31.85714
14	2005-06-27	82	51.53750
15	2005-06-28	85	31.20000
16	2005-07-17	84	32.70000
17	2005-08-03	84	37.90000

```
?filter
```

Help on topic 'filter' was found in the following packages:

Package	Library
---------	---------

```
dplyr          /Library/Frameworks/R.framework/Versions/4.0/Resources/library  
stats          /Library/Frameworks/R.framework/Versions/4.0/Resources/library
```

Using the first match ...

214 arrange()

Use `arrange()` to **reorder rows** of a data frame according to one or more of the **columns**.

This normally called **sorting**, but this word is already used in R.

Reordering rows of a data frame (while preserving corresponding order of other columns) is normally a pain to do in R.

The `arrange()` function simplifies the process quite a bit.

Here we order the rows of the data frame by date in ascending order:

```
chicago_by_date <- chicago %>%
  arrange(date)
chicago_by_date
```

	city	tmpd	dptp	date	pm25tmean2	pm10tmean2	o3tmean2	no2tmean2
1	chic	31.5	31.50000	1987-01-01	NA	34.000000	4.2500000	19.988095
2	chic	33.0	29.87500	1987-01-02	NA	NA	3.3043478	23.190994
3	chic	33.0	27.37500	1987-01-03	NA	34.166667	3.3333333	23.815476
4	chic	29.0	28.62500	1987-01-04	NA	47.000000	4.3750000	30.434524
5	chic	32.0	28.87500	1987-01-05	NA	NA	4.7500000	30.333333
6	chic	40.0	35.12500	1987-01-06	NA	48.000000	5.8333333	25.772331
7	chic	34.5	26.75000	1987-01-07	NA	41.000000	9.2916667	20.581710
8	chic	29.0	22.00000	1987-01-08	NA	36.000000	11.2916667	17.037231
9	chic	26.5	29.00000	1987-01-09	NA	33.285714	4.5000000	23.388889
10	chic	32.5	27.75000	1987-01-10	NA	NA	4.9583333	19.541667
11	chic	29.5	20.12500	1987-01-11	NA	22.000000	17.5416667	13.701389
12	chic	34.5	26.00000	1987-01-12	NA	26.000000	8.0000000	33.020833
13	chic	34.0	32.25000	1987-01-13	NA	53.000000	4.9583333	38.061418
14	chic	37.5	36.37500	1987-01-14	NA	43.000000	4.2083333	32.194444
15	chic	32.5	24.25000	1987-01-15	NA	28.833333	4.4583333	18.871310
16	chic	25.0	21.50000	1987-01-16	NA	19.000000	7.9166667	19.466667
17	chic	27.0	24.75000	1987-01-17	NA	NA	5.8333333	20.708333
18	chic	17.5	11.12500	1987-01-18	NA	39.000000	6.3750000	21.033333
19	chic	23.0	15.75000	1987-01-19	NA	32.000000	14.8750000	17.174094
20	chic	20.5	11.50000	1987-01-20	NA	38.000000	7.2500000	21.610211

21	chic	22.0	20.62500	1987-01-21		NA	32.857143	8.9130435	24.520833
22	chic	19.5	7.37500	1987-01-22		NA	52.000000	10.5000000	16.987978
23	chic	2.5	-12.25000	1987-01-23		NA	55.000000	14.6250000	14.662500
24	chic	2.0	-5.62500	1987-01-24		NA	38.000000	10.0833333	18.691667
25	chic	9.5	-5.25000	1987-01-25		NA	NA	6.6666667	26.304167
26	chic	16.0	4.75000	1987-01-26		NA	71.000000	4.5833333	32.421429
27	chic	17.5	17.75000	1987-01-27		NA	39.333333	6.0000000	30.693056
28	chic	29.5	18.25000	1987-01-28		NA	47.000000	6.8750000	29.129428
29	chic	29.5	32.87500	1987-01-29		NA	35.000000	2.9166667	28.145290
30	chic	32.5	24.12500	1987-01-30		NA	59.000000	8.7916667	19.798611
31	chic	27.5	26.50000	1987-01-31		NA	36.000000	10.3750000	25.267361
32	chic	41.0	32.25000	1987-02-01		NA	NA	8.0416667	21.701389
33	chic	36.5	34.00000	1987-02-02		NA	41.166667	6.0416667	30.784722
34	chic	34.0	26.25000	1987-02-03		NA	59.000000	8.0416667	20.146149
35	chic	31.5	24.25000	1987-02-04		NA	37.000000	10.5000000	29.999275
36	chic	29.5	27.25000	1987-02-05		NA	70.000000	5.7291667	38.909091
37	chic	37.0	30.37500	1987-02-06		NA	63.000000	6.4148551	27.994709
38	chic	40.5	35.75000	1987-02-07		NA	44.000000	5.7500000	25.090278
39	chic	32.5	3.50000	1987-02-08		NA	18.250000	24.9375000	10.646825
40	chic	24.5	17.37500	1987-02-09		NA	42.000000	9.2083333	25.579861
41	chic	35.0	27.37500	1987-02-10		NA	36.000000	8.3125000	31.327459
42	chic	39.5	29.37500	1987-02-11		NA	83.000000	8.1215415	42.001125
43	chic	34.0	24.75000	1987-02-12		NA	84.000000	7.6875000	34.993056
44	chic	34.5	30.87500	1987-02-13		NA	39.000000	10.3695652	33.430857
45	chic	31.5	22.00000	1987-02-14		NA	24.857143	11.1666667	21.243056
46	chic	23.5	10.12500	1987-02-15		NA	12.000000	28.1041667	10.490972
47	chic	24.0	18.12500	1987-02-16		NA	14.000000	24.1875000	15.854167
48	chic	31.5	20.25000	1987-02-17		NA	23.000000	24.9375000	19.180556
49	chic	31.5	20.00000	1987-02-18		NA	27.000000	24.1702899	29.860119
50	chic	34.0	19.62500	1987-02-19		NA	49.000000	15.5018116	44.480676
51	chic	32.5	17.00000	1987-02-20		NA	69.857143	8.5000000	51.253247
52	chic	38.0	24.50000	1987-02-21		NA	59.000000	4.5833333	41.381944
53	chic	35.5	25.12500	1987-02-22		NA	46.000000	10.8333333	21.861111
54	chic	35.5	24.75000	1987-02-23		NA	47.000000	13.0416667	32.562500
55	chic	31.5	25.25000	1987-02-24		NA	48.000000	13.2291667	36.477437
56	chic	34.5	21.87500	1987-02-25		NA	48.000000	17.1250000	38.137716
57	chic	36.0	18.50000	1987-02-26		NA	29.000000	16.0000000	32.854167
58	chic	39.5	28.25000	1987-02-27		NA	56.000000	14.2083333	33.691964
59	chic	40.0	38.37500	1987-02-28		NA	31.000000	6.8750000	23.458333
60	chic	39.0	28.37500	1987-03-01		NA	15.000000	15.6208333	18.614583
61	chic	41.0	27.87500	1987-03-02		NA	36.000000	20.8125000	21.631944
62	chic	36.5	14.87500	1987-03-03		NA	32.000000	19.7500000	28.578208
63	chic	38.0	26.75000	1987-03-04		NA	39.428571	5.5000000	38.409722

64	chic	44.0	34.37500	1987-03-05		NA	30.000000	13.5833333	29.388889
65	chic	48.5	39.50000	1987-03-06		NA	76.000000	9.0760870	47.169988
66	chic	59.5	36.87500	1987-03-07		NA	49.000000	25.4166667	41.743056
67	chic	54.5	33.62500	1987-03-08		NA	61.000000	31.1666667	39.045139
68	chic	31.0	14.00000	1987-03-09		NA	25.000000	29.8333333	12.469381
69	chic	25.5	13.62500	1987-03-10		NA	19.571429	28.3750000	19.747163
70	chic	28.5	17.00000	1987-03-11		NA	38.000000	19.7708333	29.906099
71	chic	33.5	22.37500	1987-03-12		NA	72.000000	20.4375000	41.127525
72	chic	34.0	33.12500	1987-03-13		NA	47.000000	22.4791667	31.555556
73	chic	37.0	33.00000	1987-03-14		NA	49.000000	17.7291667	27.652778
74	chic	35.0	24.50000	1987-03-15		NA	NA	36.8958333	18.034722
75	chic	37.5	17.87500	1987-03-16		NA	27.000000	36.3722826	22.423611
76	chic	38.5	19.37500	1987-03-17		NA	55.000000	27.8125000	25.986111
77	chic	39.5	30.25000	1987-03-18		NA	63.000000	18.6666667	32.207799
78	chic	41.5	26.12500	1987-03-19		NA	32.000000	31.6755952	33.296014
79	chic	43.0	16.62500	1987-03-20		NA	28.000000	36.6250000	45.958333
80	chic	43.5	22.50000	1987-03-21		NA	40.000000	38.2083333	43.903080
81	chic	48.0	32.37500	1987-03-22		NA	37.857143	37.6666667	36.239583
82	chic	53.5	35.25000	1987-03-23		NA	70.000000	31.4541667	33.738647
83	chic	57.5	46.12500	1987-03-24		NA	58.000000	25.6250000	30.555556
84	chic	45.0	40.12500	1987-03-25		NA	14.000000	14.8750000	23.204545
85	chic	45.0	40.25000	1987-03-26		NA	43.000000	15.1174242	23.493687
86	chic	43.0	38.50000	1987-03-27		NA	47.000000	16.4375000	32.315025
87	chic	46.0	35.00000	1987-03-28		NA	34.500000	20.1041667	31.180556
88	chic	39.5	30.12500	1987-03-29		NA	37.000000	20.9722222	22.340278
89	chic	29.0	12.87500	1987-03-30		NA	27.000000	30.4375000	19.655676
90	chic	30.0	19.00000	1987-03-31		NA	43.000000	24.0448718	24.611111
91	chic	41.5	22.87500	1987-04-01		NA	36.000000	21.4531250	19.298611
92	chic	29.5	14.62500	1987-04-02		NA	44.000000	22.5663496	22.036534
93	chic	28.0	17.37500	1987-04-03		NA	22.428571	16.8697917	35.481433
94	chic	35.5	17.12500	1987-04-04		NA	26.000000	28.3906250	21.281250
95	chic	43.5	33.00000	1987-04-05		NA	18.000000	36.0312500	12.190972
96	chic	50.0	21.25000	1987-04-06		NA	19.000000	31.8020833	19.855745
97	chic	49.5	30.87500	1987-04-07		NA	28.000000	25.4947917	28.246212
98	chic	40.0	31.37500	1987-04-08		NA	19.000000	21.0104167	28.991244
99	chic	50.0	28.50000	1987-04-09		NA	78.285714	15.4010417	57.525423
100	chic	59.5	44.87500	1987-04-10		NA	69.000000	21.8593750	39.354167
101	chic	51.0	45.62500	1987-04-11		NA	24.000000	28.9739583	23.145833
102	chic	49.5	43.12500	1987-04-12		NA	37.000000	25.6785714	26.020833
103	chic	48.0	47.25000	1987-04-13		NA	47.000000	17.7678571	37.932449
104	chic	52.5	51.50000	1987-04-14		NA	33.000000	13.2440476	35.722222
105	chic	51.5	50.12500	1987-04-15		NA	30.000000	17.1428571	32.020065
106	chic	54.0	49.25000	1987-04-16		NA	28.000000	22.1071429	30.750000

107	chic	57.5	47.00000	1987-04-17		NA	43.00000	19.3095238	44.208333
108	chic	61.5	49.87500	1987-04-18		NA	106.00000	31.5297619	55.416667
109	chic	64.0	53.00000	1987-04-19		NA		32.8392857	45.159722
110	chic	71.0	55.75000	1987-04-20		NA	55.00000	41.3906250	40.534722
111	chic	56.0	39.00000	1987-04-21		NA	36.20000	20.4687500	19.177838
112	chic	47.0	45.62500	1987-04-22		NA	28.00000	9.0781250	23.234217
113	chic	52.0	43.75000	1987-04-23		NA	26.00000	10.0946558	23.493056
114	chic	49.0	30.75000	1987-04-24		NA	16.00000	27.5729167	20.661156
115	chic	51.0	32.50000	1987-04-25		NA	30.00000	28.0625000	27.766667
116	chic	57.0	33.87500	1987-04-26		NA	58.00000	33.1458333	33.458333
117	chic	56.5	31.62500	1987-04-27		NA	37.33333	35.9276042	27.052083
118	chic	53.5	28.62500	1987-04-28		NA	72.00000	22.6458333	32.036534
119	chic	64.5	34.62500	1987-04-29		NA	61.00000	34.8522727	24.106061
120	chic	46.0	16.62500	1987-04-30		NA	19.00000	35.4895833	18.320572
121	chic	53.5	39.00000	1987-05-01		NA	66.00000	19.5615942	45.944444
122	chic	53.0	47.37500	1987-05-02		NA	30.00000	24.1845238	31.508333
123	chic	45.0	35.00000	1987-05-03		NA	20.285714	27.2023810	22.116667
124	chic	48.0	29.37500	1987-05-04		NA	26.00000	31.2243590	23.026175
125	chic	50.5	32.62500	1987-05-05		NA	60.00000	23.4375000	39.609217
126	chic	58.0	40.12500	1987-05-06		NA		NA	32.3705739
127	chic	59.5	40.87500	1987-05-07		NA	41.00000	30.1893116	29.518281
128	chic	59.0	33.37500	1987-05-08		NA	54.00000	16.8048246	38.774123
129	chic	69.5	43.75000	1987-05-09		NA	56.166667	42.7968750	22.152778
130	chic	74.5	51.50000	1987-05-10		NA		NA	43.0125000
131	chic	71.0	58.00000	1987-05-11		NA	81.00000	44.9862745	24.222222
132	chic	51.5	32.75000	1987-05-12		NA	12.00000	25.3385417	18.017677
133	chic	59.0	53.00000	1987-05-13		NA	20.00000	26.5591033	35.523359
134	chic	69.0	53.37500	1987-05-14		NA		NA	38.8489583
135	chic	56.5	33.87500	1987-05-15		NA	21.571429	24.0208333	19.023359
136	chic	62.5	42.62500	1987-05-16		NA	47.00000	31.6755359	28.177234
137	chic	70.5	63.62500	1987-05-17		NA	63.00000	50.4481431	22.879529
138	chic	66.5	57.62500	1987-05-18		NA		NA	24.8336730
139	chic	67.5	61.12500	1987-05-19		NA	42.00000	26.0721726	28.051772
140	chic	66.5	59.75000	1987-05-20		NA	47.00000	15.2747283	21.791982
141	chic	74.0	66.75000	1987-05-21		NA	46.166667	33.2518116	26.697917
142	chic	61.5	49.75000	1987-05-22		NA		NA	12.3206522
143	chic	51.0	45.62500	1987-05-23		NA	13.00000	10.5781250	11.714015
144	chic	50.5	45.12500	1987-05-24		NA		NA	18.9843750
145	chic	57.5	62.87500	1987-05-25		NA	50.00000	13.0089286	19.256944
146	chic	73.0	67.62500	1987-05-26		NA	28.00000	29.8712121	26.819444
147	chic	78.5	67.37500	1987-05-27		NA	40.60000	30.5468750	25.158103
148	chic	78.5	65.75000	1987-05-28		NA	49.00000	28.9122283	32.130435
149	chic	78.5	67.12500	1987-05-29		NA	50.00000	26.1302083	36.056169

150	chic	76.0	65.62500	1987-05-30		NA	35.000000	21.8593750	33.566667
151	chic	76.0	60.12500	1987-05-31		NA	32.000000	31.4434524	22.208333
152	chic	74.5	68.50000	1987-06-01		NA	30.000000	34.1875000	28.341667
153	chic	72.0	64.75000	1987-06-02		NA	33.666667	18.3385417	37.350000
154	chic	69.0	47.25000	1987-06-03		NA	42.000000	23.3133605	21.743056
155	chic	63.0	45.00000	1987-06-04		NA	45.000000	20.4272274	25.611111
156	chic	70.0	54.87500	1987-06-05		NA	61.000000	33.1927083	35.627525
157	chic	71.0	54.62500	1987-06-06		NA	57.000000	43.7447917	34.167929
158	chic	77.5	58.12500	1987-06-07		NA	46.000000	50.7916667	15.739583
159	chic	74.5	60.25000	1987-06-08		NA	51.500000	49.2121830	23.107639
160	chic	57.5	41.12500	1987-06-09		NA	15.000000	29.6111866	15.299306
161	chic	61.0	51.00000	1987-06-10		NA	50.000000	28.7330163	29.298611
162	chic	72.5	68.75000	1987-06-11		NA	46.000000	27.7461174	32.455177
163	chic	80.0	62.00000	1987-06-12		NA	41.000000	29.2907691	24.245896
164	chic	77.0	62.00000	1987-06-13		NA	73.000000	39.6510417	35.425000
165	chic	83.0	68.50000	1987-06-14		NA	43.666667	45.4218750	25.995833
166	chic	73.5	48.50000	1987-06-15		NA	28.000000	33.7540761	22.205918
167	chic	75.0	52.87500	1987-06-16		NA	46.000000	33.2013889	30.632639
168	chic	77.0	61.00000	1987-06-17		NA	71.000000	54.9618918	47.925423
169	chic	80.5	62.75000	1987-06-18		NA	90.000000	62.9696558	43.816667
170	chic	77.5	61.37500	1987-06-19		NA	80.000000	47.2689145	51.175000
171	chic	77.0	73.62500	1987-06-20		NA	59.833333	45.6979167	32.875000
172	chic	76.0	71.12500	1987-06-21		NA	42.000000	32.7782738	20.381944
173	chic	67.0	59.00000	1987-06-22		NA	52.000000	25.0539349	25.232435
174	chic	72.5	57.75000	1987-06-23		NA	49.000000	32.2184524	39.979167
175	chic	76.0	65.75000	1987-06-24		NA	63.000000	49.0802083	42.871222
176	chic	70.5	62.00000	1987-06-25		NA	53.000000	33.8786580	29.284906
177	chic	69.0	50.75000	1987-06-26		NA	31.800000	20.4687500	20.697917
178	chic	64.5	48.25000	1987-06-27		NA	36.000000	21.6197917	15.802083
179	chic	72.0	53.62500	1987-06-28		NA	34.000000	31.9637681	15.935326
180	chic	72.5	66.00000	1987-06-29		NA	43.000000	27.7812500	24.575000
181	chic	70.5	63.00000	1987-06-30		NA	43.000000	18.4687500	28.152778
182	chic	68.5	60.62500	1987-07-01		NA	22.000000	32.2968750	20.018579
183	chic	71.0	60.25000	1987-07-02		NA	45.500000	36.2670455	27.246112
184	chic	77.5	60.37500	1987-07-03		NA	48.000000	42.9166667	18.784722
185	chic	72.5	59.50000	1987-07-04		NA	24.000000	31.8958333	13.871528
186	chic	72.5	69.12500	1987-07-05		NA		22.6302083	16.260417
187	chic	80.0	69.00000	1987-07-06		NA	33.000000	31.1118421	22.660221
188	chic	80.0	69.12500	1987-07-07		NA		34.3426178	23.083333
189	chic	80.5	69.25000	1987-07-08		NA	38.000000	30.8516757	23.014795
190	chic	80.5	67.62500	1987-07-09		NA	31.000000	24.9479167	20.157828
191	chic	80.0	67.62500	1987-07-10		NA	33.000000	23.3802083	21.625000
192	chic	80.0	73.50000	1987-07-11		NA	79.000000	29.1250000	16.548611

193	chic	79.5	65.50000	1987-07-12		NA	47.000000	29.6406250	13.017361
194	chic	64.5	58.75000	1987-07-13		NA	33.000000	9.6912202	18.666667
195	chic	67.0	53.00000	1987-07-14		NA	21.400000	21.8638393	20.562500
196	chic	63.0	54.37500	1987-07-15		NA	17.000000	23.1822917	20.879104
197	chic	65.5	58.62500	1987-07-16		NA	28.000000	31.5208333	19.961422
198	chic	78.0	67.00000	1987-07-17		NA	39.000000	42.8727679	25.000992
199	chic	79.5	68.37500	1987-07-18		NA	51.000000	47.7916667	19.190972
200	chic	84.5	73.62500	1987-07-19		NA	72.000000	47.0520833	13.371528
201	chic	81.5	67.62500	1987-07-20		NA	65.428571	40.4989583	18.458333
202	chic	81.0	71.25000	1987-07-21		NA	58.000000	58.1679121	36.628011
203	chic	80.5	69.62500	1987-07-22		NA	98.000000	45.2827381	36.354167
204	chic	82.0	70.00000	1987-07-23		NA	117.000000	59.1562500	25.981061
205	chic	83.0	71.25000	1987-07-24		NA	79.000000	35.6902174	23.213225
206	chic	84.5	71.12500	1987-07-25		NA	53.000000	43.8154762	22.654167
207	chic	78.5	66.25000	1987-07-26		NA	29.500000	27.7738095	20.004167
208	chic	71.0	62.62500	1987-07-27		NA	32.000000	15.7738095	30.754167
209	chic	72.5	63.25000	1987-07-28		NA	37.000000	20.2678571	29.615909
210	chic	78.0	70.25000	1987-07-29		NA	25.000000	25.0290116	33.510714
211	chic	79.5	72.37500	1987-07-30		NA	75.000000	50.3690476	27.391667
212	chic	80.5	75.75000	1987-07-31		NA	48.000000	38.4171843	28.429499
213	chic	87.0	75.25000	1987-08-01		NA	57.571429	40.2321429	21.694444
214	chic	86.0	73.87500	1987-08-02		NA	46.000000	46.6547619	15.486111
215	chic	83.0	68.62500	1987-08-03		NA	54.000000	30.9745671	29.805556
216	chic	75.0	60.62500	1987-08-04		NA	21.000000	20.5492788	14.288194
217	chic	72.0	55.75000	1987-08-05		NA	15.000000	20.2916667	12.784722
218	chic	72.0	62.12500	1987-08-06		NA	50.000000	29.5766446	32.699206
219	chic	79.5	67.37500	1987-08-07		NA	51.285714	45.3229167	27.652778
220	chic	73.5	73.62500	1987-08-08		NA	56.000000	23.0312500	24.600694
221	chic	72.5	64.12500	1987-08-09		NA	29.000000	26.7552083	10.305556
222	chic	71.0	63.12500	1987-08-10		NA	24.000000	29.4107143	20.023810
223	chic	74.5	61.87500	1987-08-11		NA	41.000000	33.8437500	25.666667
224	chic	76.0	63.62500	1987-08-12		NA	80.000000	37.0885417	33.645833
225	chic	75.5	69.50000	1987-08-13		NA	63.400000	36.1979167	36.482186
226	chic	74.0	74.62500	1987-08-14		NA	49.500000	24.2328431	18.595734
227	chic	79.5	75.87500	1987-08-15		NA	41.000000	33.3750000	13.159269
228	chic	80.0	73.87500	1987-08-16		NA	44.500000	32.2729592	9.338294
229	chic	73.5	60.25000	1987-08-17		NA	39.000000	26.6763393	14.927083
230	chic	69.5	64.25000	1987-08-18		NA	48.000000	14.0587798	31.393720
231	chic	70.0	56.75000	1987-08-19		NA	31.666667	18.3888889	23.345644
232	chic	70.0	62.62500	1987-08-20		NA	49.000000	30.5187500	26.729167
233	chic	76.0	72.50000	1987-08-21		NA	43.000000	37.9427083	20.905934
234	chic	71.5	54.62500	1987-08-22		NA	32.000000	23.8645833	12.909722
235	chic	63.0	49.00000	1987-08-23		NA	24.000000	17.7278080	14.427778

236	chic	61.5	51.37500	1987-08-24		NA	43.000000	12.5949836	21.585417
237	chic	59.0	58.00000	1987-08-25		NA	36.000000	6.6656250	30.631944
238	chic	62.0	63.25000	1987-08-26		NA	50.000000	8.2075216	22.983333
239	chic	63.5	61.37500	1987-08-27		NA	20.000000	13.7187500	19.690025
240	chic	63.5	54.62500	1987-08-28		NA	32.000000	21.9427083	22.045833
241	chic	65.5	57.00000	1987-08-29		NA		18.1562500	26.399306
242	chic	72.0	59.62500	1987-08-30		NA	35.000000	22.6227355	16.859409
243	chic	62.0	46.50000	1987-08-31		NA	25.000000	15.9218750	18.118293
244	chic	64.0	49.50000	1987-09-01		NA	38.500000	17.9322917	22.520833
245	chic	61.5	50.12500	1987-09-02		NA	17.000000	21.1614583	15.746528
246	chic	60.5	49.25000	1987-09-03		NA	24.000000	20.3020833	22.481065
247	chic	69.0	59.12500	1987-09-04		NA		31.3385417	37.317235
248	chic	73.0	57.37500	1987-09-05		NA		46.0572917	36.465278
249	chic	75.0	66.25000	1987-09-06		NA	60.666667	38.1979167	32.510417
250	chic	70.5	65.62500	1987-09-07		NA		NA	22.7869112
251	chic	72.0	63.50000	1987-09-08		NA		NA	21.312500
252	chic	68.5	56.12500	1987-09-09		NA		NA	25.4010417
253	chic	67.5	57.75000	1987-09-10		NA		NA	31.868056
254	chic	69.0	57.00000	1987-09-11		NA		NA	18.8333333
255	chic	68.0	50.37500	1987-09-12		NA		NA	22.885417
256	chic	59.0	53.25000	1987-09-13		NA		NA	26.5052083
257	chic	61.5	58.00000	1987-09-14		NA		NA	27.686896
258	chic	72.0	66.00000	1987-09-15		NA		NA	31.030797
259	chic	69.0	66.87500	1987-09-16		NA		NA	23.500000
260	chic	67.5	64.25000	1987-09-17		NA		NA	15.8125000
261	chic	63.5	60.37500	1987-09-18		NA		NA	23.503472
262	chic	61.0	50.25000	1987-09-19		NA		NA	21.166667
263	chic	57.0	50.87500	1987-09-20		NA		NA	12.3593750
264	chic	55.5	54.75000	1987-09-21		NA		NA	18.8958333
265	chic	61.0	52.50000	1987-09-22		NA		NA	27.961806
266	chic	63.0	51.00000	1987-09-23		NA		NA	15.4347826
267	chic	59.5	46.25000	1987-09-24		NA		NA	28.386171
268	chic	56.5	43.00000	1987-09-25		NA		NA	10.2047101
269	chic	65.0	53.37500	1987-09-26		NA		NA	25.618056
270	chic	75.5	54.00000	1987-09-27		NA		NA	13.5238095
271	chic	69.0	61.12500	1987-09-28		NA		NA	18.876263
272	chic	61.5	52.37500	1987-09-29		NA		NA	6.8928571
273	chic	55.0	35.62500	1987-09-30		NA		NA	17.644886
274	chic	55.5	46.37500	1987-10-01		NA		NA	12.6428571
275	chic	47.0	32.25000	1987-10-02		NA		NA	16.395833
276	chic	42.5	29.87500	1987-10-03		NA		NA	11.820833
277	chic	52.0	30.75000	1987-10-04		NA		NA	15.267361
278	chic	60.0	41.25000	1987-10-05		NA		NA	10.9097222

279	chic	45.5	38.00000	1987-10-06		NA	24.166667	6.9729437	9.258333
280	chic	39.5	26.87500	1987-10-07		NA	36.000000	13.3154762	13.863587
281	chic	41.5	26.87500	1987-10-08		NA	41.000000	10.5181159	27.595833
282	chic	53.5	31.25000	1987-10-09		NA	38.000000	11.5636646	19.609028
283	chic	42.5	32.62500	1987-10-10		NA	28.000000	8.7380952	21.152778
284	chic	39.0	25.50000	1987-10-11		NA	32.000000	14.6333333	23.298611
285	chic	42.5	30.37500	1987-10-12		NA	41.500000	12.4146825	39.048611
286	chic	49.5	33.37500	1987-10-13		NA	NA	15.1156093	40.270652
287	chic	55.5	38.12500	1987-10-14		NA	41.000000	10.7985934	40.230676
288	chic	63.0	36.00000	1987-10-15		NA	52.000000	24.4475932	43.208333
289	chic	62.5	55.12500	1987-10-16		NA	58.000000	28.5654762	35.803571
290	chic	48.0	42.12500	1987-10-17		NA	19.000000	9.2202381	11.263889
291	chic	53.5	43.75000	1987-10-18		NA	26.857143	15.9702381	23.086806
292	chic	49.5	40.25000	1987-10-19		NA	11.000000	18.8690476	22.225694
293	chic	45.5	32.37500	1987-10-20		NA	24.000000	15.2810990	17.855655
294	chic	37.0	33.25000	1987-10-21		NA	20.500000	6.4679487	14.982639
295	chic	43.0	34.25000	1987-10-22		NA	25.000000	6.7532468	23.254227
296	chic	39.0	31.12500	1987-10-23		NA	50.000000	8.3148810	25.238636
297	chic	38.5	33.50000	1987-10-24		NA	28.400000	7.5357143	23.812500
298	chic	42.0	31.12500	1987-10-25		NA	NA	11.1250000	23.892361
299	chic	44.5	45.37500	1987-10-26		NA	33.000000	5.0714286	27.041667
300	chic	44.5	34.50000	1987-10-27		NA	31.000000	10.1757246	19.588068
301	chic	38.5	28.87500	1987-10-28		NA	31.000000	5.0713364	24.832054
302	chic	44.5	37.75000	1987-10-29		NA	48.000000	7.2569444	33.360205
303	chic	54.5	42.87500	1987-10-30		NA	50.666667	16.9345238	31.461806
304	chic	52.0	49.37500	1987-10-31		NA	60.000000	12.5714286	22.510417
305	chic	58.0	58.50000	1987-11-01		NA	30.000000	9.7445652	30.340278
306	chic	64.0	56.62500	1987-11-02		NA	46.000000	11.5508658	35.236111
307	chic	66.0	49.87500	1987-11-03		NA	NA	29.4583333	32.503788
308	chic	56.5	38.25000	1987-11-04		NA	47.000000	19.1666667	19.041604
309	chic	40.5	19.87500	1987-11-05		NA	25.500000	20.1666667	19.131439
310	chic	39.5	25.75000	1987-11-06		NA	43.000000	9.5000000	27.254167
311	chic	45.5	29.50000	1987-11-07		NA	46.000000	2.7500000	31.687500
312	chic	49.5	41.75000	1987-11-08		NA	66.000000	23.2916667	25.416667
313	chic	35.0	18.50000	1987-11-09		NA	18.000000	25.6666667	24.619792
314	chic	34.0	24.87500	1987-11-10		NA	12.000000	27.7500000	25.354167
315	chic	35.0	23.75000	1987-11-11		NA	31.285714	7.9583333	27.569444
316	chic	43.5	31.12500	1987-11-12		NA	47.000000	7.0000000	31.238678
317	chic	48.5	31.37500	1987-11-13		NA	55.000000	2.8750000	29.825181
318	chic	47.0	31.12500	1987-11-14		NA	18.000000	9.8750000	28.666667
319	chic	50.5	32.00000	1987-11-15		NA	51.000000	19.2500000	36.916667
320	chic	56.0	56.00000	1987-11-16		NA	34.000000	17.6666667	30.385417
321	chic	50.0	35.37500	1987-11-17		NA	18.333333	12.7083333	10.677989

322	chic	38.0	29.25000	1987-11-18		NA		NA	10.3478261	15.733360
323	chic	37.5	26.00000	1987-11-19		NA	29.000000	10.8333333	20.044643	
324	chic	27.5	10.37500	1987-11-20		NA	34.000000	25.0416667	13.951894	
325	chic	25.5	11.50000	1987-11-21		NA	27.000000	11.2916667	23.741667	
326	chic	42.0	28.75000	1987-11-22		NA		NA	11.3333333	18.966667
327	chic	43.5	31.75000	1987-11-23		NA	30.333333	8.7727273	12.654167	
328	chic	39.5	39.37500	1987-11-24		NA	52.000000	8.8333333	14.596491	
329	chic	40.0	36.87500	1987-11-25		NA	10.000000	13.1250000	14.988561	
330	chic	40.0	35.87500	1987-11-26		NA	15.000000	23.5833333	7.866667	
331	chic	40.5	39.50000	1987-11-27		NA		NA	11.0000000	13.041667
332	chic	47.0	45.50000	1987-11-28		NA		NA	4.4583333	17.491667
333	chic	39.0	34.62500	1987-11-29		NA	12.142857	2.1250000	11.645833	
334	chic	37.0	35.50000	1987-11-30		NA		NA	4.1666667	13.620833
335	chic	32.0	24.12500	1987-12-01		NA	28.000000	13.4782609	16.891667	
336	chic	30.0	26.37500	1987-12-02		NA	23.000000	9.2500000	15.241667	
337	chic	30.5	26.25000	1987-12-03		NA	30.000000	6.6250000	19.433333	
338	chic	27.0	19.62500	1987-12-04		NA	35.000000	12.5416667	21.457576	
339	chic	27.0	24.62500	1987-12-05		NA	24.666667	13.8750000	24.675000	
340	chic	31.5	29.00000	1987-12-06		NA	22.000000	15.2916667	21.966667	
341	chic	38.5	36.25000	1987-12-07		NA	25.000000	6.4166667	21.766667	
342	chic	46.5	49.50000	1987-12-08		NA	28.000000	2.9583333	22.649638	
343	chic	49.5	34.37500	1987-12-09		NA	21.000000	9.0416667	12.475000	
344	chic	38.0	31.12500	1987-12-10		NA	32.000000	7.2500000	17.917935	
345	chic	41.0	33.62500	1987-12-11		NA	23.000000	2.5833333	23.375000	
346	chic	35.0	23.75000	1987-12-12		NA	29.000000	11.0416667	9.204167	
347	chic	31.5	23.50000	1987-12-13		NA	34.000000	13.1666667	13.295833	
348	chic	30.0	27.50000	1987-12-14		NA	43.000000	13.0000000	24.991667	
349	chic	31.0	24.25000	1987-12-15		NA	19.000000	9.0526316	11.124123	
350	chic	27.5	16.62500	1987-12-16		NA	36.000000	12.0833333	11.262500	
351	chic	20.5	11.75000	1987-12-17		NA	27.200000	8.0869565	23.483333	
352	chic	23.0	25.75000	1987-12-18		NA	36.000000	2.8704710	22.741667	
353	chic	34.0	35.00000	1987-12-19		NA	21.500000	2.3958333	21.945833	
354	chic	34.0	21.25000	1987-12-20		NA	25.000000	9.8125000	15.675000	
355	chic	33.0	26.12500	1987-12-21		NA		NA	6.8750000	21.953804
356	chic	35.0	29.12500	1987-12-22		NA		NA	2.7391304	29.456522
357	chic	35.5	31.25000	1987-12-23		NA	36.000000	3.5000000	24.966667	
358	chic	41.0	39.75000	1987-12-24		NA		NA	2.3958333	21.675000
359	chic	33.0	25.50000	1987-12-25		NA	16.000000	15.1458333	11.133333	
360	chic	27.5	23.75000	1987-12-26		NA		NA	18.6250000	17.391667
361	chic	29.0	28.37500	1987-12-27		NA	45.000000	10.0416667	26.691667	
362	chic	33.5	30.75000	1987-12-28		NA		NA	18.2291667	15.641667
363	chic	24.5	20.25000	1987-12-29		NA	20.666667	19.4166667	23.804924	
364	chic	25.5	27.62500	1987-12-30		NA		NA	4.3458333	31.690657

365	chic	23.5	7.25000	1987-12-31		NA	21.000000	16.0833333	16.770833	
366	chic	3.5	-3.62500	1988-01-01		NA		NA	19.9583333	14.138889
367	chic	15.0	15.37500	1988-01-02		NA		NA	7.8125000	25.736111
368	chic	24.5	16.75000	1988-01-03		NA	25.000000	8.6458333	21.722222	
369	chic	5.0	-15.87500	1988-01-04		NA	26.000000	18.2113095	12.665714	
370	chic	-6.5	-15.75000	1988-01-05		NA	24.000000	13.1666667	17.220833	
371	chic	-5.5	-15.12500	1988-01-06		NA	75.000000	7.1458333	27.665942	
372	chic	3.0	-1.87500	1988-01-07		NA	74.000000	2.5208333	52.100000	
373	chic	8.5	2.75000	1988-01-08		NA	87.000000	4.6594203	42.885041	
374	chic	0.5	-12.25000	1988-01-09		NA	48.000000	7.3958333	26.450000	
375	chic	1.5	-1.62500	1988-01-10		NA	36.333333	6.9166667	31.175000	
376	chic	24.0	22.25000	1988-01-11		NA	39.000000	6.4791667	25.883333	
377	chic	28.5	15.50000	1988-01-12		NA	43.000000	16.9375000	16.528623	
378	chic	12.0	-0.37500	1988-01-13		NA	51.000000	13.8541667	21.423485	
379	chic	11.0	9.37500	1988-01-14		NA	46.000000	3.4583333	32.825000	
380	chic	28.0	22.75000	1988-01-15		NA	28.000000	4.2291667	24.600000	
381	chic	39.0	29.25000	1988-01-16		NA	32.000000	14.1458333	19.229167	
382	chic	37.0	32.25000	1988-01-17		NA	26.000000	6.3541667	24.820833	
383	chic	33.5	32.37500	1988-01-18		NA		NA	8.7171053	28.923810
384	chic	35.5	34.62500	1988-01-19		NA	39.000000	13.1250000	23.518182	
385	chic	34.0	27.37500	1988-01-20		NA	23.500000	6.5069444	21.038043	
386	chic	28.5	21.12500	1988-01-21		NA	20.000000	16.2291667	21.358333	
387	chic	27.0	23.62500	1988-01-22		NA	27.166667	6.6250000	19.928114	
388	chic	21.0	25.75000	1988-01-23		NA	23.000000	7.0000000	17.495833	
389	chic	24.5	17.00000	1988-01-24		NA	26.000000	7.5000000	16.037500	
390	chic	14.5	-2.75000	1988-01-25		NA	34.000000	6.7083333	18.766667	
391	chic	9.0	-0.50000	1988-01-26		NA	45.000000	6.8750000	27.124729	
392	chic	7.0	11.25000	1988-01-27		NA	51.000000	7.3043478	33.983788	
393	chic	21.5	19.25000	1988-01-28		NA	46.000000	9.3333333	31.377536	
394	chic	35.5	40.50000	1988-01-29		NA	37.000000	13.4583333	33.374848	
395	chic	50.5	47.50000	1988-01-30		NA	23.000000	26.5416667	15.466667	
396	chic	46.0	31.87500	1988-01-31		NA	42.000000	19.1250000	13.845833	
397	chic	28.0	21.37500	1988-02-01		NA	13.000000	24.1250000	16.515909	
398	chic	22.5	17.75000	1988-02-02		NA	23.000000	29.0833333	16.725000	
399	chic	24.0	20.12500	1988-02-03		NA	36.000000	13.2916667	28.466667	
400	chic	16.5	6.62500	1988-02-04		NA	52.000000	13.6250000	25.327536	
401	chic	4.0	-10.75000	1988-02-05		NA	37.000000	18.2083333	16.566667	
402	chic	3.0	-3.12500	1988-02-06		NA	39.000000	19.8333333	13.854167	
403	chic	16.5	8.37500	1988-02-07		NA	32.000000	20.3750000	15.733333	
404	chic	14.5	16.25000	1988-02-08		NA	43.000000	12.4166667	29.954762	
405	chic	17.5	7.12500	1988-02-09		NA	38.800000	12.6666667	31.241667	
406	chic	16.0	17.62500	1988-02-10		NA	36.000000	24.8750000	29.183333	
407	chic	16.0	9.00000	1988-02-11		NA	28.000000	28.0416667	17.062500	

408	chic	9.0	0.25000	1988-02-12		NA	44.000000	20.3750000	26.800000
409	chic	7.0	3.50000	1988-02-13		NA	42.000000	13.0833333	37.966667
410	chic	27.5	38.62500	1988-02-14		NA	NA	9.8333333	30.766667
411	chic	26.0	11.87500	1988-02-15		NA	29.000000	20.6666667	20.625000
412	chic	26.5	27.12500	1988-02-16		NA	34.000000	6.4166667	29.487500
413	chic	31.0	23.12500	1988-02-17		NA	60.000000	9.9583333	39.709369
414	chic	31.5	27.00000	1988-02-18		NA	62.000000	9.2500000	44.310606
415	chic	32.0	29.37500	1988-02-19		NA	77.000000	8.6666667	49.018939
416	chic	21.5	-2.62500	1988-02-20		NA	37.000000	24.2916667	14.348958
417	chic	16.5	20.12500	1988-02-21		NA	23.333333	17.8333333	21.489583
418	chic	40.0	29.00000	1988-02-22		NA	23.000000	17.3541667	16.796875
419	chic	27.0	13.00000	1988-02-23		NA	44.000000	23.0000000	13.645833
420	chic	22.0	7.87500	1988-02-24		NA	65.000000	22.2500000	24.922348
421	chic	20.5	9.75000	1988-02-25		NA	NA	15.0000000	25.986111
422	chic	39.5	29.62500	1988-02-26		NA	54.000000	15.0833333	28.625000
423	chic	32.0	22.75000	1988-02-27		NA	25.666667	37.3750000	17.986111
424	chic	34.5	31.62500	1988-02-28		NA	54.000000	19.2916667	28.236111
425	chic	39.5	26.37500	1988-02-29		NA	29.000000	17.0000000	27.780208
426	chic	41.0	29.37500	1988-03-01		NA	30.000000	25.7083333	22.611568
427	chic	35.5	24.37500	1988-03-02		NA	33.000000	28.2083333	18.718750
428	chic	27.0	17.00000	1988-03-03		NA	17.000000	37.3750000	13.806818
429	chic	28.5	16.25000	1988-03-04		NA	24.200000	34.2916667	20.513889
430	chic	31.0	19.25000	1988-03-05		NA	40.000000	11.8333333	44.027778
431	chic	36.0	32.50000	1988-03-06		NA	NA	18.3750000	29.208333
432	chic	42.0	40.00000	1988-03-07		NA	58.000000	11.2916667	29.625000
433	chic	48.5	42.75000	1988-03-08		NA	NA	15.9565217	27.222222
434	chic	34.0	27.62500	1988-03-09		NA	NA	18.5416667	21.890625
435	chic	38.0	21.37500	1988-03-10		NA	44.000000	22.0416667	35.458333
436	chic	46.5	35.12500	1988-03-11		NA	36.000000	10.5833333	32.836905
437	chic	43.0	28.25000	1988-03-12		NA	23.000000	22.5416667	12.145833
438	chic	26.5	17.62500	1988-03-13		NA	NA	27.1250000	7.733333
439	chic	24.0	17.50000	1988-03-14		NA	27.000000	26.1250000	15.423333
440	chic	23.5	19.50000	1988-03-15		NA	37.000000	21.7083333	19.515530
441	chic	32.5	23.50000	1988-03-16		NA	27.833333	19.9583333	21.863095
442	chic	34.0	26.00000	1988-03-17		NA	NA	11.8541667	27.483333
443	chic	34.5	17.37500	1988-03-18		NA	47.000000	17.3125000	21.675000
444	chic	32.0	29.50000	1988-03-19		NA	30.000000	22.0833333	18.654167
445	chic	28.5	15.00000	1988-03-20		NA	8.000000	35.3541667	12.125000
446	chic	30.0	15.75000	1988-03-21		NA	24.000000	36.5625000	16.662500
447	chic	46.5	35.00000	1988-03-22		NA	59.666667	18.8055556	26.064312
448	chic	56.0	36.25000	1988-03-23		NA	84.000000	30.3888889	24.815909
449	chic	56.5	54.75000	1988-03-24		NA	52.000000	24.2896825	30.023979
450	chic	53.0	35.50000	1988-03-25		NA	25.000000	22.0024155	16.995833

451	chic	39.0	18.50000	1988-03-26		NA	59.000000	20.3969298	12.273246
452	chic	40.0	28.25000	1988-03-27		NA	55.000000	22.6388889	15.500000
453	chic	48.5	42.62500	1988-03-28		NA	31.000000	9.6190476	31.729167
454	chic	45.5	35.75000	1988-03-29		NA	29.000000	13.5654762	23.291667
455	chic	40.5	27.25000	1988-03-30		NA	33.000000	18.6369048	25.262578
456	chic	42.0	32.00000	1988-03-31		NA	43.000000	17.0178571	32.191667
457	chic	42.0	34.25000	1988-04-01		NA	30.000000	37.8260870	23.333333
458	chic	54.0	56.62500	1988-04-02		NA	40.000000	9.4107143	21.702381
459	chic	53.5	44.12500	1988-04-03		NA	20.166667	22.6666667	20.782143
460	chic	57.5	51.62500	1988-04-04		NA		NA	27.4663561
461	chic	69.5	57.50000	1988-04-05		NA	42.000000	30.6666667	26.653125
462	chic	50.0	28.75000	1988-04-06		NA	18.000000	31.2678571	11.883605
463	chic	50.0	25.25000	1988-04-07		NA	32.000000	23.4373706	22.819180
464	chic	51.5	28.75000	1988-04-08		NA	32.000000	18.8750000	38.178571
465	chic	52.5	37.75000	1988-04-09		NA	53.750000	19.9464286	33.437500
466	chic	43.0	33.75000	1988-04-10		NA	35.000000	17.4642857	16.663194
467	chic	46.0	22.87500	1988-04-11		NA	31.000000	28.8732993	11.940901
468	chic	47.5	23.25000	1988-04-12		NA	38.000000	27.6904762	20.755952
469	chic	53.0	38.50000	1988-04-13		NA		NA	28.5833333
470	chic	43.0	28.87500	1988-04-14		NA	25.000000	26.0561224	19.623718
471	chic	41.5	25.50000	1988-04-15		NA	27.000000	24.1123387	21.036092
472	chic	47.5	27.50000	1988-04-16		NA	43.000000	21.7738095	25.684896
473	chic	59.0	37.87500	1988-04-17		NA	76.000000	39.0000000	16.380208
474	chic	42.5	17.87500	1988-04-18		NA	41.000000	30.1011905	19.442708
475	chic	40.5	14.75000	1988-04-19		NA	52.000000	21.7738095	31.804688
476	chic	45.5	35.25000	1988-04-20		NA	52.000000	20.9940476	33.296875
477	chic	37.0	28.75000	1988-04-21		NA	35.600000	18.4940476	39.934290
478	chic	45.5	30.37500	1988-04-22		NA	51.000000	25.5595238	21.323661
479	chic	44.0	34.37500	1988-04-23		NA	44.000000	21.3154762	15.732639
480	chic	45.0	30.12500	1988-04-24		NA	34.000000	24.8869048	17.963542
481	chic	54.0	36.37500	1988-04-25		NA	44.000000	21.5357143	28.177197
482	chic	48.5	35.87500	1988-04-26		NA	19.000000	22.3831522	21.613095
483	chic	39.5	34.62500	1988-04-27		NA	16.800000	24.9591097	10.976902
484	chic	48.5	28.37500	1988-04-28		NA	33.000000	26.3157350	19.777656
485	chic	49.0	25.37500	1988-04-29		NA	48.000000	22.3460884	31.223214
486	chic	54.0	26.50000	1988-04-30		NA	33.000000	22.9583333	35.923295
487	chic	53.0	29.62500	1988-05-01		NA	33.000000	32.2738095	32.911458
488	chic	57.0	27.75000	1988-05-02		NA	50.000000	35.3214286	31.283114
489	chic	56.5	39.12500	1988-05-03		NA	46.000000	35.2916667	26.319414
490	chic	52.5	31.87500	1988-05-04		NA	48.000000	33.4387077	26.079543
491	chic	54.5	34.87500	1988-05-05		NA	53.000000	28.1089976	26.427872
492	chic	61.5	38.12500	1988-05-06		NA	60.000000	26.4692029	29.361693
493	chic	62.0	40.87500	1988-05-07		NA	83.000000	34.0625000	27.145833

494	chic	67.5	53.25000	1988-05-08	NA	365.00000	48.8055556	12.249547
495	chic	56.0	52.62500	1988-05-09	NA	28.00000	25.7013889	12.833333
496	chic	57.0	49.50000	1988-05-10	NA	36.00000	19.1416667	22.024057
497	chic	60.5	41.25000	1988-05-11	NA	59.00000	24.5500000	31.017495
498	chic	67.0	52.50000	1988-05-12	NA	55.00000	33.7638889	29.003633
499	chic	58.0	33.62500	1988-05-13	NA	30.00000	30.0357143	14.563350
500	chic	60.0	39.87500	1988-05-14	NA	60.00000	28.4535714	21.669643
501	chic	71.0	54.12500	1988-05-15	NA	61.60000	35.8928571	14.829175
502	chic	55.5	40.25000	1988-05-16	NA	NA	23.8750000	13.097222
503	chic	52.0	34.37500	1988-05-17	NA	29.00000	26.8700828	12.298810
504	chic	55.0	44.87500	1988-05-18	NA	35.00000	27.6726190	16.979070
505	chic	60.0	36.62500	1988-05-19	NA	43.00000	30.5238095	23.405248
506	chic	63.0	51.75000	1988-05-20	NA	63.00000	29.4624741	27.585859
507	chic	64.5	50.25000	1988-05-21	NA	48.25000	41.4702381	25.908333
508	chic	66.0	53.62500	1988-05-22	NA	NA	41.3888889	13.420833
509	chic	53.5	52.25000	1988-05-23	NA	43.00000	19.9880952	18.720083
510	chic	53.0	28.00000	1988-05-24	NA	26.00000	32.2948413	10.751894
511	chic	48.5	35.50000	1988-05-25	NA	25.00000	24.0773810	18.548913
512	chic	60.5	42.37500	1988-05-26	NA	52.00000	27.8690476	26.029390
513	chic	69.5	45.37500	1988-05-27	NA	63.75000	41.5714286	27.336310
514	chic	73.0	49.75000	1988-05-28	NA	NA	41.7559524	29.535714
515	chic	74.0	51.87500	1988-05-29	NA	NA	46.5892857	26.588029
516	chic	75.5	52.00000	1988-05-30	NA	75.00000	52.7500000	24.091636
517	chic	76.0	52.75000	1988-05-31	NA	148.00000	50.9047619	39.352176
518	chic	76.5	54.00000	1988-06-01	NA	142.00000	49.2016807	44.596639
519	chic	63.0	47.00000	1988-06-02	NA	46.60000	31.1420068	17.333929
520	chic	58.5	37.50000	1988-06-03	NA	28.00000	26.7763975	14.300725
521	chic	62.5	40.50000	1988-06-04	NA	54.00000	24.4209184	23.860679
522	chic	73.0	49.12500	1988-06-05	NA	68.00000	44.5238095	20.000000
523	chic	78.0	48.75000	1988-06-06	NA	NA	50.4365942	26.053942
524	chic	79.0	51.12500	1988-06-07	NA	139.00000	54.1785714	34.679770
525	chic	63.0	46.12500	1988-06-08	NA	70.80000	31.0178571	26.315279
526	chic	56.0	32.37500	1988-06-09	NA	NA	31.6834886	13.687364
527	chic	56.0	34.62500	1988-06-10	NA	30.00000	26.1190476	25.774621
528	chic	67.0	41.62500	1988-06-11	NA	50.00000	34.1488095	29.848958
529	chic	72.0	48.25000	1988-06-12	NA	50.00000	47.6822917	30.968750
530	chic	78.0	48.50000	1988-06-13	NA	75.00000	49.3565958	33.522367
531	chic	82.0	53.62500	1988-06-14	NA	88.25000	54.1083333	26.758356
532	chic	81.5	53.62500	1988-06-15	NA	78.00000	47.4427083	23.693759
533	chic	71.0	47.12500	1988-06-16	NA	39.00000	28.7023810	19.099297
534	chic	68.5	53.25000	1988-06-17	NA	46.00000	32.3281250	31.212121
535	chic	74.5	52.87500	1988-06-18	NA	55.00000	41.2313988	38.978940
536	chic	82.0	55.87500	1988-06-19	NA	NA	59.1250000	20.114583

537	chic	88.5	70.25000	1988-06-20		NA	88.000000	61.6770833	25.640269
538	chic	86.5	66.12500	1988-06-21		NA	81.000000	52.8759058	33.124188
539	chic	82.5	67.25000	1988-06-22		NA	84.000000	54.6411732	19.838095
540	chic	70.0	50.75000	1988-06-23		NA	26.000000	28.8452381	16.159170
541	chic	77.5	63.25000	1988-06-24		NA	NA	36.0260417	31.673654
542	chic	84.5	57.50000	1988-06-25		NA	NA	59.0677083	15.276786
543	chic	63.5	44.87500	1988-06-26		NA	20.600000	25.4166667	7.872024
544	chic	64.0	42.87500	1988-06-27		NA	21.000000	18.4293155	19.049320
545	chic	72.5	58.50000	1988-06-28		NA	NA	36.0189951	25.195323
546	chic	63.0	44.37500	1988-06-29		NA	17.000000	26.9821429	14.285455
547	chic	61.5	46.12500	1988-06-30		NA	11.000000	23.6197917	13.523810
548	chic	66.0	47.37500	1988-07-01		NA	19.000000	22.7656250	20.863095
549	chic	65.0	44.37500	1988-07-02		NA	26.600000	22.5312500	21.625000
550	chic	69.5	47.87500	1988-07-03		NA	NA	38.3802083	32.494048
551	chic	73.0	49.87500	1988-07-04		NA	51.000000	47.0758605	38.056603
552	chic	79.5	56.75000	1988-07-05		NA	NA	57.7484149	51.448681
553	chic	82.5	60.62500	1988-07-06		NA	116.000000	55.0861185	62.479984
554	chic	85.0	58.37500	1988-07-07		NA	116.000000	58.8864254	46.273421
555	chic	83.0	59.87500	1988-07-08		NA	106.800000	48.8906250	44.497024
556	chic	82.5	57.25000	1988-07-09		NA	85.000000	49.0260417	38.491071
557	chic	75.5	64.62500	1988-07-10		NA	NA	41.4226190	21.700521
558	chic	76.5	57.50000	1988-07-11		NA	42.000000	34.8729620	24.445911
559	chic	71.5	60.37500	1988-07-12		NA	14.000000	27.5416667	21.947205
560	chic	80.0	65.87500	1988-07-13		NA	50.000000	32.6093750	22.851786
561	chic	87.0	57.75000	1988-07-14		NA	62.000000	45.9257246	25.979798
562	chic	86.5	70.50000	1988-07-15		NA	78.000000	41.9620098	34.799720
563	chic	85.0	69.62500	1988-07-16		NA	53.000000	37.7291667	21.854167
564	chic	78.0	61.00000	1988-07-17		NA	22.000000	30.4843750	18.960938
565	chic	71.5	66.25000	1988-07-18		NA	NA	23.1927083	31.624900
566	chic	75.0	58.37500	1988-07-19		NA	35.000000	26.0208333	26.169913
567	chic	74.0	63.87500	1988-07-20		NA	33.500000	27.1639493	24.102614
568	chic	71.5	61.12500	1988-07-21		NA	32.000000	25.0572917	28.563923
569	chic	71.0	59.12500	1988-07-22		NA	15.000000	26.6770833	19.305736
570	chic	72.0	59.50000	1988-07-23		NA	28.000000	27.5729167	21.401786
571	chic	75.5	57.37500	1988-07-24		NA	54.000000	35.9322917	27.782738
572	chic	75.5	64.75000	1988-07-25		NA	39.000000	38.9597538	24.762269
573	chic	73.5	55.75000	1988-07-26		NA	22.000000	23.0104167	15.630952
574	chic	76.0	60.37500	1988-07-27		NA	59.000000	32.3353714	31.333333
575	chic	84.0	62.50000	1988-07-28		NA	68.000000	49.0989583	30.944048
576	chic	83.0	68.50000	1988-07-29		NA	73.000000	59.5416667	28.183300
577	chic	82.5	68.87500	1988-07-30		NA	40.000000	48.2083333	23.151042
578	chic	79.0	62.75000	1988-07-31		NA	NA	42.3645833	23.854367
579	chic	89.0	71.12500	1988-08-01		NA	67.200000	44.1499094	25.963089

580	chic	89.5	70.37500	1988-08-02		NA	67.000000	49.8494867	25.919730
581	chic	88.0	67.37500	1988-08-03		NA	65.000000	40.6417572	27.739583
582	chic	87.0	71.50000	1988-08-04		NA	66.000000	42.1845562	30.262390
583	chic	76.5	60.12500	1988-08-05		NA	64.000000	36.5052083	23.125000
584	chic	76.5	51.75000	1988-08-06		NA	NA	36.5625000	30.473214
585	chic	78.0	53.62500	1988-08-07		NA	38.333333	41.8834135	28.630390
586	chic	84.0	70.75000	1988-08-08		NA	67.000000	53.9670139	23.277868
587	chic	79.0	73.00000	1988-08-09		NA	68.000000	30.9166667	34.123551
588	chic	76.5	72.00000	1988-08-10		NA	36.000000	30.4791667	34.997619
589	chic	82.0	73.37500	1988-08-11		NA	NA	28.4675325	31.126701
590	chic	83.5	69.62500	1988-08-12		NA	66.000000	26.6093750	35.062500
591	chic	83.5	73.62500	1988-08-13		NA	70.200000	35.9218750	22.171262
592	chic	83.0	76.62500	1988-08-14		NA	NA	40.3489583	13.351190
593	chic	84.0	70.50000	1988-08-15		NA	32.000000	38.5979864	24.906567
594	chic	86.0	73.12500	1988-08-16		NA	69.000000	34.3906250	34.386572
595	chic	88.0	66.37500	1988-08-17		NA	71.000000	39.3123971	23.505208
596	chic	80.5	68.37500	1988-08-18		NA	63.000000	34.6972373	22.805952
597	chic	71.5	62.87500	1988-08-19		NA	28.750000	14.9270833	17.886285
598	chic	73.0	62.12500	1988-08-20		NA	31.000000	37.1145833	20.342799
599	chic	70.5	54.87500	1988-08-21		NA	NA	27.2291667	22.604846
600	chic	70.0	59.75000	1988-08-22		NA	39.000000	24.6927083	29.989583
601	chic	75.0	55.37500	1988-08-23		NA	47.000000	32.7083333	19.994792
602	chic	71.0	52.37500	1988-08-24		NA	89.000000	21.7968750	26.347799
603	chic	69.5	42.62500	1988-08-25		NA	50.400000	21.3854167	23.851190
604	chic	66.0	45.37500	1988-08-26		NA	41.000000	16.5104167	24.988008
605	chic	65.0	60.12500	1988-08-27		NA	NA	11.1666667	33.408967
606	chic	64.0	41.87500	1988-08-28		NA	89.000000	22.0000000	19.359375
607	chic	60.0	49.00000	1988-08-29		NA	29.000000	19.8677083	28.050595
608	chic	63.0	49.37500	1988-08-30		NA	37.000000	20.1770833	36.426501
609	chic	70.5	49.00000	1988-08-31		NA	47.400000	30.8906250	37.807446
610	chic	72.0	52.50000	1988-09-01		NA	48.000000	36.8593750	44.351393
611	chic	73.0	57.87500	1988-09-02		NA	65.000000	34.3349185	47.387455
612	chic	72.0	53.62500	1988-09-03		NA	38.000000	32.6562500	22.760417
613	chic	63.0	52.37500	1988-09-04		NA	28.000000	33.7678571	12.511905
614	chic	54.0	38.00000	1988-09-05		NA	NA	24.2023810	12.413690
615	chic	55.0	39.62500	1988-09-06		NA	30.750000	15.9114583	30.125000
616	chic	60.5	37.62500	1988-09-07		NA	33.000000	27.4531250	35.282609
617	chic	70.0	47.12500	1988-09-08		NA	54.000000	35.6718750	38.283754
618	chic	66.0	34.75000	1988-09-09		NA	66.000000	17.4062500	40.382378
619	chic	67.5	39.75000	1988-09-10		NA	77.000000	19.2656250	51.447917
620	chic	71.0	62.37500	1988-09-11		NA	NA	30.2239583	33.981431
621	chic	75.5	64.75000	1988-09-12		NA	33.333333	18.6770833	23.536458
622	chic	63.0	46.87500	1988-09-13		NA	58.000000	15.2260417	25.072834

623	chic	66.0	48.87500	1988-09-14		NA	58.000000	23.7844298	30.752629
624	chic	64.5	50.37500	1988-09-15		NA	38.000000	19.5826540	21.497396
625	chic	65.5	59.75000	1988-09-16		NA	55.000000	15.3854167	36.647491
626	chic	78.0	61.75000	1988-09-17		NA	NA	25.2395833	24.885417
627	chic	76.5	62.37500	1988-09-18		NA	43.400000	19.7604167	19.992527
628	chic	67.0	51.25000	1988-09-19		NA	26.000000	17.0833333	19.109375
629	chic	60.0	47.25000	1988-09-20		NA	34.000000	13.8715278	12.135384
630	chic	58.5	49.75000	1988-09-21		NA	NA	9.3244048	23.845934
631	chic	70.0	66.25000	1988-09-22		NA	NA	17.4828928	33.468591
632	chic	60.0	42.12500	1988-09-23		NA	NA	19.1754982	23.000000
633	chic	56.5	42.87500	1988-09-24		NA	49.000000	15.4739583	29.601190
634	chic	61.5	48.25000	1988-09-25		NA	NA	23.7855114	39.398810
635	chic	64.5	45.87500	1988-09-26		NA	NA	34.8988095	46.051242
636	chic	71.0	56.37500	1988-09-27		NA	NA	27.0079365	32.686688
637	chic	61.5	51.62500	1988-09-28		NA	NA	17.5208333	19.273438
638	chic	67.5	56.87500	1988-09-29		NA	NA	17.4947917	39.308475
639	chic	68.5	60.75000	1988-09-30		NA	51.000000	12.7291667	37.405118
640	chic	62.0	56.87500	1988-10-01		NA	12.000000	10.5555556	25.547619
641	chic	56.5	45.00000	1988-10-02		NA	22.000000	19.6510417	17.700521
642	chic	53.5	38.12500	1988-10-03		NA	NA	9.3627451	22.947917
643	chic	43.0	30.25000	1988-10-04		NA	33.000000	11.7202381	15.961310
644	chic	43.0	32.25000	1988-10-05		NA	30.000000	10.6024845	19.033514
645	chic	43.5	32.75000	1988-10-06		NA	33.333333	9.6428571	27.538393
646	chic	47.5	33.00000	1988-10-07		NA	NA	11.8630952	38.265625
647	chic	52.0	41.12500	1988-10-08		NA	56.000000	12.6190476	36.348958
648	chic	54.5	47.50000	1988-10-09		NA	NA	11.9404762	32.085145
649	chic	58.0	34.62500	1988-10-10		NA	39.000000	20.7500000	17.321429
650	chic	42.5	26.12500	1988-10-11		NA	48.000000	13.4940476	19.420327
651	chic	39.0	24.37500	1988-10-12		NA	28.600000	14.5156250	23.563665
652	chic	39.5	23.87500	1988-10-13		NA	NA	11.5275298	34.629329
653	chic	58.0	42.25000	1988-10-14		NA	59.000000	18.2291667	37.372412
654	chic	66.5	52.00000	1988-10-15		NA	51.000000	35.0357143	25.453416
655	chic	62.5	47.87500	1988-10-16		NA	43.000000	26.0595238	21.145833
656	chic	53.0	55.12500	1988-10-17		NA	NA	4.9166667	28.869048
657	chic	49.5	36.37500	1988-10-18		NA	23.600000	11.1977814	18.823374
658	chic	43.5	32.25000	1988-10-19		NA	28.000000	11.5705904	21.758172
659	chic	42.0	37.87500	1988-10-20		NA	24.000000	6.6250000	28.053571
660	chic	46.5	39.00000	1988-10-21		NA	31.000000	6.9270833	21.369048
661	chic	42.0	32.50000	1988-10-22		NA	32.000000	10.2656250	20.755952
662	chic	43.5	30.62500	1988-10-23		NA	30.000000	10.2500000	15.610119
663	chic	33.5	27.12500	1988-10-24		NA	27.400000	7.1202857	16.566319
664	chic	35.0	22.12500	1988-10-25		NA	34.000000	8.5989583	23.323596
665	chic	36.5	26.00000	1988-10-26		NA	34.000000	7.0520833	24.903302

666	chic	45.0	40.87500	1988-10-27		NA		NA	9.8437500	26.767187
667	chic	37.0	21.00000	1988-10-28		NA	39.000000	13.5208333	19.648438	
668	chic	33.5	12.75000	1988-10-29		NA	28.000000	13.1250000	26.465580	
669	chic	33.0	25.87500	1988-10-30		NA	26.000000	10.5416667	29.012002	
670	chic	39.0	27.62500	1988-10-31		NA	36.000000	9.5200893	34.022321	
671	chic	40.0	28.00000	1988-11-01		NA	35.000000	12.5572917	22.751235	
672	chic	43.5	35.75000	1988-11-02		NA	28.000000	12.2068603	30.771212	
673	chic	50.5	50.62500	1988-11-03		NA	34.000000	3.3750000	36.061458	
674	chic	52.5	51.50000	1988-11-04		NA	28.000000	2.6470588	33.837121	
675	chic	41.5	36.12500	1988-11-05		NA	15.600000	2.7916667	13.997024	
676	chic	33.5	30.62500	1988-11-06		NA		NA	13.6250000	11.812500
677	chic	39.0	38.00000	1988-11-07		NA	12.000000	5.8695652	23.990819	
678	chic	42.0	36.87500	1988-11-08		NA	40.000000	4.5416667	26.088542	
679	chic	43.5	46.00000	1988-11-09		NA	25.000000	2.3750000	29.333051	
680	chic	42.5	30.62500	1988-11-10		NA	15.000000	7.0416667	18.827381	
681	chic	39.5	29.25000	1988-11-11		NA	23.200000	8.9583333	23.127976	
682	chic	41.5	44.00000	1988-11-12		NA	15.000000	4.5416667	22.666667	
683	chic	45.0	40.87500	1988-11-13		NA	12.000000	10.5833333	16.845238	
684	chic	47.5	34.50000	1988-11-14		NA		NA	5.0833333	34.232660
685	chic	56.0	60.37500	1988-11-15		NA		NA	2.9166667	25.966097
686	chic	48.0	24.25000	1988-11-16		NA	23.000000	11.6250000	11.895221	
687	chic	38.5	28.12500	1988-11-17		NA	24.200000	10.2916667	23.708333	
688	chic	43.5	30.12500	1988-11-18		NA	9.000000	2.7083333	34.699905	
689	chic	44.0	40.12500	1988-11-19		NA	14.000000	2.3750000	27.343750	
690	chic	36.5	28.12500	1988-11-20		NA	21.000000	6.2500000	17.339725	
691	chic	33.0	23.37500	1988-11-21		NA	21.000000	5.4166667	26.420846	
692	chic	34.5	28.12500	1988-11-22		NA	31.000000	4.7500000	27.928125	
693	chic	41.5	35.50000	1988-11-23		NA	39.000000	3.4166667	31.905461	
694	chic	46.5	35.00000	1988-11-24		NA	22.000000	7.7916667	30.739583	
695	chic	49.0	44.37500	1988-11-25		NA	28.000000	13.0416667	35.718750	
696	chic	54.0	51.25000	1988-11-26		NA	13.000000	11.9166667	24.002604	
697	chic	37.0	25.00000	1988-11-27		NA	9.000000	14.9583333	8.270833	
698	chic	28.0	21.87500	1988-11-28		NA	6.000000	7.8333333	18.642083	
699	chic	33.5	31.37500	1988-11-29		NA	26.200000	7.1250000	24.430157	
700	chic	30.5	23.87500	1988-11-30		NA	22.000000	4.6250000	18.131341	
701	chic	23.5	16.37500	1988-12-01		NA	27.000000	8.2083333	22.111580	
702	chic	34.0	32.50000	1988-12-02		NA	29.000000	4.5833333	27.057065	
703	chic	43.0	26.00000	1988-12-03		NA		NA	9.2916667	21.880952
704	chic	32.5	23.25000	1988-12-04		NA	23.000000	8.9166667	23.174479	
705	chic	38.5	31.25000	1988-12-05		NA	39.000000	3.8750000	23.238163	
706	chic	42.0	34.87500	1988-12-06		NA	40.000000	5.0000000	30.234375	
707	chic	35.0	20.00000	1988-12-07		NA	30.000000	6.6458333	25.661458	
708	chic	27.0	11.25000	1988-12-08		NA	40.000000	9.6666667	27.553571	

709	chic	21.5	14.25000	1988-12-09		NA	37.000000	6.4166667	24.369048
710	chic	18.5	2.12500	1988-12-10		NA	NA	8.9166667	23.380952
711	chic	11.0	6.12500	1988-12-11		NA	30.000000	7.0833333	23.927536
712	chic	18.5	19.37500	1988-12-12		NA	29.000000	6.2500000	29.968168
713	chic	34.5	28.62500	1988-12-13		NA	48.000000	5.3333333	26.555788
714	chic	37.5	24.87500	1988-12-14		NA	NA	5.9166667	21.726190
715	chic	18.0	-0.75000	1988-12-15		NA	NA	14.3500000	20.410102
716	chic	10.5	12.12500	1988-12-16		NA	35.000000	6.5416667	26.809524
717	chic	16.0	7.00000	1988-12-17		NA	25.400000	7.5416667	22.172619
718	chic	22.0	21.87500	1988-12-18		NA	39.000000	4.8750000	24.250000
719	chic	39.0	32.25000	1988-12-19		NA	NA	10.7916667	27.424784
720	chic	44.5	27.00000	1988-12-20		NA	NA	12.6086957	16.398810
721	chic	33.0	22.50000	1988-12-21		NA	NA	10.5000000	22.507846
722	chic	36.0	38.75000	1988-12-22		NA	NA	4.2916667	23.353520
723	chic	41.0	26.75000	1988-12-23		NA	23.000000	11.5652174	19.952381
724	chic	33.5	26.50000	1988-12-24		NA	NA	4.5416667	24.803571
725	chic	23.0	16.62500	1988-12-25		NA	NA	10.0833333	13.776656
726	chic	27.0	29.87500	1988-12-26		NA	NA	9.0000000	23.785714
727	chic	27.5	14.12500	1988-12-27		NA	27.000000	4.5000000	21.346435
728	chic	14.5	6.87500	1988-12-28		NA	17.000000	13.1250000	23.037879
729	chic	13.5	12.62500	1988-12-29		NA	29.666667	6.9473684	30.285673
730	chic	24.5	21.87500	1988-12-30		NA	NA	5.6666667	35.900000
731	chic	26.0	27.00000	1988-12-31		NA	61.000000	2.7500000	44.666667
732	chic	26.5	26.87500	1989-01-01		NA	66.000000	9.3913043	33.131567
733	chic	22.0	10.87500	1989-01-02		NA	28.000000	11.3333333	18.328125
734	chic	23.0	15.75000	1989-01-03		NA	NA	7.8750000	22.615942
735	chic	19.0	15.87500	1989-01-04		NA	43.400000	5.1250000	30.972661
736	chic	29.5	31.87500	1989-01-05		NA	20.000000	3.1250000	33.144907
737	chic	35.0	32.37500	1989-01-06		NA	27.000000	2.0000000	30.708333
738	chic	40.0	39.62500	1989-01-07		NA	NA	2.8750000	25.794271
739	chic	15.0	1.50000	1989-01-08		NA	NA	17.9583333	9.580729
740	chic	16.5	14.62500	1989-01-09		NA	52.000000	13.4666667	20.080350
741	chic	31.5	21.37500	1989-01-10		NA	37.428571	4.8666667	26.239394
742	chic	34.5	37.37500	1989-01-11		NA	31.000000	8.5000000	25.424716
743	chic	31.5	15.87500	1989-01-12		NA	NA	9.0000000	23.716486
744	chic	26.0	17.62500	1989-01-13		NA	NA	6.4285714	27.541667
745	chic	26.5	26.12500	1989-01-14		NA	20.000000	3.5833333	23.327381
746	chic	29.5	23.87500	1989-01-15		NA	NA	7.6666667	15.029762
747	chic	31.5	26.62500	1989-01-16		NA	27.142857	6.2500000	19.886905
748	chic	37.0	29.12500	1989-01-17		NA	24.000000	6.9583333	24.775023
749	chic	37.5	27.87500	1989-01-18		NA	NA	9.6956522	21.457860
750	chic	38.0	30.12500	1989-01-19		NA	NA	11.2083333	22.241745
751	chic	28.5	11.62500	1989-01-20		NA	NA	15.6250000	19.156250

752	chic	26.5	19.75000	1989-01-21		NA	27.000000	8.3750000	28.190476
753	chic	40.0	25.75000	1989-01-22		NA	22.875000	8.7500000	23.321429
754	chic	41.5	32.62500	1989-01-23		NA	17.000000	4.9166667	33.184453
755	chic	38.0	34.12500	1989-01-24		NA	45.000000	6.2272727	27.774715
756	chic	42.5	42.25000	1989-01-25		NA	36.000000	5.4166667	24.188466
757	chic	34.0	23.62500	1989-01-26		NA	37.000000	8.2500000	21.831245
758	chic	37.0	30.75000	1989-01-27		NA	25.000000	7.5000000	26.568213
759	chic	42.0	31.87500	1989-01-28		NA	27.125000	6.5833333	26.140625
760	chic	40.0	37.75000	1989-01-29		NA	NA	3.5000000	20.546875
761	chic	40.5	35.50000	1989-01-30		NA	NA	7.7916667	20.877944
762	chic	52.5	44.12500	1989-01-31		NA	NA	9.8333333	24.047279
763	chic	40.5	21.87500	1989-02-01		NA	12.000000	19.0000000	14.140077
764	chic	25.5	20.37500	1989-02-02		NA	49.000000	16.0416667	19.109375
765	chic	14.5	2.50000	1989-02-03		NA	20.571429	11.3888889	21.750000
766	chic	4.5	2.00000	1989-02-04		NA	45.000000	6.5882353	22.322917
767	chic	9.0	5.25000	1989-02-05		NA	NA	6.0833333	24.614583
768	chic	2.0	-0.25000	1989-02-06		NA	32.000000	12.0000000	21.175663
769	chic	12.0	9.12500	1989-02-07		NA	56.000000	14.7500000	28.512681
770	chic	11.5	-3.75000	1989-02-08		NA	86.000000	17.0000000	16.970170
771	chic	7.0	3.50000	1989-02-09		NA	34.857143	16.2727273	21.229167
772	chic	15.0	12.37500	1989-02-10		NA	36.000000	14.3750000	28.448822
773	chic	24.0	19.12500	1989-02-11		NA	33.000000	15.4166667	26.244048
774	chic	26.5	16.87500	1989-02-12		NA	26.000000	15.0416667	27.875000
775	chic	32.0	31.12500	1989-02-13		NA	NA	7.8750000	29.291667
776	chic	27.5	20.75000	1989-02-14		NA	52.000000	19.2916667	25.646480
777	chic	27.5	13.12500	1989-02-15		NA	30.125000	8.6250000	38.382162
778	chic	17.5	1.87500	1989-02-16		NA	25.000000	11.4761905	31.580782
779	chic	17.5	14.62500	1989-02-17		NA	13.000000	14.6250000	30.630952
780	chic	22.0	20.87500	1989-02-18		NA	23.000000	16.9166667	30.636905
781	chic	28.0	19.12500	1989-02-19		NA	NA	12.2916667	32.321429
782	chic	27.0	25.25000	1989-02-20		NA	NA	16.9583333	33.077381
783	chic	26.0	17.25000	1989-02-21		NA	43.750000	19.9583333	33.241300
784	chic	17.0	1.62500	1989-02-22		NA	56.000000	21.3750000	25.635426
785	chic	13.5	10.25000	1989-02-23		NA	37.000000	13.3333333	29.148592
786	chic	13.0	9.12500	1989-02-24		NA	61.000000	12.7083333	42.183333
787	chic	27.5	27.75000	1989-02-25		NA	NA	15.2500000	37.916667
788	chic	28.5	15.87500	1989-02-26		NA	NA	28.7500000	17.974896
789	chic	18.5	10.75000	1989-02-27		NA	33.714286	15.0714286	29.361134
790	chic	23.0	8.50000	1989-02-28		NA	57.000000	18.0416667	28.443750
791	chic	17.0	8.75000	1989-03-01		NA	NA	20.0588235	24.312554
792	chic	21.5	20.00000	1989-03-02		NA	32.000000	16.6666667	28.958333
793	chic	32.0	32.12500	1989-03-03		NA	NA	11.3333333	26.479167
794	chic	34.5	24.37500	1989-03-04		NA	30.000000	7.2083333	23.521280

795	chic	21.5	17.00000	1989-03-05		NA	13.625000	26.3750000	10.411458	
796	chic	26.0	14.62500	1989-03-06		NA	20.000000	33.3750000	12.715672	
797	chic	23.0	10.75000	1989-03-07		NA	41.000000	29.2916667	18.471354	
798	chic	26.5	18.62500	1989-03-08		NA	68.000000	9.8750000	40.875000	
799	chic	34.0	26.12500	1989-03-09		NA	77.000000	8.5416667	50.260160	
800	chic	42.5	32.50000	1989-03-10		NA		NA	13.4166667	46.658333
801	chic	46.0	31.50000	1989-03-11		NA	73.333333	2.0000000	35.383333	
802	chic	35.0	29.25000	1989-03-12		NA	30.000000	36.2727273	20.083333	
803	chic	42.5	36.25000	1989-03-13		NA	43.000000	13.6363636	37.919508	
804	chic	47.0	47.50000	1989-03-14		NA		NA	8.0833333	40.225835
805	chic	33.5	16.00000	1989-03-15		NA		NA	18.4583333	23.247056
806	chic	35.5	27.25000	1989-03-16		NA	36.000000	12.3333333	31.843750	
807	chic	32.0	28.87500	1989-03-17		NA	19.500000	26.9583333	20.910069	
808	chic	24.5	17.37500	1989-03-18		NA	23.000000	26.8333333	22.921875	
809	chic	26.0	26.50000	1989-03-19		NA		NA	16.6666667	32.765625
810	chic	32.5	22.62500	1989-03-20		NA	31.000000	22.2272727	30.658356	
811	chic	28.5	11.75000	1989-03-21		NA	22.000000	24.4166667	27.664062	
812	chic	32.0	22.75000	1989-03-22		NA	27.000000	12.0416667	42.647254	
813	chic	41.5	25.25000	1989-03-23		NA	58.428571	12.5416667	43.283333	
814	chic	48.5	36.25000	1989-03-24		NA	40.000000	11.3750000	42.343750	
815	chic	49.0	34.87500	1989-03-25		NA	41.000000	23.4166667	26.890625	
816	chic	55.5	54.75000	1989-03-26		NA		NA	35.3750000	30.815444
817	chic	66.5	58.75000	1989-03-27		NA	22.000000	17.5791667	25.310606	
818	chic	60.5	56.50000	1989-03-28		NA	28.000000	12.8611111	22.358057	
819	chic	44.0	31.00000	1989-03-29		NA	15.000000	27.0411905	17.922101	
820	chic	42.0	33.00000	1989-03-30		NA	34.000000	17.4916667	23.254836	
821	chic	35.5	22.50000	1989-03-31		NA	32.000000	25.8437500	20.675000	
822	chic	36.5	33.87500	1989-04-01		NA	23.000000	23.1250000	28.447917	
823	chic	46.5	44.62500	1989-04-02		NA		NA	22.1250000	25.177083
824	chic	47.0	47.25000	1989-04-03		NA		NA	13.2083333	33.152433
825	chic	51.0	34.62500	1989-04-04		NA	32.625000	18.8260870	25.619630	
826	chic	41.0	35.50000	1989-04-05		NA	33.000000	19.3571429	26.593786	
827	chic	41.5	24.62500	1989-04-06		NA	50.000000	19.6091393	31.648438	
828	chic	40.0	27.75000	1989-04-07		NA	42.000000	22.1964286	26.520833	
829	chic	38.0	15.62500	1989-04-08		NA	35.000000	24.1369048	22.117188	
830	chic	29.5	13.37500	1989-04-09		NA		NA	27.6979167	10.464286
831	chic	28.5	20.87500	1989-04-10		NA	29.375000	16.5362319	26.289773	
832	chic	37.0	28.87500	1989-04-11		NA	44.000000	23.2857143	26.154830	
833	chic	43.0	26.87500	1989-04-12		NA	31.000000	27.0295031	28.369318	
834	chic	41.0	19.37500	1989-04-13		NA	49.000000	21.7981293	38.743195	
835	chic	52.0	33.00000	1989-04-14		NA	39.000000	26.3273810	32.288826	
836	chic	48.5	30.50000	1989-04-15		NA	54.000000	25.5238095	39.182292	
837	chic	57.0	49.25000	1989-04-16		NA	46.125000	26.8333333	34.947917	

838	chic	48.5	31.87500	1989-04-17		NA	23.000000	30.9223602	23.834651
839	chic	39.5	35.50000	1989-04-18		NA	49.000000	16.9464286	36.173897
840	chic	43.5	19.25000	1989-04-19		NA	56.000000	18.8333333	41.239130
841	chic	54.0	38.00000	1989-04-20		NA	69.000000	27.0153162	39.613839
842	chic	53.0	36.12500	1989-04-21		NA	49.000000	31.4940476	32.758832
843	chic	52.0	34.25000	1989-04-22		NA	44.375000	30.5520833	28.020833
844	chic	50.5	31.37500	1989-04-23		NA	61.000000	33.4739583	21.828125
845	chic	55.5	41.37500	1989-04-24		NA	74.000000	32.2716837	41.500045
846	chic	62.5	52.37500	1989-04-25		NA		36.3695652	36.867113
847	chic	58.0	45.25000	1989-04-26		NA		45.6166667	30.468006
848	chic	54.0	43.00000	1989-04-27		NA	69.000000	34.6488095	33.197917
849	chic	49.5	42.00000	1989-04-28		NA	39.714286	18.0773810	30.135417
850	chic	55.5	42.00000	1989-04-29		NA		19.6250000	25.786458
851	chic	50.0	35.50000	1989-04-30		NA		34.5892857	16.276042
852	chic	47.5	33.25000	1989-05-01		NA	24.000000	32.0833333	23.185012
853	chic	45.0	37.50000	1989-05-02		NA	26.000000	26.2521645	24.768643
854	chic	53.5	32.62500	1989-05-03		NA		24.7729861	32.222917
855	chic	55.5	49.75000	1989-05-04		NA	46.250000	25.1884058	36.691168
856	chic	50.5	19.87500	1989-05-05		NA		30.9404762	17.119906
857	chic	35.5	24.75000	1989-05-06		NA	33.000000	20.3333333	16.303571
858	chic	43.0	35.75000	1989-05-07		NA		18.2395833	17.247024
859	chic	50.5	40.75000	1989-05-08		NA		25.3214286	36.127145
860	chic	50.5	25.37500	1989-05-09		NA	20.000000	33.8993742	20.221875
861	chic	49.5	23.50000	1989-05-10		NA	27.000000	35.7142857	19.708807
862	chic	48.0	20.25000	1989-05-11		NA		33.7142857	21.791152
863	chic	51.5	36.75000	1989-05-12		NA		28.5654762	24.345170
864	chic	52.0	43.25000	1989-05-13		NA	17.000000	30.4067460	17.739583
865	chic	55.5	41.37500	1989-05-14		NA	65.000000	32.5654762	24.479167
866	chic	56.0	43.75000	1989-05-15		NA		27.6829945	42.913542
867	chic	59.0	44.50000	1989-05-16		NA	79.875000	35.6324013	51.115530
868	chic	63.5	45.37500	1989-05-17		NA	98.000000	47.1192094	44.950634
869	chic	68.0	51.62500	1989-05-18		NA	99.000000	37.1689312	42.635681
870	chic	65.5	61.75000	1989-05-19		NA	35.000000	30.0364583	33.068452
871	chic	64.0	38.62500	1989-05-20		NA		26.6510417	24.109375
872	chic	64.5	44.75000	1989-05-21		NA	47.000000	33.5937500	30.791667
873	chic	63.0	49.62500	1989-05-22		NA	65.250000	29.5115489	41.171463
874	chic	69.0	42.87500	1989-05-23		NA	68.000000	37.8125000	43.731793
875	chic	75.0	65.50000	1989-05-24		NA		43.5929677	30.211180
876	chic	67.5	60.87500	1989-05-25		NA	33.000000	26.3035038	35.524943
877	chic	62.0	40.12500	1989-05-26		NA		25.3372790	21.017203
878	chic	56.0	39.62500	1989-05-27		NA	34.000000	26.1927083	18.997396
879	chic	57.0	39.62500	1989-05-28		NA	33.000000	31.2362689	26.572917
880	chic	67.5	68.25000	1989-05-29		NA		39.0451389	20.273810

881	chic	73.5	67.25000	1989-05-30		NA	25.000000	39.2528409	24.504735	
882	chic	75.0	66.50000	1989-05-31		NA		NA	26.3734149	27.027497
883	chic	68.5	63.37500	1989-06-01		NA	28.000000	15.0260417	32.051989	
884	chic	67.5	52.50000	1989-06-02		NA		NA	29.6250000	30.962474
885	chic	56.5	51.62500	1989-06-03		NA	29.000000	21.8095238	30.148810	
886	chic	62.5	49.50000	1989-06-04		NA		NA	27.7380952	24.324405
887	chic	66.0	47.75000	1989-06-05		NA	79.000000	26.0000000	47.054422	
888	chic	71.0	51.50000	1989-06-06		NA		NA	31.7445652	37.759740
889	chic	71.5	55.62500	1989-06-07		NA	89.000000	41.5553977	38.564182	
890	chic	73.0	57.87500	1989-06-08		NA		NA	43.9285714	32.883163
891	chic	61.0	46.87500	1989-06-09		NA	38.750000	23.2723214	16.614583	
892	chic	58.5	43.75000	1989-06-10		NA		NA	21.0000000	13.846354
893	chic	60.0	50.50000	1989-06-11		NA	35.000000	27.1927083	28.031250	
894	chic	66.0	62.75000	1989-06-12		NA	43.000000	23.6562500	32.299851	
895	chic	66.5	58.75000	1989-06-13		NA	45.000000	27.4881629	32.325613	
896	chic	64.0	52.37500	1989-06-14		NA		NA	30.8865901	28.597545
897	chic	54.5	50.87500	1989-06-15		NA	27.714286	13.6884470	17.178646	
898	chic	61.0	46.75000	1989-06-16		NA	35.000000	14.6659873	22.341146	
899	chic	65.5	47.62500	1989-06-17		NA	43.000000	28.7438447	26.091146	
900	chic	72.5	62.25000	1989-06-18		NA		NA	32.8579545	23.989583
901	chic	71.0	62.87500	1989-06-19		NA	26.000000	39.2457386	32.267889	
902	chic	68.5	60.87500	1989-06-20		NA	28.000000	49.6128472	23.752841	
903	chic	69.0	56.37500	1989-06-21		NA	57.428571	59.7272727	31.734420	
904	chic	79.0	64.37500	1989-06-22		NA		NA	47.6897998	34.139752
905	chic	79.0	68.00000	1989-06-23		NA		NA	37.0714286	33.287817
906	chic	75.0	59.37500	1989-06-24		NA		NA	35.4574830	21.880208
907	chic	73.0	61.50000	1989-06-25		NA	53.000000	34.2785714	28.421875	
908	chic	77.5	64.00000	1989-06-26		NA	89.000000	32.4107143	34.561368	
909	chic	70.5	64.75000	1989-06-27		NA	51.428571	21.0649586	38.831813	
910	chic	64.5	46.25000	1989-06-28		NA	33.000000	20.5937500	22.972335	
911	chic	61.0	48.62500	1989-06-29		NA	28.000000	23.0620471	19.692142	
912	chic	65.5	52.12500	1989-06-30		NA		NA	32.8541667	39.770833
913	chic	72.5	54.50000	1989-07-01		NA		NA	52.1754202	43.463542
914	chic	73.5	66.25000	1989-07-02		NA	65.000000	47.3650794	32.291667	
915	chic	74.0	59.00000	1989-07-03		NA	57.285714	40.6269493	29.604959	
916	chic	75.0	50.50000	1989-07-04		NA		NA	35.1990741	23.815476
917	chic	75.5	62.12500	1989-07-05		NA	59.000000	40.4074074	24.896861	
918	chic	79.0	63.25000	1989-07-06		NA	85.000000	48.0277778	43.898438	
919	chic	78.5	53.50000	1989-07-07		NA	56.000000	32.7301587	30.464286	
920	chic	75.0	65.62500	1989-07-08		NA	50.000000	33.4444444	31.011905	
921	chic	83.0	68.25000	1989-07-09		NA	57.750000	51.6203704	17.500000	
922	chic	86.5	61.37500	1989-07-10		NA	43.000000	46.5972222	21.520833	
923	chic	76.0	64.50000	1989-07-11		NA		NA	28.1481481	29.728316

924	chic	71.0	62.12500	1989-07-12		NA		NA	26.3240741	23.802795
925	chic	69.0	50.12500	1989-07-13		NA	21.000000	27.0740741	19.029601	
926	chic	68.0	45.62500	1989-07-14		NA	12.000000	23.0553543	19.071429	
927	chic	71.0	49.62500	1989-07-15		NA	30.000000	25.7083333	22.827381	
928	chic	72.5	48.87500	1989-07-16		NA	32.000000	36.1419173	25.357143	
929	chic	71.0	54.87500	1989-07-17		NA	68.000000	28.6607143	49.435096	
930	chic	70.0	60.75000	1989-07-18		NA	56.000000	36.1599327	35.933114	
931	chic	67.5	65.12500	1989-07-19		NA	47.000000	39.1399136	23.270442	
932	chic	67.5	61.37500	1989-07-20		NA	26.000000	31.4907407	12.909935	
933	chic	69.0	64.37500	1989-07-21		NA	41.500000	33.2037037	22.000000	
934	chic	74.0	63.75000	1989-07-22		NA	39.000000	36.4629630	26.234375	
935	chic	74.5	65.12500	1989-07-23		NA	54.000000	38.3842593	28.257812	
936	chic	77.0	68.75000	1989-07-24		NA	77.000000	43.4009662	34.942708	
937	chic	78.5	73.87500	1989-07-25		NA	55.000000	39.7708333	47.690632	
938	chic	79.5	72.37500	1989-07-26		NA	61.000000	20.7049366	34.765625	
939	chic	82.5	66.75000	1989-07-27		NA	43.000000	33.2653894	22.014699	
940	chic	67.5	57.50000	1989-07-28		NA	37.500000	30.7447917	13.877232	
941	chic	69.0	67.00000	1989-07-29		NA	29.000000	41.8593750	22.302083	
942	chic	71.5	61.00000	1989-07-30		NA	46.000000	44.9114583	11.157986	
943	chic	71.0	60.50000	1989-07-31		NA	69.000000	57.3072917	22.440104	
944	chic	72.5	60.12500	1989-08-01		NA	48.000000	51.7239583	33.779624	
945	chic	74.0	66.62500	1989-08-02		NA	74.625000	35.4218750	44.781250	
946	chic	79.5	72.62500	1989-08-03		NA	52.000000	27.7656250	24.544837	
947	chic	81.0	77.00000	1989-08-04		NA	64.000000	29.9948207	19.411458	
948	chic	77.0	66.00000	1989-08-05		NA	38.000000	38.1250000	20.600000	
949	chic	63.0	48.75000	1989-08-06		NA	25.000000	21.7361111	16.181548	
950	chic	62.0	50.25000	1989-08-07		NA	29.000000	23.3392857	24.750000	
951	chic	65.0	57.12500	1989-08-08		NA	50.500000	16.7261905	27.067857	
952	chic	70.5	58.75000	1989-08-09		NA	47.000000	21.5803571	39.669950	
953	chic	72.5	62.37500	1989-08-10		NA	50.000000	27.4490132	41.193277	
954	chic	70.5	62.25000	1989-08-11		NA	96.000000	31.1191878	55.905215	
955	chic	72.0	60.00000	1989-08-12		NA	86.000000	28.3072917	44.255208	
956	chic	71.0	62.50000	1989-08-13		NA	53.000000	35.2604167	32.130208	
957	chic	71.0	63.25000	1989-08-14		NA	58.375000	22.9237939	32.130952	
958	chic	69.0	61.62500	1989-08-15		NA	18.000000	20.8740530	21.213194	
959	chic	66.5	56.62500	1989-08-16		NA		NA	24.0667614	24.439062
960	chic	66.0	55.87500	1989-08-17		NA	34.000000	24.6390399	24.461458	
961	chic	66.5	53.87500	1989-08-18		NA		NA	26.8630394	25.552083
962	chic	67.5	60.87500	1989-08-19		NA		NA	36.1267361	27.572917
963	chic	74.5	61.12500	1989-08-20		NA	37.571429	30.3863636	14.437500	
964	chic	74.0	65.50000	1989-08-21		NA	59.000000	27.8750000	32.084754	
965	chic	77.5	72.12500	1989-08-22		NA	31.000000	18.9051178	25.196237	
966	chic	70.5	63.00000	1989-08-23		NA	25.000000	28.1051136	19.040483	

967	chic	70.0	61.50000	1989-08-24		NA	37.000000	32.0291667	14.976326	
968	chic	70.0	58.25000	1989-08-25		NA		NA	31.7836792	20.432292
969	chic	71.5	66.12500	1989-08-26		NA	49.285714	33.2083333	37.798532	
970	chic	74.5	69.25000	1989-08-27		NA	50.000000	35.8072917	30.450521	
971	chic	77.0	70.75000	1989-08-28		NA	49.000000	20.1197917	28.637153	
972	chic	75.0	60.75000	1989-08-29		NA	50.000000	16.7343750	22.375947	
973	chic	70.5	58.87500	1989-08-30		NA	54.000000	20.8645833	30.901042	
974	chic	72.5	67.62500	1989-08-31		NA	35.000000	19.1822917	31.488095	
975	chic	71.0	61.87500	1989-09-01		NA	21.875000	26.9270833	18.184508	
976	chic	64.0	50.50000	1989-09-02		NA	15.000000	24.0885417	14.822917	
977	chic	65.0	53.50000	1989-09-03		NA	23.000000	22.4947917	20.755208	
978	chic	68.0	62.25000	1989-09-04		NA	37.000000	28.7187500	21.976562	
979	chic	70.0	66.62500	1989-09-05		NA		NA	25.8906250	39.236639
980	chic	71.5	69.87500	1989-09-06		NA	43.000000	15.4531250	30.396307	
981	chic	74.5	71.75000	1989-09-07		NA	57.142857	19.6809330	34.247218	
982	chic	76.5	69.00000	1989-09-08		NA	38.000000	17.5416667	29.098011	
983	chic	68.0	60.50000	1989-09-09		NA		NA	19.1250000	16.375000
984	chic	63.0	51.25000	1989-09-10		NA	23.000000	16.7291667	14.429688	
985	chic	65.0	57.12500	1989-09-11		NA	40.000000	16.4375000	31.209280	
986	chic	60.5	45.62500	1989-09-12		NA	32.000000	18.8667037	21.208704	
987	chic	56.5	50.50000	1989-09-13		NA	14.000000	20.5534420	19.217957	
988	chic	58.0	51.37500	1989-09-14		NA	15.000000	21.6927083	16.773438	
989	chic	57.5	49.12500	1989-09-15		NA		NA	23.6576705	22.674953
990	chic	59.5	51.87500	1989-09-16		NA	33.000000	22.8281250	28.169271	
991	chic	63.5	54.12500	1989-09-17		NA	51.000000	26.8273810	33.036458	
992	chic	65.0	55.75000	1989-09-18		NA	49.000000	31.7423469	44.815641	
993	chic	65.0	55.50000	1989-09-19		NA	47.500000	23.7050866	41.935033	
994	chic	65.5	56.87500	1989-09-20		NA	61.000000	27.3645833	43.975379	
995	chic	66.0	58.00000	1989-09-21		NA	76.000000	25.3958333	46.408267	
996	chic	61.5	44.75000	1989-09-22		NA	115.000000	25.1979167	31.972633	
997	chic	45.5	31.62500	1989-09-23		NA	35.000000	17.0625000	13.351562	
998	chic	48.0	36.75000	1989-09-24		NA	24.000000	12.8541667	24.095238	
999	chic	54.5	43.12500	1989-09-25		NA	46.625000	15.8125000	31.523263	
1000	chic	51.5	39.62500	1989-09-26		NA	24.000000	19.5104167	16.692595	
1001	chic	51.0	38.75000	1989-09-27		NA	41.000000	16.9895833	33.281629	
1002	chic	58.0	39.50000	1989-09-28		NA	53.000000	16.4046649	36.627976	
1003	chic	59.5	47.62500	1989-09-29		NA	37.000000	19.1302083	26.140625	
1004	chic	60.0	52.62500	1989-09-30		NA	45.000000	25.3452381	34.062500	
1005	chic	65.5	59.62500	1989-10-01		NA	51.714286	19.3511905	31.119792	
1006	chic	56.5	38.75000	1989-10-02		NA	54.500000	8.2031250	15.070833	
1007	chic	44.5	24.87500	1989-10-03		NA	41.500000	12.2031250	22.480881	
1008	chic	47.0	29.37500	1989-10-04		NA	69.000000	10.5999053	33.345833	
1009	chic	52.5	55.25000	1989-10-05		NA	46.000000	5.8925070	35.338542	

1010	chic	51.5	36.00000	1989-10-06	NA	25.00000	11.6995265	19.678883
1011	chic	45.0	33.37500	1989-10-07	NA	23.857143	11.4375000	20.406250
1012	chic	44.0	32.37500	1989-10-08	NA	22.50000	14.3593750	21.195312
1013	chic	45.5	37.37500	1989-10-09	NA	NA	14.4270833	28.119792
1014	chic	51.0	39.62500	1989-10-10	NA	39.00000	12.6302083	23.859860
1015	chic	59.0	39.62500	1989-10-11	NA	52.00000	18.7395833	27.953125
1016	chic	61.0	47.12500	1989-10-12	NA	58.00000	18.4791667	32.621686
1017	chic	62.5	45.75000	1989-10-13	NA	91.87500	11.0416667	59.515625
1018	chic	69.5	55.62500	1989-10-14	NA	62.00000	23.7916667	48.359375
1019	chic	70.5	53.50000	1989-10-15	NA	47.50000	29.1354167	26.223958
1020	chic	58.5	44.12500	1989-10-16	NA	27.00000	19.5357143	15.908659
1021	chic	43.0	31.62500	1989-10-17	NA	9.50000	17.7007576	13.030324
1022	chic	36.0	29.87500	1989-10-18	NA	13.50000	23.4285714	15.984848
1023	chic	36.0	33.00000	1989-10-19	NA	9.37500	21.1371636	15.049172
1024	chic	37.0	34.25000	1989-10-20	NA	19.00000	9.0515010	23.918737
1025	chic	46.0	37.00000	1989-10-21	NA	29.00000	11.7321429	24.627976
1026	chic	48.0	38.75000	1989-10-22	NA	20.50000	10.8750000	34.708333
1027	chic	58.5	54.50000	1989-10-23	NA	40.00000	10.0357143	45.357143
1028	chic	64.0	57.87500	1989-10-24	NA	47.50000	11.7857790	43.156446
1029	chic	65.5	55.75000	1989-10-25	NA	52.62500	15.4166667	42.884502
1030	chic	62.5	50.12500	1989-10-26	NA	64.00000	18.5564182	50.670996
1031	chic	62.5	42.87500	1989-10-27	NA	66.50000	18.0535714	56.230072
1032	chic	63.5	41.50000	1989-10-28	NA	52.50000	19.1964286	45.802083
1033	chic	64.5	49.87500	1989-10-29	NA	44.50000	25.5654762	35.979167
1034	chic	65.0	52.50000	1989-10-30	NA	42.00000	19.1845238	30.531250
1035	chic	45.5	31.12500	1989-10-31	NA	24.00000	4.7500000	16.715744
1036	chic	43.0	34.75000	1989-11-01	NA	32.00000	5.3750000	26.617898
1037	chic	35.0	24.12500	1989-11-02	NA	25.00000	8.8333333	17.281114
1038	chic	31.0	25.75000	1989-11-03	NA	27.00000	5.9583333	24.200284
1039	chic	46.5	29.75000	1989-11-04	NA	27.50000	8.2916667	20.973958
1040	chic	54.0	50.00000	1989-11-05	NA	35.50000	18.8333333	18.161458
1041	chic	45.5	37.75000	1989-11-06	NA	26.25000	6.3913043	17.196483
1042	chic	45.5	39.62500	1989-11-07	NA	28.00000	7.5416667	25.023398
1043	chic	45.0	35.00000	1989-11-08	NA	26.00000	5.9166667	21.005303
1044	chic	39.5	35.50000	1989-11-09	NA	20.00000	8.4583333	15.607481
1045	chic	38.0	28.12500	1989-11-10	NA	25.00000	7.9583333	12.925595
1046	chic	46.5	30.12500	1989-11-11	NA	28.00000	6.0833333	18.305556
1047	chic	38.5	30.37500	1989-11-12	NA	19.00000	9.5833333	18.768750
1048	chic	59.0	53.00000	1989-11-13	NA	NA	22.8333333	24.981291
1049	chic	54.0	45.00000	1989-11-14	NA	26.50000	7.8333333	17.030419
1050	chic	40.5	32.87500	1989-11-15	NA	15.00000	3.4444444	14.952863
1051	chic	26.0	11.37500	1989-11-16	NA	11.00000	15.6250000	13.012309
1052	chic	24.5	19.75000	1989-11-17	NA	34.50000	9.8333333	15.439878

1053	chic	21.0	11.75000	1989-11-18		NA	21.571429	10.2291667	15.738095
1054	chic	37.0	30.00000	1989-11-19		NA	25.500000	9.9583333	21.026786
1055	chic	45.5	19.50000	1989-11-20		NA	43.500000	12.4375000	16.005952
1056	chic	30.0	19.62500	1989-11-21		NA	29.000000	18.6666667	22.294203
1057	chic	26.5	21.25000	1989-11-22		NA	24.000000	10.1666667	29.410229
1058	chic	18.5	16.87500	1989-11-23		NA	29.000000	10.2500000	20.705729
1059	chic	27.5	24.37500	1989-11-24		NA	29.285714	6.6250000	24.791667
1060	chic	44.0	35.00000	1989-11-25		NA	31.500000	6.3750000	21.572917
1061	chic	38.5	29.00000	1989-11-26		NA	23.000000	4.6666667	30.875000
1062	chic	51.0	42.37500	1989-11-27		NA	NA	6.7916667	23.865845
1063	chic	28.5	12.62500	1989-11-28		NA	25.500000	19.0000000	15.461222
1064	chic	20.5	14.75000	1989-11-29		NA	20.000000	9.1250000	19.629261
1065	chic	34.0	25.12500	1989-11-30		NA	32.500000	6.0833333	25.412341
1066	chic	38.0	28.00000	1989-12-01		NA	49.000000	5.3750000	31.767857
1067	chic	29.0	9.00000	1989-12-02		NA	52.000000	16.1250000	12.375000
1068	chic	20.0	5.00000	1989-12-03		NA	14.000000	20.2500000	14.385417
1069	chic	33.5	24.62500	1989-12-04		NA	31.000000	5.0416667	21.088068
1070	chic	39.5	31.87500	1989-12-05		NA	38.000000	2.3333333	26.708333
1071	chic	29.0	7.25000	1989-12-06		NA	24.250000	13.6666667	19.158535
1072	chic	17.0	2.62500	1989-12-07		NA	32.000000	16.7916667	25.821558
1073	chic	21.5	13.62500	1989-12-08		NA	37.500000	17.5416667	31.167655
1074	chic	28.5	19.62500	1989-12-09		NA	30.500000	5.2083333	29.041667
1075	chic	31.0	22.87500	1989-12-10		NA	26.000000	13.2500000	16.921875
1076	chic	19.5	6.50000	1989-12-11		NA	35.000000	11.5416667	24.668252
1077	chic	11.0	0.50000	1989-12-12		NA	38.714286	8.2916667	27.794508
1078	chic	13.0	14.37500	1989-12-13		NA	43.000000	6.2916667	34.157835
1079	chic	8.0	-6.87500	1989-12-14		NA	34.000000	5.4583333	24.205228
1080	chic	3.5	2.62500	1989-12-15		NA	45.500000	8.8750000	26.696875
1081	chic	2.5	-4.50000	1989-12-16		NA	33.000000	7.9583333	25.708333
1082	chic	9.5	2.62500	1989-12-17		NA	31.000000	6.3333333	26.182292
1083	chic	9.5	2.62500	1989-12-18		NA	43.875000	6.0833333	29.406250
1084	chic	7.5	-3.62500	1989-12-19		NA	39.000000	9.0416667	30.132843
1085	chic	0.0	-2.87500	1989-12-20		NA	22.500000	10.5000000	25.826746
1086	chic	-6.5	-23.00000	1989-12-21		NA	49.000000	16.6666667	19.500000
1087	chic	-4.5	-11.87500	1989-12-22		NA	49.000000	9.4166667	29.416667
1088	chic	-1.0	-9.37500	1989-12-23		NA	38.000000	5.2500000	30.135417
1089	chic	5.0	7.50000	1989-12-24		NA	25.166667	8.2916667	25.166667
1090	chic	24.5	26.75000	1989-12-25		NA	NA	13.2083333	17.906250
1091	chic	12.0	3.25000	1989-12-26		NA	NA	15.9583333	22.921082
1092	chic	20.5	20.00000	1989-12-27		NA	34.000000	12.2500000	21.996280
1093	chic	27.0	32.00000	1989-12-28		NA	20.000000	5.5833333	30.918964
1094	chic	34.5	30.62500	1989-12-29		NA	40.000000	5.7500000	27.099432
1095	chic	32.5	32.00000	1989-12-30		NA	38.000000	2.1666667	27.156250

1096	chic	30.5	24.62500	1989-12-31		NA	42.000000	7.4583333	19.114583	
1097	chic	27.5	19.75000	1990-01-01		NA		NA	16.4166667	11.330729
1098	chic	33.0	28.75000	1990-01-02		NA		NA	6.5416667	21.511905
1099	chic	39.0	39.75000	1990-01-03		NA	37.000000	5.7916667	24.549242	
1100	chic	36.0	23.50000	1990-01-04		NA	23.500000	8.2500000	22.404356	
1101	chic	29.5	27.62500	1990-01-05		NA	35.142857	4.4583333	27.156250	
1102	chic	30.0	25.00000	1990-01-06		NA	42.500000	7.9166667	24.541667	
1103	chic	35.0	30.37500	1990-01-07		NA	27.000000	6.4583333	23.069940	
1104	chic	37.0	33.62500	1990-01-08		NA	28.000000	6.1250000	29.550858	
1105	chic	38.0	31.12500	1990-01-09		NA	30.000000	9.2916667	23.113765	
1106	chic	32.5	29.12500	1990-01-10		NA	28.000000	7.0416667	15.611526	
1107	chic	38.0	21.62500	1990-01-11		NA	104.625000	17.8750000	12.424479	
1108	chic	26.0	10.50000	1990-01-12		NA	55.000000	20.0833333	13.197917	
1109	chic	23.0	18.37500	1990-01-13		NA	18.000000	7.2500000	19.635417	
1110	chic	36.5	27.00000	1990-01-14		NA	23.000000	6.1250000	21.151042	
1111	chic	41.0	31.12500	1990-01-15		NA	44.000000	4.5416667	31.848958	
1112	chic	47.5	52.12500	1990-01-16		NA		NA	3.0833333	29.306386
1113	chic	45.0	37.12500	1990-01-17		NA	27.000000	12.4583333	19.167572	
1114	chic	32.0	22.50000	1990-01-18		NA	37.000000	12.0416667	16.605161	
1115	chic	30.5	22.87500	1990-01-19		NA	48.000000	9.9583333	27.612798	
1116	chic	35.5	34.00000	1990-01-20		NA	31.500000	4.7916667	20.739583	
1117	chic	30.0	27.62500	1990-01-21		NA	16.000000	7.4375000	14.377604	
1118	chic	36.5	30.62500	1990-01-22		NA	19.500000	5.3125000	21.304564	
1119	chic	39.5	38.37500	1990-01-23		NA	34.250000	7.7916667	26.346354	
1120	chic	40.0	31.87500	1990-01-24		NA	18.500000	7.7916667	20.299479	
1121	chic	30.5	20.00000	1990-01-25		NA	22.000000	11.0555556	17.508117	
1122	chic	25.5	27.75000	1990-01-26		NA	30.000000	8.5000000	27.309524	
1123	chic	37.5	19.50000	1990-01-27		NA	25.000000	17.0000000	16.510417	
1124	chic	30.5	18.12500	1990-01-28		NA	27.000000	7.0416667	21.036458	
1125	chic	34.0	17.50000	1990-01-29		NA	50.125000	3.2916667	41.353039	
1126	chic	34.5	21.37500	1990-01-30		NA	28.500000	9.0869565	21.586215	
1127	chic	30.5	33.87500	1990-01-31		NA	35.000000	8.4583333	28.289025	
1128	chic	41.0	31.75000	1990-02-01		NA	32.000000	14.9583333	21.696332	
1129	chic	30.0	25.87500	1990-02-02		NA	32.000000	20.8333333	17.099977	
1130	chic	33.0	31.00000	1990-02-03		NA	25.500000	7.8750000	21.026042	
1131	chic	34.0	28.50000	1990-02-04		NA	20.875000	20.0416667	19.268229	
1132	chic	41.5	36.75000	1990-02-05		NA	24.000000	8.5416667	24.763258	
1133	chic	38.5	36.62500	1990-02-06		NA	31.500000	2.5000000	28.570340	
1134	chic	37.0	37.25000	1990-02-07		NA	36.500000	5.4583333	24.379386	
1135	chic	50.0	47.62500	1990-02-08		NA	31.000000	21.2500000	24.596875	
1136	chic	41.5	22.37500	1990-02-09		NA	40.000000	17.5416667	21.541667	
1137	chic	32.0	24.75000	1990-02-10		NA	23.375000	12.5000000	25.890625	
1138	chic	28.5	20.12500	1990-02-11		NA	29.500000	15.8750000	24.666667	

1139	chic	38.5	40.37500	1990-02-12		NA	36.000000	7.4166667	28.328125	
1140	chic	41.0	23.50000	1990-02-13		NA		NA	20.8750000	17.000710
1141	chic	27.0	25.00000	1990-02-14		NA	14.000000	28.9166667	12.095342	
1142	chic	29.5	29.00000	1990-02-15		NA	22.500000	22.7500000	16.353074	
1143	chic	27.5	15.62500	1990-02-16		NA	23.500000	17.2916667	21.535486	
1144	chic	21.0	14.75000	1990-02-17		NA	22.000000	16.2916667	26.506944	
1145	chic	32.0	26.37500	1990-02-18		NA	28.000000	20.1666667	21.595238	
1146	chic	24.0	6.87500	1990-02-19		NA	30.500000	22.2916667	26.692708	
1147	chic	20.5	15.50000	1990-02-20		NA	53.000000	8.4761905	44.859046	
1148	chic	34.0	30.12500	1990-02-21		NA	30.500000	7.1250000	40.127936	
1149	chic	36.0	32.00000	1990-02-22		NA	23.000000	11.9166667	28.320749	
1150	chic	32.5	25.75000	1990-02-23		NA	19.000000	21.0416667	26.718750	
1151	chic	21.0	-2.50000	1990-02-24		NA	75.000000	29.1250000	11.471354	
1152	chic	11.0	-2.62500	1990-02-25		NA	23.500000	23.5000000	19.288690	
1153	chic	23.0	22.00000	1990-02-26		NA	25.000000	11.3750000	27.511732	
1154	chic	32.5	14.50000	1990-02-27		NA	34.000000	16.8333333	28.327536	
1155	chic	24.5	12.62500	1990-02-28		NA	31.500000	19.6666667	30.244339	
1156	chic	30.5	25.25000	1990-03-01		NA	35.000000	15.4583333	30.645833	
1157	chic	39.5	28.25000	1990-03-02		NA	44.000000	13.6666667	27.999337	
1158	chic	29.0	9.00000	1990-03-03		NA	20.500000	26.1666667	18.855729	
1159	chic	30.5	22.62500	1990-03-04		NA	33.000000	16.0416667	29.031250	
1160	chic	33.0	26.62500	1990-03-05		NA	24.500000	22.0416667	20.694792	
1161	chic	29.0	13.75000	1990-03-06		NA	28.333333	32.2500000	17.006168	
1162	chic	29.5	21.75000	1990-03-07		NA	41.500000	24.2916667	26.784400	
1163	chic	40.5	46.62500	1990-03-08		NA	29.000000	8.3636364	31.005855	
1164	chic	46.0	43.37500	1990-03-09		NA	33.000000	9.9583333	27.461466	
1165	chic	51.0	45.62500	1990-03-10		NA	36.000000	6.2916667	29.761905	
1166	chic	57.5	61.12500	1990-03-11		NA	26.500000	16.7083333	21.833333	
1167	chic	70.5	56.62500	1990-03-12		NA	26.857143	25.8750000	16.840368	
1168	chic	67.0	61.37500	1990-03-13		NA	28.500000	11.8888889	24.863122	
1169	chic	65.0	55.75000	1990-03-14		NA	27.000000	20.8333333	25.153341	
1170	chic	57.5	39.12500	1990-03-15		NA	20.500000	23.9166667	22.854167	
1171	chic	51.0	35.75000	1990-03-16		NA	28.000000	26.6250000	21.169196	
1172	chic	41.0	26.25000	1990-03-17		NA	26.000000	31.2083333	9.856771	
1173	chic	36.0	22.50000	1990-03-18		NA	16.285714	29.5416667	11.372396	
1174	chic	26.5	11.00000	1990-03-19		NA	27.500000	21.8095238	18.555999	
1175	chic	33.0	24.50000	1990-03-20		NA	35.000000	14.7979798	31.562405	
1176	chic	47.5	34.50000	1990-03-21		NA	44.000000	20.3020833	31.395154	
1177	chic	45.0	37.12500	1990-03-22		NA	36.000000	19.0666667	27.218750	
1178	chic	31.0	9.12500	1990-03-23		NA	28.000000	28.7297390	16.142992	
1179	chic	31.0	15.37500	1990-03-24		NA	25.625000	24.6145833	20.203125	
1180	chic	34.5	22.37500	1990-03-25		NA	26.000000	22.2656250	18.083333	
1181	chic	33.0	20.50000	1990-03-26		NA	19.000000	22.9702381	22.181839	

1182	chic	35.5	21.37500	1990-03-27		NA	58.000000	13.5286797	42.348958
1183	chic	41.5	25.75000	1990-03-28		NA	41.000000	16.5923316	41.567708
1184	chic	41.5	40.37500	1990-03-29		NA	39.000000	13.1904762	27.604167
1185	chic	41.5	35.75000	1990-03-30		NA	38.000000	19.5449811	24.705348
1186	chic	41.5	41.50000	1990-03-31		NA	57.000000	17.3281250	29.140625
1187	chic	48.0	43.00000	1990-04-01		NA	34.000000	14.9583333	27.002976
1188	chic	38.0	29.87500	1990-04-02		NA	17.500000	16.9702381	15.132143
1189	chic	41.5	27.25000	1990-04-03		NA	27.000000	21.9166667	23.171372
1190	chic	43.0	37.00000	1990-04-04		NA	46.000000	11.7029221	40.327381
1191	chic	38.0	16.62500	1990-04-05		NA	29.625000	18.0476190	26.120748
1192	chic	31.0	17.12500	1990-04-06		NA	37.500000	17.4345238	27.318452
1193	chic	33.5	16.50000	1990-04-07		NA	23.000000	18.2023810	26.913690
1194	chic	46.0	30.37500	1990-04-08		NA	28.000000	21.3630952	31.904762
1195	chic	51.0	44.12500	1990-04-09		NA	36.000000	17.6562500	32.768892
1196	chic	41.5	22.25000	1990-04-10		NA	23.000000	20.0476190	23.508023
1197	chic	36.0	17.50000	1990-04-11		NA	25.428571	18.9979296	24.398810
1198	chic	35.0	23.62500	1990-04-12		NA	28.500000	18.8750000	28.168245
1199	chic	41.5	41.62500	1990-04-13		NA	32.000000	16.1845238	33.680556
1200	chic	48.5	36.37500	1990-04-14		NA	32.000000	21.6428571	23.944444
1201	chic	48.5	32.75000	1990-04-15		NA	37.000000	24.6964286	22.180556
1202	chic	48.0	39.87500	1990-04-16		NA		NA	21.4254658
1203	chic	39.0	20.37500	1990-04-17		NA	25.750000	26.2782091	21.002200
1204	chic	41.5	22.12500	1990-04-18		NA	30.000000	21.7968426	34.812771
1205	chic	49.5	45.75000	1990-04-19		NA	40.000000	18.9802632	31.670455
1206	chic	56.0	56.87500	1990-04-20		NA	29.500000	7.2409656	32.649940
1207	chic	55.5	39.12500	1990-04-21		NA	28.000000	17.8988095	26.285714
1208	chic	55.5	44.75000	1990-04-22		NA	95.000000	24.6904762	43.869048
1209	chic	65.5	58.37500	1990-04-23		NA	50.125000	29.7797619	42.222222
1210	chic	76.5	56.87500	1990-04-24		NA	41.500000	29.3750000	25.393892
1211	chic	76.5	61.00000	1990-04-25		NA	58.000000	25.1488095	26.612013
1212	chic	75.0	57.00000	1990-04-26		NA	53.000000	31.3214286	20.835910
1213	chic	73.5	56.12500	1990-04-27		NA	61.000000	35.5238095	24.586735
1214	chic	61.0	48.75000	1990-04-28		NA	26.000000	24.9464286	17.800595
1215	chic	58.5	51.00000	1990-04-29		NA	33.142857	16.8273810	15.854167
1216	chic	55.0	31.25000	1990-04-30		NA	47.000000	15.7916667	21.783550
1217	chic	52.0	26.00000	1990-05-01		NA	55.000000	26.1469979	23.863672
1218	chic	54.0	33.62500	1990-05-02		NA	61.500000	23.8750000	34.251553
1219	chic	51.5	44.50000	1990-05-03		NA	55.000000	22.8333333	28.829710
1220	chic	46.5	41.62500	1990-05-04		NA	21.500000	33.7708333	17.542749
1221	chic	51.0	45.12500	1990-05-05		NA	34.125000	33.4427083	24.470238
1222	chic	52.5	44.50000	1990-05-06		NA	26.000000	24.7656250	27.659864
1223	chic	62.5	48.87500	1990-05-07		NA	49.000000	34.3876812	24.443237
1224	chic	70.5	55.75000	1990-05-08		NA	63.000000	44.7321429	18.606710

1225	chic	62.5	56.87500	1990-05-09	NA	80.000000	30.6502193	24.555556
1226	chic	43.5	36.75000	1990-05-10	NA	17.000000	18.3802083	12.699405
1227	chic	49.5	36.25000	1990-05-11	NA	32.250000	24.3593750	32.536616
1228	chic	50.5	48.00000	1990-05-12	NA	26.500000	27.2812500	21.839209
1229	chic	54.5	43.00000	1990-05-13	NA	33.000000	43.6822917	14.629167
1230	chic	56.5	59.12500	1990-05-14	NA	27.500000	23.4732143	29.572619
1231	chic	55.5	54.00000	1990-05-15	NA	51.500000	15.5449811	27.200560
1232	chic	66.5	57.25000	1990-05-16	NA	26.500000	24.8910985	21.063889
1233	chic	56.0	41.62500	1990-05-17	NA	71.000000	28.2552083	11.229167
1234	chic	60.5	43.62500	1990-05-18	NA	60.000000	32.1225091	22.150794
1235	chic	62.5	63.00000	1990-05-19	NA	25.000000	27.8593750	25.680556
1236	chic	54.5	46.12500	1990-05-20	NA	17.000000	21.1145833	12.557143
1237	chic	52.5	41.50000	1990-05-21	NA	15.000000	21.1145833	14.210921
1238	chic	52.5	40.75000	1990-05-22	NA	18.500000	22.9424819	23.106061
1239	chic	57.0	50.12500	1990-05-23	NA	52.625000	22.0389493	38.378586
1240	chic	61.5	50.00000	1990-05-24	NA	47.000000	30.9958004	40.011905
1241	chic	56.5	56.25000	1990-05-25	NA	39.000000	26.4177989	30.136128
1242	chic	59.5	51.37500	1990-05-26	NA	46.500000	39.3120471	19.386905
1243	chic	63.0	46.00000	1990-05-27	NA	41.000000	50.4166667	18.351190
1244	chic	62.5	44.25000	1990-05-28	NA	28.000000	40.8072917	14.223214
1245	chic	55.0	29.37500	1990-05-29	NA	28.875000	30.6116395	13.456263
1246	chic	53.5	33.37500	1990-05-30	NA	41.000000	30.2343750	23.732649
1247	chic	57.5	41.12500	1990-05-31	NA	68.000000	28.5939078	39.108586
1248	chic	74.0	65.62500	1990-06-01	NA	59.000000	36.8697917	31.070449
1249	chic	74.5	55.62500	1990-06-02	NA	85.000000	30.5052083	15.027778
1250	chic	61.0	41.50000	1990-06-03	NA	103.000000	25.8430060	7.572313
1251	chic	53.0	30.62500	1990-06-04	NA	25.285714	22.7154768	17.919571
1252	chic	53.0	51.37500	1990-06-05	NA	38.000000	14.0112607	34.449517
1253	chic	69.0	48.87500	1990-06-06	NA	50.000000	20.3778409	30.368687
1254	chic	65.5	53.87500	1990-06-07	NA	46.500000	23.6444129	32.475694
1255	chic	70.0	63.87500	1990-06-08	NA	51.000000	19.4300272	30.607076
1256	chic	72.5	55.00000	1990-06-09	NA	33.500000	32.3802083	20.135417
1257	chic	64.5	50.75000	1990-06-10	NA	17.875000	31.8593750	15.989583
1258	chic	65.5	55.37500	1990-06-11	NA	41.500000	30.4062500	32.868056
1259	chic	78.0	62.50000	1990-06-12	NA	92.000000	46.6278409	24.644626
1260	chic	81.5	69.00000	1990-06-13	NA	60.000000	48.7223011	23.750000
1261	chic	71.0	61.50000	1990-06-14	NA	27.000000	32.2699275	21.806263
1262	chic	71.0	57.87500	1990-06-15	NA	40.500000	35.6954257	29.458829
1263	chic	74.0	68.87500	1990-06-16	NA	54.875000	35.3645833	29.697917
1264	chic	78.5	71.37500	1990-06-17	NA	37.500000	41.7187500	8.930060
1265	chic	71.0	55.87500	1990-06-18	NA	34.000000	33.8009511	12.604861
1266	chic	63.0	52.87500	1990-06-19	NA	31.500000	19.3286397	20.478261
1267	chic	69.0	63.87500	1990-06-20	NA	32.000000	21.5208333	26.152778

1268	chic	72.0	62.75000	1990-06-21		NA	41.500000	19.4360795	26.902942
1269	chic	66.5	57.12500	1990-06-22		NA	24.571429	20.2812500	18.977959
1270	chic	65.0	54.87500	1990-06-23		NA	28.500000	18.9791667	9.333333
1271	chic	64.0	45.75000	1990-06-24		NA	27.000000	23.2500000	18.135417
1272	chic	69.5	58.50000	1990-06-25		NA	37.000000	23.5208333	30.632842
1273	chic	75.5	69.37500	1990-06-26		NA	42.000000	29.9338235	29.974508
1274	chic	74.5	55.62500	1990-06-27		NA	43.000000	30.7291667	32.912563
1275	chic	72.5	68.12500	1990-06-28		NA	52.375000	29.3489583	32.902929
1276	chic	73.5	69.12500	1990-06-29		NA	21.500000	33.5354167	27.320350
1277	chic	80.0	70.37500	1990-06-30		NA	40.000000	35.3281250	24.381944
1278	chic	66.5	55.50000	1990-07-01		NA	18.000000	20.7135417	11.256944
1279	chic	69.5	61.25000	1990-07-02		NA	36.000000	29.0285326	25.829861
1280	chic	77.0	71.75000	1990-07-03		NA	51.500000	47.4022974	28.624303
1281	chic	86.5	73.37500	1990-07-04		NA	60.625000	52.2291667	12.816789
1282	chic	73.5	55.25000	1990-07-05		NA	33.000000	29.0260417	17.532382
1283	chic	63.0	50.12500	1990-07-06		NA	16.000000	21.2667572	11.829861
1284	chic	67.0	57.37500	1990-07-07		NA	28.000000	31.7291667	19.225694
1285	chic	83.5	70.62500	1990-07-08		NA	53.000000	45.2500000	14.961806
1286	chic	81.0	64.00000	1990-07-09		NA	38.500000	37.3697917	22.283252
1287	chic	70.5	61.62500	1990-07-10		NA	37.500000	23.7755888	27.036859
1288	chic	67.0	54.87500	1990-07-11		NA	17.000000	28.3072917	15.128517
1289	chic	66.0	54.62500	1990-07-12		NA	18.000000	24.4627193	11.504816
1290	chic	62.5	53.62500	1990-07-13		NA	13.000000	22.9739583	13.714286
1291	chic	62.0	58.75000	1990-07-14		NA	28.000000	17.2080270	15.122024
1292	chic	65.0	62.12500	1990-07-15		NA	29.000000	16.0677083	22.458333
1293	chic	70.5	68.50000	1990-07-16		NA	32.250000	27.1086957	25.846014
1294	chic	78.0	63.75000	1990-07-17		NA	41.000000	41.4218750	25.167831
1295	chic	78.5	67.62500	1990-07-18		NA	47.000000	26.3803282	29.241071
1296	chic	77.5	68.00000	1990-07-19		NA	47.500000	18.4901316	26.910714
1297	chic	68.0	63.25000	1990-07-20		NA	20.000000	19.5520833	22.897998
1298	chic	69.5	57.87500	1990-07-21		NA	24.000000	23.6242560	21.122024
1299	chic	68.5	61.00000	1990-07-22		NA	15.375000	29.3750000	12.035714
1300	chic	68.5	57.75000	1990-07-23		NA	36.500000	20.2110919	26.303258
1301	chic	69.5	61.50000	1990-07-24		NA	48.000000	18.6197917	34.357483
1302	chic	72.0	63.00000	1990-07-25		NA	37.500000	24.8831198	32.579099
1303	chic	75.5	62.50000	1990-07-26		NA	51.000000	31.2620389	30.907468
1304	chic	74.5	65.75000	1990-07-27		NA	74.000000	47.5416667	30.035714
1305	chic	79.0	70.50000	1990-07-28		NA	87.750000	51.0833333	21.339286
1306	chic	79.5	70.37500	1990-07-29		NA	55.000000	33.1562500	13.559524
1307	chic	69.5	58.12500	1990-07-30		NA	23.000000	18.5758929	10.316249
1308	chic	62.0	49.62500	1990-07-31		NA	14.500000	18.9055707	11.766810
1309	chic	63.5	57.62500	1990-08-01		NA	42.000000	23.1309524	22.557065
1310	chic	69.0	57.37500	1990-08-02		NA	38.000000	31.1622024	30.434524

1311	chic	75.5	69.37500	1990-08-03	NA	66.000000	38.2696687	30.567177
1312	chic	76.5	66.00000	1990-08-04	NA	19.000000	28.8958333	28.666667
1313	chic	68.5	57.75000	1990-08-05	NA	13.000000	20.0451389	11.267857
1314	chic	61.0	49.62500	1990-08-06	NA	9.500000	17.3671875	10.600298
1315	chic	63.5	54.50000	1990-08-07	NA	38.000000	19.7537879	24.015847
1316	chic	69.0	56.00000	1990-08-08	NA	48.500000	21.4490166	36.179113
1317	chic	69.0	56.50000	1990-08-09	NA	55.857143	33.7916667	38.496212
1318	chic	72.0	63.62500	1990-08-10	NA	45.000000	38.1458333	42.395833
1319	chic	73.0	65.37500	1990-08-11	NA	60.500000	48.1458333	21.114583
1320	chic	68.5	64.25000	1990-08-12	NA	29.000000	31.2291667	22.812500
1321	chic	63.0	51.37500	1990-08-13	NA	20.500000	17.1960565	13.273552
1322	chic	65.5	62.12500	1990-08-14	NA	26.000000	17.1834239	21.779796
1323	chic	74.5	66.75000	1990-08-15	NA	54.285714	28.4107143	20.538690
1324	chic	73.0	68.62500	1990-08-16	NA	55.000000	30.9642857	23.191558
1325	chic	72.0	71.00000	1990-08-17	NA	40.500000	15.0833333	22.753364
1326	chic	80.5	75.25000	1990-08-18	NA	25.000000	35.1614583	18.988095
1327	chic	75.5	68.50000	1990-08-19	NA	18.500000	31.4375000	7.735119
1328	chic	71.5	69.37500	1990-08-20	NA	16.000000	12.1406250	13.810606
1329	chic	68.0	66.25000	1990-08-21	NA	18.500000	9.8333333	11.780110
1330	chic	69.0	63.25000	1990-08-22	NA	21.500000	24.9314182	13.732639
1331	chic	70.5	64.25000	1990-08-23	NA	39.000000	24.1517210	20.280770
1332	chic	75.0	67.12500	1990-08-24	NA	28.000000	25.9180254	28.451389
1333	chic	76.5	69.75000	1990-08-25	NA	50.000000	29.7497736	25.069444
1334	chic	78.5	73.25000	1990-08-26	NA	82.000000	42.1190476	18.766455
1335	chic	82.5	75.87500	1990-08-27	NA	90.285714	36.3097826	22.996683
1336	chic	82.5	70.50000	1990-08-28	NA	53.500000	33.4047619	22.595833
1337	chic	75.5	57.87500	1990-08-29	NA	36.000000	29.4863807	21.707477
1338	chic	69.0	53.87500	1990-08-30	NA	25.500000	40.9166667	30.166667
1339	chic	70.0	60.75000	1990-08-31	NA	58.000000	50.6388889	46.194444
1340	chic	78.0	69.12500	1990-09-01	NA	64.000000	39.8802083	34.777778
1341	chic	73.0	61.25000	1990-09-02	NA	34.166667	24.2410714	21.437500
1342	chic	71.0	60.87500	1990-09-03	NA	23.500000	22.8571429	23.027778
1343	chic	79.0	73.37500	1990-09-04	NA	84.000000	28.5654762	29.381121
1344	chic	77.0	69.12500	1990-09-05	NA	52.000000	30.8928571	25.943182
1345	chic	83.0	70.50000	1990-09-06	NA	56.500000	30.6738095	31.047619
1346	chic	72.0	63.25000	1990-09-07	NA	13.500000	28.5781250	14.495942
1347	chic	72.0	64.62500	1990-09-08	NA	41.000000	19.7447917	17.431548
1348	chic	73.0	65.75000	1990-09-09	NA	43.000000	22.6979167	26.473214
1349	chic	75.5	68.37500	1990-09-10	NA	69.000000	36.1736111	34.218795
1350	chic	74.0	67.87500	1990-09-11	NA	58.500000	30.3722826	22.125129
1351	chic	74.5	64.50000	1990-09-12	NA	94.000000	28.3810688	42.130952
1352	chic	74.5	65.62500	1990-09-13	NA	69.500000	25.1390399	39.066259
1353	chic	65.5	54.62500	1990-09-14	NA	38.625000	15.2864583	15.576441

1354	chic	63.0	54.00000	1990-09-15		NA	23.500000	15.2968750	18.491071
1355	chic	57.0	47.50000	1990-09-16		NA	10.500000	20.3645833	11.820833
1356	chic	56.0	46.25000	1990-09-17		NA	19.000000	17.7500000	17.892857
1357	chic	55.5	49.87500	1990-09-18		NA	17.000000	11.8961730	28.154374
1358	chic	57.5	50.50000	1990-09-19		NA	28.000000	5.5066288	19.921433
1359	chic	59.5	50.75000	1990-09-20		NA	37.428571	17.2822176	30.337407
1360	chic	62.0	46.62500	1990-09-21		NA	26.000000	10.5535714	29.527778
1361	chic	56.5	42.25000	1990-09-22		NA	21.000000	9.0476190	17.843750
1362	chic	50.5	35.25000	1990-09-23		NA	17.500000	15.3273810	16.111111
1363	chic	53.5	38.50000	1990-09-24		NA	34.000000	16.8979592	24.854437
1364	chic	67.0	51.75000	1990-09-25		NA	42.000000	20.9642857	25.738095
1365	chic	67.5	52.62500	1990-09-26		NA	46.875000	14.6785714	31.351732
1366	chic	65.5	51.75000	1990-09-27		NA	45.500000	19.6007493	40.898026
1367	chic	61.0	54.12500	1990-09-28		NA	48.000000	18.1815908	26.439218
1368	chic	58.5	51.12500	1990-09-29		NA	12.500000	15.2738095	10.381944
1369	chic	52.5	40.25000	1990-09-30		NA	17.000000	11.7440476	14.177976
1370	chic	57.0	38.25000	1990-10-01		NA	43.500000	9.4800725	26.854814
1371	chic	56.5	41.12500	1990-10-02		NA	47.750000	15.4671325	34.520526
1372	chic	67.0	58.12500	1990-10-03		NA	28.500000	21.6568323	21.453487
1373	chic	57.5	40.50000	1990-10-04		NA	32.000000	10.2678571	18.399660
1374	chic	68.5	55.00000	1990-10-05		NA	29.000000	24.3452381	21.010359
1375	chic	75.0	56.37500	1990-10-06		NA	39.000000	34.9464286	15.423137
1376	chic	55.0	48.50000	1990-10-07		NA	5.500000	20.2380952	6.726172
1377	chic	50.5	46.75000	1990-10-08		NA	8.000000	13.0238095	9.726190
1378	chic	47.0	43.50000	1990-10-09		NA		NA	20.1283644
1379	chic	41.5	35.25000	1990-10-10		NA	10.000000	11.2440476	11.947360
1380	chic	46.5	35.87500	1990-10-11		NA	46.500000	9.4216486	28.239130
1381	chic	48.5	42.12500	1990-10-12		NA	65.000000	9.6262940	41.480590
1382	chic	52.0	45.37500	1990-10-13		NA	50.500000	14.8392857	30.982143
1383	chic	53.5	48.50000	1990-10-14		NA	25.857143	18.3214286	20.589286
1384	chic	51.0	40.62500	1990-10-15		NA	30.500000	5.0195578	21.789441
1385	chic	56.0	52.25000	1990-10-16		NA	27.000000	13.2440476	26.627976
1386	chic	65.0	55.37500	1990-10-17		NA	45.000000	34.6726190	17.565476
1387	chic	43.0	28.87500	1990-10-18		NA	16.500000	13.5595238	8.327252
1388	chic	40.5	32.87500	1990-10-19		NA	21.000000	7.9285714	21.467885
1389	chic	54.5	36.00000	1990-10-20		NA	26.625000	13.8750000	21.349915
1390	chic	49.0	37.00000	1990-10-21		NA	25.000000	15.5535714	13.488095
1391	chic	43.5	33.87500	1990-10-22		NA	47.000000	8.4047619	24.833722
1392	chic	46.5	37.62500	1990-10-23		NA	49.000000	6.7343074	32.386669
1393	chic	46.5	33.50000	1990-10-24		NA	36.000000	9.0613354	21.383929
1394	chic	40.0	31.75000	1990-10-25		NA	22.000000	9.7797619	19.250000
1395	chic	41.0	31.12500	1990-10-26		NA	45.625000	6.2313665	27.047675
1396	chic	52.5	33.00000	1990-10-27		NA	51.000000	13.6369048	14.878472

1397	chic	41.0	28.62500	1990-10-28	NA	17.000000	12.9166667	14.854167
1398	chic	45.5	30.62500	1990-10-29	NA	29.500000	7.7142857	24.482639
1399	chic	60.0	48.87500	1990-10-30	NA	58.000000	16.7673395	31.951389
1400	chic	58.0	49.62500	1990-10-31	NA	63.500000	10.2857143	41.683717
1401	chic	60.0	44.12500	1990-11-01	NA	60.428571	23.0416667	29.623188
1402	chic	65.5	52.37500	1990-11-02	NA	49.500000	26.5416667	27.980676
1403	chic	59.5	51.12500	1990-11-03	NA	44.000000	19.2083333	22.263889
1404	chic	42.0	38.50000	1990-11-04	NA	4.000000	19.6666667	7.350000
1405	chic	39.5	32.62500	1990-11-05	NA	9.000000	16.3333333	10.201994
1406	chic	36.5	35.00000	1990-11-06	NA	24.000000	5.2500000	18.553571
1407	chic	34.0	20.37500	1990-11-07	NA	26.714286	10.2916667	14.727336
1408	chic	31.5	27.00000	1990-11-08	NA	33.500000	3.3333333	23.841335
1409	chic	37.0	33.00000	1990-11-09	NA	29.000000	2.1250000	19.180556
1410	chic	40.5	22.00000	1990-11-10	NA	27.000000	7.7500000	17.361111
1411	chic	37.5	28.87500	1990-11-11	NA	20.000000	7.1250000	20.291667
1412	chic	38.0	17.12500	1990-11-12	NA	NA	9.9583333	23.079861
1413	chic	38.0	29.87500	1990-11-13	NA	43.250000	7.8333333	27.085639
1414	chic	51.0	38.50000	1990-11-14	NA	40.500000	5.9166667	30.977226
1415	chic	61.0	49.50000	1990-11-15	NA	47.000000	26.0416667	25.678075
1416	chic	47.5	32.00000	1990-11-16	NA	38.000000	13.3750000	19.394571
1417	chic	42.0	29.62500	1990-11-17	NA	25.000000	10.2083333	23.487500
1418	chic	45.5	33.12500	1990-11-18	NA	31.000000	8.1250000	26.533333
1419	chic	44.0	38.50000	1990-11-19	NA	58.571429	3.0833333	27.663812
1420	chic	44.5	42.25000	1990-11-20	NA	48.000000	6.2083333	32.360119
1421	chic	59.5	53.25000	1990-11-21	NA	35.000000	11.0416667	22.336806
1422	chic	43.5	32.25000	1990-11-22	NA	27.500000	8.1666667	16.687500
1423	chic	42.0	17.37500	1990-11-23	NA	18.000000	15.4166667	11.638636
1424	chic	42.0	30.00000	1990-11-24	NA	NA	3.8333333	20.591667
1425	chic	44.5	28.62500	1990-11-25	NA	26.625000	11.9583333	14.212500
1426	chic	53.0	58.50000	1990-11-26	NA	NA	8.0000000	19.895833
1427	chic	61.0	57.62500	1990-11-27	NA	12.000000	6.5000000	22.154762
1428	chic	39.5	22.12500	1990-11-28	NA	17.000000	8.9545455	15.066288
1429	chic	31.5	23.62500	1990-11-29	NA	31.000000	5.2500000	21.758333
1430	chic	41.0	29.87500	1990-11-30	NA	21.500000	9.6250000	21.858333
1431	chic	40.5	28.12500	1990-12-01	NA	19.000000	8.8333333	20.125000
1432	chic	33.0	24.62500	1990-12-02	NA	14.000000	19.2500000	11.841667
1433	chic	33.0	25.75000	1990-12-03	NA	24.000000	14.8750000	12.844697
1434	chic	22.0	13.25000	1990-12-04	NA	24.000000	18.7083333	19.591502
1435	chic	28.5	29.37500	1990-12-05	NA	27.000000	5.5416667	27.125000
1436	chic	29.5	16.12500	1990-12-06	NA	30.500000	8.1250000	24.715278
1437	chic	31.0	27.75000	1990-12-07	NA	28.857143	4.2173913	24.773737
1438	chic	37.0	29.12500	1990-12-08	NA	32.500000	3.7500000	24.658333
1439	chic	43.0	31.00000	1990-12-09	NA	28.000000	6.4166667	24.000000

1440	chic	39.5	29.75000	1990-12-10		NA	24.500000	11.4166667	27.716766	
1441	chic	44.0	40.37500	1990-12-11		NA	33.000000	7.9565217	31.505736	
1442	chic	45.5	35.87500	1990-12-12		NA	35.000000	14.2941176	23.839869	
1443	chic	30.5	18.25000	1990-12-13		NA	16.571429	15.2083333	15.821759	
1444	chic	30.5	26.37500	1990-12-14		NA	19.500000	11.2173913	20.389997	
1445	chic	39.5	32.00000	1990-12-15		NA	18.000000	4.0000000	14.595238	
1446	chic	34.5	28.87500	1990-12-16		NA	22.500000	11.7500000	13.523810	
1447	chic	36.5	36.25000	1990-12-17		NA	16.000000	3.1250000	14.784632	
1448	chic	34.0	27.00000	1990-12-18		NA	24.500000	5.3750000	12.472364	
1449	chic	31.0	27.00000	1990-12-19		NA	28.333333	6.5000000	20.453204	
1450	chic	40.0	42.25000	1990-12-20		NA	25.000000	6.6666667	20.804607	
1451	chic	38.0	38.62500	1990-12-21		NA	29.500000	3.4166667	19.880952	
1452	chic	17.0	0.75000	1990-12-22		NA	24.000000	9.8333333	14.386905	
1453	chic	7.0	-3.75000	1990-12-23		NA	40.000000	17.4166667	12.949405	
1454	chic	8.0	7.75000	1990-12-24		NA		NA	14.4166667	12.645833
1455	chic	14.5	-7.87500	1990-12-25		NA	20.428571	13.8750000	11.725694	
1456	chic	3.5	-6.50000	1990-12-26		NA		NA	11.8333333	21.792723
1457	chic	17.5	16.75000	1990-12-27		NA	18.000000	11.4583333	26.708694	
1458	chic	31.0	30.87500	1990-12-28		NA	28.000000	2.7916667	22.010743	
1459	chic	33.5	30.00000	1990-12-29		NA	12.500000	3.6250000	12.951389	
1460	chic	15.0	2.62500	1990-12-30		NA		NA	12.1041667	10.236111
1461	chic	8.0	5.00000	1990-12-31		NA	26.250000	11.7732843	17.360975	
1462	chic	20.5	19.00000	1991-01-01		NA		NA	11.0769231	18.966667
1463	chic	16.0	6.62500	1991-01-02		NA		NA	9.8750000	24.272879
1464	chic	6.5	0.50000	1991-01-03		NA		NA	9.2500000	23.015530
1465	chic	14.0	11.50000	1991-01-04		NA	43.000000	6.8750000	26.783081	
1466	chic	25.5	21.62500	1991-01-05		NA		NA	3.9583333	24.250000
1467	chic	20.5	13.62500	1991-01-06		NA	27.000000	14.6250000	22.632738	
1468	chic	21.5	17.50000	1991-01-07		NA		NA	22.0000000	19.851537
1469	chic	25.5	27.37500	1991-01-08		NA	28.500000	11.2916667	24.282738	
1470	chic	24.0	18.00000	1991-01-09		NA	37.000000	4.7916667	22.935516	
1471	chic	22.0	26.12500	1991-01-10		NA	35.500000	10.1250000	23.478535	
1472	chic	29.5	26.62500	1991-01-11		NA	24.000000	8.6250000	17.697718	
1473	chic	25.5	22.00000	1991-01-12		NA	23.000000	9.1666667	22.708333	
1474	chic	24.5	26.87500	1991-01-13		NA	33.000000	10.7083333	20.944444	
1475	chic	31.5	27.12500	1991-01-14		NA	44.500000	7.7083333	27.758152	
1476	chic	30.5	31.62500	1991-01-15		NA	46.000000	4.6666667	30.881944	
1477	chic	31.0	25.75000	1991-01-16		NA	31.500000	10.9583333	21.731129	
1478	chic	26.0	18.75000	1991-01-17		NA	34.000000	12.3333333	19.332931	
1479	chic	21.5	24.00000	1991-01-18		NA	33.428571	9.4166667	25.655303	
1480	chic	36.5	29.62500	1991-01-19		NA	19.000000	14.5000000	24.072917	
1481	chic	26.5	18.62500	1991-01-20		NA	25.000000	18.7916667	17.966667	
1482	chic	10.5	-1.50000	1991-01-21		NA	27.000000	20.2916667	19.875000	

1483	chic	11.0	12.00000	1991-01-22		NA	55.000000	7.8750000	26.291667	
1484	chic	21.5	5.75000	1991-01-23		NA	34.000000	14.1666667	15.030303	
1485	chic	9.0	-5.75000	1991-01-24		NA	34.750000	13.9166667	26.574621	
1486	chic	7.5	-2.37500	1991-01-25		NA	55.000000	9.9166667	32.636580	
1487	chic	15.5	9.25000	1991-01-26		NA	41.000000	12.5416667	22.191667	
1488	chic	22.0	17.00000	1991-01-27		NA	25.000000	12.7083333	23.008333	
1489	chic	25.5	19.75000	1991-01-28		NA	54.000000	12.2083333	31.426087	
1490	chic	19.0	12.62500	1991-01-29		NA	12.000000	20.4166667	23.550000	
1491	chic	15.0	6.62500	1991-01-30		NA	42.125000	11.9583333	26.264493	
1492	chic	17.0	8.87500	1991-01-31		NA	40.000000	14.6666667	21.780032	
1493	chic	29.0	27.50000	1991-02-01		NA	52.500000	7.9166667	30.486111	
1494	chic	39.0	30.50000	1991-02-02		NA		NA	12.0416667	29.597222
1495	chic	42.5	30.12500	1991-02-03		NA	39.000000	16.6666667	31.625000	
1496	chic	44.0	38.00000	1991-02-04		NA	32.000000	12.5833333	28.055556	
1497	chic	39.0	34.37500	1991-02-05		NA	47.250000	13.0416667	28.597619	
1498	chic	35.5	32.87500	1991-02-06		NA	39.000000	15.3333333	18.517857	
1499	chic	32.5	29.50000	1991-02-07		NA	28.000000	8.3333333	25.013889	
1500	chic	34.0	31.00000	1991-02-08		NA	42.000000	6.5833333	24.444444	
1501	chic	37.5	30.12500	1991-02-09		NA	35.500000	8.8333333	23.888889	
1502	chic	30.0	9.25000	1991-02-10		NA	33.000000	18.4166667	15.281250	
1503	chic	22.0	5.12500	1991-02-11		NA	24.000000	18.3750000	16.891606	
1504	chic	24.5	17.87500	1991-02-12		NA	35.000000	8.0000000	27.715278	
1505	chic	32.5	26.75000	1991-02-13		NA	37.000000	8.4583333	23.506944	
1506	chic	22.0	13.62500	1991-02-14		NA	35.000000	16.0833333	17.283611	
1507	chic	8.5	-6.25000	1991-02-15		NA	39.500000	22.1666667	12.237939	
1508	chic	16.0	17.12500	1991-02-16		NA	23.000000	12.5833333	16.364583	
1509	chic	35.0	29.25000	1991-02-17		NA	29.375000	15.5000000	18.869565	
1510	chic	38.5	38.37500	1991-02-18		NA	39.000000	8.2916667	18.037121	
1511	chic	35.5	23.62500	1991-02-19		NA		NA	10.8750000	14.559028
1512	chic	36.5	30.37500	1991-02-20		NA	36.500000	16.3750000	18.834575	
1513	chic	47.0	40.37500	1991-02-21		NA	46.000000	10.6666667	23.642512	
1514	chic	34.5	14.50000	1991-02-22		NA	27.000000	19.0833333	14.617740	
1515	chic	26.5	18.50000	1991-02-23		NA	22.875000	20.8333333	16.819444	
1516	chic	28.5	13.00000	1991-02-24		NA	26.000000	14.9583333	14.336806	
1517	chic	21.0	7.50000	1991-02-25		NA	25.000000	17.4166667	18.958333	
1518	chic	19.0	16.12500	1991-02-26		NA	41.000000	13.9583333	25.236111	
1519	chic	23.5	19.50000	1991-02-27		NA	37.000000	14.7500000	22.263889	
1520	chic	39.0	30.62500	1991-02-28		NA	40.000000	13.3333333	25.984492	
1521	chic	48.0	46.50000	1991-03-01		NA	29.571429	21.5000000	25.921086	
1522	chic	37.5	22.25000	1991-03-02		NA	26.000000	17.3750000	11.836806	
1523	chic	25.5	18.50000	1991-03-03		NA	15.000000	21.3750000	9.840278	
1524	chic	31.0	20.75000	1991-03-04		NA	30.000000	10.6666667	25.638889	
1525	chic	39.0	31.75000	1991-03-05		NA	53.000000	6.8750000	27.310606	

1526	chic	39.5	20.12500	1991-03-06		NA	35.000000	15.1666667	14.382937	
1527	chic	28.0	11.00000	1991-03-07		NA	22.142857	17.5833333	20.152778	
1528	chic	32.5	28.00000	1991-03-08		NA		NA	12.2083333	31.350694
1529	chic	33.5	23.00000	1991-03-09		NA	38.500000	18.7083333	13.302083	
1530	chic	34.5	23.25000	1991-03-10		NA	40.000000	20.3333333	17.743056	
1531	chic	40.0	28.37500	1991-03-11		NA	57.500000	17.9583333	18.722222	
1532	chic	32.0	24.50000	1991-03-12		NA	33.000000	16.2083333	15.513573	
1533	chic	32.5	23.50000	1991-03-13		NA	15.000000	25.6666667	12.434028	
1534	chic	34.5	26.50000	1991-03-14		NA	11.000000	26.7500000	13.812500	
1535	chic	34.0	26.50000	1991-03-15		NA	25.000000	17.0000000	23.822285	
1536	chic	39.0	28.75000	1991-03-16		NA	26.000000	22.5000000	29.993056	
1537	chic	39.0	39.25000	1991-03-17		NA	33.500000	10.5000000	25.409722	
1538	chic	42.5	35.87500	1991-03-18		NA	51.000000	15.0733696	24.676932	
1539	chic	44.0	38.00000	1991-03-19		NA	43.714286	12.9166667	28.777503	
1540	chic	47.5	44.87500	1991-03-20		NA	33.000000	18.6521739	32.847222	
1541	chic	60.0	51.62500	1991-03-21		NA	63.000000	25.0434783	29.568182	
1542	chic	55.0	55.25000	1991-03-22		NA	17.000000	18.4166667	21.381944	
1543	chic	47.0	32.87500	1991-03-23		NA	21.000000	21.4166667	8.899306	
1544	chic	45.0	34.50000	1991-03-24		NA	21.000000	17.7500000	13.138889	
1545	chic	49.0	39.00000	1991-03-25		NA	40.571429	9.3750000	36.229469	
1546	chic	63.0	63.50000	1991-03-26		NA	31.000000	22.1151369	25.243056	
1547	chic	56.0	43.25000	1991-03-27		NA	72.000000	15.6865079	15.281250	
1548	chic	42.0	29.62500	1991-03-28		NA	28.000000	24.6575405	10.428571	
1549	chic	30.5	17.87500	1991-03-29		NA	14.500000	28.5208333	10.550000	
1550	chic	33.0	17.37500	1991-03-30		NA	21.000000	25.5833333	17.541667	
1551	chic	43.5	33.50000	1991-03-31		NA	26.285714	23.4821860	17.666667	
1552	chic	41.0	23.87500	1991-04-01		NA		NA	23.7176178	19.654167
1553	chic	39.0	24.00000	1991-04-02		NA	28.000000	19.8257861	26.025000	
1554	chic	51.0	34.87500	1991-04-03		NA	48.000000	17.9642857	22.762500	
1555	chic	52.5	52.25000	1991-04-04		NA	35.000000	15.0688776	27.944697	
1556	chic	60.0	50.37500	1991-04-05		NA	41.000000	25.1738173	27.296998	
1557	chic	70.0	47.25000	1991-04-06		NA	33.750000	38.6648551	14.689236	
1558	chic	69.0	60.25000	1991-04-07		NA	28.000000	26.2500000	11.395833	
1559	chic	65.5	58.50000	1991-04-08		NA	44.500000	15.4126812	16.859524	
1560	chic	44.0	38.12500	1991-04-09		NA	13.000000	10.4780506	12.316512	
1561	chic	43.5	28.87500	1991-04-10		NA	18.000000	28.5781250	14.170139	
1562	chic	38.0	28.62500	1991-04-11		NA	15.000000	23.3806612	16.972222	
1563	chic	44.0	32.37500	1991-04-12		NA	27.285714	19.6895485	15.323232	
1564	chic	45.5	44.12500	1991-04-13		NA	25.000000	12.9642857	15.423611	
1565	chic	58.5	50.12500	1991-04-14		NA	12.500000	18.3809524	12.070833	
1566	chic	53.0	38.87500	1991-04-15		NA	27.000000	26.5923913	14.141304	
1567	chic	53.0	42.00000	1991-04-16		NA		NA	19.7094156	28.335366
1568	chic	47.5	33.12500	1991-04-17		NA	17.000000	20.6682900	20.884848	

1569	chic	46.0	37.50000	1991-04-18		NA	30.000000	25.5708874	15.742262
1570	chic	46.5	36.62500	1991-04-19		NA	22.000000	25.9746377	12.787893
1571	chic	40.5	31.62500	1991-04-20		NA	14.000000	30.6130952	9.451389
1572	chic	44.5	20.37500	1991-04-21		NA	15.000000	30.3667184	11.857639
1573	chic	48.0	30.62500	1991-04-22		NA	45.500000	23.0680272	29.742560
1574	chic	50.0	38.50000	1991-04-23		NA	32.000000	20.0324675	19.018218
1575	chic	50.5	28.37500	1991-04-24		NA	35.375000	18.2321429	24.825126
1576	chic	53.5	37.87500	1991-04-25		NA	NA	26.0714286	29.503562
1577	chic	59.5	47.87500	1991-04-26		NA	72.500000	27.8414502	28.106944
1578	chic	64.5	61.00000	1991-04-27		NA	40.000000	12.0052083	19.673611
1579	chic	64.5	55.87500	1991-04-28		NA	36.000000	15.1467391	17.902778
1580	chic	64.0	55.50000	1991-04-29		NA	20.000000	20.6428571	16.036706
1581	chic	57.5	39.62500	1991-04-30		NA	36.857143	24.4510870	12.871528
1582	chic	52.5	34.87500	1991-05-01		NA	42.000000	21.1669255	16.790278
1583	chic	55.0	35.12500	1991-05-02		NA	59.500000	25.6374459	20.215694
1584	chic	46.5	37.37500	1991-05-03		NA	9.000000	21.4648033	15.829299
1585	chic	52.0	41.00000	1991-05-04		NA	29.500000	16.5952381	18.003472
1586	chic	56.0	51.25000	1991-05-05		NA	26.000000	20.0059524	17.575694
1587	chic	45.0	35.50000	1991-05-06		NA	22.125000	19.4090909	13.460246
1588	chic	53.0	38.37500	1991-05-07		NA	27.000000	26.0476190	17.327525
1589	chic	55.0	51.00000	1991-05-08		NA	47.000000	19.0654762	24.847826
1590	chic	62.0	52.37500	1991-05-09		NA	46.000000	30.3333333	28.125000
1591	chic	65.0	55.00000	1991-05-10		NA	71.000000	29.4057736	30.761364
1592	chic	70.5	64.75000	1991-05-11		NA	59.000000	31.3095238	30.571711
1593	chic	74.5	62.75000	1991-05-12		NA	45.000000	28.6309524	24.020833
1594	chic	76.0	64.50000	1991-05-13		NA	80.000000	32.1596320	38.796429
1595	chic	74.0	56.37500	1991-05-14		NA	70.000000	22.9495342	39.286411
1596	chic	72.5	57.25000	1991-05-15		NA	85.000000	35.1294643	38.959410
1597	chic	73.5	65.50000	1991-05-16		NA	88.500000	22.6979167	48.212500
1598	chic	60.0	46.37500	1991-05-17		NA	32.000000	16.1500947	17.854167
1599	chic	50.0	44.25000	1991-05-18		NA	24.375000	17.9940476	10.187500
1600	chic	54.5	38.62500	1991-05-19		NA	16.000000	28.8095238	12.000000
1601	chic	60.5	53.00000	1991-05-20		NA	42.000000	29.7453463	30.895960
1602	chic	68.5	62.87500	1991-05-21		NA	93.000000	35.1500947	31.149306
1603	chic	74.5	66.87500	1991-05-22		NA	63.000000	13.3091033	31.309343
1604	chic	74.0	67.50000	1991-05-23		NA	37.000000	18.1107955	21.819234
1605	chic	77.5	64.50000	1991-05-24		NA	34.714286	28.0104167	20.449179
1606	chic	67.0	58.62500	1991-05-25		NA	26.000000	15.0973465	21.246528
1607	chic	76.0	67.75000	1991-05-26		NA	29.500000	28.5512422	14.138889
1608	chic	77.5	69.37500	1991-05-27		NA	NA	32.8511905	19.725694
1609	chic	80.5	67.87500	1991-05-28		NA	98.000000	28.0216097	30.292718
1610	chic	79.0	67.37500	1991-05-29		NA	44.000000	29.3541667	30.871162
1611	chic	77.5	66.37500	1991-05-30		NA	36.625000	30.4599185	20.756944

1612	chic	77.5	67.75000	1991-05-31		NA	48.000000	25.9649004	26.200442
1613	chic	74.5	66.12500	1991-06-01		NA	41.000000	34.0208333	29.454861
1614	chic	72.5	63.25000	1991-06-02		NA	48.000000	38.4642857	23.762500
1615	chic	69.0	56.50000	1991-06-03		NA	31.500000	35.6051136	18.156250
1616	chic	61.5	48.50000	1991-06-04		NA	16.000000	32.0624588	8.579724
1617	chic	61.0	46.62500	1991-06-05		NA	22.571429	25.8293190	12.708686
1618	chic	62.0	45.12500	1991-06-06		NA	26.000000	27.2511322	16.985476
1619	chic	65.5	48.25000	1991-06-07		NA	45.000000	29.0364583	20.821212
1620	chic	67.5	49.12500	1991-06-08		NA	48.000000	33.7968750	25.150000
1621	chic	72.5	53.87500	1991-06-09		NA	59.500000	48.1145833	29.991667
1622	chic	75.0	59.87500	1991-06-10		NA	86.000000	42.6666667	24.857143
1623	chic	73.0	60.75000	1991-06-11		NA	38.125000	25.7395833	29.586667
1624	chic	71.5	58.37500	1991-06-12		NA	25.000000	22.5781250	27.814286
1625	chic	73.5	64.87500	1991-06-13		NA	52.500000	41.7334692	15.866667
1626	chic	83.0	65.37500	1991-06-14		NA	42.000000	42.7656250	17.293841
1627	chic	77.5	65.75000	1991-06-15		NA	33.500000	38.1354167	11.425000
1628	chic	69.5	53.50000	1991-06-16		NA	21.000000	33.0681612	10.512500
1629	chic	69.0	50.75000	1991-06-17		NA	30.500000	28.2153533	21.923485
1630	chic	71.0	55.75000	1991-06-18		NA	33.000000	45.1093750	23.510101
1631	chic	72.5	58.12500	1991-06-19		NA	43.000000	51.9062500	30.142292
1632	chic	78.5	60.25000	1991-06-20		NA	60.000000	63.1041667	25.173611
1633	chic	78.0	62.00000	1991-06-21		NA	85.000000	45.8333333	39.733333
1634	chic	64.5	56.25000	1991-06-22		NA	18.000000	21.4614583	6.804167
1635	chic	68.0	53.12500	1991-06-23		NA	16.625000	31.8906250	6.385417
1636	chic	69.0	50.00000	1991-06-24		NA	33.000000	40.2961957	19.471726
1637	chic	71.5	53.87500	1991-06-25		NA	52.500000	53.8711504	25.473214
1638	chic	78.5	66.62500	1991-06-26		NA	96.000000	49.6781250	28.889583
1639	chic	81.5	62.62500	1991-06-27		NA	95.000000	48.6875000	19.607143
1640	chic	79.5	65.12500	1991-06-28		NA	49.000000	43.0885417	23.197917
1641	chic	84.0	69.12500	1991-06-29		NA	51.500000	42.9114583	20.484954
1642	chic	74.0	64.12500	1991-06-30		NA		34.1614583	11.186012
1643	chic	81.0	69.00000	1991-07-01		NA	69.000000	31.7843526	25.539069
1644	chic	82.0	61.75000	1991-07-02		NA	34.000000	31.3563113	31.446920
1645	chic	78.5	66.25000	1991-07-03		NA	61.500000	24.1388134	28.375000
1646	chic	73.0	61.25000	1991-07-04		NA		24.9934330	17.591667
1647	chic	75.5	63.37500	1991-07-05		NA	35.625000	31.3906250	24.544318
1648	chic	81.0	69.62500	1991-07-06		NA	32.000000	40.6093750	25.037500
1649	chic	80.0	68.12500	1991-07-07		NA	37.500000	39.6770833	16.225000
1650	chic	71.0	56.62500	1991-07-08		NA		30.9463315	11.485615
1651	chic	71.5	55.00000	1991-07-09		NA	38.000000	23.9678442	21.376578
1652	chic	70.5	55.50000	1991-07-10		NA	22.000000	35.4947917	25.709596
1653	chic	76.0	64.37500	1991-07-11		NA	44.500000	42.2160326	22.236477
1654	chic	79.0	65.12500	1991-07-12		NA	58.000000	34.7117301	18.619634

1655	chic	72.0	59.87500	1991-07-13	NA	22.500000	31.8645833	12.197917
1656	chic	69.5	54.75000	1991-07-14	NA	NA	24.9739583	9.163345
1657	chic	70.5	54.12500	1991-07-15	NA	50.500000	31.0520833	24.788194
1658	chic	76.0	58.75000	1991-07-16	NA	57.000000	40.5364583	36.470328
1659	chic	78.5	66.25000	1991-07-17	NA	83.000000	50.3958333	32.156250
1660	chic	83.0	63.62500	1991-07-18	NA	76.000000	52.9114583	26.986111
1661	chic	85.5	65.50000	1991-07-19	NA	85.500000	58.0455044	27.463284
1662	chic	85.0	65.25000	1991-07-20	NA	49.000000	52.7857143	16.694444
1663	chic	83.0	71.75000	1991-07-21	NA	54.000000	48.2713033	22.246528
1664	chic	88.0	71.25000	1991-07-22	NA	70.000000	34.8578077	24.551226
1665	chic	74.5	51.62500	1991-07-23	NA	30.000000	31.0742814	19.223007
1666	chic	70.5	53.12500	1991-07-24	NA	51.000000	25.5197011	26.802381
1667	chic	68.0	52.25000	1991-07-25	NA	16.000000	23.2526042	16.458333
1668	chic	66.0	51.62500	1991-07-26	NA	24.500000	24.4494048	20.275000
1669	chic	66.5	54.12500	1991-07-27	NA	18.500000	29.5411932	17.741667
1670	chic	73.5	59.00000	1991-07-28	NA	NA	41.6510417	18.125000
1671	chic	70.0	57.00000	1991-07-29	NA	38.375000	34.9861111	25.411364
1672	chic	66.5	54.62500	1991-07-30	NA	27.000000	26.1712963	22.883333
1673	chic	75.5	62.62500	1991-07-31	NA	64.500000	35.6207200	33.136905
1674	chic	78.5	52.12500	1991-08-01	NA	NA	34.3333333	40.067659
1675	chic	83.5	65.75000	1991-08-02	NA	131.000000	39.5185185	55.489583
1676	chic	71.0	61.87500	1991-08-03	NA	15.000000	30.7592593	17.364583
1677	chic	69.0	51.00000	1991-08-04	NA	14.285714	22.4490741	12.927083
1678	chic	68.0	50.12500	1991-08-05	NA	NA	27.8606902	18.512500
1679	chic	71.5	57.12500	1991-08-06	NA	39.500000	31.3750000	23.558333
1680	chic	72.5	63.37500	1991-08-07	NA	42.000000	26.3287037	34.290942
1681	chic	67.5	61.87500	1991-08-08	NA	32.500000	27.7153113	24.330177
1682	chic	69.5	54.37500	1991-08-09	NA	15.000000	29.2586554	16.142740
1683	chic	70.0	53.37500	1991-08-10	NA	24.500000	23.4440236	21.045139
1684	chic	68.0	47.75000	1991-08-11	NA	28.000000	28.1805556	25.253472
1685	chic	67.5	57.87500	1991-08-12	NA	36.500000	24.5185185	27.351389
1686	chic	70.5	54.00000	1991-08-13	NA	31.000000	27.9590456	24.745581
1687	chic	71.5	52.62500	1991-08-14	NA	65.000000	28.7954545	44.432881
1688	chic	77.0	61.62500	1991-08-15	NA	63.000000	30.9512882	32.950442
1689	chic	76.5	61.75000	1991-08-16	NA	58.500000	33.9629630	35.698370
1690	chic	75.0	61.87500	1991-08-17	NA	35.000000	30.6296296	18.819444
1691	chic	74.0	60.50000	1991-08-18	NA	34.500000	26.0231481	17.491667
1692	chic	64.5	59.37500	1991-08-19	NA	18.000000	17.5202020	11.962500
1693	chic	67.0	54.00000	1991-08-20	NA	25.500000	18.7527778	15.521329
1694	chic	68.5	57.87500	1991-08-21	NA	48.000000	22.7091385	28.986413
1695	chic	78.0	58.37500	1991-08-22	NA	42.000000	31.5925926	27.906250
1696	chic	70.5	57.75000	1991-08-23	NA	18.000000	22.5720246	20.390152
1697	chic	75.5	62.62500	1991-08-24	NA	43.500000	40.3014706	22.437500

1698	chic	81.0	65.12500	1991-08-25	NA	62.000000	52.7864332	24.970833
1699	chic	80.0	61.00000	1991-08-26	NA	80.500000	43.0511900	35.922727
1700	chic	81.0	66.25000	1991-08-27	NA	42.000000	28.0271164	25.481159
1701	chic	81.5	67.00000	1991-08-28	NA	69.857143	31.7638889	34.105429
1702	chic	82.5	69.75000	1991-08-29	NA	73.000000	31.3333333	33.757891
1703	chic	79.0	71.25000	1991-08-30	NA	47.500000	16.9722222	38.177234
1704	chic	71.5	60.12500	1991-08-31	NA	29.000000	21.4062500	15.879167
1705	chic	66.5	59.25000	1991-09-01	NA	24.500000	29.9479167	12.520833
1706	chic	73.5	60.37500	1991-09-02	NA	NA	31.1190476	22.840278
1707	chic	77.0	66.37500	1991-09-03	NA	34.750000	15.4635417	28.659407
1708	chic	67.0	52.25000	1991-09-04	NA	13.000000	21.3327295	18.278684
1709	chic	66.0	51.50000	1991-09-05	NA	62.000000	19.2225150	35.222371
1710	chic	70.0	54.12500	1991-09-06	NA	19.000000	24.5364583	43.989583
1711	chic	75.5	54.62500	1991-09-07	NA	63.500000	31.0792572	40.722222
1712	chic	76.5	53.50000	1991-09-08	NA	41.000000	38.0104167	26.538194
1713	chic	82.0	66.25000	1991-09-09	NA	50.625000	26.7552083	19.288194
1714	chic	73.5	61.25000	1991-09-10	NA	15.000000	20.6875000	17.482639
1715	chic	67.5	56.62500	1991-09-11	NA	21.000000	18.2282243	13.678355
1716	chic	70.5	65.75000	1991-09-12	NA	34.000000	19.5132850	28.766667
1717	chic	73.5	65.62500	1991-09-13	NA	53.500000	24.5989583	29.625000
1718	chic	79.0	68.87500	1991-09-14	NA	33.000000	17.4531250	25.812500
1719	chic	81.5	68.75000	1991-09-15	NA	34.285714	22.2135417	16.869792
1720	chic	69.0	50.62500	1991-09-16	NA	43.000000	18.1197917	18.071212
1721	chic	63.5	49.50000	1991-09-17	NA	40.500000	11.3802083	24.925694
1722	chic	56.5	35.00000	1991-09-18	NA	42.000000	13.9624094	13.945451
1723	chic	47.0	29.37500	1991-09-19	NA	38.000000	12.6296296	16.666667
1724	chic	47.5	35.62500	1991-09-20	NA	28.000000	11.8666243	28.105114
1725	chic	54.5	35.00000	1991-09-21	NA	34.000000	19.6250000	30.902778
1726	chic	58.5	52.37500	1991-09-22	NA	25.000000	18.7261905	20.819444
1727	chic	53.5	38.75000	1991-09-23	NA	32.000000	9.7494163	17.643382
1728	chic	48.0	43.25000	1991-09-24	NA	28.000000	5.6664654	28.229167
1729	chic	54.0	40.75000	1991-09-25	NA	36.000000	8.1322464	22.581124
1730	chic	50.5	29.62500	1991-09-26	NA	40.000000	11.1276167	18.904672
1731	chic	46.5	35.37500	1991-09-27	NA	33.625000	8.9385522	28.660354
1732	chic	49.5	35.75000	1991-09-28	NA	16.000000	15.3657407	23.423611
1733	chic	53.5	46.00000	1991-09-29	NA	32.000000	20.5000000	22.805556
1734	chic	67.5	50.25000	1991-09-30	NA	76.000000	26.6382275	24.611111
1735	chic	59.0	47.37500	1991-10-01	NA	60.000000	15.9343800	26.242109
1736	chic	69.0	60.25000	1991-10-02	NA	47.000000	19.6429894	27.821759
1737	chic	62.5	53.37500	1991-10-03	NA	31.375000	16.6247331	20.353311
1738	chic	56.0	54.87500	1991-10-04	NA	15.000000	15.3645833	17.009615
1739	chic	48.0	31.25000	1991-10-05	NA	19.000000	16.7916667	9.270833
1740	chic	44.0	33.00000	1991-10-06	NA	16.000000	10.3958333	10.266265

1741	chic	45.0	33.62500	1991-10-07	NA	28.500000	8.4575465	18.265700
1742	chic	62.5	47.00000	1991-10-08	NA	29.000000	22.9154589	20.155495
1743	chic	61.5	46.87500	1991-10-09	NA	51.428571	17.1594203	32.995567
1744	chic	53.5	42.37500	1991-10-10	NA	63.000000	14.0224185	30.263033
1745	chic	56.0	38.00000	1991-10-11	NA	38.000000	11.3148148	29.819444
1746	chic	48.5	38.50000	1991-10-12	NA	25.000000	14.3564815	15.267361
1747	chic	46.0	37.25000	1991-10-13	NA	17.500000	13.1574074	15.850379
1748	chic	50.5	34.37500	1991-10-14	NA	NA	6.1018519	12.427083
1749	chic	41.5	24.00000	1991-10-15	NA	27.625000	5.9810606	15.882095
1750	chic	45.5	33.87500	1991-10-16	NA	37.000000	9.7916667	24.465278
1751	chic	61.5	40.62500	1991-10-17	NA	78.500000	15.1859903	21.127306
1752	chic	44.5	36.25000	1991-10-18	NA	26.000000	14.9987374	14.236427
1753	chic	38.0	24.50000	1991-10-19	NA	27.500000	13.2962963	16.607639
1754	chic	41.5	25.50000	1991-10-20	NA	20.000000	11.8842593	23.031250
1755	chic	50.5	44.00000	1991-10-21	NA	46.000000	14.8935185	26.486111
1756	chic	64.0	47.00000	1991-10-22	NA	46.000000	24.9475644	27.062500
1757	chic	66.5	60.75000	1991-10-23	NA	61.500000	19.3931472	21.327381
1758	chic	68.0	63.62500	1991-10-24	NA	25.000000	9.2652308	15.264389
1759	chic	58.5	48.12500	1991-10-25	NA	16.000000	5.7343750	11.662500
1760	chic	50.5	46.87500	1991-10-26	NA	20.000000	9.0625000	11.191667
1761	chic	50.0	51.00000	1991-10-27	NA	10.000000	8.0312500	7.158333
1762	chic	55.0	53.62500	1991-10-28	NA	2.000000	7.4166667	13.051786
1763	chic	63.5	60.25000	1991-10-29	NA	39.000000	5.2031250	19.870833
1764	chic	46.5	38.12500	1991-10-30	NA	8.000000	5.7675601	10.260985
1765	chic	48.0	49.87500	1991-10-31	NA	NA	7.7559524	13.383333
1766	chic	43.5	28.00000	1991-11-01	NA	NA	10.2916667	15.689773
1767	chic	25.0	10.37500	1991-11-02	NA	23.000000	18.7708333	7.916667
1768	chic	18.5	16.75000	1991-11-03	NA	17.000000	16.0625000	8.475000
1769	chic	18.5	9.62500	1991-11-04	NA	45.500000	11.4791667	17.087500
1770	chic	28.0	26.37500	1991-11-05	NA	26.000000	5.3469203	23.133333
1771	chic	28.5	6.25000	1991-11-06	NA	35.000000	11.5208333	18.975362
1772	chic	20.0	-1.62500	1991-11-07	NA	30.000000	6.4583333	22.967879
1773	chic	22.0	7.87500	1991-11-08	NA	39.250000	5.0208333	31.208333
1774	chic	26.0	18.12500	1991-11-09	NA	7.000000	6.4672619	32.825000
1775	chic	33.0	27.25000	1991-11-10	NA	45.000000	3.4166667	35.575000
1776	chic	34.5	33.12500	1991-11-11	NA	NA	2.1666667	24.320833
1777	chic	35.0	32.00000	1991-11-12	NA	39.500000	2.8750000	20.747115
1778	chic	45.5	38.62500	1991-11-13	NA	28.000000	3.8541667	25.662500
1779	chic	48.0	51.62500	1991-11-14	NA	36.000000	3.8750000	27.636957
1780	chic	50.0	42.00000	1991-11-15	NA	38.000000	9.4166667	23.547414
1781	chic	41.0	33.37500	1991-11-16	NA	28.500000	19.2708333	13.937500
1782	chic	42.5	39.25000	1991-11-17	NA	NA	12.2916667	17.633333
1783	chic	57.0	57.62500	1991-11-18	NA	36.000000	8.7916667	21.925000

1784	chic	57.0	48.75000	1991-11-19		NA	28.000000	9.2083333	22.340476
1785	chic	40.5	32.25000	1991-11-20		NA	21.875000	5.5416667	22.166667
1786	chic	40.0	33.12500	1991-11-21		NA	NA	4.1875000	42.639689
1787	chic	43.5	40.62500	1991-11-22		NA	45.500000	2.3333333	33.593750
1788	chic	34.5	19.62500	1991-11-23		NA	20.000000	6.2500000	16.385417
1789	chic	23.0	16.50000	1991-11-24		NA	33.000000	15.1041667	12.427083
1790	chic	17.5	10.12500	1991-11-25		NA	27.000000	6.4285714	23.290152
1791	chic	23.0	21.12500	1991-11-26		NA	37.375000	3.5625000	28.688669
1792	chic	38.5	33.00000	1991-11-27		NA	35.000000	6.7246377	17.983333
1793	chic	36.0	36.75000	1991-11-28		NA	10.000000	11.7291667	16.641667
1794	chic	49.0	53.50000	1991-11-29		NA	NA	10.7291667	20.179167
1795	chic	43.5	25.75000	1991-11-30		NA	19.000000	14.0000000	10.608333
1796	chic	27.0	13.37500	1991-12-01		NA	19.000000	5.8958333	15.513889
1797	chic	30.5	30.00000	1991-12-02		NA	16.625000	11.3541667	16.939915
1798	chic	22.0	12.37500	1991-12-03		NA	22.000000	8.4375000	19.619003
1799	chic	8.0	-1.00000	1991-12-04		NA	35.000000	8.1458333	20.131313
1800	chic	20.5	19.00000	1991-12-05		NA	23.000000	5.2146739	23.692331
1801	chic	24.0	30.62500	1991-12-06		NA	33.500000	5.5833333	25.613763
1802	chic	44.0	46.37500	1991-12-07		NA	20.000000	4.8750000	21.812500
1803	chic	49.0	45.50000	1991-12-08		NA	24.285714	6.2708333	17.319444
1804	chic	35.5	32.00000	1991-12-09		NA	42.000000	4.0000000	23.937500
1805	chic	38.5	36.37500	1991-12-10		NA	25.500000	3.3125000	21.496843
1806	chic	40.0	34.75000	1991-12-11		NA	28.000000	3.4375000	22.667435
1807	chic	49.0	50.25000	1991-12-12		NA	27.000000	3.8541667	19.095833
1808	chic	37.5	35.25000	1991-12-13		NA	41.000000	2.8750000	22.541667
1809	chic	29.0	11.87500	1991-12-14		NA	36.750000	13.8333333	10.462121
1810	chic	18.0	1.50000	1991-12-15		NA	26.000000	12.0625000	13.336806
1811	chic	21.0	24.37500	1991-12-16		NA	27.500000	4.8541667	21.079230
1812	chic	28.5	12.37500	1991-12-17		NA	46.000000	7.5208333	18.568452
1813	chic	15.5	4.75000	1991-12-18		NA	31.000000	8.7500000	17.583929
1814	chic	19.0	15.62500	1991-12-19		NA	37.000000	3.8125000	30.991667
1815	chic	32.5	32.87500	1991-12-20		NA	29.375000	2.1250000	20.132479
1816	chic	31.0	27.25000	1991-12-21		NA	20.000000	2.0000000	18.107639
1817	chic	32.5	34.50000	1991-12-22		NA	11.500000	3.2500000	14.504386
1818	chic	30.5	18.62500	1991-12-23		NA	22.000000	6.2916667	20.166982
1819	chic	30.0	26.37500	1991-12-24		NA	29.000000	4.5416667	21.777778
1820	chic	30.0	28.75000	1991-12-25		NA	39.000000	3.3125000	25.444444
1821	chic	35.5	32.37500	1991-12-26		NA	33.000000	4.1041667	22.201389
1822	chic	35.5	32.00000	1991-12-27		NA	31.000000	9.1875000	14.225393
1823	chic	35.0	34.00000	1991-12-28		NA	27.000000	7.4375000	15.250000
1824	chic	32.5	27.62500	1991-12-29		NA	42.000000	3.7291667	14.739583
1825	chic	34.0	28.50000	1991-12-30		NA	29.000000	5.0458333	21.153409
1826	chic	33.0	28.00000	1991-12-31		NA	21.000000	6.0969203	18.226234

1827	chic	33.5	32.62500	1992-01-01	NA	33.428571	5.4583333	19.697917
1828	chic	39.5	41.87500	1992-01-02	NA	31.000000	2.4166667	24.822917
1829	chic	38.5	34.87500	1992-01-03	NA	32.000000	2.1250000	24.607008
1830	chic	35.0	32.50000	1992-01-04	NA	22.000000	6.1250000	19.416667
1831	chic	35.0	32.37500	1992-01-05	NA	25.500000	8.0000000	16.645833
1832	chic	35.0	33.12500	1992-01-06	NA	30.000000	3.0416667	19.475000
1833	chic	34.5	31.50000	1992-01-07	NA	41.428571	2.4791667	23.460598
1834	chic	38.5	40.87500	1992-01-08	NA	26.500000	3.3750000	21.708333
1835	chic	38.0	33.62500	1992-01-09	NA	33.500000	2.0000000	14.178030
1836	chic	30.0	23.12500	1992-01-10	NA	32.000000	4.4782609	19.343750
1837	chic	36.0	34.87500	1992-01-11	NA	25.000000	4.9791667	20.552083
1838	chic	36.5	38.12500	1992-01-12	NA	23.000000	7.4166667	18.479167
1839	chic	32.5	30.75000	1992-01-13	NA	18.125000	6.7708333	17.343750
1840	chic	20.5	10.50000	1992-01-14	NA	24.000000	11.5625000	21.927083
1841	chic	6.0	-9.62500	1992-01-15	NA	38.000000	8.2518939	24.614583
1842	chic	7.5	15.00000	1992-01-16	NA	39.000000	7.8143939	24.224784
1843	chic	21.0	3.25000	1992-01-17	NA	34.500000	11.1666667	18.072917
1844	chic	5.5	-7.25000	1992-01-18	NA	NA	11.6250000	22.200634
1845	chic	14.5	23.37500	1992-01-19	NA	27.500000	7.2291667	26.805556
1846	chic	24.0	20.50000	1992-01-20	NA	42.000000	6.3333333	25.875000
1847	chic	33.5	33.00000	1992-01-21	NA	44.000000	4.5000000	30.797078
1848	chic	35.5	36.87500	1992-01-22	NA	34.000000	4.3333333	28.500000
1849	chic	28.5	15.87500	1992-01-23	NA	50.000000	8.5952381	16.222222
1850	chic	18.5	7.25000	1992-01-24	NA	65.000000	11.8958333	20.611111
1851	chic	25.0	20.50000	1992-01-25	NA	24.750000	7.2291667	23.597222
1852	chic	19.5	23.12500	1992-01-26	NA	29.000000	7.7708333	28.430556
1853	chic	30.0	25.87500	1992-01-27	NA	45.500000	3.7083333	25.739583
1854	chic	29.5	25.75000	1992-01-28	NA	41.000000	5.4166667	30.712862
1855	chic	30.0	31.50000	1992-01-29	NA	46.500000	6.1875000	22.260417
1856	chic	33.5	34.37500	1992-01-30	NA	40.500000	2.2916667	27.135417
1857	chic	32.0	22.37500	1992-01-31	NA	20.125000	9.8541667	21.219656
1858	chic	30.5	22.62500	1992-02-01	NA	41.500000	16.3125000	22.473958
1859	chic	37.5	33.50000	1992-02-02	NA	23.500000	4.4166667	27.531250
1860	chic	43.5	43.00000	1992-02-03	NA	82.500000	2.5833333	40.895833
1861	chic	36.0	25.37500	1992-02-04	NA	26.500000	9.1666667	20.333333
1862	chic	32.5	30.25000	1992-02-05	NA	23.000000	7.9791667	26.281250
1863	chic	34.5	30.37500	1992-02-06	NA	37.000000	5.4166667	24.701705
1864	chic	28.0	17.37500	1992-02-07	NA	34.500000	10.7291667	20.779438
1865	chic	18.5	4.62500	1992-02-08	NA	25.000000	13.2291667	14.885417
1866	chic	17.5	11.50000	1992-02-09	NA	43.500000	7.5208333	23.614583
1867	chic	31.0	33.00000	1992-02-10	NA	78.000000	3.2083333	24.083333
1868	chic	27.0	12.50000	1992-02-11	NA	19.000000	10.5208333	20.114583
1869	chic	23.5	18.37500	1992-02-12	NA	31.375000	13.8958333	20.614583

1870	chic	30.0	30.50000	1992-02-13		NA	37.500000	2.2083333	23.549366
1871	chic	33.0	32.50000	1992-02-14		NA	31.500000	6.3625000	21.504735
1872	chic	35.0	33.62500	1992-02-15		NA	25.500000	3.7083333	22.885417
1873	chic	34.0	34.62500	1992-02-16		NA	26.000000	7.0000000	20.041667
1874	chic	37.5	36.37500	1992-02-17		NA	36.000000	9.4583333	22.583333
1875	chic	40.5	42.37500	1992-02-18		NA	37.857143	3.6979167	24.928571
1876	chic	37.5	32.87500	1992-02-19		NA	26.000000	5.6837945	27.843750
1877	chic	39.5	34.50000	1992-02-20		NA	37.000000	9.8809524	23.875000
1878	chic	31.5	27.37500	1992-02-21		NA	25.000000	14.7481061	27.451136
1879	chic	42.0	33.87500	1992-02-22		NA	30.000000	10.8333333	24.208333
1880	chic	37.0	36.87500	1992-02-23		NA	35.000000	17.6666667	21.260417
1881	chic	36.0	34.12500	1992-02-24		NA	38.125000	10.4791667	25.833333
1882	chic	33.5	27.25000	1992-02-25		NA	36.500000	11.3049242	25.981061
1883	chic	33.5	31.37500	1992-02-26		NA	36.000000	13.4791667	25.291667
1884	chic	39.5	34.12500	1992-02-27		NA	34.000000	7.9772727	29.427083
1885	chic	39.5	26.62500	1992-02-28		NA	27.000000	13.4583333	20.979167
1886	chic	30.0	25.12500	1992-02-29		NA	22.000000	22.7083333	20.968750
1887	chic	54.0	41.12500	1992-03-01		NA	36.375000	18.4166667	24.864583
1888	chic	45.5	37.87500	1992-03-02		NA	44.500000	11.3541667	30.375000
1889	chic	38.0	38.12500	1992-03-03		NA	59.000000	6.8958333	26.401721
1890	chic	49.0	40.75000	1992-03-04		NA	77.000000	8.7500000	35.074811
1891	chic	53.0	53.75000	1992-03-05		NA	99.000000	6.8333333	41.430556
1892	chic	55.5	52.12500	1992-03-06		NA	50.000000	8.1250000	32.708333
1893	chic	48.0	48.00000	1992-03-07		NA	43.714286	3.5416667	28.152778
1894	chic	52.5	50.37500	1992-03-08		NA	27.500000	9.0000000	24.472222
1895	chic	44.0	31.37500	1992-03-09		NA	34.000000	14.4583333	26.020833
1896	chic	20.5	11.00000	1992-03-10		NA	32.500000	23.0208333	22.107708
1897	chic	19.5	16.00000	1992-03-11		NA	34.000000	21.1875000	26.916667
1898	chic	22.5	12.37500	1992-03-12		NA	31.500000	18.0833333	30.229167
1899	chic	25.5	21.87500	1992-03-13		NA	33.750000	17.7500000	29.791667
1900	chic	29.0	19.75000	1992-03-14		NA	27.000000	19.7916667	28.652778
1901	chic	29.0	17.00000	1992-03-15		NA	28.500000	18.9375000	31.333333
1902	chic	34.5	36.87500	1992-03-16		NA	28.500000	12.1969697	30.611111
1903	chic	38.0	24.00000	1992-03-17		NA	26.500000	21.3333333	23.541667
1904	chic	34.0	22.00000	1992-03-18		NA	20.500000	26.5416667	21.203283
1905	chic	36.0	22.75000	1992-03-19		NA	24.000000	28.7626812	29.672619
1906	chic	35.0	21.12500	1992-03-20		NA	40.000000	15.8333333	35.103220
1907	chic	30.5	31.12500	1992-03-21		NA	33.000000	29.5416667	27.427083
1908	chic	27.5	14.12500	1992-03-22		NA	19.500000	25.5208333	25.635417
1909	chic	30.5	23.12500	1992-03-23		NA	54.000000	13.4375000	48.930707
1910	chic	43.0	34.25000	1992-03-24		NA	58.000000	16.5958333	37.094697
1911	chic	44.5	32.37500	1992-03-25		NA	40.750000	12.1875000	31.697917
1912	chic	41.5	26.87500	1992-03-26		NA	46.500000	15.8333333	28.066176

1913	chic	34.0	26.00000	1992-03-27		NA	26.500000	23.8333333	27.125000
1914	chic	36.0	31.25000	1992-03-28		NA	39.500000	18.0208333	42.347222
1915	chic	39.5	37.75000	1992-03-29		NA	25.000000	27.2708333	24.388889
1916	chic	42.0	29.50000	1992-03-30		NA	34.000000	20.4791667	32.871732
1917	chic	41.5	27.00000	1992-03-31		NA	35.375000	16.6666667	34.536232
1918	chic	33.5	25.25000	1992-04-01		NA	20.000000	23.2253472	24.388889
1919	chic	31.5	19.50000	1992-04-02		NA	32.000000	18.5161713	29.972222
1920	chic	38.0	31.87500	1992-04-03		NA	45.500000	13.4895833	31.472222
1921	chic	36.5	22.12500	1992-04-04		NA	20.000000	26.9375000	25.041667
1922	chic	38.5	23.25000	1992-04-05		NA	29.000000	20.9062500	32.055556
1923	chic	49.5	31.87500	1992-04-06		NA	42.125000	17.8437500	37.802083
1924	chic	52.0	38.50000	1992-04-07		NA	76.500000	14.4962121	40.706250
1925	chic	50.5	28.12500	1992-04-08		NA	53.000000	19.3726326	37.683333
1926	chic	48.0	36.00000	1992-04-09		NA	37.000000	26.9226985	28.316403
1927	chic	57.5	57.37500	1992-04-10		NA	45.000000	19.9838574	31.738106
1928	chic	49.5	36.37500	1992-04-11		NA	18.000000	17.1510417	26.675000
1929	chic	37.0	19.00000	1992-04-12		NA	14.857143	32.0572917	13.816667
1930	chic	38.0	28.62500	1992-04-13		NA	32.000000	15.9185606	22.418561
1931	chic	42.0	31.87500	1992-04-14		NA	44.500000	9.7651721	26.128478
1932	chic	48.5	50.37500	1992-04-15		NA	53.000000	10.2738095	31.979167
1933	chic	53.0	40.25000	1992-04-16		NA	26.000000	17.2395833	28.182292
1934	chic	41.5	38.75000	1992-04-17		NA	23.000000	22.9218750	24.541667
1935	chic	51.0	58.12500	1992-04-18		NA	40.500000	10.4531250	25.625000
1936	chic	65.5	59.75000	1992-04-19		NA	24.000000	23.7395833	18.333333
1937	chic	66.0	58.25000	1992-04-20		NA	22.500000	21.5833333	18.973958
1938	chic	48.0	36.50000	1992-04-21		NA	34.500000	12.9316604	16.638134
1939	chic	43.0	30.87500	1992-04-22		NA	37.000000	17.5453869	21.234848
1940	chic	48.5	42.75000	1992-04-23		NA	40.500000	7.9802989	33.349206
1941	chic	44.5	37.62500	1992-04-24		NA	33.571429	8.5214461	27.854167
1942	chic	43.5	33.62500	1992-04-25		NA	14.000000	17.3630952	21.958333
1943	chic	46.5	36.50000	1992-04-26		NA	11.500000	19.5178571	14.066123
1944	chic	40.5	26.25000	1992-04-27		NA	20.000000	24.4785779	17.051954
1945	chic	44.0	29.50000	1992-04-28		NA	55.000000	18.0939764	41.552083
1946	chic	58.5	51.62500	1992-04-29		NA	52.500000	16.4055707	31.028080
1947	chic	49.5	42.12500	1992-04-30		NA	55.375000	15.1370018	29.309912
1948	chic	64.5	52.50000	1992-05-01		NA	141.000000	32.9173460	25.358333
1949	chic	64.0	32.50000	1992-05-02		NA	67.000000	27.5833333	20.500000
1950	chic	48.5	34.87500	1992-05-03		NA	34.500000	18.0952381	15.505208
1951	chic	44.0	29.87500	1992-05-04		NA	23.500000	19.3870874	22.494318
1952	chic	43.5	23.12500	1992-05-05		NA	56.000000	31.3052721	17.303954
1953	chic	44.5	21.25000	1992-05-06		NA	31.857143	21.3403680	27.504167
1954	chic	52.0	24.75000	1992-05-07		NA	100.000000	21.7422360	41.423188
1955	chic	56.0	28.00000	1992-05-08		NA	65.000000	35.0000000	49.777136

1956	chic	58.5	48.25000	1992-05-09	NA	49.000000	45.6093750	29.700000
1957	chic	65.5	48.50000	1992-05-10	NA	53.000000	41.3593750	25.866667
1958	chic	72.0	56.37500	1992-05-11	NA	84.000000	33.7580287	26.235507
1959	chic	69.0	61.50000	1992-05-12	NA	47.571429	26.4166667	28.781522
1960	chic	55.0	36.87500	1992-05-13	NA	NA	22.9789402	18.975000
1961	chic	54.0	46.00000	1992-05-14	NA	19.000000	13.5031379	28.609848
1962	chic	60.5	48.87500	1992-05-15	NA	81.000000	18.7237319	38.108333
1963	chic	73.0	60.25000	1992-05-16	NA	67.000000	41.3571429	30.812500
1964	chic	67.5	48.62500	1992-05-17	NA	35.000000	35.0238095	16.953125
1965	chic	52.0	43.50000	1992-05-18	NA	21.125000	21.8757440	17.330616
1966	chic	57.5	44.12500	1992-05-19	NA	38.000000	22.1046196	33.574621
1967	chic	67.0	51.12500	1992-05-20	NA	NA	36.1385870	40.437987
1968	chic	71.0	60.50000	1992-05-21	NA	92.000000	33.6017992	43.004545
1969	chic	73.5	64.12500	1992-05-22	NA	83.000000	24.7776680	34.583333
1970	chic	55.0	36.12500	1992-05-23	NA	54.000000	19.0064700	14.529167
1971	chic	40.5	30.62500	1992-05-24	NA	10.875000	29.2440476	9.962500
1972	chic	41.0	32.75000	1992-05-25	NA	NA	29.1309524	14.266667
1973	chic	44.0	29.37500	1992-05-26	NA	18.000000	25.2335389	25.081341
1974	chic	48.0	24.62500	1992-05-27	NA	38.000000	16.5625000	32.575000
1975	chic	50.5	31.37500	1992-05-28	NA	70.000000	22.4479167	40.576197
1976	chic	55.0	33.75000	1992-05-29	NA	56.000000	32.3768116	33.348485
1977	chic	58.0	42.37500	1992-05-30	NA	33.625000	40.7015306	29.575000
1978	chic	60.0	39.75000	1992-05-31	NA	42.000000	36.1250000	39.825000
1979	chic	59.0	45.50000	1992-06-01	NA	43.000000	22.9470109	42.683333
1980	chic	61.5	40.25000	1992-06-02	NA	21.000000	22.3935688	32.640909
1981	chic	65.0	48.25000	1992-06-03	NA	55.000000	42.6927083	36.607246
1982	chic	65.5	60.75000	1992-06-04	NA	51.000000	24.6718750	34.140476
1983	chic	67.5	58.37500	1992-06-05	NA	53.714286	32.2926136	34.132143
1984	chic	67.5	56.62500	1992-06-06	NA	53.000000	33.1093750	36.166667
1985	chic	66.5	44.50000	1992-06-07	NA	19.000000	33.3958333	18.483333
1986	chic	62.0	47.75000	1992-06-08	NA	19.000000	22.9479167	25.445833
1987	chic	65.0	43.87500	1992-06-09	NA	18.000000	26.0276268	20.358333
1988	chic	64.0	42.50000	1992-06-10	NA	27.000000	28.0512599	31.868297
1989	chic	67.0	47.25000	1992-06-11	NA	41.857143	27.0556418	38.266667
1990	chic	69.0	45.75000	1992-06-12	NA	35.000000	40.7231571	42.414130
1991	chic	73.5	52.12500	1992-06-13	NA	61.000000	45.3281250	49.575000
1992	chic	75.5	61.00000	1992-06-14	NA	45.000000	41.2447917	23.391667
1993	chic	71.0	54.37500	1992-06-15	NA	45.000000	33.0303442	23.694565
1994	chic	75.5	62.00000	1992-06-16	NA	76.000000	44.3906250	24.071146
1995	chic	75.5	62.75000	1992-06-17	NA	72.285714	27.7550725	24.667754
1996	chic	73.0	59.12500	1992-06-18	NA	42.000000	27.6248297	24.811759
1997	chic	59.5	47.12500	1992-06-19	NA	NA	19.2288647	14.175000
1998	chic	51.5	38.50000	1992-06-20	NA	2.000000	20.4928977	11.012121

1999	chic	49.0	33.37500	1992-06-21		NA	9.000000	20.6822917	13.675000	
2000	chic	52.5	43.00000	1992-06-22		NA	62.000000	13.6607143	35.841667	
2001	chic	66.0	52.25000	1992-06-23		NA	48.142857	31.1379630	35.350000	
2002	chic	62.5	51.25000	1992-06-24		NA	40.000000	31.9844276	29.803810	
2003	chic	64.0	57.50000	1992-06-25		NA	50.000000	23.8234702	34.505303	
2004	chic	61.5	52.37500	1992-06-26		NA	41.000000	26.1209340	24.732246	
2005	chic	58.0	35.37500	1992-06-27		NA	17.000000	21.5937500	15.591667	
2006	chic	62.0	49.00000	1992-06-28		NA	38.000000	25.1197917	36.658333	
2007	chic	71.5	54.25000	1992-06-29		NA	53.500000	33.4093837	31.865476	
2008	chic	66.5	52.50000	1992-06-30		NA	18.000000	29.0138889	20.408333	
2009	chic	74.5	64.62500	1992-07-01		NA	75.000000	50.8287037	37.975000	
2010	chic	77.0	65.62500	1992-07-02		NA	79.000000	22.1914983	32.668478	
2011	chic	67.0	55.37500	1992-07-03		NA	24.000000	19.1041667	16.483333	
2012	chic	71.0	62.00000	1992-07-04		NA	24.000000	29.5312500	18.333333	
2013	chic	68.5	52.12500	1992-07-05		NA	19.714286	21.5781250	17.083333	
2014	chic	66.0	49.00000	1992-07-06		NA		NA	18.7339884	20.687879
2015	chic	67.5	64.62500	1992-07-07		NA	59.000000	19.0673401	28.441667	
2016	chic	79.5	68.25000	1992-07-08		NA	66.000000	29.1580113	23.409211	
2017	chic	74.0	64.62500	1992-07-09		NA	32.000000	13.8949275	33.066667	
2018	chic	76.5	60.25000	1992-07-10		NA	32.000000	24.1034622	30.325000	
2019	chic	73.0	64.50000	1992-07-11		NA	31.625000	25.9120370	29.125000	
2020	chic	73.5	71.62500	1992-07-12		NA	25.000000	19.0468750	16.760417	
2021	chic	69.5	68.75000	1992-07-13		NA	14.000000	20.7349034	22.164493	
2022	chic	65.0	60.12500	1992-07-14		NA	11.000000	18.6648099	18.716667	
2023	chic	68.0	51.87500	1992-07-15		NA	19.000000	23.5387205	19.446443	
2024	chic	68.0	66.87500	1992-07-16		NA	41.000000	13.3979469	35.372727	
2025	chic	74.0	61.87500	1992-07-17		NA	28.000000	17.7500000	26.125000	
2026	chic	68.0	62.62500	1992-07-18		NA	23.000000	17.3935185	21.620833	
2027	chic	72.5	67.87500	1992-07-19		NA	24.000000	26.6435185	22.033333	
2028	chic	68.0	59.37500	1992-07-20		NA	18.000000	18.9472625	19.999242	
2029	chic	62.0	48.75000	1992-07-21		NA	7.000000	20.7447665	12.631159	
2030	chic	63.5	60.12500	1992-07-22		NA	29.000000	18.8892915	21.339150	
2031	chic	62.5	58.00000	1992-07-23		NA	29.000000	20.1201691	19.775000	
2032	chic	67.0	60.87500	1992-07-24		NA	24.000000	26.9297138	21.240476	
2033	chic	67.5	70.62500	1992-07-25		NA	33.000000	18.1435185	28.875000	
2034	chic	74.0	64.12500	1992-07-26		NA	35.000000	20.2916667	20.779167	
2035	chic	71.5	57.62500	1992-07-27		NA	29.000000	17.2003968	24.737500	
2036	chic	71.5	67.12500	1992-07-28		NA	42.000000	20.5984300	27.650000	
2037	chic	66.5	55.25000	1992-07-29		NA	23.125000	14.4122383	17.147694	
2038	chic	61.5	62.75000	1992-07-30		NA	17.000000	13.4907407	17.845833	
2039	chic	67.0	51.50000	1992-07-31		NA	19.000000	20.4134461	21.048214	
2040	chic	68.0	57.37500	1992-08-01		NA		NA	23.6203704	21.137500
2041	chic	69.0	62.50000	1992-08-02		NA	23.000000	22.8055556	21.358333	

2042	chic	65.5	57.25000	1992-08-03	NA	34.000000	11.6376812	27.119242
2043	chic	62.5	50.12500	1992-08-04	NA	22.500000	13.2962963	18.103080
2044	chic	63.0	49.75000	1992-08-05	NA	24.000000	22.3870974	17.948480
2045	chic	67.5	56.87500	1992-08-06	NA	28.000000	30.3643378	26.273864
2046	chic	68.5	69.37500	1992-08-07	NA	61.500000	30.3716238	30.138889
2047	chic	75.5	68.50000	1992-08-08	NA	45.000000	32.4427083	19.236111
2048	chic	80.0	77.25000	1992-08-09	NA	46.000000	28.2604167	19.923611
2049	chic	79.0	58.37500	1992-08-10	NA	33.250000	23.2708333	17.027778
2050	chic	70.0	52.37500	1992-08-11	NA	26.000000	23.4866052	21.575873
2051	chic	62.0	56.75000	1992-08-12	NA	26.000000	10.3691077	22.745833
2052	chic	60.5	50.12500	1992-08-13	NA	22.500000	19.1508198	17.457413
2053	chic	61.0	46.37500	1992-08-14	NA	26.000000	17.2292673	21.308333
2054	chic	62.0	48.75000	1992-08-15	NA	13.000000	26.8888889	13.854167
2055	chic	63.0	48.87500	1992-08-16	NA	24.285714	26.2962963	21.025000
2056	chic	63.0	51.12500	1992-08-17	NA	82.000000	22.5092593	41.375000
2057	chic	66.0	61.00000	1992-08-18	NA	56.500000	21.9605475	30.875000
2058	chic	63.0	50.50000	1992-08-19	NA	18.000000	15.1904187	19.800774
2059	chic	62.0	46.37500	1992-08-20	NA	63.000000	15.5722625	24.325000
2060	chic	64.5	54.12500	1992-08-21	NA	76.500000	23.3305153	41.591342
2061	chic	67.0	61.87500	1992-08-22	NA	56.000000	33.5462963	38.516667
2062	chic	75.0	66.12500	1992-08-23	NA	59.500000	30.5740741	24.850000
2063	chic	78.5	68.12500	1992-08-24	NA	77.500000	20.6833187	27.141667
2064	chic	79.0	67.75000	1992-08-25	NA	46.000000	23.9583333	23.912771
2065	chic	66.5	60.37500	1992-08-26	NA	19.500000	12.1758658	16.383679
2066	chic	59.5	54.87500	1992-08-27	NA	31.000000	8.4612795	14.697727
2067	chic	59.5	48.50000	1992-08-28	NA	22.750000	11.5670107	21.250379
2068	chic	65.0	59.25000	1992-08-29	NA	51.500000	23.3703704	21.675000
2069	chic	66.0	51.37500	1992-08-30	NA	31.000000	22.1203704	11.358333
2070	chic	63.5	51.75000	1992-08-31	NA	38.000000	12.8101852	24.700000
2071	chic	63.0	58.25000	1992-09-01	NA	63.000000	16.6111111	30.570455
2072	chic	70.0	66.50000	1992-09-02	NA	56.000000	16.8967391	25.284420
2073	chic	67.5	51.12500	1992-09-03	NA	32.285714	16.3750915	25.167391
2074	chic	65.5	57.62500	1992-09-04	NA	33.000000	19.2175926	33.710507
2075	chic	70.5	65.75000	1992-09-05	NA	34.500000	23.3593750	21.183333
2076	chic	75.0	66.75000	1992-09-06	NA	36.000000	27.8802083	18.545833
2077	chic	73.5	65.50000	1992-09-07	NA	34.500000	31.5335145	22.766667
2078	chic	64.0	48.12500	1992-09-08	NA	54.000000	16.5157295	19.051630
2079	chic	63.0	62.87500	1992-09-09	NA	18.750000	6.3256844	29.427070
2080	chic	60.0	48.75000	1992-09-10	NA	41.500000	11.0179879	17.479167
2081	chic	58.0	51.62500	1992-09-11	NA	38.500000	10.1141304	24.728030
2082	chic	62.0	51.00000	1992-09-12	NA	39.000000	20.7222222	30.108333
2083	chic	67.5	56.25000	1992-09-13	NA	50.000000	33.4074074	23.575000
2084	chic	72.5	70.00000	1992-09-14	NA	69.500000	23.6620370	35.316667

2085	chic	76.5	69.12500	1992-09-15	NA	44.857143	19.9551127	34.818182
2086	chic	77.0	65.25000	1992-09-16	NA	103.500000	33.7055153	25.985145
2087	chic	71.5	66.62500	1992-09-17	NA	66.000000	20.7419485	32.653623
2088	chic	62.0	44.50000	1992-09-18	NA	41.500000	19.2435222	21.690476
2089	chic	53.5	42.37500	1992-09-19	NA	30.500000	13.9596561	28.650000
2090	chic	59.0	56.37500	1992-09-20	NA	27.000000	18.1145833	24.941667
2091	chic	64.0	62.50000	1992-09-21	NA	36.142857	6.3088768	26.116667
2092	chic	51.5	39.25000	1992-09-22	NA	37.000000	12.1795743	20.206977
2093	chic	49.5	39.37500	1992-09-23	NA	25.000000	12.9270833	23.393182
2094	chic	53.5	41.25000	1992-09-24	NA	36.500000	15.1979167	27.886111
2095	chic	59.5	53.75000	1992-09-25	NA	53.500000	16.3389946	35.408333
2096	chic	63.0	60.00000	1992-09-26	NA	28.000000	14.5625000	25.008333
2097	chic	59.0	43.12500	1992-09-27	NA	18.125000	13.7031250	19.500000
2098	chic	49.5	36.75000	1992-09-28	NA	37.500000	12.0332880	26.808333
2099	chic	49.5	38.50000	1992-09-29	NA	76.500000	8.7325634	37.902141
2100	chic	53.5	43.12500	1992-09-30	NA	95.500000	11.8079710	48.361153
2101	chic	58.5	48.00000	1992-10-01	NA	89.500000	15.5253623	48.046377
2102	chic	63.5	53.62500	1992-10-02	NA	86.000000	21.4043881	42.696485
2103	chic	66.0	52.62500	1992-10-03	NA	40.857143	29.6712963	28.637319
2104	chic	59.0	46.50000	1992-10-04	NA	30.500000	23.6527778	13.883333
2105	chic	53.0	41.87500	1992-10-05	NA	23.000000	15.4583333	23.469048
2106	chic	53.0	45.50000	1992-10-06	NA	72.000000	11.1418350	38.144862
2107	chic	58.0	52.00000	1992-10-07	NA	87.000000	19.6596399	38.310870
2108	chic	57.5	41.00000	1992-10-08	NA	46.000000	16.3357488	25.582971
2109	chic	49.0	45.75000	1992-10-09	NA	19.285714	7.1649832	18.458333
2110	chic	51.5	41.75000	1992-10-10	NA	50.000000	11.9120370	24.531250
2111	chic	51.5	36.37500	1992-10-11	NA	59.500000	13.4722222	22.760417
2112	chic	53.5	28.62500	1992-10-12	NA	57.000000	14.9861111	26.072917
2113	chic	47.0	38.25000	1992-10-13	NA	64.000000	9.3085017	30.580303
2114	chic	55.5	49.00000	1992-10-14	NA	44.500000	9.9874339	30.807576
2115	chic	50.0	49.37500	1992-10-15	NA	19.000000	4.8630888	20.436232
2116	chic	40.5	27.50000	1992-10-16	NA	31.500000	6.7962963	19.920833
2117	chic	38.5	29.37500	1992-10-17	NA	32.500000	8.9629630	28.191667
2118	chic	35.0	18.12500	1992-10-18	NA	37.000000	15.7638889	20.408333
2119	chic	33.0	20.00000	1992-10-19	NA	30.000000	9.2962963	33.641667
2120	chic	45.5	42.37500	1992-10-20	NA	41.000000	9.7786195	25.368478
2121	chic	47.0	40.25000	1992-10-21	NA	43.250000	9.9302811	25.076252
2122	chic	57.5	57.87500	1992-10-22	NA	63.000000	11.8659555	41.165382
2123	chic	67.0	56.87500	1992-10-23	NA	129.000000	17.2592844	35.675000
2124	chic	51.0	42.50000	1992-10-24	NA	30.500000	17.5885417	22.516667
2125	chic	49.0	43.12500	1992-10-25	NA	37.000000	12.1944444	29.925000
2126	chic	49.0	38.12500	1992-10-26	NA	40.500000	15.2401369	26.141667
2127	chic	46.5	35.75000	1992-10-27	NA	77.428571	6.1851852	45.059554

2128	chic	50.5	34.75000	1992-10-28	NA	119.000000	7.9973650	40.455435
2129	chic	45.0	37.12500	1992-10-29	NA	30.000000	14.5253623	20.317029
2130	chic	45.0	37.87500	1992-10-30	NA	24.500000	13.3611111	20.033333
2131	chic	44.0	35.87500	1992-10-31	NA	18.000000	13.5509259	20.833333
2132	chic	45.5	44.12500	1992-11-01	NA	30.000000	12.1145833	15.150000
2133	chic	48.0	35.75000	1992-11-02	NA	11.714286	3.4605978	18.000000
2134	chic	37.0	35.00000	1992-11-03	NA	15.000000	5.8645833	25.241667
2135	chic	35.5	28.75000	1992-11-04	NA	13.000000	5.1934289	21.593939
2136	chic	32.5	22.50000	1992-11-05	NA	26.000000	4.3257576	27.244231
2137	chic	34.0	21.75000	1992-11-06	NA	21.000000	4.7735507	29.645833
2138	chic	34.0	30.87500	1992-11-07	NA	27.500000	5.6000000	28.770833
2139	chic	38.0	35.12500	1992-11-08	NA	27.125000	4.1041667	22.822917
2140	chic	48.0	41.62500	1992-11-09	NA	32.000000	7.2083333	26.687500
2141	chic	49.5	51.00000	1992-11-10	NA	37.000000	5.3333333	26.891667
2142	chic	44.5	39.37500	1992-11-11	NA	24.000000	6.2083333	19.833333
2143	chic	40.0	27.62500	1992-11-12	NA	NA	6.8409091	21.129381
2144	chic	30.5	20.87500	1992-11-13	NA	27.500000	11.7500000	20.700000
2145	chic	28.0	16.87500	1992-11-14	NA	18.714286	7.6666667	21.850000
2146	chic	29.0	21.62500	1992-11-15	NA	27.000000	7.5416667	22.258333
2147	chic	36.5	37.37500	1992-11-16	NA	33.000000	3.7500000	28.408333
2148	chic	38.5	32.75000	1992-11-17	NA	42.500000	3.7777778	25.696667
2149	chic	39.0	34.25000	1992-11-18	NA	28.500000	9.0845411	19.987500
2150	chic	40.5	37.12500	1992-11-19	NA	33.500000	7.7171717	24.470690
2151	chic	52.0	44.50000	1992-11-20	NA	32.857143	6.2083333	32.075000
2152	chic	48.5	40.37500	1992-11-21	NA	20.500000	5.3750000	15.125000
2153	chic	41.0	39.50000	1992-11-22	NA	11.500000	11.8333333	12.383333
2154	chic	38.0	36.37500	1992-11-23	NA	34.500000	3.7500000	26.529529
2155	chic	39.5	37.87500	1992-11-24	NA	26.000000	3.6712121	23.966667
2156	chic	43.5	42.50000	1992-11-25	NA	37.500000	2.4166667	18.746739
2157	chic	36.5	26.00000	1992-11-26	NA	11.714286	7.6944444	13.566667
2158	chic	29.5	24.12500	1992-11-27	NA	30.500000	5.5694444	23.625000
2159	chic	30.0	25.62500	1992-11-28	NA	32.500000	4.9027778	24.241667
2160	chic	35.0	30.87500	1992-11-29	NA	28.000000	6.3194444	23.100000
2161	chic	33.5	25.25000	1992-11-30	NA	53.000000	4.1884058	21.833333
2162	chic	32.0	28.00000	1992-12-01	NA	18.000000	3.6944444	23.150000
2163	chic	32.5	19.87500	1992-12-02	NA	21.428571	7.1998792	22.583333
2164	chic	28.0	23.37500	1992-12-03	NA	21.000000	6.5067523	26.841667
2165	chic	25.5	11.87500	1992-12-04	NA	48.000000	7.1805556	24.198913
2166	chic	19.5	9.25000	1992-12-05	NA	25.000000	7.5694444	25.975000
2167	chic	23.0	25.75000	1992-12-06	NA	23.500000	2.7361111	25.691667
2168	chic	27.0	21.12500	1992-12-07	NA	36.500000	5.0138889	27.158333
2169	chic	26.5	21.62500	1992-12-08	NA	32.000000	6.5883838	29.179928
2170	chic	27.5	27.62500	1992-12-09	NA	42.000000	3.2536232	27.333333

2171	chic	32.0	29.37500	1992-12-10		NA	47.500000	2.0434783	30.658333
2172	chic	33.0	30.37500	1992-12-11		NA	32.500000	2.0000000	29.916667
2173	chic	32.0	30.25000	1992-12-12		NA	32.000000	8.5972222	27.033333
2174	chic	32.0	31.00000	1992-12-13		NA	26.000000	9.0833333	20.133333
2175	chic	29.5	30.75000	1992-12-14		NA	37.285714	2.6044686	27.940476
2176	chic	44.0	45.50000	1992-12-15		NA	28.000000	3.2866162	27.065942
2177	chic	37.5	29.62500	1992-12-16		NA	26.000000	2.6666667	20.537500
2178	chic	30.5	20.12500	1992-12-17		NA	36.000000	3.0000000	24.158333
2179	chic	30.0	27.12500	1992-12-18		NA	30.500000	2.4027778	22.608333
2180	chic	31.0	26.25000	1992-12-19		NA	32.000000	2.5416667	22.441667
2181	chic	19.5	11.75000	1992-12-20		NA	23.875000	7.0972222	21.433333
2182	chic	26.0	25.50000	1992-12-21		NA	46.500000	2.2500000	28.893841
2183	chic	33.0	30.12500	1992-12-22		NA	44.500000	2.0000000	31.813636
2184	chic	21.5	5.25000	1992-12-23		NA	53.000000	4.5314010	24.325362
2185	chic	10.0	7.75000	1992-12-24		NA	39.000000	6.8194444	21.908333
2186	chic	18.0	1.75000	1992-12-25		NA	75.000000	14.2222222	12.375000
2187	chic	14.5	3.25000	1992-12-26		NA	27.142857	7.2222222	23.916667
2188	chic	30.5	25.37500	1992-12-27		NA	31.000000	4.4305556	24.766667
2189	chic	38.5	36.62500	1992-12-28		NA	36.000000	2.0000000	22.497727
2190	chic	41.5	42.12500	1992-12-29		NA	43.000000	2.0000000	21.177451
2191	chic	45.5	43.62500	1992-12-30		NA	43.000000	2.0000000	20.392172
2192	chic	26.0	11.00000	1992-12-31		NA	44.000000	2.0833333	17.558333
2193	chic	14.0	9.37500	1993-01-01		NA	18.142857	4.3055556	22.608333
2194	chic	25.0	28.25000	1993-01-02		NA	17.500000	1.5416667	23.808333
2195	chic	40.5	44.87500	1993-01-03		NA	21.500000	0.5277778	19.825000
2196	chic	38.5	32.50000	1993-01-04		NA	17.000000	0.8333333	18.166667
2197	chic	27.5	21.50000	1993-01-05		NA	12.000000	0.9532828	22.087088
2198	chic	21.5	16.50000	1993-01-06		NA	34.000000	1.7777778	26.718182
2199	chic	24.5	20.62500	1993-01-07		NA	19.875000	1.6900527	27.083333
2200	chic	21.5	17.87500	1993-01-08		NA	14.000000	14.2506039	25.600000
2201	chic	24.5	20.25000	1993-01-09		NA	3.000000	24.9583333	11.658333
2202	chic	24.5	22.37500	1993-01-10		NA	8.000000	24.1666667	13.283333
2203	chic	26.5	23.25000	1993-01-11		NA	14.500000	12.8194444	22.508333
2204	chic	30.5	33.00000	1993-01-12		NA	32.000000	1.5277778	27.104348
2205	chic	27.5	21.25000	1993-01-13		NA	20.875000	3.0492424	29.516667
2206	chic	21.5	20.25000	1993-01-14		NA	12.500000	4.0241546	37.076812
2207	chic	18.0	14.50000	1993-01-15		NA	31.500000	5.7815657	31.814394
2208	chic	22.0	27.62500	1993-01-16		NA	25.500000	3.2361111	33.025000
2209	chic	20.5	5.00000	1993-01-17		NA	22.000000	17.5972222	22.258333
2210	chic	18.0	15.25000	1993-01-18		NA	51.000000	8.0555556	34.408333
2211	chic	18.5	13.50000	1993-01-19		NA	49.571429	6.0289855	43.205435
2212	chic	27.0	31.62500	1993-01-20		NA	41.500000	4.3888889	33.197464
2213	chic	35.5	34.00000	1993-01-21		NA	19.000000	0.6527778	27.002841

2214	chic	34.0	26.12500	1993-01-22		NA	24.500000	5.9444444	28.281250
2215	chic	36.5	31.62500	1993-01-23		NA	20.000000	9.5972222	24.145833
2216	chic	28.5	14.00000	1993-01-24		NA	26.000000	16.5277778	14.885417
2217	chic	23.0	11.62500	1993-01-25		NA	29.875000	7.7500000	30.077083
2218	chic	30.0	30.00000	1993-01-26		NA	52.500000	6.5772947	27.176449
2219	chic	31.5	25.25000	1993-01-27		NA	31.500000	7.7312802	29.664827
2220	chic	30.5	21.37500	1993-01-28		NA	36.500000	7.2350427	24.816667
2221	chic	15.5	4.00000	1993-01-29		NA	19.500000	11.7500000	21.658333
2222	chic	25.5	14.25000	1993-01-30		NA	41.500000	14.3888889	17.533333
2223	chic	38.5	30.75000	1993-01-31		NA	20.500000	13.2083333	19.625000
2224	chic	30.5	18.00000	1993-02-01		NA	13.500000	20.6944444	16.219118
2225	chic	28.5	17.00000	1993-02-02		NA	12.000000	7.2125604	34.135705
2226	chic	35.5	24.87500	1993-02-03		NA	64.000000	3.0997475	39.545787
2227	chic	38.0	22.50000	1993-02-04		NA	96.500000	7.2916667	43.349781
2228	chic	36.5	29.25000	1993-02-05		NA	74.500000	7.8586957	36.236045
2229	chic	29.0	21.37500	1993-02-06		NA	12.375000	17.4861111	17.263889
2230	chic	32.0	30.00000	1993-02-07		NA	26.500000	6.8055556	21.451389
2231	chic	30.0	21.25000	1993-02-08		NA	11.500000	15.6805556	18.471230
2232	chic	32.5	33.37500	1993-02-09		NA	40.500000	1.0492424	26.394895
2233	chic	35.0	32.37500	1993-02-10		NA	20.000000	6.8550725	22.660804
2234	chic	32.0	25.62500	1993-02-11		NA	16.500000	14.4583333	15.575000
2235	chic	29.0	27.25000	1993-02-12		NA	20.375000	13.9055556	19.110000
2236	chic	28.5	26.62500	1993-02-13		NA	11.000000	7.5000000	26.208333
2237	chic	27.0	20.37500	1993-02-14		NA	23.000000	17.6666667	18.444444
2238	chic	24.5	18.75000	1993-02-15		NA	37.000000	9.8750000	28.444444
2239	chic	25.5	13.37500	1993-02-16		NA	22.000000	15.4154040	27.038333
2240	chic	10.5	-5.00000	1993-02-17		NA	39.000000	15.7638889	23.984848
2241	chic	7.5	4.87500	1993-02-18		NA	27.750000	13.8756039	25.609058
2242	chic	15.0	16.62500	1993-02-19		NA	66.500000	9.3888889	39.246032
2243	chic	25.5	23.75000	1993-02-20		NA	44.500000	13.1388889	39.658333
2244	chic	29.0	26.87500	1993-02-21		NA	23.000000	11.3750000	24.050000
2245	chic	22.0	18.00000	1993-02-22		NA	18.500000	12.8194444	32.944979
2246	chic	12.0	2.75000	1993-02-23		NA	36.500000	11.9861111	30.125000
2247	chic	5.0	-1.87500	1993-02-24		NA	39.750000	9.1148990	35.112374
2248	chic	10.0	15.50000	1993-02-25		NA	37.000000	12.4166667	35.233440
2249	chic	22.0	12.75000	1993-02-26		NA	16.500000	18.5132850	30.334678
2250	chic	19.0	13.62500	1993-02-27		NA	52.500000	10.3611111	48.901389
2251	chic	20.0	19.62500	1993-02-28		NA	44.500000	28.4444444	46.232488
2252	chic	34.5	31.62500	1993-03-01		NA	47.000000	23.6944444	43.209038
2253	chic	38.5	34.12500	1993-03-02		NA	52.000000	8.2182540	47.176587
2254	chic	38.5	32.25000	1993-03-03		NA	27.000000	31.3659420	31.632071
2255	chic	34.5	29.87500	1993-03-04		NA	20.500000	30.3333333	20.312500
2256	chic	34.5	18.75000	1993-03-05		NA	36.000000	16.9556159	31.128568

2257	chic	36.0	29.12500	1993-03-06	NA	20.000000	9.5416667	38.618056
2258	chic	34.0	33.00000	1993-03-07	NA	27.000000	10.3125000	24.812500
2259	chic	38.0	27.87500	1993-03-08	NA	24.625000	10.5000000	24.755682
2260	chic	36.5	26.87500	1993-03-09	NA	26.000000	19.3055556	23.604167
2261	chic	32.5	27.37500	1993-03-10	NA	22.500000	7.4053030	30.028968
2262	chic	26.0	21.50000	1993-03-11	NA	35.000000	9.5138889	28.062500
2263	chic	22.0	12.50000	1993-03-12	NA	48.000000	11.5921717	35.888889
2264	chic	17.0	1.50000	1993-03-13	NA	43.000000	17.4583333	22.708333
2265	chic	14.5	2.75000	1993-03-14	NA	24.875000	15.8888889	23.937500
2266	chic	30.5	30.12500	1993-03-15	NA	85.000000	16.7708333	31.486111
2267	chic	37.5	30.25000	1993-03-16	NA	24.000000	17.3750000	27.022947
2268	chic	21.5	6.00000	1993-03-17	NA	26.000000	26.3376068	19.491667
2269	chic	23.0	15.87500	1993-03-18	NA	10.000000	26.4381313	23.357049
2270	chic	29.5	30.37500	1993-03-19	NA	29.000000	8.1224747	29.447691
2271	chic	35.0	32.00000	1993-03-20	NA	40.571429	4.1177536	27.790761
2272	chic	35.0	31.25000	1993-03-21	NA	42.000000	12.3888889	30.201389
2273	chic	35.0	35.00000	1993-03-22	NA	26.500000	17.5996377	24.281401
2274	chic	39.5	38.50000	1993-03-23	NA	27.000000	7.0039683	29.065355
2275	chic	38.0	37.25000	1993-03-24	NA	33.000000	5.9166667	28.910564
2276	chic	40.0	37.25000	1993-03-25	NA	36.500000	8.6920290	26.769841
2277	chic	39.0	35.00000	1993-03-26	NA	33.375000	24.7874396	27.711655
2278	chic	37.5	33.75000	1993-03-27	NA	19.000000	29.0833333	23.430556
2279	chic	41.5	33.50000	1993-03-28	NA	17.000000	27.6944444	27.611111
2280	chic	50.0	33.25000	1993-03-29	NA	40.000000	23.6527778	41.844807
2281	chic	50.0	45.62500	1993-03-30	NA	41.500000	24.2620773	41.421196
2282	chic	44.0	36.25000	1993-03-31	NA	31.500000	21.8365385	21.987103
2283	chic	31.0	27.12500	1993-04-01	NA	11.625000	26.9351852	15.086310
2284	chic	31.0	19.62500	1993-04-02	NA	41.000000	18.8820451	29.449907
2285	chic	33.5	25.00000	1993-04-03	NA	24.500000	17.7175926	33.937500
2286	chic	31.5	27.12500	1993-04-04	NA	32.500000	23.8703704	27.861111
2287	chic	36.5	30.37500	1993-04-05	NA	32.000000	21.0946055	23.902778
2288	chic	40.0	32.25000	1993-04-06	NA	34.000000	21.5108696	31.069444
2289	chic	47.5	43.50000	1993-04-07	NA	57.250000	15.9351486	33.365036
2290	chic	55.5	52.75000	1993-04-08	NA	45.500000	14.3041282	32.318182
2291	chic	48.5	35.12500	1993-04-09	NA	35.000000	20.2129630	25.611111
2292	chic	46.0	32.25000	1993-04-10	NA	26.500000	22.1388889	24.937500
2293	chic	43.5	34.25000	1993-04-11	NA	15.000000	19.8333333	15.743056
2294	chic	41.0	31.00000	1993-04-12	NA	20.000000	27.9364478	18.180556
2295	chic	39.5	29.12500	1993-04-13	NA	31.428571	25.2692139	22.841540
2296	chic	44.5	42.75000	1993-04-14	NA	41.000000	18.6226577	27.149457
2297	chic	43.5	42.00000	1993-04-15	NA	22.500000	10.4394985	29.124008
2298	chic	38.0	32.37500	1993-04-16	NA	24.000000	16.8240741	22.888889
2299	chic	43.5	37.37500	1993-04-17	NA	37.000000	23.5231481	25.930556

2300	chic	50.5	46.00000	1993-04-18	NA	28.000000	29.7731481	22.673611
2301	chic	51.0	50.75000	1993-04-19	NA	30.875000	14.7175926	33.416667
2302	chic	38.0	27.87500	1993-04-20	NA	28.000000	24.2445652	18.457071
2303	chic	42.0	19.37500	1993-04-21	NA	43.500000	20.2952188	31.155696
2304	chic	48.0	25.37500	1993-04-22	NA	63.500000	18.2182540	41.152778
2305	chic	52.5	41.37500	1993-04-23	NA	63.500000	24.6382484	40.133838
2306	chic	64.5	46.37500	1993-04-24	NA	100.000000	34.1851852	15.465278
2307	chic	50.0	38.12500	1993-04-25	NA	18.000000	31.0925926	15.750000
2308	chic	40.0	29.37500	1993-04-26	NA	18.500000	21.3110269	17.627553
2309	chic	49.5	46.87500	1993-04-27	NA	67.000000	21.3657407	25.908213
2310	chic	64.5	48.75000	1993-04-28	NA	46.000000	21.0408615	33.756944
2311	chic	52.5	49.00000	1993-04-29	NA	48.500000	7.5201105	38.163345
2312	chic	57.0	38.25000	1993-04-30	NA	42.500000	12.1064815	36.868056
2313	chic	59.0	48.75000	1993-05-01	NA	35.000000	30.7268519	22.326389
2314	chic	61.0	59.50000	1993-05-02	NA	31.000000	25.1472222	25.604167
2315	chic	61.5	57.75000	1993-05-03	NA	31.500000	20.0703071	27.121291
2316	chic	60.5	56.50000	1993-05-04	NA	34.000000	16.2316462	34.496404
2317	chic	61.0	54.50000	1993-05-05	NA	53.500000	12.8896166	37.206349
2318	chic	62.5	48.62500	1993-05-06	NA	71.500000	15.6750842	48.282119
2319	chic	66.5	48.75000	1993-05-07	NA	60.375000	33.6874144	42.745833
2320	chic	72.5	51.25000	1993-05-08	NA	52.000000	44.3009259	28.215278
2321	chic	74.5	57.12500	1993-05-09	NA	59.000000	36.9583333	29.097222
2322	chic	75.0	59.12500	1993-05-10	NA	72.000000	36.1708333	35.180556
2323	chic	63.5	45.62500	1993-05-11	NA	37.500000	28.3630508	28.667298
2324	chic	62.5	32.37500	1993-05-12	NA	50.500000	21.4507905	24.145574
2325	chic	48.5	33.75000	1993-05-13	NA	23.125000	16.9920290	17.555556
2326	chic	61.0	49.00000	1993-05-14	NA	52.000000	24.3202899	27.707882
2327	chic	62.0	37.87500	1993-05-15	NA	73.500000	28.8125000	19.652778
2328	chic	56.0	36.62500	1993-05-16	NA	44.500000	28.2916667	21.319444
2329	chic	52.0	34.87500	1993-05-17	NA	30.500000	17.1579710	30.262255
2330	chic	54.5	41.12500	1993-05-18	NA	51.000000	18.8254529	27.685579
2331	chic	49.5	38.00000	1993-05-19	NA	24.625000	17.0335145	24.452295
2332	chic	50.5	36.00000	1993-05-20	NA	61.500000	10.7178571	34.156566
2333	chic	56.0	37.00000	1993-05-21	NA	53.000000	17.1538043	36.979167
2334	chic	60.5	55.37500	1993-05-22	NA	43.000000	27.1458333	30.534722
2335	chic	63.5	65.00000	1993-05-23	NA	20.000000	29.8833333	15.180556
2336	chic	60.0	49.25000	1993-05-24	NA	34.000000	19.5721014	12.409722
2337	chic	58.5	45.00000	1993-05-25	NA	28.000000	16.6827734	26.664526
2338	chic	61.5	47.00000	1993-05-26	NA	50.000000	19.6416667	33.611111
2339	chic	65.0	49.37500	1993-05-27	NA	107.000000	26.0112319	31.147041
2340	chic	57.0	44.12500	1993-05-28	NA	92.500000	18.6224638	20.211988
2341	chic	51.0	44.12500	1993-05-29	NA	16.000000	23.4629630	14.034722
2342	chic	58.5	64.25000	1993-05-30	NA	28.000000	16.2500000	23.076389

2343	chic	53.5	42.00000	1993-05-31		NA	11.500000	26.0370370	10.319444
2344	chic	51.0	44.50000	1993-06-01		NA	31.000000	14.1727273	26.022096
2345	chic	54.5	51.62500	1993-06-02		NA	32.000000	19.1234848	28.194664
2346	chic	50.5	44.37500	1993-06-03		NA	31.500000	19.8540679	23.819444
2347	chic	49.5	46.75000	1993-06-04		NA	19.500000	17.8911232	17.566943
2348	chic	58.5	46.00000	1993-06-05		NA	23.000000	22.8875000	25.652778
2349	chic	61.0	53.37500	1993-06-06		NA	31.625000	26.4125000	22.472222
2350	chic	64.0	65.12500	1993-06-07		NA	36.000000	6.1296212	33.868056
2351	chic	72.0	67.37500	1993-06-08		NA	25.000000	13.4642256	30.505462
2352	chic	71.0	57.75000	1993-06-09		NA	34.000000	26.8257576	18.293561
2353	chic	68.5	61.87500	1993-06-10		NA	63.000000	24.6500000	36.159722
2354	chic	68.0	57.75000	1993-06-11		NA	36.000000	35.5093478	33.729167
2355	chic	67.0	57.00000	1993-06-12		NA	40.571429	35.7208333	26.966667
2356	chic	70.5	67.62500	1993-06-13		NA	52.000000	32.6458333	28.500000
2357	chic	72.0	54.12500	1993-06-14		NA	43.000000	25.7684524	25.555952
2358	chic	62.5	50.25000	1993-06-15		NA	33.000000	19.8937681	19.601087
2359	chic	63.5	59.37500	1993-06-16		NA	NA	28.2992260	26.013225
2360	chic	78.5	69.75000	1993-06-17		NA	62.000000	44.1802536	29.585870
2361	chic	69.5	60.87500	1993-06-18		NA	32.500000	30.4458333	27.250000
2362	chic	70.5	69.00000	1993-06-19		NA	28.000000	25.9537037	25.093750
2363	chic	69.5	61.75000	1993-06-20		NA	18.000000	25.0694444	14.691667
2364	chic	70.5	62.62500	1993-06-21		NA	30.000000	15.7244674	29.016204
2365	chic	72.0	56.25000	1993-06-22		NA	47.000000	25.8967391	38.609127
2366	chic	71.5	67.37500	1993-06-23		NA	59.000000	38.0438406	26.814915
2367	chic	78.5	67.87500	1993-06-24		NA	49.875000	31.0643939	27.381944
2368	chic	71.5	55.00000	1993-06-25		NA	34.000000	16.7433136	25.752345
2369	chic	70.5	62.25000	1993-06-26		NA	35.000000	20.2441667	23.888889
2370	chic	74.5	62.00000	1993-06-27		NA	27.000000	26.4791667	20.072917
2371	chic	65.5	52.37500	1993-06-28		NA	19.000000	18.6049431	23.563095
2372	chic	64.5	56.87500	1993-06-29		NA	24.000000	22.1983747	23.790687
2373	chic	64.0	60.50000	1993-06-30		NA	33.250000	16.4796066	21.772865
2374	chic	68.5	63.75000	1993-07-01		NA	36.000000	10.0480072	29.243659
2375	chic	73.0	71.50000	1993-07-02		NA	NA	11.8518939	37.633838
2376	chic	79.0	73.50000	1993-07-03		NA	NA	26.7083333	30.590278
2377	chic	81.5	70.00000	1993-07-04		NA	70.000000	29.3541667	15.666667
2378	chic	81.0	71.00000	1993-07-05		NA	NA	33.6541667	10.937500
2379	chic	73.5	66.87500	1993-07-06		NA	23.750000	25.1070652	24.499369
2380	chic	75.0	69.12500	1993-07-07		NA	31.000000	17.3366977	28.416667
2381	chic	79.5	74.50000	1993-07-08		NA	47.000000	23.9311594	25.363043
2382	chic	81.0	68.12500	1993-07-09		NA	NA	23.5853261	23.233333
2383	chic	78.5	70.12500	1993-07-10		NA	25.000000	20.8791667	29.400000
2384	chic	73.5	68.50000	1993-07-11		NA	29.000000	24.4083333	20.816667
2385	chic	72.0	56.50000	1993-07-12		NA	28.285714	26.5750000	23.358333

2386	chic	71.0	67.75000	1993-07-13	NA	40.000000	30.1625000	26.598333
2387	chic	70.0	58.37500	1993-07-14	NA	NA	27.9927536	27.013889
2388	chic	69.5	55.25000	1993-07-15	NA	15.000000	30.5229167	17.055556
2389	chic	72.5	64.87500	1993-07-16	NA	47.000000	34.9458333	24.515399
2390	chic	74.5	71.00000	1993-07-17	NA	60.000000	29.7750000	23.034722
2391	chic	79.0	72.75000	1993-07-18	NA	38.625000	25.0556818	24.118056
2392	chic	76.0	65.00000	1993-07-19	NA	43.000000	28.8250000	21.826389
2393	chic	71.5	59.00000	1993-07-20	NA	33.000000	21.9233484	22.378157
2394	chic	69.0	55.12500	1993-07-21	NA	29.000000	17.4902174	18.907828
2395	chic	66.0	54.87500	1993-07-22	NA	24.000000	20.5943841	16.548611
2396	chic	72.5	65.75000	1993-07-23	NA	57.000000	26.1639493	28.435414
2397	chic	77.5	71.25000	1993-07-24	NA	46.500000	24.2186594	27.451169
2398	chic	79.5	73.75000	1993-07-25	NA	36.000000	29.7083333	15.909722
2399	chic	76.0	66.12500	1993-07-26	NA	33.000000	20.5818841	20.951389
2400	chic	78.5	78.12500	1993-07-27	NA	66.000000	24.4192029	26.477273
2401	chic	76.5	62.00000	1993-07-28	NA	51.000000	25.8407867	16.401389
2402	chic	72.0	60.87500	1993-07-29	NA	34.000000	17.9174078	17.273853
2403	chic	69.5	59.62500	1993-07-30	NA	31.625000	19.0258235	23.002525
2404	chic	72.0	68.12500	1993-07-31	NA	46.000000	24.4583333	26.861111
2405	chic	75.5	63.00000	1993-08-01	NA	26.500000	27.5583333	13.598128
2406	chic	68.5	57.12500	1993-08-02	NA	42.500000	15.9000000	20.531944
2407	chic	70.5	55.87500	1993-08-03	NA	42.500000	15.5728261	19.423611
2408	chic	63.5	49.00000	1993-08-04	NA	38.500000	15.6845356	19.437500
2409	chic	63.0	57.50000	1993-08-05	NA	36.875000	13.6126812	26.466667
2410	chic	66.0	51.75000	1993-08-06	NA	32.000000	15.4938406	22.537879
2411	chic	65.0	59.25000	1993-08-07	NA	26.000000	22.9291667	22.800000
2412	chic	68.5	59.87500	1993-08-08	NA	37.500000	35.9445652	30.291667
2413	chic	68.0	66.25000	1993-08-09	NA	55.000000	19.9250000	31.800000
2414	chic	77.0	70.62500	1993-08-10	NA	67.500000	26.2540415	26.756159
2415	chic	76.5	70.25000	1993-08-11	NA	79.250000	33.6243083	37.703788
2416	chic	76.0	71.75000	1993-08-12	NA	59.000000	24.4883564	28.176389
2417	chic	77.0	70.25000	1993-08-13	NA	71.000000	38.8621739	28.704980
2418	chic	77.0	67.37500	1993-08-14	NA	83.500000	32.0882576	34.885101
2419	chic	74.0	71.62500	1993-08-15	NA	52.500000	19.9000000	30.138889
2420	chic	76.0	68.87500	1993-08-16	NA	41.000000	20.5368357	28.152778
2421	chic	75.0	69.00000	1993-08-17	NA	40.285714	38.7960950	18.655303
2422	chic	76.5	69.62500	1993-08-18	NA	56.000000	37.8836957	30.311308
2423	chic	78.0	72.37500	1993-08-19	NA	57.500000	12.9125000	36.639520
2424	chic	71.5	61.62500	1993-08-20	NA	28.000000	19.0284420	20.423611
2425	chic	71.5	61.75000	1993-08-21	NA	20.000000	20.9500000	12.270833
2426	chic	70.0	64.75000	1993-08-22	NA	26.500000	22.2583333	18.958333
2427	chic	80.0	71.50000	1993-08-23	NA	55.250000	30.3715909	22.344907
2428	chic	77.0	68.37500	1993-08-24	NA	40.000000	19.4242424	25.112864

2429	chic	79.0	72.37500	1993-08-25	NA	52.000000	24.6742424	34.880682
2430	chic	84.0	74.00000	1993-08-26	NA	66.500000	24.2098485	31.784722
2431	chic	81.5	71.62500	1993-08-27	NA	85.500000	30.5262821	24.065217
2432	chic	72.0	61.25000	1993-08-28	NA	14.000000	19.2608696	12.506944
2433	chic	71.0	69.87500	1993-08-29	NA	26.285714	19.9916667	18.930556
2434	chic	79.0	72.37500	1993-08-30	NA	78.000000	25.7924431	22.755478
2435	chic	64.0	52.37500	1993-08-31	NA	24.000000	15.5011905	19.695048
2436	chic	64.5	56.12500	1993-09-01	NA	31.500000	16.8591874	31.441468
2437	chic	67.0	69.75000	1993-09-02	NA	36.000000	2.7121706	25.368056
2438	chic	66.0	58.62500	1993-09-03	NA	36.000000	12.0500000	21.230374
2439	chic	64.0	59.50000	1993-09-04	NA	24.000000	13.0375000	17.541667
2440	chic	67.0	60.12500	1993-09-05	NA	18.000000	12.3333333	15.808333
2441	chic	59.5	47.25000	1993-09-06	NA	18.000000	12.4208333	14.975000
2442	chic	62.5	51.62500	1993-09-07	NA	65.000000	11.1795455	33.091667
2443	chic	64.0	52.50000	1993-09-08	NA	38.000000	11.5538043	31.594697
2444	chic	64.5	54.62500	1993-09-09	NA	40.000000	14.0847497	20.726010
2445	chic	55.5	40.37500	1993-09-10	NA	34.285714	12.6507576	20.990278
2446	chic	55.0	49.50000	1993-09-11	NA	40.500000	12.6125000	22.266667
2447	chic	70.5	64.12500	1993-09-12	NA	44.500000	33.6791667	13.925000
2448	chic	73.5	70.00000	1993-09-13	NA	36.000000	29.2501812	22.075000
2449	chic	62.0	53.25000	1993-09-14	NA	23.000000	7.8304348	14.628877
2450	chic	53.0	45.50000	1993-09-15	NA	15.000000	7.4208333	16.983333
2451	chic	55.0	49.25000	1993-09-16	NA	29.875000	4.4994048	24.270833
2452	chic	60.5	47.75000	1993-09-17	NA	36.000000	10.6083333	33.914855
2453	chic	59.5	53.87500	1993-09-18	NA	39.000000	9.9458333	26.625000
2454	chic	59.0	53.87500	1993-09-19	NA	26.000000	20.5375000	14.083333
2455	chic	61.0	61.37500	1993-09-20	NA	44.500000	8.6125000	28.930556
2456	chic	57.0	53.62500	1993-09-21	NA	31.500000	6.6268775	20.957071
2457	chic	65.0	63.12500	1993-09-22	NA	33.250000	6.3972050	27.163087
2458	chic	54.5	45.75000	1993-09-23	NA	24.500000	8.5541667	19.249242
2459	chic	53.5	47.37500	1993-09-24	NA	50.000000	8.2206522	33.958333
2460	chic	56.5	54.87500	1993-09-25	NA	33.500000	9.7728070	21.364583
2461	chic	59.0	53.37500	1993-09-26	NA	26.000000	18.9120370	21.500000
2462	chic	49.5	39.37500	1993-09-27	NA	30.000000	5.2327441	18.093750
2463	chic	51.5	39.75000	1993-09-28	NA	25.750000	7.2977602	23.267754
2464	chic	46.5	37.50000	1993-09-29	NA	31.000000	3.5954545	21.619394
2465	chic	46.5	39.75000	1993-09-30	NA	45.000000	11.1924172	22.668780
2466	chic	56.5	36.87500	1993-10-01	NA	37.000000	15.9300725	21.560826
2467	chic	45.0	25.12500	1993-10-02	NA	30.500000	12.5916667	21.523359
2468	chic	52.0	47.00000	1993-10-03	NA	33.000000	19.7875000	13.250000
2469	chic	50.5	40.50000	1993-10-04	NA	23.500000	13.7075828	19.326667
2470	chic	49.0	40.37500	1993-10-05	NA	57.000000	7.2540942	37.211353
2471	chic	61.0	56.12500	1993-10-06	NA	45.000000	18.9572464	29.656243

2472	chic	70.0	56.50000	1993-10-07	NA	91.50000	26.6460145	34.983333
2473	chic	62.5	51.75000	1993-10-08	NA	82.50000	24.4547101	31.329710
2474	chic	40.5	27.50000	1993-10-09	NA	7.50000	19.9675926	10.263768
2475	chic	41.5	32.25000	1993-10-10	NA	18.428571	9.5958333	25.769928
2476	chic	44.5	37.62500	1993-10-11	NA	87.00000	10.9416667	30.139493
2477	chic	46.5	35.87500	1993-10-12	NA	24.00000	10.8409420	21.888768
2478	chic	40.5	33.25000	1993-10-13	NA	41.50000	11.4708724	28.917641
2479	chic	50.5	42.75000	1993-10-14	NA	69.50000	5.3501812	35.309037
2480	chic	61.0	55.00000	1993-10-15	NA	58.00000	14.2620365	38.235507
2481	chic	58.0	55.00000	1993-10-16	NA	30.75000	9.1291667	27.153080
2482	chic	52.5	45.37500	1993-10-17	NA	15.50000	17.6125000	19.029315
2483	chic	49.5	48.00000	1993-10-18	NA	70.50000	7.0436594	43.862511
2484	chic	55.5	50.50000	1993-10-19	NA	37.00000	6.5556159	25.969386
2485	chic	55.0	53.50000	1993-10-20	NA	39.00000	1.1443511	25.915404
2486	chic	46.5	27.37500	1993-10-21	NA	27.00000	11.7460145	18.486111
2487	chic	45.5	32.62500	1993-10-22	NA	40.75000	5.9416667	37.731151
2488	chic	53.0	42.87500	1993-10-23	NA	45.00000	13.8541667	34.527778
2489	chic	58.5	40.37500	1993-10-24	NA	32.00000	15.7708333	33.319444
2490	chic	57.0	39.87500	1993-10-25	NA	81.00000	9.1778986	42.319444
2491	chic	54.0	40.00000	1993-10-26	NA	55.00000	7.5487813	25.967172
2492	chic	40.5	29.12500	1993-10-27	NA	36.50000	8.2216667	23.187500
2493	chic	46.0	33.00000	1993-10-28	NA	47.12500	8.3981578	22.648359
2494	chic	35.0	20.75000	1993-10-29	NA	39.50000	10.9721014	18.693332
2495	chic	34.5	28.50000	1993-10-30	NA	21.00000	11.1938725	20.958333
2496	chic	33.5	21.87500	1993-10-31	NA	16.50000	11.8125000	20.925000
2497	chic	35.5	23.12500	1993-11-01	NA	48.00000	5.8460145	31.590580
2498	chic	41.5	38.75000	1993-11-02	NA	51.50000	3.1182148	28.797714
2499	chic	45.0	37.12500	1993-11-03	NA	36.428571	4.5572464	26.298611
2500	chic	51.5	46.87500	1993-11-04	NA	36.00000	7.1689394	26.617624
2501	chic	39.0	31.62500	1993-11-05	NA	25.00000	3.6583333	18.880411
2502	chic	27.0	16.75000	1993-11-06	NA	17.50000	12.3500000	18.527778
2503	chic	28.5	22.50000	1993-11-07	NA	36.50000	9.7666667	18.076389
2504	chic	38.5	28.62500	1993-11-08	NA	65.50000	3.7333333	28.540761
2505	chic	39.0	33.00000	1993-11-09	NA	47.428571	3.9516018	33.806376
2506	chic	40.0	32.00000	1993-11-10	NA	56.50000	3.2975543	38.701389
2507	chic	46.0	35.00000	1993-11-11	NA	67.00000	9.3333333	36.354167
2508	chic	41.0	43.37500	1993-11-12	NA	51.50000	10.0312500	25.275884
2509	chic	54.5	42.62500	1993-11-13	NA	21.50000	11.7500000	19.825000
2510	chic	44.5	42.75000	1993-11-14	NA	11.50000	6.6333333	14.666667
2511	chic	41.0	34.87500	1993-11-15	NA	17.571429	4.6583333	25.153288
2512	chic	40.5	37.37500	1993-11-16	NA	42.00000	5.2906522	23.104084
2513	chic	37.5	33.12500	1993-11-17	NA	24.00000	8.9981884	21.417545
2514	chic	37.5	39.62500	1993-11-18	NA	43.00000	4.5316667	30.199708

2515	chic	39.0	16.50000	1993-11-19	NA	31.000000	8.5000000	20.737121
2516	chic	31.5	27.25000	1993-11-20	NA	21.000000	8.8000000	22.716667
2517	chic	43.5	32.25000	1993-11-21	NA	17.125000	10.9333333	20.775000
2518	chic	45.5	36.87500	1993-11-22	NA	48.500000	3.1750000	32.791667
2519	chic	46.5	36.25000	1993-11-23	NA	27.000000	2.4562112	35.581522
2520	chic	42.5	37.37500	1993-11-24	NA	48.500000	6.9637681	18.189614
2521	chic	39.5	40.37500	1993-11-25	NA	20.000000	12.4000000	15.520833
2522	chic	31.5	16.87500	1993-11-26	NA	15.500000	5.1916667	20.930556
2523	chic	25.5	24.00000	1993-11-27	NA	20.428571	7.6166667	27.395833
2524	chic	31.0	20.87500	1993-11-28	NA	25.000000	10.3583333	22.715278
2525	chic	27.0	19.37500	1993-11-29	NA	35.000000	6.0750000	28.847222
2526	chic	29.5	23.87500	1993-11-30	NA	40.000000	3.7000000	33.065657
2527	chic	36.5	30.62500	1993-12-01	NA	35.000000	2.9289526	31.307367
2528	chic	41.5	33.75000	1993-12-02	NA	34.000000	7.1471014	27.854167
2529	chic	36.0	38.87500	1993-12-03	NA	44.000000	3.2083333	33.777174
2530	chic	39.0	34.25000	1993-12-04	NA	19.500000	6.6453030	19.133333
2531	chic	37.0	34.87500	1993-12-05	NA	23.500000	4.3083333	27.250000
2532	chic	34.5	24.37500	1993-12-06	NA	21.500000	3.5666667	21.691667
2533	chic	30.5	26.50000	1993-12-07	NA	36.000000	2.7750000	30.227183
2534	chic	34.0	29.12500	1993-12-08	NA	37.500000	1.7742424	24.966414
2535	chic	42.0	45.50000	1993-12-09	NA	36.250000	2.6598485	29.480072
2536	chic	37.5	18.62500	1993-12-10	NA	34.500000	6.2708333	21.155797
2537	chic	25.5	18.25000	1993-12-11	NA	17.500000	8.5833333	25.576389
2538	chic	30.5	22.00000	1993-12-12	NA	19.000000	4.0833333	25.965278
2539	chic	41.0	25.50000	1993-12-13	NA	24.500000	2.2604167	30.125000
2540	chic	41.0	32.37500	1993-12-14	NA	23.500000	2.5206439	31.350049
2541	chic	42.5	35.00000	1993-12-15	NA	7.571429	14.9850543	20.495773
2542	chic	36.5	32.00000	1993-12-16	NA	18.000000	9.2291667	19.501812
2543	chic	38.5	38.50000	1993-12-17	NA	16.000000	0.4270833	23.923611
2544	chic	38.0	29.75000	1993-12-18	NA	16.500000	2.8854167	23.000000
2545	chic	35.0	31.37500	1993-12-19	NA	14.500000	3.0520833	20.729167
2546	chic	32.5	23.75000	1993-12-20	NA	21.500000	3.9166667	23.979167
2547	chic	27.0	21.50000	1993-12-21	NA	20.375000	2.6358696	21.973018
2548	chic	24.5	16.12500	1993-12-22	NA	25.000000	1.9252717	27.483825
2549	chic	21.5	13.12500	1993-12-23	NA	31.500000	5.0000000	25.888889
2550	chic	15.0	7.75000	1993-12-24	NA	18.000000	5.6875000	22.854167
2551	chic	11.5	-5.12500	1993-12-25	NA	26.000000	14.2604167	18.944444
2552	chic	9.0	-5.75000	1993-12-26	NA	42.500000	10.5520833	26.158333
2553	chic	13.5	-1.37500	1993-12-27	NA	44.000000	4.6875000	33.416667
2554	chic	13.5	10.37500	1993-12-28	NA	46.000000	2.8532197	38.107680
2555	chic	16.5	-2.37500	1993-12-29	NA	59.000000	8.5907738	24.777778
2556	chic	14.0	15.87500	1993-12-30	NA	44.000000	6.0631313	28.807359
2557	chic	32.0	27.87500	1993-12-31	NA	19.500000	3.4861111	28.208333

2558	chic	35.0	26.87500	1994-01-01	NA	13.500000	9.6111111	19.097222
2559	chic	30.0	22.50000	1994-01-02	NA	13.750000	15.6875000	19.555556
2560	chic	29.5	24.87500	1994-01-03	NA	16.000000	9.1770833	22.519324
2561	chic	26.0	18.25000	1994-01-04	NA	33.500000	10.8396739	24.812026
2562	chic	18.5	20.50000	1994-01-05	NA	25.500000	7.2774621	26.827267
2563	chic	29.5	25.37500	1994-01-06	NA	23.000000	3.5801630	26.480072
2564	chic	12.0	-8.62500	1994-01-07	NA	24.000000	5.4375000	28.131944
2565	chic	1.0	-2.75000	1994-01-08	NA	24.857143	6.8125000	26.458333
2566	chic	8.0	8.75000	1994-01-09	NA	35.500000	3.3750000	43.027778
2567	chic	26.0	30.12500	1994-01-10	NA	27.000000	2.3854167	29.840909
2568	chic	28.5	19.25000	1994-01-11	NA	28.000000	9.0208333	26.558657
2569	chic	25.5	25.62500	1994-01-12	NA	33.500000	4.4510870	32.264191
2570	chic	13.5	2.50000	1994-01-13	NA	43.000000	4.9888258	33.018308
2571	chic	-4.0	-17.87500	1994-01-14	NA	36.125000	11.9071558	28.047403
2572	chic	-10.5	-23.12500	1994-01-15	NA	36.000000	12.0104167	24.701389
2573	chic	-3.5	3.25000	1994-01-16	NA	22.000000	3.5000000	31.881944
2574	chic	-0.5	-16.25000	1994-01-17	NA	39.000000	10.2771739	26.574879
2575	chic	-16.0	-25.62500	1994-01-18	NA	27.000000	14.6562500	22.102355
2576	chic	-8.0	-2.37500	1994-01-19	NA	24.500000	4.8645833	36.597963
2577	chic	2.5	-4.62500	1994-01-20	NA	43.125000	2.7594697	48.875000
2578	chic	8.0	14.00000	1994-01-21	NA	38.000000	4.1979167	39.720328
2579	chic	24.5	23.75000	1994-01-22	NA	48.000000	3.5416667	48.097222
2580	chic	36.0	33.00000	1994-01-23	NA	23.000000	5.9583333	25.590278
2581	chic	34.0	29.50000	1994-01-24	NA	28.500000	4.8165761	30.104167
2582	chic	31.0	27.12500	1994-01-25	NA	20.000000	8.5579710	25.031401
2583	chic	23.5	17.37500	1994-01-26	NA	14.250000	18.2574405	20.673309
2584	chic	26.5	32.37500	1994-01-27	NA	25.000000	2.1865942	30.853865
2585	chic	29.0	21.62500	1994-01-28	NA	23.000000	2.4148551	32.034722
2586	chic	23.0	19.25000	1994-01-29	NA	16.500000	7.4458333	31.658333
2587	chic	16.0	11.62500	1994-01-30	NA	11.000000	19.1666667	17.468750
2588	chic	3.5	-7.50000	1994-01-31	NA	32.000000	7.2940705	37.288559
2589	chic	1.5	3.00000	1994-02-01	NA	34.375000	4.7638889	41.847222
2590	chic	17.0	13.87500	1994-02-02	NA	38.000000	9.3075181	30.417443
2591	chic	9.5	8.12500	1994-02-03	NA	35.500000	11.5965909	31.256944
2592	chic	15.5	2.25000	1994-02-04	NA	35.000000	10.7604167	35.229167
2593	chic	19.5	7.25000	1994-02-05	NA	25.500000	10.3854167	35.590278
2594	chic	23.0	8.00000	1994-02-06	NA	30.000000	13.3020833	34.458333
2595	chic	11.5	6.37500	1994-02-07	NA	22.375000	14.5729167	27.430556
2596	chic	15.5	11.87500	1994-02-08	NA	18.000000	17.5778986	21.617754
2597	chic	6.5	-3.50000	1994-02-09	NA	30.500000	9.4320652	33.210145
2598	chic	6.0	5.00000	1994-02-10	NA	35.000000	10.6770833	38.976840
2599	chic	12.5	15.50000	1994-02-11	NA	35.000000	10.6875000	37.152778
2600	chic	21.0	21.25000	1994-02-12	NA	37.000000	4.2395833	41.826389

2601	chic	20.5	13.37500	1994-02-13		NA	33.875000	14.5937500	35.555556
2602	chic	29.5	30.12500	1994-02-14		NA	101.000000	7.7500000	44.013889
2603	chic	33.5	24.75000	1994-02-15		NA	29.000000	11.6112484	40.021245
2604	chic	29.0	29.37500	1994-02-16		NA	36.000000	7.1662138	44.667743
2605	chic	42.5	36.62500	1994-02-17		NA	43.500000	5.3333333	46.806818
2606	chic	47.0	41.62500	1994-02-18		NA	50.000000	13.2395833	44.645833
2607	chic	55.5	53.37500	1994-02-19		NA	26.250000	15.0208333	23.833333
2608	chic	46.0	33.00000	1994-02-20		NA	22.000000	13.6770833	19.513889
2609	chic	33.0	24.87500	1994-02-21		NA	22.000000	15.1875000	22.930556
2610	chic	27.0	22.62500	1994-02-22		NA	18.000000	19.7083333	15.277778
2611	chic	22.5	17.75000	1994-02-23		NA	8.000000	13.1250000	23.674874
2612	chic	15.5	9.12500	1994-02-24		NA	24.000000	12.1191123	35.704710
2613	chic	19.5	14.25000	1994-02-25		NA	32.285714	9.8428442	35.835749
2614	chic	11.0	1.00000	1994-02-26		NA	27.500000	10.3437500	35.548611
2615	chic	13.0	12.12500	1994-02-27		NA	31.000000	12.3958333	42.277778
2616	chic	25.0	25.25000	1994-02-28		NA	30.500000	9.8541667	48.625000
2617	chic	26.0	22.50000	1994-03-01		NA	27.500000	22.7532115	32.813192
2618	chic	23.5	22.00000	1994-03-02		NA	32.000000	17.3229167	47.238768
2619	chic	30.5	32.00000	1994-03-03		NA	68.750000	8.6508152	53.894845
2620	chic	43.0	30.85714	1994-03-04		NA	39.000000	9.7119565	44.548611
2621	chic	40.0	34.50000	1994-03-05		NA	42.500000	10.9861111	45.826389
2622	chic	48.5	31.87500	1994-03-06		NA	27.500000	11.5833333	31.319444
2623	chic	40.5	25.50000	1994-03-07		NA	35.000000	12.4479167	29.338384
2624	chic	31.0	14.00000	1994-03-08		NA	26.000000	18.5767045	22.313296
2625	chic	29.0	19.62500	1994-03-09		NA	24.000000	15.3709239	24.885913
2626	chic	29.5	27.12500	1994-03-10		NA	45.000000	10.0729167	36.097222
2627	chic	29.5	23.75000	1994-03-11		NA	36.000000	23.1666667	30.076389
2628	chic	44.0	39.37500	1994-03-12		NA	42.500000	14.0833333	34.770833
2629	chic	40.0	34.87500	1994-03-13		NA	35.000000	8.2187500	34.423611
2630	chic	41.5	38.75000	1994-03-14		NA	50.500000	6.7291667	35.041667
2631	chic	38.5	22.00000	1994-03-15		NA	18.714286	16.9557395	24.011273
2632	chic	29.0	14.00000	1994-03-16		NA	20.500000	22.0213274	24.984007
2633	chic	29.5	15.37500	1994-03-17		NA	31.000000	11.7975543	38.496970
2634	chic	34.0	24.12500	1994-03-18		NA	38.000000	10.8079710	35.915476
2635	chic	38.0	29.87500	1994-03-19		NA	82.500000	10.0625000	40.916667
2636	chic	49.5	39.87500	1994-03-20		NA	43.000000	20.8437500	31.525000
2637	chic	48.0	27.87500	1994-03-21		NA	32.625000	13.8229167	33.458333
2638	chic	53.5	36.50000	1994-03-22		NA	39.000000	19.0539773	35.339277
2639	chic	61.0	45.50000	1994-03-23		NA	60.000000	21.7812500	33.878472
2640	chic	49.0	24.62500	1994-03-24		NA	69.500000	21.2717391	20.044192
2641	chic	36.5	22.00000	1994-03-25		NA	82.000000	26.8174819	23.321256
2642	chic	39.0	33.75000	1994-03-26		NA	70.500000	14.4062500	30.319444
2643	chic	43.0	31.50000	1994-03-27		NA	33.875000	13.0000000	28.097222

2644	chic	38.0	28.37500	1994-03-28	NA	26.000000	10.8551136	39.668561
2645	chic	36.0	24.25000	1994-03-29	NA	30.000000	14.2083333	34.673803
2646	chic	33.5	21.25000	1994-03-30	NA	42.500000	9.3936512	45.063543
2647	chic	40.0	23.87500	1994-03-31	NA	41.000000	15.4941123	35.948232
2648	chic	51.5	29.87500	1994-04-01	NA	65.000000	16.4635417	44.097222
2649	chic	55.0	30.12500	1994-04-02	NA	46.250000	24.4270833	27.513889
2650	chic	42.0	18.00000	1994-04-03	NA	21.500000	24.8750000	24.145833
2651	chic	47.0	33.12500	1994-04-04	NA	131.000000	20.0795455	31.569444
2652	chic	40.5	21.00000	1994-04-05	NA	14.000000	25.2905504	16.428030
2653	chic	31.0	21.37500	1994-04-06	NA	13.500000	26.8420698	18.247565
2654	chic	36.5	17.00000	1994-04-07	NA	35.500000	16.3957327	35.041667
2655	chic	47.5	31.12500	1994-04-08	NA	56.875000	21.1444518	34.878321
2656	chic	57.5	25.75000	1994-04-09	NA	32.000000	24.2407407	28.069444
2657	chic	46.0	27.25000	1994-04-10	NA	32.500000	35.9655797	15.458333
2658	chic	43.5	36.75000	1994-04-11	NA	21.000000	24.2824074	23.892512
2659	chic	48.5	45.12500	1994-04-12	NA	21.000000	14.4428341	27.347854
2660	chic	46.5	42.37500	1994-04-13	NA	22.500000	12.7870370	26.444444
2661	chic	57.0	50.00000	1994-04-14	NA	37.000000	22.0808081	41.143088
2662	chic	57.5	35.37500	1994-04-15	NA	36.000000	29.1431901	20.085317
2663	chic	52.5	28.12500	1994-04-16	NA	31.000000	30.0879630	18.090278
2664	chic	55.5	29.25000	1994-04-17	NA	23.500000	26.8287037	25.868056
2665	chic	67.5	46.12500	1994-04-18	NA	60.500000	33.3941224	31.111111
2666	chic	58.0	23.12500	1994-04-19	NA	40.500000	35.4716550	22.938022
2667	chic	51.0	29.62500	1994-04-20	NA	42.750000	20.8128019	38.451389
2668	chic	48.5	20.75000	1994-04-21	NA	27.000000	28.0529754	27.407005
2669	chic	45.5	21.00000	1994-04-22	NA	71.000000	25.8433977	30.101389
2670	chic	53.0	29.87500	1994-04-23	NA	82.500000	29.1481481	32.062500
2671	chic	68.5	54.37500	1994-04-24	NA	49.000000	47.9490741	20.520833
2672	chic	71.0	55.50000	1994-04-25	NA	99.000000	34.5507246	27.444444
2673	chic	75.0	48.12500	1994-04-26	NA	121.750000	28.2612721	23.161820
2674	chic	53.5	31.12500	1994-04-27	NA	24.000000	20.9855072	14.500992
2675	chic	41.5	43.37500	1994-04-28	NA	20.000000	9.6256039	17.345960
2676	chic	47.5	33.75000	1994-04-29	NA	24.500000	16.0123701	18.256944
2677	chic	38.5	33.62500	1994-04-30	NA	13.500000	20.3518519	16.605072
2678	chic	45.5	33.87500	1994-05-01	NA	26.000000	25.4861111	22.243056
2679	chic	51.0	28.25000	1994-05-02	NA	33.375000	22.3283011	33.370040
2680	chic	49.0	26.00000	1994-05-03	NA	47.000000	27.8447205	30.395698
2681	chic	51.0	36.50000	1994-05-04	NA	75.500000	19.7129630	43.804046
2682	chic	57.5	40.00000	1994-05-05	NA	60.500000	21.9102254	36.179567
2683	chic	45.5	31.87500	1994-05-06	NA	15.500000	27.7208498	19.812500
2684	chic	46.0	38.87500	1994-05-07	NA	18.500000	20.7962963	26.534722
2685	chic	53.5	39.00000	1994-05-08	NA	26.857143	27.7314815	25.479167
2686	chic	61.5	30.50000	1994-05-09	NA	39.500000	26.0038251	27.879529

2687	chic	56.5	35.37500	1994-05-10	NA	63.500000	17.9650692	39.216540
2688	chic	62.5	42.50000	1994-05-11	NA	72.000000	33.7458333	23.014630
2689	chic	52.0	34.87500	1994-05-12	NA	28.500000	25.4003623	21.921086
2690	chic	59.5	31.00000	1994-05-13	NA	59.000000	21.5233860	36.171800
2691	chic	60.5	60.12500	1994-05-14	NA	43.250000	20.0625000	32.863225
2692	chic	62.5	43.25000	1994-05-15	NA	22.500000	30.0125000	15.326389
2693	chic	50.5	36.12500	1994-05-16	NA	13.500000	26.1342391	18.138889
2694	chic	48.5	29.25000	1994-05-17	NA	11.500000	26.0652174	19.253568
2695	chic	50.5	29.87500	1994-05-18	NA	17.500000	24.2236157	20.854057
2696	chic	54.0	37.75000	1994-05-19	NA	26.500000	24.5369048	28.789683
2697	chic	59.5	42.75000	1994-05-20	NA	54.875000	24.2390152	40.307576
2698	chic	68.0	45.62500	1994-05-21	NA	86.500000	38.4708333	49.616667
2699	chic	73.0	49.75000	1994-05-22	NA	70.500000	45.5375000	49.916667
2700	chic	68.5	54.12500	1994-05-23	NA	54.000000	36.5717924	39.800000
2701	chic	66.5	60.87500	1994-05-24	NA	45.500000	28.0062500	42.397464
2702	chic	65.5	58.00000	1994-05-25	NA	34.000000	27.4766634	38.986742
2703	chic	49.0	38.00000	1994-05-26	NA	15.875000	23.5983696	16.239268
2704	chic	51.0	33.87500	1994-05-27	NA	34.000000	18.9862319	29.854167
2705	chic	63.0	46.00000	1994-05-28	NA	43.500000	33.9416667	29.909722
2706	chic	69.5	48.75000	1994-05-29	NA	48.000000	46.1916667	23.000000
2707	chic	77.0	59.37500	1994-05-30	NA	55.000000	47.8113889	21.788095
2708	chic	75.0	40.50000	1994-05-31	NA	53.500000	28.7820652	28.056159
2709	chic	56.0	34.25000	1994-06-01	NA	28.875000	24.8087286	21.439696
2710	chic	55.0	27.50000	1994-06-02	NA	18.500000	27.5966897	20.883929
2711	chic	57.0	40.75000	1994-06-03	NA	59.000000	25.7440217	37.097222
2712	chic	61.0	39.75000	1994-06-04	NA	43.500000	33.6500000	39.687500
2713	chic	71.0	60.00000	1994-06-05	NA	88.000000	44.5708333	27.208333
2714	chic	77.0	62.12500	1994-06-06	NA	80.000000	41.4225064	31.720987
2715	chic	68.5	49.25000	1994-06-07	NA	61.000000	22.1956522	35.613730
2716	chic	55.5	39.62500	1994-06-08	NA	29.000000	21.2123188	16.269406
2717	chic	56.0	33.87500	1994-06-09	NA	37.500000	28.2365942	32.361111
2718	chic	61.5	40.87500	1994-06-10	NA	53.000000	23.8268939	50.709596
2719	chic	67.0	56.00000	1994-06-11	NA	53.500000	24.9750000	39.465278
2720	chic	72.5	58.12500	1994-06-12	NA	25.000000	32.0250000	21.986111
2721	chic	78.0	66.87500	1994-06-13	NA	36.125000	35.2936594	23.888889
2722	chic	80.0	70.00000	1994-06-14	NA	55.000000	30.2427536	24.009964
2723	chic	86.0	66.37500	1994-06-15	NA	90.000000	31.3559783	25.245581
2724	chic	84.0	65.00000	1994-06-16	NA	86.500000	34.8702899	37.187802
2725	chic	81.5	65.37500	1994-06-17	NA	106.500000	30.9458333	42.715909
2726	chic	82.0	64.25000	1994-06-18	NA	71.500000	52.1784420	41.312500
2727	chic	75.5	63.62500	1994-06-19	NA	35.857143	32.9166667	18.569444
2728	chic	78.0	72.00000	1994-06-20	NA	88.000000	33.4025362	38.120581
2729	chic	74.0	53.00000	1994-06-21	NA	37.000000	26.6914526	28.614734

2730	chic	73.5	48.00000	1994-06-22	NA	47.50000	26.5375000	32.442798
2731	chic	67.5	62.62500	1994-06-23	NA	39.00000	22.6447464	32.873106
2732	chic	63.5	54.00000	1994-06-24	NA	27.50000	32.5845850	17.645833
2733	chic	70.5	61.00000	1994-06-25	NA	31.50000	25.7875000	27.812500
2734	chic	68.5	59.75000	1994-06-26	NA	41.00000	33.4460145	21.020833
2735	chic	69.5	54.00000	1994-06-27	NA	33.50000	24.6596014	25.895290
2736	chic	74.5	59.50000	1994-06-28	NA	51.50000	28.0973810	27.458333
2737	chic	70.5	58.87500	1994-06-29	NA	37.00000	26.6397727	25.248957
2738	chic	70.0	59.37500	1994-06-30	NA	41.50000	15.5311594	31.486111
2739	chic	77.0	63.75000	1994-07-01	NA	47.87500	33.7433300	32.459486
2740	chic	63.5	52.00000	1994-07-02	NA	15.50000	17.4333333	14.673611
2741	chic	66.5	63.62500	1994-07-03	NA	34.50000	28.2037037	18.763889
2742	chic	82.0	74.00000	1994-07-04	NA	41.50000	38.3240741	15.666667
2743	chic	85.5	70.50000	1994-07-05	NA	12.00000	35.6755051	25.638131
2744	chic	82.5	68.37500	1994-07-06	NA	52.00000	26.0068987	32.840278
2745	chic	79.5	70.25000	1994-07-07	NA	47.87500	18.3833333	35.250000
2746	chic	74.0	60.37500	1994-07-08	NA	42.00000	21.7622036	18.659722
2747	chic	66.5	58.12500	1994-07-09	NA	22.00000	13.9916667	12.055556
2748	chic	66.0	54.50000	1994-07-10	NA	13.50000	20.1666667	10.944444
2749	chic	69.5	66.00000	1994-07-11	NA	68.50000	24.7291667	23.495370
2750	chic	81.0	67.50000	1994-07-12	NA	50.50000	35.1886775	26.389651
2751	chic	66.5	58.50000	1994-07-13	NA	25.00000	16.6447262	20.631061
2752	chic	73.5	65.75000	1994-07-14	NA	56.50000	29.0963745	26.780195
2753	chic	74.0	58.87500	1994-07-15	NA	41.00000	22.5087235	25.783333
2754	chic	73.5	64.75000	1994-07-16	NA	38.50000	28.8041667	34.989216
2755	chic	76.0	60.25000	1994-07-17	NA	26.50000	27.9000000	24.766667
2756	chic	75.0	61.50000	1994-07-18	NA	35.50000	21.3867424	31.238333
2757	chic	77.0	67.25000	1994-07-19	NA	37.00000	21.4827899	30.578283
2758	chic	79.5	69.50000	1994-07-20	NA	53.00000	26.6121212	29.111114
2759	chic	74.5	66.62500	1994-07-21	NA	40.50000	17.8595158	26.000000
2760	chic	72.5	64.12500	1994-07-22	NA	32.00000	13.1070652	22.384420
2761	chic	75.5	63.75000	1994-07-23	NA	25.50000	21.2685185	21.083333
2762	chic	74.5	57.25000	1994-07-24	NA	20.00000	22.7833333	18.358333
2763	chic	72.5	51.50000	1994-07-25	NA	35.87500	15.4947464	24.842857
2764	chic	66.0	54.37500	1994-07-26	NA	35.50000	15.7501812	28.983333
2765	chic	67.5	54.00000	1994-07-27	NA	24.50000	13.6899704	18.569774
2766	chic	66.0	50.25000	1994-07-28	NA	24.50000	13.3050725	20.474336
2767	chic	67.5	51.37500	1994-07-29	NA	74.00000	16.9006776	35.684843
2768	chic	70.0	57.75000	1994-07-30	NA	72.50000	27.9490741	39.574495
2769	chic	75.0	61.50000	1994-07-31	NA	46.75000	32.4250000	24.319444
2770	chic	77.0	67.00000	1994-08-01	NA	60.00000	34.2925725	31.076389
2771	chic	69.0	58.00000	1994-08-02	NA	39.50000	26.0958333	18.316288
2772	chic	71.5	68.12500	1994-08-03	NA	62.00000	22.3889657	34.576389

2773	chic	69.5	53.75000	1994-08-04		NA	45.500000	20.3969203	24.486905
2774	chic	59.0	47.37500	1994-08-05		NA	19.000000	18.7079875	14.008333
2775	chic	60.0	50.75000	1994-08-06		NA	35.250000	19.9666667	29.266667
2776	chic	65.0	57.25000	1994-08-07		NA	26.000000	31.0916667	31.191667
2777	chic	74.0	60.00000	1994-08-08		NA	51.500000	29.1492754	24.722222
2778	chic	58.5	51.00000	1994-08-09		NA	24.000000	19.0259058	15.038373
2779	chic	61.0	57.50000	1994-08-10		NA	NA	6.5238636	33.583333
2780	chic	63.5	59.25000	1994-08-11		NA	29.500000	23.4822464	26.196429
2781	chic	65.5	64.75000	1994-08-12		NA	41.250000	16.1179677	34.125000
2782	chic	75.0	70.75000	1994-08-13		NA	41.000000	23.1342593	23.825000
2783	chic	64.5	50.87500	1994-08-14		NA	33.000000	19.3697917	18.691667
2784	chic	66.5	51.50000	1994-08-15		NA	32.000000	14.7570455	29.796717
2785	chic	66.5	58.12500	1994-08-16		NA	68.500000	19.5812888	40.183333
2786	chic	70.0	61.00000	1994-08-17		NA	52.500000	26.9083333	44.806752
2787	chic	71.0	66.37500	1994-08-18		NA	62.875000	23.6250000	45.620422
2788	chic	77.0	64.50000	1994-08-19		NA	86.000000	36.3688406	34.247343
2789	chic	70.0	62.12500	1994-08-20		NA	31.000000	30.8333333	18.131944
2790	chic	66.0	58.37500	1994-08-21		NA	NA	19.2500000	15.062500
2791	chic	68.0	57.50000	1994-08-22		NA	46.500000	13.1960145	26.566123
2792	chic	69.5	61.25000	1994-08-23		NA	61.500000	21.8208333	34.092172
2793	chic	77.5	70.37500	1994-08-24		NA	59.428571	33.6864130	31.646739
2794	chic	78.5	73.00000	1994-08-25		NA	92.000000	27.7278986	37.271135
2795	chic	76.5	68.37500	1994-08-26		NA	65.500000	22.3902174	37.937500
2796	chic	77.0	68.12500	1994-08-27		NA	106.500000	33.7458333	27.743056
2797	chic	67.5	54.12500	1994-08-28		NA	36.000000	19.6458333	20.277778
2798	chic	66.0	52.37500	1994-08-29		NA	32.000000	18.0813900	31.488829
2799	chic	64.0	61.62500	1994-08-30		NA	39.571429	8.9353818	37.105676
2800	chic	61.5	53.37500	1994-08-31		NA	28.000000	13.6326490	22.682540
2801	chic	59.0	46.37500	1994-09-01		NA	14.500000	13.8906250	20.083333
2802	chic	59.0	50.50000	1994-09-02		NA	88.000000	7.6475420	38.360870
2803	chic	62.0	53.87500	1994-09-03		NA	37.500000	16.4583333	31.458333
2804	chic	59.5	54.50000	1994-09-04		NA	23.000000	22.2291667	29.416667
2805	chic	61.5	60.37500	1994-09-05		NA	39.625000	25.3854167	21.966667
2806	chic	67.0	52.00000	1994-09-06		NA	NA	14.5045290	28.918939
2807	chic	65.0	51.75000	1994-09-07		NA	56.000000	12.7708333	35.959783
2808	chic	69.5	59.75000	1994-09-08		NA	42.000000	9.2748065	38.861957
2809	chic	72.0	63.12500	1994-09-09		NA	46.000000	21.1927083	48.200000
2810	chic	76.5	63.50000	1994-09-10		NA	38.000000	25.7343750	36.725000
2811	chic	74.5	64.87500	1994-09-11		NA	44.125000	24.9114583	32.991667
2812	chic	75.5	60.25000	1994-09-12		NA	88.500000	28.3958333	46.258333
2813	chic	77.0	62.25000	1994-09-13		NA	73.000000	30.5624382	35.291667
2814	chic	81.0	67.75000	1994-09-14		NA	61.500000	27.9221014	31.251515
2815	chic	80.5	60.62500	1994-09-15		NA	119.500000	34.0184659	27.486905

2816	chic	74.0	56.87500	1994-09-16	NA	77.000000	34.6822917	24.173452
2817	chic	65.5	53.00000	1994-09-17	NA	38.125000	9.2656250	24.391667
2818	chic	67.0	43.12500	1994-09-18	NA	28.000000	11.5364583	28.366667
2819	chic	70.0	55.25000	1994-09-19	NA	61.500000	15.5842803	43.616667
2820	chic	71.5	53.00000	1994-09-20	NA	80.500000	20.1358696	46.722101
2821	chic	71.0	48.00000	1994-09-21	NA	82.000000	30.4940476	48.477174
2822	chic	66.5	59.62500	1994-09-22	NA	61.500000	21.7431065	35.633333
2823	chic	65.0	59.25000	1994-09-23	NA	49.125000	11.7007212	34.410931
2824	chic	63.5	61.37500	1994-09-24	NA	33.000000	11.3489583	25.850000
2825	chic	60.5	50.75000	1994-09-25	NA	24.000000	16.1666667	29.975000
2826	chic	54.5	51.37500	1994-09-26	NA	25.000000	8.0511775	28.629545
2827	chic	54.0	49.12500	1994-09-27	NA	23.000000	5.5261652	17.733333
2828	chic	57.0	43.75000	1994-09-28	NA	34.000000	9.8156703	24.358333
2829	chic	57.5	46.50000	1994-09-29	NA	37.571429	6.3229167	31.758333
2830	chic	67.5	56.50000	1994-09-30	NA	63.000000	18.7916667	41.925000
2831	chic	58.0	47.12500	1994-10-01	NA	15.500000	20.5729167	18.391667
2832	chic	57.0	41.50000	1994-10-02	NA	12.500000	22.7291667	11.466667
2833	chic	57.5	45.75000	1994-10-03	NA	18.000000	22.6313406	19.723188
2834	chic	53.5	44.75000	1994-10-04	NA	27.000000	9.1486742	23.035498
2835	chic	51.0	42.75000	1994-10-05	NA	40.125000	5.5420166	31.900000
2836	chic	62.0	49.87500	1994-10-06	NA	42.000000	21.4218750	33.350000
2837	chic	68.0	62.37500	1994-10-07	NA	82.500000	30.0052083	26.094697
2838	chic	56.0	47.12500	1994-10-08	NA	20.000000	2.7760417	20.266667
2839	chic	47.5	32.12500	1994-10-09	NA	16.000000	10.1093750	20.250000
2840	chic	46.0	31.75000	1994-10-10	NA	NA	9.6510417	26.058333
2841	chic	48.5	40.75000	1994-10-11	NA	36.375000	11.9670002	32.336025
2842	chic	51.5	47.75000	1994-10-12	NA	48.000000	8.2185236	33.437846
2843	chic	55.5	49.87500	1994-10-13	NA	53.500000	6.4062500	39.008333
2844	chic	58.5	51.87500	1994-10-14	NA	46.500000	13.5738225	29.864526
2845	chic	58.0	53.25000	1994-10-15	NA	45.000000	14.6666667	25.675000
2846	chic	66.0	54.87500	1994-10-16	NA	38.000000	19.7500000	30.475000
2847	chic	69.5	54.87500	1994-10-17	NA	39.285714	20.5187953	32.275000
2848	chic	65.0	60.12500	1994-10-18	NA	48.500000	9.5678113	22.019203
2849	chic	64.5	47.37500	1994-10-19	NA	25.000000	11.2892992	21.090152
2850	chic	57.0	46.87500	1994-10-20	NA	33.000000	6.9759964	27.334552
2851	chic	56.5	45.37500	1994-10-21	NA	104.000000	8.0018116	42.115909
2852	chic	58.5	45.87500	1994-10-22	NA	54.500000	14.1145833	40.491667
2853	chic	52.0	35.50000	1994-10-23	NA	21.125000	10.9531250	18.506667
2854	chic	47.0	27.62500	1994-10-24	NA	33.500000	11.5288826	20.708333
2855	chic	43.0	30.12500	1994-10-25	NA	24.000000	8.2710598	19.877841
2856	chic	42.0	30.75000	1994-10-26	NA	35.000000	5.6816123	26.375000
2857	chic	46.0	34.25000	1994-10-27	NA	77.500000	6.1055254	30.354620
2858	chic	54.0	34.25000	1994-10-28	NA	193.000000	14.1834239	29.033333

2859	chic	57.0	40.87500	1994-10-29	NA	41.875000	16.7604167	28.475000
2860	chic	48.5	43.37500	1994-10-30	NA	39.000000	7.4270833	37.250000
2861	chic	45.5	39.12500	1994-10-31	NA	7.500000	25.8020833	16.683333
2862	chic	44.5	32.00000	1994-11-01	NA	24.000000	7.5911836	26.309190
2863	chic	51.0	35.75000	1994-11-02	NA	59.000000	9.1805556	31.550000
2864	chic	60.5	62.12500	1994-11-03	NA	63.000000	8.3194444	29.666667
2865	chic	58.5	55.62500	1994-11-04	NA	16.125000	1.8931159	22.655383
2866	chic	54.0	55.12500	1994-11-05	NA	11.000000	7.4861111	15.491667
2867	chic	48.0	35.37500	1994-11-06	NA	13.500000	11.7916667	18.200000
2868	chic	46.5	39.00000	1994-11-07	NA	19.000000	6.5833333	29.944697
2869	chic	55.0	50.37500	1994-11-08	NA	38.500000	4.2777778	30.050000
2870	chic	47.0	33.00000	1994-11-09	NA	10.000000	23.2868357	15.988570
2871	chic	43.0	34.50000	1994-11-10	NA	16.375000	23.0303030	20.833004
2872	chic	46.0	30.75000	1994-11-11	NA	30.500000	9.7638889	28.916667
2873	chic	46.5	46.37500	1994-11-12	NA	29.000000	3.0277778	23.300000
2874	chic	58.0	56.25000	1994-11-13	NA	24.000000	11.5694444	15.575000
2875	chic	50.5	38.50000	1994-11-14	NA	NA	5.5694444	17.941667
2876	chic	41.5	34.12500	1994-11-15	NA	18.000000	9.1111111	26.215260
2877	chic	43.5	35.25000	1994-11-16	NA	38.750000	10.1111111	31.608333
2878	chic	44.0	44.12500	1994-11-17	NA	42.000000	1.7741546	24.083333
2879	chic	44.5	29.25000	1994-11-18	NA	NA	9.3725845	18.373551
2880	chic	38.0	31.62500	1994-11-19	NA	45.000000	1.7916667	32.683333
2881	chic	52.0	38.50000	1994-11-20	NA	24.500000	6.6388889	25.841667
2882	chic	43.0	28.25000	1994-11-21	NA	17.500000	14.8285024	16.674275
2883	chic	31.0	16.87500	1994-11-22	NA	16.625000	10.5253623	20.934651
2884	chic	36.0	23.12500	1994-11-23	NA	38.000000	5.6250000	25.666667
2885	chic	39.0	33.75000	1994-11-24	NA	17.000000	9.7916667	19.633333
2886	chic	39.0	16.50000	1994-11-25	NA	17.000000	6.1388889	30.708333
2887	chic	35.0	24.75000	1994-11-26	NA	20.500000	18.1388889	17.383333
2888	chic	47.5	44.37500	1994-11-27	NA	22.000000	9.6111111	15.175000
2889	chic	36.0	24.00000	1994-11-28	NA	14.625000	12.4323671	12.297727
2890	chic	29.5	22.62500	1994-11-29	NA	25.000000	7.6250000	19.434524
2891	chic	29.0	24.25000	1994-11-30	NA	36.000000	2.9204545	27.334091
2892	chic	42.0	29.50000	1994-12-01	NA	75.500000	6.5694444	27.169401
2893	chic	46.0	33.50000	1994-12-02	NA	52.000000	8.6388889	30.916667
2894	chic	48.0	44.37500	1994-12-03	NA	27.500000	4.3472222	26.800000
2895	chic	48.5	47.75000	1994-12-04	NA	43.000000	1.4444444	27.733333
2896	chic	43.5	39.00000	1994-12-05	NA	47.500000	0.1527778	27.203986
2897	chic	35.0	33.12500	1994-12-06	NA	8.500000	4.7260101	16.659848
2898	chic	31.0	23.87500	1994-12-07	NA	3.000000	18.6340580	20.729381
2899	chic	30.0	27.50000	1994-12-08	NA	18.000000	13.8194444	23.708333
2900	chic	30.5	22.87500	1994-12-09	NA	27.000000	1.6527778	29.523188
2901	chic	27.0	15.87500	1994-12-10	NA	31.000000	3.2916667	31.733333

2902	chic	19.0	8.75000	1994-12-11		NA	23.000000	8.1666667	25.141667
2903	chic	21.5	18.25000	1994-12-12		NA	NA	1.5694444	26.316667
2904	chic	23.5	16.87500	1994-12-13		NA	48.500000	0.4915459	33.342424
2905	chic	27.5	25.12500	1994-12-14		NA	36.000000	4.2364405	28.835145
2906	chic	32.5	34.37500	1994-12-15		NA	43.500000	0.3611111	30.454519
2907	chic	36.5	36.00000	1994-12-16		NA	41.000000	0.6944444	34.391667
2908	chic	37.0	31.12500	1994-12-17		NA	31.500000	3.4861111	27.408333
2909	chic	29.5	22.12500	1994-12-18		NA	19.000000	9.0972222	25.050000
2910	chic	28.0	27.75000	1994-12-19		NA	26.500000	3.3514493	29.600000
2911	chic	38.0	33.62500	1994-12-20		NA	33.500000	0.8174682	32.256818
2912	chic	40.5	31.87500	1994-12-21		NA	58.500000	0.9160628	44.295588
2913	chic	39.5	36.75000	1994-12-22		NA	69.875000	1.8888889	50.281538
2914	chic	38.5	37.87500	1994-12-23		NA	16.000000	8.2620773	24.474967
2915	chic	33.5	28.87500	1994-12-24		NA	22.000000	10.1250000	23.450000
2916	chic	39.5	27.00000	1994-12-25		NA	27.000000	6.8472222	32.411111
2917	chic	36.0	33.25000	1994-12-26		NA	34.500000	2.3333333	40.374635
2918	chic	40.5	37.25000	1994-12-27		NA	40.000000	3.0833333	31.569444
2919	chic	38.0	30.12500	1994-12-28		NA	16.142857	7.8260870	23.162879
2920	chic	35.0	22.87500	1994-12-29		NA	14.000000	18.8055556	17.516667
2921	chic	32.0	24.87500	1994-12-30		NA	34.000000	5.7222222	28.079293
2922	chic	32.0	29.87500	1994-12-31		NA	32.000000	1.2638889	25.922101
2923	chic	19.5	5.62500	1995-01-01		NA	22.500000	14.7020202	15.723214
2924	chic	14.5	10.50000	1995-01-02		NA	20.000000	12.7777778	21.239583
2925	chic	11.0	-2.87500	1995-01-03		NA	22.555556	9.1957071	25.055871
2926	chic	3.0	-7.50000	1995-01-04		NA	27.000000	9.0000000	27.240489
2927	chic	9.0	7.00000	1995-01-05		NA	35.500000	5.0966184	29.370924
2928	chic	22.5	22.00000	1995-01-06		NA	32.000000	1.3725845	31.114583
2929	chic	19.5	13.50000	1995-01-07		NA	24.500000	5.0833333	28.187500
2930	chic	12.0	3.25000	1995-01-08		NA	36.500000	5.0833333	29.197917
2931	chic	17.5	11.87500	1995-01-09		NA	37.777778	4.7222222	38.479167
2932	chic	23.5	24.50000	1995-01-10		NA	45.500000	4.8834541	36.199275
2933	chic	33.0	37.50000	1995-01-11		NA	68.000000	0.5169082	37.770833
2934	chic	42.0	37.75000	1995-01-12		NA	29.000000	1.2101449	30.312500
2935	chic	35.5	33.75000	1995-01-13		NA	21.000000	0.8629227	27.260417
2936	chic	37.0	32.75000	1995-01-14		NA	10.500000	1.6250000	19.135417
2937	chic	33.0	25.25000	1995-01-15		NA	9.857143	9.2916667	15.640399
2938	chic	34.0	29.37500	1995-01-16		NA	16.000000	11.3194444	19.552083
2939	chic	36.5	38.37500	1995-01-17		NA	28.000000	0.9734300	23.110054
2940	chic	35.5	22.62500	1995-01-18		NA	24.500000	3.9027778	25.552083
2941	chic	34.5	33.00000	1995-01-19		NA	12.000000	6.1107268	17.997200
2942	chic	30.0	20.12500	1995-01-20		NA	16.500000	8.6950483	22.598526
2943	chic	23.5	17.75000	1995-01-21		NA	20.222222	8.9444444	18.395833
2944	chic	20.0	16.50000	1995-01-22		NA	19.000000	8.4722222	24.593750

2945	chic	20.0	14.25000	1995-01-23		NA	24.500000	3.7500000	33.156250
2946	chic	15.0	6.75000	1995-01-24		NA	45.000000	2.8143939	42.213809
2947	chic	18.0	9.25000	1995-01-25		NA	66.500000	1.6666667	52.446970
2948	chic	18.0	13.25000	1995-01-26		NA	58.000000	3.2246377	50.437500
2949	chic	23.5	26.00000	1995-01-27		NA	63.111111	4.1008454	45.310071
2950	chic	28.5	16.00000	1995-01-28		NA	17.000000	22.3611111	20.875000
2951	chic	25.0	20.00000	1995-01-29		NA	9.000000	22.2500000	18.052083
2952	chic	24.0	19.12500	1995-01-30		NA	47.000000	6.8573232	41.541667
2953	chic	30.5	30.37500	1995-01-31		NA	32.000000	9.5555556	26.546402
2954	chic	37.0	27.50000	1995-02-01		NA	19.500000	9.7681159	27.489130
2955	chic	33.5	26.62500	1995-02-02		NA	16.444444	17.4375000	23.677083
2956	chic	30.5	24.25000	1995-02-03		NA	31.000000	8.0262681	28.362813
2957	chic	20.0	3.50000	1995-02-04		NA	17.000000	18.6875000	16.343750
2958	chic	8.5	-4.62500	1995-02-05		NA	17.500000	18.3958333	19.916667
2959	chic	11.0	0.00000	1995-02-06		NA	22.000000	7.4375000	30.354167
2960	chic	15.0	3.37500	1995-02-07		NA	38.500000	9.5027174	28.781703
2961	chic	12.0	1.50000	1995-02-08		NA	25.555556	13.1250000	25.614583
2962	chic	24.0	25.00000	1995-02-09		NA	34.500000	4.6781401	29.151268
2963	chic	26.5	4.87500	1995-02-10		NA	38.000000	12.2916667	20.315670
2964	chic	6.5	-13.25000	1995-02-11		NA	69.500000	20.1388889	13.843750
2965	chic	7.5	2.37500	1995-02-12		NA	22.500000	11.7222222	20.864583
2966	chic	17.0	-0.75000	1995-02-13		NA	37.000000	8.9166667	28.989583
2967	chic	18.5	11.37500	1995-02-14		NA	39.285714	6.1817633	32.524868
2968	chic	30.5	21.37500	1995-02-15		NA	25.000000	3.7222222	24.197917
2969	chic	25.0	18.25000	1995-02-16		NA	36.500000	7.4740338	31.481102
2970	chic	33.0	18.75000	1995-02-17		NA	55.000000	4.2045455	39.675231
2971	chic	42.5	27.00000	1995-02-18		NA	42.500000	9.1250000	30.645833
2972	chic	38.0	28.37500	1995-02-19		NA	24.500000	13.6666667	23.302083
2973	chic	40.5	28.25000	1995-02-20		NA	33.000000	9.9027778	27.541667
2974	chic	28.0	17.25000	1995-02-21		NA	17.000000	18.3623188	23.991477
2975	chic	38.0	30.00000	1995-02-22		NA	41.000000	3.5972222	31.239583
2976	chic	41.0	21.50000	1995-02-23		NA	43.000000	13.2457729	28.050189
2977	chic	32.0	17.50000	1995-02-24		NA	15.500000	15.3055556	26.770833
2978	chic	39.0	26.37500	1995-02-25		NA	21.000000	12.0694444	24.093750
2979	chic	30.5	27.50000	1995-02-26		NA	23.333333	13.0972222	19.614583
2980	chic	31.5	28.62500	1995-02-27		NA	16.500000	15.1515700	23.786685
2981	chic	27.5	20.87500	1995-02-28		NA	18.500000	15.7752525	26.373641
2982	chic	16.5	3.75000	1995-03-01		NA	21.500000	11.7717391	24.307971
2983	chic	17.5	6.62500	1995-03-02		NA	26.000000	7.1250000	36.642992
2984	chic	23.0	14.00000	1995-03-03		NA	45.500000	7.7373188	41.074811
2985	chic	31.5	20.12500	1995-03-04		NA	41.111111	10.2777778	38.510417
2986	chic	35.0	32.75000	1995-03-05		NA	39.000000	4.5694444	27.458333
2987	chic	33.0	32.12500	1995-03-06		NA	29.500000	10.8888889	26.843750

2988	chic	30.5	20.87500	1995-03-07		NA	19.000000	7.7083333	30.531250
2989	chic	23.5	12.37500	1995-03-08		NA	22.500000	17.6388889	28.937500
2990	chic	24.5	18.87500	1995-03-09		NA	36.500000	9.9233092	39.157156
2991	chic	40.5	35.50000	1995-03-10		NA	34.333333	13.4722222	29.046131
2992	chic	51.0	38.75000	1995-03-11		NA	30.500000	27.5972222	28.695833
2993	chic	58.5	44.25000	1995-03-12		NA	31.500000	29.3055556	23.809028
2994	chic	61.5	44.25000	1995-03-13		NA	56.000000	17.5609903	40.388587
2995	chic	61.0	44.37500	1995-03-14		NA	67.500000	15.5000000	52.487689
2996	chic	59.0	43.37500	1995-03-15		NA	65.000000	18.1419082	49.556238
2997	chic	54.0	41.00000	1995-03-16		NA	44.222222	13.4698068	48.319129
2998	chic	42.5	33.50000	1995-03-17		NA	21.500000	21.7487374	25.947917
2999	chic	49.0	40.50000	1995-03-18		NA	31.500000	19.3750000	25.875000
3000	chic	50.0	42.25000	1995-03-19		NA	56.500000	10.6388889	24.052083
3001	chic	50.5	39.12500	1995-03-20		NA	34.500000	10.7934783	20.681069
3002	chic	43.5	30.12500	1995-03-21		NA	22.000000	13.5972222	24.766667
3003	chic	39.0	31.75000	1995-03-22		NA	14.777778	19.1338384	23.324405
3004	chic	36.0	28.75000	1995-03-23		NA	10.000000	21.2192029	23.742754
3005	chic	37.0	22.37500	1995-03-24		NA	16.500000	21.9184783	31.290179
3006	chic	42.0	22.50000	1995-03-25		NA	24.500000	22.2916667	31.729167
3007	chic	43.5	25.37500	1995-03-26		NA	27.500000	21.3888889	24.093750
3008	chic	41.5	36.25000	1995-03-27		NA	22.000000	11.2361111	27.731061
3009	chic	41.0	37.62500	1995-03-28		NA	21.222222	1.1316425	28.483902
3010	chic	40.0	33.00000	1995-03-29		NA	28.000000	4.4722222	31.975379
3011	chic	40.5	29.50000	1995-03-30		NA	21.500000	6.7916667	31.986413
3012	chic	36.5	29.87500	1995-03-31		NA	25.500000	6.6727053	28.032156
3013	chic	37.0	26.75000	1995-04-01		NA	23.000000	13.1607143	28.500000
3014	chic	44.0	27.50000	1995-04-02		NA	18.000000	21.7500000	21.250000
3015	chic	55.0	39.00000	1995-04-03		NA	24.333333	20.9321946	23.854167
3016	chic	33.0	1.37500	1995-04-04		NA	23.000000	22.2604167	18.145833
3017	chic	34.5	22.75000	1995-04-05		NA	37.500000	15.6354167	27.489583
3018	chic	52.0	28.62500	1995-04-06		NA	42.000000	23.2971014	21.869565
3019	chic	42.5	35.12500	1995-04-07		NA	37.500000	21.9519928	22.208333
3020	chic	43.0	36.37500	1995-04-08		NA	40.000000	13.8072917	22.666667
3021	chic	37.5	24.37500	1995-04-09		NA	13.111111	30.8928571	9.958333
3022	chic	36.5	32.12500	1995-04-10		NA	16.000000	18.1988225	18.956975
3023	chic	49.5	48.25000	1995-04-11		NA	36.500000	10.4646099	25.760417
3024	chic	39.5	34.25000	1995-04-12		NA	14.000000	18.0458937	21.280344
3025	chic	49.0	29.62500	1995-04-13		NA	21.000000	31.6199678	19.184783
3026	chic	42.5	29.87500	1995-04-14		NA	12.500000	32.9583333	20.239583
3027	chic	46.5	36.37500	1995-04-15		NA	26.111111	28.7875000	24.364583
3028	chic	51.5	39.37500	1995-04-16		NA	37.000000	18.1000000	33.104167
3029	chic	50.5	35.12500	1995-04-17		NA	33.000000	27.7750000	29.145833
3030	chic	61.0	42.00000	1995-04-18		NA	47.500000	27.1163043	18.734601

3031	chic	47.5	34.37500	1995-04-19	NA	17.500000	24.4914855	19.287138
3032	chic	44.0	44.75000	1995-04-20	NA	27.500000	17.2801383	23.147398
3033	chic	46.5	41.37500	1995-04-21	NA	29.222222	10.6159420	22.822917
3034	chic	51.0	35.12500	1995-04-22	NA	19.500000	22.1916667	25.593750
3035	chic	45.0	32.37500	1995-04-23	NA	19.000000	21.6458333	28.104167
3036	chic	47.5	39.75000	1995-04-24	NA	44.500000	20.2924172	33.167929
3037	chic	47.0	35.87500	1995-04-25	NA	30.000000	20.1088933	26.921377
3038	chic	50.0	50.25000	1995-04-26	NA	34.000000	10.1533267	38.482749
3039	chic	47.5	36.50000	1995-04-27	NA	18.333333	19.1827899	27.195076
3040	chic	53.0	38.62500	1995-04-28	NA	31.500000	17.3489130	31.979167
3041	chic	49.5	34.87500	1995-04-29	NA	28.500000	16.5333333	31.843750
3042	chic	44.5	36.87500	1995-04-30	NA	7.500000	25.6916667	16.138393
3043	chic	45.5	37.25000	1995-05-01	NA	13.000000	22.5751294	20.662202
3044	chic	50.5	31.75000	1995-05-02	NA	16.000000	22.4458333	24.031250
3045	chic	49.5	32.12500	1995-05-03	NA	32.777778	18.3666667	38.527083
3046	chic	52.5	45.87500	1995-05-04	NA	35.500000	15.5143775	43.903274
3047	chic	55.0	40.62500	1995-05-05	NA	48.500000	20.8371377	34.989079
3048	chic	56.0	37.62500	1995-05-06	NA	43.000000	21.5166667	34.941667
3049	chic	62.5	46.75000	1995-05-07	NA	44.000000	37.3041667	27.066667
3050	chic	57.5	42.75000	1995-05-08	NA	41.500000	25.5641304	19.750000
3051	chic	61.5	54.62500	1995-05-09	NA	43.777778	21.3648551	30.308333
3052	chic	51.0	49.00000	1995-05-10	NA	32.000000	10.3813406	31.128200
3053	chic	59.5	47.62500	1995-05-11	NA	27.000000	18.4202899	30.600000
3054	chic	60.0	48.75000	1995-05-12	NA	35.000000	25.9349638	31.721077
3055	chic	62.0	62.62500	1995-05-13	NA	32.500000	23.8541667	21.058333
3056	chic	62.5	51.37500	1995-05-14	NA	21.000000	29.6083333	12.033333
3057	chic	61.5	44.12500	1995-05-15	NA	29.777778	21.6083333	38.691667
3058	chic	68.5	65.87500	1995-05-16	NA	47.500000	24.1594697	34.918841
3059	chic	58.5	37.62500	1995-05-17	NA	15.000000	21.9222826	19.511594
3060	chic	52.5	37.25000	1995-05-18	NA	13.500000	19.8181159	23.075527
3061	chic	60.5	41.75000	1995-05-19	NA	36.500000	20.9451087	35.125000
3062	chic	66.0	40.75000	1995-05-20	NA	39.500000	26.9541667	19.075000
3063	chic	60.5	40.62500	1995-05-21	NA	29.222222	27.7125000	22.158333
3064	chic	62.0	46.00000	1995-05-22	NA	67.000000	26.1083333	38.559783
3065	chic	59.5	53.87500	1995-05-23	NA	38.000000	21.6550725	32.768116
3066	chic	51.5	46.37500	1995-05-24	NA	10.500000	22.6101449	17.177536
3067	chic	55.0	46.00000	1995-05-25	NA	15.000000	17.8784420	17.504076
3068	chic	55.0	43.62500	1995-05-26	NA	21.500000	22.5548913	24.291667
3069	chic	60.5	57.50000	1995-05-27	NA	29.875000	22.5791667	18.350000
3070	chic	65.5	55.37500	1995-05-28	NA	21.000000	27.9666667	11.716667
3071	chic	61.0	46.50000	1995-05-29	NA	16.500000	23.7791667	17.466667
3072	chic	67.5	48.12500	1995-05-30	NA	47.000000	20.5948068	38.972368
3073	chic	69.5	51.62500	1995-05-31	NA	81.000000	27.7042918	48.053986

3074	chic	71.5	55.25000	1995-06-01		NA	65.500000	29.9820652	44.726449
3075	chic	67.5	60.87500	1995-06-02		NA	65.000000	14.9168478	49.002899
3076	chic	67.0	57.25000	1995-06-03		NA	41.500000	34.8416667	33.258333
3077	chic	67.0	53.75000	1995-06-04		NA	34.000000	33.5048913	22.866667
3078	chic	67.5	56.87500	1995-06-05		NA	46.500000	33.6802536	30.091667
3079	chic	74.0	64.62500	1995-06-06		NA	72.500000	29.4706192	38.735000
3080	chic	71.5	59.00000	1995-06-07		NA	36.500000	33.9130694	23.275758
3081	chic	53.5	45.00000	1995-06-08		NA	18.333333	20.4116271	14.377273
3082	chic	59.0	51.75000	1995-06-09		NA	42.000000	16.7827899	24.103788
3083	chic	67.5	51.00000	1995-06-10		NA	35.000000	25.2000000	21.041667
3084	chic	59.0	44.87500	1995-06-11		NA	17.500000	21.4583333	20.141667
3085	chic	61.0	41.12500	1995-06-12		NA	24.000000	21.0460145	24.285870
3086	chic	67.5	45.75000	1995-06-13		NA	58.000000	16.6514493	44.258333
3087	chic	74.0	52.00000	1995-06-14		NA	61.250000	34.3807971	47.717424
3088	chic	72.0	53.25000	1995-06-15		NA	79.500000	43.1182971	43.882816
3089	chic	76.5	54.87500	1995-06-16		NA	88.500000	43.0009058	38.550000
3090	chic	77.5	61.62500	1995-06-17		NA	77.500000	45.6458333	35.650000
3091	chic	82.0	63.37500	1995-06-18		NA	57.500000	48.0583333	30.733333
3092	chic	82.5	65.25000	1995-06-19		NA	61.000000	45.0050322	41.608333
3093	chic	85.0	63.75000	1995-06-20		NA	58.111111	48.7802536	25.728623
3094	chic	78.0	61.75000	1995-06-21		NA	53.000000	37.9911232	25.312121
3095	chic	80.0	62.50000	1995-06-22		NA	66.000000	47.8577569	32.782971
3096	chic	79.5	55.75000	1995-06-23		NA	65.000000	63.3750000	31.102536
3097	chic	77.5	62.37500	1995-06-24		NA	75.500000	66.5875000	35.033333
3098	chic	75.5	63.75000	1995-06-25		NA	57.000000	47.9541667	25.333333
3099	chic	75.5	62.62500	1995-06-26		NA	47.111111	37.1329710	23.558333
3100	chic	72.5	67.37500	1995-06-27		NA	40.500000	26.1965580	32.025000
3101	chic	74.0	65.25000	1995-06-28		NA	54.500000	25.8855072	32.432312
3102	chic	77.0	65.25000	1995-06-29		NA	43.000000	28.4794631	33.065283
3103	chic	71.5	51.12500	1995-06-30		NA	46.000000	30.0062582	23.233333
3104	chic	65.5	47.75000	1995-07-01		NA	18.000000	27.5875000	15.633333
3105	chic	63.5	49.37500	1995-07-02		NA	27.666667	24.9291667	25.350000
3106	chic	71.0	57.50000	1995-07-03		NA	51.500000	44.3910079	21.330303
3107	chic	75.5	69.50000	1995-07-04		NA	43.000000	29.1458333	16.508333
3108	chic	75.0	63.87500	1995-07-05		NA	58.500000	31.0822464	18.162220
3109	chic	72.0	54.00000	1995-07-06		NA	27.500000	32.8094203	15.708333
3110	chic	70.5	55.62500	1995-07-07		NA	42.000000	27.3125000	22.128261
3111	chic	70.5	54.25000	1995-07-08		NA	36.750000	27.5708333	30.016667
3112	chic	73.0	60.87500	1995-07-09		NA	37.000000	41.3000000	26.916667
3113	chic	73.5	63.00000	1995-07-10		NA	52.500000	26.9246377	37.150000
3114	chic	79.0	64.62500	1995-07-11		NA	56.000000	39.6371212	38.190152
3115	chic	84.5	73.12500	1995-07-12		NA	77.500000	45.3083333	27.890787
3116	chic	92.0	76.37500	1995-07-13		NA	92.500000	58.5495238	27.317754

3117	chic	91.5	75.62500	1995-07-14	NA	54.500000	52.0039716	24.773551
3118	chic	86.0	69.00000	1995-07-15	NA	51.000000	50.5508333	20.233333
3119	chic	83.0	67.75000	1995-07-16	NA	29.000000	43.0458333	15.383333
3120	chic	78.5	55.25000	1995-07-17	NA	33.000000	27.9666667	19.141667
3121	chic	74.0	54.75000	1995-07-18	NA	39.000000	24.7146739	23.225000
3122	chic	75.5	57.87500	1995-07-19	NA	44.000000	25.9170125	32.865909
3123	chic	73.5	67.62500	1995-07-20	NA	41.333333	18.5403986	36.555072
3124	chic	74.0	56.00000	1995-07-21	NA	34.000000	25.6844203	29.540580
3125	chic	76.0	68.50000	1995-07-22	NA	39.000000	22.3291667	38.516667
3126	chic	76.0	67.00000	1995-07-23	NA	23.000000	29.2500000	24.058333
3127	chic	79.0	68.25000	1995-07-24	NA	44.000000	27.6414855	35.400000
3128	chic	81.5	64.50000	1995-07-25	NA	43.500000	22.4875000	39.166667
3129	chic	77.0	68.00000	1995-07-26	NA	32.777778	36.4245951	29.984058
3130	chic	80.5	67.37500	1995-07-27	NA	38.000000	41.0702899	23.227277
3131	chic	80.5	63.12500	1995-07-28	NA	30.000000	33.2177536	28.665580
3132	chic	82.5	69.00000	1995-07-29	NA	40.500000	29.2958333	30.891667
3133	chic	83.5	72.12500	1995-07-30	NA	43.500000	37.8632576	34.375000
3134	chic	84.5	68.25000	1995-07-31	NA	82.000000	40.9083333	32.183333
3135	chic	75.0	65.37500	1995-08-01	NA	23.777778	30.1847826	20.909091
3136	chic	74.0	71.37500	1995-08-02	NA	28.000000	23.4036232	27.067029
3137	chic	75.0	72.25000	1995-08-03	NA	34.000000	7.7307971	37.175033
3138	chic	77.0	69.75000	1995-08-04	NA	39.000000	8.1221820	33.700000
3139	chic	76.5	69.12500	1995-08-05	NA	36.000000	26.1018519	22.391667
3140	chic	78.0	68.87500	1995-08-06	NA	26.000000	33.2129630	15.075000
3141	chic	79.5	70.50000	1995-08-07	NA	37.666667	23.4394122	22.476087
3142	chic	79.5	71.75000	1995-08-08	NA	57.500000	28.3109190	24.164912
3143	chic	75.0	69.00000	1995-08-09	NA	49.000000	4.8981884	39.919170
3144	chic	80.0	70.87500	1995-08-10	NA	38.000000	17.6492754	30.537319
3145	chic	82.0	72.75000	1995-08-11	NA	55.500000	26.9659420	27.514493
3146	chic	86.5	74.75000	1995-08-12	NA	58.500000	43.3943182	24.558333
3147	chic	87.0	74.75000	1995-08-13	NA	48.222222	39.1990741	18.066667
3148	chic	87.0	72.12500	1995-08-14	NA	55.000000	31.0724359	21.575000
3149	chic	78.0	72.75000	1995-08-15	NA	30.000000	26.2679348	22.364361
3150	chic	84.0	72.87500	1995-08-16	NA	45.000000	15.4136528	33.816667
3151	chic	81.5	73.37500	1995-08-17	NA	34.500000	26.7538043	30.293149
3152	chic	81.0	71.87500	1995-08-18	NA	33.500000	36.0864295	18.297464
3153	chic	81.0	71.12500	1995-08-19	NA	32.222222	22.7756410	27.650000
3154	chic	74.0	63.62500	1995-08-20	NA	13.000000	26.1916667	14.239583
3155	chic	75.5	60.25000	1995-08-21	NA	32.000000	22.0814394	36.678406
3156	chic	74.0	53.62500	1995-08-22	NA	25.500000	19.1829710	20.627273
3157	chic	74.0	62.87500	1995-08-23	NA	47.500000	19.8206522	32.986111
3158	chic	76.0	65.37500	1995-08-24	NA	46.000000	23.9804607	28.212862
3159	chic	81.0	66.00000	1995-08-25	NA	52.000000	32.0177536	23.838768

3160	chic	80.0	65.50000	1995-08-26	NA	74.00000	42.4250000	33.847222
3161	chic	77.5	70.00000	1995-08-27	NA	85.00000	41.5750000	22.055556
3162	chic	76.0	69.87500	1995-08-28	NA	58.50000	14.8809783	35.180556
3163	chic	80.0	68.00000	1995-08-29	NA	48.00000	17.9375000	34.379808
3164	chic	83.0	67.00000	1995-08-30	NA	86.50000	39.1969203	31.291667
3165	chic	79.0	57.12500	1995-08-31	NA	48.33333	35.4097826	21.926915
3166	chic	69.5	53.62500	1995-09-01	NA	22.50000	20.5812582	23.950758
3167	chic	68.5	55.87500	1995-09-02	NA	35.50000	19.9750000	31.250000
3168	chic	72.0	55.62500	1995-09-03	NA	34.00000	34.2125000	26.489583
3169	chic	75.0	59.00000	1995-09-04	NA	60.50000	47.0458333	36.406250
3170	chic	76.5	61.12500	1995-09-05	NA	90.00000	28.5791667	52.119318
3171	chic	74.5	59.87500	1995-09-06	NA	65.142857	36.3414855	36.571970
3172	chic	62.0	55.87500	1995-09-07	NA	22.00000	16.5902339	18.481522
3173	chic	61.0	49.12500	1995-09-08	NA	8.50000	24.7838768	13.176449
3174	chic	58.5	46.37500	1995-09-09	NA	13.00000	23.3083333	17.566667
3175	chic	54.5	43.37500	1995-09-10	NA	9.00000	24.4125000	10.933333
3176	chic	59.0	46.37500	1995-09-11	NA	27.50000	16.7451087	31.000000
3177	chic	65.5	59.62500	1995-09-12	NA	55.666667	16.4405797	46.858333
3178	chic	73.0	61.25000	1995-09-13	NA	46.00000	25.2711957	26.459223
3179	chic	66.5	54.50000	1995-09-14	NA	26.50000	20.0765810	19.869565
3180	chic	65.5	55.50000	1995-09-15	NA	35.50000	14.9724638	26.171377
3181	chic	73.5	65.25000	1995-09-16	NA	40.50000	26.2708333	20.708333
3182	chic	56.5	42.37500	1995-09-17	NA	9.00000	17.7375000	8.925000
3183	chic	56.0	48.00000	1995-09-18	NA	27.888889	9.4871014	25.200000
3184	chic	61.5	57.62500	1995-09-19	NA	31.50000	10.0539452	27.474440
3185	chic	55.0	48.37500	1995-09-20	NA	21.50000	8.6978663	18.942490
3186	chic	45.5	40.12500	1995-09-21	NA	12.00000	10.6157407	19.441667
3187	chic	44.0	27.75000	1995-09-22	NA	15.00000	7.1123737	20.836667
3188	chic	44.0	35.87500	1995-09-23	NA	30.50000	12.1574074	23.233333
3189	chic	49.5	37.62500	1995-09-24	NA	22.33333	17.0277778	24.600000
3190	chic	56.0	43.75000	1995-09-25	NA	47.50000	11.6157407	39.308333
3191	chic	60.0	43.12500	1995-09-26	NA	59.50000	13.5980274	36.891667
3192	chic	67.0	48.00000	1995-09-27	NA	54.00000	17.8397746	40.398033
3193	chic	67.0	46.87500	1995-09-28	NA	87.50000	21.6481481	53.133333
3194	chic	68.0	49.37500	1995-09-29	NA	74.00000	29.4782609	39.279356
3195	chic	75.0	55.25000	1995-09-30	NA	77.25000	47.8703704	16.583333
3196	chic	66.5	48.25000	1995-10-01	NA	37.50000	26.0416667	13.277778
3197	chic	64.0	54.50000	1995-10-02	NA	53.00000	11.9907407	33.680556
3198	chic	62.0	53.75000	1995-10-03	NA	34.50000	11.2775765	37.395833
3199	chic	58.0	50.37500	1995-10-04	NA	37.00000	13.3745974	27.697917
3200	chic	58.0	54.25000	1995-10-05	NA	23.50000	16.2824074	17.865942
3201	chic	57.5	51.25000	1995-10-06	NA	26.12500	5.6976651	20.014946
3202	chic	49.5	42.37500	1995-10-07	NA	10.50000	5.7250000	13.583333

3203	chic	52.5	46.87500	1995-10-08	NA	22.500000	9.8981481	22.354167
3204	chic	61.5	45.62500	1995-10-09	NA	39.000000	12.8796296	36.093750
3205	chic	57.0	44.37500	1995-10-10	NA	63.000000	5.4597424	41.248206
3206	chic	62.5	49.87500	1995-10-11	NA	87.000000	11.6183575	51.020455
3207	chic	68.5	48.87500	1995-10-12	NA	58.555556	24.3890902	49.804348
3208	chic	70.0	52.62500	1995-10-13	NA	81.500000	29.3419887	36.328351
3209	chic	48.0	36.37500	1995-10-14	NA	20.500000	10.2083333	12.218750
3210	chic	46.5	29.75000	1995-10-15	NA	12.000000	13.3009259	18.583333
3211	chic	48.0	30.62500	1995-10-16	NA	33.000000	7.6250000	35.520833
3212	chic	59.5	44.12500	1995-10-17	NA	78.500000	13.9476651	34.750000
3213	chic	58.0	47.12500	1995-10-18	NA	33.777778	12.0704509	28.395833
3214	chic	64.0	51.75000	1995-10-19	NA	68.000000	24.7095411	28.994112
3215	chic	44.5	39.00000	1995-10-20	NA	13.500000	3.8097826	16.187500
3216	chic	38.5	35.25000	1995-10-21	NA	11.500000	4.6157407	15.479167
3217	chic	48.0	39.00000	1995-10-22	NA	26.000000	9.6712963	24.854167
3218	chic	60.0	46.62500	1995-10-23	NA	40.000000	25.9537037	24.625000
3219	chic	42.5	34.75000	1995-10-24	NA	16.666667	10.2261905	17.885417
3220	chic	46.5	33.25000	1995-10-25	NA	46.000000	7.2105475	31.274004
3221	chic	51.5	44.62500	1995-10-26	NA	39.000000	6.9669887	32.673007
3222	chic	53.0	45.75000	1995-10-27	NA	21.000000	11.5623628	19.203063
3223	chic	45.5	40.75000	1995-10-28	NA	14.000000	7.0648148	22.489583
3224	chic	44.0	34.75000	1995-10-29	NA	12.500000	9.6250000	18.229167
3225	chic	43.0	38.62500	1995-10-30	NA	13.111111	8.5599839	22.052083
3226	chic	44.5	45.37500	1995-10-31	NA	14.500000	6.3590982	18.012311
3227	chic	55.5	59.25000	1995-11-01	NA	28.500000	3.3611111	27.937500
3228	chic	44.5	27.87500	1995-11-02	NA	12.000000	4.0235507	15.730525
3229	chic	30.0	19.25000	1995-11-03	NA	16.500000	10.0416667	17.665226
3230	chic	27.5	16.62500	1995-11-04	NA	12.500000	8.8194444	20.864583
3231	chic	28.5	28.62500	1995-11-05	NA	18.444444	5.2777778	26.645833
3232	chic	40.5	39.50000	1995-11-06	NA	36.000000	4.6250000	26.729167
3233	chic	38.0	19.00000	1995-11-07	NA	25.000000	7.0138889	22.065670
3234	chic	26.0	11.37500	1995-11-08	NA	18.500000	9.9969807	25.758243
3235	chic	32.5	27.12500	1995-11-09	NA	42.000000	4.2083333	28.544956
3236	chic	46.5	37.62500	1995-11-10	NA	29.000000	6.5972222	25.750000
3237	chic	26.5	11.37500	1995-11-11	NA	10.555556	13.8194444	19.739583
3238	chic	22.5	20.12500	1995-11-12	NA	17.500000	4.7638889	27.562500
3239	chic	26.0	18.25000	1995-11-13	NA	31.000000	1.7361111	37.218750
3240	chic	27.0	15.75000	1995-11-14	NA	34.000000	3.9462560	41.512228
3241	chic	27.0	22.25000	1995-11-15	NA	27.000000	4.9166667	34.943452
3242	chic	32.5	22.75000	1995-11-16	NA	33.500000	2.8979469	33.864583
3243	chic	34.5	32.50000	1995-11-17	NA	35.000000	2.5694444	30.666667
3244	chic	36.5	28.75000	1995-11-18	NA	30.000000	1.1250000	28.739583
3245	chic	39.0	38.50000	1995-11-19	NA	34.500000	3.7500000	24.656250

3246	chic	44.5	26.00000	1995-11-20		NA	44.00000	9.375000	21.833333
3247	chic	28.5	15.87500	1995-11-21		NA	26.50000	10.750000	24.346920
3248	chic	27.5	22.37500	1995-11-22		NA	43.50000	2.2638889	32.354167
3249	chic	27.0	9.62500	1995-11-23		NA	16.00000	9.1805556	23.416667
3250	chic	24.0	11.37500	1995-11-24		NA	35.00000	6.1666667	34.500000
3251	chic	40.0	27.37500	1995-11-25		NA	45.00000	5.4305556	28.458333
3252	chic	43.0	31.37500	1995-11-26		NA	42.00000	2.1388889	28.986111
3253	chic	34.5	29.12500	1995-11-27		NA	25.00000	6.5694444	29.347826
3254	chic	21.0	13.12500	1995-11-28		NA	23.00000	6.6461353	39.226010
3255	chic	22.0	18.75000	1995-11-29		NA	44.22222	2.1055665	50.000000
3256	chic	36.5	30.87500	1995-11-30		NA	35.50000	2.8423913	33.750000
3257	chic	39.0	24.50000	1995-12-01		NA	26.50000	5.3421717	29.336806
3258	chic	40.5	30.25000	1995-12-02		NA	32.50000	8.7777778	29.020833
3259	chic	47.0	29.62500	1995-12-03		NA	33.00000	9.2083333	23.562500
3260	chic	36.5	29.75000	1995-12-04		NA	20.50000	10.5694444	29.864583
3261	chic	35.0	5.12500	1995-12-05		NA	26.444444	9.9033816	25.650568
3262	chic	28.0	8.12500	1995-12-06		NA	28.50000	7.6425121	27.122247
3263	chic	25.0	4.75000	1995-12-07		NA	29.00000	7.2222222	33.394737
3264	chic	21.5	21.00000	1995-12-08		NA	35.00000	6.1388889	35.044056
3265	chic	0.5	-2.87500	1995-12-09		NA	75.00000	20.1527778	13.458333
3266	chic	7.5	-3.75000	1995-12-10		NA	37.50000	16.9444444	18.114583
3267	chic	4.5	2.50000	1995-12-11		NA	36.555556	5.7777778	39.145833
3268	chic	15.5	18.62500	1995-12-12		NA	32.50000	5.3556763	41.581645
3269	chic	28.5	29.50000	1995-12-13		NA	37.50000	4.7916667	28.446558
3270	chic	38.0	32.12500	1995-12-14		NA	33.50000	1.4698068	24.182971
3271	chic	34.0	23.50000	1995-12-15		NA	41.50000	2.2083333	36.151515
3272	chic	27.0	18.25000	1995-12-16		NA	35.50000	5.8194444	32.885417
3273	chic	30.0	27.00000	1995-12-17		NA	29.444444	8.2083333	24.354167
3274	chic	35.0	27.87500	1995-12-18		NA	16.00000	11.4444444	19.354167
3275	chic	30.0	21.87500	1995-12-19		NA	11.00000	24.5471014	16.191964
3276	chic	26.0	14.87500	1995-12-20		NA	24.50000	7.2361111	28.041667
3277	chic	24.0	15.37500	1995-12-21		NA	19.00000	7.2638889	33.125000
3278	chic	22.0	18.12500	1995-12-22		NA	19.00000	5.2777778	38.007850
3279	chic	27.0	21.25000	1995-12-23		NA	22.777778	5.7222222	28.555556
3280	chic	25.0	23.75000	1995-12-24		NA	24.00000	10.1250000	18.333333
3281	chic	22.5	10.50000	1995-12-25		NA	22.00000	18.2083333	19.111111
3282	chic	21.0	21.00000	1995-12-26		NA	26.00000	3.3097826	32.000000
3283	chic	23.0	14.37500	1995-12-27		NA	30.50000	4.2946860	34.195199
3284	chic	23.0	11.87500	1995-12-28		NA	41.00000	2.9891304	38.968297
3285	chic	25.0	19.00000	1995-12-29		NA	39.00000	4.2916667	31.976902
3286	chic	29.5	27.12500	1995-12-30		NA	31.50000	1.9583333	29.656250
3287	chic	34.0	32.25000	1995-12-31		NA	35.00000	1.9166667	23.312500
3288	chic	35.0	31.25000	1996-01-01		NA	30.00000	6.5694444	17.916667

3289	chic	27.5	13.50000	1996-01-02	NA	8.000000	22.000000	14.533213
3290	chic	21.0	17.62500	1996-01-03	NA	18.000000	17.4468599	27.002394
3291	chic	21.0	12.62500	1996-01-04	NA	30.916667	2.8218599	41.682518
3292	chic	16.0	7.87500	1996-01-05	NA	40.500000	3.9861111	38.406250
3293	chic	19.0	17.37500	1996-01-06	NA	20.500000	11.4027778	31.833333
3294	chic	18.5	7.37500	1996-01-07	NA	20.000000	18.4166667	24.750000
3295	chic	13.0	13.00000	1996-01-08	NA	44.000000	6.7083333	37.729167
3296	chic	27.0	20.62500	1996-01-09	NA	37.500000	5.5307971	34.289079
3297	chic	21.5	18.12500	1996-01-10	NA	33.416667	5.3375604	38.477657
3298	chic	26.5	24.50000	1996-01-11	NA	27.500000	5.6031746	33.489130
3299	chic	28.5	27.12500	1996-01-12	NA	31.500000	4.5416667	31.534091
3300	chic	32.0	30.75000	1996-01-13	NA	41.000000	1.6250000	38.552083
3301	chic	37.5	28.50000	1996-01-14	NA	19.000000	10.6041667	24.562500
3302	chic	24.0	14.25000	1996-01-15	NA	11.500000	20.0833333	23.625000
3303	chic	32.5	40.00000	1996-01-16	NA	36.416667	1.1666667	29.266304
3304	chic	47.0	49.12500	1996-01-17	NA	35.000000	4.7518116	27.061012
3305	chic	36.5	19.75000	1996-01-18	NA	17.500000	13.1805556	18.819627
3306	chic	9.0	1.50000	1996-01-19	NA	25.000000	15.1630435	23.000000
3307	chic	15.5	12.00000	1996-01-20	NA	24.000000	4.6944444	32.722222
3308	chic	25.5	26.25000	1996-01-21	NA	28.000000	4.8888889	25.887077
3309	chic	37.5	33.00000	1996-01-22	NA	27.615385	6.5694444	26.194444
3310	chic	33.0	33.00000	1996-01-23	NA	28.000000	3.6992754	23.248119
3311	chic	20.5	4.37500	1996-01-24	NA	21.000000	12.0332126	25.914855
3312	chic	20.0	23.37500	1996-01-25	NA	35.000000	4.0917874	35.521780
3313	chic	32.0	28.37500	1996-01-26	NA	27.000000	5.8750000	29.188159
3314	chic	16.5	3.87500	1996-01-27	NA	38.500000	20.0972222	20.062500
3315	chic	19.0	15.12500	1996-01-28	NA	22.615385	8.9583333	33.489583
3316	chic	18.5	-2.50000	1996-01-29	NA	46.000000	14.9305556	24.145833
3317	chic	2.0	-13.62500	1996-01-30	NA	42.500000	9.3008640	34.488564
3318	chic	-3.0	-10.00000	1996-01-31	NA	34.500000	8.1325758	34.547472
3319	chic	1.5	-12.87500	1996-02-01	NA	33.000000	9.8997585	32.092391
3320	chic	-10.5	-21.00000	1996-02-02	NA	35.000000	9.5555556	31.479167
3321	chic	-12.0	-18.87500	1996-02-03	NA	25.615385	7.7361111	30.135417
3322	chic	-6.0	-7.87500	1996-02-04	NA	21.000000	9.5833333	29.958333
3323	chic	11.5	5.25000	1996-02-05	NA	51.000000	6.4027778	38.239583
3324	chic	18.5	20.62500	1996-02-06	NA	58.000000	5.4323671	48.981266
3325	chic	38.0	34.75000	1996-02-07	NA	37.000000	4.7916667	31.250000
3326	chic	39.5	34.50000	1996-02-08	NA	28.000000	2.6277778	29.208333
3327	chic	39.0	37.75000	1996-02-09	NA	28.076923	3.9447464	40.802083
3328	chic	44.5	29.62500	1996-02-10	NA	27.000000	14.3541667	21.437500
3329	chic	32.0	19.62500	1996-02-11	NA	15.000000	22.1041667	14.791667
3330	chic	23.0	14.37500	1996-02-12	NA	17.000000	14.5625000	27.072917
3331	chic	27.5	26.87500	1996-02-13	NA	29.000000	4.1186869	30.937371

3332	chic	27.5	19.25000	1996-02-14	NA	21.000000	6.6237374	32.552083
3333	chic	24.0	20.62500	1996-02-15	NA	22.153846	9.9583333	30.712862
3334	chic	21.0	14.25000	1996-02-16	NA	23.000000	13.3888889	26.780344
3335	chic	23.5	10.62500	1996-02-17	NA	28.000000	10.9722222	25.479167
3336	chic	18.5	19.75000	1996-02-18	NA	32.000000	10.4444444	31.177083
3337	chic	33.0	31.87500	1996-02-19	NA	35.000000	5.0138889	36.906250
3338	chic	43.5	41.25000	1996-02-20	NA	43.000000	2.9667874	36.044508
3339	chic	31.5	31.87500	1996-02-21	NA	19.846154	14.3635266	22.645833
3340	chic	35.5	34.87500	1996-02-22	NA	35.000000	6.9885266	23.226449
3341	chic	44.5	37.87500	1996-02-23	NA	42.000000	3.9444444	24.283991
3342	chic	46.0	30.50000	1996-02-24	NA	19.000000	14.8888889	24.072917
3343	chic	46.5	39.25000	1996-02-25	NA	31.000000	7.3055556	36.813859
3344	chic	40.5	40.00000	1996-02-26	NA	50.500000	4.6944444	32.993659
3345	chic	38.5	28.37500	1996-02-27	NA	31.916667	4.5229469	26.562500
3346	chic	20.0	6.62500	1996-02-28	NA	25.000000	17.3991546	15.173136
3347	chic	17.0	6.37500	1996-02-29	NA	20.000000	15.9507576	23.821429
3348	chic	26.0	21.00000	1996-03-01	NA	36.000000	13.2790404	26.229167
3349	chic	15.0	-4.50000	1996-03-02	NA	39.000000	22.7638889	13.861111
3350	chic	12.5	0.75000	1996-03-03	NA	22.000000	16.1111111	18.041667
3351	chic	25.0	18.87500	1996-03-04	NA	29.923077	5.2777778	37.361111
3352	chic	31.5	27.75000	1996-03-05	NA	23.500000	11.6805556	24.591856
3353	chic	20.5	10.00000	1996-03-06	NA	17.000000	25.1111111	21.494112
3354	chic	11.5	0.12500	1996-03-07	NA	18.000000	14.6300505	27.531250
3355	chic	8.0	8.25000	1996-03-08	NA	31.000000	15.1920290	23.533967
3356	chic	17.5	14.00000	1996-03-09	NA	29.000000	12.5000000	34.140152
3357	chic	26.0	25.87500	1996-03-10	NA	33.916667	12.3541667	32.979167
3358	chic	37.5	28.37500	1996-03-11	NA	31.000000	9.2708333	35.656250
3359	chic	43.0	31.50000	1996-03-12	NA	40.000000	10.8055556	43.463225
3360	chic	45.0	39.75000	1996-03-13	NA	59.000000	7.6618357	52.688496
3361	chic	47.5	39.50000	1996-03-14	NA	54.000000	16.8888889	39.843750
3362	chic	40.5	30.75000	1996-03-15	NA	32.000000	16.4722222	31.247736
3363	chic	34.5	27.87500	1996-03-16	NA	24.692308	20.6527778	22.520833
3364	chic	31.0	32.62500	1996-03-17	NA	36.000000	6.2638889	36.302083
3365	chic	34.5	24.62500	1996-03-18	NA	54.000000	9.5416667	39.531703
3366	chic	35.5	25.87500	1996-03-19	NA	26.000000	32.4791667	22.373106
3367	chic	31.5	20.37500	1996-03-20	NA	23.000000	34.0588768	14.135417
3368	chic	29.5	20.12500	1996-03-21	NA	18.000000	20.6363872	26.982790
3369	chic	35.0	12.12500	1996-03-22	NA	28.727273	20.0597826	34.019928
3370	chic	39.0	22.12500	1996-03-23	NA	57.000000	17.9166667	42.104167
3371	chic	50.5	51.00000	1996-03-24	NA	29.000000	31.2166667	20.770833
3372	chic	35.5	12.12500	1996-03-25	NA	33.000000	23.6950000	13.976449
3373	chic	18.5	2.25000	1996-03-26	NA	24.500000	28.7708333	20.913826
3374	chic	24.0	20.25000	1996-03-27	NA	26.000000	24.5937500	31.441288

3375	chic	37.0	25.50000	1996-03-28	NA	34.454545	19.4756410	33.364583
3376	chic	38.5	28.50000	1996-03-29	NA	32.000000	27.1666667	37.562500
3377	chic	42.0	39.87500	1996-03-30	NA	45.000000	15.0312500	33.364583
3378	chic	36.5	30.62500	1996-03-31	NA	24.000000	29.9583333	21.750000
3379	chic	35.5	19.62500	1996-04-01	NA	15.000000	29.4589372	25.520833
3380	chic	47.5	37.37500	1996-04-02	NA	52.000000	19.5550981	34.617795
3381	chic	52.0	37.50000	1996-04-03	NA	42.384615	16.9744364	36.979167
3382	chic	33.5	25.50000	1996-04-04	NA	23.000000	21.1334541	24.072917
3383	chic	32.0	19.75000	1996-04-05	NA	8.000000	27.6898148	25.604167
3384	chic	33.0	21.25000	1996-04-06	NA	9.000000	27.1157407	24.489583
3385	chic	32.0	17.37500	1996-04-07	NA	9.000000	25.1250000	22.270833
3386	chic	30.0	20.87500	1996-04-08	NA	17.500000	17.5245572	33.354167
3387	chic	36.0	25.75000	1996-04-09	NA	26.846154	14.2695911	34.250000
3388	chic	45.5	28.12500	1996-04-10	NA	58.000000	17.2596014	46.134058
3389	chic	64.0	48.50000	1996-04-11	NA	128.000000	33.6128623	34.272727
3390	chic	53.0	42.62500	1996-04-12	NA	40.000000	20.0626812	37.964674
3391	chic	40.5	29.37500	1996-04-13	NA	15.000000	19.5333333	18.041667
3392	chic	37.5	33.12500	1996-04-14	NA	15.000000	33.2375000	13.822917
3393	chic	40.0	31.75000	1996-04-15	NA	20.846154	19.6076087	29.208333
3394	chic	42.5	31.62500	1996-04-16	NA	21.000000	22.0231884	30.714962
3395	chic	47.0	40.62500	1996-04-17	NA	32.000000	20.5081522	36.891757
3396	chic	63.5	54.37500	1996-04-18	NA	54.000000	30.4634058	26.714427
3397	chic	62.5	50.12500	1996-04-19	NA	35.000000	22.3755435	27.145833
3398	chic	52.0	40.50000	1996-04-20	NA	25.000000	15.1916667	18.927083
3399	chic	52.0	37.87500	1996-04-21	NA	25.583333	21.4625000	26.333333
3400	chic	51.5	38.37500	1996-04-22	NA	27.000000	18.2064394	33.520833
3401	chic	45.0	31.12500	1996-04-23	NA	16.000000	22.3003623	24.461174
3402	chic	52.5	46.12500	1996-04-24	NA	28.000000	20.0211957	27.966667
3403	chic	61.0	43.87500	1996-04-25	NA	52.000000	25.5555665	22.433333
3404	chic	45.5	24.87500	1996-04-26	NA	45.000000	17.1206522	23.116667
3405	chic	45.0	30.37500	1996-04-27	NA	28.846154	19.4398148	29.291667
3406	chic	44.0	30.62500	1996-04-28	NA	37.500000	19.2083333	26.166667
3407	chic	40.5	37.25000	1996-04-29	NA	14.000000	21.0222826	23.566667
3408	chic	43.5	32.62500	1996-04-30	NA	20.000000	24.8038043	23.362121
3409	chic	50.0	32.62500	1996-05-01	NA	41.000000	24.0019928	24.786836
3410	chic	52.5	39.00000	1996-05-02	NA	38.000000	22.4824275	32.112609
3411	chic	52.5	42.62500	1996-05-03	NA	34.538462	24.9916667	28.750000
3412	chic	47.5	30.62500	1996-05-04	NA	17.000000	26.2458333	23.058333
3413	chic	49.0	41.25000	1996-05-05	NA	20.000000	21.9708333	22.950000
3414	chic	45.5	40.25000	1996-05-06	NA	17.000000	20.3875000	23.283333
3415	chic	50.5	43.37500	1996-05-07	NA	37.000000	14.5673913	28.763636
3416	chic	57.0	56.50000	1996-05-08	NA	57.000000	5.2159783	30.056884
3417	chic	58.0	54.14286	1996-05-09	NA	36.166667	4.0615942	32.312681

3418	chic	51.0	38.25000	1996-05-10		NA	16.000000	15.6525000	21.783333
3419	chic	45.0	28.50000	1996-05-11		NA	8.000000	23.6250000	15.791667
3420	chic	42.5	24.12500	1996-05-12		NA	15.000000	28.3583333	15.675000
3421	chic	45.0	33.25000	1996-05-13		NA	21.000000	15.6787879	38.358333
3422	chic	47.5	42.87500	1996-05-14		NA	28.000000	21.8606884	31.408333
3423	chic	54.5	52.12500	1996-05-15		NA	50.384615	17.2739130	30.450362
3424	chic	53.5	52.12500	1996-05-16		NA	38.000000	6.5557336	30.032378
3425	chic	69.5	71.87500	1996-05-17		NA	38.000000	27.0250000	23.983333
3426	chic	81.0	68.87500	1996-05-18		NA	38.000000	38.0500000	17.308333
3427	chic	81.0	65.25000	1996-05-19		NA	86.000000	33.7833333	12.800000
3428	chic	64.0	56.00000	1996-05-20		NA	28.000000	22.6750000	26.641667
3429	chic	65.0	52.62500	1996-05-21		NA	26.461538	23.7018116	30.816667
3430	chic	67.0	55.25000	1996-05-22		NA	46.000000	24.0317852	38.571667
3431	chic	56.0	46.75000	1996-05-23		NA	27.000000	15.4533267	34.254875
3432	chic	52.0	45.50000	1996-05-24		NA	17.000000	21.2375000	22.303986
3433	chic	51.5	41.25000	1996-05-25		NA	17.000000	28.0083333	21.258333
3434	chic	54.0	47.00000	1996-05-26		NA	18.000000	37.1666667	14.333333
3435	chic	51.0	46.75000	1996-05-27		NA	23.307692	32.3625000	12.416667
3436	chic	51.5	50.00000	1996-05-28		NA	24.000000	28.2440217	25.903788
3437	chic	51.0	34.87500	1996-05-29		NA	19.000000	29.4519928	24.584848
3438	chic	51.5	34.00000	1996-05-30		NA	18.000000	22.8746377	28.632453
3439	chic	57.5	50.37500	1996-05-31		NA	41.000000	30.6815217	34.632971
3440	chic	62.5	64.00000	1996-06-01		NA	52.000000	31.3833333	35.516667
3441	chic	67.5	57.14286	1996-06-02		NA	18.846154	41.1166667	13.758333
3442	chic	60.5	52.37500	1996-06-03		NA	20.000000	21.5666667	19.016667
3443	chic	57.5	55.87500	1996-06-04		NA	23.000000	6.2288043	22.470290
3444	chic	61.5	54.87500	1996-06-05		NA	38.000000	30.1786232	24.050000
3445	chic	63.5	63.75000	1996-06-06		NA	31.000000	20.8565217	29.179880
3446	chic	54.5	53.25000	1996-06-07		NA	24.000000	16.8708333	28.666667
3447	chic	53.0	56.62500	1996-06-08		NA	28.615385	20.7291667	19.891667
3448	chic	56.5	56.75000	1996-06-09		NA	17.000000	23.7500000	16.425000
3449	chic	61.5	59.12500	1996-06-10		NA	29.000000	21.6826087	25.206884
3450	chic	60.0	59.12500	1996-06-11		NA	22.000000	28.4201087	28.489394
3451	chic	65.5	63.75000	1996-06-12		NA	53.000000	23.6226449	46.031159
3452	chic	75.5	68.50000	1996-06-13		NA	55.500000	32.2322299	36.674242
3453	chic	71.5	59.62500	1996-06-14		NA	43.923077	29.5039614	33.223913
3454	chic	71.0	51.75000	1996-06-15		NA	46.000000	33.9958333	33.108333
3455	chic	72.5	67.00000	1996-06-16		NA	64.000000	38.8000000	33.937500
3456	chic	74.0	72.50000	1996-06-17		NA	57.000000	33.5183489	26.336429
3457	chic	73.5	69.75000	1996-06-18		NA	31.000000	23.8479649	23.109058
3458	chic	69.5	65.62500	1996-06-19		NA	32.500000	19.9348476	31.427964
3459	chic	73.5	71.00000	1996-06-20		NA	47.583333	28.2146739	36.878261
3460	chic	76.5	75.12500	1996-06-21		NA	71.000000	27.3091568	40.753030

3461	chic	71.0	57.12500	1996-06-22	NA	28.000000	33.0875000	16.066667
3462	chic	61.0	54.00000	1996-06-23	NA	28.000000	28.2500000	20.616667
3463	chic	68.5	57.75000	1996-06-24	NA	31.000000	22.4121377	21.266667
3464	chic	65.5	50.75000	1996-06-25	NA	24.000000	24.8867754	21.875000
3465	chic	68.0	62.37500	1996-06-26	NA	47.307692	29.5288043	40.062549
3466	chic	74.0	68.00000	1996-06-27	NA	63.000000	45.8902174	52.208333
3467	chic	77.5	65.87500	1996-06-28	NA	76.000000	39.7313406	51.605435
3468	chic	83.0	74.25000	1996-06-29	NA	73.000000	58.3958333	22.475000
3469	chic	83.0	66.12500	1996-06-30	NA	36.000000	38.0166667	19.358333
3470	chic	75.5	57.62500	1996-07-01	NA	31.000000	30.4536232	30.250000
3471	chic	73.0	61.75000	1996-07-02	NA	38.500000	30.8650362	33.822464
3472	chic	65.0	48.87500	1996-07-03	NA	13.000000	24.3958333	15.816667
3473	chic	64.0	51.50000	1996-07-04	NA	66.000000	24.2666667	19.608333
3474	chic	70.5	57.12500	1996-07-05	NA	69.000000	30.8125000	39.901515
3475	chic	73.0	61.75000	1996-07-06	NA	60.000000	55.0250000	34.333333
3476	chic	78.0	57.12500	1996-07-07	NA	49.000000	52.6708333	25.425000
3477	chic	71.5	55.12500	1996-07-08	NA	42.076923	26.5583333	27.741667
3478	chic	63.0	55.00000	1996-07-09	NA	19.000000	18.5141304	18.912319
3479	chic	63.5	46.62500	1996-07-10	NA	24.000000	19.3023551	22.707609
3480	chic	66.0	55.25000	1996-07-11	NA	45.000000	35.2405797	30.493478
3481	chic	73.0	66.37500	1996-07-12	NA	51.000000	33.1923913	37.241667
3482	chic	74.5	60.62500	1996-07-13	NA	31.000000	29.7875000	20.258333
3483	chic	69.0	64.62500	1996-07-14	NA	21.923077	17.1458333	24.616667
3484	chic	71.5	62.37500	1996-07-15	NA	37.000000	22.4083333	25.833333
3485	chic	76.5	58.87500	1996-07-16	NA	37.000000	25.4878623	34.177767
3486	chic	73.5	69.75000	1996-07-17	NA	32.000000	18.8953197	39.257576
3487	chic	79.0	78.25000	1996-07-18	NA	28.000000	24.4543478	25.386298
3488	chic	72.0	57.37500	1996-07-19	NA	17.000000	20.5472222	14.045652
3489	chic	65.0	53.75000	1996-07-20	NA	15.666667	24.2875000	10.991667
3490	chic	61.5	54.00000	1996-07-21	NA	19.000000	21.7750000	17.558333
3491	chic	65.5	67.62500	1996-07-22	NA	35.000000	22.5322464	26.641667
3492	chic	70.5	59.00000	1996-07-23	NA	35.000000	17.8949934	27.815152
3493	chic	73.5	61.62500	1996-07-24	NA	25.000000	17.1608696	27.521091
3494	chic	68.5	58.25000	1996-07-25	NA	25.000000	15.3775362	23.801087
3495	chic	69.5	58.62500	1996-07-26	NA	24.583333	16.6989130	22.108333
3496	chic	68.5	64.12500	1996-07-27	NA	21.000000	19.5875000	22.383333
3497	chic	67.5	66.62500	1996-07-28	NA	26.000000	24.3166667	24.345000
3498	chic	70.0	62.75000	1996-07-29	NA	34.000000	22.1875000	27.283333
3499	chic	68.5	57.87500	1996-07-30	NA	25.500000	16.1250000	26.764394
3500	chic	65.5	58.12500	1996-07-31	NA	28.000000	12.3300725	22.992424
3501	chic	66.5	59.87500	1996-08-01	NA	28.769231	16.4188808	30.679348
3502	chic	67.5	59.62500	1996-08-02	NA	29.000000	18.6806836	28.228261
3503	chic	68.5	62.62500	1996-08-03	NA	41.000000	22.5555556	28.145833

3504	chic	74.0	67.87500	1996-08-04	NA	45.000000	39.5277778	22.687500
3505	chic	82.0	75.37500	1996-08-05	NA	69.000000	38.8480676	18.093750
3506	chic	79.5	75.62500	1996-08-06	NA	47.000000	29.7407407	22.722908
3507	chic	83.0	74.37500	1996-08-07	NA	45.076923	27.9098229	25.833333
3508	chic	77.0	55.00000	1996-08-08	NA	24.000000	24.8057568	24.791667
3509	chic	71.0	57.87500	1996-08-09	NA	25.000000	17.7201178	23.145833
3510	chic	68.5	59.75000	1996-08-10	NA	12.000000	22.1149356	11.958333
3511	chic	69.5	65.12500	1996-08-11	NA	30.000000	16.9583333	29.520833
3512	chic	71.0	64.12500	1996-08-12	NA	46.000000	22.3802910	32.114583
3513	chic	74.0	67.62500	1996-08-13	NA	44.307692	25.8393720	30.001488
3514	chic	76.0	63.62500	1996-08-14	NA	45.000000	22.5803872	26.120842
3515	chic	69.5	60.00000	1996-08-15	NA	27.000000	15.0432770	24.314383
3516	chic	68.5	61.12500	1996-08-16	NA	19.000000	14.0215378	19.468750
3517	chic	69.0	64.12500	1996-08-17	NA	29.000000	21.0277778	25.833333
3518	chic	70.5	69.37500	1996-08-18	NA	34.000000	25.9259259	22.739583
3519	chic	76.0	71.37500	1996-08-19	NA	42.076923	25.1423108	23.416667
3520	chic	77.0	71.25000	1996-08-20	NA	48.000000	20.0674316	26.847826
3521	chic	78.0	72.75000	1996-08-21	NA	58.000000	20.7338054	41.495224
3522	chic	79.0	71.12500	1996-08-22	NA	59.000000	30.7667874	27.001218
3523	chic	70.0	55.12500	1996-08-23	NA	17.000000	14.8263134	17.406250
3524	chic	71.0	58.87500	1996-08-24	NA	22.000000	21.7083333	23.885417
3525	chic	69.5	64.50000	1996-08-25	NA	33.923077	26.7604167	30.937500
3526	chic	72.0	65.75000	1996-08-26	NA	46.000000	32.5579710	29.583333
3527	chic	70.0	64.87500	1996-08-27	NA	24.000000	25.5140902	13.063406
3528	chic	68.5	63.00000	1996-08-28	NA	39.000000	21.3516506	22.750947
3529	chic	69.5	58.75000	1996-08-29	NA	20.000000	31.9267311	20.354167
3530	chic	69.0	61.25000	1996-08-30	NA	23.000000	29.7737520	20.697917
3531	chic	70.5	61.50000	1996-08-31	NA	48.076923	32.7361111	22.864583
3532	chic	73.5	60.75000	1996-09-01	NA	53.000000	37.2638889	31.031250
3533	chic	71.0	62.50000	1996-09-02	NA	53.000000	42.9027778	26.343750
3534	chic	73.0	67.00000	1996-09-03	NA	83.000000	37.3146135	33.219697
3535	chic	73.0	64.75000	1996-09-04	NA	112.000000	38.2415459	41.947917
3536	chic	74.0	68.37500	1996-09-05	NA	68.000000	45.0873591	24.185688
3537	chic	74.0	71.12500	1996-09-06	NA	53.461538	38.5805153	20.415761
3538	chic	73.5	69.62500	1996-09-07	NA	51.000000	21.9398148	27.093750
3539	chic	73.0	67.25000	1996-09-08	NA	62.000000	20.9895833	29.593750
3540	chic	68.5	64.62500	1996-09-09	NA	32.000000	20.8435673	22.927083
3541	chic	69.5	61.37500	1996-09-10	NA	48.000000	16.4059984	35.650298
3542	chic	67.0	57.12500	1996-09-11	NA	39.000000	9.2485910	34.794055
3543	chic	58.0	50.25000	1996-09-12	NA	16.818182	8.5787037	18.610960
3544	chic	56.0	46.62500	1996-09-13	NA	22.000000	10.0106683	19.856431
3545	chic	53.0	50.75000	1996-09-14	NA	19.000000	6.3888889	18.333333
3546	chic	59.0	51.87500	1996-09-15	NA	21.000000	10.6203704	19.812500

3547	chic	58.5	54.37500	1996-09-16	NA	17.000000	13.8399758	14.581975
3548	chic	60.5	52.25000	1996-09-17	NA	11.000000	17.9440419	10.458333
3549	chic	62.0	52.62500	1996-09-18	NA	17.307692	11.7250403	14.947334
3550	chic	61.0	51.75000	1996-09-19	NA	29.000000	17.2312619	21.885417
3551	chic	58.5	58.25000	1996-09-20	NA	40.000000	9.6743156	39.104167
3552	chic	64.0	54.87500	1996-09-21	NA	42.000000	9.9305556	33.104167
3553	chic	62.5	50.25000	1996-09-22	NA	28.000000	16.1338567	20.238678
3554	chic	59.0	56.87500	1996-09-23	NA	43.000000	4.6729066	36.256793
3555	chic	57.0	43.12500	1996-09-24	NA	24.230769	13.6966769	27.196558
3556	chic	53.0	46.12500	1996-09-25	NA	46.000000	12.3476248	29.983863
3557	chic	60.5	63.37500	1996-09-26	NA	28.000000	14.8120921	23.416667
3558	chic	58.5	48.00000	1996-09-27	NA	14.000000	6.5246914	17.739583
3559	chic	53.5	47.00000	1996-09-28	NA	17.000000	6.0892857	21.125000
3560	chic	57.5	50.37500	1996-09-29	NA	20.000000	11.1666667	21.694444
3561	chic	63.0	52.87500	1996-09-30	NA	27.461538	13.8690476	35.250000
3562	chic	62.0	58.25000	1996-10-01	NA	44.000000	20.2395833	35.861111
3563	chic	57.0	40.87500	1996-10-02	NA	24.000000	13.9166667	20.516414
3564	chic	46.5	36.75000	1996-10-03	NA	12.000000	18.5104167	18.777778
3565	chic	47.0	40.37500	1996-10-04	NA	25.000000	10.8020833	30.428140
3566	chic	53.5	45.50000	1996-10-05	NA	25.000000	8.0312500	33.750000
3567	chic	63.5	57.12500	1996-10-06	NA	38.230769	25.0781250	29.486111
3568	chic	53.5	45.62500	1996-10-07	NA	14.000000	12.3906250	18.836353
3569	chic	45.5	40.25000	1996-10-08	NA	9.000000	7.0700758	20.529040
3570	chic	47.5	41.62500	1996-10-09	NA	32.000000	4.4531250	32.416667
3571	chic	42.5	35.75000	1996-10-10	NA	13.000000	6.7244112	21.309783
3572	chic	42.0	42.37500	1996-10-11	NA	23.000000	7.0781250	29.625000
3573	chic	61.0	54.25000	1996-10-12	NA	29.833333	15.3177083	29.388889
3574	chic	66.0	62.12500	1996-10-13	NA	40.000000	24.0572917	32.902778
3575	chic	57.0	51.00000	1996-10-14	NA	18.000000	17.3229167	15.972222
3576	chic	64.0	54.62500	1996-10-15	NA	48.000000	12.3960598	39.472222
3577	chic	63.0	61.12500	1996-10-16	NA	33.000000	5.8122118	36.619949
3578	chic	59.0	49.12500	1996-10-17	NA	39.000000	21.6906703	25.539251
3579	chic	46.5	28.37500	1996-10-18	NA	20.153846	9.2742301	22.059343
3580	chic	45.0	34.62500	1996-10-19	NA	24.000000	6.9047619	28.402778
3581	chic	47.5	48.25000	1996-10-20	NA	35.000000	6.2440476	31.222222
3582	chic	53.0	50.00000	1996-10-21	NA	34.000000	6.3780797	37.185386
3583	chic	55.5	57.87500	1996-10-22	NA	33.000000	4.9472991	27.145696
3584	chic	43.0	40.62500	1996-10-23	NA	15.500000	4.8145380	17.430556
3585	chic	48.0	43.87500	1996-10-24	NA	26.153846	6.0905797	24.180556
3586	chic	52.5	49.12500	1996-10-25	NA	32.000000	11.9352355	32.916667
3587	chic	62.0	62.25000	1996-10-26	NA	34.000000	8.8489583	23.180556
3588	chic	59.0	47.50000	1996-10-27	NA	21.000000	12.1614583	14.579710
3589	chic	46.5	37.62500	1996-10-28	NA	38.000000	6.0717844	28.958333

3590	chic	50.5	54.12500	1996-10-29	NA	27.000000	6.3358243	30.709541
3591	chic	44.5	22.85714	1996-10-30	NA	18.384615	13.9482337	16.205314
3592	chic	33.0	21.25000	1996-10-31	NA	30.000000	12.6764040	19.432367
3593	chic	31.0	21.62500	1996-11-01	NA	25.000000	8.6458333	24.888889
3594	chic	29.0	24.12500	1996-11-02	NA	18.000000	8.5991848	24.055556
3595	chic	35.5	26.87500	1996-11-03	NA	30.000000	6.5104167	25.708333
3596	chic	42.0	33.50000	1996-11-04	NA	37.000000	2.1562500	31.208333
3597	chic	46.5	47.37500	1996-11-05	NA	34.692308	1.8020833	34.370773
3598	chic	54.0	60.25000	1996-11-06	NA	32.000000	3.2379658	29.944444
3599	chic	43.0	36.87500	1996-11-07	NA	20.000000	2.6805556	28.210145
3600	chic	37.0	33.25000	1996-11-08	NA	32.000000	2.7306763	28.861111
3601	chic	34.5	28.00000	1996-11-09	NA	13.500000	9.9305556	20.333333
3602	chic	28.0	21.87500	1996-11-10	NA	15.000000	12.5555556	19.833333
3603	chic	26.5	12.62500	1996-11-11	NA	13.384615	9.9722222	28.638889
3604	chic	23.0	11.00000	1996-11-12	NA	20.000000	7.3611111	32.388889
3605	chic	22.5	11.37500	1996-11-13	NA	28.000000	3.3888889	36.500000
3606	chic	25.0	18.85714	1996-11-14	NA	23.000000	10.8291063	30.599747
3607	chic	40.0	22.50000	1996-11-15	NA	30.000000	6.3611111	28.916667
3608	chic	48.0	32.12500	1996-11-16	NA	31.000000	6.9722222	25.569444
3609	chic	41.5	25.00000	1996-11-17	NA	14.083333	10.1805556	14.236111
3610	chic	31.0	24.75000	1996-11-18	NA	21.000000	4.1666667	23.625000
3611	chic	29.5	19.00000	1996-11-19	NA	19.000000	3.4782609	29.108696
3612	chic	29.0	29.62500	1996-11-20	NA	23.000000	8.9722222	26.945906
3613	chic	34.0	26.37500	1996-11-21	NA	17.500000	9.5277778	28.784091
3614	chic	34.5	29.37500	1996-11-22	NA	31.000000	4.9305556	32.271355
3615	chic	35.5	34.62500	1996-11-23	NA	28.583333	1.8194444	20.972222
3616	chic	35.0	30.37500	1996-11-24	NA	18.000000	6.1527778	19.125000
3617	chic	26.5	19.12500	1996-11-25	NA	11.000000	14.0948068	23.234127
3618	chic	20.0	9.62500	1996-11-26	NA	26.000000	7.7361111	29.680556
3619	chic	22.5	18.75000	1996-11-27	NA	36.000000	2.4836957	31.219203
3620	chic	29.5	25.62500	1996-11-28	NA	28.000000	4.2083333	26.430556
3621	chic	33.5	31.37500	1996-11-29	NA	26.583333	2.8472222	29.666667
3622	chic	40.5	36.75000	1996-11-30	NA	16.000000	3.5277778	18.305556
3623	chic	30.5	22.87500	1996-12-01	NA	17.000000	8.5277778	17.138889
3624	chic	27.5	24.87500	1996-12-02	NA	28.000000	7.7638889	24.611111
3625	chic	30.0	23.00000	1996-12-03	NA	27.000000	2.1262626	28.277778
3626	chic	26.5	25.25000	1996-12-04	NA	35.000000	1.8882850	30.988691
3627	chic	32.5	32.25000	1996-12-05	NA	22.846154	2.1962560	26.802536
3628	chic	33.5	28.62500	1996-12-06	NA	26.000000	1.9021739	27.628843
3629	chic	30.5	24.87500	1996-12-07	NA	25.500000	7.0833333	26.875000
3630	chic	28.5	22.25000	1996-12-08	NA	19.000000	13.9583333	16.736111
3631	chic	28.5	23.37500	1996-12-09	NA	22.000000	5.4722222	21.152778
3632	chic	35.5	34.75000	1996-12-10	NA	39.000000	1.8888889	28.643116

3633	chic	37.0	34.50000	1996-12-11	NA	18.769231	5.0609903	20.017512
3634	chic	36.5	33.75000	1996-12-12	NA	22.000000	3.2777778	17.472826
3635	chic	34.5	34.75000	1996-12-13	NA	28.000000	2.1533816	25.629831
3636	chic	36.5	31.75000	1996-12-14	NA	28.000000	2.5833333	23.208333
3637	chic	38.0	25.37500	1996-12-15	NA	17.000000	6.4027778	17.388889
3638	chic	29.0	26.12500	1996-12-16	NA	29.000000	8.4166667	24.902778
3639	chic	24.0	13.37500	1996-12-17	NA	26.846154	4.2958937	21.958333
3640	chic	13.0	2.12500	1996-12-18	NA	33.000000	9.2361111	17.590909
3641	chic	8.0	5.75000	1996-12-19	NA	41.000000	7.1250000	19.361111
3642	chic	9.5	8.62500	1996-12-20	NA	30.000000	5.6906566	23.295290
3643	chic	26.5	25.62500	1996-12-21	NA	37.000000	7.0000000	21.388889
3644	chic	34.5	36.87500	1996-12-22	NA	20.000000	2.9722222	25.055556
3645	chic	42.5	40.62500	1996-12-23	NA	17.583333	2.0694444	24.986111
3646	chic	20.0	5.37500	1996-12-24	NA	24.000000	15.6871981	15.986111
3647	chic	4.5	3.00000	1996-12-25	NA	17.000000	12.5972222	19.583333
3648	chic	14.0	12.00000	1996-12-26	NA	30.500000	4.7638889	35.259058
3649	chic	26.0	31.75000	1996-12-27	NA	36.500000	1.9396135	32.751208
3650	chic	37.0	37.75000	1996-12-28	NA	23.000000	1.6805556	22.347222
3651	chic	30.0	22.87500	1996-12-29	NA	29.307692	3.2361111	19.986111
3652	chic	27.5	29.87500	1996-12-30	NA	42.000000	1.9722222	24.194444
3653	chic	27.5	30.12500	1996-12-31	NA	33.000000	2.9287440	27.573232
3654	chic	36.0	37.50000	1997-01-01	NA	19.000000	1.7777778	19.416667
3655	chic	45.0	47.25000	1997-01-02	NA	41.500000	1.5959596	21.243687
3656	chic	40.0	38.00000	1997-01-03	NA	31.000000	2.4027778	19.277778
3657	chic	51.5	45.50000	1997-01-04	NA	24.384615	2.8339372	15.520833
3658	chic	27.0	11.25000	1997-01-05	NA	22.500000	16.3194444	7.729167
3659	chic	17.0	5.75000	1997-01-06	NA	18.500000	12.8333333	19.833333
3660	chic	16.0	7.00000	1997-01-07	NA	25.500000	9.5646135	28.348732
3661	chic	19.0	17.75000	1997-01-08	NA	34.500000	5.1884058	31.444444
3662	chic	26.0	24.00000	1997-01-09	NA	21.500000	9.8194444	27.763889
3663	chic	16.0	5.37500	1997-01-10	NA	24.230769	6.1594203	23.015097
3664	chic	1.5	-6.62500	1997-01-11	NA	21.500000	11.9444444	22.555556
3665	chic	1.0	-8.87500	1997-01-12	NA	21.000000	12.1805556	22.583333
3666	chic	3.0	1.50000	1997-01-13	NA	33.500000	4.6527778	33.612319
3667	chic	10.0	11.50000	1997-01-14	NA	53.000000	2.9679952	40.696256
3668	chic	19.0	23.25000	1997-01-15	NA	30.000000	2.1998792	35.220960
3669	chic	9.5	-9.75000	1997-01-16	NA	26.545455	18.6944444	20.861111
3670	chic	-3.0	-10.37500	1997-01-17	NA	24.000000	12.6884058	28.236111
3671	chic	0.0	-4.12500	1997-01-18	NA	32.000000	10.8750000	32.166667
3672	chic	14.0	22.62500	1997-01-19	NA	31.500000	4.8888889	32.361111
3673	chic	31.0	27.25000	1997-01-20	NA	25.500000	13.2777778	32.486111
3674	chic	35.0	41.62500	1997-01-21	NA	31.000000	9.7083333	32.569444
3675	chic	36.5	20.75000	1997-01-22	NA	17.375000	17.4393939	19.413889

3676	chic	26.0	18.75000	1997-01-23		NA	18.500000	14.5235507	25.375000
3677	chic	32.0	29.50000	1997-01-24		NA	31.000000	4.6932367	24.986111
3678	chic	14.5	-1.37500	1997-01-25		NA	24.500000	12.8611111	21.069444
3679	chic	11.0	17.12500	1997-01-26		NA	28.000000	7.8055556	30.722222
3680	chic	17.0	8.37500	1997-01-27		NA	29.500000	6.2500000	33.500000
3681	chic	2.0	-6.37500	1997-01-28		NA	27.461538	11.2210145	35.432971
3682	chic	8.0	11.00000	1997-01-29		NA	52.500000	4.1944444	48.902778
3683	chic	16.5	16.37500	1997-01-30		NA	45.500000	2.7083333	40.273990
3684	chic	31.5	33.75000	1997-01-31		NA	27.500000	9.2807971	32.486111
3685	chic	35.0	29.66667	1997-02-01		NA	28.500000	12.8623188	34.577899
3686	chic	36.5	29.62500	1997-02-02		NA	34.500000	9.5277778	32.319444
3687	chic	30.0	28.00000	1997-02-03		NA	20.615385	19.1250000	26.125000
3688	chic	34.5	32.00000	1997-02-04		NA	24.000000	9.2192029	24.566339
3689	chic	30.0	24.25000	1997-02-05		NA	17.500000	14.0694444	26.686594
3690	chic	26.0	21.87500	1997-02-06		NA	22.500000	14.8556763	27.402778
3691	chic	25.5	23.37500	1997-02-07		NA	31.500000	12.3194444	31.208333
3692	chic	25.5	22.50000	1997-02-08		NA	18.500000	14.6458333	26.652778
3693	chic	26.0	21.00000	1997-02-09		NA	28.769231	8.2083333	39.041667
3694	chic	27.0	21.75000	1997-02-10		NA	29.000000	11.3541667	35.347222
3695	chic	23.5	19.50000	1997-02-11		NA	28.000000	15.9166667	29.750000
3696	chic	21.0	11.60000	1997-02-12		NA	18.500000	18.5000000	26.902778
3697	chic	20.5	16.37500	1997-02-13		NA	28.500000	15.5833333	29.944444
3698	chic	25.5	23.00000	1997-02-14		NA	38.500000	10.8541667	31.893720
3699	chic	20.0	15.25000	1997-02-15		NA	27.230769	16.5208333	30.638889
3700	chic	18.5	8.12500	1997-02-16		NA	22.000000	14.7291667	30.569444
3701	chic	30.0	32.62500	1997-02-17		NA	33.000000	12.7500000	33.166667
3702	chic	48.5	41.37500	1997-02-18		NA	27.000000	25.5799517	29.143939
3703	chic	37.5	27.50000	1997-02-19		NA	26.000000	17.2083333	30.583333
3704	chic	35.5	44.12500	1997-02-20		NA	34.000000	3.5138889	37.262681
3705	chic	36.0	29.62500	1997-02-21		NA	6.538462	14.4710145	21.116546
3706	chic	26.0	24.25000	1997-02-22		NA	14.500000	21.8750000	25.777778
3707	chic	28.0	14.62500	1997-02-23		NA	16.500000	22.4761905	19.347222
3708	chic	21.5	10.87500	1997-02-24		NA	23.000000	15.7928744	34.555556
3709	chic	25.5	27.12500	1997-02-25		NA	40.000000	11.0090580	35.722222
3710	chic	36.5	35.00000	1997-02-26		NA	33.500000	5.3907005	33.891963
3711	chic	34.5	30.25000	1997-02-27		NA	18.538462	9.0972222	31.042271
3712	chic	37.5	36.00000	1997-02-28		NA	33.000000	12.0277778	27.681159
3713	chic	45.5	44.00000	1997-03-01		NA	32.000000	12.7222222	25.694444
3714	chic	35.0	27.37500	1997-03-02		NA	18.500000	28.4583333	17.236111
3715	chic	33.5	29.37500	1997-03-03		NA	19.000000	25.0277778	23.000000
3716	chic	38.0	28.87500	1997-03-04		NA	30.000000	12.1388889	26.837121
3717	chic	33.0	28.62500	1997-03-05		NA	29.692308	14.1250000	26.272947
3718	chic	26.5	13.37500	1997-03-06		NA	29.000000	21.9359903	24.897343

3719	chic	35.5	35.25000	1997-03-07	NA	29.500000	14.1805556	33.513889
3720	chic	39.0	28.25000	1997-03-08	NA	20.500000	25.9583333	21.180556
3721	chic	37.0	32.62500	1997-03-09	NA	27.000000	9.5694444	26.819444
3722	chic	44.0	33.25000	1997-03-10	NA	27.000000	16.5972222	28.055556
3723	chic	37.0	23.37500	1997-03-11	NA	18.769231	25.6666667	27.513889
3724	chic	33.5	25.00000	1997-03-12	NA	18.500000	28.2385266	30.878788
3725	chic	37.5	30.50000	1997-03-13	NA	27.500000	24.0416667	22.930556
3726	chic	26.5	15.50000	1997-03-14	NA	22.000000	21.4305556	21.083333
3727	chic	19.0	8.37500	1997-03-15	NA	16.000000	28.6666667	19.166667
3728	chic	24.5	23.75000	1997-03-16	NA	19.000000	24.2361111	21.305556
3729	chic	45.0	33.62500	1997-03-17	NA	31.307692	18.6388889	29.125000
3730	chic	33.5	27.00000	1997-03-18	NA	19.500000	36.0944444	19.259259
3731	chic	35.5	28.87500	1997-03-19	NA	28.500000	27.4166667	32.628968
3732	chic	46.0	31.87500	1997-03-20	NA	37.500000	25.9452381	37.621032
3733	chic	53.5	42.50000	1997-03-21	NA	53.000000	19.1949275	31.578502
3734	chic	37.5	28.62500	1997-03-22	NA	21.500000	26.9500000	29.500000
3735	chic	32.5	20.37500	1997-03-23	NA	14.230769	25.4250000	19.027778
3736	chic	33.0	32.37500	1997-03-24	NA	28.000000	20.2606061	26.375000
3737	chic	40.5	30.00000	1997-03-25	NA	25.500000	15.2043478	27.305556
3738	chic	44.0	36.75000	1997-03-26	NA	23.500000	20.7955251	25.867840
3739	chic	60.5	40.12500	1997-03-27	NA	44.000000	26.6074879	26.972222
3740	chic	55.5	53.87500	1997-03-28	NA	39.000000	13.3109903	32.597222
3741	chic	43.5	41.00000	1997-03-29	NA	21.076923	15.2333333	16.819444
3742	chic	37.5	33.75000	1997-03-30	NA	11.000000	22.7833333	18.000000
3743	chic	38.5	22.00000	1997-03-31	NA	18.000000	26.6246377	29.069444
3744	chic	44.5	28.12500	1997-04-01	NA	51.500000	15.0919314	47.718434
3745	chic	53.0	29.87500	1997-04-02	NA	50.500000	13.8210145	42.658213
3746	chic	59.5	49.87500	1997-04-03	NA	45.000000	12.8223485	38.010101
3747	chic	62.5	48.25000	1997-04-04	NA	51.076923	31.1197464	34.291667
3748	chic	60.5	54.37500	1997-04-05	NA	20.000000	28.6547101	17.055556
3749	chic	45.0	21.75000	1997-04-06	NA	35.000000	29.3333333	8.833333
3750	chic	34.0	18.37500	1997-04-07	NA	29.500000	27.3750000	14.152778
3751	chic	28.5	9.25000	1997-04-08	NA	23.000000	22.4378623	22.777778
3752	chic	30.0	18.87500	1997-04-09	NA	18.500000	22.5875000	28.308575
3753	chic	30.5	22.00000	1997-04-10	NA	24.230769	21.6336957	34.892622
3754	chic	33.5	32.00000	1997-04-11	NA	25.000000	25.6224211	26.944444
3755	chic	33.5	30.37500	1997-04-12	NA	20.000000	24.3148148	23.111111
3756	chic	38.5	24.62500	1997-04-13	NA	17.500000	30.5509259	26.333333
3757	chic	41.5	28.12500	1997-04-14	NA	44.500000	19.0505435	43.611111
3758	chic	49.0	36.25000	1997-04-15	NA	57.000000	29.0110507	33.972222
3759	chic	43.0	25.62500	1997-04-16	NA	23.307692	22.2873188	23.780303
3760	chic	40.5	25.75000	1997-04-17	NA	16.000000	18.4827899	24.117754
3761	chic	40.0	34.75000	1997-04-18	NA	42.500000	13.1914855	52.552989

3762	chic	45.5	30.87500	1997-04-19	NA	26.000000	23.6041667	34.177083
3763	chic	49.0	42.25000	1997-04-20	NA	37.500000	23.3875000	37.041667
3764	chic	45.0	31.00000	1997-04-21	NA	19.000000	34.4541667	27.052083
3765	chic	43.0	33.62500	1997-04-22	NA	13.076923	30.0309783	18.687500
3766	chic	48.5	34.00000	1997-04-23	NA	10.000000	26.8789855	22.703442
3767	chic	47.5	36.50000	1997-04-24	NA	12.000000	22.4181159	28.104167
3768	chic	48.0	27.75000	1997-04-25	NA	21.500000	23.7101449	31.500000
3769	chic	49.5	24.25000	1997-04-26	NA	38.500000	23.0875000	40.145833
3770	chic	47.5	40.25000	1997-04-27	NA	28.000000	28.2708333	28.062500
3771	chic	50.5	40.75000	1997-04-28	NA	61.000000	19.5965580	53.010417
3772	chic	60.0	45.25000	1997-04-29	NA	72.000000	35.8416667	33.552083
3773	chic	55.0	50.00000	1997-04-30	NA	47.000000	26.1713768	28.171672
3774	chic	48.5	36.87500	1997-05-01	NA	22.000000	21.2460145	24.543025
3775	chic	48.5	45.50000	1997-05-02	NA	33.000000	10.2949275	33.610507
3776	chic	49.0	40.37500	1997-05-03	NA	18.000000	22.4333333	25.093750
3777	chic	51.5	33.25000	1997-05-04	NA	19.615385	29.0666667	29.843750
3778	chic	62.0	38.87500	1997-05-05	NA	68.000000	30.7701087	22.228673
3779	chic	55.5	35.00000	1997-05-06	NA	29.500000	24.5588768	31.760417
3780	chic	52.5	49.25000	1997-05-07	NA	38.000000	20.6483696	34.779356
3781	chic	61.0	42.75000	1997-05-08	NA	33.500000	29.7259058	20.447917
3782	chic	50.5	36.00000	1997-05-09	NA	19.000000	21.1276186	18.928977
3783	chic	52.5	32.62500	1997-05-10	NA	26.769231	21.8041667	25.135417
3784	chic	59.5	43.87500	1997-05-11	NA	31.500000	27.6875000	18.166667
3785	chic	52.5	32.50000	1997-05-12	NA	35.500000	26.2458333	16.760417
3786	chic	45.5	38.75000	1997-05-13	NA	25.000000	18.1996706	21.478261
3787	chic	49.5	40.62500	1997-05-14	NA	31.000000	13.1291667	32.875000
3788	chic	45.0	35.50000	1997-05-15	NA	15.500000	13.2083333	19.941667
3789	chic	51.0	41.37500	1997-05-16	NA	36.615385	22.8035714	24.024047
3790	chic	50.5	38.25000	1997-05-17	NA	21.000000	29.7541667	17.777899
3791	chic	59.5	63.87500	1997-05-18	NA	34.500000	23.6791667	25.941667
3792	chic	54.0	42.37500	1997-05-19	NA	26.500000	19.7623188	24.627174
3793	chic	51.5	38.12500	1997-05-20	NA	24.500000	17.5827899	28.496970
3794	chic	48.0	34.37500	1997-05-21	NA	12.000000	19.0514397	21.162121
3795	chic	50.5	34.62500	1997-05-22	NA	28.153846	19.3647892	28.726087
3796	chic	58.0	40.75000	1997-05-23	NA	47.000000	26.3353261	33.946509
3797	chic	68.5	56.12500	1997-05-24	NA	54.000000	41.100000	29.341667
3798	chic	50.0	44.50000	1997-05-25	NA	25.000000	37.2791667	13.158333
3799	chic	50.0	35.87500	1997-05-26	NA	9.500000	33.1291667	10.941667
3800	chic	56.0	39.37500	1997-05-27	NA	26.000000	30.0548913	18.232246
3801	chic	58.5	56.87500	1997-05-28	NA	30.307692	21.8239130	22.051416
3802	chic	58.0	50.75000	1997-05-29	NA	22.500000	18.1927536	22.853623
3803	chic	61.0	51.75000	1997-05-30	NA	32.000000	29.3106555	26.696739
3804	chic	59.0	53.37500	1997-05-31	NA	24.000000	37.3083333	24.625000

3805	chic	60.5	51.25000	1997-06-01	NA	19.500000	44.5875000	12.641667
3806	chic	58.0	54.50000	1997-06-02	NA	21.000000	29.6900362	18.682609
3807	chic	61.5	52.62500	1997-06-03	NA	24.538462	30.5096014	19.369928
3808	chic	59.0	47.50000	1997-06-04	NA	29.000000	30.2195652	33.072101
3809	chic	62.0	56.00000	1997-06-05	NA	44.500000	30.9833851	36.375000
3810	chic	63.5	58.75000	1997-06-06	NA	36.000000	23.2639493	27.608333
3811	chic	58.5	55.37500	1997-06-07	NA	20.500000	22.1833333	21.666667
3812	chic	61.0	48.62500	1997-06-08	NA	21.500000	41.0291667	18.383333
3813	chic	62.5	51.75000	1997-06-09	NA	33.000000	41.0408926	29.197727
3814	chic	66.5	53.87500	1997-06-10	NA	47.500000	40.6208333	38.650758
3815	chic	67.5	63.12500	1997-06-11	NA	54.000000	20.1510705	50.989130
3816	chic	70.0	63.62500	1997-06-12	NA	51.000000	20.7578722	41.913636
3817	chic	71.0	52.00000	1997-06-13	NA	41.500000	28.3413043	34.554348
3818	chic	56.5	41.87500	1997-06-14	NA	11.500000	21.3625000	16.216667
3819	chic	63.0	59.75000	1997-06-15	NA	32.000000	35.6416667	21.266667
3820	chic	67.0	53.37500	1997-06-16	NA	25.000000	32.8179348	22.175000
3821	chic	60.5	50.37500	1997-06-17	NA	19.000000	23.1875000	17.209091
3822	chic	67.0	61.12500	1997-06-18	NA	45.500000	30.5518116	30.962681
3823	chic	70.0	65.87500	1997-06-19	NA	60.500000	32.4356884	39.900132
3824	chic	81.5	72.87500	1997-06-20	NA	65.000000	40.4743116	24.501087
3825	chic	75.5	64.75000	1997-06-21	NA	27.250000	29.6944444	23.158333
3826	chic	77.0	66.87500	1997-06-22	NA	29.000000	37.6916667	32.158333
3827	chic	82.5	69.62500	1997-06-23	NA	58.500000	30.5405797	29.900000
3828	chic	84.0	60.00000	1997-06-24	NA	113.500000	33.2342391	26.116667
3829	chic	78.0	62.75000	1997-06-25	NA	47.000000	29.6572783	26.887121
3830	chic	73.5	55.25000	1997-06-26	NA	29.500000	29.5112319	31.086284
3831	chic	72.5	59.00000	1997-06-27	NA	44.833333	32.0572464	42.156159
3832	chic	74.0	62.00000	1997-06-28	NA	48.500000	46.3000000	36.625000
3833	chic	75.0	65.25000	1997-06-29	NA	66.500000	56.5416667	35.291667
3834	chic	76.0	69.25000	1997-06-30	NA	35.000000	20.7777668	32.141667
3835	chic	77.5	68.62500	1997-07-01	NA	49.000000	38.1458333	33.347826
3836	chic	79.5	55.75000	1997-07-02	NA	70.000000	31.3538043	16.692754
3837	chic	68.5	54.25000	1997-07-03	NA	23.166667	18.1791667	12.183333
3838	chic	61.5	51.87500	1997-07-04	NA	26.000000	10.9375000	14.991667
3839	chic	65.5	50.75000	1997-07-05	NA	25.500000	21.7583333	16.666667
3840	chic	70.0	57.75000	1997-07-06	NA	23.500000	31.9958333	17.216667
3841	chic	65.5	52.50000	1997-07-07	NA	19.000000	27.3589262	13.625000
3842	chic	71.0	58.00000	1997-07-08	NA	42.000000	31.3168478	21.860870
3843	chic	62.0	50.75000	1997-07-09	NA	12.750000	28.3326087	15.497727
3844	chic	64.5	51.00000	1997-07-10	NA	25.500000	25.0759591	22.306522
3845	chic	68.5	59.12500	1997-07-11	NA	45.000000	34.2333333	31.120652
3846	chic	74.5	63.50000	1997-07-12	NA	57.500000	48.2541667	32.925000
3847	chic	82.5	71.75000	1997-07-13	NA	53.000000	39.4625000	19.625000

3848	chic	83.0	62.37500	1997-07-14	NA	43.000000	28.9121377	22.941667
3849	chic	79.0	64.25000	1997-07-15	NA	27.333333	25.1706357	24.190152
3850	chic	82.5	59.87500	1997-07-16	NA	42.000000	33.5333498	25.481431
3851	chic	84.0	68.62500	1997-07-17	NA	60.000000	44.5055642	30.298990
3852	chic	79.0	69.12500	1997-07-18	NA	56.500000	20.8335145	38.127174
3853	chic	74.5	60.62500	1997-07-19	NA	21.000000	30.9708333	14.633333
3854	chic	76.5	71.62500	1997-07-20	NA	32.000000	36.8125000	18.008333
3855	chic	72.0	65.12500	1997-07-21	NA	25.666667	31.6306159	19.775000
3856	chic	69.0	64.37500	1997-07-22	NA	23.500000	27.6534750	17.058333
3857	chic	69.0	59.75000	1997-07-23	NA	26.500000	31.1199275	19.910145
3858	chic	72.5	64.75000	1997-07-24	NA	40.000000	38.3942029	25.147101
3859	chic	76.0	75.75000	1997-07-25	NA	68.000000	37.7351449	24.346667
3860	chic	85.5	73.37500	1997-07-26	NA	57.000000	43.7408333	18.475000
3861	chic	81.5	73.75000	1997-07-27	NA	35.454545	27.6250000	28.625000
3862	chic	74.5	57.37500	1997-07-28	NA	19.000000	21.7446970	14.979545
3863	chic	66.5	50.87500	1997-07-29	NA	8.500000	20.7356884	9.717424
3864	chic	68.5	52.37500	1997-07-30	NA	16.500000	21.3333333	16.495059
3865	chic	69.0	56.25000	1997-07-31	NA	34.000000	24.7958333	26.700000
3866	chic	74.5	58.87500	1997-08-01	NA	67.500000	42.4958333	34.950000
3867	chic	81.5	59.37500	1997-08-02	NA	47.666667	43.7314815	29.016667
3868	chic	78.0	66.50000	1997-08-03	NA	40.000000	37.0462963	30.516667
3869	chic	71.0	57.75000	1997-08-04	NA	14.500000	21.8977456	11.599967
3870	chic	62.5	45.87500	1997-08-05	NA	10.500000	20.2820513	13.353788
3871	chic	64.5	54.00000	1997-08-06	NA	36.500000	16.1416667	33.378656
3872	chic	67.0	55.50000	1997-08-07	NA	54.000000	26.8952899	36.856522
3873	chic	69.5	52.87500	1997-08-08	NA	44.416667	34.7488095	36.100000
3874	chic	70.5	66.00000	1997-08-09	NA	45.000000	26.6333333	23.191667
3875	chic	75.5	65.50000	1997-08-10	NA	39.000000	25.1416667	14.125000
3876	chic	67.5	62.12500	1997-08-11	NA	14.500000	16.0326087	13.366667
3877	chic	69.5	67.87500	1997-08-12	NA	28.500000	5.9250000	21.925000
3878	chic	68.5	58.75000	1997-08-13	NA	17.000000	17.7650362	15.476449
3879	chic	65.5	63.12500	1997-08-14	NA	27.750000	20.4052536	22.434058
3880	chic	77.0	70.00000	1997-08-15	NA	36.500000	21.6637681	22.741667
3881	chic	80.0	69.87500	1997-08-16	NA	32.000000	32.7691667	16.900000
3882	chic	68.5	64.00000	1997-08-17	NA	11.000000	23.0458333	14.333333
3883	chic	63.5	54.37500	1997-08-18	NA	7.500000	17.5952899	11.591667
3884	chic	64.0	60.00000	1997-08-19	NA	27.500000	16.4501812	23.108827
3885	chic	67.0	59.37500	1997-08-20	NA	28.083333	15.1213768	23.897464
3886	chic	63.5	52.87500	1997-08-21	NA	14.500000	17.5981884	19.411905
3887	chic	64.0	54.87500	1997-08-22	NA	22.500000	12.2449275	23.094928
3888	chic	65.5	57.75000	1997-08-23	NA	28.000000	17.7375000	25.850000
3889	chic	70.5	62.75000	1997-08-24	NA	22.000000	28.8833333	12.050000
3890	chic	65.5	59.50000	1997-08-25	NA	29.500000	27.5773551	16.088768

3891	chic	69.0	68.75000	1997-08-26	NA	43.666667	18.8320323	31.504710
3892	chic	77.0	67.50000	1997-08-27	NA	48.000000	16.6823188	31.821970
3893	chic	68.5	58.12500	1997-08-28	NA	15.000000	18.5074275	10.882576
3894	chic	67.0	58.87500	1997-08-29	NA	25.500000	18.5416667	16.564752
3895	chic	65.0	68.12500	1997-08-30	NA	37.500000	18.3041667	19.979167
3896	chic	72.0	62.12500	1997-08-31	NA	21.000000	28.2625000	11.906250
3897	chic	70.5	65.87500	1997-09-01	NA	30.333333	27.0375000	22.135417
3898	chic	68.0	51.75000	1997-09-02	NA	29.500000	12.1960145	18.666667
3899	chic	58.5	47.12500	1997-09-03	NA	7.500000	17.0769928	9.650000
3900	chic	59.0	44.87500	1997-09-04	NA	26.500000	15.1501812	22.179004
3901	chic	60.5	51.00000	1997-09-05	NA	46.500000	16.7928195	32.146212
3902	chic	74.5	64.75000	1997-09-06	NA	40.000000	32.2041667	23.458333
3903	chic	66.0	60.12500	1997-09-07	NA	19.000000	23.1922101	12.733333
3904	chic	67.5	62.87500	1997-09-08	NA	23.000000	18.7751812	15.647464
3905	chic	68.5	60.37500	1997-09-09	NA	28.000000	20.2525362	17.766667
3906	chic	64.5	55.37500	1997-09-10	NA	16.500000	14.6114130	17.501812
3907	chic	61.5	53.75000	1997-09-11	NA	21.500000	8.6878788	20.991667
3908	chic	61.5	52.75000	1997-09-12	NA	34.500000	12.2773551	29.528623
3909	chic	63.5	58.62500	1997-09-13	NA	39.583333	19.7166667	33.641667
3910	chic	69.0	62.37500	1997-09-14	NA	47.500000	33.3041667	30.208333
3911	chic	69.5	65.37500	1997-09-15	NA	73.000000	34.1811594	29.416667
3912	chic	74.5	68.87500	1997-09-16	NA	77.000000	39.7175000	23.390476
3913	chic	70.0	50.87500	1997-09-17	NA	31.000000	15.4704710	26.272859
3914	chic	69.0	50.37500	1997-09-18	NA	96.000000	21.5639493	29.834091
3915	chic	73.0	67.87500	1997-09-19	NA	34.000000	23.1766304	29.018841
3916	chic	58.5	48.50000	1997-09-20	NA	7.500000	16.0958333	11.300000
3917	chic	57.0	46.12500	1997-09-21	NA	13.000000	10.3291667	22.608333
3918	chic	57.5	51.87500	1997-09-22	NA	31.000000	5.8447464	33.058333
3919	chic	59.0	46.37500	1997-09-23	NA	15.500000	11.2255435	20.691667
3920	chic	56.5	47.37500	1997-09-24	NA	27.500000	9.7019928	29.191667
3921	chic	66.0	55.12500	1997-09-25	NA	27.500000	16.3210474	26.432609
3922	chic	60.0	51.12500	1997-09-26	NA	16.500000	15.4775362	16.500000
3923	chic	62.5	54.12500	1997-09-27	NA	27.000000	18.7375000	26.216667
3924	chic	64.0	48.00000	1997-09-28	NA	23.500000	15.3500000	25.708333
3925	chic	65.0	44.12500	1997-09-29	NA	82.500000	17.8685897	16.160507
3926	chic	59.5	47.00000	1997-09-30	NA	20.000000	10.0175725	18.616126
3927	chic	52.0	42.50000	1997-10-01	NA	17.500000	15.6670290	18.302734
3928	chic	61.0	51.87500	1997-10-02	NA	56.500000	15.1144928	30.010417
3929	chic	73.0	60.75000	1997-10-03	NA	68.000000	30.4583333	32.414855
3930	chic	68.0	55.75000	1997-10-04	NA	42.500000	18.2824074	29.604167
3931	chic	70.0	54.87500	1997-10-05	NA	45.000000	28.8518519	24.208333
3932	chic	70.5	56.37500	1997-10-06	NA	66.500000	21.2453704	41.479167
3933	chic	73.5	58.87500	1997-10-07	NA	54.416667	19.7524155	41.027045

3934	chic	72.5	60.37500	1997-10-08	NA	65.000000	32.2568438	27.656250
3935	chic	64.0	44.75000	1997-10-09	NA	35.000000	15.8607085	22.056612
3936	chic	59.0	47.25000	1997-10-10	NA	36.500000	9.1944444	28.833333
3937	chic	61.5	44.25000	1997-10-11	NA	25.500000	18.4953704	28.041667
3938	chic	70.0	56.12500	1997-10-12	NA	34.500000	31.9227053	17.042572
3939	chic	59.5	39.37500	1997-10-13	NA	20.083333	13.2268519	14.947917
3940	chic	42.5	30.25000	1997-10-14	NA	16.500000	8.5785024	19.760417
3941	chic	42.5	36.75000	1997-10-15	NA	39.500000	4.3582931	35.562500
3942	chic	47.5	38.50000	1997-10-16	NA	35.000000	8.6115137	31.442564
3943	chic	45.5	39.25000	1997-10-17	NA	37.500000	7.2973027	36.112058
3944	chic	44.5	36.37500	1997-10-18	NA	40.000000	7.4583333	33.958333
3945	chic	50.0	45.25000	1997-10-19	NA	35.000000	14.5879630	24.722222
3946	chic	45.5	32.62500	1997-10-20	NA	17.000000	7.0404589	23.943910
3947	chic	42.5	20.62500	1997-10-21	NA	24.000000	10.3766103	20.940670
3948	chic	36.0	23.50000	1997-10-22	NA	27.000000	12.4302079	24.982008
3949	chic	44.5	31.25000	1997-10-23	NA	43.500000	3.9094203	28.756250
3950	chic	46.0	44.37500	1997-10-24	NA	31.500000	1.5416667	28.187500
3951	chic	47.0	37.87500	1997-10-25	NA	21.230769	16.2592593	14.885417
3952	chic	40.0	36.00000	1997-10-26	NA	7.500000	22.9398148	8.927083
3953	chic	32.5	25.57143	1997-10-27	NA	14.000000	12.3949275	25.437500
3954	chic	39.0	36.12500	1997-10-28	NA	30.500000	6.0169082	27.761364
3955	chic	44.0	36.00000	1997-10-29	NA	44.500000	3.7073269	36.454257
3956	chic	51.0	50.25000	1997-10-30	NA	44.500000	12.5688406	30.244565
3957	chic	59.5	52.50000	1997-10-31	NA	36.384615	11.8216586	24.152174
3958	chic	50.0	36.12500	1997-11-01	NA	18.500000	8.2916667	14.677083
3959	chic	38.5	30.12500	1997-11-02	NA	8.000000	9.2395833	11.708333
3960	chic	36.5	34.12500	1997-11-03	NA	17.000000	2.3437500	18.354167
3961	chic	39.0	35.25000	1997-11-04	NA	20.000000	1.3854167	18.288496
3962	chic	40.0	40.50000	1997-11-05	NA	28.500000	3.3768116	23.236413
3963	chic	45.0	39.87500	1997-11-06	NA	21.153846	6.8842593	19.781250
3964	chic	43.0	35.25000	1997-11-07	NA	12.500000	15.2291667	20.375000
3965	chic	44.0	34.12500	1997-11-08	NA	17.000000	11.2708333	25.447917
3966	chic	42.5	34.87500	1997-11-09	NA	26.000000	5.2708333	23.718750
3967	chic	36.5	22.12500	1997-11-10	NA	16.500000	4.9166667	26.323370
3968	chic	28.5	18.25000	1997-11-11	NA	24.500000	3.9375000	28.062500
3969	chic	26.5	16.75000	1997-11-12	NA	28.153846	5.5217391	27.916214
3970	chic	31.5	22.25000	1997-11-13	NA	31.000000	7.0416667	29.371377
3971	chic	36.0	31.25000	1997-11-14	NA	14.000000	13.0833333	26.625000
3972	chic	29.0	24.37500	1997-11-15	NA	15.000000	5.2083333	26.895833
3973	chic	22.0	14.00000	1997-11-16	NA	12.500000	12.3958333	23.020833
3974	chic	25.5	24.00000	1997-11-17	NA	37.000000	4.4791667	30.114583
3975	chic	32.0	25.12500	1997-11-18	NA	36.307692	4.0833333	28.942935
3976	chic	27.5	22.62500	1997-11-19	NA	42.000000	2.5652174	32.453228

3977	chic	33.5	37.50000	1997-11-20	NA	50.000000	0.9565217	35.520833
3978	chic	35.5	29.62500	1997-11-21	NA	19.000000	16.9375000	21.510417
3979	chic	34.5	25.62500	1997-11-22	NA	30.000000	8.2500000	23.583333
3980	chic	26.0	20.75000	1997-11-23	NA	18.500000	10.1458333	19.083333
3981	chic	26.5	17.12500	1997-11-24	NA	31.846154	4.8541667	34.587409
3982	chic	47.0	41.25000	1997-11-25	NA	44.000000	7.4538043	27.922425
3983	chic	43.0	23.62500	1997-11-26	NA	33.000000	6.5625000	26.734848
3984	chic	37.5	39.00000	1997-11-27	NA	23.000000	3.8125000	23.916667
3985	chic	49.0	45.25000	1997-11-28	NA	28.000000	2.6458333	20.000000
3986	chic	45.5	47.12500	1997-11-29	NA	41.000000	3.1875000	16.718750
3987	chic	42.0	31.87500	1997-11-30	NA	16.230769	13.0000000	11.895833
3988	chic	37.0	31.12500	1997-12-01	NA	6.000000	19.3750000	16.762311
3989	chic	36.5	30.00000	1997-12-02	NA	25.000000	7.0235507	24.913949
3990	chic	36.5	32.75000	1997-12-03	NA	29.500000	1.4375000	23.418561
3991	chic	32.0	21.37500	1997-12-04	NA	15.500000	4.8125000	20.728714
3992	chic	26.0	17.37500	1997-12-05	NA	22.000000	4.2083333	17.718750
3993	chic	28.5	25.75000	1997-12-06	NA	19.538462	6.7916667	18.333333
3994	chic	30.0	27.00000	1997-12-07	NA	17.500000	6.9375000	17.739583
3995	chic	28.5	26.87500	1997-12-08	NA	25.500000	4.3333333	21.175725
3996	chic	33.0	30.62500	1997-12-09	NA	41.500000	1.6458333	24.446023
3997	chic	34.5	31.00000	1997-12-10	NA	10.000000	11.1875000	24.108243
3998	chic	33.5	25.00000	1997-12-11	NA	13.500000	15.2282609	28.591938
3999	chic	27.5	21.25000	1997-12-12	NA	25.076923	7.7989130	25.270833
4000	chic	26.5	22.25000	1997-12-13	NA	28.500000	4.8333333	24.958333
4001	chic	31.0	25.87500	1997-12-14	NA	35.500000	3.1458333	33.718750
4002	chic	37.5	30.87500	1997-12-15	NA	40.500000	2.5416667	30.419508
4003	chic	39.0	30.00000	1997-12-16	NA	42.000000	2.5625000	32.156250
4004	chic	37.0	26.50000	1997-12-17	NA	40.500000	5.2916667	43.367754
4005	chic	38.5	32.75000	1997-12-18	NA	44.416667	1.6956522	31.250000
4006	chic	40.5	33.12500	1997-12-19	NA	53.000000	1.6875000	37.506629
4007	chic	33.0	23.87500	1997-12-20	NA	15.500000	6.3958333	23.531250
4008	chic	32.5	25.00000	1997-12-21	NA	16.500000	15.5208333	19.479167
4009	chic	34.5	33.00000	1997-12-22	NA	19.500000	5.6250000	22.979167
4010	chic	34.0	27.62500	1997-12-23	NA	36.500000	1.9673913	24.770833
4011	chic	34.0	31.50000	1997-12-24	NA	31.846154	5.6458333	21.760417
4012	chic	30.5	24.50000	1997-12-25	NA	18.000000	5.5000000	19.052083
4013	chic	28.5	23.75000	1997-12-26	NA	26.500000	3.5416667	19.421196
4014	chic	23.0	13.75000	1997-12-27	NA	19.500000	3.6875000	31.010417
4015	chic	25.5	28.75000	1997-12-28	NA	23.500000	3.5833333	22.697917
4016	chic	29.5	23.62500	1997-12-29	NA	22.500000	2.0878623	26.145833
4017	chic	21.5	17.25000	1997-12-30	NA	23.076923	4.1992754	30.788043
4018	chic	18.0	5.25000	1997-12-31	NA	24.500000	8.6041667	29.318388
4019	chic	28.0	22.50000	1998-01-01	NA	23.000000	12.8194444	17.883333

4020	chic	44.0	35.90000	1998-01-02		NA	28.000000	8.4305556	21.425000
4021	chic	47.0	46.90000	1998-01-03		NA	23.500000	10.3194444	16.025000
4022	chic	45.0	40.00000	1998-01-04		NA	12.000000	7.1111111	13.883333
4023	chic	48.0	46.70000	1998-01-05	11.500000	20.615385	2.8000110	20.916074	
4024	chic	43.0	41.10000	1998-01-06		NA	30.000000	5.3888889	19.955303
4025	chic	38.0	34.20000	1998-01-07		NA	6.000000	14.1388889	11.422826
4026	chic	34.0	30.80000	1998-01-08		NA	4.500000	15.9643720	14.633333
4027	chic	25.0	25.30000	1998-01-09		NA	20.000000	10.2777778	20.284420
4028	chic	12.0	2.80000	1998-01-10		NA	23.500000	11.1250000	16.458333
4029	chic	18.0	7.10000	1998-01-11	10.200000	30.750000	5.7083333	28.475000	
4030	chic	23.0	20.60000	1998-01-12		NA	27.000000	2.1944444	24.908333
4031	chic	7.0	-6.00000	1998-01-13		NA	41.500000	6.2107488	33.917424
4032	chic	17.0	15.40000	1998-01-14		NA	46.500000	9.0694444	28.951515
4033	chic	28.0	23.10000	1998-01-15		NA	30.000000	3.4861111	30.745455
4034	chic	28.0	23.60000	1998-01-16		NA	19.500000	8.4190821	23.685507
4035	chic	23.0	21.90000	1998-01-17	38.100000	32.461538	3.1805556	25.300000	
4036	chic	16.0	13.50000	1998-01-18		NA	41.500000	3.6388889	31.216667
4037	chic	24.0	19.10000	1998-01-19		NA	44.500000	1.6805556	35.150000
4038	chic	26.0	21.30000	1998-01-20		NA	51.500000	3.5307971	35.375000
4039	chic	31.0	26.80000	1998-01-21		NA	42.000000	5.1250000	24.725000
4040	chic	32.0	29.90000	1998-01-22		NA	39.000000	1.7946860	26.485507
4041	chic	28.0	25.80000	1998-01-23	33.950000	38.692308	1.7500000	29.376299	
4042	chic	28.0	24.20000	1998-01-24		NA	44.500000	2.2222222	35.166667
4043	chic	28.0	22.90000	1998-01-25		NA	24.000000	8.5555556	23.816667
4044	chic	31.0	28.60000	1998-01-26		NA	38.000000	1.6666667	31.525000
4045	chic	33.0	30.40000	1998-01-27		NA	34.000000	1.4734300	36.417391
4046	chic	36.0	32.50000	1998-01-28		NA	34.000000	1.2234300	33.193116
4047	chic	37.0	30.60000	1998-01-29	21.400000	30.166667	3.0972222	30.316667	
4048	chic	31.0	25.60000	1998-01-30		NA	21.000000	4.6527778	31.122475
4049	chic	35.0	29.10000	1998-01-31		NA	31.500000	4.5000000	27.427273
4050	chic	39.0	31.00000	1998-02-01		NA	23.500000	6.2361111	23.866667
4051	chic	33.0	26.60000	1998-02-02		NA	19.500000	8.7638889	23.975000
4052	chic	34.0	28.90000	1998-02-03		NA	21.500000	12.6527778	25.237582
4053	chic	32.0	25.60000	1998-02-04	13.900000	12.769231	24.7385266	14.084420	
4054	chic	32.0	27.40000	1998-02-05		NA	8.000000	27.6425121	14.639625
4055	chic	36.0	29.40000	1998-02-06		NA	14.500000	22.7397343	23.500000
4056	chic	34.0	28.70000	1998-02-07		NA	25.000000	18.1111111	20.691667
4057	chic	33.0	28.30000	1998-02-08		NA	24.500000	23.4722222	20.883333
4058	chic	35.0	28.80000	1998-02-09		NA	69.000000	4.5416667	45.394697
4059	chic	39.0	33.90000	1998-02-10	29.500000	62.846154	4.9776570	36.241634	
4060	chic	41.0	38.60000	1998-02-11		NA	34.000000	4.2916667	29.301087
4061	chic	35.0	28.30000	1998-02-12		NA	16.000000	12.1805556	24.283333
4062	chic	36.0	31.40000	1998-02-13		NA	30.000000	5.7805556	26.091667

4063	chic	38.0	31.00000	1998-02-14		NA	29.000000	3.9583333	26.633333
4064	chic	43.0	32.00000	1998-02-15		NA	26.000000	7.5833333	25.833333
4065	chic	42.0	35.30000	1998-02-16	22.550000	33.692308	11.4305556	22.216667	
4066	chic	41.0	38.80000	1998-02-17		NA	16.000000	11.2916667	19.681818
4067	chic	39.0	35.30000	1998-02-18		NA	8.000000	14.4368687	22.920870
4068	chic	40.0	35.00000	1998-02-19		NA	20.500000	5.5214646	27.844401
4069	chic	39.0	33.50000	1998-02-20		NA	19.500000	8.3768939	27.870238
4070	chic	38.0	30.10000	1998-02-21		NA	25.500000	12.5833333	28.900000
4071	chic	44.0	35.00000	1998-02-22	27.750000	39.076923	11.8333333	23.300000	
4072	chic	41.0	29.70000	1998-02-23		NA	29.000000	18.9583333	32.002569
4073	chic	45.0	36.70000	1998-02-24		NA	36.500000	7.8955314	30.449242
4074	chic	42.0	34.60000	1998-02-25		NA	34.500000	17.8278986	25.332609
4075	chic	54.0	36.70000	1998-02-26		NA	31.000000	14.4027778	27.867260
4076	chic	42.0	37.70000	1998-02-27		NA	24.500000	14.8230676	26.025000
4077	chic	41.0	33.20000	1998-02-28	16.500000	21.230769	12.6805556	28.108333	
4078	chic	35.0	28.50000	1998-03-01		NA	11.000000	11.0000000	20.116667
4079	chic	33.0	31.50000	1998-03-02		NA	20.000000	4.1666667	29.023551
4080	chic	34.0	30.40000	1998-03-03		NA	9.000000	17.6111111	24.781818
4081	chic	34.0	24.10000	1998-03-04		NA	12.000000	21.4088164	23.242544
4082	chic	36.0	24.10000	1998-03-05		NA	10.500000	19.6105072	21.800725
4083	chic	34.0	27.90000	1998-03-06	19.600000	31.923077	9.0946970	29.224671	
4084	chic	36.0	28.10000	1998-03-07		NA	24.500000	22.5694444	20.491667
4085	chic	38.0	34.20000	1998-03-08		NA	15.000000	21.7638889	12.983333
4086	chic	26.0	20.70000	1998-03-09		NA	23.000000	30.0292398	12.347222
4087	chic	18.0	4.90000	1998-03-10		NA	17.000000	20.4305556	24.927083
4088	chic	18.0	2.30000	1998-03-11		NA	20.000000	16.1388889	29.894928
4089	chic	18.0	6.70000	1998-03-12	18.900000	36.909091	15.0244565	32.538913	
4090	chic	29.0	20.70000	1998-03-13		NA	38.000000	17.2821558	29.351449
4091	chic	28.0	14.00000	1998-03-14		NA	18.000000	28.2638889	22.383333
4092	chic	27.0	20.90000	1998-03-15		NA	15.500000	29.1805556	24.019203
4093	chic	30.0	22.60000	1998-03-16		NA	26.000000	30.2035024	20.558333
4094	chic	36.0	31.70000	1998-03-17		NA	37.500000	16.3055556	26.328869
4095	chic	45.0	41.90000	1998-03-18	26.400000	35.166667	4.8907005	31.310548	
4096	chic	37.0	34.20000	1998-03-19		NA	9.000000	21.2500000	22.075000
4097	chic	35.0	27.10000	1998-03-20		NA	8.000000	39.0500000	13.227536
4098	chic	37.0	24.70000	1998-03-21		NA	6.500000	37.9000000	14.741667
4099	chic	36.0	22.60000	1998-03-22		NA	12.500000	26.8500000	27.058333
4100	chic	38.0	21.60000	1998-03-23		NA	33.500000	18.1833333	38.500000
4101	chic	40.0	23.30000	1998-03-24	15.950000	31.461538	17.6001318	36.113768	
4102	chic	51.0	38.60000	1998-03-25		NA	30.500000	21.8329710	28.981917
4103	chic	68.0	53.90000	1998-03-26		NA	68.500000	35.4648551	17.051515
4104	chic	67.0	52.30000	1998-03-27		NA	68.500000	34.3444444	18.140470
4105	chic	57.0	50.90000	1998-03-28		NA	15.500000	31.2291667	15.270833

4106	chic	62.0	54.30000	1998-03-29		NA	33.000000	22.8645833	16.739583
4107	chic	73.0	59.40000	1998-03-30	15.600000	30.083333	27.2500000	14.665756	
4108	chic	59.0	51.70000	1998-03-31		NA	21.500000	24.6757246	20.316102
4109	chic	44.0	36.60000	1998-04-01		NA	12.500000	20.9637681	19.379348
4110	chic	44.0	37.10000	1998-04-02	9.100000	14.500000	14.8737573	21.367424	
4111	chic	41.0	35.00000	1998-04-03	7.000000	10.500000	20.6045784	16.884420	
4112	chic	41.0	28.10000	1998-04-04	2.100000	6.500000	29.4393939	13.200000	
4113	chic	41.0	23.70000	1998-04-05	6.400000	16.000000	21.3560606	23.016667	
4114	chic	48.0	32.60000	1998-04-06	14.900000	33.500000	20.9166667	29.233333	
4115	chic	52.0	39.40000	1998-04-07	27.600000	43.000000	20.3433161	25.181884	
4116	chic	48.0	46.30000	1998-04-08	22.700000	20.500000	9.6612319	26.203986	
4117	chic	43.0	32.80000	1998-04-09	14.300000	13.500000	26.0441206	16.783498	
4118	chic	46.0	27.00000	1998-04-10	11.900000	15.500000	25.7958333	24.991667	
4119	chic	50.0	34.90000	1998-04-11	16.950000	31.000000	22.4333333	32.575000	
4120	chic	64.0	38.50000	1998-04-12		NA	34.000000	44.8833333	13.575000
4121	chic	62.0	46.70000	1998-04-13		NA	40.000000	33.8250000	20.466667
4122	chic	58.0	48.10000	1998-04-14		NA	24.500000	23.5189394	23.731667
4123	chic	53.0	46.60000	1998-04-15	23.600000	36.000000	15.5706971	26.233366	
4124	chic	42.0	40.00000	1998-04-16	8.500000	13.000000	11.7908432	20.012242	
4125	chic	45.0	30.20000	1998-04-17	11.550000	20.153846	18.4957181	30.188104	
4126	chic	50.0	32.10000	1998-04-18	16.100000	36.000000	22.5984848	29.694444	
4127	chic	52.0	33.00000	1998-04-19	20.000000	26.000000	29.3030303	29.840278	
4128	chic	52.0	40.80000	1998-04-20		NA	41.000000	24.3111001	34.604167
4129	chic	50.0	46.20000	1998-04-21		NA	23.500000	30.6028986	20.207702
4130	chic	53.0	37.10000	1998-04-22		NA	21.500000	31.3150826	25.524832
4131	chic	56.0	35.60000	1998-04-23	18.500000	44.692308	18.3115448	47.815580	
4132	chic	62.0	36.50000	1998-04-24	16.800000	44.000000	26.7753623	30.439493	
4133	chic	56.0	46.80000	1998-04-25	23.200000	35.000000	30.7045455	22.025000	
4134	chic	48.0	43.30000	1998-04-26	18.400000	24.000000	28.3446970	12.675000	
4135	chic	45.0	27.50000	1998-04-27	8.500000	10.500000	31.3614954	12.025000	
4136	chic	46.0	33.80000	1998-04-28	18.200000	24.500000	22.6856061	21.833333	
4137	chic	54.0	48.40000	1998-04-29	29.450000	51.000000	14.4608636	23.542029	
4138	chic	55.0	51.30000	1998-04-30	39.400000	34.000000	10.7862319	25.313095	
4139	chic	59.0	53.70000	1998-05-01	35.400000	28.500000	14.2951252	31.429046	
4140	chic	57.0	52.00000	1998-05-02	33.300000	35.000000	20.6628788	26.798611	
4141	chic	53.0	50.30000	1998-05-03	19.300000	18.500000	22.8825758	15.784722	
4142	chic	60.0	47.00000	1998-05-04	18.900000	28.000000	21.8173584	27.152778	
4143	chic	62.0	54.10000	1998-05-05	28.000000	43.000000	21.3190801	35.479167	
4144	chic	68.0	56.80000	1998-05-06	23.900000	35.000000	25.0227273	33.032005	
4145	chic	57.0	56.00000	1998-05-07	32.100000	34.500000	24.2704216	33.991667	
4146	chic	62.0	51.30000	1998-05-08	16.900000	21.000000	36.5405609	17.867210	
4147	chic	58.0	43.50000	1998-05-09	7.900000	13.500000	26.6780303	14.593750	
4148	chic	58.0	40.10000	1998-05-10	6.600000	11.000000	29.1174242	14.812500	

4149	chic	61.0	48.10000	1998-05-11	11.750000	28.666667	23.0743802	22.232576
4150	chic	63.0	55.10000	1998-05-12	23.500000	46.000000	35.2473500	22.975000
4151	chic	68.0	52.50000	1998-05-13	15.600000	35.000000	31.6682971	28.940010
4152	chic	68.0	55.40000	1998-05-14	26.200000	48.000000	35.2766469	38.431818
4153	chic	75.0	65.80000	1998-05-15	56.500000	91.000000	38.5730072	29.032609
4154	chic	72.0	50.90000	1998-05-16	7.300000	37.500000	36.2541667	15.583333
4155	chic	68.0	49.20000	1998-05-17	10.600000	34.000000	28.7541667	31.841667
4156	chic	76.0	49.40000	1998-05-18	13.200000	79.000000	38.1110507	31.274638
4157	chic	79.0	61.00000	1998-05-19	25.900000	78.000000	37.3800366	44.208333
4158	chic	65.0	52.80000	1998-05-20	12.200000	37.500000	21.9545290	34.276120
4159	chic	64.0	46.90000	1998-05-21	5.700000	26.000000	26.7475789	21.832757
4160	chic	57.0	47.90000	1998-05-22	9.000000	28.000000	22.7348485	17.388889
4161	chic	61.0	45.50000	1998-05-23	10.100000	31.923077	34.0000000	14.541667
4162	chic	61.0	54.30000	1998-05-24	19.400000	27.000000	33.2537879	16.263889
4163	chic	62.0	48.30000	1998-05-25	11.600000	17.500000	37.9469697	17.312500
4164	chic	63.0	45.70000	1998-05-26	27.700000	40.500000	26.9117260	38.246981
4165	chic	67.0	52.80000	1998-05-27	29.500000	59.500000	37.2611989	39.269571
4166	chic	75.0	64.30000	1998-05-28	25.600000	72.000000	34.3322276	30.119565
4167	chic	74.0	62.30000	1998-05-29	12.300000	29.846154	29.0000000	32.944444
4168	chic	73.0	62.70000	1998-05-30	18.900000	49.500000	33.4734848	27.680556
4169	chic	70.0	60.20000	1998-05-31	10.400000	29.500000	40.2651515	11.631944
4170	chic	63.0	45.70000	1998-06-01	10.000000	29.500000	28.1915349	21.736111
4171	chic	63.0	50.70000	1998-06-02	7.800000	38.500000	26.7329321	22.011905
4172	chic	55.0	45.70000	1998-06-03	7.100000	22.000000	14.8677536	24.515646
4173	chic	56.0	37.70000	1998-06-04	6.850000	26.500000	23.3387681	24.673611
4174	chic	50.0	41.60000	1998-06-05	9.400000	9.500000	21.3558959	14.263889
4175	chic	54.0	38.90000	1998-06-06	11.800000	20.500000	9.1250000	28.770833
4176	chic	58.0	41.10000	1998-06-07	8.400000	15.000000	23.8939394	20.020833
4177	chic	56.0	46.00000	1998-06-08	19.000000	33.500000	18.4759552	31.000000
4178	chic	61.0	59.00000	1998-06-09	33.800000	26.000000	17.8908103	25.496679
4179	chic	68.0	58.00000	1998-06-10	27.150000	37.000000	23.2416008	25.755901
4180	chic	68.0	65.80000	1998-06-11	23.100000	31.500000	18.7687747	27.445350
4181	chic	74.0	61.50000	1998-06-12	11.700000	27.000000	33.7623967	19.742452
4182	chic	69.0	58.20000	1998-06-13	15.500000	18.500000	33.5643939	23.368056
4183	chic	67.0	57.50000	1998-06-14	20.000000	26.500000	29.0909091	27.340278
4184	chic	70.0	58.70000	1998-06-15	19.400000	23.000000	29.6342975	21.555556
4185	chic	70.0	61.20000	1998-06-16	14.100000	39.500000	16.0332675	31.314484
4186	chic	73.0	63.70000	1998-06-17	20.300000	37.000000	22.4922596	31.136473
4187	chic	77.0	69.30000	1998-06-18	22.000000	52.500000	37.2627304	25.679293
4188	chic	73.0	61.20000	1998-06-19	9.700000	28.000000	32.8838933	23.270833
4189	chic	78.0	68.00000	1998-06-20	16.700000	33.000000	33.8825758	26.173611
4190	chic	79.0	66.00000	1998-06-21	13.700000	21.500000	34.4696970	22.118056
4191	chic	74.0	61.90000	1998-06-22	12.550000	31.083333	28.7689394	24.361111

4192	chic	74.0	60.60000	1998-06-23	15.700000	38.500000	41.7213439	29.348485
4193	chic	83.0	70.20000	1998-06-24	25.400000	59.000000	37.8826506	28.765206
4194	chic	83.0	70.80000	1998-06-25	21.300000	58.500000	45.4599802	19.775664
4195	chic	79.0	68.40000	1998-06-26	15.600000	34.000000	39.0717676	24.546498
4196	chic	82.0	70.30000	1998-06-27	21.400000	43.000000	49.6555258	21.152778
4197	chic	78.0	69.00000	1998-06-28	11.450000	22.181818	40.8231749	18.326389
4198	chic	77.0	68.20000	1998-06-29	14.600000	31.000000	22.8156879	30.934481
4199	chic	74.0	60.50000	1998-06-30	9.100000	19.500000	28.3203228	18.763285
4200	chic	70.0	56.70000	1998-07-01	22.100000	27.500000	25.4446640	20.173611
4201	chic	73.0	57.80000	1998-07-02	25.700000	53.500000	28.4280303	31.566468
4202	chic	79.0	65.40000	1998-07-03	21.600000	43.500000	35.1439394	24.930556
4203	chic	69.0	62.40000	1998-07-04	15.250000	23.923077	26.5606061	12.430556
4204	chic	70.0	56.30000	1998-07-05	8.200000	19.000000	26.9318182	11.715278
4205	chic	78.0	69.00000	1998-07-06	24.400000	36.500000	31.5879447	24.555556
4206	chic	72.0	66.70000	1998-07-07	18.800000	31.500000	35.7628458	16.185516
4207	chic	74.0	64.90000	1998-07-08	14.700000	19.500000	36.1142951	16.033213
4208	chic	75.0	64.20000	1998-07-09	25.400000	33.000000	33.6043838	26.451449
4209	chic	73.0	62.40000	1998-07-10	20.600000	30.916667	31.4917355	19.546023
4210	chic	71.0	55.90000	1998-07-11	13.500000	23.000000	39.7916667	18.666667
4211	chic	71.0	55.60000	1998-07-12	19.800000	26.000000	39.6893939	25.736111
4212	chic	73.0	60.30000	1998-07-13	30.300000	64.500000	37.0188645	37.930556
4213	chic	78.0	67.10000	1998-07-14	41.400000	75.000000	40.0809017	32.590537
4214	chic	79.0	66.10000	1998-07-15	32.600000	57.500000	40.2307013	24.525966
4215	chic	80.0	57.90000	1998-07-16		NA	32.583333	24.8050725
4216	chic	75.0	64.70000	1998-07-17		NA	39.500000	29.1617965
4217	chic	77.0	65.50000	1998-07-18		NA	52.500000	32.8750000
4218	chic	81.0	71.80000	1998-07-19		NA	32.000000	36.1704545
4219	chic	79.0	68.10000	1998-07-20		NA	36.500000	29.2348485
4220	chic	85.0	72.90000	1998-07-21		NA	60.500000	36.8904919
4221	chic	76.0	67.60000	1998-07-22	9.800000	23.833333	20.5943227	27.948342
4222	chic	73.0	56.60000	1998-07-23	13.700000	35.000000	22.1042490	21.655221
4223	chic	72.0	51.10000	1998-07-24	8.500000	25.500000	22.7068511	23.419686
4224	chic	70.0	55.40000	1998-07-25	11.300000	28.500000	25.3863636	25.284722
4225	chic	70.0	56.80000	1998-07-26	11.600000	23.000000	28.5984848	21.666667
4226	chic	74.0	65.10000	1998-07-27	25.200000	44.000000	30.0037879	22.116793
4227	chic	79.0	64.90000	1998-07-28	11.350000	44.153846	26.9542161	20.075758
4228	chic	77.0	55.20000	1998-07-29	16.000000	20.000000	34.1142951	15.242236
4229	chic	72.0	57.50000	1998-07-30	16.800000	29.000000	21.8555665	23.266606
4230	chic	71.0	54.70000	1998-07-31	13.900000	12.000000	26.3491436	10.124616
4231	chic	72.0	57.30000	1998-08-01	11.800000	30.000000	32.7840909	20.319444
4232	chic	72.0	55.90000	1998-08-02	11.600000	29.000000	40.5530303	23.930556
4233	chic	78.0	64.80000	1998-08-03	36.400000	61.538462	34.8022069	24.715278
4234	chic	70.0	68.60000	1998-08-04	16.000000	25.500000	21.2755570	26.948864

4235	chic	76.0	70.70000	1998-08-05		NA	27.000000	24.0726285	20.229167
4236	chic	78.0	71.30000	1998-08-06		NA	36.000000	22.8838184	20.115173
4237	chic	75.0	70.80000	1998-08-07		NA	30.000000	12.6844862	25.680556
4238	chic	77.0	70.70000	1998-08-08		NA	30.000000	20.8125000	19.076389
4239	chic	77.0	70.10000	1998-08-09	32.500000	35.615385	22.7666667	23.569444	
4240	chic	76.0	68.50000	1998-08-10		NA	33.000000	29.8970772	22.177632
4241	chic	71.0	63.40000	1998-08-11		NA	35.000000	25.1931818	15.688982
4242	chic	70.0	60.90000	1998-08-12	20.700000	29.000000	30.5862828	15.432230	
4243	chic	71.0	60.20000	1998-08-13	22.900000	41.500000	32.9503234	27.897727	
4244	chic	71.0	64.40000	1998-08-14	28.400000	60.000000	28.3109504	42.229167	
4245	chic	71.0	64.30000	1998-08-15	13.950000	28.461538	22.9924242	20.743056	
4246	chic	72.0	62.90000	1998-08-16	16.400000	24.500000	29.0378788	17.743056	
4247	chic	75.0	69.00000	1998-08-17	29.000000	53.500000	25.5788396	31.534722	
4248	chic	68.0	63.90000	1998-08-18	8.800000	16.500000	23.2677866	16.220548	
4249	chic	69.0	55.10000	1998-08-19	16.000000	34.000000	22.7753388	20.965278	
4250	chic	73.0	65.40000	1998-08-20	24.400000	51.500000	27.1338933	32.763450	
4251	chic	80.0	70.80000	1998-08-21	29.300000	48.272727	33.1681749	24.826389	
4252	chic	78.0	69.50000	1998-08-22	21.300000	40.000000	34.1074561	18.104167	
4253	chic	81.0	71.20000	1998-08-23	39.600000	59.000000	45.8636364	14.326389	
4254	chic	76.0	71.40000	1998-08-24	23.400000	54.000000	20.8777448	27.116244	
4255	chic	76.0	63.90000	1998-08-25	13.200000	26.500000	26.9160426	23.625000	
4256	chic	73.0	60.90000	1998-08-26	14.800000	34.000000	26.7824440	26.089839	
4257	chic	72.0	64.50000	1998-08-27	18.950000	32.416667	28.2634298	27.307093	
4258	chic	69.0	66.40000	1998-08-28	21.500000	35.500000	14.7121212	33.146825	
4259	chic	76.0	63.10000	1998-08-29	11.300000	29.000000	22.0378788	23.750000	
4260	chic	70.0	55.70000	1998-08-30	7.200000	20.000000	23.4886364	18.805556	
4261	chic	69.0	54.60000	1998-08-31	8.600000	28.000000	20.1583423	24.586490	
4262	chic	69.0	58.50000	1998-09-01	14.300000	45.000000	19.4769733	31.972132	
4263	chic	65.0	50.10000	1998-09-02	24.150000	44.692308	22.6763834	28.077020	
4264	chic	68.0	57.90000	1998-09-03	19.300000	42.000000	25.6174242	31.740985	
4265	chic	69.0	54.20000	1998-09-04	14.700000	25.500000	36.7898551	20.093254	
4266	chic	70.0	61.40000	1998-09-05	27.300000	45.000000	33.0666667	37.041667	
4267	chic	81.0	70.40000	1998-09-06	31.500000	50.500000	50.6625000	20.312500	
4268	chic	66.0	57.10000	1998-09-07	10.300000	21.500000	30.3750000	14.486111	
4269	chic	63.0	46.90000	1998-09-08	5.150000	14.692308	18.0282369	16.906181	
4270	chic	63.0	50.30000	1998-09-09	7.400000	17.500000	16.1712780	20.707428	
4271	chic	63.0	52.80000	1998-09-10	14.800000	39.500000	17.3251288	35.664773	
4272	chic	71.0	53.10000	1998-09-11	21.700000	48.000000	30.5937687	44.892512	
4273	chic	74.0	56.70000	1998-09-12	24.500000	57.000000	37.3939394	44.451389	
4274	chic	74.0	62.70000	1998-09-13	28.100000	58.500000	37.0757576	37.763889	
4275	chic	72.0	67.50000	1998-09-14	26.450000	48.000000	24.1511858	27.875000	
4276	chic	70.0	67.00000	1998-09-15	11.200000	18.000000	16.5097167	14.758081	
4277	chic	72.0	64.90000	1998-09-16	12.900000	17.500000	25.5892472	12.284456	

4278	chic	68.0	58.40000	1998-09-17	15.300000	21.500000	28.6442688	17.197368
4279	chic	68.0	57.80000	1998-09-18	20.900000	46.000000	28.2346838	27.550423
4280	chic	72.0	60.90000	1998-09-19	33.700000	58.500000	37.6250000	35.722222
4281	chic	76.0	66.30000	1998-09-20	30.300000	47.583333	22.0227273	27.798611
4282	chic	63.0	51.80000	1998-09-21	5.500000	13.500000	14.6393281	14.585749
4283	chic	58.0	47.70000	1998-09-22	4.600000	10.000000	19.6769481	13.312500
4284	chic	56.0	41.50000	1998-09-23	9.900000	27.000000	11.9227602	28.824879
4285	chic	59.0	53.60000	1998-09-24	21.300000	37.000000	8.4253953	33.302372
4286	chic	66.0	64.10000	1998-09-25	31.600000	57.500000	12.3043478	34.633454
4287	chic	79.0	65.80000	1998-09-26	29.650000	53.230769	39.5946970	18.534722
4288	chic	73.0	63.80000	1998-09-27	19.200000	34.500000	32.7689394	13.694444
4289	chic	63.0	52.50000	1998-09-28	9.400000	28.500000	19.3859444	22.355072
4290	chic	63.0	57.00000	1998-09-29	21.300000	44.500000	7.9321176	40.131341
4291	chic	64.0	57.90000	1998-09-30	17.700000	35.500000	15.7202809	28.167463
4292	chic	53.0	35.70000	1998-10-01	5.100000	14.500000	11.8074769	20.658696
4293	chic	49.0	41.90000	1998-10-02	7.550000	23.384615	12.8284226	24.241667
4294	chic	55.0	49.30000	1998-10-03	7.100000	12.500000	21.7575758	11.250000
4295	chic	60.0	50.30000	1998-10-04	8.400000	15.000000	21.9696970	9.675000
4296	chic	65.0	61.40000	1998-10-05	32.500000	37.000000	12.3833992	19.400000
4297	chic	65.0	61.20000	1998-10-06	9.300000	15.500000	10.6549407	18.813768
4298	chic	56.0	49.20000	1998-10-07	7.300000	17.000000	4.7053195	17.891667
4299	chic	54.0	44.80000	1998-10-08	5.150000	11.307692	12.6961957	18.250000
4300	chic	53.0	45.60000	1998-10-09	16.300000	29.000000	6.7065217	29.275000
4301	chic	53.0	46.40000	1998-10-10	26.400000	45.500000	9.9666667	31.400000
4302	chic	56.0	49.10000	1998-10-11	30.900000	34.500000	22.1916667	28.341667
4303	chic	60.0	46.90000	1998-10-12	18.100000	39.500000	10.9625000	33.741667
4304	chic	49.0	36.80000	1998-10-13	6.900000	24.000000	7.0092227	21.716667
4305	chic	48.0	40.40000	1998-10-14	6.450000	25.153846	6.1551383	21.386001
4306	chic	58.0	48.40000	1998-10-15	14.800000	26.500000	7.3969203	27.109632
4307	chic	68.0	57.20000	1998-10-16	24.900000	45.500000	25.1534420	27.550000
4308	chic	67.0	64.40000	1998-10-17	32.200000	46.500000	24.3708333	21.250000
4309	chic	57.0	48.10000	1998-10-18	6.300000	14.000000	16.2875000	9.575000
4310	chic	52.0	39.20000	1998-10-19	9.000000	25.000000	7.9376812	23.441667
4311	chic	50.0	33.90000	1998-10-20	6.450000	19.916667	9.8799572	27.524242
4312	chic	48.0	34.50000	1998-10-21	NA	15.500000	10.4311430	22.914394
4313	chic	45.0	31.10000	1998-10-22	NA	23.500000	7.3923419	29.216667
4314	chic	52.0	36.30000	1998-10-23	NA	44.000000	7.6685606	32.061924
4315	chic	54.0	38.90000	1998-10-24	18.200000	45.500000	11.2208333	31.500000
4316	chic	55.0	44.80000	1998-10-25	23.800000	35.500000	7.6708333	34.875000
4317	chic	62.0	49.70000	1998-10-26	28.600000	55.307692	10.7835465	46.733333
4318	chic	63.0	58.60000	1998-10-27	36.100000	64.500000	5.2090580	39.391667
4319	chic	54.0	52.30000	1998-10-28	11.700000	16.500000	12.2939394	20.037879
4320	chic	52.0	51.90000	1998-10-29	29.000000	33.000000	5.1025033	25.136905

4321	chic	61.0	58.40000	1998-10-30	41.000000	45.000000	1.4791667	23.025000
4322	chic	57.0	52.70000	1998-10-31	11.500000	15.500000	4.7250000	13.133333
4323	chic	54.0	50.00000	1998-11-01	5.550000	8.833333	19.6416667	8.800000
4324	chic	49.0	39.80000	1998-11-02	5.500000	8.000000	22.300000	10.776515
4325	chic	41.0	33.40000	1998-11-03	3.700000	7.500000	28.7750000	10.975000
4326	chic	37.0	32.80000	1998-11-04	10.200000	11.000000	19.6594203	25.927042
4327	chic	39.0	27.40000	1998-11-05	10.800000	20.000000	5.5243590	30.467929
4328	chic	38.0	25.80000	1998-11-06	13.500000	23.000000	6.9876894	30.271821
4329	chic	35.0	26.10000	1998-11-07	21.250000	38.384615	5.7916667	31.635417
4330	chic	37.0	31.80000	1998-11-08	33.700000	34.000000	5.8437500	30.406250
4331	chic	43.0	37.30000	1998-11-09	36.500000	45.000000	6.1385870	28.190670
4332	chic	52.0	41.20000	1998-11-10	9.800000	31.000000	14.7083333	12.616667
4333	chic	41.0	28.50000	1998-11-11	11.300000	25.000000	14.2083333	18.900000
4334	chic	40.0	31.10000	1998-11-12	19.400000	28.000000	1.8055556	33.196970
4335	chic	43.0	34.60000	1998-11-13	20.500000	31.090909	8.5618687	31.847727
4336	chic	50.0	40.20000	1998-11-14	16.600000	27.000000	6.8194444	23.816667
4337	chic	43.0	32.20000	1998-11-15	15.100000	16.000000	14.2500000	16.758333
4338	chic	48.0	39.10000	1998-11-16	23.500000	31.500000	3.5416667	22.250000
4339	chic	42.0	34.60000	1998-11-17	18.900000	27.000000	4.1388889	25.575000
4340	chic	48.0	38.70000	1998-11-18	24.100000	35.500000	3.9772727	25.622727
4341	chic	45.0	31.10000	1998-11-19	12.950000	25.846154	5.3508454	14.993207
4342	chic	31.0	24.40000	1998-11-20	14.800000	17.000000	5.3571429	22.036905
4343	chic	34.0	24.40000	1998-11-21	16.500000	28.000000	5.5000000	27.041667
4344	chic	49.0	34.90000	1998-11-22	11.700000	40.500000	12.5972222	20.558333
4345	chic	50.0	35.40000	1998-11-23	10.900000	34.000000	9.3472222	25.561957
4346	chic	46.0	30.10000	1998-11-24	17.600000	34.500000	3.3750000	37.326515
4347	chic	50.0	35.80000	1998-11-25	14.700000	33.307692	1.1997930	30.541356
4348	chic	50.0	32.30000	1998-11-26	NA	20.000000	6.8750000	21.583333
4349	chic	48.0	35.70000	1998-11-27	NA	50.500000	2.5000000	35.983333
4350	chic	54.0	48.60000	1998-11-28	28.000000	39.000000	8.3055556	28.941667
4351	chic	63.0	58.40000	1998-11-29	31.700000	43.500000	10.3472222	15.516667
4352	chic	52.0	50.70000	1998-11-30	25.100000	31.000000	9.5138889	17.766667
4353	chic	45.0	37.70000	1998-12-01	17.850000	22.846154	3.6376812	25.025000
4354	chic	55.0	45.80000	1998-12-02	14.800000	29.000000	5.8472222	25.816831
4355	chic	61.0	54.90000	1998-12-03	22.900000	37.000000	6.0740558	24.474012
4356	chic	61.0	59.30000	1998-12-04	31.600000	42.500000	0.5555556	24.391667
4357	chic	59.0	56.60000	1998-12-05	23.900000	30.000000	4.8055556	21.250000
4358	chic	50.0	49.20000	1998-12-06	15.600000	17.000000	4.8194444	14.108333
4359	chic	39.0	31.60000	1998-12-07	11.800000	9.166667	15.5277778	19.145238
4360	chic	38.0	29.00000	1998-12-08	24.900000	25.000000	2.9444444	33.539493
4361	chic	39.0	29.50000	1998-12-09	20.700000	27.500000	3.0896465	31.040476
4362	chic	35.0	29.00000	1998-12-10	23.000000	22.500000	1.8925121	30.091667
4363	chic	39.0	26.10000	1998-12-11	15.000000	28.500000	2.9402174	32.025000

4364	chic	38.0	26.10000	1998-12-12	18.000000	27.000000	3.7222222	34.158333
4365	chic	38.0	31.20000	1998-12-13	19.500000	24.615385	9.1666667	28.316667
4366	chic	36.0	32.10000	1998-12-14	22.900000	40.500000	4.6183575	40.964888
4367	chic	44.0	31.20000	1998-12-15	NA	31.500000	3.2032828	28.123715
4368	chic	37.0	27.20000	1998-12-16	NA	18.000000	2.5833333	32.437879
4369	chic	32.0	22.30000	1998-12-17	14.200000	19.500000	5.4317633	29.566667
4370	chic	43.0	30.10000	1998-12-18	14.300000	40.000000	5.2500000	24.247727
4371	chic	35.0	26.30000	1998-12-19	17.750000	21.666667	6.0416667	18.658333
4372	chic	31.0	27.60000	1998-12-20	19.200000	16.500000	2.8055556	24.725000
4373	chic	23.0	18.80000	1998-12-21	22.600000	22.500000	3.6919192	24.796970
4374	chic	10.0	-1.90000	1998-12-22	14.800000	24.000000	11.8985507	23.791304
4375	chic	17.0	5.70000	1998-12-23	15.800000	25.000000	5.8810386	27.947727
4376	chic	19.0	4.80000	1998-12-24	11.000000	24.000000	7.3333333	28.100000
4377	chic	25.0	11.10000	1998-12-25	11.800000	17.583333	11.8888889	19.575000
4378	chic	26.0	12.30000	1998-12-26	NA	31.000000	9.2083333	22.608333
4379	chic	36.0	24.00000	1998-12-27	NA	29.500000	6.8750000	21.758333
4380	chic	29.0	23.30000	1998-12-28	NA	33.000000	2.3774155	32.618643
4381	chic	22.0	18.40000	1998-12-29	NA	28.000000	9.5694444	21.708333
4382	chic	7.0	-1.60000	1998-12-30	NA	28.000000	6.0138889	32.430105
4383	chic	13.0	5.10000	1998-12-31	20.400000	23.900000	6.3888889	28.169763
4384	chic	14.0	7.70000	1999-01-01	NA	21.500000	15.6111111	21.491667
4385	chic	22.0	21.00000	1999-01-02	NA	NA	25.7638889	12.641667
4386	chic	16.0	8.40000	1999-01-03	NA	29.500000	19.3888889	19.041667
4387	chic	-2.0	-6.90000	1999-01-04	NA	16.500000	8.5972222	28.450000
4388	chic	1.0	-6.10000	1999-01-05	NA	28.000000	4.8194444	35.125000
4389	chic	12.0	9.80000	1999-01-06	22.333333	22.000000	5.5169082	32.853623
4390	chic	1.0	-6.70000	1999-01-07	NA	38.000000	3.6527778	45.908333
4391	chic	16.0	10.90000	1999-01-08	14.100000	23.000000	12.7361111	36.250758
4392	chic	4.0	-1.10000	1999-01-09	NA	23.000000	9.1805556	32.183333
4393	chic	6.0	-0.40000	1999-01-10	NA	22.500000	15.6527778	23.375000
4394	chic	5.0	0.00000	1999-01-11	NA	29.000000	6.7222222	40.966667
4395	chic	20.0	14.10000	1999-01-12	NA	31.142857	6.6165459	34.914855
4396	chic	20.0	15.40000	1999-01-13	NA	6.000000	28.2222222	12.397727
4397	chic	18.0	12.60000	1999-01-14	NA	22.500000	14.8055556	26.656061
4398	chic	23.0	20.20000	1999-01-15	NA	33.500000	2.9690382	32.764888
4399	chic	30.0	29.80000	1999-01-16	NA	31.500000	6.3333333	29.075000
4400	chic	28.0	31.30000	1999-01-17	NA	33.500000	5.0416667	30.283333
4401	chic	29.0	25.80000	1999-01-18	13.300000	10.857143	19.0138889	16.890217
4402	chic	27.0	20.00000	1999-01-19	NA	30.000000	6.4722222	40.895455
4403	chic	30.0	28.80000	1999-01-20	28.600000	48.000000	3.9583333	44.491770
4404	chic	37.0	32.60000	1999-01-21	NA	46.000000	4.2916667	35.109058
4405	chic	42.0	41.50000	1999-01-22	NA	18.000000	2.7638889	35.448485
4406	chic	39.0	35.30000	1999-01-23	NA	10.000000	4.9444444	24.016667

4407	chic	33.0	30.00000	1999-01-24	21.450000	16.142857	14.8750000	21.591667
4408	chic	28.0	24.60000	1999-01-25	NA	19.000000	7.4583333	26.241667
4409	chic	29.0	23.40000	1999-01-26	NA	29.500000	5.6135266	31.925000
4410	chic	42.0	34.00000	1999-01-27	NA	40.000000	8.1388889	24.193478
4411	chic	33.0	27.40000	1999-01-28	NA	27.000000	7.6805556	24.819697
4412	chic	33.0	25.60000	1999-01-29	NA	29.500000	9.8399758	31.675000
4413	chic	34.0	28.00000	1999-01-30	31.928571	38.000000	15.2222222	24.666667
4414	chic	36.0	27.50000	1999-01-31	32.500000	22.500000	20.5972222	16.108333
4415	chic	40.0	38.40000	1999-02-01	NA	21.500000	4.3611111	22.255263
4416	chic	38.0	32.40000	1999-02-02	NA	10.500000	4.7548309	28.062500
4417	chic	41.0	27.40000	1999-02-03	NA	28.500000	12.9583333	26.829710
4418	chic	31.0	21.10000	1999-02-04	NA	20.500000	14.0328283	24.194129
4419	chic	31.0	24.20000	1999-02-05	19.637500	23.857143	3.0555556	32.684848
4420	chic	40.0	30.40000	1999-02-06	NA	24.500000	8.4305556	27.500000
4421	chic	33.0	29.80000	1999-02-07	NA	27.500000	11.9722222	19.033333
4422	chic	37.0	36.20000	1999-02-08	27.600000	29.500000	4.4321476	29.679658
4423	chic	44.0	29.80000	1999-02-09	NA	17.500000	8.5063131	36.087253
4424	chic	44.0	27.20000	1999-02-10	NA	38.000000	9.2083333	41.525000
4425	chic	49.0	47.80000	1999-02-11	17.380000	24.857143	12.0815217	16.270455
4426	chic	23.0	13.10000	1999-02-12	NA	21.000000	22.0972222	16.966667
4427	chic	23.0	10.80000	1999-02-13	NA	26.000000	14.7638889	27.116667
4428	chic	34.0	21.90000	1999-02-14	13.300000	27.500000	12.6666667	27.075000
4429	chic	45.0	30.60000	1999-02-15	NA	37.000000	12.7361111	28.841667
4430	chic	39.0	32.10000	1999-02-16	NA	31.000000	6.6944444	22.380435
4431	chic	27.0	20.40000	1999-02-17	15.250000	16.428571	11.1073232	23.645909
4432	chic	29.0	21.80000	1999-02-18	NA	30.500000	9.3568841	33.460766
4433	chic	28.0	20.90000	1999-02-19	NA	11.000000	22.9293478	20.725000
4434	chic	25.0	17.00000	1999-02-20	10.250000	10.500000	20.7916667	20.916667
4435	chic	28.0	15.70000	1999-02-21	NA	4.500000	32.1805556	12.475000
4436	chic	26.0	9.40000	1999-02-22	NA	18.500000	23.9722222	22.183333
4437	chic	29.0	14.90000	1999-02-23	19.800000	32.857143	11.4082126	23.343841
4438	chic	27.0	22.90000	1999-02-24	39.900000	52.500000	3.3750000	31.750000
4439	chic	33.0	26.50000	1999-02-25	NA	30.000000	6.1618357	30.191304
4440	chic	36.0	27.90000	1999-02-26	48.100000	40.500000	5.6473430	34.739027
4441	chic	43.0	39.20000	1999-02-27	NA	35.000000	3.8194444	27.716667
4442	chic	37.0	32.10000	1999-02-28	NA	10.500000	12.5000000	15.083333
4443	chic	38.0	25.30000	1999-03-01	10.100000	18.250000	21.2361111	25.358333
4444	chic	37.0	33.10000	1999-03-02	NA	30.000000	2.2803030	35.934091
4445	chic	31.0	18.70000	1999-03-03	NA	10.500000	17.7361111	22.675000
4446	chic	30.0	18.40000	1999-03-04	18.800000	20.500000	12.7602657	33.443478
4447	chic	35.0	28.70000	1999-03-05	NA	30.500000	11.8611111	25.453623
4448	chic	25.0	19.70000	1999-03-06	NA	7.000000	32.2083333	12.466667
4449	chic	21.0	14.40000	1999-03-07	11.842857	17.000000	35.0000000	18.733333

4450	chic	24.0	16.20000	1999-03-08		NA	35.000000	25.1527778	21.950000
4451	chic	29.0	26.40000	1999-03-09		NA	15.000000	21.6805556	20.041667
4452	chic	29.0	20.30000	1999-03-10		NA	6.500000	33.6388889	17.794895
4453	chic	28.0	20.40000	1999-03-11		NA	15.000000	22.3635540	35.116304
4454	chic	27.0	19.60000	1999-03-12		NA	11.000000	28.9157197	26.163768
4455	chic	28.0	18.10000	1999-03-13	10.914286	19.142857	29.9375000	22.408333	
4456	chic	32.0	18.90000	1999-03-14		NA	7.000000	37.2395833	13.266667
4457	chic	31.0	19.20000	1999-03-15		NA	30.000000	14.7287138	45.225000
4458	chic	43.0	29.80000	1999-03-16	20.000000	36.500000	12.8663043	37.568808	
4459	chic	50.0	40.70000	1999-03-17		NA	43.000000	30.2533213	19.120652
4460	chic	38.0	27.10000	1999-03-18		NA	17.000000	27.8996212	19.431818
4461	chic	36.0	23.70000	1999-03-19	10.483333	18.000000	23.6250431	27.475000	
4462	chic	39.0	27.20000	1999-03-20		NA	28.500000	19.6736111	33.740942
4463	chic	38.0	23.20000	1999-03-21		NA	11.000000	32.4513889	15.425000
4464	chic	36.0	21.30000	1999-03-22		NA	22.500000	22.5471014	30.650000
4465	chic	38.0	21.00000	1999-03-23		NA	40.500000	15.4202899	38.803623
4466	chic	35.0	21.90000	1999-03-24		NA	17.500000	34.3242754	21.740580
4467	chic	32.0	23.30000	1999-03-25	9.914286	18.285714	32.4323671	24.883333	
4468	chic	35.0	25.90000	1999-03-26	11.000000	14.000000	31.4513889	25.100000	
4469	chic	41.0	26.30000	1999-03-27		NA	36.000000	22.9305556	35.225000
4470	chic	43.0	33.70000	1999-03-28		NA	49.500000	18.9236111	29.650000
4471	chic	48.0	24.50000	1999-03-29		NA	33.500000	16.8891908	36.406291
4472	chic	55.0	28.50000	1999-03-30		NA	75.000000	25.4435935	33.250000
4473	chic	60.0	41.30000	1999-03-31	26.814286	61.000000	31.0729578	21.197917	
4474	chic	58.0	51.70000	1999-04-01		NA	38.000000	15.7148311	26.250000
4475	chic	64.0	54.60000	1999-04-02		NA	43.500000	15.2765152	34.100000
4476	chic	63.0	57.80000	1999-04-03		NA	35.000000	15.9810606	23.550000
4477	chic	56.0	47.30000	1999-04-04		NA	18.000000	22.4886364	15.983333
4478	chic	50.0	43.20000	1999-04-05		NA	19.000000	20.4144565	19.643478
4479	chic	53.0	42.40000	1999-04-06	11.616667	15.142857	23.4967032	19.837879	
4480	chic	55.0	42.70000	1999-04-07		NA	47.000000	27.8142292	34.547464
4481	chic	55.0	43.70000	1999-04-08	14.500000	35.500000	29.0095520	28.476449	
4482	chic	45.0	40.00000	1999-04-09	8.400000	12.000000	30.8616601	18.100000	
4483	chic	47.0	35.00000	1999-04-10		NA	18.000000	33.8825758	12.783333
4484	chic	46.0	39.70000	1999-04-11		NA	14.500000	22.3522727	16.000000
4485	chic	45.0	32.10000	1999-04-12	10.925000	21.428571	23.5533597	26.883333	
4486	chic	50.0	33.30000	1999-04-13	19.900000	32.500000	19.8962451	32.950000	
4487	chic	49.0	26.00000	1999-04-14		NA	47.000000	26.7829381	38.298551
4488	chic	49.0	39.40000	1999-04-15	16.950000	25.500000	35.4686489	18.658465	
4489	chic	44.0	37.30000	1999-04-16		NA	11.000000	26.3334980	26.910507
4490	chic	44.0	34.00000	1999-04-17		NA	11.500000	16.8440989	25.066667
4491	chic	42.0	37.10000	1999-04-18	19.185714	24.285714	12.3583333	29.741667	
4492	chic	42.0	36.50000	1999-04-19		NA	35.000000	12.7521559	32.350000

4493	chic	45.0	39.40000	1999-04-20	25.900000	35.500000	22.3904809	28.244565
4494	chic	54.0	48.00000	1999-04-21	NA	31.000000	24.7616930	23.649304
4495	chic	48.0	47.20000	1999-04-22	NA	31.500000	11.6968599	23.236111
4496	chic	43.0	35.60000	1999-04-23	NA	6.000000	29.2937253	15.658730
4497	chic	44.0	24.60000	1999-04-24	7.137500	13.428571	31.8500000	18.625000
4498	chic	48.0	30.50000	1999-04-25	NA	23.000000	32.2375000	23.625000
4499	chic	51.0	33.40000	1999-04-26	NA	31.000000	37.2500000	29.479167
4500	chic	50.0	41.50000	1999-04-27	NA	32.000000	28.8778147	22.279491
4501	chic	51.0	38.40000	1999-04-28	NA	14.500000	30.0328632	15.645202
4502	chic	52.0	32.70000	1999-04-29	NA	15.500000	34.9648386	16.796219
4503	chic	51.0	29.00000	1999-04-30	9.100000	22.285714	30.8572134	26.467172
4504	chic	56.0	30.50000	1999-05-01	NA	24.000000	31.0600233	29.541667
4505	chic	58.0	37.30000	1999-05-02	NA	30.500000	43.1250000	27.270833
4506	chic	64.0	42.80000	1999-05-03	NA	44.500000	39.9886364	33.221230
4507	chic	67.0	52.20000	1999-05-04	NA	61.000000	41.2494910	27.319444
4508	chic	70.0	57.20000	1999-05-05	NA	63.500000	35.6200593	18.588768
4509	chic	58.0	52.80000	1999-05-06	11.475000	22.500000	19.7294436	23.285024
4510	chic	56.0	46.90000	1999-05-07	NA	26.000000	21.5342556	18.185145
4511	chic	53.0	48.20000	1999-05-08	NA	14.000000	12.2901515	16.366667
4512	chic	51.0	42.70000	1999-05-09	NA	11.500000	18.5871212	15.950000
4513	chic	58.0	46.50000	1999-05-10	NA	32.000000	33.3829710	22.433333
4514	chic	67.0	52.10000	1999-05-11	NA	60.000000	34.1333864	28.669565
4515	chic	62.0	52.70000	1999-05-12	21.383333	41.142857	28.8812582	25.807246
4516	chic	51.0	41.00000	1999-05-13	NA	16.500000	28.3415978	18.086051
4517	chic	53.0	41.30000	1999-05-14	NA	16.000000	26.9986825	18.452778
4518	chic	60.0	54.80000	1999-05-15	45.600000	45.500000	22.4242424	23.555556
4519	chic	69.0	63.10000	1999-05-16	NA	43.500000	37.0189394	19.895833
4520	chic	69.0	62.60000	1999-05-17	NA	28.000000	29.6730896	18.906944
4521	chic	61.0	52.30000	1999-05-18	8.637500	15.375000	22.2849144	21.830556
4522	chic	61.0	44.80000	1999-05-19	NA	30.000000	21.0604414	29.319158
4523	chic	64.0	49.10000	1999-05-20	NA	41.000000	36.1734190	30.569005
4524	chic	66.0	56.80000	1999-05-21	34.700000	54.500000	47.5087286	27.777778
4525	chic	59.0	52.80000	1999-05-22	NA	16.500000	35.4053030	11.291667
4526	chic	60.0	50.70000	1999-05-23	NA	20.500000	18.2424242	20.425000
4527	chic	51.0	40.70000	1999-05-24	6.433333	13.000000	17.4826476	17.662500
4528	chic	56.0	38.70000	1999-05-25	NA	35.000000	26.7654809	19.277778
4529	chic	60.0	40.40000	1999-05-26	NA	23.000000	24.1317523	22.709569
4530	chic	64.0	41.30000	1999-05-27	NA	53.000000	25.7648371	40.712286
4531	chic	75.0	53.80000	1999-05-28	NA	54.000000	29.5657115	35.814815
4532	chic	76.0	54.40000	1999-05-29	NA	53.500000	46.4583333	33.008333
4533	chic	70.0	56.00000	1999-05-30	32.400000	48.571429	51.8484848	26.758333
4534	chic	73.0	63.40000	1999-05-31	NA	32.000000	30.5538538	15.500000
4535	chic	65.0	59.70000	1999-06-01	NA	27.500000	17.2887022	20.891667

4536	chic	64.0	57.70000	1999-06-02		NA	16.000000	15.1701252	21.657440
4537	chic	58.0	47.70000	1999-06-03		NA	16.500000	22.8189005	16.962423
4538	chic	64.0	56.60000	1999-06-04		NA	29.500000	32.3335879	23.046717
4539	chic	75.0	68.00000	1999-06-05	17.516667	26.142857	30.3674242	21.183333	
4540	chic	80.0	69.90000	1999-06-06		NA	41.000000	33.0492424	16.891667
4541	chic	81.0	63.80000	1999-06-07		NA	38.500000	36.4055426	19.083333
4542	chic	80.0	63.20000	1999-06-08		NA	45.500000	38.2723979	28.178571
4543	chic	79.0	63.20000	1999-06-09		NA	44.500000	27.1026620	35.266908
4544	chic	79.0	66.70000	1999-06-10		NA	50.000000	28.9107378	36.042874
4545	chic	78.0	67.50000	1999-06-11	32.783333	43.285714	32.7997365	34.839674	
4546	chic	75.0	68.20000	1999-06-12	36.000000	39.500000	39.6780303	30.958333	
4547	chic	65.0	63.50000	1999-06-13		NA	21.500000	28.1969697	19.604167
4548	chic	66.0	55.00000	1999-06-14		NA	13.500000	25.5826746	14.965278
4549	chic	58.0	37.90000	1999-06-15		NA	8.500000	25.8932806	10.791667
4550	chic	61.0	44.70000	1999-06-16		NA	18.000000	28.8123727	16.721014
4551	chic	57.0	42.90000	1999-06-17	6.362500	13.142857	25.3883399	13.232186	
4552	chic	59.0	47.60000	1999-06-18		NA	27.500000	27.4995059	20.489130
4553	chic	68.0	49.90000	1999-06-19		NA	26.500000	38.4469697	20.159722
4554	chic	67.0	54.40000	1999-06-20	26.000000	39.000000	52.9659091	19.263889	
4555	chic	72.0	59.80000	1999-06-21		NA	57.000000	53.4065457	27.722222
4556	chic	74.0	66.20000	1999-06-22		NA	71.000000	33.9745671	40.428030
4557	chic	76.0	67.30000	1999-06-23	49.042857	57.571429	45.5660334	27.472881	
4558	chic	76.0	65.90000	1999-06-24		NA	26.000000	28.3783152	24.169298
4559	chic	75.0	58.20000	1999-06-25		NA	40.500000	30.2672925	34.598128
4560	chic	76.0	66.20000	1999-06-26	24.900000	37.500000	35.5991736	27.090278	
4561	chic	78.0	70.60000	1999-06-27		NA	44.500000	41.5208333	23.000000
4562	chic	77.0	69.20000	1999-06-28		NA	44.000000	31.3669302	21.247475
4563	chic	66.0	51.10000	1999-06-29	8.212500	20.625000	23.5313618	16.964848	
4564	chic	68.0	54.70000	1999-06-30		NA	26.000000	28.6918643	27.283734
4565	chic	74.0	64.30000	1999-07-01		NA	31.500000	27.2788208	23.815152
4566	chic	77.0	67.30000	1999-07-02		NA	30.500000	28.7727273	21.661836
4567	chic	84.0	76.20000	1999-07-03		NA	55.500000	28.9886364	12.738095
4568	chic	86.0	74.10000	1999-07-04		NA	45.000000	29.8939394	10.232051
4569	chic	87.0	74.40000	1999-07-05	24.500000	32.875000	33.2916667	10.270833	
4570	chic	79.0	62.70000	1999-07-06		NA	27.500000	28.4048090	23.151429
4571	chic	75.0	53.70000	1999-07-07		NA	28.000000	29.8133908	30.816667
4572	chic	76.0	60.40000	1999-07-08	20.400000	59.000000	38.9889059	29.396970	
4573	chic	76.0	65.00000	1999-07-09		NA	40.500000	34.6907713	17.176010
4574	chic	64.0	51.50000	1999-07-10		NA	11.500000	23.7916667	10.062500
4575	chic	67.0	50.30000	1999-07-11	10.462500	23.571429	21.3409091	22.208333	
4576	chic	68.0	50.80000	1999-07-12		NA	37.000000	25.5634058	29.357488
4577	chic	70.0	55.70000	1999-07-13		NA	64.000000	33.0295544	35.219066
4578	chic	74.0	59.20000	1999-07-14		NA	71.500000	45.6510061	30.882453

4579	chic	78.0	62.80000	1999-07-15		NA	71.000000	51.4741436	23.051027
4580	chic	82.0	68.30000	1999-07-16		NA	82.500000	45.8812582	22.229167
4581	chic	75.0	70.60000	1999-07-17	19.450000	29.285714	26.0984848	17.416667	
4582	chic	77.0	66.60000	1999-07-18		NA	28.000000	31.9469697	17.152778
4583	chic	79.0	70.10000	1999-07-19		NA	35.000000	26.9342287	19.763889
4584	chic	76.0	70.40000	1999-07-20	23.300000	26.500000	27.9329710	17.044192	
4585	chic	83.0	72.10000	1999-07-21		NA	39.000000	30.2704216	24.256944
4586	chic	82.0	73.40000	1999-07-22		NA	40.000000	27.1665619	21.643116
4587	chic	83.0	72.80000	1999-07-23	18.785714	33.875000	25.6688675	29.458333	
4588	chic	82.0	73.20000	1999-07-24		NA	23.500000	34.6439394	25.135417
4589	chic	85.0	70.60000	1999-07-25		NA	25.000000	37.3750000	18.229167
4590	chic	80.0	69.50000	1999-07-26	20.400000	41.500000	24.0243742	30.175000	
4591	chic	79.0	68.30000	1999-07-27		NA	26.000000	26.2572464	21.608333
4592	chic	82.0	71.80000	1999-07-28		NA	35.500000	34.0021410	22.534091
4593	chic	83.0	76.60000	1999-07-29	22.616667	42.857143	30.4891903	25.026515	
4594	chic	90.0	77.10000	1999-07-30		NA	54.000000	34.1706522	27.479771
4595	chic	83.0	71.40000	1999-07-31		NA	30.000000	37.6958333	18.409722
4596	chic	74.0	60.10000	1999-08-01		NA	12.000000	26.1576923	9.652778
4597	chic	71.0	56.30000	1999-08-02		NA	13.500000	17.2570346	15.361111
4598	chic	71.0	59.00000	1999-08-03		NA	37.000000	23.4925725	30.630556
4599	chic	76.0	58.30000	1999-08-04	13.633333	29.142857	23.7701845	25.261364	
4600	chic	73.0	55.60000	1999-08-05	10.900000	19.500000	20.4930830	22.712596	
4601	chic	76.0	62.00000	1999-08-06		NA	43.000000	28.6839592	23.812720
4602	chic	72.0	67.70000	1999-08-07		NA	38.500000	22.1742424	25.083333
4603	chic	66.0	57.00000	1999-08-08		NA	10.000000	25.3863636	7.881944
4604	chic	66.0	56.20000	1999-08-09		NA	26.000000	22.2824440	19.437500
4605	chic	78.0	63.80000	1999-08-10	15.828571	31.428571	31.2180501	20.361111	
4606	chic	75.0	61.10000	1999-08-11		NA	34.500000	17.9173254	25.759415
4607	chic	70.0	65.90000	1999-08-12		NA	26.000000	14.0435531	29.152256
4608	chic	72.0	65.60000	1999-08-13		NA	28.000000	22.5632411	12.918176
4609	chic	64.0	52.70000	1999-08-14		NA	8.500000	22.2083333	10.048611
4610	chic	66.0	54.40000	1999-08-15		NA	16.500000	20.5871212	20.118056
4611	chic	73.0	57.90000	1999-08-16	21.366667	32.857143	30.0610552	27.993056	
4612	chic	75.0	60.60000	1999-08-17		NA	34.000000	28.6749012	23.433207
4613	chic	67.0	62.70000	1999-08-18		NA	36.000000	6.8282279	36.461490
4614	chic	68.0	62.30000	1999-08-19	12.000000	16.500000	23.5757875	15.085090	
4615	chic	67.0	57.20000	1999-08-20		NA	16.500000	22.6190711	19.804650
4616	chic	65.0	57.40000	1999-08-21		NA	28.500000	18.4772727	34.979167
4617	chic	67.0	57.10000	1999-08-22	20.371429	28.571429	22.6296296	34.340278	
4618	chic	72.0	64.20000	1999-08-23		NA	36.500000	20.5278223	33.979167
4619	chic	71.0	67.10000	1999-08-24		NA	33.500000	29.3176877	19.423611
4620	chic	70.0	66.10000	1999-08-25	28.800000	24.000000	32.6908911	20.802226	
4621	chic	72.0	64.60000	1999-08-26		NA	33.500000	25.9395586	25.147041

4622	chic	74.0	66.10000	1999-08-27	29.300000	57.500000	24.5159420	42.297101
4623	chic	80.0	69.70000	1999-08-28	39.540000	56.571429	31.5125000	30.650000
4624	chic	69.0	56.00000	1999-08-29	NA	13.500000	29.9500000	7.641667
4625	chic	62.0	51.80000	1999-08-30	NA	17.500000	26.0186571	12.683333
4626	chic	65.0	54.40000	1999-08-31	NA	28.000000	25.3017128	22.296014
4627	chic	70.0	57.30000	1999-09-01	NA	62.500000	35.8590721	36.589646
4628	chic	74.0	62.10000	1999-09-02	NA	83.500000	40.0575069	49.549242
4629	chic	76.0	61.50000	1999-09-03	44.957143	74.000000	48.1165559	42.982790
4630	chic	79.0	61.60000	1999-09-04	NA	60.500000	57.4886364	26.701389
4631	chic	77.0	63.50000	1999-09-05	NA	59.000000	54.9621212	25.458333
4632	chic	66.0	54.90000	1999-09-06	NA	14.000000	25.3181818	11.048611
4633	chic	65.0	55.20000	1999-09-07	NA	28.000000	16.3842227	25.791667
4634	chic	71.0	54.20000	1999-09-08	NA	37.500000	19.4150198	31.543561
4635	chic	62.0	46.60000	1999-09-09	8.400000	40.285714	13.4068002	21.221014
4636	chic	62.0	45.20000	1999-09-10	NA	52.000000	15.0385375	29.140042
4637	chic	64.0	48.70000	1999-09-11	NA	48.000000	21.9469697	29.722222
4638	chic	68.0	58.90000	1999-09-12	NA	31.000000	26.4128788	22.833333
4639	chic	59.0	49.90000	1999-09-13	NA	18.500000	7.8633070	16.423611
4640	chic	59.0	44.40000	1999-09-14	NA	23.500000	10.2284256	20.610982
4641	chic	55.0	46.20000	1999-09-15	9.816667	24.285714	10.4568511	22.583745
4642	chic	59.0	47.80000	1999-09-16	8.700000	18.000000	13.7194574	20.670439
4643	chic	59.0	48.10000	1999-09-17	NA	25.000000	14.6641963	23.216486
4644	chic	62.0	49.00000	1999-09-18	NA	42.500000	20.2689394	32.635417
4645	chic	64.0	53.50000	1999-09-19	NA	43.500000	31.4886364	26.090278
4646	chic	58.0	45.90000	1999-09-20	NA	13.000000	13.2434573	12.750000
4647	chic	51.0	44.60000	1999-09-21	5.650000	11.875000	15.8804348	14.549603
4648	chic	57.0	39.80000	1999-09-22	NA	30.000000	13.6994401	33.804799
4649	chic	66.0	46.30000	1999-09-23	NA	44.500000	24.8959157	26.643912
4650	chic	57.0	47.10000	1999-09-24	6.000000	9.000000	21.2514822	10.425615
4651	chic	62.0	48.40000	1999-09-25	NA	38.000000	26.9125000	25.395833
4652	chic	72.0	49.30000	1999-09-26	NA	72.000000	46.6708333	20.756944
4653	chic	66.0	58.70000	1999-09-27	11.100000	23.571429	37.1234848	14.201389
4654	chic	58.0	56.70000	1999-09-28	8.300000	12.500000	18.0453152	19.252976
4655	chic	56.0	43.70000	1999-09-29	NA	11.000000	12.6240119	19.203804
4656	chic	56.0	38.90000	1999-09-30	9.100000	29.500000	13.5112319	26.263466
4657	chic	51.0	35.00000	1999-10-01	NA	27.000000	9.0634881	28.652273
4658	chic	46.0	40.80000	1999-10-02	NA	19.000000	10.1750000	20.833333
4659	chic	44.0	40.20000	1999-10-03	7.450000	14.750000	16.4083333	15.300000
4660	chic	47.0	38.00000	1999-10-04	NA	13.500000	15.7666667	20.685714
4661	chic	51.0	36.80000	1999-10-05	NA	33.000000	9.3844203	30.808333
4662	chic	52.0	41.80000	1999-10-06	10.550000	20.500000	17.6117754	17.569851
4663	chic	59.0	42.40000	1999-10-07	NA	28.500000	14.4694335	28.836726
4664	chic	61.0	54.10000	1999-10-08	NA	49.500000	14.4223485	28.836034

4665	chic	59.0	57.60000	1999-10-09	34.857143	47.000000	5.9458333	24.100000
4666	chic	66.0	58.00000	1999-10-10	NA	24.500000	23.1000000	16.825000
4667	chic	55.0	46.10000	1999-10-11	NA	27.000000	14.3541667	26.108333
4668	chic	62.0	47.20000	1999-10-12	NA	56.500000	20.8960145	28.753788
4669	chic	56.0	44.00000	1999-10-13	NA	27.000000	14.2385870	19.791017
4670	chic	48.0	34.80000	1999-10-14	NA	25.000000	10.8197464	23.230797
4671	chic	64.0	46.30000	1999-10-15	16.400000	44.285714	24.8472826	23.923814
4672	chic	58.0	54.20000	1999-10-16	NA	43.500000	23.2166667	20.833333
4673	chic	45.0	33.80000	1999-10-17	NA	9.500000	14.8958333	17.020833
4674	chic	44.0	34.40000	1999-10-18	14.700000	23.000000	4.7847826	24.533333
4675	chic	50.0	33.50000	1999-10-19	NA	36.500000	9.1001812	24.925000
4676	chic	44.0	30.70000	1999-10-20	NA	31.000000	6.8682971	22.946739
4677	chic	52.0	36.30000	1999-10-21	11.500000	36.428571	10.4373188	27.431522
4678	chic	51.0	26.60000	1999-10-22	NA	29.500000	20.1387681	15.083333
4679	chic	43.0	25.70000	1999-10-23	NA	14.500000	20.7208333	12.208333
4680	chic	40.0	22.10000	1999-10-24	NA	13.500000	13.7500000	23.141667
4681	chic	50.0	28.10000	1999-10-25	NA	51.000000	13.2169887	31.207609
4682	chic	53.0	29.40000	1999-10-26	NA	46.500000	11.3244565	32.700000
4683	chic	48.0	37.00000	1999-10-27	16.262500	38.857143	9.8317523	27.090119
4684	chic	64.0	43.30000	1999-10-28	NA	68.000000	15.0750000	33.291667
4685	chic	62.0	47.00000	1999-10-29	NA	71.000000	26.6230896	38.090909
4686	chic	66.0	50.70000	1999-10-30	NA	68.500000	38.6916667	23.108333
4687	chic	58.0	49.30000	1999-10-31	NA	46.500000	14.7666667	24.925000
4688	chic	59.0	46.90000	1999-11-01	NA	54.500000	12.7676768	30.241667
4689	chic	42.0	22.60000	1999-11-02	5.180000	20.285714	16.9728261	19.615476
4690	chic	37.0	17.70000	1999-11-03	NA	28.500000	12.9444444	27.253788
4691	chic	46.0	24.20000	1999-11-04	NA	79.500000	8.7753623	37.851773
4692	chic	55.0	34.30000	1999-11-05	22.200000	51.500000	11.3623188	33.958333
4693	chic	45.0	20.30000	1999-11-06	NA	29.000000	10.3888889	33.987879
4694	chic	44.0	32.30000	1999-11-07	NA	36.000000	17.3055556	31.298529
4695	chic	55.0	41.00000	1999-11-08	18.414286	42.142857	5.8611111	42.919048
4696	chic	67.0	48.50000	1999-11-09	NA	51.000000	22.0833333	29.808333
4697	chic	58.0	46.70000	1999-11-10	NA	49.500000	23.1944444	21.435266
4698	chic	44.0	38.00000	1999-11-11	NA	18.000000	18.2777778	20.016667
4699	chic	47.0	41.20000	1999-11-12	NA	61.500000	2.6976285	31.354183
4700	chic	54.0	43.80000	1999-11-13	NA	66.000000	12.4166667	35.141667
4701	chic	45.0	30.50000	1999-11-14	7.728571	23.750000	18.9861111	17.108333
4702	chic	41.0	26.30000	1999-11-15	NA	22.000000	6.5833333	29.833333
4703	chic	38.0	29.30000	1999-11-16	NA	16.500000	12.0138889	23.341667
4704	chic	40.0	25.00000	1999-11-17	13.700000	25.000000	7.1497585	32.309524
4705	chic	58.0	36.20000	1999-11-18	NA	91.000000	14.5694444	27.410714
4706	chic	49.0	37.70000	1999-11-19	NA	80.000000	11.7252415	18.190580
4707	chic	39.0	35.20000	1999-11-20	26.212500	37.625000	0.8541667	15.116667

4708	chic	42.0	42.00000	1999-11-21		NA	51.000000	1.5625000	20.458333
4709	chic	54.0	46.00000	1999-11-22		NA	58.000000	5.5833333	29.204420
4710	chic	52.0	50.00000	1999-11-23		NA	38.000000	6.5467172	19.859058
4711	chic	40.0	30.70000	1999-11-24		NA	19.000000	6.1225845	21.265942
4712	chic	36.0	27.80000	1999-11-25		NA	30.000000	5.7222222	30.683333
4713	chic	37.0	32.20000	1999-11-26	23.450000	29.625000	6.5694444	27.784848	
4714	chic	41.0	30.10000	1999-11-27		NA	15.000000	6.4722222	25.250000
4715	chic	34.0	25.00000	1999-11-28		NA	11.000000	7.0138889	25.975000
4716	chic	32.0	19.90000	1999-11-29	11.200000	17.000000	7.6527778	27.266667	
4717	chic	30.0	15.30000	1999-11-30	20.600000	25.000000	3.9516908	34.206522	
4718	chic	36.0	20.80000	1999-12-01		NA	38.000000	3.9293478	26.774333
4719	chic	50.0	32.90000	1999-12-02	16.440000	31.142857	5.9444444	30.514286	
4720	chic	53.0	48.00000	1999-12-03	18.500000	43.000000	8.2669082	28.415308	
4721	chic	49.0	48.50000	1999-12-04		NA	39.500000	2.4166667	25.937500
4722	chic	39.0	34.30000	1999-12-05		NA	5.500000	10.7638889	13.968750
4723	chic	29.0	22.60000	1999-12-06		NA	16.500000	6.9583333	25.906250
4724	chic	33.0	29.10000	1999-12-07		NA	26.000000	3.4305556	23.187500
4725	chic	38.0	33.50000	1999-12-08	24.957143	28.285714	2.2826087	25.950758	
4726	chic	43.0	38.60000	1999-12-09		NA	44.500000	4.6944444	28.218479
4727	chic	31.0	23.40000	1999-12-10		NA	17.500000	6.9886364	22.785038
4728	chic	31.0	25.00000	1999-12-11	12.600000	24.000000	4.7083333	30.229167	
4729	chic	35.0	30.60000	1999-12-12	23.800000	19.500000	1.5972222	24.958333	
4730	chic	35.0	31.20000	1999-12-13		NA	38.000000	7.5809179	24.312754
4731	chic	38.0	34.20000	1999-12-14	13.762500	15.285714	10.5507246	21.135870	
4732	chic	36.0	33.90000	1999-12-15		NA	19.000000	2.4444444	24.250000
4733	chic	27.0	20.30000	1999-12-16		NA	18.500000	4.0477053	19.069565
4734	chic	23.0	17.90000	1999-12-17	13.500000	17.500000	7.8907005	24.629831	
4735	chic	19.0	14.60000	1999-12-18		NA	26.500000	7.1805556	30.908333
4736	chic	32.0	29.10000	1999-12-19		NA	32.000000	3.4027778	22.416667
4737	chic	21.0	11.00000	1999-12-20	12.700000	24.750000	13.5664251	16.906250	
4738	chic	8.0	-1.60000	1999-12-21	12.600000	27.000000	7.9015152	28.162022	
4739	chic	13.0	5.80000	1999-12-22		NA	24.500000	4.6733092	33.725000
4740	chic	10.0	3.80000	1999-12-23	20.800000	39.000000	6.2361111	29.600000	
4741	chic	14.0	4.70000	1999-12-24		NA	35.000000	7.1111111	31.266667
4742	chic	19.0	14.00000	1999-12-25		NA	45.500000	7.1388889	23.741667
4743	chic	28.0	14.30000	1999-12-26	6.728571	26.750000	20.0277778	15.566667	
4744	chic	19.0	11.60000	1999-12-27		NA	29.500000	10.8484300	27.095238
4745	chic	21.0	16.40000	1999-12-28		NA	23.000000	8.4583333	26.041667
4746	chic	36.0	30.20000	1999-12-29	12.800000	24.500000	3.6443237	25.538571	
4747	chic	34.0	28.90000	1999-12-30		NA	13.000000	9.7518116	25.040267
4748	chic	34.0	25.90000	1999-12-31		NA	21.500000	5.6805556	27.500000
4749	chic	42.0	32.20000	2000-01-01	25.700000	29.333333	4.6212121	24.069444	
4750	chic	48.0	42.30000	2000-01-02	30.600000	47.500000	16.5277778	16.312500	

4751	chic	35.0	33.70000	2000-01-03	12.450000	11.500000	9.0990338	15.114583
4752	chic	28.0	22.20000	2000-01-04	11.550000	19.000000	11.0591787	23.801786
4753	chic	20.0	16.60000	2000-01-05	18.600000	23.500000	4.3526570	20.349802
4754	chic	34.0	25.30000	2000-01-06	18.400000	32.000000	3.7618577	22.088043
4755	chic	25.0	13.30000	2000-01-07	16.800000	27.000000	7.9381313	26.100000
4756	chic	37.0	28.50000	2000-01-08	15.500000	27.000000	6.1944444	23.766667
4757	chic	39.0	38.50000	2000-01-09	25.700000	25.500000	1.8055556	21.241667
4758	chic	42.0	34.90000	2000-01-10	15.185714	17.000000	7.9444444	19.732143
4759	chic	33.0	21.50000	2000-01-11	7.800000	24.500000	11.8194444	17.765349
4760	chic	31.0	21.70000	2000-01-12	11.300000	18.000000	11.9335749	21.394565
4761	chic	25.0	18.40000	2000-01-13	12.100000	19.142857	8.7361111	26.708696
4762	chic	20.0	14.50000	2000-01-14	20.450000	28.000000	3.1117150	35.158333
4763	chic	34.0	24.20000	2000-01-15	19.650000	35.000000	3.3194444	23.841667
4764	chic	31.0	19.40000	2000-01-16	11.675000	16.000000	20.5000000	13.783333
4765	chic	22.0	12.70000	2000-01-17	11.700000	23.500000	17.9444444	20.066667
4766	chic	25.0	20.90000	2000-01-18	20.100000	24.500000	4.1400966	28.315584
4767	chic	21.0	15.70000	2000-01-19	23.050000	33.285714	3.0277778	41.322464
4768	chic	10.0	2.10000	2000-01-20	16.000000	22.500000	12.8345411	27.923810
4769	chic	5.0	-3.20000	2000-01-21	31.800000	46.500000	6.3926768	38.187022
4770	chic	17.0	14.50000	2000-01-22	27.757143	31.500000	5.4305556	36.375000
4771	chic	16.0	4.30000	2000-01-23	19.800000	27.000000	14.6388889	20.100000
4772	chic	6.0	-0.60000	2000-01-24	25.400000	36.000000	6.1805556	36.100000
4773	chic	17.0	8.50000	2000-01-25	15.085714	23.857143	10.5757576	28.091061
4774	chic	15.0	5.40000	2000-01-26	10.100000	31.000000	9.1944444	31.817457
4775	chic	20.0	11.50000	2000-01-27	16.700000	26.000000	10.8532609	35.511364
4776	chic	21.0	14.50000	2000-01-28	30.614286	48.500000	6.1944444	47.250000
4777	chic	24.0	19.10000	2000-01-29	17.100000	32.000000	21.3055556	22.066667
4778	chic	28.0	23.30000	2000-01-30	32.100000	28.000000	8.8194444	30.341667
4779	chic	20.0	14.40000	2000-01-31	32.425000	33.857143	11.6527778	32.775000
4780	chic	25.0	16.50000	2000-02-01	21.100000	28.500000	9.4027778	33.534524
4781	chic	21.0	16.00000	2000-02-02	31.700000	41.000000	6.5000000	37.121320
4782	chic	33.0	26.70000	2000-02-03	25.050000	28.000000	10.1868687	29.039328
4783	chic	25.0	19.00000	2000-02-04	15.500000	20.500000	12.2089372	30.066304
4784	chic	21.0	16.50000	2000-02-05	19.800000	27.000000	11.4722222	28.208333
4785	chic	23.0	21.60000	2000-02-06	34.300000	37.666667	6.3055556	33.281250
4786	chic	26.0	23.30000	2000-02-07	25.000000	25.500000	14.3647343	30.136569
4787	chic	22.0	21.60000	2000-02-08	30.600000	39.000000	9.8611111	42.684783
4788	chic	41.0	30.20000	2000-02-09	37.250000	41.500000	11.5205314	29.142292
4789	chic	35.0	32.10000	2000-02-10	40.400000	55.000000	7.8888889	30.016667
4790	chic	24.0	13.90000	2000-02-11	8.500000	16.000000	19.4305556	24.891667
4791	chic	24.0	14.50000	2000-02-12	20.028571	27.166667	21.3750000	26.491667
4792	chic	30.0	26.80000	2000-02-13	26.750000	36.000000	11.8194444	21.991667
4793	chic	26.0	22.50000	2000-02-14	13.450000	17.000000	13.1780303	30.771212

4794	chic	31.0	28.10000	2000-02-15	26.833333	29.500000	4.9861111	31.991667
4795	chic	28.0	19.00000	2000-02-16	15.400000	25.000000	16.4649758	28.981431
4796	chic	27.0	18.60000	2000-02-17	25.200000	34.000000	14.3007246	30.875947
4797	chic	30.0	27.80000	2000-02-18	14.828571	20.142857	24.0416667	17.511364
4798	chic	29.0	21.70000	2000-02-19	21.500000	16.000000	22.3737374	23.766667
4799	chic	27.0	19.70000	2000-02-20	26.300000	26.000000	23.0833333	28.600000
4800	chic	35.0	29.10000	2000-02-21	24.342857	40.000000	8.3055556	37.345652
4801	chic	49.0	40.30000	2000-02-22	21.100000	39.000000	8.3055556	32.231818
4802	chic	59.0	40.60000	2000-02-23	26.800000	61.000000	26.4861111	31.834058
4803	chic	49.0	49.90000	2000-02-24	19.642857	22.166667	15.2689786	26.655390
4804	chic	55.0	50.30000	2000-02-25	17.200000	48.500000	15.3278986	25.399275
4805	chic	56.0	51.70000	2000-02-26	9.700000	28.500000	24.6111111	15.616667
4806	chic	45.0	30.70000	2000-02-27	4.962500	11.500000	21.8333333	13.068627
4807	chic	43.0	26.80000	2000-02-28	18.100000	37.000000	10.5000000	36.415476
4808	chic	54.0	34.40000	2000-02-29	12.400000	35.000000	19.9673913	28.324275
4809	chic	46.0	32.90000	2000-03-01	9.912500	15.8333333	23.5912698	18.892236
4810	chic	33.0	23.80000	2000-03-02	7.000000	11.500000	25.7669082	19.247464
4811	chic	35.0	24.10000	2000-03-03	11.600000	27.000000	20.0000000	31.033333
4812	chic	46.0	30.70000	2000-03-04	19.962500	37.000000	13.0138889	33.025000
4813	chic	52.0	36.50000	2000-03-05	25.800000	32.000000	11.8611111	31.308333
4814	chic	51.0	32.10000	2000-03-06	23.200000	51.500000	16.6250000	40.408333
4815	chic	66.0	49.70000	2000-03-07	21.287500	38.285714	21.7500000	30.395843
4816	chic	67.0	50.90000	2000-03-08	21.300000	78.000000	27.4861111	24.903623
4817	chic	46.0	32.70000	2000-03-09	7.300000	42.500000	18.1968599	13.316667
4818	chic	30.0	21.90000	2000-03-10	8.987500	11.000000	19.2463768	18.569565
4819	chic	30.0	19.00000	2000-03-11	5.900000	6.000000	27.4583333	14.200000
4820	chic	34.0	19.30000	2000-03-12	17.900000	20.000000	13.4305556	31.575000
4821	chic	39.0	33.40000	2000-03-13	30.262500	33.571429	4.1250000	32.263333
4822	chic	45.0	32.60000	2000-03-14	26.100000	45.500000	13.9939614	25.342029
4823	chic	50.0	41.90000	2000-03-15	29.900000	34.000000	16.5561594	25.854710
4824	chic	33.0	22.30000	2000-03-16	5.614286	5.500000	37.4166667	11.825000
4825	chic	32.0	18.50000	2000-03-17	7.500000	11.000000	34.5056936	15.151812
4826	chic	34.0	20.80000	2000-03-18	15.100000	18.000000	21.2500000	20.733333
4827	chic	39.0	34.10000	2000-03-19	21.742857	26.857143	15.0416667	16.066667
4828	chic	49.0	46.40000	2000-03-20	17.050000	19.500000	14.2833333	21.758333
4829	chic	47.0	45.30000	2000-03-21	28.900000	36.000000	1.8594203	25.616667
4830	chic	51.0	44.00000	2000-03-22	34.462500	52.500000	7.1321429	35.068182
4831	chic	50.0	43.70000	2000-03-23	39.800000	62.500000	14.9054348	36.352743
4832	chic	57.0	49.00000	2000-03-24	25.500000	39.000000	18.0985507	29.600000
4833	chic	53.0	32.80000	2000-03-25	6.628571	18.714286	30.4500000	15.991667
4834	chic	52.0	31.80000	2000-03-26	7.800000	24.500000	30.5916667	22.241667
4835	chic	47.0	31.20000	2000-03-27	7.200000	21.000000	27.8246377	18.866667
4836	chic	39.0	31.10000	2000-03-28	8.128571	14.000000	14.9891304	25.035870

4837	chic	40.0	29.30000	2000-03-29	9.700000	18.500000	16.5295455	23.881258
4838	chic	40.0	31.00000	2000-03-30	15.000000	27.000000	19.7500000	27.900000
4839	chic	45.0	28.10000	2000-03-31	27.957143	51.571429	10.0652174	50.811232
4840	chic	52.0	33.90000	2000-04-01	22.900000	48.000000	14.0694444	37.233333
4841	chic	51.0	42.50000	2000-04-02	40.300000	46.000000	21.6712963	25.925000
4842	chic	52.0	34.30000	2000-04-03	26.342857	45.000000	17.7923913	27.066667
4843	chic	38.0	19.70000	2000-04-04	7.100000	18.500000	23.7969203	24.372727
4844	chic	44.0	23.80000	2000-04-05	14.700000	61.000000	22.3500000	30.960714
4845	chic	53.0	27.30000	2000-04-06	8.428571	78.166667	23.8436594	21.348551
4846	chic	41.0	32.70000	2000-04-07	9.400000	29.000000	13.8905303	23.427083
4847	chic	34.0	23.00000	2000-04-08	8.700000	22.500000	25.8583333	22.864583
4848	chic	45.0	26.70000	2000-04-09	12.112500	21.500000	21.6982456	22.278333
4849	chic	37.0	28.10000	2000-04-10	9.100000	17.500000	26.9801932	16.269203
4850	chic	34.0	33.10000	2000-04-11	12.100000	12.000000	20.9599436	22.373485
4851	chic	39.0	25.30000	2000-04-12	18.037500	28.571429	19.8152174	29.512681
4852	chic	49.0	28.30000	2000-04-13	19.400000	39.000000	21.0615942	33.241667
4853	chic	58.0	42.80000	2000-04-14	21.000000	72.000000	23.7765152	28.108333
4854	chic	56.0	46.90000	2000-04-15	23.462500	46.000000	23.3560606	15.575000
4855	chic	44.0	40.90000	2000-04-16	14.800000	20.000000	17.7977602	15.739583
4856	chic	41.0	38.90000	2000-04-17	16.400000	14.500000	14.6953463	17.045952
4857	chic	48.0	42.50000	2000-04-18	29.385714	35.285714	7.8055456	28.605789
4858	chic	52.0	48.80000	2000-04-19	46.700000	45.500000	8.8286621	25.882251
4859	chic	53.0	50.20000	2000-04-20	25.250000	27.000000	12.6097886	22.566667
4860	chic	44.0	35.00000	2000-04-21	7.571429	8.000000	28.3438735	18.891667
4861	chic	48.0	31.40000	2000-04-22	17.750000	24.500000	20.0331522	37.358333
4862	chic	47.0	40.30000	2000-04-23	13.000000	20.500000	31.5500000	21.491667
4863	chic	52.0	32.60000	2000-04-24	9.266667	18.714286	32.9659420	20.716304
4864	chic	49.0	23.40000	2000-04-25	13.000000	13.000000	34.9130884	21.025000
4865	chic	52.0	24.20000	2000-04-26	12.250000	24.500000	26.4833427	34.115217
4866	chic	53.0	26.30000	2000-04-27	17.628571	60.000000	23.0046113	43.864583
4867	chic	54.0	32.20000	2000-04-28	14.900000	52.500000	28.8450413	34.650000
4868	chic	48.0	39.10000	2000-04-29	5.400000	10.500000	22.2234848	11.191667
4869	chic	54.0	40.00000	2000-04-30	14.662500	35.333333	23.0151515	29.558333
4870	chic	57.0	49.20000	2000-05-01	24.700000	45.000000	21.1313930	39.181187
4871	chic	57.0	43.10000	2000-05-02	12.400000	36.000000	25.7184393	30.612456
4872	chic	63.0	48.60000	2000-05-03	17.325000	45.500000	30.8350252	34.719368
4873	chic	72.0	58.10000	2000-05-04	12.600000	62.500000	31.4991765	23.238095
4874	chic	74.0	59.30000	2000-05-05	18.600000	65.000000	33.8415679	24.069444
4875	chic	74.0	61.30000	2000-05-06	13.487500	38.285714	32.0166667	15.944444
4876	chic	71.0	65.00000	2000-05-07	14.650000	29.500000	25.2875000	15.850198
4877	chic	76.0	67.50000	2000-05-08	23.000000	85.000000	24.9407115	16.354641
4878	chic	59.0	55.00000	2000-05-09	8.657143	15.500000	20.7728920	16.652778
4879	chic	55.0	45.00000	2000-05-10	8.000000	21.500000	20.4873188	23.307065

4880	chic	67.0	59.90000	2000-05-11	22.500000	43.500000	19.2763851	28.437239
4881	chic	73.0	66.80000	2000-05-12	25.725000	38.000000	22.8211462	21.051630
4882	chic	53.0	38.40000	2000-05-13	5.000000	31.500000	24.5378788	13.375000
4883	chic	52.0	33.00000	2000-05-14	7.200000	20.000000	32.1022727	18.972222
4884	chic	57.0	35.00000	2000-05-15	11.475000	37.000000	18.5075758	37.446970
4885	chic	61.0	49.60000	2000-05-16	22.100000	41.000000	19.0441777	32.107955
4886	chic	61.0	56.50000	2000-05-17	40.300000	48.000000	14.4518805	29.492797
4887	chic	58.0	51.80000	2000-05-18	15.050000	24.857143	27.8990448	17.958333
4888	chic	46.0	40.30000	2000-05-19	5.600000	5.500000	25.2396245	14.034722
4889	chic	55.0	37.80000	2000-05-20	9.700000	16.500000	23.3185262	22.016414
4890	chic	57.0	48.60000	2000-05-21	17.814286	29.500000	26.5946970	24.744318
4891	chic	67.0	56.40000	2000-05-22	15.700000	51.500000	19.0360672	32.516908
4892	chic	69.0	52.00000	2000-05-23	9.900000	42.000000	24.7363307	29.841994
4893	chic	68.0	42.20000	2000-05-24	11.012500	59.142857	33.9851779	26.201691
4894	chic	64.0	36.50000	2000-05-25	9.100000	56.500000	29.2757067	26.544643
4895	chic	61.0	48.50000	2000-05-26	18.400000	58.500000	17.3155468	38.584088
4896	chic	60.0	55.90000	2000-05-27	26.612500	31.500000	32.3257576	13.618056
4897	chic	55.0	52.00000	2000-05-28	13.500000	10.500000	25.3901515	11.525000
4898	chic	56.0	47.40000	2000-05-29	7.000000	9.500000	25.8636364	14.250000
4899	chic	65.0	61.40000	2000-05-30	22.828571	32.714286	26.4211433	29.211477
4900	chic	67.0	64.80000	2000-05-31	28.000000	46.500000	13.8697299	28.504371
4901	chic	73.0	65.50000	2000-06-01	22.800000	49.000000	33.4529028	23.623446
4902	chic	60.0	52.80000	2000-06-02	10.025000	22.000000	25.8739669	17.965278
4903	chic	55.0	44.90000	2000-06-03	2.800000	12.000000	29.4507576	13.118056
4904	chic	56.0	50.60000	2000-06-04	12.800000	20.000000	28.0311265	14.449275
4905	chic	54.0	47.00000	2000-06-05	9.575000	15.142857	30.6409151	13.004960
4906	chic	60.0	41.80000	2000-06-06	8.700000	36.000000	20.4231345	28.655236
4907	chic	64.0	46.80000	2000-06-07	13.250000	65.500000	33.5615119	30.248024
4908	chic	78.0	59.80000	2000-06-08	17.228571	55.000000	50.6192358	24.581349
4909	chic	77.0	57.50000	2000-06-09	18.300000	76.000000	55.7610343	24.190476
4910	chic	80.0	67.00000	2000-06-10	15.900000	82.500000	32.0492424	16.166667
4911	chic	70.0	66.80000	2000-06-11	10.671429	21.142857	16.0227273	10.575000
4912	chic	57.0	56.00000	2000-06-12	9.200000	11.500000	8.5941558	10.517532
4913	chic	69.0	63.80000	2000-06-13	13.700000	29.000000	12.9690382	24.729296
4914	chic	72.0	64.60000	2000-06-14	10.642857	33.000000	27.5567358	22.674107
4915	chic	70.0	58.80000	2000-06-15	9.300000	21.000000	26.6968948	16.791667
4916	chic	67.0	60.30000	2000-06-16	8.500000	22.500000	23.0317852	17.958031
4917	chic	60.0	45.30000	2000-06-17	4.200000	11.833333	25.7594697	11.506944
4918	chic	65.0	46.90000	2000-06-18	6.000000	11.500000	29.3939394	15.625000
4919	chic	66.0	57.00000	2000-06-19	15.900000	40.500000	30.6439394	25.998106
4920	chic	74.0	68.60000	2000-06-20	16.262500	31.500000	21.4263085	19.654167
4921	chic	74.0	58.00000	2000-06-21	6.500000	16.500000	26.4754312	15.430089
4922	chic	72.0	56.20000	2000-06-22	7.200000	23.000000	28.5978261	16.611111

4923	chic	71.0	61.70000	2000-06-23	14.228571	27.666667	24.2180501	30.096907
4924	chic	71.0	67.50000	2000-06-24	9.400000	23.500000	22.7613636	17.361111
4925	chic	75.0	65.10000	2000-06-25	16.450000	25.500000	29.9223485	20.555556
4926	chic	72.0	63.90000	2000-06-26	9.925000	19.000000	22.3811983	22.157738
4927	chic	68.0	52.60000	2000-06-27	8.700000	20.500000	19.6862648	22.496032
4928	chic	62.0	57.00000	2000-06-28	11.400000	30.000000	10.0169631	29.578299
4929	chic	66.0	52.30000	2000-06-29	10.262500	22.250000	20.1049901	22.932971
4930	chic	66.0	54.70000	2000-06-30	14.300000	28.000000	20.9635585	29.555556
4931	chic	71.0	61.20000	2000-07-01	18.200000	27.000000	34.7453887	20.003321
4932	chic	74.0	70.00000	2000-07-02	24.257143	32.000000	35.7113801	13.888889
4933	chic	68.0	64.70000	2000-07-03	11.900000	15.000000	21.2736331	13.583333
4934	chic	70.0	64.50000	2000-07-04	15.900000	22.000000	27.2803030	11.965278
4935	chic	76.0	65.00000	2000-07-05	18.750000	31.250000	40.7925725	16.224418
4936	chic	74.0	64.20000	2000-07-06	16.900000	26.500000	38.0099413	15.646465
4937	chic	70.0	58.00000	2000-07-07	7.600000	22.000000	24.5747694	13.753386
4938	chic	73.0	64.00000	2000-07-08	17.525000	38.000000	34.3446970	18.763889
4939	chic	81.0	70.70000	2000-07-09	25.500000	46.500000	37.2045455	12.923611
4940	chic	73.0	68.30000	2000-07-10	10.600000	20.500000	29.3157197	20.948919
4941	chic	69.0	64.00000	2000-07-11	13.712500	25.166667	32.6178442	11.827652
4942	chic	72.0	58.10000	2000-07-12	14.200000	25.500000	36.7943841	17.683333
4943	chic	75.0	64.50000	2000-07-13	18.100000	36.500000	33.1995224	25.795455
4944	chic	77.0	63.40000	2000-07-14	11.514286	23.000000	32.6572793	18.292659
4945	chic	73.0	60.10000	2000-07-15	9.900000	16.000000	26.8712121	11.902778
4946	chic	73.0	57.70000	2000-07-16	14.400000	21.500000	22.6856061	19.312500
4947	chic	77.0	63.40000	2000-07-17	12.900000	29.285714	23.8148880	22.924874
4948	chic	66.0	54.30000	2000-07-18	4.800000	17.000000	21.2627635	7.064513
4949	chic	63.0	53.90000	2000-07-19	5.350000	11.500000	19.4132830	11.021122
4950	chic	67.0	56.30000	2000-07-20	10.250000	36.000000	17.3878309	22.229167
4951	chic	67.0	51.10000	2000-07-21	9.100000	19.500000	16.5859919	20.159852
4952	chic	63.0	53.90000	2000-07-22	6.900000	16.500000	17.1553030	13.593750
4953	chic	63.0	49.70000	2000-07-23	5.757143	13.714286	17.5946970	11.545139
4954	chic	66.0	53.60000	2000-07-24	12.100000	24.000000	29.7289196	17.416667
4955	chic	69.0	56.70000	2000-07-25	17.900000	37.000000	30.7792325	30.227506
4956	chic	73.0	60.80000	2000-07-26	26.262500	62.000000	35.8824934	29.769066
4957	chic	77.0	65.80000	2000-07-27	33.000000	59.000000	32.0309618	32.364899
4958	chic	74.0	65.50000	2000-07-28	20.150000	30.000000	32.2343469	24.692331
4959	chic	73.0	65.90000	2000-07-29	19.962500	27.285714	48.2083333	10.170139
4960	chic	71.0	67.10000	2000-07-30	25.300000	20.500000	35.3130764	11.026872
4961	chic	70.0	66.20000	2000-07-31	17.500000	24.500000	17.7862768	24.437500
4962	chic	73.0	67.20000	2000-08-01	15.771429	31.500000	18.0361271	26.372998
4963	chic	76.0	64.60000	2000-08-02	12.300000	34.000000	26.0803689	15.899256
4964	chic	63.0	54.50000	2000-08-03	3.100000	5.500000	27.6556324	9.829861
4965	chic	67.0	53.80000	2000-08-04	11.014286	27.200000	22.7420949	25.184028

4966	chic	67.0	61.30000	2000-08-05	17.700000	33.500000	23.5359848	25.156250
4967	chic	78.0	70.60000	2000-08-06	22.900000	32.000000	30.5073052	15.062500
4968	chic	76.0	66.50000	2000-08-07	13.412500	22.000000	18.4277726	20.679473
4969	chic	77.0	69.40000	2000-08-08	10.300000	30.000000	20.7565876	21.790261
4970	chic	79.0	67.00000	2000-08-09	13.100000	38.500000	25.8103875	19.152146
4971	chic	74.0	62.30000	2000-08-10	13.112500	26.200000	22.8556489	22.298611
4972	chic	71.0	60.80000	2000-08-11	11.800000	23.500000	17.5833333	20.024206
4973	chic	71.0	61.00000	2000-08-12	12.600000	25.500000	23.5056818	22.270833
4974	chic	74.0	62.50000	2000-08-13	13.562500	23.000000	25.9375000	22.104167
4975	chic	76.0	67.90000	2000-08-14	28.400000	50.000000	30.8886094	25.590593
4976	chic	82.0	68.80000	2000-08-15	29.000000	53.500000	38.9682302	21.005051
4977	chic	70.0	54.90000	2000-08-16	6.012500	17.500000	21.2249671	12.202446
4978	chic	68.0	62.30000	2000-08-17	13.600000	22.000000	21.5627117	19.489773
4979	chic	67.0	59.50000	2000-08-18	8.300000	12.500000	22.8465460	14.868056
4980	chic	64.0	56.00000	2000-08-19	9.487500	19.500000	17.3958333	12.795139
4981	chic	65.0	54.00000	2000-08-20	8.700000	11.500000	27.8371212	12.979167
4982	chic	67.0	56.30000	2000-08-21	19.100000	27.500000	29.0049407	23.159722
4983	chic	76.0	67.60000	2000-08-22	29.825000	41.166667	28.7535408	26.785722
4984	chic	76.0	69.00000	2000-08-23	27.600000	46.500000	28.4123024	24.118056
4985	chic	71.0	58.50000	2000-08-24	20.600000	29.500000	25.2206701	21.807672
4986	chic	70.0	59.00000	2000-08-25	24.937500	53.500000	23.8659420	36.174819
4987	chic	73.0	64.60000	2000-08-26	33.100000	48.000000	29.8768939	23.864583
4988	chic	72.0	64.30000	2000-08-27	15.500000	18.500000	41.7935606	7.295592
4989	chic	75.0	64.20000	2000-08-28	23.687500	37.285714	31.2518939	20.611111
4990	chic	77.0	68.70000	2000-08-29	33.700000	44.500000	28.3520257	18.816919
4991	chic	77.0	70.60000	2000-08-30	41.700000	59.000000	29.6788538	19.302989
4992	chic	80.0	68.20000	2000-08-31	34.650000	56.500000	35.4707729	30.799094
4993	chic	80.0	69.00000	2000-09-01	31.300000	57.500000	40.8192758	32.700000
4994	chic	79.0	67.30000	2000-09-02	15.600000	31.500000	37.3865741	20.308333
4995	chic	77.0	66.80000	2000-09-03	18.771429	33.714286	36.2824074	16.920833
4996	chic	66.0	55.10000	2000-09-04	4.900000	9.000000	24.4097222	6.158333
4997	chic	63.0	45.20000	2000-09-05	3.900000	12.500000	29.8736550	10.993401
4998	chic	61.0	48.40000	2000-09-06	13.562500	30.500000	24.7773551	24.058020
4999	chic	74.0	60.50000	2000-09-07	20.400000	48.000000	26.0270833	29.435833
5000	chic	75.0	66.80000	2000-09-08	20.200000	42.000000	14.9514493	29.669192
5001	chic	76.0	67.40000	2000-09-09	17.750000	26.714286	18.2395833	17.687500
5002	chic	78.0	70.50000	2000-09-10	13.400000	20.000000	13.8291667	13.572917
5003	chic	75.0	67.90000	2000-09-11	15.550000	37.000000	20.0946558	19.396149
5004	chic	63.0	52.90000	2000-09-12	7.642857	16.500000	17.4166667	20.193015
5005	chic	63.0	49.70000	2000-09-13	13.700000	41.500000	11.5561594	35.018763
5006	chic	65.0	52.50000	2000-09-14	8.750000	23.500000	18.6069664	27.326389
5007	chic	56.0	40.10000	2000-09-15	5.250000	13.142857	12.6590909	19.977808
5008	chic	56.0	41.00000	2000-09-16	6.900000	14.500000	13.8200758	23.791667

5009	chic	68.0	47.70000	2000-09-17	10.900000	25.000000	27.9453228	22.972222
5010	chic	69.0	53.20000	2000-09-18	18.071429	57.000000	23.7109684	41.397947
5011	chic	75.0	51.10000	2000-09-19	17.400000	69.500000	39.6236525	30.532828
5012	chic	58.0	53.00000	2000-09-20	10.900000	21.500000	9.2270257	23.494565
5013	chic	54.0	40.50000	2000-09-21	6.312500	17.000000	14.8480207	18.939141
5014	chic	58.0	51.30000	2000-09-22	15.000000	27.000000	7.4078557	26.136926
5015	chic	63.0	58.20000	2000-09-23	13.100000	13.500000	12.3593544	16.839976
5016	chic	53.0	46.20000	2000-09-24	3.875000	4.500000	22.5075758	8.208333
5017	chic	49.0	40.20000	2000-09-25	6.600000	7.000000	17.2075099	15.488519
5018	chic	56.0	41.20000	2000-09-26	12.300000	28.500000	10.1703647	31.640783
5019	chic	59.0	46.60000	2000-09-27	9.925000	22.000000	15.3781291	21.724638
5020	chic	55.0	41.10000	2000-09-28	8.800000	16.000000	15.2486974	17.535326
5021	chic	61.0	42.10000	2000-09-29	11.600000	37.500000	10.2178524	28.962912
5022	chic	65.0	48.10000	2000-09-30	16.150000	47.500000	24.0000000	22.920000
5023	chic	72.0	50.70000	2000-10-01	21.500000	65.000000	47.0927536	15.038043
5024	chic	69.0	53.80000	2000-10-02	17.100000	46.000000	29.1939394	23.296970
5025	chic	59.0	49.70000	2000-10-03	14.237500	30.000000	14.3790184	20.650099
5026	chic	57.0	47.10000	2000-10-04	4.800000	10.000000	27.5807971	12.107971
5027	chic	52.0	48.20000	2000-10-05	8.100000	13.500000	16.8499094	18.210178
5028	chic	41.0	29.40000	2000-10-06	8.387500	14.500000	14.4154397	19.394928
5029	chic	40.0	26.70000	2000-10-07	5.300000	13.000000	10.8460145	15.850000
5030	chic	39.0	26.60000	2000-10-08	4.600000	8.000000	12.4270833	16.370175
5031	chic	44.0	25.90000	2000-10-09	10.366667	18.285714	7.8063406	29.331522
5032	chic	49.0	27.00000	2000-10-10	17.400000	33.500000	7.6597003	31.539530
5033	chic	53.0	30.20000	2000-10-11	16.000000	52.500000	8.7750000	39.419048
5034	chic	58.0	36.30000	2000-10-12	16.100000	79.000000	20.0672678	39.757955
5035	chic	66.0	39.60000	2000-10-13	17.900000	81.000000	29.0133152	32.541667
5036	chic	67.0	49.30000	2000-10-14	19.400000	54.500000	24.9229167	31.041667
5037	chic	55.0	47.60000	2000-10-15	11.428571	19.571429	17.0520833	17.529167
5038	chic	51.0	46.60000	2000-10-16	14.800000	27.000000	15.5695652	19.805797
5039	chic	52.0	45.50000	2000-10-17	19.700000	28.500000	10.0142045	26.255952
5040	chic	54.0	45.70000	2000-10-18	23.828571	57.500000	9.2684783	37.993182
5041	chic	62.0	47.30000	2000-10-19	14.450000	45.500000	12.8011117	35.744746
5042	chic	66.0	49.10000	2000-10-20	18.200000	57.000000	22.8370965	35.103571
5043	chic	58.0	50.30000	2000-10-21	19.771429	39.000000	20.6562500	22.891667
5044	chic	59.0	51.80000	2000-10-22	26.050000	35.000000	11.6414855	24.282609
5045	chic	65.0	60.50000	2000-10-23	39.800000	55.500000	3.1515152	37.191667
5046	chic	63.0	60.30000	2000-10-24	34.185714	31.500000	10.1743659	22.916667
5047	chic	62.0	57.90000	2000-10-25	26.400000	33.000000	11.7938406	23.860079
5048	chic	68.0	58.30000	2000-10-26	41.400000	65.500000	18.0453804	32.055435
5049	chic	61.0	53.40000	2000-10-27	21.214286	29.714286	15.2509058	19.826316
5050	chic	50.0	41.40000	2000-10-28	4.000000	8.500000	23.3437500	10.283333
5051	chic	46.0	36.80000	2000-10-29	10.900000	23.500000	16.3750000	17.029167

5052	chic	50.0	32.70000	2000-10-30	12.414286	24.000000	11.0664855	28.008333
5053	chic	59.0	37.60000	2000-10-31	13.850000	36.500000	5.4569746	30.641667
5054	chic	63.0	44.60000	2000-11-01	18.950000	38.500000	7.8472222	32.234649
5055	chic	55.0	48.60000	2000-11-02	20.542857	31.666667	5.6805556	26.637681
5056	chic	48.0	34.80000	2000-11-03	9.350000	30.000000	7.4414251	25.871344
5057	chic	46.0	31.40000	2000-11-04	11.250000	28.500000	6.7192029	28.349638
5058	chic	46.0	31.00000	2000-11-05	12.071429	26.000000	14.3080808	24.694474
5059	chic	49.0	38.00000	2000-11-06	15.650000	30.000000	18.6129227	19.182292
5060	chic	49.0	41.90000	2000-11-07	12.250000	13.500000	4.8617150	16.009923
5061	chic	40.0	31.50000	2000-11-08	10.100000	17.714286	3.0060386	21.739583
5062	chic	39.0	37.00000	2000-11-09	8.300000	10.500000	4.8562802	17.025136
5063	chic	37.0	31.60000	2000-11-10	17.050000	17.500000	3.5694444	19.750000
5064	chic	38.0	32.10000	2000-11-11	18.625000	22.000000	4.9305556	21.989583
5065	chic	45.0	37.30000	2000-11-12	16.500000	14.500000	5.7361111	17.578125
5066	chic	36.0	29.70000	2000-11-13	NA	16.000000	3.8333333	17.031250
5067	chic	32.0	26.40000	2000-11-14	10.866667	13.571429	7.0000000	16.305871
5068	chic	31.0	23.60000	2000-11-15	NA	26.500000	7.5416667	24.258929
5069	chic	36.0	29.20000	2000-11-16	14.850000	26.500000	4.9045894	18.327989
5070	chic	30.0	20.80000	2000-11-17	13.114286	15.000000	8.3490338	19.902627
5071	chic	27.0	18.30000	2000-11-18	15.500000	27.000000	12.2222222	15.948822
5072	chic	30.0	22.00000	2000-11-19	10.900000	17.500000	11.2083333	16.791667
5073	chic	24.0	17.90000	2000-11-20	10.025000	20.428571	10.2159091	16.132102
5074	chic	19.0	8.00000	2000-11-21	11.000000	24.000000	10.7222222	25.378968
5075	chic	22.0	11.00000	2000-11-22	24.700000	30.000000	4.7916667	32.479167
5076	chic	29.0	17.00000	2000-11-23	26.600000	33.000000	4.2916667	34.218750
5077	chic	32.0	19.20000	2000-11-24	28.200000	34.000000	3.7886473	33.384058
5078	chic	38.0	32.60000	2000-11-25	17.750000	28.000000	7.3750000	24.786458
5079	chic	39.0	36.60000	2000-11-26	20.014286	23.285714	1.0416667	19.010417
5080	chic	34.0	30.50000	2000-11-27	41.700000	40.500000	1.1388889	19.360054
5081	chic	34.0	29.70000	2000-11-28	20.450000	28.500000	2.6944444	23.166667
5082	chic	35.0	33.10000	2000-11-29	19.362500	21.000000	1.3194444	22.303977
5083	chic	34.0	30.70000	2000-11-30	16.750000	16.500000	4.8712121	23.851223
5084	chic	34.0	24.80000	2000-12-01	3.950000	7.000000	21.1666667	17.866667
5085	chic	31.0	21.60000	2000-12-02	3.914286	6.428571	27.7083333	15.525000
5086	chic	28.0	19.30000	2000-12-03	13.200000	16.000000	6.1388889	31.409848
5087	chic	32.0	24.00000	2000-12-04	18.050000	30.500000	6.1250000	21.114394
5088	chic	21.0	2.80000	2000-12-05	7.360000	18.000000	13.2071256	22.971739
5089	chic	15.0	8.00000	2000-12-06	18.100000	23.000000	4.8333333	25.436472
5090	chic	25.0	23.50000	2000-12-07	27.600000	26.500000	1.7741546	25.321212
5091	chic	18.0	11.80000	2000-12-08	20.262500	30.000000	7.0694444	27.616667
5092	chic	16.0	13.10000	2000-12-09	26.500000	37.500000	3.1944444	35.258333
5093	chic	30.0	24.80000	2000-12-10	24.450000	27.000000	2.4444444	23.125000
5094	chic	23.0	21.20000	2000-12-11	7.860000	14.000000	15.5694444	18.483333

5095	chic	4.0	0.30000	2000-12-12	25.100000	28.000000	8.2361111	32.116667
5096	chic	8.0	7.90000	2000-12-13	23.400000	37.000000	3.9335749	34.745244
5097	chic	17.0	17.10000	2000-12-14	29.575000	33.571429	2.6527778	41.783333
5098	chic	17.0	17.40000	2000-12-15	39.650000	39.000000	1.4631643	35.468841
5099	chic	25.0	27.00000	2000-12-16	20.550000	16.500000	1.2083333	26.041667
5100	chic	8.0	0.60000	2000-12-17	12.957143	18.500000	13.4166667	16.116667
5101	chic	8.0	3.50000	2000-12-18	24.750000	27.500000	3.6041667	33.525000
5102	chic	14.0	9.20000	2000-12-19	14.150000	25.500000	6.7916667	35.133136
5103	chic	6.0	4.70000	2000-12-20	24.157143	38.571429	3.1657609	39.008772
5104	chic	6.0	0.10000	2000-12-21	19.300000	35.000000	10.9239130	24.349130
5105	chic	-1.0	-7.10000	2000-12-22	16.700000	24.500000	7.7916667	30.888043
5106	chic	8.0	5.10000	2000-12-23	23.233333	33.000000	4.6041667	35.160870
5107	chic	5.0	-1.40000	2000-12-24	21.700000	35.500000	8.9791667	31.766667
5108	chic	5.0	-1.70000	2000-12-25	18.250000	40.500000	4.5000000	41.800000
5109	chic	11.0	9.20000	2000-12-26	20.100000	25.833333	6.9375000	36.850000
5110	chic	12.0	7.60000	2000-12-27	27.250000	38.000000	5.0833333	33.022464
5111	chic	13.0	9.00000	2000-12-28	21.550000	31.500000	7.2708333	36.125774
5112	chic	21.0	16.90000	2000-12-29	17.366667	23.000000	11.7083333	33.303788
5113	chic	27.0	23.00000	2000-12-30	6.200000	8.500000	17.1458333	23.916667
5114	chic	16.0	16.30000	2000-12-31	14.450000	10.500000	12.8541667	30.041667
5115	chic	15.0	9.90000	2001-01-01	18.633333	28.200000	7.2708333	37.041667
5116	chic	12.0	6.10000	2001-01-02	27.100000	26.000000	4.9753788	43.004464
5117	chic	18.0	18.30000	2001-01-03	27.200000	30.000000	5.9166667	31.812500
5118	chic	25.0	21.30000	2001-01-04	25.000000	25.000000	7.6250000	30.750000
5119	chic	29.0	23.70000	2001-01-05	11.050000	24.000000	9.2780797	31.328598
5120	chic	25.0	19.40000	2001-01-06	18.400000	22.000000	6.0000000	33.239583
5121	chic	28.0	22.80000	2001-01-07	15.766667	21.800000	8.6250000	27.750000
5122	chic	19.0	13.00000	2001-01-08	7.500000	17.000000	7.9791667	34.479167
5123	chic	17.0	11.40000	2001-01-09	26.000000	NA	7.6041667	36.062500
5124	chic	26.0	19.10000	2001-01-10	26.650000	31.000000	4.7500000	35.721591
5125	chic	29.0	23.70000	2001-01-11	37.450000	36.000000	2.1974638	42.041990
5126	chic	30.0	29.30000	2001-01-12	41.100000	35.000000	1.8623188	40.528533
5127	chic	34.0	31.60000	2001-01-13	30.300000	31.833333	4.5833333	27.635417
5128	chic	34.0	33.90000	2001-01-14	28.000000	22.000000	0.5000000	26.187500
5129	chic	33.0	31.40000	2001-01-15	19.200000	13.500000	1.5833333	17.510417
5130	chic	29.0	25.00000	2001-01-16	23.580000	15.000000	4.2500000	23.964583
5131	chic	23.0	19.30000	2001-01-17	27.400000	30.000000	4.4375000	30.495536
5132	chic	25.0	20.60000	2001-01-18	34.700000	43.000000	4.3822464	31.302989
5133	chic	22.0	17.80000	2001-01-19	18.137500	26.000000	8.0461957	27.968750
5134	chic	18.0	9.90000	2001-01-20	12.650000	20.000000	10.6250000	29.437500
5135	chic	17.0	10.50000	2001-01-21	30.600000	34.000000	5.1458333	30.906250
5136	chic	18.0	14.60000	2001-01-22	49.471429	68.000000	3.1250000	43.677083
5137	chic	28.0	22.70000	2001-01-23	45.700000	45.000000	3.1875000	36.792045

5138	chic	22.0	16.60000	2001-01-24	19.100000	31.000000	8.1534091	33.667861
5139	chic	19.0	11.00000	2001-01-25	16.500000	28.500000	7.1585145	34.682018
5140	chic	26.0	21.70000	2001-01-26	24.000000	34.000000	4.6250000	28.770833
5141	chic	21.0	12.50000	2001-01-27	11.950000	14.500000	19.0625000	21.781250
5142	chic	22.0	15.20000	2001-01-28	23.457143	29.000000	7.4583333	30.614583
5143	chic	36.0	33.00000	2001-01-29	26.800000	31.000000	4.8522727	29.042749
5144	chic	36.0	33.60000	2001-01-30	17.150000	11.000000	6.2500000	34.385417
5145	chic	31.0	29.00000	2001-01-31	24.066667	24.333333	4.9990942	26.037879
5146	chic	18.0	15.30000	2001-02-01	21.700000	29.000000	10.6458333	28.483734
5147	chic	5.0	-1.70000	2001-02-02	22.000000	32.500000	10.4791667	25.065217
5148	chic	20.0	16.40000	2001-02-03	17.175000	25.500000	5.0833333	23.812500
5149	chic	30.0	29.00000	2001-02-04	26.750000	18.000000	4.5833333	28.604167
5150	chic	29.0	24.40000	2001-02-05	32.950000	35.000000	5.4565217	28.088068
5151	chic	28.0	25.30000	2001-02-06	30.171429	36.500000	5.8632246	33.991667
5152	chic	26.0	24.70000	2001-02-07	47.500000	34.000000	4.7291667	38.598755
5153	chic	44.0	42.20000	2001-02-08	39.500000	44.500000	5.1875000	35.259058
5154	chic	37.0	35.90000	2001-02-09	12.740000	22.500000	14.8750000	23.890399
5155	chic	16.0	7.20000	2001-02-10	10.450000	16.500000	15.8639706	25.057971
5156	chic	19.0	12.40000	2001-02-11	12.850000	19.000000	14.0744048	23.751894
5157	chic	29.0	23.20000	2001-02-12	22.537500	29.000000	6.1458333	26.697917
5158	chic	35.0	29.70000	2001-02-13	37.300000	34.000000	7.1739130	29.547917
5159	chic	33.0	31.10000	2001-02-14	22.800000	18.500000	10.1875000	22.182871
5160	chic	29.0	23.90000	2001-02-15	15.071429	12.000000	23.8541667	18.559330
5161	chic	23.0	17.30000	2001-02-16	20.350000	23.000000	16.5625000	28.982337
5162	chic	13.0	0.30000	2001-02-17	10.100000	11.000000	16.9791667	19.646286
5163	chic	18.0	6.10000	2001-02-18	9.475000	16.400000	17.5000000	18.875000
5164	chic	35.0	26.20000	2001-02-19	22.800000	64.000000	10.5000000	22.819293
5165	chic	27.0	17.10000	2001-02-20	28.650000	30.000000	18.7500000	30.501488
5166	chic	15.0	-0.90000	2001-02-21	8.537500	16.000000	23.1956522	20.681612
5167	chic	23.0	18.60000	2001-02-22	20.300000	21.500000	13.4166667	23.718750
5168	chic	24.0	14.80000	2001-02-23	18.100000	23.500000	25.4166667	24.235548
5169	chic	43.0	35.70000	2001-02-24	28.675000	31.500000	9.5625000	21.093750
5170	chic	42.0	29.10000	2001-02-25	10.000000	12.000000	25.2708333	11.614583
5171	chic	31.0	22.00000	2001-02-26	22.100000	21.000000	18.7282609	28.454257
5172	chic	23.0	8.20000	2001-02-27	9.983333	11.000000	19.5587121	24.554924
5173	chic	20.0	2.00000	2001-02-28	6.800000	18.000000	15.2826087	26.479167
5174	chic	31.0	15.50000	2001-03-01	7.200000	27.000000	14.8750000	25.769886
5175	chic	35.0	29.00000	2001-03-02	30.057143	35.000000	7.5208333	30.250000
5176	chic	36.0	25.10000	2001-03-03	47.400000	49.500000	6.1875000	48.718750
5177	chic	30.0	21.00000	2001-03-04	11.300000	14.500000	23.0000000	20.653986
5178	chic	23.0	11.60000	2001-03-05	7.371429	22.500000	19.3541667	20.297348
5179	chic	28.0	17.10000	2001-03-06	5.700000	20.000000	15.5190217	28.538496
5180	chic	33.0	19.20000	2001-03-07	15.300000	31.000000	17.2916667	28.930556

5181	chic	31.0	21.70000	2001-03-08	16.557143	25.000000	22.2946429	27.116186
5182	chic	31.0	18.00000	2001-03-09	10.200000	19.500000	13.6250000	32.747283
5183	chic	34.0	25.00000	2001-03-10	22.950000	45.500000	16.8333333	33.177083
5184	chic	33.0	23.50000	2001-03-11	10.728571	9.000000	29.1250000	14.010417
5185	chic	40.0	34.20000	2001-03-12	24.700000	31.500000	10.3541667	25.345644
5186	chic	37.0	29.70000	2001-03-13	24.300000	18.500000	22.8958333	21.287879
5187	chic	38.0	32.90000	2001-03-14	15.000000	20.000000	14.3913043	32.673913
5188	chic	39.0	35.70000	2001-03-15	20.050000	17.000000	20.2361111	21.229167
5189	chic	32.0	30.00000	2001-03-16	14.600000	7.000000	33.2777778	16.854167
5190	chic	32.0	24.50000	2001-03-17	7.540000	6.000000	30.3055556	21.721920
5191	chic	32.0	21.50000	2001-03-18	11.500000	16.500000	25.0833333	30.895833
5192	chic	36.0	23.10000	2001-03-19	16.150000	23.000000	24.9255051	35.270833
5193	chic	38.0	25.20000	2001-03-20	15.950000	28.833333	27.9716184	32.845562
5194	chic	41.0	26.60000	2001-03-21	22.900000	34.500000	25.9957729	36.215774
5195	chic	42.0	33.40000	2001-03-22	36.050000	39.000000	18.1527778	41.739912
5196	chic	42.0	30.70000	2001-03-23	27.200000	32.500000	21.2777778	26.677083
5197	chic	29.0	12.60000	2001-03-24	11.650000	20.500000	28.5277778	15.187500
5198	chic	22.0	7.80000	2001-03-25	8.200000	24.000000	20.8472222	14.020833
5199	chic	25.0	11.10000	2001-03-26	10.025000	16.333333	14.7916667	22.678744
5200	chic	32.0	18.80000	2001-03-27	14.300000	20.500000	16.7204106	31.552083
5201	chic	36.0	22.20000	2001-03-28	25.200000	45.000000	19.3544686	35.208333
5202	chic	41.0	32.10000	2001-03-29	34.575000	37.000000	21.3736825	30.944444
5203	chic	42.0	31.90000	2001-03-30	40.300000	49.000000	26.5694444	28.305556
5204	chic	46.0	34.90000	2001-03-31	38.400000	44.500000	21.6111111	25.944444
5205	chic	40.0	24.40000	2001-04-01	10.685714	13.6666667	25.7958333	22.027778
5206	chic	45.0	27.20000	2001-04-02	21.750000	37.500000	15.5780303	39.541667
5207	chic	41.0	32.50000	2001-04-03	20.550000	17.000000	37.9985507	19.936111
5208	chic	42.0	30.90000	2001-04-04	27.587500	31.000000	28.7750000	28.488095
5209	chic	48.0	37.40000	2001-04-05	30.400000	55.000000	16.0233696	39.263889
5210	chic	53.0	51.60000	2001-04-06	38.900000	39.000000	11.9098485	25.020833
5211	chic	64.0	48.80000	2001-04-07	14.237500	43.833333	32.4041667	17.614583
5212	chic	61.0	41.70000	2001-04-08	10.500000	22.500000	34.4833333	19.510417
5213	chic	52.0	43.30000	2001-04-09	11.000000	22.500000	26.8713768	22.018569
5214	chic	47.0	43.80000	2001-04-10	25.575000	24.500000	13.9518116	20.809659
5215	chic	64.0	58.00000	2001-04-11	16.400000	24.000000	15.6784420	20.885417
5216	chic	57.0	40.40000	2001-04-12	5.900000	38.000000	30.6807477	14.510281
5217	chic	48.0	36.40000	2001-04-13	9.075000	24.6666667	20.6166667	27.510417
5218	chic	52.0	35.10000	2001-04-14	15.400000	26.000000	25.5541667	31.591856
5219	chic	49.0	39.50000	2001-04-15	8.100000	21.500000	39.8666667	15.968750
5220	chic	36.0	24.00000	2001-04-16	8.028571	17.000000	26.2677536	18.406250
5221	chic	38.0	24.00000	2001-04-17	6.950000	14.500000	29.6579710	21.903680
5222	chic	41.0	24.40000	2001-04-18	16.400000	33.000000	16.3295290	41.640399
5223	chic	51.0	31.70000	2001-04-19	13.200000	37.400000	28.2543478	32.465909

5224	chic	64.0	54.50000	2001-04-20	17.300000	56.000000	34.2333333	21.541667
5225	chic	69.0	58.80000	2001-04-21	13.600000	44.500000	29.2250000	15.145833
5226	chic	65.0	55.50000	2001-04-22	13.828571	30.000000	23.5583333	17.489583
5227	chic	58.0	50.20000	2001-04-23	10.850000	53.000000	25.7355072	13.393569
5228	chic	52.0	31.10000	2001-04-24	10.400000	21.000000	27.9536397	25.510417
5229	chic	51.0	38.30000	2001-04-25	13.157143	25.400000	19.1597826	37.823564
5230	chic	61.0	43.30000	2001-04-26	11.800000	63.500000	31.2251153	28.858631
5231	chic	52.0	32.50000	2001-04-27	7.900000	17.000000	35.8992754	21.895833
5232	chic	53.0	35.80000	2001-04-28	10.528571	18.500000	29.2333333	24.437500
5233	chic	61.0	34.50000	2001-04-29	10.400000	28.000000	35.3250000	22.989583
5234	chic	68.0	45.30000	2001-04-30	17.700000	65.500000	36.8586957	33.031250
5235	chic	73.0	53.20000	2001-05-01	20.414286	59.666667	42.8200922	23.715292
5236	chic	73.0	53.40000	2001-05-02	19.600000	89.500000	36.7003623	24.250000
5237	chic	72.0	52.60000	2001-05-03	22.700000	97.500000	42.2202899	27.886364
5238	chic	55.0	46.20000	2001-05-04	8.787500	17.000000	33.5202899	20.692482
5239	chic	58.0	46.30000	2001-05-05	8.100000	18.000000	30.7625000	14.145833
5240	chic	65.0	48.40000	2001-05-06	14.400000	32.500000	32.7708333	19.166667
5241	chic	60.0	54.10000	2001-05-07	15.450000	27.333333	18.7788043	26.791667
5242	chic	62.0	45.30000	2001-05-08	7.300000	51.500000	26.4762681	27.583333
5243	chic	67.0	46.10000	2001-05-09	10.700000	59.000000	36.8536891	29.293561
5244	chic	70.0	55.80000	2001-05-10	15.875000	68.000000	36.1219203	28.094697
5245	chic	54.0	50.20000	2001-05-11	6.250000	16.000000	21.1284420	16.800000
5246	chic	48.0	33.30000	2001-05-12	5.300000	7.500000	31.1568841	13.717029
5247	chic	53.0	33.00000	2001-05-13	13.387500	31.000000	22.9750000	28.325000
5248	chic	54.0	46.30000	2001-05-14	10.400000	42.000000	20.0022563	34.991667
5249	chic	72.0	62.50000	2001-05-15	17.100000	43.000000	30.1335145	29.479348
5250	chic	77.0	62.40000	2001-05-16	25.350000	41.000000	33.3641798	27.705402
5251	chic	74.0	61.70000	2001-05-17	21.900000	46.000000	24.3299819	40.907818
5252	chic	65.0	40.00000	2001-05-18	9.900000	20.500000	37.3773551	18.361775
5253	chic	61.0	41.40000	2001-05-19	8.000000	21.500000	36.1708333	19.800000
5254	chic	63.0	48.60000	2001-05-20	11.900000	23.500000	41.0005435	20.573551
5255	chic	62.0	56.90000	2001-05-21	13.600000	23.500000	24.2177536	19.958333
5256	chic	53.0	42.20000	2001-05-22	6.612500	25.000000	20.5608696	17.898188
5257	chic	54.0	43.50000	2001-05-23	9.500000	26.000000	12.6213627	28.868074
5258	chic	51.0	45.90000	2001-05-24	13.200000	16.500000	14.1075886	26.704167
5259	chic	51.0	44.70000	2001-05-25	14.900000	20.333333	11.6360709	27.949275
5260	chic	48.0	44.30000	2001-05-26	12.700000	13.500000	19.4470612	18.711594
5261	chic	55.0	49.20000	2001-05-27	14.900000	21.000000	25.2532206	20.300000
5262	chic	59.0	51.80000	2001-05-28	20.637500	23.500000	22.5879630	26.358333
5263	chic	53.0	43.60000	2001-05-29	7.800000	11.500000	20.6226852	23.252976
5264	chic	53.0	35.10000	2001-05-30	4.800000	11.500000	27.7185533	18.038060
5265	chic	53.0	44.90000	2001-05-31	13.271429	26.000000	22.4940217	21.697101
5266	chic	57.0	49.50000	2001-06-01	11.200000	15.500000	24.2144763	23.099638

5267	chic	53.0	48.00000	2001-06-02	6.250000	8.500000	22.7708333	15.125000
5268	chic	52.0	44.50000	2001-06-03	4.825000	5.000000	15.4250000	9.670833
5269	chic	51.0	44.00000	2001-06-04	6.100000	8.500000	19.5875000	11.467572
5270	chic	53.0	51.70000	2001-06-05	18.800000	19.000000	12.0006341	20.262500
5271	chic	57.0	54.40000	2001-06-06	29.175000	35.333333	15.4722826	21.536190
5272	chic	59.0	53.20000	2001-06-07	16.100000	21.500000	22.3791667	25.095833
5273	chic	61.0	51.60000	2001-06-08	15.300000	29.000000	21.8159420	32.787319
5274	chic	66.0	55.70000	2001-06-09	17.487500	43.500000	29.4291667	35.516667
5275	chic	74.0	62.00000	2001-06-10	18.200000	35.500000	42.8541667	16.266667
5276	chic	76.0	66.20000	2001-06-11	23.200000	50.000000	34.7547101	29.734091
5277	chic	75.0	65.60000	2001-06-12	16.237500	34.333333	37.9848732	29.325000
5278	chic	80.0	69.50000	2001-06-13	36.300000	61.000000	51.8198370	29.813768
5279	chic	80.0	68.50000	2001-06-14	30.100000	57.500000	41.3428030	21.408333
5280	chic	70.0	62.10000	2001-06-15	9.187500	25.000000	19.9731884	24.133333
5281	chic	71.0	57.50000	2001-06-16	7.800000	24.000000	32.6166667	21.625000
5282	chic	71.0	55.40000	2001-06-17	11.300000	27.000000	34.6229167	25.816667
5283	chic	78.0	61.40000	2001-06-18	13.450000	36.500000	48.3247283	21.878623
5284	chic	75.0	61.50000	2001-06-19	13.700000	39.500000	46.4770422	18.469928
5285	chic	70.0	52.90000	2001-06-20	14.650000	19.000000	30.0812500	24.929058
5286	chic	62.0	54.90000	2001-06-21	16.662500	22.500000	23.3856108	28.537164
5287	chic	60.0	54.30000	2001-06-22	14.200000	20.000000	20.4875000	20.266667
5288	chic	62.0	52.80000	2001-06-23	13.550000	21.000000	19.5416667	24.566667
5289	chic	66.0	55.00000	2001-06-24	21.371429	30.166667	34.1958333	30.383333
5290	chic	72.0	58.90000	2001-06-25	21.850000	45.500000	39.3654891	33.608333
5291	chic	74.0	57.90000	2001-06-26	24.800000	43.000000	42.6815382	36.149275
5292	chic	75.0	61.10000	2001-06-27	31.300000	57.500000	42.1101449	37.222101
5293	chic	75.0	62.90000	2001-06-28	41.300000	66.000000	42.9583333	36.940000
5294	chic	77.0	63.90000	2001-06-29	38.850000	70.500000	42.5458333	35.098551
5295	chic	78.0	64.90000	2001-06-30	30.175000	45.666667	46.9458333	21.816667
5296	chic	64.0	52.00000	2001-07-01	7.200000	16.000000	22.7395833	8.650000
5297	chic	62.0	42.70000	2001-07-02	6.600000	20.500000	21.4062500	17.641667
5298	chic	72.0	63.30000	2001-07-03	9.371429	26.000000	20.2451087	26.371325
5299	chic	78.0	58.80000	2001-07-04	19.000000	27.500000	30.9833333	20.866667
5300	chic	64.0	49.20000	2001-07-05	6.700000	19.500000	22.0190217	14.283333
5301	chic	66.0	49.70000	2001-07-06	10.262500	22.000000	26.0622283	24.902899
5302	chic	74.0	71.80000	2001-07-07	18.150000	34.500000	28.0143116	20.166667
5303	chic	79.0	63.20000	2001-07-08	14.300000	26.000000	23.0966184	24.183333
5304	chic	79.0	67.40000	2001-07-09	22.600000	36.500000	27.0644516	31.742424
5305	chic	81.0	61.20000	2001-07-10	17.000000	35.500000	33.7047101	27.344048
5306	chic	69.0	51.70000	2001-07-11	5.450000	10.000000	24.9645833	13.838636
5307	chic	69.0	53.40000	2001-07-12	8.157143	20.200000	18.0318264	21.222348
5308	chic	68.0	50.90000	2001-07-13	7.600000	20.000000	16.1972332	22.077609
5309	chic	74.0	50.40000	2001-07-14	11.100000	30.500000	28.5125000	27.675000

5310	chic	74.0	57.20000	2001-07-15	19.971429	47.500000	38.2875000	30.833333
5311	chic	75.0	60.50000	2001-07-16	26.100000	58.000000	40.8931159	34.444481
5312	chic	79.0	70.00000	2001-07-17	39.000000	67.500000	41.8674242	33.038636
5313	chic	78.0	72.90000	2001-07-18	31.142857	47.800000	26.6572875	25.624374
5314	chic	77.0	73.00000	2001-07-19	28.500000	42.000000	32.7817761	29.462319
5315	chic	82.0	72.20000	2001-07-20	32.300000	58.500000	33.0038043	33.675000
5316	chic	83.0	73.40000	2001-07-21	21.985714	39.500000	30.4416667	30.291667
5317	chic	82.0	72.00000	2001-07-22	19.300000	25.500000	29.3125000	29.608333
5318	chic	83.0	75.10000	2001-07-23	20.600000	34.000000	21.0333132	32.020833
5319	chic	79.0	71.80000	2001-07-24	15.712500	32.400000	33.2979167	25.050000
5320	chic	71.0	67.50000	2001-07-25	10.400000	20.500000	30.7289855	16.483873
5321	chic	73.0	62.90000	2001-07-26	9.200000	11.000000	27.9526845	12.196970
5322	chic	71.0	58.40000	2001-07-27	10.912500	25.000000	30.5804348	18.833333
5323	chic	72.0	66.20000	2001-07-28	26.300000	37.500000	27.7454545	30.527273
5324	chic	78.0	70.30000	2001-07-29	27.400000	37.500000	37.4354167	17.983333
5325	chic	80.0	69.90000	2001-07-30	29.512500	48.166667	41.0873188	23.325000
5326	chic	83.0	73.10000	2001-07-31	27.100000	45.000000	42.1452122	26.918939
5327	chic	84.0	72.90000	2001-08-01	43.700000	81.500000	45.1773551	27.442391
5328	chic	79.0	73.70000	2001-08-02	15.085714	38.500000	22.3635481	33.087780
5329	chic	75.0	70.50000	2001-08-03	15.200000	23.000000	26.9838768	21.963043
5330	chic	76.0	63.80000	2001-08-04	10.300000	20.000000	23.4395833	21.108333
5331	chic	76.0	68.50000	2001-08-05	21.837500	32.500000	37.8480072	30.058333
5332	chic	81.0	68.10000	2001-08-06	22.700000	50.000000	32.3516304	33.075000
5333	chic	85.0	73.70000	2001-08-07	27.150000	40.500000	39.5966486	28.741667
5334	chic	85.0	72.60000	2001-08-08	38.837500	70.000000	37.9804682	27.627433
5335	chic	84.0	72.60000	2001-08-09	38.200000	66.000000	36.7324522	26.467424
5336	chic	70.0	59.90000	2001-08-10	6.350000	13.500000	23.5074879	13.817624
5337	chic	69.0	56.00000	2001-08-11	5.737500	16.666667	22.4854167	14.366667
5338	chic	72.0	59.30000	2001-08-12	13.800000	27.000000	28.3277174	24.216667
5339	chic	67.0	58.60000	2001-08-13	7.750000	18.000000	25.9020833	15.612500
5340	chic	66.0	52.10000	2001-08-14	6.887500	16.500000	21.6938406	19.519203
5341	chic	67.0	56.00000	2001-08-15	16.300000	38.500000	22.3541749	38.013095
5342	chic	68.0	63.70000	2001-08-16	21.600000	31.000000	21.5771410	25.841667
5343	chic	70.0	55.60000	2001-08-17	8.987500	20.500000	15.3771739	21.834524
5344	chic	66.0	61.00000	2001-08-18	10.800000	22.000000	12.2958333	29.475000
5345	chic	68.0	59.90000	2001-08-19	7.200000	16.500000	23.0354167	12.537500
5346	chic	69.0	55.80000	2001-08-20	10.512500	36.000000	12.1166667	20.870833
5347	chic	72.0	59.70000	2001-08-21	19.900000	48.000000	17.9390399	27.937500
5348	chic	77.0	68.10000	2001-08-22	21.400000	44.000000	23.0271739	29.382143
5349	chic	72.0	67.70000	2001-08-23	22.000000	30.500000	29.8554513	19.111742
5350	chic	74.0	67.70000	2001-08-24	28.850000	38.000000	37.2157115	19.303788
5351	chic	74.0	70.20000	2001-08-25	19.550000	26.000000	20.6333333	22.966667
5352	chic	75.0	65.10000	2001-08-26	11.975000	24.500000	26.6388889	21.433333

5353	chic	74.0	65.20000	2001-08-27	17.100000	39.500000	19.6982689	32.708333
5354	chic	68.0	57.30000	2001-08-28	11.300000	24.500000	19.0765993	18.562500
5355	chic	69.0	57.70000	2001-08-29	15.175000	32.800000	22.8365539	25.857726
5356	chic	77.0	65.10000	2001-08-30	16.600000	36.500000	29.1650492	28.274144
5357	chic	68.0	59.90000	2001-08-31	6.100000	21.500000	18.8584239	16.206818
5358	chic	60.0	49.80000	2001-09-01	4.662500	14.000000	25.5812500	11.325000
5359	chic	64.0	55.00000	2001-09-02	11.650000	27.000000	21.0541667	26.191667
5360	chic	74.0	63.00000	2001-09-03	18.050000	37.000000	34.0229167	19.991667
5361	chic	67.0	57.80000	2001-09-04	5.650000	14.600000	22.1880435	13.195833
5362	chic	66.0	58.50000	2001-09-05	8.950000	31.500000	23.6516304	22.016288
5363	chic	73.0	63.50000	2001-09-06	20.400000	43.000000	32.7273221	29.404084
5364	chic	78.0	69.50000	2001-09-07	12.475000	20.000000	20.8021739	16.993116
5365	chic	72.0	65.10000	2001-09-08	10.000000	30.500000	28.1291667	15.300000
5366	chic	64.0	60.90000	2001-09-09	8.100000	21.000000	11.1875000	19.275000
5367	chic	65.0	50.60000	2001-09-10	7.171429	19.400000	12.9635211	22.308333
5368	chic	64.0	54.90000	2001-09-11	13.600000	28.000000	15.5998188	31.836594
5369	chic	69.0	56.80000	2001-09-12	14.400000	51.500000	26.4399457	34.848913
5370	chic	63.0	51.60000	2001-09-13	5.112500	15.500000	23.3461957	9.831884
5371	chic	59.0	43.80000	2001-09-14	3.800000	15.000000	22.2288208	12.111759
5372	chic	58.0	46.80000	2001-09-15	9.100000	21.000000	18.4645833	18.287121
5373	chic	60.0	49.30000	2001-09-16	16.485714	30.833333	24.0645833	21.395833
5374	chic	59.0	54.30000	2001-09-17	24.800000	38.500000	13.0634058	38.225000
5375	chic	62.0	58.30000	2001-09-18	27.500000	34.500000	34.8092391	23.723188
5376	chic	62.0	59.90000	2001-09-19	16.000000	17.000000	17.1153986	20.868144
5377	chic	63.0	54.60000	2001-09-20	16.900000	55.000000	14.9498188	26.937060
5378	chic	62.0	58.50000	2001-09-21	13.700000	28.500000	10.0938406	26.693841
5379	chic	63.0	54.40000	2001-09-22	14.425000	24.833333	14.5729167	27.175000
5380	chic	58.0	54.50000	2001-09-23	11.000000	21.500000	14.6541667	18.170833
5381	chic	50.0	38.20000	2001-09-24	3.200000	11.000000	15.0020916	16.825296
5382	chic	49.0	34.40000	2001-09-25	5.414286	15.500000	13.7728261	23.937500
5383	chic	60.0	40.20000	2001-09-26	6.000000	20.500000	15.6138230	25.308626
5384	chic	54.0	44.90000	2001-09-27	6.000000	17.000000	15.7999094	23.687500
5385	chic	54.0	47.40000	2001-09-28	5.442857	11.166667	15.3498188	15.905303
5386	chic	56.0	48.80000	2001-09-29	9.500000	17.000000	13.7937500	20.916667
5387	chic	58.0	49.70000	2001-09-30	16.700000	37.500000	11.8083333	31.937500
5388	chic	64.0	52.70000	2001-10-01	18.075000	62.000000	12.4394065	43.912202
5389	chic	64.0	53.70000	2001-10-02	19.400000	74.500000	23.3374780	40.215909
5390	chic	66.0	51.50000	2001-10-03	16.200000	66.500000	35.4860105	21.476974
5391	chic	55.0	48.70000	2001-10-04	12.725000	23.500000	6.4537037	24.864583
5392	chic	46.0	40.60000	2001-10-05	8.700000	18.500000	5.2854908	25.114583
5393	chic	40.0	27.90000	2001-10-06	7.200000	25.500000	10.6597222	20.093750
5394	chic	41.0	27.60000	2001-10-07	12.287500	24.000000	12.0995370	24.833333
5395	chic	52.0	37.90000	2001-10-08	10.700000	30.500000	18.0778986	23.024004

5396	chic	65.0	47.60000	2001-10-09	14.700000	52.000000	29.4004630	21.168561
5397	chic	60.0	56.60000	2001-10-10	14.928571	25.666667	17.1620370	19.048295
5398	chic	58.0	47.10000	2001-10-11	9.400000	36.000000	12.6797504	27.777462
5399	chic	56.0	52.30000	2001-10-12	9.500000	30.500000	9.5833333	24.593750
5400	chic	60.0	57.20000	2001-10-13	11.242857	26.500000	7.8726852	21.166667
5401	chic	53.0	43.30000	2001-10-14	5.800000	12.000000	13.9722222	13.583333
5402	chic	47.0	38.10000	2001-10-15	6.400000	32.500000	6.0454545	18.656250
5403	chic	45.0	35.10000	2001-10-16	6.314286	11.400000	7.9962121	20.002717
5404	chic	42.0	28.60000	2001-10-17	7.050000	41.000000	8.6316425	27.356061
5405	chic	51.0	34.70000	2001-10-18	7.800000	68.500000	13.3630051	27.496377
5406	chic	53.0	35.40000	2001-10-19	8.314286	39.500000	10.5034219	31.250000
5407	chic	56.0	39.30000	2001-10-20	10.100000	58.500000	13.1203704	33.656250
5408	chic	59.0	46.20000	2001-10-21	16.300000	44.500000	17.1180556	25.135417
5409	chic	56.0	53.30000	2001-10-22	21.571429	35.500000	10.4533743	29.072917
5410	chic	62.0	57.70000	2001-10-23	15.400000	44.000000	11.3331320	27.315341
5411	chic	52.0	50.30000	2001-10-24	7.700000	33.000000	10.4893461	19.776042
5412	chic	38.0	26.10000	2001-10-25	7.412500	34.000000	17.8463896	12.592580
5413	chic	39.0	25.50000	2001-10-26	6.500000	22.500000	14.1525765	19.062500
5414	chic	38.0	23.60000	2001-10-27	7.000000	26.000000	15.7492955	24.000000
5415	chic	43.0	28.00000	2001-10-28	10.625000	18.500000	13.2870370	23.035779
5416	chic	52.0	37.50000	2001-10-29	9.100000	39.500000	11.9907407	25.510417
5417	chic	50.0	43.90000	2001-10-30	18.550000	39.500000	3.8758783	23.833333
5418	chic	59.0	38.00000	2001-10-31	16.987500	92.500000	23.7340342	30.033144
5419	chic	62.0	50.40000	2001-11-01	15.100000	83.000000	25.5839372	25.227129
5420	chic	56.0	36.80000	2001-11-02	8.200000	38.500000	13.1250000	24.979167
5421	chic	51.0	33.60000	2001-11-03	14.214286	36.166667	8.9722222	34.864583
5422	chic	49.0	37.50000	2001-11-04	10.300000	35.000000	14.3789683	24.260417
5423	chic	43.0	31.00000	2001-11-05	19.900000	59.000000	4.3472222	41.340774
5424	chic	48.0	31.10000	2001-11-06	13.587500	75.500000	5.6328502	35.536458
5425	chic	56.0	43.30000	2001-11-07	23.500000	84.500000	6.9329710	41.519475
5426	chic	45.0	37.90000	2001-11-08	15.800000	42.000000	9.6250000	26.341033
5427	chic	40.0	29.80000	2001-11-09	14.700000	32.000000	5.6527778	27.833333
5428	chic	49.0	33.40000	2001-11-10	10.100000	40.000000	14.0555556	17.270833
5429	chic	43.0	32.50000	2001-11-11	6.000000	15.500000	19.4583333	19.718750
5430	chic	42.0	32.30000	2001-11-12	20.037500	44.500000	4.0555556	34.218750
5431	chic	52.0	33.40000	2001-11-13	15.900000	78.500000	7.9722222	32.030208
5432	chic	57.0	49.10000	2001-11-14	38.900000	95.000000	9.1781401	38.563156
5433	chic	61.0	53.50000	2001-11-15	39.512500	59.666667	11.1111111	31.740942
5434	chic	50.0	47.00000	2001-11-16	27.050000	46.500000	8.2590580	24.656250
5435	chic	52.0	47.40000	2001-11-17	33.400000	73.000000	2.8333333	29.630208
5436	chic	56.0	51.70000	2001-11-18	38.075000	62.000000	5.6527778	25.109375
5437	chic	46.0	33.90000	2001-11-19	10.700000	28.000000	11.5295894	23.160714
5438	chic	36.0	23.20000	2001-11-20	6.700000	29.000000	7.5000000	26.222222

5439	chic	44.0	29.70000	2001-11-21	11.500000	29.600000	4.7916667	26.172101
5440	chic	48.0	30.30000	2001-11-22	10.800000	35.500000	9.4861111	22.437198
5441	chic	52.0	39.90000	2001-11-23	15.300000	34.500000	12.3282828	26.820707
5442	chic	57.0	51.50000	2001-11-24	10.142857	27.000000	19.1733092	15.276721
5443	chic	46.0	38.50000	2001-11-25	4.400000	12.000000	9.0138889	11.062500
5444	chic	43.0	40.40000	2001-11-26	17.700000	35.500000	6.2693237	21.729167
5445	chic	44.0	37.60000	2001-11-27	13.837500	21.166667	4.9166667	18.802083
5446	chic	39.0	34.30000	2001-11-28	19.100000	23.500000	2.9747475	19.181159
5447	chic	42.0	40.10000	2001-11-29	5.000000	12.500000	2.9861111	17.338542
5448	chic	45.0	42.50000	2001-11-30	6.100000	13.000000	1.2361111	16.476799
5449	chic	36.0	32.80000	2001-12-01	19.000000	33.500000	7.4027778	18.447917
5450	chic	39.0	35.40000	2001-12-02	16.750000	29.000000	6.8611111	24.833333
5451	chic	49.0	42.90000	2001-12-03	20.137500	28.666667	5.6274155	32.226935
5452	chic	58.0	51.10000	2001-12-04	14.300000	58.000000	6.9565217	28.260417
5453	chic	56.0	50.10000	2001-12-05	19.600000	81.500000	22.8611111	21.177083
5454	chic	44.0	30.90000	2001-12-06	9.812500	33.000000	8.5555556	27.128788
5455	chic	41.0	34.10000	2001-12-07	12.900000	23.500000	11.1186869	24.479167
5456	chic	39.0	32.70000	2001-12-08	21.100000	31.500000	10.7361111	24.447917
5457	chic	31.0	21.90000	2001-12-09	19.812500	23.166667	5.6388889	26.375000
5458	chic	39.0	23.10000	2001-12-10	22.350000	51.000000	3.9027778	33.994792
5459	chic	36.0	26.90000	2001-12-11	29.100000	55.000000	3.0772947	38.493433
5460	chic	43.0	40.90000	2001-12-12	27.200000	51.500000	1.7222222	30.199811
5461	chic	39.0	36.60000	2001-12-13	15.000000	19.000000	2.9633838	22.322917
5462	chic	35.0	32.10000	2001-12-14	27.500000	36.500000	2.2850242	26.078125
5463	chic	35.0	34.60000	2001-12-15	22.542857	25.800000	4.2361111	27.770833
5464	chic	42.0	41.80000	2001-12-16	17.600000	20.000000	2.5694444	25.411458
5465	chic	40.0	38.50000	2001-12-17	14.800000	17.000000	3.0422705	21.468750
5466	chic	39.0	32.30000	2001-12-18	19.737500	50.500000	3.7427536	26.566690
5467	chic	36.0	25.60000	2001-12-19	10.700000	22.500000	8.6642512	24.385417
5468	chic	33.0	18.80000	2001-12-20	9.900000	30.000000	5.9722222	29.467597
5469	chic	31.0	20.00000	2001-12-21	18.187500	39.000000	3.5416667	36.513889
5470	chic	41.0	34.40000	2001-12-22	11.000000	24.000000	10.7312802	24.245169
5471	chic	27.0	18.00000	2001-12-23	9.800000	46.000000	17.1340580	10.125000
5472	chic	18.0	12.00000	2001-12-24	7.800000	34.000000	19.5138889	14.013889
5473	chic	17.0	8.30000	2001-12-25	10.200000	23.500000	15.2500000	15.805556
5474	chic	14.0	8.10000	2001-12-26	11.600000	41.500000	8.7727822	19.875000
5475	chic	23.0	17.10000	2001-12-27	15.312500	28.000000	11.9027778	18.819444
5476	chic	21.0	12.10000	2001-12-28	12.100000	37.000000	14.2777778	22.617754
5477	chic	14.0	4.10000	2001-12-29	8.200000	32.000000	17.5694444	18.145833
5478	chic	13.0	4.80000	2001-12-30	11.525000	27.500000	15.0694444	15.479167
5479	chic	14.0	3.70000	2001-12-31	17.400000	31.000000	11.1919192	22.047222
5480	chic	18.0	6.00000	2002-01-01	16.000000	51.500000	5.7083333	30.864583
5481	chic	21.0	11.90000	2002-01-02	25.785714	49.600000	3.6944444	41.875000

5482	chic	20.0	11.30000	2002-01-03	20.100000	50.000000	5.8478261	35.735054
5483	chic	28.0	17.50000	2002-01-04	16.000000	71.000000	8.4070048	24.011775
5484	chic	32.0	25.90000	2002-01-05	20.087500	40.000000	4.3055556	21.708333
5485	chic	29.0	22.60000	2002-01-06	13.300000	26.500000	11.3750000	19.520833
5486	chic	22.0	12.40000	2002-01-07	10.100000	24.000000	9.2336957	25.316423
5487	chic	31.0	22.00000	2002-01-08	14.762500	24.600000	6.0277778	23.031250
5488	chic	47.0	33.70000	2002-01-09	11.400000	29.500000	3.9722222	22.022110
5489	chic	39.0	30.90000	2002-01-10	13.150000	23.000000	5.7210145	27.218750
5490	chic	38.0	27.00000	2002-01-11	12.125000	19.500000	10.6250000	21.802083
5491	chic	35.0	24.70000	2002-01-12	10.400000	16.500000	10.3750000	20.770833
5492	chic	33.0	22.70000	2002-01-13	8.900000	19.500000	7.5416667	22.104167
5493	chic	35.0	30.80000	2002-01-14	16.800000	19.333333	3.6805556	21.555060
5494	chic	32.0	23.60000	2002-01-15	18.600000	17.000000	10.2771739	18.510417
5495	chic	29.0	23.50000	2002-01-16	15.450000	22.500000	5.0277778	24.536849
5496	chic	19.0	14.40000	2002-01-17	17.937500	21.500000	8.0820707	25.354167
5497	chic	16.0	6.50000	2002-01-18	16.100000	28.500000	6.8333333	30.156250
5498	chic	20.0	12.40000	2002-01-19	19.500000	30.000000	7.7361111	30.614583
5499	chic	29.0	22.80000	2002-01-20	20.712500	22.833333	13.4166667	17.979167
5500	chic	31.0	25.70000	2002-01-21	18.500000	24.500000	9.0416667	23.708333
5501	chic	44.0	24.70000	2002-01-22	11.700000	37.500000	10.3611111	27.333333
5502	chic	42.0	39.20000	2002-01-23	18.700000	38.500000	8.0585749	23.135417
5503	chic	36.0	24.20000	2002-01-24	11.800000	17.500000	15.2632850	21.161355
5504	chic	39.0	20.70000	2002-01-25	8.800000	30.000000	12.1014493	22.375000
5505	chic	44.0	25.60000	2002-01-26	9.475000	15.6666667	14.1666667	21.697917
5506	chic	49.0	30.30000	2002-01-27	7.000000	28.000000	19.9027778	18.260417
5507	chic	41.0	33.50000	2002-01-28	16.600000	32.000000	12.2572464	24.218750
5508	chic	34.0	29.60000	2002-01-29	9.585714	15.000000	16.0416667	19.041667
5509	chic	32.0	28.30000	2002-01-30	15.050000	11.500000	15.3520531	22.152627
5510	chic	32.0	NA	2002-01-31	8.650000	9.500000	12.0227273	21.270833
5511	chic	27.0	22.50000	2002-02-01	9.271429	12.000000	15.1899758	26.270833
5512	chic	21.0	17.70000	2002-02-02	19.200000	32.000000	11.5555556	29.895833
5513	chic	27.0	20.10000	2002-02-03	16.800000	22.000000	20.9818841	19.494112
5514	chic	18.0	5.80000	2002-02-04	9.757143	21.000000	14.8948413	27.699728
5515	chic	20.0	12.20000	2002-02-05	18.800000	38.500000	7.9583333	35.482639
5516	chic	29.0	19.20000	2002-02-06	25.000000	49.500000	4.2291667	36.649909
5517	chic	32.0	26.10000	2002-02-07	34.857143	41.166667	8.2119565	36.704545
5518	chic	36.0	28.30000	2002-02-08	34.850000	60.000000	5.8750000	32.805871
5519	chic	40.0	32.90000	2002-02-09	21.400000	30.500000	11.0833333	28.885417
5520	chic	37.0	29.30000	2002-02-10	10.014286	20.000000	19.4583333	17.906250
5521	chic	29.0	19.80000	2002-02-11	8.100000	28.000000	15.1250000	22.875000
5522	chic	35.0	22.00000	2002-02-12	6.050000	22.500000	20.2708333	17.250000
5523	chic	25.0	11.00000	2002-02-13	7.712500	17.250000	12.7581522	29.395780
5524	chic	38.0	21.70000	2002-02-14	8.200000	46.500000	15.5416667	23.304924

5525	chic	39.0	27.60000	2002-02-15	12.800000	33.500000	12.0573671	19.871212
5526	chic	37.0	24.50000	2002-02-16	6.585714	13.500000	17.7916667	18.291667
5527	chic	33.0	20.20000	2002-02-17	5.800000	11.000000	20.4583333	19.656250
5528	chic	38.0	22.90000	2002-02-18	10.500000	31.000000	12.6805556	24.750000
5529	chic	42.0	39.90000	2002-02-19	14.850000	20.400000	12.9305556	24.306914
5530	chic	44.0	42.80000	2002-02-20	11.400000	20.000000	9.6666667	16.145833
5531	chic	32.0	26.20000	2002-02-21	8.400000	12.500000	13.9374177	21.559783
5532	chic	30.0	18.40000	2002-02-22	8.471429	15.000000	16.0694444	27.664855
5533	chic	36.0	24.80000	2002-02-23	10.500000	25.000000	13.8472222	24.166667
5534	chic	50.0	31.60000	2002-02-24	11.600000	30.500000	20.4722222	16.645833
5535	chic	42.0	30.90000	2002-02-25	9.828571	18.333333	20.7777778	17.117918
5536	chic	26.0	19.60000	2002-02-26	8.400000	26.500000	17.8333333	20.239583
5537	chic	21.0	10.80000	2002-02-27	9.200000	26.000000	18.3152174	23.668616
5538	chic	23.0	14.00000	2002-02-28	14.987500	43.500000	11.6666667	26.348485
5539	chic	26.0	17.20000	2002-03-01	17.800000	27.500000	16.3194444	28.906250
5540	chic	28.0	27.90000	2002-03-02	15.900000	19.000000	12.9166667	32.166667
5541	chic	11.0	3.30000	2002-03-03	7.200000	15.500000	30.1250000	14.885417
5542	chic	6.0	-0.60000	2002-03-04	12.800000	29.000000	18.9510870	25.361607
5543	chic	23.0	17.90000	2002-03-05	22.700000	29.000000	8.8007246	36.723485
5544	chic	35.0	28.10000	2002-03-06	21.942857	20.000000	16.1388889	30.010417
5545	chic	36.0	30.60000	2002-03-07	33.700000	41.000000	16.1962560	25.213768
5546	chic	51.0	46.50000	2002-03-08	13.600000	12.000000	18.9722222	23.166667
5547	chic	42.0	30.90000	2002-03-09	9.457143	23.500000	28.8750000	8.302083
5548	chic	21.0	7.20000	2002-03-10	7.550000	20.500000	27.5507246	12.041667
5549	chic	33.0	21.00000	2002-03-11	13.350000	33.000000	11.1690821	30.697917
5550	chic	40.0	31.30000	2002-03-12	25.325000	53.000000	6.7904589	31.125000
5551	chic	48.0	37.60000	2002-03-13	24.100000	48.000000	13.5138889	30.844656
5552	chic	50.0	41.00000	2002-03-14	27.000000	34.000000	18.8224638	22.166667
5553	chic	47.0	31.50000	2002-03-15	11.114286	19.400000	20.9305556	15.125000
5554	chic	37.0	26.30000	2002-03-16	5.500000	10.500000	36.3055556	11.302083
5555	chic	38.0	30.40000	2002-03-17	16.100000	23.500000	18.4444444	20.812500
5556	chic	42.0	32.00000	2002-03-18	20.925000	23.500000	15.9263285	25.412202
5557	chic	42.0	35.50000	2002-03-19	30.450000	41.000000	9.1111111	28.593750
5558	chic	40.0	34.00000	2002-03-20	16.800000	20.500000	19.8888889	27.083333
5559	chic	28.0	12.90000	2002-03-21	10.928571	20.166667	22.8750000	16.403986
5560	chic	26.0	8.10000	2002-03-22	10.700000	34.500000	24.1805556	14.734848
5561	chic	39.0	15.80000	2002-03-23	12.100000	39.000000	26.7500000	17.927083
5562	chic	34.0	22.90000	2002-03-24	7.537500	19.000000	35.0972222	11.412138
5563	chic	28.0	19.10000	2002-03-25	7.100000	19.000000	26.3333333	11.368506
5564	chic	32.0	23.70000	2002-03-26	12.250000	16.000000	22.0694444	19.677083
5565	chic	36.0	22.10000	2002-03-27	20.562500	31.166667	14.3888889	33.911504
5566	chic	40.0	32.60000	2002-03-28	31.500000	52.500000	10.3387681	30.593750
5567	chic	41.0	39.30000	2002-03-29	20.500000	31.500000	9.4166667	34.385417

5568	chic	43.0	29.20000	2002-03-30	8.225000	12.000000	20.3611111	20.177083
5569	chic	38.0	27.30000	2002-03-31	10.600000	17.000000	19.5138889	22.156250
5570	chic	34.0	27.10000	2002-04-01	13.300000	25.000000	14.0338542	28.233696
5571	chic	39.0	34.50000	2002-04-02	19.125000	24.500000	16.2943841	25.730655
5572	chic	35.0	28.10000	2002-04-03	9.700000	15.000000	21.0313118	23.128788
5573	chic	31.0	25.00000	2002-04-04	9.000000	15.000000	23.0562726	22.816123
5574	chic	33.0	24.80000	2002-04-05	18.642857	28.000000	18.1805933	29.197917
5575	chic	34.0	22.80000	2002-04-06	15.900000	25.000000	23.8671875	30.322917
5576	chic	42.0	34.50000	2002-04-07	15.600000	24.000000	22.9348958	21.208333
5577	chic	49.0	48.30000	2002-04-08	23.475000	27.500000	18.5677083	37.102273
5578	chic	43.0	38.80000	2002-04-09	9.800000	18.000000	18.8643569	26.760417
5579	chic	49.0	35.60000	2002-04-10	15.250000	31.000000	21.5643024	29.705492
5580	chic	63.0	41.30000	2002-04-11	11.425000	45.000000	30.1260064	26.417874
5581	chic	57.0	51.40000	2002-04-12	13.700000	36.000000	19.7606500	22.291667
5582	chic	52.0	45.50000	2002-04-13	16.000000	24.000000	19.8472222	30.444444
5583	chic	59.0	50.30000	2002-04-14	17.914286	26.166667	29.4074074	20.250000
5584	chic	75.0	59.00000	2002-04-15	14.100000	62.000000	35.0972222	19.943496
5585	chic	78.0	60.80000	2002-04-16	14.400000	41.000000	36.1854011	17.125000
5586	chic	75.0	58.10000	2002-04-17	13.462500	47.000000	28.6344422	24.339976
5587	chic	76.0	61.10000	2002-04-18	13.700000	67.000000	29.6387791	21.868961
5588	chic	56.0	46.80000	2002-04-19	5.700000	22.000000	30.3912037	17.583333
5589	chic	45.0	29.60000	2002-04-20	4.142857	6.800000	41.0092593	7.802083
5590	chic	41.0	38.30000	2002-04-21	5.700000	9.000000	30.2476852	10.197917
5591	chic	40.0	33.50000	2002-04-22	6.800000	8.000000	25.5663245	22.460417
5592	chic	46.0	36.90000	2002-04-23	17.400000	22.000000	20.1294375	32.925595
5593	chic	58.0	44.50000	2002-04-24	11.500000	19.000000	26.6563003	21.848020
5594	chic	46.0	26.50000	2002-04-25	7.800000	NA	24.8418881	17.044643
5595	chic	45.0	25.70000	2002-04-26	9.900000	30.250000	23.9322665	26.260417
5596	chic	48.0	37.40000	2002-04-27	12.600000	34.000000	24.6574074	20.604167
5597	chic	50.0	41.40000	2002-04-28	6.600000	14.000000	27.8101852	12.317708
5598	chic	51.0	37.80000	2002-04-29	10.928571	38.000000	25.1340488	25.634848
5599	chic	54.0	33.80000	2002-04-30	8.500000	29.000000	20.5936997	29.241667
5600	chic	53.0	35.30000	2002-05-01	9.300000	35.000000	22.4957912	28.692391
5601	chic	49.0	35.30000	2002-05-02	8.512500	13.833333	31.2284805	18.099123
5602	chic	46.0	27.00000	2002-05-03	4.300000	15.000000	20.9058977	22.737500
5603	chic	52.0	34.60000	2002-05-04	9.500000	18.000000	27.7800926	27.212500
5604	chic	59.0	44.60000	2002-05-05	10.325000	16.000000	33.7847222	18.233333
5605	chic	68.0	59.80000	2002-05-06	11.000000	17.000000	26.4014694	24.650000
5606	chic	56.0	44.90000	2002-05-07	6.400000	7.000000	27.5550615	13.945833
5607	chic	55.0	54.20000	2002-05-08	16.225000	23.800000	14.6794485	19.905303
5608	chic	58.0	41.80000	2002-05-09	7.350000	28.000000	25.6113124	14.004167
5609	chic	56.0	28.10000	2002-05-10	9.300000	37.000000	31.4188808	23.250000
5610	chic	51.0	39.20000	2002-05-11	14.550000	29.500000	32.8463542	21.054167

5611	chic	48.0	46.80000	2002-05-12	10.700000	17.000000	24.0208333	20.083333
5612	chic	50.0	40.60000	2002-05-13	9.300000	16.000000	27.6348723	22.710714
5613	chic	54.0	42.20000	2002-05-14	12.312500	19.166667	22.1915258	29.937500
5614	chic	58.0	48.20000	2002-05-15	12.700000	59.000000	33.6334267	24.978409
5615	chic	55.0	50.20000	2002-05-16	8.000000	21.000000	22.4490741	21.418939
5616	chic	41.0	32.70000	2002-05-17	2.912500	6.000000	26.4095066	13.204167
5617	chic	44.0	32.50000	2002-05-18	5.750000	15.000000	25.5231481	18.345833
5618	chic	46.0	35.60000	2002-05-19	10.150000	14.500000	28.1388889	17.966667
5619	chic	41.0	30.10000	2002-05-20	3.485714	7.666667	31.2750421	12.900595
5620	chic	45.0	29.80000	2002-05-21	6.400000	16.000000	20.9094203	27.704167
5621	chic	55.0	37.60000	2002-05-22	14.250000	27.000000	28.3486312	23.074420
5622	chic	65.0	52.40000	2002-05-23	18.987500	56.500000	33.7650966	24.296429
5623	chic	54.0	39.10000	2002-05-24	6.700000	7.000000	24.0637077	14.116667
5624	chic	49.0	46.00000	2002-05-25	11.300000	13.500000	16.3726852	17.912500
5625	chic	55.0	45.40000	2002-05-26	9.775000	17.000000	25.3240741	20.250000
5626	chic	64.0	51.00000	2002-05-27	13.900000	21.500000	37.9953704	20.091667
5627	chic	69.0	57.60000	2002-05-28	27.200000	42.000000	26.1726596	34.948106
5628	chic	73.0	62.00000	2002-05-29	13.925000	49.000000	24.1001409	25.600000
5629	chic	75.0	63.70000	2002-05-30	19.100000	56.000000	30.4930556	25.479745
5630	chic	77.0	56.40000	2002-05-31	10.700000	59.500000	31.5879630	27.033333
5631	chic	76.0	53.10000	2002-06-01	9.875000	39.166667	40.5763889	24.525000
5632	chic	62.0	45.60000	2002-06-02	9.700000	22.000000	33.9745370	17.161905
5633	chic	62.0	56.00000	2002-06-03	18.100000	36.500000	21.8163837	22.636957
5634	chic	65.0	64.10000	2002-06-04	20.562500	35.000000	8.3394360	38.027899
5635	chic	56.0	53.90000	2002-06-05	10.850000	11.000000	14.3436997	18.302717
5636	chic	58.0	51.80000	2002-06-06	11.550000	16.000000	25.1726413	21.294048
5637	chic	64.0	53.10000	2002-06-07	17.175000	29.000000	22.8748994	32.045833
5638	chic	71.0	58.60000	2002-06-08	25.000000	45.000000	43.9537037	27.266667
5639	chic	72.0	59.60000	2002-06-09	30.050000	54.000000	51.7199074	23.587500
5640	chic	80.0	70.60000	2002-06-10	18.637500	48.000000	28.4845008	22.541667
5641	chic	76.0	69.50000	2002-06-11	9.600000	21.000000	22.6320451	18.168506
5642	chic	64.0	60.10000	2002-06-12	9.800000	17.000000	15.8882576	15.563745
5643	chic	60.0	57.20000	2002-06-13	10.437500	20.833333	13.1978663	17.770833
5644	chic	61.0	55.70000	2002-06-14	7.100000	15.500000	15.7533853	24.066667
5645	chic	67.0	54.10000	2002-06-15	7.600000	13.000000	26.5277778	16.358333
5646	chic	66.0	48.40000	2002-06-16	6.485714	12.500000	24.9296875	17.316667
5647	chic	67.0	53.50000	2002-06-17	12.400000	27.500000	18.0872962	32.582971
5648	chic	70.0	55.70000	2002-06-18	15.500000	42.000000	38.2849327	26.000181
5649	chic	75.0	60.60000	2002-06-19	24.962500	47.666667	45.0124547	29.975000
5650	chic	82.0	67.40000	2002-06-20	33.000000	80.500000	47.4267311	30.767029
5651	chic	80.0	69.00000	2002-06-21	31.300000	67.500000	37.3514291	38.541667
5652	chic	80.0	65.40000	2002-06-22	35.400000	75.500000	46.6250000	35.158333
5653	chic	82.0	63.50000	2002-06-23	42.500000	65.000000	54.8804348	30.039130

5654	chic	78.0	63.90000	2002-06-24	34.200000	88.000000	54.4484127	37.985145
5655	chic	81.0	70.30000	2002-06-25	23.987500	39.833333	19.8884680	33.735985
5656	chic	79.0	66.40000	2002-06-26	9.900000	26.500000	34.3665459	20.915422
5657	chic	74.0	64.30000	2002-06-27	8.200000	18.000000	23.5150966	16.556522
5658	chic	74.0	60.30000	2002-06-28	13.662500	29.000000	17.3104871	25.416667
5659	chic	74.0	63.60000	2002-06-29	21.800000	37.000000	30.5509259	27.616667
5660	chic	81.0	73.10000	2002-06-30	20.950000	38.500000	39.4557292	18.516667
5661	chic	84.0	70.60000	2002-07-01	20.042857	65.000000	23.1740137	19.308333
5662	chic	84.0	65.80000	2002-07-02	21.600000	69.500000	22.7783816	20.235507
5663	chic	84.0	70.00000	2002-07-03	28.700000	95.000000	36.3783967	31.369163
5664	chic	80.0	68.30000	2002-07-04	16.637500	35.500000	33.3776042	14.675000
5665	chic	75.0	60.70000	2002-07-05	6.700000	16.500000	30.5648148	10.800000
5666	chic	75.0	61.00000	2002-07-06	17.100000	24.500000	36.3194444	23.908333
5667	chic	77.0	64.60000	2002-07-07	25.412500	44.600000	51.1435185	27.779167
5668	chic	81.0	70.40000	2002-07-08	33.100000	64.000000	45.3496926	27.678571
5669	chic	74.0	70.20000	2002-07-09	12.300000	32.000000	31.5613929	16.886594
5670	chic	74.0	60.10000	2002-07-10	9.942857	19.000000	31.3040459	10.902355
5671	chic	69.0	52.90000	2002-07-11	7.300000	17.000000	32.1349638	12.659091
5672	chic	68.0	53.50000	2002-07-12	10.900000	24.500000	38.7951540	19.794565
5673	chic	70.0	53.40000	2002-07-13	12.271429	23.800000	44.4687500	21.508333
5674	chic	72.0	53.00000	2002-07-14	17.100000	27.500000	45.1197917	30.616667
5675	chic	76.0	60.40000	2002-07-15	26.300000	51.000000	42.8390313	44.934524
5676	chic	79.0	62.70000	2002-07-16	25.528571	63.000000	42.0976248	36.008333
5677	chic	78.0	66.30000	2002-07-17	40.900000	91.500000	40.2255435	40.655698
5678	chic	82.0	66.20000	2002-07-18	38.850000	72.500000	44.9804549	26.069048
5679	chic	74.0	65.10000	2002-07-19	20.375000	34.833333	27.3751006	18.212500
5680	chic	76.0	66.70000	2002-07-20	21.900000	39.000000	39.7106481	18.587500
5681	chic	87.0	74.90000	2002-07-21	21.000000	35.000000	42.1782407	15.108333
5682	chic	83.0	70.30000	2002-07-22	15.587500	44.000000	33.6712963	22.933333
5683	chic	70.0	57.40000	2002-07-23	3.000000	7.500000	27.9461554	11.184964
5684	chic	71.0	52.60000	2002-07-24	5.700000	18.500000	34.0045290	16.287121
5685	chic	73.0	64.80000	2002-07-25	18.800000	30.200000	27.4955717	30.750000
5686	chic	79.0	71.70000	2002-07-26	32.400000	51.500000	36.8382649	28.791667
5687	chic	80.0	73.80000	2002-07-27	17.400000	28.000000	28.9166667	21.358333
5688	chic	81.0	74.60000	2002-07-28	16.057143	23.500000	28.4930556	17.158333
5689	chic	77.0	71.40000	2002-07-29	12.300000	24.500000	20.6176347	21.608333
5690	chic	80.0	68.90000	2002-07-30	13.500000	27.500000	33.5359300	33.966238
5691	chic	82.0	68.10000	2002-07-31	17.987500	30.833333	34.3534622	34.478220
5692	chic	85.0	74.00000	2002-08-01	21.300000	56.500000	39.9837963	26.822917
5693	chic	72.0	62.20000	2002-08-02	6.000000	11.500000	31.2453704	17.518386
5694	chic	75.0	66.90000	2002-08-03	16.412500	38.500000	40.9305556	23.583333
5695	chic	82.0	72.10000	2002-08-04	22.900000	47.500000	43.5416667	18.641667
5696	chic	77.0	68.40000	2002-08-05	12.300000	17.000000	35.7106481	17.929167

5697	chic	69.0	56.60000	2002-08-06	3.637500	11.000000	23.5653363	9.554167
5698	chic	67.0	54.90000	2002-08-07	6.200000	12.000000	25.4704106	14.487500
5699	chic	69.0	58.10000	2002-08-08	8.900000	20.500000	29.1932916	19.005736
5700	chic	70.0	58.40000	2002-08-09	16.537500	33.500000	39.4067824	27.920000
5701	chic	74.0	62.60000	2002-08-10	27.850000	41.500000	47.8935185	29.908333
5702	chic	80.0	67.40000	2002-08-11	30.800000	46.000000	51.0833333	20.691667
5703	chic	79.0	68.60000	2002-08-12	23.050000	40.000000	41.8330680	19.642857
5704	chic	76.0	70.00000	2002-08-13	12.700000	29.500000	29.8009259	19.897134
5705	chic	70.0	63.80000	2002-08-14	9.400000	24.500000	15.8346417	19.519264
5706	chic	74.0	68.00000	2002-08-15	13.912500	39.500000	25.5449605	19.225379
5707	chic	75.0	69.00000	2002-08-16	12.000000	24.000000	14.0427632	22.983333
5708	chic	76.0	69.30000	2002-08-17	12.900000	32.000000	23.5138889	12.491667
5709	chic	66.0	53.40000	2002-08-18	7.700000	19.166667	24.5069444	17.883333
5710	chic	66.0	61.30000	2002-08-19	9.200000	12.000000	19.3902778	19.079167
5711	chic	66.0	58.00000	2002-08-20	10.400000	22.500000	19.7077295	25.419565
5712	chic	75.0	70.00000	2002-08-21	23.075000	41.000000	31.3570670	21.029167
5713	chic	74.0	69.90000	2002-08-22	10.700000	16.000000	25.5067432	26.300000
5714	chic	73.0	70.20000	2002-08-23	18.350000	18.000000	20.3838567	22.961730
5715	chic	74.0	67.80000	2002-08-24	16.687500	27.833333	21.3865741	22.867301
5716	chic	74.0	67.70000	2002-08-25	17.100000	22.500000	28.1782407	21.572917
5717	chic	74.0	65.60000	2002-08-26	11.400000	17.000000	25.0231481	15.755208
5718	chic	74.0	68.00000	2002-08-27	14.112500	23.000000	32.8172303	16.119792
5719	chic	72.0	64.70000	2002-08-28	10.800000	20.000000	27.6018519	13.652273
5720	chic	70.0	62.70000	2002-08-29	13.600000	24.000000	38.2792874	19.507246
5721	chic	73.0	63.30000	2002-08-30	20.528571	35.400000	42.2069243	22.629167
5722	chic	73.0	63.50000	2002-08-31	24.300000	36.000000	45.9976852	21.391667
5723	chic	74.0	66.20000	2002-09-01	31.400000	45.000000	37.7870370	24.566667
5724	chic	74.0	68.80000	2002-09-02	22.171429	46.500000	43.8009259	14.370833
5725	chic	72.0	57.30000	2002-09-03	8.900000	17.500000	25.3721820	20.189394
5726	chic	72.0	57.00000	2002-09-04	8.600000	34.500000	21.1584138	27.596196
5727	chic	72.0	60.50000	2002-09-05	7.900000	24.000000	25.2396062	18.859601
5728	chic	71.0	61.00000	2002-09-06	21.000000	33.000000	31.6829710	37.279167
5729	chic	74.0	61.80000	2002-09-07	31.950000	59.500000	38.8203704	40.058333
5730	chic	76.0	66.00000	2002-09-08	44.042857	65.000000	42.8842593	39.625000
5731	chic	78.0	69.50000	2002-09-09	39.400000	70.500000	29.0620974	45.258333
5732	chic	76.0	64.90000	2002-09-10	25.400000	75.500000	27.1868961	29.116667
5733	chic	64.0	50.80000	2002-09-11	7.157143	15.500000	22.8497383	19.510417
5734	chic	64.0	52.60000	2002-09-12	13.550000	47.000000	16.9884900	34.601490
5735	chic	64.0	55.00000	2002-09-13	15.800000	51.000000	25.6544686	38.203804
5736	chic	68.0	57.30000	2002-09-14	23.814286	41.000000	37.4768519	32.927083
5737	chic	63.0	56.40000	2002-09-15	5.950000	9.000000	26.9467593	11.072917
5738	chic	62.0	51.90000	2002-09-16	9.200000	34.000000	14.7258454	32.937500
5739	chic	65.0	56.20000	2002-09-17	20.562500	41.333333	24.5718142	39.238095

5740	chic	71.0	66.10000	2002-09-18	21.300000	31.000000	25.0585017	28.683053
5741	chic	76.0	71.50000	2002-09-19	12.450000	42.000000	14.3146410	20.989583
5742	chic	67.0	66.60000	2002-09-20	5.714286	40.000000	9.6382850	17.916667
5743	chic	69.0	56.70000	2002-09-21	8.600000	18.000000	24.0755208	19.031250
5744	chic	56.0	45.20000	2002-09-22	5.250000	12.500000	17.8177083	18.916667
5745	chic	54.0	41.60000	2002-09-23	7.600000	21.000000	17.3287879	26.805060
5746	chic	52.0	41.50000	2002-09-24	5.250000	15.000000	18.2843196	22.677083
5747	chic	59.0	47.60000	2002-09-25	10.450000	37.000000	18.4154772	27.525856
5748	chic	62.0	53.80000	2002-09-26	29.914286	53.000000	21.4684103	36.554924
5749	chic	60.0	55.20000	2002-09-27	13.500000	21.500000	27.1701766	20.881250
5750	chic	62.0	57.00000	2002-09-28	29.400000	38.000000	28.3880208	21.833333
5751	chic	72.0	63.70000	2002-09-29	26.957143	40.333333	36.2760417	16.843750
5752	chic	77.0	56.90000	2002-09-30	19.500000	56.500000	36.5648292	22.575893
5753	chic	75.0	64.80000	2002-10-01	23.700000	45.000000	25.5442708	31.870265
5754	chic	66.0	62.70000	2002-10-02	15.212500	23.000000	16.9766757	23.604167
5755	chic	61.0	58.50000	2002-10-03	13.300000	23.500000	14.3696784	17.208333
5756	chic	63.0	59.30000	2002-10-04	11.900000	19.000000	15.1571558	17.416667
5757	chic	55.0	44.20000	2002-10-05	8.162500	17.666667	13.2708333	20.364583
5758	chic	58.0	45.70000	2002-10-06	7.500000	14.000000	23.1484375	15.562500
5759	chic	48.0	33.40000	2002-10-07	7.100000	14.500000	13.9973958	24.884770
5760	chic	56.0	37.40000	2002-10-08	9.375000	35.500000	9.5892857	30.895833
5761	chic	57.0	48.50000	2002-10-09	15.600000	44.500000	9.5737401	31.078598
5762	chic	62.0	51.10000	2002-10-10	22.400000	51.500000	10.5729167	33.760417
5763	chic	61.0	50.60000	2002-10-11	30.485714	54.833333	10.7070879	34.666667
5764	chic	61.0	54.10000	2002-10-12	25.700000	28.500000	14.2187500	21.472222
5765	chic	42.0	27.50000	2002-10-13	5.200000	9.500000	15.5598958	17.416667
5766	chic	44.0	27.10000	2002-10-14	10.114286	27.500000	10.1692708	29.166667
5767	chic	50.0	33.50000	2002-10-15	11.600000	30.000000	11.1271513	29.270202
5768	chic	42.0	30.90000	2002-10-16	8.600000	12.500000	14.8320879	26.602092
5769	chic	41.0	35.80000	2002-10-17	11.700000	20.500000	6.2156929	28.222222
5770	chic	49.0	42.00000	2002-10-18	15.200000	42.000000	7.1250000	25.638889
5771	chic	42.0	32.40000	2002-10-19	7.600000	10.000000	14.8229167	19.902778
5772	chic	41.0	31.20000	2002-10-20	16.280000	19.000000	11.8776042	24.736111
5773	chic	45.0	35.30000	2002-10-21	18.150000	42.000000	11.3255208	32.502525
5774	chic	44.0	34.80000	2002-10-22	14.400000	21.000000	8.6073370	23.838164
5775	chic	43.0	37.80000	2002-10-23	8.012500	14.333333	12.7129917	20.195652
5776	chic	44.0	38.30000	2002-10-24	7.500000	11.000000	11.5936853	21.319444
5777	chic	45.0	43.20000	2002-10-25	19.900000	29.000000	5.3697917	21.634964
5778	chic	43.0	39.80000	2002-10-26	15.862500	14.500000	4.1953125	20.114583
5779	chic	42.0	31.00000	2002-10-27	9.300000	9.000000	14.0076122	16.802083
5780	chic	44.0	36.30000	2002-10-28	8.800000	11.000000	18.0496894	16.812500
5781	chic	44.0	34.50000	2002-10-29	7.875000	12.333333	18.1488095	16.257440
5782	chic	45.0	35.00000	2002-10-30	7.433333	9.000000	20.1616848	20.138134

5783	chic	40.0	32.10000	2002-10-31	15.900000	16.000000	8.9827899	26.125000
5784	chic	33.0	19.90000	2002-11-01	11.475000	18.500000	11.7893939	21.934783
5785	chic	38.0	22.60000	2002-11-02	10.800000	21.000000	11.0416667	21.822917
5786	chic	36.0	27.90000	2002-11-03	19.200000	20.000000	6.9083333	22.687500
5787	chic	39.0	30.00000	2002-11-04	25.485714	36.666667	6.9447826	28.349702
5788	chic	38.0	35.40000	2002-11-05	26.900000	29.500000	2.3854167	28.740036
5789	chic	40.0	33.70000	2002-11-06	26.600000	27.000000	8.3451087	23.375000
5790	chic	44.0	35.60000	2002-11-07	19.614286	51.500000	11.0317029	26.480461
5791	chic	56.0	36.70000	2002-11-08	7.500000	39.000000	22.3645833	21.979167
5792	chic	58.0	52.70000	2002-11-09	15.300000	37.000000	23.3333333	14.083333
5793	chic	51.0	53.10000	2002-11-10	18.062500	26.500000	14.7291667	12.468750
5794	chic	39.0	34.50000	2002-11-11	10.800000	24.000000	4.1770833	16.593750
5795	chic	40.0	30.50000	2002-11-12	17.150000	21.000000	6.0406785	22.958333
5796	chic	46.0	34.20000	2002-11-13	15.500000	36.500000	6.7798913	23.461310
5797	chic	47.0	37.90000	2002-11-14	9.200000	17.500000	12.1979167	21.439764
5798	chic	38.0	28.60000	2002-11-15	4.650000	4.000000	29.1041667	14.250000
5799	chic	34.0	25.80000	2002-11-16	4.100000	7.166667	27.3645833	14.447917
5800	chic	32.0	25.80000	2002-11-17	10.900000	11.500000	14.6354167	25.072917
5801	chic	35.0	30.40000	2002-11-18	27.650000	36.500000	2.8840580	33.195076
5802	chic	44.0	33.50000	2002-11-19	17.885714	22.000000	5.4954710	24.177083
5803	chic	44.0	34.00000	2002-11-20	13.800000	32.500000	3.3020833	30.406250
5804	chic	39.0	32.80000	2002-11-21	13.200000	28.500000	11.1050725	24.449275
5805	chic	31.0	24.90000	2002-11-22	8.487500	15.500000	12.4583333	28.350543
5806	chic	39.0	28.50000	2002-11-23	14.600000	22.000000	8.0833333	25.093750
5807	chic	32.0	24.40000	2002-11-24	7.100000	10.500000	10.6979167	19.364583
5808	chic	26.0	18.10000	2002-11-25	9.585714	19.500000	6.8645833	29.489583
5809	chic	25.0	21.60000	2002-11-26	22.350000	25.500000	2.7930254	37.534226
5810	chic	22.0	16.80000	2002-11-27	21.400000	23.000000	6.0040761	35.473214
5811	chic	24.0	20.20000	2002-11-28	24.814286	32.500000	7.9479167	23.614583
5812	chic	40.0	29.40000	2002-11-29	6.200000	17.000000	12.4479167	15.114583
5813	chic	29.0	15.30000	2002-11-30	4.700000	15.000000	22.6458333	11.906250
5814	chic	25.0	9.80000	2002-12-01	6.550000	18.000000	14.9583333	17.291667
5815	chic	29.0	22.20000	2002-12-02	7.800000	14.500000	13.8854167	26.875947
5816	chic	19.0	14.60000	2002-12-03	11.400000	24.000000	11.8786232	36.635417
5817	chic	19.0	12.80000	2002-12-04	18.462500	35.666667	5.1250000	44.468297
5818	chic	20.0	12.60000	2002-12-05	20.000000	24.000000	9.3229167	30.135417
5819	chic	21.0	13.60000	2002-12-06	19.800000	41.000000	5.5018939	25.827899
5820	chic	35.0	25.80000	2002-12-07	20.528571	25.500000	7.3958333	21.479167
5821	chic	22.0	10.90000	2002-12-08	8.800000	18.500000	14.1250000	24.552083
5822	chic	20.0	10.30000	2002-12-09	19.900000	51.000000	6.1512681	40.920002
5823	chic	34.0	18.80000	2002-12-10	20.800000	43.500000	3.8750000	38.218750
5824	chic	32.0	17.40000	2002-12-11	27.300000	75.000000	3.2432065	47.760417
5825	chic	34.0	30.00000	2002-12-12	28.650000	30.000000	2.0964674	28.335038

5826	chic	36.0	33.30000	2002-12-13	37.937500	35.000000	3.4207428	26.013393
5827	chic	35.0	30.10000	2002-12-14	30.400000	34.500000	6.2187500	20.145833
5828	chic	38.0	30.00000	2002-12-15	13.800000	19.500000	12.2395833	16.458333
5829	chic	32.0	22.30000	2002-12-16	6.314286	14.000000	23.2187500	16.713315
5830	chic	34.0	27.10000	2002-12-17	16.600000	27.500000	8.8532609	22.354167
5831	chic	46.0	47.50000	2002-12-18	15.100000	23.000000	11.8161232	22.385417
5832	chic	45.0	36.10000	2002-12-19	13.687500	17.000000	7.0144928	15.375000
5833	chic	32.0	26.00000	2002-12-20	6.800000	12.000000	11.0312500	12.614583
5834	chic	31.0	24.10000	2002-12-21	8.500000	13.000000	14.7187500	14.343750
5835	chic	28.0	20.40000	2002-12-22	9.057143	15.000000	15.1145833	11.552083
5836	chic	28.0	16.60000	2002-12-23	9.700000	13.500000	12.6770833	17.906250
5837	chic	26.0	21.10000	2002-12-24	13.700000	15.000000	11.3541667	25.531250
5838	chic	26.0	22.40000	2002-12-25	7.675000	10.000000	18.2916667	12.510417
5839	chic	24.0	18.50000	2002-12-26	18.700000	21.500000	9.1666667	19.743371
5840	chic	26.0	22.70000	2002-12-27	25.900000	32.500000	4.8111413	28.260417
5841	chic	31.0	28.20000	2002-12-28	33.342857	36.666667	5.1250000	25.718750
5842	chic	31.0	29.30000	2002-12-29	42.300000	39.000000	6.6354167	25.750000
5843	chic	49.0	43.50000	2002-12-30	16.300000	23.000000	10.4166667	19.907197
5844	chic	35.0	20.70000	2002-12-31	11.575000	15.000000	10.2395833	24.395833
5845	chic	30.0	22.50000	2003-01-01	4.200000	7.000000	26.3020833	10.916667
5846	chic	30.0	25.00000	2003-01-02	9.400000	7.500000	22.6743659	19.367424
5847	chic	27.0	20.90000	2003-01-03	12.657143	21.800000	10.0579710	32.669192
5848	chic	25.0	21.60000	2003-01-04	25.400000	25.500000	5.7500000	33.611111
5849	chic	31.0	30.20000	2003-01-05	32.900000	24.500000	2.5000000	26.027778
5850	chic	30.0	21.50000	2003-01-06	11.042857	15.000000	13.6875000	27.599206
5851	chic	37.0	27.70000	2003-01-07	16.300000	21.500000	8.6354167	18.958333
5852	chic	46.0	30.60000	2003-01-08	11.400000	21.500000	9.1229167	20.402778
5853	chic	37.0	23.80000	2003-01-09	6.657143	14.800000	17.5851449	20.958333
5854	chic	21.0	9.10000	2003-01-10	9.600000	18.000000	20.0394022	19.430556
5855	chic	14.0	2.30000	2003-01-11	6.200000	13.000000	20.3229167	15.875000
5856	chic	21.0	8.10000	2003-01-12	8.957143	20.500000	14.3958333	22.638889
5857	chic	24.0	5.70000	2003-01-13	11.700000	18.500000	17.4184783	24.160714
5858	chic	14.0	5.80000	2003-01-14	NA	22.000000	14.6666667	24.472222
5859	chic	13.0	1.30000	2003-01-15	15.600000	29.800000	11.5937500	31.722222
5860	chic	22.0	4.60000	2003-01-16	NA	37.000000	9.3020833	38.550000
5861	chic	17.0	1.90000	2003-01-17	10.200000	29.000000	17.8093297	29.425505
5862	chic	15.0	6.60000	2003-01-18	15.650000	22.000000	16.8854167	22.791667
5863	chic	16.0	8.90000	2003-01-19	11.700000	27.000000	16.1250000	21.166667
5864	chic	17.0	-0.70000	2003-01-20	10.900000	42.500000	20.2500000	25.722222
5865	chic	12.0	-5.20000	2003-01-21	11.785714	29.600000	17.4796196	27.956349
5866	chic	9.0	-5.30000	2003-01-22	12.500000	20.000000	18.8607955	23.402778
5867	chic	4.0	-9.30000	2003-01-23	11.100000	22.000000	18.7291667	24.932971
5868	chic	9.0	-4.00000	2003-01-24	16.887500	31.000000	10.3745471	29.252193

5869	chic	25.0	11.50000	2003-01-25		NA	30.000000	13.2708333	21.736111
5870	chic	10.0	-2.50000	2003-01-26	9.000000	32.000000	24.5833333	20.180556	
5871	chic	7.0	0.10000	2003-01-27	19.242857	37.250000	9.7056159	40.458333	
5872	chic	26.0	20.50000	2003-01-28	29.400000	53.000000	4.6109601	36.902778	
5873	chic	21.0	17.10000	2003-01-29	19.800000	19.000000	11.4904891	33.513889	
5874	chic	25.0	20.30000	2003-01-30	22.800000	30.000000	8.2291667	35.247475	
5875	chic	34.0	30.40000	2003-01-31	24.500000	40.000000	3.4479167	26.958333	
5876	chic	33.0	29.50000	2003-02-01	30.300000	29.000000	6.6770833	22.605556	
5877	chic	37.0	33.90000	2003-02-02	35.228571	44.750000	6.5833333	20.458333	
5878	chic	39.0	37.00000	2003-02-03	30.400000	46.000000	3.6417572	29.334596	
5879	chic	21.0	12.50000	2003-02-04	8.900000	15.000000	20.5240036	16.513889	
5880	chic	18.0	4.50000	2003-02-05	11.650000	27.000000	13.5416667	27.375000	
5881	chic	24.0	13.90000	2003-02-06		NA	19.000000	14.2635870	26.486111
5882	chic	13.0	1.80000	2003-02-07	9.300000	19.000000	18.0312500	23.324275	
5883	chic	20.0	9.50000	2003-02-08	12.937500	22.666667	19.0208333	18.555556	
5884	chic	15.0	0.00000	2003-02-09		NA	18.000000	21.1562500	22.083333
5885	chic	18.0	9.80000	2003-02-10		NA	17.000000	15.3740942	25.119949
5886	chic	19.0	4.90000	2003-02-11	11.171429	39.000000	19.3333333	21.458333	
5887	chic	13.0	0.30000	2003-02-12	13.100000	34.000000	22.4687500	21.388889	
5888	chic	22.0	7.40000	2003-02-13	18.500000	38.000000	12.4583333	35.694444	
5889	chic	25.0	19.90000	2003-02-14	27.628571	60.500000	12.7653986	47.140873	
5890	chic	24.0	15.10000	2003-02-15	5.300000	9.500000	34.0833333	12.833333	
5891	chic	23.0	12.90000	2003-02-16	3.800000	9.000000	34.7812500	12.444444	
5892	chic	27.0	21.80000	2003-02-17	14.350000	20.500000	22.3645833	27.625000	
5893	chic	31.0	27.40000	2003-02-18	27.500000	28.000000	10.5480072	30.867063	
5894	chic	33.0	19.60000	2003-02-19	15.500000	31.500000	13.0000000	33.180556	
5895	chic	39.0	23.80000	2003-02-20	15.400000	24.000000	11.1096014	35.527778	
5896	chic	37.0	24.80000	2003-02-21	28.600000	45.500000	5.1666667	40.597222	
5897	chic	28.0	24.20000	2003-02-22	13.900000	19.000000	21.0729167	21.027778	
5898	chic	20.0	7.10000	2003-02-23	6.737500	15.500000	29.8958333	17.125000	
5899	chic	15.0	8.80000	2003-02-24	16.100000	21.500000	19.4823370	28.444444	
5900	chic	8.0	-2.50000	2003-02-25	30.900000	35.500000	11.5366848	37.708333	
5901	chic	18.0	9.40000	2003-02-26	28.912500	37.200000	11.6553030	41.869048	
5902	chic	21.0	12.90000	2003-02-27		NA	37.000000	13.8750000	43.369565
5903	chic	27.0	15.40000	2003-02-28	46.200000	62.500000	8.7753623	57.564394	
5904	chic	NA	22.90000	2003-03-01	47.737500	47.500000	9.4166667	37.444444	
5905	chic	21.0	15.00000	2003-03-02	18.800000	19.500000	21.1458333	17.694444	
5906	chic	20.0	14.60000	2003-03-03	15.200000	24.500000	13.5018116	33.263889	
5907	chic	25.0	23.30000	2003-03-04	20.257143	26.600000	13.2672101	32.972222	
5908	chic	22.0	15.60000	2003-03-05	14.100000	12.500000	30.4089674	22.583333	
5909	chic	20.0	16.80000	2003-03-06	21.300000	20.000000	25.5208333	33.638889	
5910	chic	29.0	25.50000	2003-03-07	27.562500	34.000000	10.9433877	30.042730	
5911	chic	28.0	22.30000	2003-03-08	28.200000	27.000000	13.6979167	28.694444	

5912	chic	10.0	-4.20000	2003-03-09	7.800000	11.500000	31.7395833	13.208333
5913	chic	11.0	0.90000	2003-03-10	12.714286	27.600000	20.8777174	28.769841
5914	chic	31.0	18.40000	2003-03-11	22.900000	47.000000	15.5979084	29.527778
5915	chic	36.0	30.50000	2003-03-12	32.100000	42.000000	15.7395833	29.500000
5916	chic	31.0	24.40000	2003-03-13	14.000000	13.000000	30.0729167	24.380435
5917	chic	39.0	23.60000	2003-03-14	NA	44.000000	12.8645833	41.394444
5918	chic	45.0	37.30000	2003-03-15	22.050000	33.500000	6.9895833	36.263889
5919	chic	55.0	47.00000	2003-03-16	36.428571	43.000000	18.1770833	29.361111
5920	chic	57.0	45.60000	2003-03-17	33.700000	33.500000	13.6064312	40.319115
5921	chic	41.0	38.20000	2003-03-18	37.200000	44.500000	28.5828804	27.538889
5922	chic	43.0	36.40000	2003-03-19	28.062500	30.500000	21.2187500	27.791667
5923	chic	54.0	47.60000	2003-03-20	NA	39.500000	7.9062500	33.767857
5924	chic	44.0	35.00000	2003-03-21	8.300000	15.500000	16.9017210	20.399471
5925	chic	43.0	35.20000	2003-03-22	15.600000	22.400000	17.2916667	18.831349
5926	chic	52.0	34.70000	2003-03-23	20.650000	36.000000	17.9479167	26.626389
5927	chic	58.0	41.00000	2003-03-24	15.100000	49.000000	26.7753623	32.416667
5928	chic	49.0	33.50000	2003-03-25	8.800000	23.000000	19.5416667	31.594444
5929	chic	45.0	28.70000	2003-03-26	NA	45.500000	19.1622024	38.326087
5930	chic	54.0	33.80000	2003-03-27	14.500000	29.500000	22.1562500	31.236111
5931	chic	49.0	42.70000	2003-03-28	11.800000	18.000000	18.4737319	19.111111
5932	chic	32.0	22.30000	2003-03-29	NA	8.000000	30.5000000	15.625000
5933	chic	33.0	20.90000	2003-03-30	NA	13.000000	19.4791667	28.138889
5934	chic	40.0	26.70000	2003-03-31	13.475000	30.000000	20.3677536	27.674242
5935	chic	60.0	40.00000	2003-04-01	25.300000	50.500000	27.0535714	28.413462
5936	chic	54.0	38.40000	2003-04-02	29.800000	51.000000	19.7172619	31.817029
5937	chic	42.0	37.90000	2003-04-03	38.962500	57.000000	7.4135611	23.548309
5938	chic	36.0	35.10000	2003-04-04	NA	10.000000	7.5367495	20.597222
5939	chic	29.0	20.40000	2003-04-05	6.000000	8.500000	32.1994048	12.263889
5940	chic	34.0	23.20000	2003-04-06	6.557143	8.000000	37.8095238	8.888889
5941	chic	32.0	30.30000	2003-04-07	9.600000	12.000000	25.4076087	16.944444
5942	chic	32.0	28.20000	2003-04-08	13.000000	10.000000	31.8095238	19.248188
5943	chic	36.0	25.70000	2003-04-09	7.557143	15.000000	34.4690735	30.013889
5944	chic	42.0	21.80000	2003-04-10	8.900000	28.000000	23.0714286	43.258838
5945	chic	51.0	26.00000	2003-04-11	16.900000	58.500000	22.9523810	43.437500
5946	chic	43.0	29.00000	2003-04-12	3.985714	6.500000	36.9047619	14.108333
5947	chic	48.0	32.90000	2003-04-13	11.700000	22.000000	30.1458333	26.166667
5948	chic	67.0	39.30000	2003-04-14	16.800000	66.500000	39.6344893	19.797348
5949	chic	75.0	42.90000	2003-04-15	12.214286	61.400000	40.4689441	20.404971
5950	chic	55.0	36.80000	2003-04-16	10.700000	35.000000	27.4642857	21.914141
5951	chic	42.0	33.50000	2003-04-17	12.650000	22.000000	23.3203463	23.222222
5952	chic	43.0	35.10000	2003-04-18	17.325000	17.000000	22.4111025	23.611111
5953	chic	60.0	50.00000	2003-04-19	16.700000	39.000000	25.7113095	23.888889
5954	chic	59.0	49.50000	2003-04-20	8.100000	12.500000	33.8035714	12.083333

5955	chic	47.0	37.60000	2003-04-21	6.612500	11.200000	20.0781574	17.208937
5956	chic	46.0	27.50000	2003-04-22	6.600000	13.500000	31.7797619	28.569444
5957	chic	43.0	23.00000	2003-04-23	NA	16.500000	32.1250000	35.204545
5958	chic	49.0	28.40000	2003-04-24	13.542857	37.000000	27.2886905	34.722222
5959	chic	50.0	28.50000	2003-04-25	7.850000	29.500000	34.2573052	28.483333
5960	chic	48.0	24.00000	2003-04-26	5.800000	15.500000	36.1101190	26.569444
5961	chic	56.0	28.00000	2003-04-27	13.512500	34.800000	39.6428571	33.333333
5962	chic	66.0	39.50000	2003-04-28	16.800000	59.000000	28.0705228	41.678571
5963	chic	54.0	38.40000	2003-04-29	10.300000	22.000000	27.8341097	35.761111
5964	chic	57.0	48.00000	2003-04-30	19.114286	24.500000	14.1309524	37.592172
5965	chic	50.0	47.40000	2003-05-01	NA	10.500000	15.9464286	27.552083
5966	chic	45.0	27.40000	2003-05-02	7.200000	12.000000	37.4107143	18.473958
5967	chic	46.0	26.30000	2003-05-03	7.642857	16.600000	31.5267857	23.312500
5968	chic	48.0	35.00000	2003-05-04	12.400000	19.500000	29.5476190	21.041667
5969	chic	61.0	51.90000	2003-05-05	11.300000	18.000000	30.9406056	18.686282
5970	chic	60.0	47.10000	2003-05-06	8.928571	20.500000	28.9900362	24.781703
5971	chic	53.0	46.60000	2003-05-07	14.300000	19.000000	26.8660553	24.005208
5972	chic	55.0	47.80000	2003-05-08	NA	23.000000	23.4713615	25.093750
5973	chic	69.0	56.80000	2003-05-09	15.075000	34.800000	25.7233922	32.510417
5974	chic	65.0	57.90000	2003-05-10	15.700000	21.500000	26.4479167	30.072917
5975	chic	60.0	44.50000	2003-05-11	NA	8.500000	22.8995536	7.947917
5976	chic	59.0	38.30000	2003-05-12	5.657143	30.500000	31.2971735	20.700758
5977	chic	61.0	35.80000	2003-05-13	13.750000	22.000000	26.2274359	29.148551
5978	chic	53.0	44.20000	2003-05-14	16.200000	25.000000	17.0272871	38.218750
5979	chic	52.0	45.40000	2003-05-15	13.000000	19.400000	35.5729167	22.359375
5980	chic	55.0	45.60000	2003-05-16	19.100000	21.000000	30.4505208	28.972335
5981	chic	59.0	50.30000	2003-05-17	26.400000	21.500000	35.6744792	17.593750
5982	chic	60.0	52.30000	2003-05-18	22.628571	22.000000	30.7109375	15.364583
5983	chic	66.0	61.40000	2003-05-19	37.300000	40.500000	13.2149004	22.588542
5984	chic	58.0	45.30000	2003-05-20	11.300000	14.000000	24.9531250	17.765625
5985	chic	51.0	36.00000	2003-05-21	4.750000	12.000000	20.9437274	14.843750
5986	chic	50.0	33.60000	2003-05-22	NA	17.500000	31.2442255	23.499256
5987	chic	53.0	35.20000	2003-05-23	10.800000	24.500000	31.3932292	33.082927
5988	chic	57.0	38.70000	2003-05-24	9.700000	20.000000	33.8645833	23.000000
5989	chic	57.0	42.80000	2003-05-25	6.800000	10.000000	32.7187500	14.510417
5990	chic	59.0	44.80000	2003-05-26	8.300000	12.500000	28.1302083	18.411458
5991	chic	62.0	46.30000	2003-05-27	10.214286	25.000000	21.1617671	28.245739
5992	chic	65.0	52.00000	2003-05-28	20.700000	50.500000	16.2210557	36.030438
5993	chic	58.0	46.80000	2003-05-29	10.100000	17.000000	15.8651495	26.005208
5994	chic	58.0	51.80000	2003-05-30	17.512500	46.500000	17.7474267	36.156250
5995	chic	48.0	42.70000	2003-05-31	6.200000	9.500000	28.4244792	15.333333
5996	chic	51.0	34.40000	2003-06-01	4.800000	13.000000	26.3750000	22.500000
5997	chic	53.0	42.80000	2003-06-02	16.800000	31.000000	19.2054924	37.637784

5998	chic	57.0	46.90000	2003-06-03	24.700000	18.500000	38.9730525	30.192708
5999	chic	58.0	41.80000	2003-06-04	11.300000	25.000000	31.8437500	30.609375
6000	chic	63.0	44.90000	2003-06-05	16.714286	39.000000	27.7083333	41.505952
6001	chic	61.0	51.70000	2003-06-06	25.500000	55.000000	22.7812500	45.916667
6002	chic	66.0	53.30000	2003-06-07	19.400000	28.000000	38.8932292	26.937500
6003	chic	62.0	56.10000	2003-06-08	10.271429	16.000000	26.2005208	20.364583
6004	chic	65.0	53.20000	2003-06-09	9.100000	22.500000	32.8044508	21.875000
6005	chic	66.0	60.30000	2003-06-10	15.100000	36.000000	30.4322917	31.833333
6006	chic	61.0	52.60000	2003-06-11	9.742857	11.500000	31.1901042	16.726935
6007	chic	61.0	55.10000	2003-06-12	17.500000	22.000000	28.4665061	24.690476
6008	chic	64.0	58.30000	2003-06-13	NA	21.000000	21.9270833	28.598958
6009	chic	65.0	54.70000	2003-06-14	10.125000	19.800000	33.9166667	21.807292
6010	chic	66.0	54.40000	2003-06-15	8.600000	13.500000	31.0468750	13.447917
6011	chic	66.0	48.90000	2003-06-16	11.600000	22.000000	34.0840127	24.354455
6012	chic	67.0	47.20000	2003-06-17	15.750000	38.500000	42.6547060	38.439538
6013	chic	74.0	58.70000	2003-06-18	25.600000	75.000000	32.9677413	43.714583
6014	chic	60.0	39.80000	2003-06-19	5.600000	9.000000	33.1667696	11.375000
6015	chic	59.0	40.90000	2003-06-20	6.728571	22.400000	27.3307292	22.447917
6016	chic	64.0	46.90000	2003-06-21	12.900000	28.000000	25.5260417	30.083333
6017	chic	70.0	51.70000	2003-06-22	20.000000	38.000000	40.0078125	32.541667
6018	chic	75.0	55.40000	2003-06-23	22.162500	52.500000	43.3460145	32.510890
6019	chic	79.0	62.40000	2003-06-24	NA	68.500000	56.1660800	26.864583
6020	chic	82.0	65.10000	2003-06-25	33.900000	66.000000	56.1366621	22.949337
6021	chic	68.0	56.00000	2003-06-26	6.742857	18.600000	25.4809783	15.625000
6022	chic	70.0	51.60000	2003-06-27	11.500000	34.000000	33.4479167	20.927083
6023	chic	73.0	60.60000	2003-06-28	11.300000	25.000000	35.2682292	20.687500
6024	chic	74.0	56.60000	2003-06-29	9.775000	22.500000	29.3541667	21.447917
6025	chic	72.0	53.90000	2003-06-30	12.700000	50.000000	28.2216938	32.926178
6026	chic	73.0	53.40000	2003-07-01	19.850000	40.500000	42.0933589	31.552083
6027	chic	75.0	55.50000	2003-07-02	22.385714	45.600000	50.2056159	34.748835
6028	chic	79.0	65.40000	2003-07-03	24.050000	71.500000	35.3435236	34.723958
6029	chic	84.0	68.40000	2003-07-04	32.900000	47.500000	45.6614583	21.343750
6030	chic	78.0	66.20000	2003-07-05	18.271429	24.500000	50.8619792	18.713542
6031	chic	78.0	68.60000	2003-07-06	13.900000	26.500000	40.9322917	16.411458
6032	chic	79.0	70.80000	2003-07-07	12.750000	42.000000	25.2511322	23.828125
6033	chic	72.0	64.60000	2003-07-08	8.612500	18.500000	24.0963542	22.442482
6034	chic	69.0	61.20000	2003-07-09	7.600000	16.500000	30.0947176	17.816288
6035	chic	73.0	63.50000	2003-07-10	6.800000	14.500000	26.0141531	15.661458
6036	chic	69.0	56.50000	2003-07-11	5.662500	18.000000	22.3973652	15.741395
6037	chic	71.0	54.50000	2003-07-12	8.400000	18.000000	22.9479167	21.812500
6038	chic	70.0	56.30000	2003-07-13	15.200000	27.500000	31.3958333	28.354167
6039	chic	70.0	58.90000	2003-07-14	22.912500	35.800000	31.4403306	31.786458
6040	chic	77.0	64.40000	2003-07-15	NA	25.000000	39.3020833	17.843750

6041	chic	72.0	57.10000	2003-07-16	8.700000	19.000000	21.1764040	26.128170
6042	chic	75.0	65.10000	2003-07-17	14.985714	35.500000	29.9040987	29.155844
6043	chic	66.0	53.20000	2003-07-18	6.200000	11.500000	26.1203578	16.070076
6044	chic	68.0	53.20000	2003-07-19	9.000000	22.000000	31.1354167	24.395833
6045	chic	76.0	65.40000	2003-07-20	14.485714	26.750000	30.7213542	20.666667
6046	chic	75.0	64.40000	2003-07-21	10.000000	18.000000	35.6677989	18.290179
6047	chic	68.0	58.20000	2003-07-22	5.800000	9.500000	21.2785326	9.916193
6048	chic	67.0	53.10000	2003-07-23	4.412500	8.500000	19.4765625	11.947917
6049	chic	67.0	47.80000	2003-07-24	6.400000	25.000000	15.7974411	21.166214
6050	chic	71.0	57.70000	2003-07-25	17.500000	52.500000	32.2813632	24.875000
6051	chic	77.0	63.20000	2003-07-26	23.900000	37.800000	49.0651042	14.270833
6052	chic	74.0	63.10000	2003-07-27	14.700000	21.000000	32.1171875	11.802083
6053	chic	65.0	58.00000	2003-07-28	10.200000	22.000000	22.1599864	16.447043
6054	chic	68.0	51.40000	2003-07-29	15.250000	36.500000	24.3081975	25.951993
6055	chic	69.0	55.90000	2003-07-30	20.100000	45.500000	28.6813859	36.993454
6056	chic	75.0	63.00000	2003-07-31	27.300000	54.000000	34.6500947	28.065341
6057	chic	75.0	64.40000	2003-08-01	23.862500	37.000000	32.3828125	30.554924
6058	chic	72.0	62.40000	2003-08-02	10.500000	25.500000	24.6067708	21.479167
6059	chic	71.0	64.10000	2003-08-03	14.500000	20.500000	20.7604167	24.833333
6060	chic	69.0	62.40000	2003-08-04	17.900000	20.500000	29.5211730	22.208333
6061	chic	71.0	62.60000	2003-08-05	19.800000	35.500000	25.6478714	31.870018
6062	chic	74.0	65.60000	2003-08-06	23.200000	47.500000	15.6801816	42.187500
6063	chic	73.0	64.60000	2003-08-07	11.714286	23.000000	22.6413661	19.453218
6064	chic	69.0	64.30000	2003-08-08	6.900000	10.000000	18.9322917	10.735507
6065	chic	70.0	60.80000	2003-08-09	6.200000	11.000000	22.1588542	13.395833
6066	chic	73.0	59.40000	2003-08-10	11.637500	18.500000	24.0651042	16.385417
6067	chic	69.0	64.00000	2003-08-11	9.800000	18.500000	17.3695652	17.275000
6068	chic	71.0	64.40000	2003-08-12	11.300000	13.500000	24.6491477	11.213542
6069	chic	72.0	66.60000	2003-08-13	17.337500	28.600000	29.7570199	14.641304
6070	chic	77.0	71.40000	2003-08-14	33.500000	50.500000	37.6861737	26.687500
6071	chic	79.0	71.60000	2003-08-15	36.800000	55.000000	24.8846241	28.830492
6072	chic	83.0	69.10000	2003-08-16	23.587500	41.500000	41.1093750	16.718750
6073	chic	78.0	63.40000	2003-08-17	14.600000	19.000000	33.0078125	10.442708
6074	chic	73.0	60.00000	2003-08-18	12.600000	26.500000	25.1699811	23.383152
6075	chic	71.0	60.40000	2003-08-19	17.185714	30.250000	25.8825861	31.502717
6076	chic	77.0	67.70000	2003-08-20	37.300000	59.000000	40.3432971	31.072443
6077	chic	84.0	70.40000	2003-08-21	27.400000	63.000000	46.7235054	24.227679
6078	chic	71.0	57.20000	2003-08-22	10.471429	17.000000	24.0101902	14.886837
6079	chic	69.0	55.90000	2003-08-23	6.600000	14.000000	19.7421875	14.557292
6080	chic	72.0	62.30000	2003-08-24	15.000000	25.000000	33.2291667	18.322917
6081	chic	83.0	67.10000	2003-08-25	26.814286	52.400000	47.6337183	26.278986
6082	chic	82.0	69.10000	2003-08-26	19.700000	50.500000	40.3125000	34.075758
6083	chic	74.0	62.60000	2003-08-27	15.300000	20.000000	30.2971014	24.380208

6084	chic	76.0	65.70000	2003-08-28	18.157143	44.500000	37.0817482	26.234375
6085	chic	76.0	63.40000	2003-08-29	13.500000	25.000000	31.0357143	21.333333
6086	chic	68.0	51.30000	2003-08-30	2.500000	7.000000	27.4523810	9.614583
6087	chic	66.0	57.50000	2003-08-31	8.650000	18.000000	26.1696429	13.828125
6088	chic	63.0	61.40000	2003-09-01	6.800000	7.000000	32.9285714	7.697917
6089	chic	67.0	59.90000	2003-09-02	12.500000	21.000000	31.8237578	21.859375
6090	chic	72.0	58.80000	2003-09-03	14.250000	30.500000	22.0120018	25.463768
6091	chic	62.0	51.70000	2003-09-04	5.300000	11.500000	18.6111866	19.200149
6092	chic	62.0	50.90000	2003-09-05	11.400000	32.500000	14.1831975	28.833333
6093	chic	66.0	53.30000	2003-09-06	13.575000	25.500000	24.4531250	32.682292
6094	chic	73.0	60.30000	2003-09-07	16.700000	30.500000	31.0052083	30.739583
6095	chic	72.0	61.70000	2003-09-08	23.300000	68.000000	22.0443841	43.843750
6096	chic	72.0	63.10000	2003-09-09	26.500000	45.000000	29.4544837	30.966856
6097	chic	72.0	63.30000	2003-09-10	37.900000	51.500000	32.3343009	29.671649
6098	chic	74.0	60.60000	2003-09-11	37.800000	58.500000	39.2262228	26.863225
6099	chic	72.0	60.70000	2003-09-12	32.612500	46.250000	29.9504076	29.620833
6100	chic	75.0	63.00000	2003-09-13	35.700000	47.500000	39.8593750	21.885417
6101	chic	67.0	61.20000	2003-09-14	15.900000	17.000000	24.9114583	16.572917
6102	chic	63.0	47.50000	2003-09-15	9.325000	27.500000	13.0118371	26.427083
6103	chic	66.0	50.00000	2003-09-16	9.500000	58.500000	17.4811224	35.979167
6104	chic	68.0	52.70000	2003-09-17	17.600000	41.500000	28.6822917	35.315341
6105	chic	68.0	54.20000	2003-09-18	24.900000	40.200000	37.3906250	31.468750
6106	chic	58.0	47.20000	2003-09-19	16.800000	25.000000	15.9130435	18.270833
6107	chic	56.0	43.00000	2003-09-20	8.700000	26.000000	16.7135417	19.989583
6108	chic	62.0	50.50000	2003-09-21	15.700000	30.000000	32.3906250	19.541667
6109	chic	62.0	54.50000	2003-09-22	6.500000	24.500000	19.1060606	20.427083
6110	chic	59.0	42.60000	2003-09-23	12.200000	29.000000	15.2348279	22.937500
6111	chic	62.0	50.10000	2003-09-24	10.362500	25.000000	17.1460598	24.104167
6112	chic	53.0	38.60000	2003-09-25	12.300000	28.000000	11.9778080	19.780303
6113	chic	57.0	48.70000	2003-09-26	6.700000	28.000000	7.3779438	28.884470
6114	chic	54.0	42.60000	2003-09-27	5.600000	14.500000	12.7083333	12.989583
6115	chic	52.0	41.60000	2003-09-28	7.900000	11.500000	12.4341299	11.270833
6116	chic	50.0	36.60000	2003-09-29	12.700000	23.000000	10.5416667	19.209239
6117	chic	48.0	32.20000	2003-09-30	5.271429	21.000000	11.6161685	19.489583
6118	chic	44.0	26.00000	2003-10-01	6.600000	29.500000	10.7976190	22.444444
6119	chic	42.0	22.20000	2003-10-02	7.700000	34.500000	7.5178571	25.945268
6120	chic	48.0	37.70000	2003-10-03	12.162500	71.000000	7.7864907	31.291667
6121	chic	49.0	36.90000	2003-10-04	14.700000	25.000000	11.6071429	24.527778
6122	chic	47.0	40.50000	2003-10-05	9.400000	23.500000	16.1250000	20.944444
6123	chic	48.0	37.50000	2003-10-06	8.625000	22.600000	16.2424948	27.333333
6124	chic	61.0	49.40000	2003-10-07	7.400000	54.000000	12.2624224	37.666667
6125	chic	64.0	53.10000	2003-10-08	11.600000	68.000000	18.6891822	40.944444
6126	chic	62.0	54.50000	2003-10-09	32.087500	65.000000	8.8245342	47.250000

6127	chic	64.0	57.90000	2003-10-10	34.000000	58.500000	14.4702381	34.361111
6128	chic	66.0	59.30000	2003-10-11	18.300000	33.000000	20.7738095	21.916667
6129	chic	58.0	42.20000	2003-10-12	6.542857	20.000000	17.3630952	16.347222
6130	chic	57.0	41.30000	2003-10-13	17.400000	60.500000	12.3095238	38.194444
6131	chic	53.0	47.60000	2003-10-14	14.600000	10.500000	18.5274327	24.452020
6132	chic	50.0	35.70000	2003-10-15	7.928571	23.500000	12.3690476	26.513889
6133	chic	45.0	35.80000	2003-10-16	8.900000	21.500000	10.3902692	27.940053
6134	chic	44.0	30.50000	2003-10-17	8.100000	30.000000	8.8035714	37.638889
6135	chic	57.0	41.90000	2003-10-18	10.857143	28.000000	12.4285714	30.180556
6136	chic	56.0	47.30000	2003-10-19	10.600000	20.500000	22.5000000	22.000000
6137	chic	66.0	51.60000	2003-10-20	9.600000	58.000000	25.0119048	29.194444
6138	chic	55.0	44.90000	2003-10-21	14.112500	38.500000	17.6322464	25.541667
6139	chic	48.0	38.50000	2003-10-22	12.900000	12.500000	17.4906832	20.638889
6140	chic	46.0	40.80000	2003-10-23	6.800000	28.500000	12.4017653	27.168470
6141	chic	48.0	42.80000	2003-10-24	16.687500	37.400000	10.7559524	29.486111
6142	chic	52.0	45.30000	2003-10-25	17.100000	24.000000	4.6904762	26.361111
6143	chic	40.0	33.50000	2003-10-26	10.000000	8.500000	6.8065476	12.680556
6144	chic	38.0	32.30000	2003-10-27	14.512500	22.000000	4.7494824	19.444444
6145	chic	48.0	38.70000	2003-10-28	8.000000	27.500000	8.2989130	15.993056
6146	chic	44.0	35.70000	2003-10-29	NA	18.500000	7.2603654	16.541035
6147	chic	55.0	49.00000	2003-10-30	10.925000	25.400000	19.2331781	24.240404
6148	chic	58.0	52.60000	2003-10-31	NA	35.500000	10.7559524	16.868056
6149	chic	47.0	41.70000	2003-11-01	NA	15.000000	9.9895833	13.416667
6150	chic	52.0	50.90000	2003-11-02	12.375000	13.500000	3.8645833	14.812500
6151	chic	49.0	49.10000	2003-11-03	9.600000	11.000000	6.5181159	12.000000
6152	chic	59.0	57.00000	2003-11-04	4.700000	28.500000	8.6173007	21.097222
6153	chic	42.0	34.20000	2003-11-05	11.587500	15.600000	8.2500000	17.993056
6154	chic	38.0	22.00000	2003-11-06	NA	15.000000	8.9375000	25.557065
6155	chic	35.0	17.30000	2003-11-07	19.000000	21.500000	14.4361413	26.876984
6156	chic	27.0	18.10000	2003-11-08	7.685714	15.000000	13.1770833	26.347222
6157	chic	31.0	16.90000	2003-11-09	15.000000	19.000000	10.9895833	31.986111
6158	chic	38.0	30.20000	2003-11-10	25.600000	26.500000	6.2006341	33.666667
6159	chic	50.0	50.10000	2003-11-11	21.462500	31.200000	3.3750000	17.194444
6160	chic	48.0	39.90000	2003-11-12	12.500000	48.500000	12.5108696	15.527778
6161	chic	35.0	15.80000	2003-11-13	16.700000	16.000000	14.8319746	23.153382
6162	chic	36.0	23.10000	2003-11-14	9.825000	26.000000	6.2291667	28.135101
6163	chic	40.0	39.80000	2003-11-15	14.200000	17.000000	4.8541667	19.569444
6164	chic	45.0	43.70000	2003-11-16	14.300000	13.000000	2.9166667	18.305556
6165	chic	44.0	44.70000	2003-11-17	22.875000	27.200000	6.6657197	25.152778
6166	chic	55.0	55.10000	2003-11-18	9.100000	15.000000	7.6784420	22.284420
6167	chic	47.0	34.70000	2003-11-19	14.000000	17.000000	9.3750000	27.166667
6168	chic	50.0	40.40000	2003-11-20	7.785714	26.500000	9.4660326	28.031746
6169	chic	46.0	36.50000	2003-11-21	7.700000	10.000000	15.4895833	19.250000

6170	chic	53.0	48.00000	2003-11-22	24.200000	28.500000	5.3541667	23.361111
6171	chic	48.0	47.10000	2003-11-23	8.112500	11.600000	17.7395833	10.819444
6172	chic	25.0	14.00000	2003-11-24	7.400000	32.000000	17.1988225	14.674603
6173	chic	33.0	21.60000	2003-11-25	16.000000	28.500000	8.2812500	26.284091
6174	chic	40.0	28.30000	2003-11-26	15.087500	30.500000	5.5670290	29.805556
6175	chic	41.0	37.40000	2003-11-27	19.500000	17.500000	6.0520833	24.888889
6176	chic	33.0	22.50000	2003-11-28	15.800000	15.500000	17.1979167	19.111111
6177	chic	31.0	21.30000	2003-11-29	9.512500	13.750000	16.1354167	18.819444
6178	chic	46.0	27.40000	2003-11-30	5.600000	12.000000	16.2291667	19.097222
6179	chic	35.0	14.40000	2003-12-01	6.500000	18.500000	18.6290761	23.013889
6180	chic	30.0	13.00000	2003-12-02	6.457143	15.500000	10.5009058	34.828283
6181	chic	34.0	22.30000	2003-12-03	9.000000	23.500000	11.6562500	29.888889
6182	chic	37.0	29.70000	2003-12-04	15.800000	23.000000	3.9393116	28.062710
6183	chic	37.0	30.90000	2003-12-05	8.012500	15.000000	16.1770833	24.500000
6184	chic	34.0	26.90000	2003-12-06	11.800000	16.000000	6.0312500	28.194444
6185	chic	34.0	28.50000	2003-12-07	21.100000	21.000000	4.5833333	24.625000
6186	chic	40.0	33.90000	2003-12-08	21.950000	21.000000	3.0520833	28.868687
6187	chic	45.0	41.90000	2003-12-09	26.800000	33.500000	1.0978261	27.239899
6188	chic	41.0	40.40000	2003-12-10	12.000000	11.500000	6.7187500	23.569444
6189	chic	22.0	14.30000	2003-12-11	7.728571	12.000000	12.1619730	21.533333
6190	chic	17.0	6.40000	2003-12-12	18.800000	27.500000	6.8958333	34.990942
6191	chic	21.0	16.70000	2003-12-13	18.300000	24.000000	10.1666667	35.729167
6192	chic	28.0	23.80000	2003-12-14	17.825000	20.000000	10.6666667	29.062500
6193	chic	31.0	27.70000	2003-12-15	22.500000	18.000000	7.0692935	28.779167
6194	chic	34.0	26.50000	2003-12-16	13.300000	16.000000	9.4266304	19.708333
6195	chic	23.0	18.50000	2003-12-17	15.000000	22.200000	9.1142540	24.166667
6196	chic	23.0	19.70000	2003-12-18	36.300000	26.000000	5.2500000	29.566288
6197	chic	25.0	15.40000	2003-12-19	9.000000	25.500000	15.1770833	22.833333
6198	chic	20.0	8.20000	2003-12-20	7.928571	19.000000	11.1041667	26.458333
6199	chic	37.0	25.90000	2003-12-21	8.500000	21.500000	16.8229167	21.895833
6200	chic	42.0	33.10000	2003-12-22	22.500000	26.000000	4.8958333	25.130682
6201	chic	32.0	27.60000	2003-12-23	14.314286	14.800000	4.6714674	24.708333
6202	chic	22.0	14.50000	2003-12-24	9.600000	19.000000	13.7833333	22.625000
6203	chic	27.0	15.40000	2003-12-25	12.400000	21.000000	10.5208333	27.854167
6204	chic	30.0	22.50000	2003-12-26	17.362500	24.500000	2.8958333	39.687500
6205	chic	39.0	23.90000	2003-12-27	11.300000	18.500000	7.5520833	27.979167
6206	chic	45.0	32.90000	2003-12-28	10.500000	14.500000	13.1354167	20.500000
6207	chic	39.0	26.70000	2003-12-29	8.660000	15.500000	8.5951087	21.208333
6208	chic	34.0	22.70000	2003-12-30	10.000000	17.500000	10.9846014	19.533514
6209	chic	32.0	20.30000	2003-12-31	17.500000	15.500000	12.3854167	24.910714
6210	chic	35.0	30.40000	2004-01-01	14.385714	17.000000	6.8333333	26.520833
6211	chic	49.0	47.50000	2004-01-02	18.400000	20.500000	5.8854167	20.750000
6212	chic	41.0	28.80000	2004-01-03	10.000000	9.000000	10.0729167	20.625000

6213	chic	31.0	25.80000	2004-01-04	4.650000	7.400000	23.0833333	10.687500
6214	chic	17.0	12.40000	2004-01-05	11.000000	16.000000	15.2490942	23.439394
6215	chic	3.0	-6.00000	2004-01-06	17.200000	24.000000	19.5886034	19.111111
6216	chic	15.0	3.50000	2004-01-07	13.800000	24.500000	10.0978261	29.333333
6217	chic	24.0	17.30000	2004-01-08	11.500000	25.000000	8.3125000	32.611111
6218	chic	22.0	17.20000	2004-01-09	13.900000	17.000000	20.5416667	25.782609
6219	chic	21.0	16.50000	2004-01-10	15.412500	24.200000	9.8750000	28.194444
6220	chic	33.0	24.90000	2004-01-11	NA	12.000000	14.3958333	18.861111
6221	chic	35.0	27.40000	2004-01-12	18.000000	14.000000	7.7409420	19.760101
6222	chic	30.0	19.40000	2004-01-13	12.628571	18.000000	12.1229620	27.652778
6223	chic	27.0	21.10000	2004-01-14	15.000000	31.500000	10.6541667	23.410354
6224	chic	19.0	7.10000	2004-01-15	8.100000	29.000000	13.7812500	34.217172
6225	chic	27.0	18.40000	2004-01-16	19.150000	30.400000	7.1746324	27.387681
6226	chic	31.0	28.30000	2004-01-17	19.800000	20.000000	3.3437500	25.902778
6227	chic	18.0	2.80000	2004-01-18	7.600000	14.000000	20.3854167	13.583333
6228	chic	11.0	0.30000	2004-01-19	6.075000	18.000000	17.3437500	25.500000
6229	chic	15.0	2.20000	2004-01-20	15.800000	24.000000	9.4057971	39.204365
6230	chic	24.0	14.30000	2004-01-21	20.200000	26.000000	10.1734601	26.041667
6231	chic	11.0	-7.20000	2004-01-22	5.944444	23.800000	20.8102355	18.307971
6232	chic	15.0	8.60000	2004-01-23	12.800000	36.000000	8.3541667	27.150794
6233	chic	15.0	10.90000	2004-01-24	12.100000	19.000000	13.7708333	29.375000
6234	chic	18.0	7.50000	2004-01-25	7.885714	29.500000	26.7395833	18.166667
6235	chic	22.0	18.30000	2004-01-26	15.000000	24.000000	19.0208333	24.397727
6236	chic	17.0	12.90000	2004-01-27	16.400000	13.000000	13.9144022	29.606280
6237	chic	7.0	-0.80000	2004-01-28	16.300000	30.000000	13.6145833	26.513889
6238	chic	2.0	-6.80000	2004-01-29	18.300000	29.000000	10.7547348	33.500000
6239	chic	-3.0	-12.70000	2004-01-30	18.300000	32.000000	13.2767210	28.497475
6240	chic	4.0	-4.20000	2004-01-31	22.285714	50.000000	8.1562500	36.902778
6241	chic	21.0	10.10000	2004-02-01	22.300000	45.000000	13.4166667	35.513889
6242	chic	28.0	22.20000	2004-02-02	17.000000	49.000000	5.3683712	36.166667
6243	chic	21.0	17.40000	2004-02-03	26.377778	35.000000	8.6077899	33.679293
6244	chic	13.0	3.80000	2004-02-04	19.700000	55.000000	10.5179924	44.510823
6245	chic	26.0	19.60000	2004-02-05	8.200000	24.000000	17.4375000	30.513889
6246	chic	28.0	23.60000	2004-02-06	19.271429	21.500000	9.7604167	34.541667
6247	chic	20.0	20.00000	2004-02-07	20.900000	14.500000	19.5138889	27.888889
6248	chic	16.0	16.00000	2004-02-08	20.450000	19.000000	16.7083333	32.033333
6249	chic	28.0	20.90000	2004-02-09	14.657143	20.600000	26.0027503	24.592947
6250	chic	20.0	14.20000	2004-02-10	28.900000	22.500000	22.9424819	23.430556
6251	chic	23.0	16.50000	2004-02-11	18.500000	31.000000	12.0113636	38.044686
6252	chic	22.0	16.00000	2004-02-12	22.100000	30.000000	16.6666667	28.916667
6253	chic	20.0	11.20000	2004-02-13	24.500000	17.500000	21.7708333	23.258816
6254	chic	26.0	17.60000	2004-02-14	9.300000	26.500000	23.9791667	21.703704
6255	chic	14.0	10.90000	2004-02-15	6.528571	13.750000	28.7291667	21.013889

6256	chic	16.0	7.70000	2004-02-16		NA	31.000000	13.2708333	41.666667
6257	chic	24.0	15.80000	2004-02-17	43.400000	49.000000	8.2780797	44.978175	
6258	chic	29.0	23.50000	2004-02-18	48.157143	61.000000	8.1621377	43.708333	
6259	chic	36.0	31.70000	2004-02-19	40.000000	41.000000	5.3229167	42.222222	
6260	chic	39.0	35.10000	2004-02-20	22.300000	22.000000	18.0416667	30.774758	
6261	chic	33.0	26.00000	2004-02-21	7.866667	14.400000	26.6562500	20.986111	
6262	chic	34.0	28.10000	2004-02-22	18.200000	22.500000	13.6562500	31.611111	
6263	chic	41.0	32.60000	2004-02-23	27.500000	25.000000	11.8971920	29.275966	
6264	chic	34.0	29.70000	2004-02-24	19.237500	17.500000	22.5375906	21.444444	
6265	chic	31.0	24.60000	2004-02-25	11.000000	19.000000	23.5937500	27.443237	
6266	chic	34.0	25.20000	2004-02-26	18.500000	25.000000	17.5520833	29.698413	
6267	chic	35.0	24.70000	2004-02-27	30.711111	50.800000	12.0208333	33.794444	
6268	chic	40.0	27.60000	2004-02-28	24.000000	37.000000	10.9895833	33.069444	
6269	chic	47.0	32.50000	2004-02-29	18.200000	21.000000	20.6689312	32.458333	
6270	chic	54.0	42.40000	2004-03-01	10.266667	13.500000	25.1250000	23.645833	
6271	chic	44.0	37.20000	2004-03-02	15.950000	17.500000	16.3165761	15.416667	
6272	chic	43.0	34.50000	2004-03-03	28.150000	33.000000	12.7007576	27.343434	
6273	chic	41.0	39.40000	2004-03-04	29.175000	37.200000	6.8953804	23.415936	
6274	chic	50.0	41.80000	2004-03-05	7.600000	19.000000	20.2916667	15.904287	
6275	chic	41.0	31.30000	2004-03-06	11.000000	13.500000	23.1979167	17.125000	
6276	chic	40.0	28.30000	2004-03-07	7.625000	12.000000	33.4687500	10.638889	
6277	chic	34.0	20.80000	2004-03-08	11.800000	20.000000	21.8546196	23.402778	
6278	chic	33.0	25.60000	2004-03-09	11.800000	12.500000	25.2249396	25.132850	
6279	chic	37.0	25.40000	2004-03-10	13.825000	26.400000	20.6458333	29.797619	
6280	chic	31.0	16.80000	2004-03-11	10.500000	47.500000	17.5312500	14.391215	
6281	chic	25.0	7.10000	2004-03-12	10.100000	22.500000	16.7291667	23.479167	
6282	chic	33.0	18.40000	2004-03-13	17.712500	24.500000	14.7500000	36.708333	
6283	chic	39.0	27.90000	2004-03-14	13.400000	17.500000	29.5625000	14.187500	
6284	chic	32.0	22.40000	2004-03-15	7.300000	9.500000	27.6956522	26.736842	
6285	chic	32.0	26.10000	2004-03-16	10.677778	17.750000	27.3083333	21.826389	
6286	chic	32.0	28.40000	2004-03-17	23.100000	22.500000	7.4927536	32.956522	
6287	chic	32.0	30.90000	2004-03-18	26.500000	21.000000	8.6941425	38.888889	
6288	chic	38.0	30.70000	2004-03-19	20.187500	23.500000	14.9722222	29.902778	
6289	chic	47.0	28.80000	2004-03-20	17.000000	24.000000	27.1875000	19.861111	
6290	chic	28.0	16.10000	2004-03-21	7.300000	11.500000	31.6875000	12.104167	
6291	chic	30.0	10.00000	2004-03-22	10.662500	23.400000	19.7216874	26.854167	
6292	chic	46.0	24.40000	2004-03-23	30.000000	43.000000	22.6553119	30.840278	
6293	chic	54.0	44.80000	2004-03-24	26.500000	28.000000	18.3515851	29.160024	
6294	chic	60.0	52.80000	2004-03-25	17.987500	29.000000	20.3279691	26.430556	
6295	chic	56.0	54.90000	2004-03-26	12.050000	23.000000	16.8519226	22.672619	
6296	chic	51.0	47.40000	2004-03-27	14.000000	20.500000	16.0119048	24.944444	
6297	chic	61.0	52.50000	2004-03-28	11.900000	18.200000	26.3273810	13.212302	
6298	chic	51.0	37.80000	2004-03-29	13.300000	18.500000	21.1582633	24.333333	

6299	chic	48.0	37.00000	2004-03-30	22.500000	54.500000	19.2109860	29.771135
6300	chic	42.0	32.10000	2004-03-31	5.775000	8.500000	26.1709280	15.322222
6301	chic	42.0	27.90000	2004-04-01	11.100000	11.000000	32.2261905	18.920635
6302	chic	44.0	23.70000	2004-04-02	12.200000	16.000000	28.1730977	25.333333
6303	chic	43.0	23.80000	2004-04-03	7.762500	24.800000	27.4817708	23.541667
6304	chic	37.0	24.50000	2004-04-04	2.600000	6.000000	37.9166667	11.291667
6305	chic	39.0	24.40000	2004-04-05	11.000000	32.500000	29.0331748	29.732323
6306	chic	56.0	37.50000	2004-04-06	21.837500	55.500000	30.8113236	33.324074
6307	chic	52.0	32.40000	2004-04-07	18.500000	31.000000	33.5844979	31.833333
6308	chic	46.0	35.90000	2004-04-08	21.000000	32.000000	27.6816770	27.652778
6309	chic	45.0	29.80000	2004-04-09	12.437500	28.200000	20.2470238	33.333333
6310	chic	44.0	30.30000	2004-04-10	15.500000	25.000000	22.6279762	29.027778
6311	chic	37.0	26.80000	2004-04-11	5.900000	6.500000	32.2857143	12.597222
6312	chic	36.0	21.80000	2004-04-12	3.442857	16.000000	30.2516046	13.152778
6313	chic	38.0	25.40000	2004-04-13	7.050000	15.000000	29.4583333	19.972222
6314	chic	49.0	27.50000	2004-04-14	20.250000	61.000000	17.1102484	43.001984
6315	chic	61.0	33.90000	2004-04-15	14.525000	59.800000	31.1369048	33.344309
6316	chic	70.0	45.60000	2004-04-16	14.450000	40.000000	37.3329451	27.694444
6317	chic	64.0	51.60000	2004-04-17	16.500000	25.000000	44.4761905	24.125000
6318	chic	69.0	50.70000	2004-04-18	13.385714	59.500000	38.7797619	16.777778
6319	chic	60.0	48.40000	2004-04-19	6.900000	54.000000	29.2954193	16.188665
6320	chic	54.0	48.40000	2004-04-20	14.850000	30.500000	18.2650104	21.756643
6321	chic	54.0	48.50000	2004-04-21	8.555556	17.800000	26.3344979	18.555556
6322	chic	48.0	37.50000	2004-04-22	7.400000	9.500000	27.1350108	21.263889
6323	chic	51.0	37.00000	2004-04-23	16.100000	23.500000	22.9702381	33.080918
6324	chic	45.0	39.50000	2004-04-24	16.300000	33.500000	26.9404762	24.972222
6325	chic	54.0	48.70000	2004-04-25	9.300000	13.000000	25.2500000	15.736111
6326	chic	52.0	34.20000	2004-04-26	11.600000	27.000000	27.8839286	19.088854
6327	chic	44.0	21.30000	2004-04-27	6.422222	17.200000	28.2068982	23.708333
6328	chic	64.0	42.30000	2004-04-28	11.600000	82.000000	40.5089447	22.555556
6329	chic	69.0	51.90000	2004-04-29	13.600000	44.500000	44.4824017	20.857488
6330	chic	51.0	45.50000	2004-04-30	11.600000	17.000000	27.2005694	24.688492
6331	chic	46.0	37.80000	2004-05-01	6.900000	7.000000	28.4088542	17.307292
6332	chic	42.0	30.30000	2004-05-02	3.600000	6.500000	32.4062500	10.744792
6333	chic	42.0	28.10000	2004-05-03	6.971429	24.800000	21.7543025	26.640625
6334	chic	55.0	44.30000	2004-05-04	11.100000	44.500000	27.5114357	25.489583
6335	chic	53.0	36.50000	2004-05-05	10.500000	26.000000	25.2940444	25.510349
6336	chic	69.0	57.10000	2004-05-06	18.012500	59.000000	31.4808239	33.784601
6337	chic	51.0	36.40000	2004-05-07	7.450000	17.000000	33.9575408	15.942708
6338	chic	67.0	50.40000	2004-05-08	17.800000	30.000000	29.6197917	24.828125
6339	chic	70.0	60.30000	2004-05-09	15.144444	34.250000	34.1276042	20.083333
6340	chic	70.0	61.60000	2004-05-10	16.150000	52.500000	29.3055933	23.500000
6341	chic	68.0	61.30000	2004-05-11	19.100000	41.500000	33.9370471	24.990489

6342	chic	76.0	65.40000	2004-05-12	14.500000	39.500000	28.9651783	22.052083
6343	chic	72.0	67.30000	2004-05-13	12.700000	13.000000	17.9727355	24.125659
6344	chic	59.0	54.10000	2004-05-14	8.000000	8.000000	11.3244048	19.505208
6345	chic	47.0	38.90000	2004-05-15	3.262500	9.000000	20.5059524	12.364583
6346	chic	54.0	45.80000	2004-05-16	13.000000	20.000000	24.6636905	23.932292
6347	chic	70.0	62.60000	2004-05-17	18.400000	29.000000	29.5905797	22.353070
6348	chic	57.0	47.20000	2004-05-18	6.728571	10.000000	34.0166440	20.200181
6349	chic	58.0	55.60000	2004-05-19	12.800000	19.000000	23.9432745	26.520833
6350	chic	74.0	71.10000	2004-05-20	17.800000	35.000000	23.7651515	22.504735
6351	chic	63.0	58.10000	2004-05-21	11.966667	33.600000	28.0937500	22.401042
6352	chic	65.0	61.60000	2004-05-22	11.750000	25.000000	25.4921875	18.250000
6353	chic	68.0	61.70000	2004-05-23	9.600000	31.500000	28.4635417	13.989583
6354	chic	56.0	47.50000	2004-05-24	5.028571	14.000000	26.7687953	12.229167
6355	chic	59.0	53.60000	2004-05-25	11.300000	29.500000	23.0067832	23.028450
6356	chic	57.0	46.20000	2004-05-26	8.400000	23.500000	17.0275136	23.411458
6357	chic	64.0	55.20000	2004-05-27	12.955556	31.250000	23.2566803	25.471241
6358	chic	53.0	39.40000	2004-05-28	NA	11.500000	25.6718750	17.072917
6359	chic	57.0	47.70000	2004-05-29	8.700000	27.500000	25.7473958	23.182292
6360	chic	66.0	61.00000	2004-05-30	15.787500	25.000000	30.5208333	18.380208
6361	chic	62.0	NA	2004-05-31	5.500000	12.500000	27.0286458	16.609375
6362	chic	65.0	50.40000	2004-06-01	4.300000	33.000000	26.9616168	18.375000
6363	chic	59.0	50.70000	2004-06-02	6.633333	15.800000	21.7192029	18.796875
6364	chic	59.0	40.70000	2004-06-03	4.500000	14.500000	28.8520154	18.412202
6365	chic	58.0	43.70000	2004-06-04	9.500000	23.500000	29.3635643	29.869048
6366	chic	61.0	47.60000	2004-06-05	19.412500	43.000000	38.9479167	29.614583
6367	chic	72.0	58.80000	2004-06-06	22.200000	38.000000	40.7812500	24.156250
6368	chic	74.0	64.60000	2004-06-07	19.800000	68.000000	39.7838542	22.979167
6369	chic	83.0	69.00000	2004-06-08	19.344444	42.000000	30.2193161	21.779891
6370	chic	73.0	67.00000	2004-06-09	10.800000	47.500000	20.7479620	16.417614
6371	chic	64.0	60.50000	2004-06-10	6.600000	21.000000	10.6363225	17.571970
6372	chic	73.0	67.20000	2004-06-11	14.814286	32.500000	14.9852190	19.046402
6373	chic	71.0	64.70000	2004-06-12	10.000000	20.000000	31.0598958	16.702083
6374	chic	72.0	64.50000	2004-06-13	10.600000	19.000000	35.9322917	13.472222
6375	chic	75.0	64.10000	2004-06-14	9.028571	18.200000	31.1039299	20.972222
6376	chic	71.0	57.40000	2004-06-15	11.700000	27.000000	30.5982790	25.656061
6377	chic	72.0	65.40000	2004-06-16	16.900000	30.000000	21.8121603	26.362092
6378	chic	72.0	60.40000	2004-06-17	16.028571	32.500000	26.6804801	22.415761
6379	chic	71.0	58.10000	2004-06-18	13.866667	36.500000	25.6432292	26.708333
6380	chic	56.0	39.70000	2004-06-19	3.800000	9.000000	26.7682292	12.281250
6381	chic	61.0	45.10000	2004-06-20	10.944444	19.800000	26.6041667	22.458333
6382	chic	63.0	57.30000	2004-06-21	14.100000	28.000000	13.2036911	31.862500
6383	chic	65.0	49.70000	2004-06-22	7.200000	26.500000	20.8706975	21.418561
6384	chic	70.0	54.00000	2004-06-23	8.612500	56.000000	28.4839530	23.562500

6385	chic	62.0	47.50000	2004-06-24	5.700000	14.000000	21.8847373	22.839900
6386	chic	61.0	44.20000	2004-06-25	8.500000	22.500000	19.3359375	26.375000
6387	chic	64.0	47.80000	2004-06-26	7.887500	23.200000	23.1354167	21.583333
6388	chic	67.0	51.30000	2004-06-27	12.000000	26.500000	26.0546875	23.229167
6389	chic	65.0	52.80000	2004-06-28	14.500000	22.500000	23.1046196	23.664855
6390	chic	69.0	52.10000	2004-06-29	11.285714	47.500000	22.6679121	26.729167
6391	chic	73.0	56.20000	2004-06-30	15.900000	58.500000	26.4171196	33.661458
6392	chic	71.0	57.00000	2004-07-01	14.700000	54.500000	37.7632576	27.879623
6393	chic	71.0	58.50000	2004-07-02	14.977778	41.400000	40.9322917	18.505208
6394	chic	73.0	67.20000	2004-07-03	18.200000	38.000000	31.7864583	17.406250
6395	chic	76.0	66.60000	2004-07-04	7.300000	25.000000	31.1953125	11.045139
6396	chic	68.0	60.70000	2004-07-05	9.137500	15.500000	31.6354167	7.604167
6397	chic	73.0	64.90000	2004-07-06	4.900000	32.000000	30.9131567	19.381826
6398	chic	64.0	57.60000	2004-07-07	8.000000	21.000000	14.9710145	13.536458
6399	chic	65.0	52.00000	2004-07-08	6.857143	18.000000	28.4744318	15.697443
6400	chic	68.0	58.20000	2004-07-09	13.700000	33.500000	26.4721201	14.822917
6401	chic	73.0	62.70000	2004-07-10	17.400000	24.000000	35.7053571	13.031250
6402	chic	74.0	67.30000	2004-07-11	17.357143	29.500000	38.7797619	14.489583
6403	chic	78.0	67.40000	2004-07-12	15.800000	30.000000	33.0895298	18.640625
6404	chic	78.0	67.10000	2004-07-13	6.400000	44.000000	26.2547554	23.698864
6405	chic	72.0	58.20000	2004-07-14	9.111111	28.750000	32.2190897	18.125000
6406	chic	72.0	56.30000	2004-07-15	15.550000	37.000000	25.0067935	24.601255
6407	chic	73.0	62.80000	2004-07-16	13.100000	52.500000	28.7057292	22.958333
6408	chic	70.0	60.70000	2004-07-17	15.000000	17.000000	32.4062500	7.880208
6409	chic	71.0	59.00000	2004-07-18	17.300000	20.000000	24.9150095	11.734375
6410	chic	71.0	60.00000	2004-07-19	24.200000	59.500000	26.7366395	23.958333
6411	chic	80.0	67.60000	2004-07-20	25.375000	40.200000	35.6300951	25.843750
6412	chic	79.0	72.80000	2004-07-21	20.000000	54.500000	27.0320955	26.237216
6413	chic	79.0	68.40000	2004-07-22	4.800000	35.500000	25.1123188	18.865132
6414	chic	65.0	50.80000	2004-07-23	4.112500	9.000000	26.9984149	10.161232
6415	chic	63.0	51.00000	2004-07-24	6.800000	17.500000	28.1666667	9.156250
6416	chic	67.0	53.20000	2004-07-25	11.700000	11.500000	35.9010417	7.552083
6417	chic	67.0	53.60000	2004-07-26	9.750000	20.400000	29.4442935	21.580357
6418	chic	70.0	52.80000	2004-07-27	18.050000	30.500000	29.4624094	31.315341
6419	chic	70.0	56.10000	2004-07-28	25.900000	62.000000	28.0887681	38.317708
6420	chic	72.0	60.20000	2004-07-29	23.742857	42.500000	33.5643116	27.454937
6421	chic	68.0	62.70000	2004-07-30	25.350000	51.500000	22.4595788	33.963542
6422	chic	74.0	60.20000	2004-07-31	17.200000	29.500000	28.9765625	22.218750
6423	chic	77.0	62.50000	2004-08-01	17.244444	26.000000	30.1718750	26.359375
6424	chic	78.0	67.70000	2004-08-02	15.300000	51.500000	34.9270833	26.135417
6425	chic	78.0	67.70000	2004-08-03	7.700000	36.000000	40.1978446	26.883852
6426	chic	70.0	61.40000	2004-08-04	6.887500	10.000000	27.2918931	11.709336
6427	chic	65.0	51.00000	2004-08-05	8.500000	9.500000	28.5740489	8.208333

6428	chic	65.0	49.20000	2004-08-06	11.400000	20.000000	19.6564764	16.786458
6429	chic	65.0	52.20000	2004-08-07	12.077778	25.000000	26.6093750	21.651042
6430	chic	70.0	57.00000	2004-08-08	19.500000	28.500000	31.4401042	19.890625
6431	chic	75.0	61.30000	2004-08-09	8.300000	55.500000	31.4802989	17.765625
6432	chic	64.0	54.70000	2004-08-10	6.237500	31.500000	12.1788949	9.912364
6433	chic	58.0	49.00000	2004-08-11	5.700000	29.500000	11.7786458	10.807292
6434	chic	56.0	48.20000	2004-08-12	6.700000	17.500000	13.0201231	15.928339
6435	chic	61.0	50.30000	2004-08-13	7.533333	20.200000	16.8072917	19.661685
6436	chic	60.0	48.40000	2004-08-14	8.500000	14.500000	19.0833333	15.197917
6437	chic	62.0	49.00000	2004-08-15	17.700000	19.500000	23.7812500	17.875000
6438	chic	63.0	51.30000	2004-08-16	15.887500	52.500000	26.7139946	28.075893
6439	chic	72.0	62.30000	2004-08-17	19.400000	48.000000	33.6066782	25.429924
6440	chic	70.0	64.40000	2004-08-18	20.000000	35.500000	20.1664402	25.572917
6441	chic	64.0	50.90000	2004-08-19	7.111111	17.800000	20.4440670	14.424517
6442	chic	66.0	50.70000	2004-08-20	11.800000	42.500000	10.9270833	28.000000
6443	chic	63.0	51.20000	2004-08-21	9.800000	22.500000	24.0260417	19.229167
6444	chic	65.0	56.20000	2004-08-22	16.175000	36.000000	30.6875000	20.916667
6445	chic	72.0	63.70000	2004-08-23	17.400000	45.500000	27.4678442	18.958333
6446	chic	73.0	67.40000	2004-08-24	10.000000	30.000000	15.4572237	23.750000
6447	chic	72.0	66.50000	2004-08-25	7.400000	15.000000	12.4052310	20.527778
6448	chic	75.0	70.20000	2004-08-26	16.100000	31.500000	21.2835145	19.215278
6449	chic	78.0	69.50000	2004-08-27	16.500000	36.500000	22.6573822	22.550423
6450	chic	68.0	61.90000	2004-08-28	6.012500	6.000000	22.5468750	10.625000
6451	chic	61.0	53.90000	2004-08-29	5.900000	5.000000	19.6577381	8.993056
6452	chic	64.0	57.20000	2004-08-30	16.400000	32.000000	14.6392663	24.213294
6453	chic	67.0	58.30000	2004-08-31	15.342857	32.400000	19.2197896	27.467172
6454	chic	70.0	60.30000	2004-09-01	NA	47.500000	25.5115489	31.686298
6455	chic	73.0	62.00000	2004-09-02	NA	42.000000	33.8437500	30.298557
6456	chic	73.0	64.30000	2004-09-03	37.285714	51.500000	26.0494792	33.260417
6457	chic	73.0	63.20000	2004-09-04	38.800000	50.500000	29.4609375	31.145833
6458	chic	76.0	66.50000	2004-09-05	41.500000	45.000000	34.2447917	22.406250
6459	chic	68.0	63.20000	2004-09-06	20.762500	30.200000	29.9114583	13.052083
6460	chic	66.0	51.30000	2004-09-07	14.700000	16.000000	21.2864583	15.635417
6461	chic	65.0	53.90000	2004-09-08	5.600000	10.000000	23.7921196	9.661458
6462	chic	64.0	54.50000	2004-09-09	7.171429	17.000000	17.3255208	16.787879
6463	chic	66.0	54.40000	2004-09-10	17.800000	54.000000	19.0677083	30.213542
6464	chic	70.0	57.00000	2004-09-11	19.300000	37.000000	31.7031250	34.473958
6465	chic	71.0	57.90000	2004-09-12	28.528571	42.750000	40.9010417	27.973958
6466	chic	71.0	60.70000	2004-09-13	NA	48.500000	32.2578228	30.426760
6467	chic	75.0	64.70000	2004-09-14	22.750000	46.500000	31.7319252	20.566576
6468	chic	77.0	65.90000	2004-09-15	16.957143	59.000000	25.9983016	19.359375
6469	chic	66.0	53.60000	2004-09-16	9.000000	18.000000	23.8258282	19.984375
6470	chic	62.0	49.10000	2004-09-17	7.300000	13.500000	26.6287879	17.966856

6471	chic	64.0	52.20000	2004-09-18	10.212500	24.200000	24.6309524	23.057292
6472	chic	68.0	49.30000	2004-09-19	10.700000	16.500000	28.2678571	18.854167
6473	chic	64.0	47.50000	2004-09-20	NA	31.000000	26.5124224	28.529665
6474	chic	67.0	50.50000	2004-09-21	17.487500	61.000000	30.2075569	38.338315
6475	chic	66.0	52.40000	2004-09-22	26.000000	71.500000	30.6868530	39.449405
6476	chic	70.0	53.30000	2004-09-23	27.900000	60.500000	33.0178571	39.614583
6477	chic	69.0	50.70000	2004-09-24	12.911111	35.000000	23.2172619	31.166667
6478	chic	62.0	49.90000	2004-09-25	9.800000	15.500000	20.7678571	19.000000
6479	chic	59.0	47.60000	2004-09-26	NA	18.000000	19.1428571	20.406250
6480	chic	61.0	48.20000	2004-09-27	18.471429	42.500000	15.6788302	40.854167
6481	chic	59.0	47.10000	2004-09-28	NA	15.500000	22.4704969	15.342708
6482	chic	54.0	44.90000	2004-09-29	9.600000	12.500000	19.3408385	24.945707
6483	chic	54.0	41.20000	2004-09-30	17.811111	41.600000	12.9523810	35.821429
6484	chic	62.0	49.20000	2004-10-01	NA	51.500000	25.0676407	31.444444
6485	chic	48.0	30.90000	2004-10-02	7.800000	11.500000	17.2500000	17.041667
6486	chic	53.0	32.50000	2004-10-03	7.737500	21.500000	18.9880952	21.444444
6487	chic	47.0	30.30000	2004-10-04	9.300000	14.000000	16.5468074	19.777778
6488	chic	46.0	29.00000	2004-10-05	11.900000	37.500000	7.8039596	32.114734
6489	chic	61.0	35.90000	2004-10-06	11.437500	41.000000	9.5587121	36.541667
6490	chic	60.0	41.70000	2004-10-07	18.800000	46.500000	20.4133023	38.617754
6491	chic	64.0	61.20000	2004-10-08	24.550000	34.000000	16.5148810	22.555556
6492	chic	57.0	41.00000	2004-10-09	10.350000	18.500000	16.2916667	26.555556
6493	chic	52.0	42.90000	2004-10-10	9.900000	14.500000	18.8095238	19.444444
6494	chic	53.0	43.60000	2004-10-11	13.100000	19.000000	20.7440476	23.472222
6495	chic	51.0	44.40000	2004-10-12	13.200000	29.200000	16.0815217	23.393720
6496	chic	58.0	47.80000	2004-10-13	24.800000	29.000000	13.8779762	28.666667
6497	chic	52.0	46.60000	2004-10-14	12.350000	17.000000	11.2648810	23.138889
6498	chic	49.0	41.10000	2004-10-15	8.600000	11.500000	9.2735507	17.283213
6499	chic	43.0	29.50000	2004-10-16	4.200000	17.000000	17.6488095	8.250000
6500	chic	43.0	28.90000	2004-10-17	8.300000	14.000000	14.8422619	19.319444
6501	chic	45.0	39.30000	2004-10-18	12.387500	18.000000	13.3469085	22.140097
6502	chic	51.0	46.50000	2004-10-19	13.100000	17.000000	11.6206004	17.584541
6503	chic	52.0	48.00000	2004-10-20	14.750000	12.500000	14.2859731	18.794591
6504	chic	53.0	46.10000	2004-10-21	11.687500	19.500000	14.9702381	20.388889
6505	chic	54.0	49.30000	2004-10-22	25.600000	34.000000	10.1962992	24.833333
6506	chic	66.0	54.80000	2004-10-23	13.800000	21.000000	13.4761905	15.055556
6507	chic	55.0	43.40000	2004-10-24	8.233333	14.200000	14.4375000	21.569444
6508	chic	57.0	44.90000	2004-10-25	18.600000	42.000000	13.5813923	36.084541
6509	chic	57.0	52.10000	2004-10-26	27.300000	31.000000	12.5618530	26.680210
6510	chic	58.0	52.10000	2004-10-27	31.612500	28.000000	14.4720262	26.301768
6511	chic	54.0	52.30000	2004-10-28	43.600000	41.500000	6.2078804	26.347222
6512	chic	69.0	65.90000	2004-10-29	18.100000	36.500000	10.0980525	19.333333
6513	chic	61.0	44.20000	2004-10-30	6.000000	18.600000	17.6744792	10.138889

6514	chic	51.0	41.20000	2004-10-31	5.900000	14.000000	14.3671875	12.305556
6515	chic	50.0	46.10000	2004-11-01	10.100000	15.000000	10.1145833	19.172222
6516	chic	47.0	41.60000	2004-11-02	4.850000	9.500000	9.9479167	23.388889
6517	chic	49.0	38.10000	2004-11-03	8.400000	16.500000	16.4393116	21.950397
6518	chic	46.0	38.80000	2004-11-04	11.900000	14.000000	12.2404891	25.417863
6519	chic	45.0	27.50000	2004-11-05	6.975000	16.000000	15.9895833	24.583333
6520	chic	54.0	36.70000	2004-11-06	10.300000	26.500000	12.5833333	22.500000
6521	chic	47.0	27.90000	2004-11-07	6.500000	15.000000	20.0833333	16.208333
6522	chic	39.0	18.90000	2004-11-08	7.000000	25.500000	9.5842391	33.062500
6523	chic	45.0	24.30000	2004-11-09	13.200000	38.500000	7.6911232	29.916667
6524	chic	55.0	38.30000	2004-11-10	22.500000	60.500000	10.6612319	32.045290
6525	chic	44.0	30.80000	2004-11-11	5.650000	11.500000	25.1145833	13.208333
6526	chic	39.0	26.90000	2004-11-12	8.600000	6.000000	25.0312500	17.277174
6527	chic	36.0	26.90000	2004-11-13	8.950000	23.000000	17.8437500	24.375000
6528	chic	38.0	26.40000	2004-11-14	16.887500	27.000000	7.8333333	31.625000
6529	chic	40.0	33.10000	2004-11-15	NA	46.500000	2.1965580	34.597222
6530	chic	51.0	47.80000	2004-11-16	29.600000	42.000000	2.7463768	25.602657
6531	chic	59.0	55.80000	2004-11-17	28.166667	35.000000	2.7306548	20.152778
6532	chic	55.0	54.30000	2004-11-18	28.000000	28.000000	4.1041667	20.347222
6533	chic	52.0	51.00000	2004-11-19	21.400000	20.500000	8.6961051	23.472222
6534	chic	49.0	42.80000	2004-11-20	10.525000	11.500000	11.1666667	14.277778
6535	chic	38.0	29.00000	2004-11-21	11.600000	16.500000	11.2395833	19.333333
6536	chic	42.0	33.20000	2004-11-22	22.600000	39.000000	3.5081522	29.274892
6537	chic	45.0	38.60000	2004-11-23	18.388889	24.800000	7.6562500	19.539855
6538	chic	37.0	30.70000	2004-11-24	12.000000	8.000000	25.2291667	14.638889
6539	chic	27.0	21.10000	2004-11-25	11.600000	12.500000	12.9166667	25.111111
6540	chic	37.0	33.00000	2004-11-26	11.657143	17.500000	4.9583333	25.208333
6541	chic	42.0	39.70000	2004-11-27	6.250000	8.000000	14.6527778	16.958333
6542	chic	39.0	24.90000	2004-11-28	7.100000	14.000000	13.9166667	18.854167
6543	chic	35.0	32.80000	2004-11-29	15.512500	17.200000	3.7577341	33.988248
6544	chic	36.0	33.40000	2004-11-30	17.400000	17.500000	5.3750000	25.095411
6545	chic	29.0	23.90000	2004-12-01	20.100000	20.500000	7.9461051	21.958333
6546	chic	31.0	25.00000	2004-12-02	21.525000	31.500000	4.1496212	28.890873
6547	chic	30.0	21.80000	2004-12-03	21.000000	28.000000	6.9166667	27.263889
6548	chic	36.0	30.40000	2004-12-04	14.400000	28.000000	7.5729167	22.750000
6549	chic	37.0	34.90000	2004-12-05	23.575000	28.200000	5.6458333	20.152778
6550	chic	45.0	43.90000	2004-12-06	21.900000	23.000000	4.0208333	23.650362
6551	chic	46.0	43.40000	2004-12-07	11.800000	12.000000	4.4293478	20.458333
6552	chic	39.0	34.20000	2004-12-08	13.942857	27.000000	7.5144928	22.034420
6553	chic	44.0	40.20000	2004-12-09	21.900000	25.500000	3.5000000	26.375000
6554	chic	41.0	39.50000	2004-12-10	23.100000	25.000000	5.0833333	20.125000
6555	chic	35.0	26.60000	2004-12-11	5.850000	8.600000	18.1666667	15.291667
6556	chic	37.0	27.30000	2004-12-12	8.750000	15.500000	18.6439394	10.361111

6557	chic	25.0	13.00000	2004-12-13	10.000000	20.000000	18.6354167	15.743357
6558	chic	22.0	9.40000	2004-12-14	7.912500	17.000000	10.6961051	23.875000
6559	chic	28.0	15.10000	2004-12-15	19.400000	47.000000	6.9008152	24.457729
6560	chic	36.0	20.40000	2004-12-16	10.500000	32.500000	9.8958333	21.525253
6561	chic	26.0	16.10000	2004-12-17	14.242857	24.333333	6.1041667	32.402778
6562	chic	28.0	24.50000	2004-12-18	16.400000	30.500000	8.9166667	18.319444
6563	chic	11.0	-4.50000	2004-12-19	5.000000	47.000000	21.3854167	17.013889
6564	chic	20.0	3.80000	2004-12-20	7.728571	50.000000	10.7794384	25.609783
6565	chic	25.0	13.80000	2004-12-21	17.100000	44.500000	10.4990942	17.045290
6566	chic	11.0	-0.50000	2004-12-22	12.800000	23.000000	12.2187500	23.486111
6567	chic	12.0	-0.10000	2004-12-23	7.675000	26.500000	17.0416667	21.625000
6568	chic	5.0	-7.40000	2004-12-24	11.400000	15.000000	16.5937500	23.250000
6569	chic	15.0	6.70000	2004-12-25	19.000000	27.500000	10.4791667	21.597222
6570	chic	18.0	12.10000	2004-12-26	21.850000	27.500000	8.4895833	24.416667
6571	chic	17.0	12.00000	2004-12-27	37.100000	34.500000	6.5317029	36.505556
6572	chic	33.0	22.70000	2004-12-28	25.500000	41.000000	4.1363225	29.609903
6573	chic	33.0	29.10000	2004-12-29	41.322222	51.750000	3.3333333	27.550505
6574	chic	44.0	41.20000	2004-12-30	35.500000	28.000000	7.0520833	24.847222
6575	chic	43.0	36.10000	2004-12-31	11.300000	14.000000	16.8437500	15.333333
6576	chic	33.0	24.80000	2005-01-01	10.525000	16.500000	9.2083333	14.152778
6577	chic	44.0	39.60000	2005-01-02	NA	16.000000	6.4479167	16.069444
6578	chic	34.0	31.50000	2005-01-03	17.500000	11.500000	12.6875000	18.625845
6579	chic	33.0	29.00000	2005-01-04	8.837500	11.600000	17.5484601	19.315217
6580	chic	29.0	25.50000	2005-01-05	3.300000	9.000000	27.7604167	13.753788
6581	chic	20.0	18.60000	2005-01-06	21.400000	14.000000	15.4583333	28.305556
6582	chic	18.0	16.70000	2005-01-07	15.566667	19.500000	8.3600543	31.041667
6583	chic	26.0	21.40000	2005-01-08	26.700000	24.500000	5.2291667	26.319444
6584	chic	30.0	27.60000	2005-01-09	19.100000	17.000000	11.4270833	19.027778
6585	chic	32.0	26.10000	2005-01-10	16.471429	21.000000	8.1761364	25.319444
6586	chic	33.0	33.40000	2005-01-11	16.200000	20.500000	4.1277174	21.704106
6587	chic	48.0	45.60000	2005-01-12	9.800000	27.500000	8.1875000	24.899155
6588	chic	31.0	25.50000	2005-01-13	10.100000	9.500000	9.2305254	22.939010
6589	chic	10.0	-3.40000	2005-01-14	10.500000	20.500000	17.2062500	26.555556
6590	chic	10.0	-6.40000	2005-01-15	8.800000	14.000000	18.2708333	25.583333
6591	chic	9.0	-5.60000	2005-01-16	8.966667	13.400000	23.8645833	18.375000
6592	chic	7.0	-7.80000	2005-01-17	10.100000	16.000000	16.3333333	28.180556
6593	chic	12.0	1.70000	2005-01-18	19.300000	44.000000	11.4279891	33.094203
6594	chic	29.0	22.30000	2005-01-19	15.042857	25.500000	13.1145833	26.924242
6595	chic	26.0	20.90000	2005-01-20	22.000000	27.500000	13.7708333	26.949495
6596	chic	21.0	13.50000	2005-01-21	16.800000	25.000000	19.2042572	25.194444
6597	chic	17.0	12.20000	2005-01-22	11.285714	19.600000	19.3333333	23.944444
6598	chic	16.0	7.20000	2005-01-23	10.500000	18.500000	19.0729167	31.472222
6599	chic	26.0	17.30000	2005-01-24	18.600000	26.500000	12.2798913	29.763505

6600	chic	33.0	27.10000	2005-01-25	32.771429	38.500000	5.7042572	36.403986
6601	chic	26.0	19.40000	2005-01-26	12.500000	20.000000	19.2812500	26.568182
6602	chic	13.0	9.30000	2005-01-27	10.800000	22.000000	20.7083333	27.344697
6603	chic	15.0	5.10000	2005-01-28	24.500000	35.600000	7.5384964	40.425000
6604	chic	28.0	17.20000	2005-01-29	32.700000	37.500000	3.7604167	39.000000
6605	chic	30.0	26.20000	2005-01-30	NA	23.000000	12.4062500	23.388889
6606	chic	28.0	22.00000	2005-01-31	45.528571	54.000000	7.0833333	43.585317
6607	chic	28.0	23.80000	2005-02-01	26.650000	28.500000	12.8002717	35.041667
6608	chic	26.0	20.00000	2005-02-02	52.000000	50.500000	6.2414773	46.361111
6609	chic	30.0	25.00000	2005-02-03	47.450000	53.600000	7.2690217	48.597222
6610	chic	36.0	32.10000	2005-02-04	61.500000	57.500000	4.8125000	41.527778
6611	chic	46.0	35.50000	2005-02-05	39.500000	40.500000	8.9062500	29.055556
6612	chic	43.0	35.40000	2005-02-06	26.342857	27.000000	6.9375000	28.555556
6613	chic	39.0	39.30000	2005-02-07	19.700000	18.000000	8.9791667	26.331349
6614	chic	29.0	23.00000	2005-02-08	12.900000	5.000000	19.2323370	18.000000
6615	chic	28.0	20.00000	2005-02-09	12.014286	17.800000	12.6979167	28.722222
6616	chic	27.0	16.30000	2005-02-10	22.100000	28.500000	19.1875000	24.347222
6617	chic	33.0	23.50000	2005-02-11	21.800000	33.500000	14.7187500	23.541667
6618	chic	42.0	28.60000	2005-02-12	20.914286	29.000000	13.6770833	27.486111
6619	chic	38.0	34.70000	2005-02-13	23.400000	28.000000	13.4583333	21.208333
6620	chic	43.0	37.50000	2005-02-14	NA	17.000000	11.2083333	19.458333
6621	chic	38.0	34.00000	2005-02-15	20.587500	25.000000	5.0697464	32.763889
6622	chic	30.0	18.20000	2005-02-16	12.800000	27.500000	19.0625000	19.937500
6623	chic	22.0	8.40000	2005-02-17	10.150000	29.500000	24.0932971	18.655303
6624	chic	19.0	2.80000	2005-02-18	7.825000	24.500000	17.9895833	24.933575
6625	chic	32.0	18.00000	2005-02-19	12.000000	23.000000	14.9479167	23.263889
6626	chic	34.0	32.60000	2005-02-20	14.600000	15.000000	11.8854167	24.791667
6627	chic	35.0	28.70000	2005-02-21	17.471429	21.600000	8.7083333	22.291667
6628	chic	29.0	23.10000	2005-02-22	22.800000	28.000000	11.6354167	32.110939
6629	chic	28.0	19.60000	2005-02-23	23.900000	45.500000	10.8066123	43.166667
6630	chic	32.0	24.10000	2005-02-24	27.350000	35.500000	10.8691123	40.518939
6631	chic	34.0	26.00000	2005-02-25	28.600000	40.000000	13.9270833	26.125000
6632	chic	29.0	20.80000	2005-02-26	12.000000	15.500000	30.4791667	19.583333
6633	chic	33.0	23.90000	2005-02-27	20.285714	24.200000	14.9687500	23.930556
6634	chic	31.0	27.40000	2005-02-28	24.200000	21.000000	11.9809783	27.554831
6635	chic	23.0	12.50000	2005-03-01	7.600000	23.000000	27.9814312	22.055556
6636	chic	20.0	5.90000	2005-03-02	6.362500	20.500000	24.0321970	25.666667
6637	chic	24.0	12.70000	2005-03-03	18.000000	38.500000	12.4479167	42.187198
6638	chic	32.0	26.60000	2005-03-04	36.900000	54.500000	5.3958333	46.569444
6639	chic	38.0	30.50000	2005-03-05	28.225000	34.200000	17.8125000	24.194444
6640	chic	50.0	33.60000	2005-03-06	14.700000	26.000000	29.5625000	16.194444
6641	chic	42.0	29.30000	2005-03-07	9.600000	20.500000	26.7187500	18.561508
6642	chic	24.0	7.00000	2005-03-08	7.325000	25.000000	25.7038043	22.078502

6643	chic	24.0	3.90000	2005-03-09	9.700000	24.500000	19.5625000	30.791667
6644	chic	29.0	22.40000	2005-03-10	16.600000	32.000000	9.2187500	33.347222
6645	chic	30.0	22.70000	2005-03-11	11.985714	20.500000	23.0937500	19.944444
6646	chic	26.0	10.70000	2005-03-12	5.500000	24.500000	30.3020833	18.180556
6647	chic	23.0	7.60000	2005-03-13	8.600000	20.500000	23.9479167	26.319444
6648	chic	29.0	19.60000	2005-03-14	19.612500	51.000000	9.9343297	39.874569
6649	chic	31.0	17.40000	2005-03-15	20.800000	49.000000	15.5457428	30.777174
6650	chic	37.0	21.10000	2005-03-16	19.700000	53.500000	16.8201993	30.944444
6651	chic	32.0	26.80000	2005-03-17	13.062500	22.400000	26.1041667	25.958333
6652	chic	39.0	30.90000	2005-03-18	28.700000	43.500000	21.0000000	26.506148
6653	chic	42.0	36.10000	2005-03-19	26.950000	27.500000	19.1458333	18.458333
6654	chic	34.0	25.00000	2005-03-20	12.900000	15.500000	32.5208333	17.486111
6655	chic	32.0	26.50000	2005-03-21	16.700000	19.000000	23.1245471	27.134058
6656	chic	37.0	26.80000	2005-03-22	NA	19.500000	33.7391304	18.411836
6657	chic	34.0	26.20000	2005-03-23	6.385714	12.000000	32.4062500	19.861111
6658	chic	36.0	25.60000	2005-03-24	21.400000	45.000000	12.1562500	45.944444
6659	chic	36.0	31.00000	2005-03-25	16.100000	14.000000	29.6770833	23.152778
6660	chic	37.0	30.80000	2005-03-26	17.685714	22.500000	24.2812500	25.500000
6661	chic	38.0	28.10000	2005-03-27	NA	34.000000	16.2500000	37.069444
6662	chic	44.0	27.20000	2005-03-28	NA	37.500000	22.6884058	41.097826
6663	chic	52.0	31.00000	2005-03-29	18.557143	36.800000	22.3772645	39.629227
6664	chic	66.0	44.30000	2005-03-30	13.850000	56.500000	32.8922101	23.069444
6665	chic	49.0	38.10000	2005-03-31	5.400000	20.500000	24.3125000	21.222222
6666	chic	45.0	35.50000	2005-04-01	10.800000	24.000000	18.5600414	32.443182
6667	chic	43.0	30.90000	2005-04-02	6.050000	15.000000	32.2916667	18.125000
6668	chic	48.0	27.30000	2005-04-03	7.500000	24.000000	22.4404762	31.261473
6669	chic	52.0	33.70000	2005-04-04	18.100000	47.500000	25.7428830	38.083333
6670	chic	62.0	48.80000	2005-04-05	16.700000	40.000000	36.1071429	23.625000
6671	chic	63.0	50.30000	2005-04-06	NA	37.000000	25.3867754	23.602843
6672	chic	48.0	35.50000	2005-04-07	5.871429	11.500000	40.7797619	13.401042
6673	chic	49.0	31.10000	2005-04-08	5.400000	17.500000	33.9821429	26.531250
6674	chic	52.0	32.50000	2005-04-09	12.400000	26.500000	30.5952381	25.838542
6675	chic	62.0	42.30000	2005-04-10	22.385714	46.500000	41.0327381	22.729167
6676	chic	65.0	32.60000	2005-04-11	13.300000	67.000000	45.9948240	17.824728
6677	chic	48.0	34.60000	2005-04-12	8.100000	21.000000	28.4838839	22.328869
6678	chic	47.0	24.90000	2005-04-13	5.150000	16.000000	36.8510611	14.748958
6679	chic	47.0	23.40000	2005-04-14	6.600000	17.500000	35.6881470	23.557292
6680	chic	48.0	28.00000	2005-04-15	7.300000	32.500000	27.3555195	35.395833
6681	chic	56.0	34.40000	2005-04-16	18.550000	47.200000	26.8988095	36.296875
6682	chic	62.0	44.50000	2005-04-17	29.600000	40.000000	37.1994048	32.687500
6683	chic	64.0	44.90000	2005-04-18	25.800000	76.500000	34.6884058	47.922554
6684	chic	71.0	48.00000	2005-04-19	19.085714	69.000000	38.1790890	24.727582
6685	chic	57.0	46.80000	2005-04-20	9.400000	22.500000	27.4782609	12.957386

6686	chic	50.0	30.60000	2005-04-21	3.700000	19.500000	31.1130952	16.072917
6687	chic	42.0	38.40000	2005-04-22	7.512500	14.200000	29.8476967	18.593750
6688	chic	39.0	26.00000	2005-04-23	3.500000	11.000000	37.9523810	10.739583
6689	chic	44.0	24.10000	2005-04-24	1.700000	14.000000	37.4404762	10.864583
6690	chic	53.0	29.40000	2005-04-25	4.842857	40.000000	32.4101967	18.989583
6691	chic	50.0	35.30000	2005-04-26	5.800000	28.500000	25.3174172	15.274521
6692	chic	48.0	29.80000	2005-04-27	6.350000	37.500000	27.2850303	15.958333
6693	chic	48.0	29.70000	2005-04-28	10.312500	28.800000	27.4316770	19.990327
6694	chic	46.0	25.70000	2005-04-29	8.700000	24.500000	31.0238095	19.807292
6695	chic	46.0	26.10000	2005-04-30	13.300000	31.500000	26.7619048	25.010417
6696	chic	42.0	26.60000	2005-05-01	6.185714	25.500000	20.6726190	14.843750
6697	chic	40.0	25.10000	2005-05-02	8.000000	24.000000	17.0119048	15.359649
6698	chic	43.0	24.10000	2005-05-03	10.600000	25.500000	22.4749646	22.623868
6699	chic	48.0	24.00000	2005-05-04	15.900000	44.800000	26.3588509	32.659564
6700	chic	54.0	29.20000	2005-05-05	20.300000	61.500000	34.8928571	34.344882
6701	chic	63.0	43.10000	2005-05-06	19.800000	65.500000	34.5589356	36.904762
6702	chic	53.0	44.00000	2005-05-07	14.050000	25.500000	34.2083333	22.020833
6703	chic	64.0	47.30000	2005-05-08	17.100000	42.000000	43.6130952	23.390625
6704	chic	70.0	56.10000	2005-05-09	16.400000	62.500000	31.9255952	23.296875
6705	chic	71.0	51.70000	2005-05-10	7.662500	33.250000	31.1218944	22.877264
6706	chic	54.0	44.40000	2005-05-11	NA	17.000000	26.6130952	11.953125
6707	chic	49.0	36.70000	2005-05-12	5.100000	17.000000	24.4017857	12.135417
6708	chic	61.0	49.80000	2005-05-13	17.000000	36.000000	18.1696429	25.385417
6709	chic	56.0	43.60000	2005-05-14	6.900000	14.000000	28.8601190	11.166667
6710	chic	48.0	37.50000	2005-05-15	2.400000	10.000000	19.6934524	11.750000
6711	chic	52.0	35.10000	2005-05-16	4.828571	20.750000	24.1470567	17.042120
6712	chic	60.0	42.80000	2005-05-17	13.350000	37.000000	32.8034420	24.450893
6713	chic	66.0	46.30000	2005-05-18	16.800000	48.000000	42.0059524	22.502841
6714	chic	62.0	56.70000	2005-05-19	31.528571	43.500000	21.0605590	27.229167
6715	chic	58.0	44.90000	2005-05-20	13.950000	24.500000	37.5744048	17.197917
6716	chic	58.0	44.00000	2005-05-21	13.800000	42.000000	32.7410714	31.776042
6717	chic	69.0	47.80000	2005-05-22	11.050000	28.000000	34.1250000	22.437500
6718	chic	61.0	48.30000	2005-05-23	9.800000	18.500000	32.4136905	13.956975
6719	chic	57.0	45.50000	2005-05-24	8.700000	13.000000	27.0428313	16.393116
6720	chic	58.0	44.70000	2005-05-25	7.050000	19.000000	25.4633799	20.021307
6721	chic	66.0	43.90000	2005-05-26	10.800000	39.500000	22.0000000	29.894928
6722	chic	59.0	44.00000	2005-05-27	8.700000	37.500000	22.6885352	22.392663
6723	chic	58.0	44.80000	2005-05-28	7.214286	16.400000	21.1845238	21.645833
6724	chic	57.0	44.40000	2005-05-29	NA	17.500000	23.1309524	24.260417
6725	chic	60.0	45.90000	2005-05-30	NA	19.500000	32.2500000	21.713542
6726	chic	59.0	49.00000	2005-05-31	8.328571	14.000000	22.8907867	20.819067
6727	chic	65.0	49.80000	2005-06-01	15.400000	27.500000	37.2199852	21.838542
6728	chic	66.0	54.40000	2005-06-02	19.000000	35.500000	34.7954031	23.166667

6729	chic	67.0	60.90000	2005-06-03	27.112500	39.000000	29.1041667	19.209177
6730	chic	72.0	63.50000	2005-06-04	21.400000	35.500000	36.0989583	21.994792
6731	chic	78.0	62.40000	2005-06-05	16.000000	23.500000	44.1796875	11.968750
6732	chic	78.0	57.60000	2005-06-06	7.228571	33.000000	35.6354167	19.890399
6733	chic	77.0	62.40000	2005-06-07	16.800000	39.500000	39.2944973	27.984828
6734	chic	78.0	65.10000	2005-06-08	19.200000	37.000000	33.4615036	30.131793
6735	chic	77.0	63.40000	2005-06-09	13.771429	29.600000	25.1966712	33.192708
6736	chic	78.0	68.10000	2005-06-10	20.100000	38.000000	32.7043705	25.255208
6737	chic	80.0	67.50000	2005-06-11	14.500000	27.000000	33.7109375	14.291667
6738	chic	75.0	66.50000	2005-06-12	13.185714	18.000000	26.9322917	13.510417
6739	chic	78.0	64.20000	2005-06-13	19.400000	31.000000	37.5447958	19.735863
6740	chic	74.0	60.10000	2005-06-14	6.800000	30.000000	35.2216115	14.392437
6741	chic	64.0	57.30000	2005-06-15	6.187500	17.400000	18.7296196	14.727273
6742	chic	66.0	46.80000	2005-06-16	6.800000	19.500000	26.0099432	19.927083
6743	chic	61.0	49.00000	2005-06-17	5.600000	9.500000	20.9997736	13.807292
6744	chic	62.0	50.70000	2005-06-18	4.200000	8.500000	19.0364583	13.859375
6745	chic	65.0	53.50000	2005-06-19	7.000000	19.000000	26.5885417	14.027778
6746	chic	69.0	54.50000	2005-06-20	16.600000	42.500000	34.6831975	33.992788
6747	chic	75.0	58.00000	2005-06-21	16.471429	41.000000	40.0652174	25.500000
6748	chic	72.0	44.60000	2005-06-22	11.300000	19.000000	31.8234107	20.155838
6749	chic	77.0	60.80000	2005-06-23	23.300000	62.500000	44.3263134	26.838542
6750	chic	86.0	63.40000	2005-06-24	31.857143	74.000000	50.9664855	23.750000
6751	chic	80.0	66.00000	2005-06-25	28.100000	48.000000	46.3988095	22.791667
6752	chic	82.0	66.10000	2005-06-26	23.000000	42.500000	55.2202381	17.197917
6753	chic	82.0	64.60000	2005-06-27	51.537500	79.000000	55.2358572	28.549366
6754	chic	85.0	64.10000	2005-06-28	31.200000	57.500000	50.2914402	26.553977
6755	chic	82.0	67.50000	2005-06-29	22.200000	47.000000	43.0280797	25.859400
6756	chic	82.0	63.40000	2005-06-30	15.885714	38.000000	45.1177536	19.437500
6757	chic	69.0	51.60000	2005-07-01	6.300000	16.000000	30.0364583	9.322917
6758	chic	65.0	50.20000	2005-07-02	4.200000	13.000000	30.7916667	9.277778
6759	chic	70.0	55.80000	2005-07-03	16.112500	26.800000	38.4010417	15.659873
6760	chic	77.0	64.40000	2005-07-04	23.200000	32.500000	36.6041667	12.968750
6761	chic	75.0	61.60000	2005-07-05	NA	22.500000	30.2861187	13.370652
6762	chic	72.0	61.90000	2005-07-06	12.685714	16.000000	33.8668067	10.326389
6763	chic	73.0	58.00000	2005-07-07	9.900000	21.500000	36.0953471	11.253623
6764	chic	73.0	54.10000	2005-07-08	9.300000	18.000000	37.2552083	18.062274
6765	chic	72.0	52.50000	2005-07-09	16.350000	37.500000	42.1927083	21.729167
6766	chic	76.0	53.20000	2005-07-10	15.400000	28.000000	57.9062500	23.958333
6767	chic	76.0	58.80000	2005-07-11	19.100000	38.000000	57.6451540	19.708333
6768	chic	79.0	65.50000	2005-07-12	26.187500	35.000000	58.8412591	14.816220
6769	chic	80.0	66.00000	2005-07-13	19.100000	25.000000	39.3333333	10.162202
6770	chic	79.0	67.00000	2005-07-14	19.600000	31.500000	34.5258152	12.506114
6771	chic	79.0	65.60000	2005-07-15	15.757143	28.400000	27.3966259	16.098958

6772	chic	81.0	63.80000	2005-07-16	19.600000	29.000000	38.0885417	16.593750
6773	chic	84.0	67.00000	2005-07-17	32.700000	42.500000	44.6432292	16.270833
6774	chic	83.0	64.60000	2005-07-18	12.837500	37.500000	36.4478034	13.018957
6775	chic	79.0	57.60000	2005-07-19	10.900000	35.000000	36.9130111	19.398810
6776	chic	78.0	67.80000	2005-07-20	15.600000	37.500000	26.1204298	27.680871
6777	chic	79.0	68.90000	2005-07-21	12.375000	23.800000	35.3736413	22.459541
6778	chic	75.0	65.30000	2005-07-22	10.000000	14.500000	36.3177083	16.033482
6779	chic	74.0	68.30000	2005-07-23	NA	26.000000	28.3958333	19.750000
6780	chic	90.0	70.90000	2005-07-24	22.050000	44.000000	47.6041667	11.963542
6781	chic	81.0	71.40000	2005-07-25	NA	32.500000	30.8409194	27.977679
6782	chic	75.0	66.80000	2005-07-26	NA	23.000000	29.2653061	15.864583
6783	chic	65.0	53.30000	2005-07-27	7.675000	15.400000	21.3832654	14.501637
6784	chic	66.0	52.10000	2005-07-28	14.800000	29.000000	23.0859375	25.852808
6785	chic	72.0	58.20000	2005-07-29	NA	32.500000	26.4765625	22.359375
6786	chic	73.0	59.70000	2005-07-30	12.837500	22.000000	32.4348958	18.911458
6787	chic	79.0	64.60000	2005-07-31	20.800000	29.500000	40.8489583	20.166667
6788	chic	81.0	65.00000	2005-08-01	28.700000	56.500000	41.9490489	26.831101
6789	chic	79.0	66.10000	2005-08-02	44.487500	60.000000	40.6713089	29.280344
6790	chic	84.0	69.00000	2005-08-03	37.900000	64.000000	39.3211051	23.619318
6791	chic	82.0	66.10000	2005-08-04	21.600000	45.500000	37.2974411	18.677083
6792	chic	73.0	56.50000	2005-08-05	7.428571	27.500000	28.0364583	17.817708
6793	chic	72.0	55.90000	2005-08-06	11.000000	20.500000	33.3958333	19.552083
6794	chic	74.0	57.80000	2005-08-07	25.900000	40.000000	44.9947917	28.375000
6795	chic	78.0	57.80000	2005-08-08	31.662500	55.400000	39.6128850	38.869730
6796	chic	80.0	63.50000	2005-08-09	33.000000	65.500000	43.2863451	28.884511
6797	chic	79.0	65.90000	2005-08-10	16.000000	33.500000	42.8753059	19.588636
6798	chic	72.0	67.00000	2005-08-11	14.785714	24.000000	21.5434783	31.854167
6799	chic	79.0	68.90000	2005-08-12	NA	27.000000	30.7906476	23.987500
6800	chic	72.0	61.00000	2005-08-13	10.100000	14.000000	27.4088542	15.125000
6801	chic	69.0	57.50000	2005-08-14	7.600000	15.000000	22.7447917	15.861111
6802	chic	71.0	62.40000	2005-08-15	16.400000	34.500000	27.3875679	29.006944
6803	chic	74.0	62.00000	2005-08-16	21.400000	36.500000	34.1218297	26.802083
6804	chic	71.0	60.80000	2005-08-17	20.762500	41.000000	39.4198370	23.953125
6805	chic	77.0	68.90000	2005-08-18	NA	41.000000	26.4531250	24.411458
6806	chic	79.0	66.90000	2005-08-19	14.500000	28.000000	35.8140625	17.685974
6807	chic	78.0	67.70000	2005-08-20	9.885714	18.600000	27.2734375	15.791667
6808	chic	74.0	54.40000	2005-08-21	7.900000	12.000000	24.3802083	13.834239
6809	chic	67.0	52.70000	2005-08-22	4.000000	8.000000	22.7417346	10.161458
6810	chic	66.0	52.70000	2005-08-23	5.085714	9.000000	27.1679121	12.967618
6811	chic	67.0	56.00000	2005-08-24	NA	28.500000	28.0146060	15.166667
6812	chic	72.0	58.50000	2005-08-25	18.500000	46.500000	35.5610119	22.131629
6813	chic	75.0	64.30000	2005-08-26	31.300000	49.400000	37.4564394	30.952178
6814	chic	76.0	59.60000	2005-08-27	18.600000	30.000000	31.6562500	19.656250

6815	chic	75.0	57.60000	2005-08-28	12.000000	19.000000	35.0052083	16.755208
6816	chic	74.0	59.00000	2005-08-29	13.357143	26.500000	33.4200634	23.711277
6817	chic	71.0	61.30000	2005-08-30	15.900000	22.000000	32.3285779	19.275815
6818	chic	71.0	58.90000	2005-08-31	8.100000	18.500000	17.5076993	19.365057
6819	chic	76.0	51.40000	2005-09-01	9.800000	33.000000	21.3223505	28.192613
6820	chic	72.0	46.10000	2005-09-02	8.600000	37.500000	22.6129982	26.791667
6821	chic	69.0	54.60000	2005-09-03	10.250000	17.500000	21.4479167	19.250000
6822	chic	70.0	55.80000	2005-09-04	12.285714	24.000000	25.5625000	18.166667
6823	chic	73.0	57.60000	2005-09-05	17.400000	25.000000	39.2343750	17.921875
6824	chic	74.0	56.80000	2005-09-06	28.900000	50.000000	41.5176630	27.641304
6825	chic	78.0	60.30000	2005-09-07	32.371429	53.800000	39.4282156	34.723214
6826	chic	72.0	64.70000	2005-09-08	17.100000	23.000000	41.0919178	16.609375
6827	chic	74.0	62.80000	2005-09-09	20.100000	39.000000	36.5815217	21.598958
6828	chic	80.0	62.90000	2005-09-10	37.887500	55.000000	47.5781250	19.385417
6829	chic	80.0	61.80000	2005-09-11	56.500000	65.000000	51.7395833	18.875000
6830	chic	79.0	57.70000	2005-09-12	44.300000	78.500000	44.5423460	28.048363
6831	chic	83.0	59.80000	2005-09-13	28.675000	59.000000	39.3420105	25.748106
6832	chic	67.0	57.90000	2005-09-14	8.500000	18.000000	23.8689236	14.678504
6833	chic	62.0	52.90000	2005-09-15	6.600000	12.000000	23.1953125	14.093750
6834	chic	62.0	55.40000	2005-09-16	7.428571	12.000000	23.9739583	16.250000
6835	chic	65.0	54.40000	2005-09-17	9.700000	21.500000	20.1093750	22.572917
6836	chic	68.0	55.80000	2005-09-18	15.000000	22.000000	25.2031250	24.380208
6837	chic	75.0	64.70000	2005-09-19	19.685714	29.600000	25.5674819	19.968750
6838	chic	69.0	55.90000	2005-09-20	13.200000	32.500000	20.1879529	35.925272
6839	chic	70.0	54.70000	2005-09-21	18.200000	49.000000	29.0465839	33.177083
6840	chic	75.0	64.50000	2005-09-22	22.542857	42.500000	34.2026915	18.883929
6841	chic	65.0	52.90000	2005-09-23	4.800000	9.500000	25.5205628	11.125000
6842	chic	67.0	59.20000	2005-09-24	18.400000	25.500000	14.2261905	22.736111
6843	chic	71.0	67.40000	2005-09-25	21.428571	26.000000	13.5267857	18.347222
6844	chic	60.0	58.60000	2005-09-26	7.600000	14.500000	12.5278209	19.916667
6845	chic	61.0	51.20000	2005-09-27	14.900000	32.500000	13.3602955	30.055556
6846	chic	62.0	53.20000	2005-09-28	9.916667	28.500000	18.4133023	24.750000
6847	chic	53.0	34.90000	2005-09-29	5.300000	14.500000	12.3236284	19.402778
6848	chic	58.0	38.00000	2005-09-30	7.900000	33.500000	15.5639234	26.986111
6849	chic	65.0	48.40000	2005-10-01	16.400000	29.200000	25.9523810	28.277778
6850	chic	69.0	62.00000	2005-10-02	21.700000	28.000000	29.4523810	19.569444
6851	chic	78.0	67.30000	2005-10-03	23.000000	43.000000	25.2397774	21.164683
6852	chic	79.0	66.30000	2005-10-04	23.150000	46.500000	27.5251035	22.652778
6853	chic	77.0	63.20000	2005-10-05	NA	47.000000	30.5253623	24.917874
6854	chic	58.0	38.80000	2005-10-06	6.300000	16.500000	13.3207816	11.680556
6855	chic	49.0	37.60000	2005-10-07	4.271429	10.750000	15.1458333	14.422222
6856	chic	48.0	38.90000	2005-10-08	4.500000	6.500000	26.0000000	11.486111
6857	chic	53.0	43.10000	2005-10-09	4.400000	7.500000	27.7738095	10.736111

6858	chic	54.0	47.20000	2005-10-10	7.871429	12.500000	18.5476190	17.375000
6859	chic	58.0	52.00000	2005-10-11	7.600000	13.500000	11.9583333	15.555556
6860	chic	59.0	54.40000	2005-10-12	18.700000	24.500000	3.0437371	20.986111
6861	chic	61.0	53.20000	2005-10-13	29.800000	48.200000	8.9943064	29.387077
6862	chic	62.0	48.20000	2005-10-14	16.100000	38.500000	15.1458333	28.152778
6863	chic	58.0	34.90000	2005-10-15	5.400000	20.500000	23.7529762	23.222222
6864	chic	52.0	39.50000	2005-10-16	7.900000	12.500000	16.9464286	20.055556
6865	chic	58.0	44.80000	2005-10-17	11.650000	29.500000	14.6687371	28.013889
6866	chic	58.0	42.10000	2005-10-18	11.200000	36.000000	12.8161232	31.493357
6867	chic	56.0	41.30000	2005-10-19	5.612500	16.400000	23.3097591	17.518759
6868	chic	51.0	40.30000	2005-10-20	6.800000	17.000000	18.7500000	17.146135
6869	chic	53.0	41.30000	2005-10-21	9.600000	12.500000	22.2452307	19.839286
6870	chic	46.0	39.90000	2005-10-22	13.337500	18.000000	8.2708333	23.500000
6871	chic	40.0	36.70000	2005-10-23	8.500000	10.000000	11.6428571	18.083333
6872	chic	46.0	37.90000	2005-10-24	5.000000	7.000000	11.7351190	15.404589
6873	chic	45.0	37.70000	2005-10-25	4.487500	8.250000	14.6273292	18.137077
6874	chic	44.0	33.50000	2005-10-26	7.600000	14.000000	10.0982143	25.128968
6875	chic	44.0	35.90000	2005-10-27	10.800000	19.000000	10.0357143	27.666667
6876	chic	44.0	35.10000	2005-10-28	16.925000	25.500000	10.2067805	33.180556
6877	chic	45.0	34.30000	2005-10-29	22.600000	37.000000	11.4910714	27.875000
6878	chic	54.0	37.00000	2005-10-30	20.700000	25.000000	26.1607143	18.041667
6879	chic	54.0	49.40000	2005-10-31	31.925000	39.200000	11.4257952	21.577899
6880	chic	48.0	37.50000	2005-11-01	16.000000	27.000000	6.9360507	22.728535
6881	chic	52.0	35.40000	2005-11-02	8.500000	28.500000	11.8916667	23.010266
6882	chic	62.0	40.70000	2005-11-03	9.675000	34.500000	24.8771739	22.569444
6883	chic	60.0	38.00000	2005-11-04	14.800000	47.500000	18.9062500	24.791667
6884	chic	54.0	50.60000	2005-11-05	27.200000	32.000000	11.4722222	18.208333
6885	chic	51.0	42.00000	2005-11-06	5.987500	10.400000	15.1250000	13.986111
6886	chic	49.0	43.20000	2005-11-07	17.400000	31.000000	7.3707428	25.064182
6887	chic	55.0	49.80000	2005-11-08	40.000000	36.500000	4.1005435	27.222222
6888	chic	54.0	37.80000	2005-11-09	8.437500	25.000000	17.8958333	11.916667
6889	chic	39.0	25.60000	2005-11-10	NA	24.000000	9.5625000	23.805556
6890	chic	47.0	30.50000	2005-11-11	14.800000	41.500000	8.1979167	33.944444
6891	chic	54.0	38.70000	2005-11-12	13.842857	27.500000	20.5520833	22.527778
6892	chic	49.0	35.70000	2005-11-13	5.700000	17.500000	24.9270833	9.763889
6893	chic	39.0	33.60000	2005-11-14	8.300000	17.000000	10.4687500	24.719807
6894	chic	46.0	42.50000	2005-11-15	9.300000	10.500000	8.4510870	16.597222
6895	chic	29.0	19.20000	2005-11-16	4.700000	27.500000	16.9687500	10.347222
6896	chic	22.0	7.80000	2005-11-17	8.800000	20.500000	12.8229167	20.638889
6897	chic	30.0	21.10000	2005-11-18	11.714286	22.400000	4.5277778	24.958333
6898	chic	43.0	28.10000	2005-11-19	15.800000	25.500000	11.3888889	26.729167
6899	chic	39.0	33.00000	2005-11-20	19.100000	17.000000	9.8194444	19.041667
6900	chic	42.0	31.50000	2005-11-21	12.850000	21.000000	11.7083333	14.860870

6901	chic	32.0	19.30000	2005-11-22		NA	19.000000	12.9873188	26.166667
6902	chic	37.0	29.60000	2005-11-23		NA	13.500000	6.8121981	21.854167
6903	chic	29.0	-0.60000	2005-11-24	3.275000	12.500000	26.6944444	8.833333	
6904	chic	20.0	5.30000	2005-11-25	5.500000	16.000000	11.5416667	22.687500	
6905	chic	32.0	20.40000	2005-11-26	17.900000	21.000000	6.6805556	27.104167	
6906	chic	48.0	46.00000	2005-11-27	19.166667	16.000000	11.6666667	20.958333	
6907	chic	50.0	44.70000	2005-11-28	12.400000	18.500000	15.2364130	16.075092	
6908	chic	33.0	22.90000	2005-11-29	7.900000	14.000000	11.5910326	13.094203	
6909	chic	24.0	17.20000	2005-11-30	12.614286	17.800000	9.1902174	21.888889	
6910	chic	25.0	18.00000	2005-12-01	18.400000	18.500000	7.0312500	24.444444	
6911	chic	19.0	8.50000	2005-12-02		NA	19.500000	9.1562500	23.291667
6912	chic	25.0	19.00000	2005-12-03	13.342857	20.000000	10.3333333	25.194444	
6913	chic	20.0	15.80000	2005-12-04	15.300000	15.500000	13.1770833	21.708333	
6914	chic	11.0	2.80000	2005-12-05		NA	30.000000	6.4479167	28.388889
6915	chic	11.0	3.20000	2005-12-06	24.616667	33.000000	4.7015399	29.083333	
6916	chic	8.0	-1.80000	2005-12-07	37.800000	39.000000	3.9162138	34.309524	
6917	chic	16.0	15.60000	2005-12-08	24.300000	31.000000	5.9952652	34.222222	
6918	chic	20.0	10.90000	2005-12-09	25.450000	22.000000	5.9583333	31.416667	
6919	chic	22.0	16.20000	2005-12-10	18.200000	30.000000	9.1354167	28.708333	
6920	chic	20.0	17.20000	2005-12-11	10.600000	14.000000	11.3333333	22.555556	
6921	chic	19.0	11.60000	2005-12-12	19.225000	28.750000	5.0312500	39.746212	
6922	chic	26.0	19.80000	2005-12-13	26.500000	21.000000	6.6286232	29.569444	
6923	chic	32.0	27.40000	2005-12-14	26.900000	16.000000	3.8020833	30.633838	
6924	chic	30.0	27.90000	2005-12-15	14.400000	16.500000	4.8958333	25.430556	
6925	chic	21.0	14.70000	2005-12-16	11.000000	22.000000	11.1666667	16.875000	
6926	chic	16.0	7.30000	2005-12-17	13.800000	20.000000	8.5937500	20.736111	
6927	chic	10.0	1.90000	2005-12-18	12.200000	17.500000	13.5520833	19.111111	
6928	chic	5.0	-0.30000	2005-12-19	21.150000	21.000000	8.0588768	31.791667	
6929	chic	13.0	7.70000	2005-12-20	25.750000	32.000000	3.8491848	32.897727	
6930	chic	12.0	7.70000	2005-12-21	37.928571	59.500000	3.6639493	34.861111	
6931	chic	22.0	23.30000	2005-12-22	36.650000	42.500000	5.3854167	33.730263	
6932	chic	41.0	32.60000	2005-12-23	32.900000	34.500000	6.9062500	29.083333	
6933	chic	37.0	35.20000	2005-12-24	30.771429	25.200000	1.7708333	31.986111	
6934	chic	35.0	32.10000	2005-12-25	6.700000	8.000000	14.3541667	13.791667	
6935	chic	35.0	29.60000	2005-12-26	8.400000	8.500000	14.0416667	16.819444	
6936	chic	40.0	33.60000	2005-12-27	23.560000	27.000000	4.4687500	23.500000	
6937	chic	37.0	34.50000	2005-12-28	17.750000	27.500000	3.2604167	19.285628	
6938	chic	35.0	29.40000	2005-12-29	7.450000	23.500000	6.7948370	19.972222	
6939	chic	36.0	31.00000	2005-12-30	15.057143	19.200000	3.0344203	22.805556	
6940	chic	35.0	30.10000	2005-12-31	15.000000	23.500000	2.5312500	13.250000	

```
#chicago <- arrange(chicago, date)
```

We can now check the first few rows

```
chicago_by_date %>%
  select(date, pm25tmean2) %>%
  head(3)
```

```
date pm25tmean2
1 1987-01-01      NA
2 1987-01-02      NA
3 1987-01-03      NA
```

and the last few rows.

```
chicago_by_date %>%
  select(date, pm25tmean2) %>%
  tail(3)
```

```
date pm25tmean2
6938 2005-12-29    7.45000
6939 2005-12-30   15.05714
6940 2005-12-31   15.00000
```

Columns can be arranged in descending order too by using the special `desc()` operator.

```
chicago %>%
  arrange(desc(date)) %>%
  head()
```

```
city tmpd dptp      date pm25tmean2 pm10tmean2 o3tmean2 no2tmean2
1 chic  35 30.1 2005-12-31   15.00000   23.5  2.531250 13.25000
2 chic  36 31.0 2005-12-30   15.05714   19.2  3.034420 22.80556
3 chic  35 29.4 2005-12-29   7.45000   23.5  6.794837 19.97222
4 chic  37 34.5 2005-12-28   17.75000   27.5  3.260417 19.28563
5 chic  40 33.6 2005-12-27   23.56000   27.0  4.468750 23.50000
6 chic  35 29.6 2005-12-26   8.40000    8.5  14.041667 16.81944
```

215 rename()

Renaming a variable in a data frame in R is surprisingly hard to do!

The `rename()` function is designed to make this process easier.

Here we see the names of the first five variables in the `chicago` data frame.

```
head(chicago[, 1:5], 3)
```

```
city tmpd dptp      date pm25tmean2
1 chic 31.5 31.500 1987-01-01       NA
2 chic 33.0 29.875 1987-01-02       NA
3 chic 33.0 27.375 1987-01-03       NA
```

The `dptp` column is supposed to represent the dew point temperature and the `pm25tmean2` column provides the PM2.5 data.

However, these names are awkward and should be renamed to something more sensible.

```
chicago <- chicago %>%
  rename(dewpoint = dptp, pm25 = pm25tmean2)
```

```
chicago %>%
  head(3)
```

```
city tmpd dewpoint      date pm25 pm10tmean2 o3tmean2 no2tmean2
1 chic 31.5 31.500 1987-01-01   NA  34.00000 4.250000 19.98810
2 chic 33.0 29.875 1987-01-02   NA       NA 3.304348 23.19099
3 chic 33.0 27.375 1987-01-03   NA  34.16667 3.333333 23.81548
```

The syntax inside the `rename()` function is to have the new name on the left-hand side of the `=` sign and the old name on the right-hand side.

I leave it as an exercise for the reader to figure how you do this in base R without `dplyr`.

216 mutate()

The `mutate()` function creates new columns based on computations usually involving the other columns.

For example, with air pollution data, we often want to *detrend* the data by subtracting the mean from the data.

That way we can look at whether a given day's air pollution level is higher than or less than average (as opposed to looking at its absolute level).

Here we create a `pm25detrend` variable that subtracts the mean from the `pm25` variable.

```
chicago <- chicago %>%
  mutate(pm25detrend = pm25 - mean(pm25, na.rm = TRUE))
chicago %>%
  head()
```

	city	tmpd	dewpoint	date	pm25	pm10tmean2	o3tmean2	no2tmean2	pm25detrend
1	chic	31.5	31.500	1987-01-01	NA	34.00000	4.250000	19.98810	NA
2	chic	33.0	29.875	1987-01-02	NA		NA	3.304348	23.19099
3	chic	33.0	27.375	1987-01-03	NA	34.16667	3.333333	23.81548	NA
4	chic	29.0	28.625	1987-01-04	NA	47.00000	4.375000	30.43452	NA
5	chic	32.0	28.875	1987-01-05	NA		NA	4.750000	30.33333
6	chic	40.0	35.125	1987-01-06	NA	48.00000	5.833333	25.77233	NA

There is also the related `transmute()` function, which does the same thing as `mutate()` but then *drops all non-transformed variables*.

Here we detrend the PM10 and ozone (O₃) variables.

```
chicago %>%
  transmute(pm10detrend = pm10tmean2 - mean(pm10tmean2, na.rm = TRUE),
            o3detrend = o3tmean2 - mean(o3tmean2, na.rm = TRUE))
```

	pm10detrend	o3detrend
1	0.10479387	-1.518551e+01
2		NA -1.613117e+01
3	0.27146054	-1.610218e+01
4	13.10479387	-1.506051e+01
5		NA -1.468551e+01
6	14.10479387	-1.360218e+01
7	7.10479387	-1.014385e+01
8	2.10479387	-8.143846e+00
9	-0.60949184	-1.493551e+01
10		NA -1.447718e+01
11	-11.89520613	-1.893846e+00
12	-7.89520613	-1.143551e+01
13	19.10479387	-1.447718e+01
14	9.10479387	-1.522718e+01
15	-5.06187279	-1.497718e+01
16	-14.89520613	-1.151885e+01
17		NA -1.360218e+01
18	5.10479387	-1.306051e+01
19	-1.89520613	-4.560513e+00
20	4.10479387	-1.218551e+01
21	-1.03806327	-1.052247e+01
22	18.10479387	-8.935513e+00
23	21.10479387	-4.810513e+00
24	4.10479387	-9.352180e+00
25		NA -1.276885e+01
26	37.10479387	-1.485218e+01
27	5.43812721	-1.343551e+01
28	13.10479387	-1.256051e+01
29	1.10479387	-1.651885e+01
30	25.10479387	-1.064385e+01
31	2.10479387	-9.060513e+00
32		NA -1.139385e+01
33	7.27146054	-1.339385e+01
34	25.10479387	-1.139385e+01
35	3.10479387	-8.935513e+00
36	36.10479387	-1.370635e+01
37	29.10479387	-1.302066e+01
38	10.10479387	-1.368551e+01
39	-15.64520613	5.501987e+00
40	8.10479387	-1.022718e+01
41	2.10479387	-1.112301e+01
42	49.10479387	-1.131397e+01

43	50.10479387	-1.174801e+01
44	5.10479387	-9.065948e+00
45	-9.03806327	-8.268846e+00
46	-21.89520613	8.668654e+00
47	-19.89520613	4.751987e+00
48	-10.89520613	5.501987e+00
49	-6.89520613	4.734777e+00
50	15.10479387	-3.933701e+00
51	35.96193673	-1.093551e+01
52	25.10479387	-1.485218e+01
53	12.10479387	-8.602180e+00
54	13.10479387	-6.393846e+00
55	14.10479387	-6.206346e+00
56	14.10479387	-2.310513e+00
57	-4.89520613	-3.435513e+00
58	22.10479387	-5.227180e+00
59	-2.89520613	-1.256051e+01
60	-18.89520613	-3.814680e+00
61	2.10479387	1.376987e+00
62	-1.89520613	3.144870e-01
63	5.53336530	-1.393551e+01
64	-3.89520613	-5.852180e+00
65	42.10479387	-1.035943e+01
66	15.10479387	5.981154e+00
67	27.10479387	1.173115e+01
68	-8.89520613	1.039782e+01
69	-14.32377755	8.939487e+00
70	4.10479387	3.353204e-01
71	38.10479387	1.001987e+00
72	13.10479387	3.043654e+00
73	15.10479387	-1.706346e+00
74	NA	1.746032e+01
75	-6.89520613	1.693677e+01
76	21.10479387	8.376987e+00
77	29.10479387	-7.688463e-01
78	-1.89520613	1.224008e+01
79	-5.89520613	1.718949e+01
80	6.10479387	1.877282e+01
81	3.96193673	1.823115e+01
82	36.10479387	1.201865e+01
83	24.10479387	6.189487e+00
84	-19.89520613	-4.560513e+00
85	9.10479387	-4.318089e+00

86	13.10479387	-2.998013e+00
87	0.60479387	6.686537e-01
88	3.10479387	1.536709e+00
89	-6.89520613	1.100199e+01
90	9.10479387	4.609359e+00
91	2.10479387	2.017612e+00
92	10.10479387	3.130837e+00
93	-11.46663470	-2.565721e+00
94	-7.89520613	8.955112e+00
95	-15.89520613	1.659574e+01
96	-14.89520613	1.236657e+01
97	-5.89520613	6.059279e+00
98	-14.89520613	1.574904e+00
99	44.39050816	-4.034471e+00
100	35.10479387	2.423862e+00
101	-9.89520613	9.538445e+00
102	3.10479387	6.243058e+00
103	13.10479387	-1.667656e+00
104	-0.89520613	-6.191465e+00
105	-3.89520613	-2.292656e+00
106	-5.89520613	2.671630e+00
107	9.10479387	-1.259892e-01
108	72.10479387	1.209425e+01
109	NA	1.340377e+01
110	21.10479387	2.195511e+01
111	2.30479387	1.033237e+00
112	-5.89520613	-1.035739e+01
113	-7.89520613	-9.340857e+00
114	-17.89520613	8.137404e+00
115	-3.89520613	8.626987e+00
116	24.10479387	1.371032e+01
117	3.43812721	1.649209e+01
118	38.10479387	3.210320e+00
119	27.10479387	1.541676e+01
120	-14.89520613	1.605407e+01
121	32.10479387	1.260812e-01
122	-3.89520613	4.749011e+00
123	-13.60949184	7.766868e+00
124	-7.89520613	1.178885e+01
125	26.10479387	4.001987e+00
126	NA	1.293506e+01
127	7.10479387	1.075380e+01
128	20.10479387	-2.630688e+00

129	22.27146054	2.336136e+01
130	NA	2.357699e+01
131	47.10479387	2.555076e+01
132	-21.89520613	5.903029e+00
133	-13.89520613	7.123590e+00
134	NA	1.941345e+01
135	-12.32377755	4.585320e+00
136	13.10479387	1.224002e+01
137	29.10479387	3.101263e+01
138	NA	5.398160e+00
139	8.10479387	6.636660e+00
140	13.10479387	-4.160785e+00
141	12.27146054	1.381630e+01
142	NA	-7.114861e+00
143	-20.89520613	-8.857388e+00
144	NA	-4.511380e-01
145	16.10479387	-6.426584e+00
146	-5.89520613	1.043570e+01
147	6.70479387	1.111136e+01
148	15.10479387	9.476715e+00
149	16.10479387	6.694695e+00
150	1.10479387	2.423862e+00
151	-1.89520613	1.200794e+01
152	-3.89520613	1.475199e+01
153	-0.22853946	-1.096971e+00
154	8.10479387	3.877848e+00
155	11.10479387	9.917145e-01
156	27.10479387	1.375720e+01
157	23.10479387	2.430928e+01
158	12.10479387	3.135615e+01
159	17.60479387	2.977667e+01
160	-18.89520613	1.017567e+01
161	16.10479387	9.297503e+00
162	12.10479387	8.310604e+00
163	7.10479387	9.855256e+00
164	39.10479387	2.021553e+01
165	9.77146054	2.598636e+01
166	-5.89520613	1.431856e+01
167	12.10479387	1.376588e+01
168	37.10479387	3.552638e+01
169	56.10479387	4.353414e+01
170	46.10479387	2.783340e+01
171	25.93812721	2.626240e+01

172	8.10479387	1.334276e+01
173	18.10479387	5.618422e+00
174	15.10479387	1.278294e+01
175	29.10479387	2.964470e+01
176	19.10479387	1.444315e+01
177	-2.09520613	1.033237e+00
178	2.10479387	2.184279e+00
179	0.10479387	1.252826e+01
180	9.10479387	8.345737e+00
181	9.10479387	-9.667630e-01
182	-11.89520613	1.286136e+01
183	11.60479387	1.683153e+01
184	14.10479387	2.348115e+01
185	-9.89520613	1.246032e+01
186	NA	3.194695e+00
187	-0.89520613	1.167633e+01
188	NA	1.490710e+01
189	4.10479387	1.141616e+01
190	-2.89520613	5.512404e+00
191	-0.89520613	3.944695e+00
192	45.10479387	9.689487e+00
193	13.10479387	1.020511e+01
194	-0.89520613	-9.744293e+00
195	-12.49520613	2.428326e+00
196	-16.89520613	3.746779e+00
197	-5.89520613	1.208532e+01
198	5.10479387	2.343725e+01
199	17.10479387	2.835615e+01
200	38.10479387	2.761657e+01
201	31.53336530	2.106345e+01
202	24.10479387	3.873240e+01
203	64.10479387	2.584723e+01
204	83.10479387	3.972074e+01
205	45.10479387	1.625470e+01
206	19.10479387	2.437996e+01
207	-4.39520613	8.338297e+00
208	-1.89520613	-3.661703e+00
209	3.10479387	8.323442e-01
210	-8.89520613	5.593499e+00
211	41.10479387	3.093353e+01
212	14.10479387	1.898167e+01
213	23.67622245	2.079663e+01
214	12.10479387	2.721925e+01

215	20.10479387	1.153905e+01
216	-12.89520613	1.113766e+00
217	-18.89520613	8.561537e-01
218	16.10479387	1.014113e+01
219	17.39050816	2.588740e+01
220	22.10479387	3.595737e+00
221	-4.89520613	7.319695e+00
222	-9.89520613	9.975201e+00
223	7.10479387	1.440824e+01
224	46.10479387	1.765303e+01
225	29.50479387	1.676240e+01
226	15.60479387	4.797330e+00
227	7.10479387	1.393949e+01
228	10.60479387	1.283745e+01
229	5.10479387	7.240826e+00
230	14.10479387	-5.376733e+00
231	-2.22853946	-1.046624e+00
232	15.10479387	1.108324e+01
233	9.10479387	1.850720e+01
234	-1.89520613	4.429070e+00
235	-9.89520613	-1.707705e+00
236	9.10479387	-6.840529e+00
237	2.10479387	-1.276989e+01
238	16.10479387	-1.122799e+01
239	-13.89520613	-5.716763e+00
240	-1.89520613	2.507195e+00
241	NA	-1.279263e+00
242	1.10479387	3.187223e+00
243	-8.89520613	-3.513638e+00
244	4.60479387	-1.503221e+00
245	-16.89520613	1.725945e+00
246	-9.89520613	8.665704e-01
247	NA	1.190303e+01
248	NA	2.662178e+01
249	26.77146054	1.876240e+01
250	NA	3.351398e+00
251	NA	5.965529e+00
252	NA	-6.021796e-01
253	NA	7.069695e+00
254	NA	3.004704e+00
255	-0.39520613	-3.623013e+00
256	NA	-7.076138e+00
257	NA	-5.396796e-01

258		NA	-4.000730e+00
259	-0.89520613	-9.230803e+00	
260	-3.89520613	-5.911703e+00	
261	-8.64520613	-1.254266e+01	
262		NA	-6.792656e+00
263		NA	-1.203075e+01
264	-4.89520613	-1.448313e+01	
265		NA	-1.217154e+01
266	4.10479387	-6.298608e+00	
267	-10.89520613	-3.304561e+00	
268	21.10479387	-5.417656e+00	
269	8.10479387	3.058535e+00	
270	15.10479387	8.112106e+00	
271	23.10479387	1.058234e+01	
272	0.10479387	-6.703370e+00	
273	-7.09520613	-8.525791e+00	
274	10.10479387	-2.131942e+00	
275	18.10479387	-4.407304e+00	
276	18.10479387	-4.042656e+00	
277	16.10479387	-2.867035e-01	
278	14.10479387	-4.622418e+00	
279	-9.72853946	-1.246257e+01	
280	2.10479387	-6.120037e+00	
281	7.10479387	-8.917397e+00	
282	4.10479387	-7.871848e+00	
283	-5.89520613	-1.069742e+01	
284	-1.89520613	-4.802180e+00	
285	7.60479387	-7.020830e+00	
286		NA	-4.319904e+00
287	7.10479387	-8.636920e+00	
288	18.10479387	5.012080e+00	
289	24.10479387	9.129963e+00	
290	-14.89520613	-1.021527e+01	
291	-7.03806327	-3.465275e+00	
292	-22.89520613	-5.664654e-01	
293	-9.89520613	-4.154414e+00	
294	-13.39520613	-1.296756e+01	
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296	16.10479387	-1.112063e+01	
297	-5.49520613	-1.189980e+01	
298		NA	-8.310513e+00
299	-0.89520613	-1.436408e+01	
300	-2.89520613	-9.259788e+00	

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302	14.10479387	-1.217857e+01
303	16.77146054	-2.500989e+00
304	26.10479387	-6.864084e+00
305	-3.89520613	-9.690948e+00
306	12.10479387	-7.884647e+00
307	NA	1.002282e+01
308	13.10479387	-2.688463e-01
309	-8.39520613	7.311537e-01
310	9.10479387	-9.935513e+00
311	12.10479387	-1.668551e+01
312	32.10479387	3.856154e+00
313	-15.89520613	6.231154e+00
314	-21.89520613	8.314487e+00
315	-2.60949184	-1.147718e+01
316	13.10479387	-1.243551e+01
317	21.10479387	-1.656051e+01
318	-15.89520613	-9.560513e+00
319	17.10479387	-1.855130e-01
320	0.10479387	-1.768846e+00
321	-15.56187279	-6.727180e+00
322	NA	-9.087687e+00
323	-4.89520613	-8.602180e+00
324	0.10479387	5.606154e+00
325	-6.89520613	-8.143846e+00
326	NA	-8.102180e+00
327	-3.56187279	-1.066279e+01
328	18.10479387	-1.060218e+01
329	-23.89520613	-6.310513e+00
330	-18.89520613	4.147820e+00
331	NA	-8.435513e+00
332	NA	-1.497718e+01
333	-21.75234898	-1.731051e+01
334	NA	-1.526885e+01
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336	-10.89520613	-1.018551e+01
337	-3.89520613	-1.281051e+01
338	1.10479387	-6.893846e+00
339	-9.22853946	-5.560513e+00
340	-11.89520613	-4.143846e+00
341	-8.89520613	-1.301885e+01
342	-5.89520613	-1.647718e+01
343	-12.89520613	-1.039385e+01

344	-1.89520613	-1.218551e+01
345	-10.89520613	-1.685218e+01
346	-4.89520613	-8.393846e+00
347	0.10479387	-6.268846e+00
348	9.10479387	-6.435513e+00
349	-14.89520613	-1.038288e+01
350	2.10479387	-7.352180e+00
351	-6.69520613	-1.134856e+01
352	2.10479387	-1.656504e+01
353	-12.39520613	-1.703968e+01
354	-8.89520613	-9.623013e+00
355	NA	-1.256051e+01
356	NA	-1.669638e+01
357	2.10479387	-1.593551e+01
358	NA	-1.703968e+01
359	-17.89520613	-4.289680e+00
360	NA	-8.105130e-01
361	11.10479387	-9.393846e+00
362	NA	-1.206346e+00
363	-13.22853946	-1.884631e-02
364	NA	-1.508968e+01
365	-12.89520613	-3.352180e+00
366	NA	5.228204e-01
367	NA	-1.162301e+01
368	-8.89520613	-1.078968e+01
369	-7.89520613	-1.224203e+00
370	-9.89520613	-6.268846e+00
371	41.10479387	-1.228968e+01
372	40.10479387	-1.691468e+01
373	53.10479387	-1.477609e+01
374	14.10479387	-1.203968e+01
375	2.43812721	-1.251885e+01
376	5.10479387	-1.295635e+01
377	9.10479387	-2.498013e+00
378	17.10479387	-5.581346e+00
379	12.10479387	-1.597718e+01
380	-5.89520613	-1.520635e+01
381	-1.89520613	-5.289680e+00
382	-7.89520613	-1.308135e+01
383	NA	-1.071841e+01
384	5.10479387	-6.310513e+00
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387	-6.72853946	-1.281051e+01
388	-10.89520613	-1.243551e+01
389	-7.89520613	-1.193551e+01
390	0.10479387	-1.272718e+01
391	11.10479387	-1.256051e+01
392	17.10479387	-1.213117e+01
393	12.10479387	-1.010218e+01
394	3.10479387	-5.977180e+00
395	-10.89520613	7.106154e+00
396	8.10479387	-3.105130e-01
397	-20.89520613	4.689487e+00
398	-10.89520613	9.647820e+00
399	2.10479387	-6.143846e+00
400	18.10479387	-5.810513e+00
401	3.10479387	-1.227180e+00
402	5.10479387	3.978204e-01
403	-1.89520613	9.394870e-01
404	9.10479387	-7.018846e+00
405	4.90479387	-6.768846e+00
406	2.10479387	5.439487e+00
407	-5.89520613	8.606154e+00
408	10.10479387	9.394870e-01
409	8.10479387	-6.352180e+00
410	NA	-9.602180e+00
411	-4.89520613	1.231154e+00
412	0.10479387	-1.301885e+01
413	26.10479387	-9.477180e+00
414	28.10479387	-1.018551e+01
415	43.10479387	-1.076885e+01
416	3.10479387	4.856154e+00
417	-10.56187279	-1.602180e+00
418	-10.89520613	-2.081346e+00
419	10.10479387	3.564487e+00
420	31.10479387	2.814487e+00
421	NA	-4.435513e+00
422	20.10479387	-4.352180e+00
423	-8.22853946	1.793949e+01
424	20.10479387	-1.438463e-01
425	-4.89520613	-2.435513e+00
426	-3.89520613	6.272820e+00
427	-0.89520613	8.772820e+00
428	-16.89520613	1.793949e+01
429	-9.69520613	1.485615e+01

430	6.10479387	-7.602180e+00
431	NA	-1.060513e+00
432	24.10479387	-8.143846e+00
433	NA	-3.478991e+00
434	NA	-8.938463e-01
435	10.10479387	2.606154e+00
436	2.10479387	-8.852180e+00
437	-10.89520613	3.106154e+00
438	NA	7.689487e+00
439	-6.89520613	6.689487e+00
440	3.10479387	2.272820e+00
441	-6.06187279	5.228204e-01
442	NA	-7.581346e+00
443	13.10479387	-2.123013e+00
444	-3.89520613	2.647820e+00
445	-25.89520613	1.591865e+01
446	-9.89520613	1.712699e+01
447	25.77146054	-6.299574e-01
448	50.10479387	1.095338e+01
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450	-8.89520613	2.566902e+00
451	25.10479387	9.614168e-01
452	21.10479387	3.203376e+00
453	-2.89520613	-9.816465e+00
454	-4.89520613	-5.870037e+00
455	-0.89520613	-7.986082e-01
456	9.10479387	-2.417656e+00
457	-3.89520613	1.839057e+01
458	6.10479387	-1.002480e+01
459	-13.72853946	3.231154e+00
460	NA	8.030843e+00
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462	-15.89520613	1.183234e+01
463	-1.89520613	4.001858e+00
464	-1.89520613	-5.605130e-01
465	19.85479387	5.109156e-01
466	1.10479387	-1.971227e+00
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468	4.10479387	8.254963e+00
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470	-8.89520613	6.620609e+00
471	-6.89520613	4.676826e+00
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473	42.10479387	1.956449e+01
474	7.10479387	1.066568e+01
475	18.10479387	2.338297e+00
476	18.10479387	1.558535e+00
477	1.70479387	-9.414654e-01
478	17.10479387	6.124011e+00
479	10.10479387	1.879963e+00
480	0.10479387	5.451392e+00
481	10.10479387	2.100201e+00
482	-14.89520613	2.947639e+00
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484	-0.89520613	6.880222e+00
485	14.10479387	2.910575e+00
486	-0.89520613	3.522820e+00
487	-0.89520613	1.283830e+01
488	16.10479387	1.588592e+01
489	12.10479387	1.585615e+01
490	14.10479387	1.400319e+01
491	19.10479387	8.673485e+00
492	26.10479387	7.033690e+00
493	49.10479387	1.462699e+01
494	331.10479387	2.937004e+01
495	-5.89520613	6.265876e+00
496	2.10479387	-2.938463e-01
497	25.10479387	5.114487e+00
498	21.10479387	1.432838e+01
499	-3.89520613	1.060020e+01
500	26.10479387	9.018058e+00
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502	NA	4.439487e+00
503	-4.89520613	7.434570e+00
504	1.10479387	8.237106e+00
505	9.10479387	1.108830e+01
506	29.10479387	1.002696e+01
507	14.35479387	2.203473e+01
508	NA	2.195338e+01
509	9.10479387	5.525823e-01
510	-7.89520613	1.285933e+01
511	-8.89520613	4.641868e+00
512	18.10479387	8.433535e+00
513	29.85479387	2.213592e+01
514	NA	2.232044e+01
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516	41.10479387	3.331449e+01
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518	108.10479387	2.976617e+01
519	12.70479387	1.170649e+01
520	-5.89520613	7.340885e+00
521	20.10479387	4.985405e+00
522	34.10479387	2.508830e+01
523	NA	3.100108e+01
524	105.10479387	3.474306e+01
525	36.90479387	1.158234e+01
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532	44.10479387	2.800720e+01
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535	21.10479387	2.179589e+01
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540	-7.89520613	9.409725e+00
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548	-14.89520613	3.330112e+00
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550	NA	1.894470e+01
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552	NA	3.831290e+01
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555	72.90479387	2.945511e+01
556	51.10479387	2.959053e+01
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558	8.10479387	1.543745e+01

559	-19.89520613	8.106154e+00
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561	28.10479387	2.649021e+01
562	44.10479387	2.252650e+01
563	19.10479387	1.829365e+01
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565	NA	3.757195e+00
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570	-5.89520613	8.137404e+00
571	20.10479387	1.649678e+01
572	5.10479387	1.952424e+01
573	-11.89520613	3.574904e+00
574	25.10479387	1.289986e+01
575	34.10479387	2.966345e+01
576	39.10479387	4.010615e+01
577	6.10479387	2.877282e+01
578	NA	2.292907e+01
579	33.30479387	2.471440e+01
580	33.10479387	3.041397e+01
581	31.10479387	2.120624e+01
582	32.10479387	2.274904e+01
583	30.10479387	1.706970e+01
584	NA	1.712699e+01
585	4.43812721	2.244790e+01
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590	32.10479387	7.173862e+00
591	36.30479387	1.648636e+01
592	NA	2.091345e+01
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595	37.10479387	1.987688e+01
596	29.10479387	1.526172e+01
597	-5.14520613	-4.508430e+00
598	-2.89520613	1.767907e+01
599	NA	7.793654e+00
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601	13.10479387	1.327282e+01

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603	16.50479387	1.949904e+00
604	7.10479387	-2.925096e+00
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608	3.10479387	7.415704e-01
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610	14.10479387	1.742386e+01
611	31.10479387	1.489941e+01
612	4.10479387	1.322074e+01
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618	32.10479387	-2.029263e+00
619	43.10479387	-1.698880e-01
620	NA	1.078845e+01
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622	24.10479387	-4.209471e+00
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624	4.10479387	1.471410e-01
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626	NA	5.804070e+00
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637	NA	-1.914680e+00
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641	-11.89520613	2.155287e-01
642	NA	-1.007277e+01
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645	-0.56187279	-9.792656e+00
646	NA	-7.572418e+00
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649	5.10479387	1.314487e+00
650	14.10479387	-5.941465e+00
651	-5.29520613	-4.919888e+00
652	NA	-7.907983e+00
653	25.10479387	-1.206346e+00
654	17.10479387	1.560020e+01
655	9.10479387	6.624011e+00
656	NA	-1.451885e+01
657	-10.29520613	-8.237732e+00
658	-5.89520613	-7.864923e+00
659	-9.89520613	-1.281051e+01
660	-2.89520613	-1.250843e+01
661	-1.89520613	-9.169888e+00
662	-3.89520613	-9.185513e+00
663	-6.49520613	-1.231523e+01
664	0.10479387	-1.083655e+01
665	0.10479387	-1.238343e+01
666	NA	-9.591763e+00
667	5.10479387	-5.914680e+00
668	-5.89520613	-6.310513e+00
669	-7.89520613	-8.893846e+00
670	2.10479387	-9.915424e+00
671	1.10479387	-6.878221e+00
672	-5.89520613	-7.228653e+00
673	0.10479387	-1.606051e+01
674	-5.89520613	-1.678845e+01
675	-18.29520613	-1.664385e+01
676	NA	-5.810513e+00
677	-21.89520613	-1.356595e+01
678	6.10479387	-1.489385e+01
679	-8.89520613	-1.706051e+01
680	-18.89520613	-1.239385e+01
681	-10.69520613	-1.047718e+01
682	-18.89520613	-1.489385e+01
683	-21.89520613	-8.852180e+00
684	NA	-1.435218e+01
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686	-10.89520613	-7.810513e+00
687	-9.69520613	-9.143846e+00

688	-24.89520613	-1.672718e+01
689	-19.89520613	-1.706051e+01
690	-12.89520613	-1.318551e+01
691	-12.89520613	-1.401885e+01
692	-2.89520613	-1.468551e+01
693	5.10479387	-1.601885e+01
694	-11.89520613	-1.164385e+01
695	-5.89520613	-6.393846e+00
696	-20.89520613	-7.518846e+00
697	-24.89520613	-4.477180e+00
698	-27.89520613	-1.160218e+01
699	-7.69520613	-1.231051e+01
700	-11.89520613	-1.481051e+01
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703	NA	-1.014385e+01
704	-10.89520613	-1.051885e+01
705	5.10479387	-1.556051e+01
706	6.10479387	-1.443551e+01
707	-3.89520613	-1.278968e+01
708	6.10479387	-9.768846e+00
709	3.10479387	-1.301885e+01
710	NA	-1.051885e+01
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713	14.10479387	-1.410218e+01
714	NA	-1.351885e+01
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716	1.10479387	-1.289385e+01
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718	5.10479387	-1.456051e+01
719	NA	-8.643846e+00
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722	NA	-1.514385e+01
723	-10.89520613	-7.870296e+00
724	NA	-1.489385e+01
725	NA	-9.352180e+00
726	NA	-1.043551e+01
727	-6.89520613	-1.493551e+01
728	-16.89520613	-6.310513e+00
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730	NA	-1.376885e+01

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733	-5.89520613	-8.102180e+00
734	NA	-1.156051e+01
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737	-6.89520613	-1.743551e+01
738	NA	-1.656051e+01
739	NA	-1.477180e+00
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742	-2.89520613	-1.093551e+01
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746	NA	-1.176885e+01
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748	-9.89520613	-1.247718e+01
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753	-11.02020613	-1.068551e+01
754	-16.89520613	-1.451885e+01
755	11.10479387	-1.320824e+01
756	2.10479387	-1.401885e+01
757	3.10479387	-1.118551e+01
758	-8.89520613	-1.193551e+01
759	-6.77020613	-1.285218e+01
760	NA	-1.593551e+01
761	NA	-1.164385e+01
762	NA	-9.602180e+00
763	-21.89520613	-4.355130e-01
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765	-13.32377755	-8.046624e+00
766	11.10479387	-1.284728e+01
767	NA	-1.335218e+01
768	-1.89520613	-7.435513e+00
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770	52.10479387	-2.435513e+00
771	0.96193673	-3.162786e+00
772	2.10479387	-5.060513e+00
773	-0.89520613	-4.018846e+00

774	-7.89520613	-4.393846e+00
775	NA	-1.156051e+01
776	18.10479387	-1.438463e-01
777	-3.77020613	-1.081051e+01
778	-8.89520613	-7.959323e+00
779	-20.89520613	-4.810513e+00
780	-10.89520613	-2.518846e+00
781	NA	-7.143846e+00
782	NA	-2.477180e+00
783	9.85479387	5.228204e-01
784	22.10479387	1.939487e+00
785	3.10479387	-6.102180e+00
786	27.10479387	-6.727180e+00
787	NA	-4.185513e+00
788	NA	9.314487e+00
789	-0.18092041	-4.364084e+00
790	23.10479387	-1.393846e+00
791	NA	6.233105e-01
792	-1.89520613	-2.768846e+00
793	NA	-8.102180e+00
794	-3.89520613	-1.222718e+01
795	-20.27020613	6.939487e+00
796	-13.89520613	1.393949e+01
797	7.10479387	9.856154e+00
798	34.10479387	-9.560513e+00
799	43.10479387	-1.089385e+01
800	NA	-6.018846e+00
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802	-3.89520613	1.683721e+01
803	9.10479387	-5.799149e+00
804	NA	-1.135218e+01
805	NA	-9.771796e-01
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807	-14.39520613	7.522820e+00
808	-10.89520613	7.397820e+00
809	NA	-2.768846e+00
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811	-11.89520613	4.981154e+00
812	-6.89520613	-7.393846e+00
813	24.53336530	-6.893846e+00
814	6.10479387	-8.060513e+00
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816	NA	1.593949e+01

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819	-18.89520613	7.605677e+00
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822	-10.89520613	3.689487e+00
823	NA	2.689487e+00
824	NA	-6.227180e+00
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827	16.10479387	1.736263e-01
828	8.10479387	2.760916e+00
829	1.10479387	4.701392e+00
830	NA	8.262404e+00
831	-4.52020613	-2.899281e+00
832	10.10479387	3.850201e+00
833	-2.89520613	7.593990e+00
834	15.10479387	2.362616e+00
835	5.10479387	6.891868e+00
836	20.10479387	6.088297e+00
837	12.22979387	7.397820e+00
838	-10.89520613	1.148685e+01
839	15.10479387	-2.489084e+00
840	22.10479387	-6.021796e-01
841	35.10479387	7.579803e+00
842	15.10479387	1.205853e+01
843	10.47979387	1.111657e+01
844	27.10479387	1.403845e+01
845	40.10479387	1.283617e+01
846	NA	1.693405e+01
847	NA	2.618115e+01
848	35.10479387	1.521330e+01
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850	NA	1.894870e-01
851	NA	1.515377e+01
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854	NA	5.337473e+00
855	12.35479387	5.752893e+00
856	NA	1.150496e+01
857	-0.89520613	8.978204e-01
858	NA	-1.195930e+00
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865	31.10479387	1.312996e+01
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867	45.97979387	1.619689e+01
868	64.10479387	2.768370e+01
869	65.10479387	1.773342e+01
870	1.10479387	1.060095e+01
871	NA	7.215529e+00
872	13.10479387	1.415824e+01
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874	34.10479387	1.837699e+01
875	NA	2.415745e+01
876	-0.89520613	6.867991e+00
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878	0.10479387	6.757195e+00
879	-0.89520613	1.180076e+01
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883	-5.89520613	-4.409471e+00
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891	4.85479387	3.836808e+00
892	NA	1.564487e+00
893	1.10479387	7.757195e+00
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896	NA	1.145108e+01
897	-6.18092041	-5.747066e+00
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900	NA	1.342244e+01
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906	NA	1.602197e+01
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931	13.10479387	1.970440e+01
932	-7.89520613	1.205523e+01
933	7.60479387	1.376819e+01
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935	20.10479387	1.894875e+01
936	43.10479387	2.396545e+01
937	21.10479387	2.033532e+01
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940	3.60479387	1.130928e+01
941	-4.89520613	2.242386e+01
942	12.10479387	2.547595e+01
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944	14.10479387	3.228845e+01
945	40.72979387	1.598636e+01

946	18.10479387	8.330112e+00
947	30.10479387	1.055931e+01
948	4.10479387	1.868949e+01
949	-8.89520613	2.300598e+00
950	-4.89520613	3.903773e+00
951	16.60479387	-2.709323e+00
952	13.10479387	2.144844e+00
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956	19.10479387	1.582490e+01
957	24.47979387	3.488281e+00
958	-15.89520613	1.438540e+00
959	NA	4.631248e+00
960	0.10479387	5.203527e+00
961	NA	7.427526e+00
962	NA	1.669122e+01
963	3.67622245	1.095085e+01
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967	3.10479387	1.259365e+01
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969	15.39050816	1.377282e+01
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971	15.10479387	6.842787e-01
972	16.10479387	-2.701138e+00
973	20.10479387	1.429070e+00
974	1.10479387	-2.532213e-01
975	-12.02020613	7.491570e+00
976	-18.89520613	4.653029e+00
977	-10.89520613	3.059279e+00
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980	9.10479387	-3.982388e+00
981	23.24765102	2.454200e-01
982	4.10479387	-1.893846e+00
983	NA	-3.105130e-01
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997	1.10479387	-2.373013e+00	
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1038	-6.89520613	-1.347718e+01
1039	-6.39520613	-1.114385e+01
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1044	-13.89520613	-1.097718e+01
1045	-8.89520613	-1.147718e+01
1046	-5.89520613	-1.335218e+01
1047	-14.89520613	-9.852180e+00
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1051	-22.89520613	-3.810513e+00
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1056	-4.89520613	-7.688463e-01
1057	-9.89520613	-9.268846e+00
1058	-4.89520613	-9.185513e+00
1059	-4.60949184	-1.281051e+01
1060	-2.39520613	-1.306051e+01
1061	-10.89520613	-1.476885e+01
1062	NA	-1.264385e+01
1063	-8.39520613	-4.355130e-01
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1065	-1.39520613	-1.335218e+01
1066	15.10479387	-1.406051e+01
1067	18.10479387	-3.310513e+00
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1069	-2.89520613	-1.439385e+01
1070	4.10479387	-1.710218e+01
1071	-9.64520613	-5.768846e+00
1072	-1.89520613	-2.643846e+00
1073	3.60479387	-1.893846e+00
1074	-3.39520613	-1.422718e+01

1075	-7.89520613	-6.185513e+00
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1077	4.81907959	-1.114385e+01
1078	9.10479387	-1.314385e+01
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1081	-0.89520613	-1.147718e+01
1082	-2.89520613	-1.310218e+01
1083	9.97979387	-1.335218e+01
1084	5.10479387	-1.039385e+01
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1089	-8.72853946	-1.114385e+01
1090	NA	-6.227180e+00
1091	NA	-3.477180e+00
1092	0.10479387	-7.185513e+00
1093	-13.89520613	-1.385218e+01
1094	6.10479387	-1.368551e+01
1095	4.10479387	-1.726885e+01
1096	8.10479387	-1.197718e+01
1097	NA	-3.018846e+00
1098	NA	-1.289385e+01
1099	3.10479387	-1.364385e+01
1100	-10.39520613	-1.118551e+01
1101	1.24765102	-1.497718e+01
1102	8.60479387	-1.151885e+01
1103	-6.89520613	-1.297718e+01
1104	-5.89520613	-1.331051e+01
1105	-3.89520613	-1.014385e+01
1106	-5.89520613	-1.239385e+01
1107	70.72979387	-1.560513e+00
1108	21.10479387	6.478204e-01
1109	-15.89520613	-1.218551e+01
1110	-10.89520613	-1.331051e+01
1111	10.10479387	-1.489385e+01
1112	NA	-1.635218e+01
1113	-6.89520613	-6.977180e+00
1114	3.10479387	-7.393846e+00
1115	14.10479387	-9.477180e+00
1116	-2.39520613	-1.464385e+01
1117	-17.89520613	-1.199801e+01

1118 -14.39520613 -1.412301e+01
1119 0.35479387 -1.164385e+01
1120 -15.39520613 -1.164385e+01
1121 -11.89520613 -8.379957e+00
1122 -3.89520613 -1.093551e+01
1123 -8.89520613 -2.435513e+00
1124 -6.89520613 -1.239385e+01
1125 16.22979387 -1.614385e+01
1126 -5.39520613 -1.034856e+01
1127 1.10479387 -1.097718e+01
1128 -1.89520613 -4.477180e+00
1129 -1.89520613 1.397820e+00
1130 -8.39520613 -1.156051e+01
1131 -13.02020613 6.061537e-01
1132 -9.89520613 -1.089385e+01
1133 -2.39520613 -1.693551e+01
1134 2.60479387 -1.397718e+01
1135 -2.89520613 1.814487e+00
1136 6.10479387 -1.893846e+00
1137 -10.52020613 -6.935513e+00
1138 -4.39520613 -3.560513e+00
1139 2.10479387 -1.201885e+01
1140 NA 1.439487e+00
1141 -19.89520613 9.481154e+00
1142 -11.39520613 3.314487e+00
1143 -10.39520613 -2.143846e+00
1144 -11.89520613 -3.143846e+00
1145 -5.89520613 7.311537e-01
1146 -3.39520613 2.856154e+00
1147 19.10479387 -1.095932e+01
1148 -3.39520613 -1.231051e+01
1149 -10.89520613 -7.518846e+00
1150 -14.89520613 1.606154e+00
1151 41.10479387 9.689487e+00
1152 -10.39520613 4.064487e+00
1153 -8.89520613 -8.060513e+00
1154 0.10479387 -2.602180e+00
1155 -2.39520613 2.311537e-01
1156 1.10479387 -3.977180e+00
1157 10.10479387 -5.768846e+00
1158 -13.39520613 6.731154e+00
1159 -0.89520613 -3.393846e+00
1160 -9.39520613 2.606154e+00

1161	-5.56187279	1.281449e+01
1162	7.60479387	4.856154e+00
1163	-4.89520613	-1.107188e+01
1164	-0.89520613	-9.477180e+00
1165	2.10479387	-1.314385e+01
1166	-7.39520613	-2.727180e+00
1167	-7.03806327	6.439487e+00
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1169	-6.89520613	1.397820e+00
1170	-13.39520613	4.481154e+00
1171	-5.89520613	7.189487e+00
1172	-7.89520613	1.177282e+01
1173	-17.60949184	1.010615e+01
1174	-6.39520613	2.374011e+00
1175	1.10479387	-4.637533e+00
1176	10.10479387	8.665704e-01
1177	2.10479387	-3.688463e-01
1178	-5.89520613	9.294226e+00
1179	-8.27020613	5.179070e+00
1180	-7.89520613	2.830112e+00
1181	-14.89520613	3.534725e+00
1182	24.10479387	-5.906833e+00
1183	7.10479387	-2.843181e+00
1184	5.10479387	-6.245037e+00
1185	4.10479387	1.094681e-01
1186	23.10479387	-2.107388e+00
1187	0.10479387	-4.477180e+00
1188	-16.39520613	-2.465275e+00
1189	-6.89520613	2.481154e+00
1190	12.10479387	-7.732591e+00
1191	-4.27020613	-1.387894e+00
1192	3.60479387	-2.000989e+00
1193	-10.89520613	-1.233132e+00
1194	-5.89520613	1.927582e+00
1195	2.10479387	-1.779263e+00
1196	-10.89520613	6.121061e-01
1197	-8.46663470	-4.375834e-01
1198	-5.39520613	-5.605130e-01
1199	-1.89520613	-3.250989e+00
1200	-1.89520613	2.207344e+00
1201	3.10479387	5.260916e+00
1202	NA	1.989953e+00
1203	-8.14520613	6.842696e+00

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1205	6.10479387	-4.552498e-01
1206	-4.39520613	-1.219455e+01
1207	-5.89520613	-1.536703e+00
1208	61.10479387	5.254963e+00
1209	16.22979387	1.034425e+01
1210	7.60479387	9.939487e+00
1211	24.10479387	5.713297e+00
1212	19.10479387	1.188592e+01
1213	27.10479387	1.608830e+01
1214	-7.89520613	5.510916e+00
1215	-0.75234898	-2.608132e+00
1216	13.10479387	-3.643846e+00
1217	21.10479387	6.711485e+00
1218	27.60479387	4.439487e+00
1219	21.10479387	3.397820e+00
1220	-12.39520613	1.433532e+01
1221	0.22979387	1.400720e+01
1222	-7.89520613	5.330112e+00
1223	15.10479387	1.495217e+01
1224	29.10479387	2.529663e+01
1225	46.10479387	1.121471e+01
1226	-16.89520613	-1.055305e+00
1227	-1.64520613	4.923862e+00
1228	-7.39520613	7.845737e+00
1229	-0.89520613	2.424678e+01
1230	-6.39520613	4.037701e+00
1231	17.60479387	-3.890532e+00
1232	-7.39520613	5.455586e+00
1233	37.10479387	8.819695e+00
1234	26.10479387	1.268700e+01
1235	-8.89520613	8.423862e+00
1236	-16.89520613	1.679070e+00
1237	-18.89520613	1.679070e+00
1238	-15.39520613	3.506969e+00
1239	18.72979387	2.603436e+00
1240	13.10479387	1.156029e+01
1241	5.10479387	6.982286e+00
1242	12.60479387	1.987653e+01
1243	7.10479387	3.098115e+01
1244	-5.89520613	2.137178e+01
1245	-5.02020613	1.117613e+01
1246	7.10479387	1.079886e+01

1247	34.10479387	9.158395e+00
1248	25.10479387	1.743428e+01
1249	51.10479387	1.106970e+01
1250	69.10479387	6.407493e+00
1251	-8.60949184	3.279964e+00
1252	4.10479387	-5.424252e+00
1253	16.10479387	9.423279e-01
1254	12.60479387	4.208900e+00
1255	17.10479387	-5.485805e-03
1256	-0.39520613	1.294470e+01
1257	-16.02020613	1.242386e+01
1258	7.60479387	1.097074e+01
1259	58.10479387	2.719233e+01
1260	26.10479387	2.928679e+01
1261	-6.89520613	1.283441e+01
1262	6.60479387	1.625991e+01
1263	20.97979387	1.592907e+01
1264	3.60479387	2.228324e+01
1265	0.10479387	1.436544e+01
1266	-2.39520613	-1.068733e-01
1267	-1.89520613	2.085320e+00
1268	7.60479387	5.665659e-04
1269	-9.32377755	8.457370e-01
1270	-5.39520613	-4.563463e-01
1271	-6.89520613	3.814487e+00
1272	3.10479387	4.085320e+00
1273	8.10479387	1.049831e+01
1274	9.10479387	1.129365e+01
1275	18.47979387	9.913445e+00
1276	-12.39520613	1.409990e+01
1277	6.10479387	1.589261e+01
1278	-15.89520613	1.278029e+00
1279	2.10479387	9.593020e+00
1280	17.60479387	2.796678e+01
1281	26.72979387	3.279365e+01
1282	-0.89520613	9.590529e+00
1283	-17.89520613	1.831244e+00
1284	-5.89520613	1.229365e+01
1285	19.10479387	2.581449e+01
1286	4.60479387	1.793428e+01
1287	3.60479387	4.340076e+00
1288	-16.89520613	8.871779e+00
1289	-15.89520613	5.027206e+00

1290	-20.89520613	3.538445e+00
1291	-5.89520613	-2.227486e+00
1292	-4.89520613	-3.367805e+00
1293	-1.64520613	7.673183e+00
1294	7.10479387	2.198636e+01
1295	13.10479387	6.944815e+00
1296	13.60479387	-9.453814e-01
1297	-13.89520613	1.165704e-01
1298	-9.89520613	4.188743e+00
1299	-18.52020613	9.939487e+00
1300	2.60479387	7.755789e-01
1301	14.10479387	-8.157213e-01
1302	3.60479387	5.447607e+00
1303	17.10479387	1.182653e+01
1304	40.10479387	2.810615e+01
1305	53.85479387	3.164782e+01
1306	21.10479387	1.372074e+01
1307	-10.89520613	-8.596201e-01
1308	-19.39520613	-5.299423e-01
1309	8.10479387	3.695439e+00
1310	4.10479387	1.172669e+01
1311	32.10479387	1.883416e+01
1312	-14.89520613	9.460320e+00
1313	-20.89520613	6.096259e-01
1314	-24.39520613	-2.068325e+00
1315	4.10479387	3.182749e-01
1316	14.60479387	2.013504e+00
1317	21.96193673	1.435615e+01
1318	11.10479387	1.871032e+01
1319	26.60479387	2.871032e+01
1320	-4.89520613	1.179365e+01
1321	-13.39520613	-2.239456e+00
1322	-7.89520613	-2.252089e+00
1323	20.39050816	8.975201e+00
1324	21.10479387	1.152877e+01
1325	6.60479387	-4.352180e+00
1326	-8.89520613	1.572595e+01
1327	-15.39520613	1.200199e+01
1328	-17.89520613	-7.294888e+00
1329	-15.39520613	-9.602180e+00
1330	-12.39520613	5.495905e+00
1331	5.10479387	4.716208e+00
1332	-5.89520613	6.482512e+00

1333	16.10479387	1.031426e+01
1334	48.10479387	2.268353e+01
1335	56.39050816	1.687427e+01
1336	19.60479387	1.396925e+01
1337	2.10479387	1.005087e+01
1338	-8.39520613	2.148115e+01
1339	24.10479387	3.120338e+01
1340	30.10479387	2.044470e+01
1341	0.27146054	4.805558e+00
1342	-10.39520613	3.421630e+00
1343	50.10479387	9.129963e+00
1344	18.10479387	1.145734e+01
1345	22.60479387	1.123830e+01
1346	-20.39520613	9.142612e+00
1347	7.10479387	3.092787e-01
1348	9.10479387	3.262404e+00
1349	35.10479387	1.673810e+01
1350	24.60479387	1.093677e+01
1351	60.10479387	8.945556e+00
1352	35.60479387	5.703527e+00
1353	4.72979387	-4.149055e+00
1354	-10.39520613	-4.138638e+00
1355	-23.39520613	9.290704e-01
1356	-14.89520613	-1.685513e+00
1357	-16.89520613	-7.539340e+00
1358	-5.89520613	-1.392888e+01
1359	3.53336530	-2.153295e+00
1360	-7.89520613	-8.881942e+00
1361	-12.89520613	-1.038789e+01
1362	-16.39520613	-4.108132e+00
1363	0.10479387	-2.537554e+00
1364	8.10479387	1.528773e+00
1365	12.97979387	-4.756942e+00
1366	11.60479387	1.652364e-01
1367	14.10479387	-1.253922e+00
1368	-21.39520613	-4.161703e+00
1369	-16.89520613	-7.691465e+00
1370	9.60479387	-9.955441e+00
1371	13.85479387	-3.968380e+00
1372	-5.39520613	2.221319e+00
1373	-1.89520613	-9.167656e+00
1374	-4.89520613	4.909725e+00
1375	5.10479387	1.551092e+01

1376	-28.39520613	8.025823e-01
1377	-25.89520613	-6.411703e+00
1378	NA	6.928514e-01
1379	-23.89520613	-8.191465e+00
1380	12.60479387	-1.001386e+01
1381	31.10479387	-9.809219e+00
1382	16.60479387	-4.596227e+00
1383	-8.03806327	-1.114084e+00
1384	-3.39520613	-1.441596e+01
1385	-6.89520613	-6.191465e+00
1386	11.10479387	1.523711e+01
1387	-17.39520613	-5.875989e+00
1388	-12.89520613	-1.150694e+01
1389	-7.27020613	-5.560513e+00
1390	-8.89520613	-3.881942e+00
1391	13.10479387	-1.103075e+01
1392	15.10479387	-1.270121e+01
1393	2.10479387	-1.037418e+01
1394	-11.89520613	-9.655751e+00
1395	11.72979387	-1.320415e+01
1396	17.10479387	-5.798608e+00
1397	-16.89520613	-6.518846e+00
1398	-4.39520613	-1.172123e+01
1399	24.10479387	-2.668173e+00
1400	29.60479387	-9.149799e+00
1401	26.53336530	3.606154e+00
1402	15.60479387	7.106154e+00
1403	10.10479387	-2.271796e-01
1404	-29.89520613	2.311537e-01
1405	-24.89520613	-3.102180e+00
1406	-9.89520613	-1.418551e+01
1407	-7.18092041	-9.143846e+00
1408	-0.39520613	-1.610218e+01
1409	-4.89520613	-1.731051e+01
1410	-6.89520613	-1.168551e+01
1411	-13.89520613	-1.231051e+01
1412	NA	-9.477180e+00
1413	9.35479387	-1.160218e+01
1414	6.60479387	-1.351885e+01
1415	13.10479387	6.606154e+00
1416	4.10479387	-6.060513e+00
1417	-8.89520613	-9.227180e+00
1418	-2.89520613	-1.131051e+01

1419	24.67622245	-1.635218e+01
1420	14.10479387	-1.322718e+01
1421	1.10479387	-8.393846e+00
1422	-6.39520613	-1.126885e+01
1423	-15.89520613	-4.018846e+00
1424	NA	-1.560218e+01
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1428	-16.89520613	-1.048097e+01
1429	-2.89520613	-1.418551e+01
1430	-12.39520613	-9.810513e+00
1431	-14.89520613	-1.060218e+01
1432	-19.89520613	-1.855130e-01
1433	-9.89520613	-4.560513e+00
1434	-9.89520613	-7.271796e-01
1435	-6.89520613	-1.389385e+01
1436	-3.39520613	-1.131051e+01
1437	-5.03806327	-1.521812e+01
1438	-1.39520613	-1.568551e+01
1439	-5.89520613	-1.301885e+01
1440	-9.39520613	-8.018846e+00
1441	-0.89520613	-1.147899e+01
1442	1.10479387	-5.141395e+00
1443	-17.32377755	-4.227180e+00
1444	-14.39520613	-8.218122e+00
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1446	-11.39520613	-7.685513e+00
1447	-17.89520613	-1.631051e+01
1448	-9.39520613	-1.406051e+01
1449	-5.56187279	-1.293551e+01
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1451	-4.39520613	-1.601885e+01
1452	-9.89520613	-9.602180e+00
1453	6.10479387	-2.018846e+00
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1455	-13.46663470	-5.560513e+00
1456	NA	-7.602180e+00
1457	-15.89520613	-7.977180e+00
1458	-5.89520613	-1.664385e+01
1459	-21.39520613	-1.581051e+01
1460	NA	-7.331346e+00
1461	-7.64520613	-7.662229e+00

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1463		NA	-9.560513e+00
1464		NA	-1.018551e+01
1465	9.10479387	-1.256051e+01	
1466		NA	-1.547718e+01
1467	-6.89520613	-4.810513e+00	
1468		NA	2.564487e+00
1469	-5.39520613	-8.143846e+00	
1470	3.10479387	-1.464385e+01	
1471	1.60479387	-9.310513e+00	
1472	-9.89520613	-1.081051e+01	
1473	-10.89520613	-1.026885e+01	
1474	-0.89520613	-8.727180e+00	
1475	10.60479387	-1.172718e+01	
1476	12.10479387	-1.476885e+01	
1477	-2.39520613	-8.477180e+00	
1478	0.10479387	-7.102180e+00	
1479	-0.46663470	-1.001885e+01	
1480	-14.89520613	-4.935513e+00	
1481	-8.89520613	-6.438463e-01	
1482	-6.89520613	8.561537e-01	
1483	21.10479387	-1.156051e+01	
1484	0.10479387	-5.268846e+00	
1485	0.85479387	-5.518846e+00	
1486	21.10479387	-9.518846e+00	
1487	7.10479387	-6.893846e+00	
1488	-8.89520613	-6.727180e+00	
1489	20.10479387	-7.227180e+00	
1490	-21.89520613	9.811537e-01	
1491	8.22979387	-7.477180e+00	
1492	6.10479387	-4.768846e+00	
1493	18.60479387	-1.151885e+01	
1494		NA	-7.393846e+00
1495	5.10479387	-2.768846e+00	
1496	-1.89520613	-6.852180e+00	
1497	13.35479387	-6.393846e+00	
1498	5.10479387	-4.102180e+00	
1499	-5.89520613	-1.110218e+01	
1500	8.10479387	-1.285218e+01	
1501	1.60479387	-1.060218e+01	
1502	-0.89520613	-1.018846e+00	
1503	-9.89520613	-1.060513e+00	
1504	1.10479387	-1.143551e+01	

1505	3.10479387	-1.097718e+01
1506	1.10479387	-3.352180e+00
1507	5.60479387	2.731154e+00
1508	-10.89520613	-6.852180e+00
1509	-4.52020613	-3.935513e+00
1510	5.10479387	-1.114385e+01
1511	NA	-8.560513e+00
1512	2.60479387	-3.060513e+00
1513	12.10479387	-8.768846e+00
1514	-6.89520613	-3.521796e-01
1515	-11.02020613	1.397820e+00
1516	-7.89520613	-4.477180e+00
1517	-8.89520613	-2.018846e+00
1518	7.10479387	-5.477180e+00
1519	3.10479387	-4.685513e+00
1520	6.10479387	-6.102180e+00
1521	-4.32377755	2.064487e+00
1522	-7.89520613	-2.060513e+00
1523	-18.89520613	1.939487e+00
1524	-3.89520613	-8.768846e+00
1525	19.10479387	-1.256051e+01
1526	1.10479387	-4.268846e+00
1527	-11.75234898	-1.852180e+00
1528	NA	-7.227180e+00
1529	4.60479387	-7.271796e-01
1530	6.10479387	8.978204e-01
1531	23.60479387	-1.477180e+00
1532	-0.89520613	-3.227180e+00
1533	-18.89520613	6.231154e+00
1534	-22.89520613	7.314487e+00
1535	-8.89520613	-2.435513e+00
1536	-7.89520613	3.064487e+00
1537	-0.39520613	-8.935513e+00
1538	17.10479387	-4.362143e+00
1539	9.81907959	-6.518846e+00
1540	-0.89520613	-7.833391e-01
1541	29.10479387	5.607965e+00
1542	-16.89520613	-1.018846e+00
1543	-12.89520613	1.981154e+00
1544	-12.89520613	-1.685513e+00
1545	6.67622245	-1.006051e+01
1546	-2.89520613	2.679624e+00
1547	38.10479387	-3.749005e+00

1548	-5.89520613	5.222028e+00
1549	-19.39520613	9.085320e+00
1550	-12.89520613	6.147820e+00
1551	-7.60949184	4.046673e+00
1552	NA	4.282105e+00
1553	-5.89520613	3.902731e-01
1554	14.10479387	-1.471227e+00
1555	1.10479387	-4.366635e+00
1556	7.10479387	5.738304e+00
1557	-0.14520613	1.922934e+01
1558	-5.89520613	6.814487e+00
1559	10.60479387	-4.022832e+00
1560	-20.89520613	-8.957462e+00
1561	-15.89520613	9.142612e+00
1562	-18.89520613	3.945148e+00
1563	-6.60949184	2.540356e-01
1564	-8.89520613	-6.471227e+00
1565	-21.39520613	-1.054561e+00
1566	-6.89520613	7.156878e+00
1567	NA	2.739026e-01
1568	-16.89520613	1.232777e+00
1569	-3.89520613	6.135374e+00
1570	-11.89520613	6.539125e+00
1571	-19.89520613	1.117758e+01
1572	-18.89520613	1.093121e+01
1573	11.60479387	3.632514e+00
1574	-1.89520613	5.969546e-01
1575	1.47979387	-1.203370e+00
1576	NA	6.635916e+00
1577	38.60479387	8.405937e+00
1578	6.10479387	-7.430305e+00
1579	2.10479387	-4.288774e+00
1580	-13.89520613	1.207344e+00
1581	2.96193673	5.015574e+00
1582	8.10479387	1.731412e+00
1583	25.60479387	6.201933e+00
1584	-24.89520613	2.029290e+00
1585	-4.39520613	-2.840275e+00
1586	-7.89520613	5.704394e-01
1587	-11.77020613	-2.642207e-02
1588	-6.89520613	6.612106e+00
1589	13.10479387	-3.700368e-01
1590	12.10479387	1.089782e+01

1591	37.10479387	9.970261e+00
1592	25.10479387	1.187401e+01
1593	11.10479387	9.195439e+00
1594	46.10479387	1.272412e+01
1595	36.10479387	3.514021e+00
1596	51.10479387	1.569395e+01
1597	54.60479387	3.262404e+00
1598	-1.89520613	-3.285418e+00
1599	-9.52020613	-1.441465e+00
1600	-17.89520613	9.374011e+00
1601	8.10479387	1.030983e+01
1602	59.10479387	1.571458e+01
1603	29.10479387	-6.126410e+00
1604	3.10479387	-1.324718e+00
1605	0.81907959	8.574904e+00
1606	-7.89520613	-4.338166e+00
1607	-4.39520613	9.115729e+00
1608	NA	1.341568e+01
1609	64.10479387	8.586097e+00
1610	10.10479387	9.918654e+00
1611	2.72979387	1.102441e+01
1612	14.10479387	6.529387e+00
1613	7.10479387	1.458532e+01
1614	14.10479387	1.902877e+01
1615	-2.39520613	1.616960e+01
1616	-17.89520613	1.262695e+01
1617	-11.32377755	6.393806e+00
1618	-7.89520613	7.815619e+00
1619	11.10479387	9.600945e+00
1620	14.10479387	1.436136e+01
1621	25.60479387	2.867907e+01
1622	52.10479387	2.323115e+01
1623	4.22979387	6.304070e+00
1624	-8.89520613	3.142612e+00
1625	18.60479387	2.229796e+01
1626	8.10479387	2.333011e+01
1627	-0.39520613	1.869990e+01
1628	-12.89520613	1.363265e+01
1629	-3.39520613	8.779840e+00
1630	-0.89520613	2.567386e+01
1631	9.10479387	3.247074e+01
1632	26.10479387	4.366865e+01
1633	51.10479387	2.639782e+01

1634	-15.89520613	2.025945e+00
1635	-17.27020613	1.245511e+01
1636	-0.89520613	2.086068e+01
1637	18.60479387	3.443564e+01
1638	62.10479387	3.024261e+01
1639	61.10479387	2.925199e+01
1640	15.10479387	2.365303e+01
1641	17.60479387	2.347595e+01
1642	NA	1.472595e+01
1643	35.10479387	1.234884e+01
1644	0.10479387	1.192080e+01
1645	27.60479387	4.703300e+00
1646	NA	5.557920e+00
1647	1.72979387	1.195511e+01
1648	-1.89520613	2.117386e+01
1649	3.60479387	2.024157e+01
1650	NA	1.151082e+01
1651	4.10479387	4.532331e+00
1652	-11.89520613	1.605928e+01
1653	10.60479387	2.278052e+01
1654	24.10479387	1.527622e+01
1655	-11.39520613	1.242907e+01
1656	NA	5.538445e+00
1657	16.60479387	1.161657e+01
1658	23.10479387	2.110095e+01
1659	49.10479387	3.096032e+01
1660	42.10479387	3.347595e+01
1661	51.60479387	3.860999e+01
1662	15.10479387	3.335020e+01
1663	20.10479387	2.883579e+01
1664	36.10479387	1.542229e+01
1665	-3.89520613	1.163877e+01
1666	17.10479387	6.084188e+00
1667	-17.89520613	3.817091e+00
1668	-9.39520613	5.013892e+00
1669	-15.39520613	1.010568e+01
1670	NA	2.221553e+01
1671	4.47979387	1.555060e+01
1672	-6.89520613	6.735783e+00
1673	30.60479387	1.618521e+01
1674	NA	1.489782e+01
1675	97.10479387	2.008301e+01
1676	-18.89520613	1.132375e+01

1677	-19.60949184	3.013561e+00
1678	NA	8.425177e+00
1679	5.60479387	1.193949e+01
1680	8.10479387	6.893191e+00
1681	-1.39520613	8.279798e+00
1682	-18.89520613	9.823142e+00
1683	-9.39520613	4.008511e+00
1684	-5.89520613	8.745043e+00
1685	2.60479387	5.083006e+00
1686	-2.89520613	8.523533e+00
1687	31.10479387	9.359942e+00
1688	29.10479387	1.151578e+01
1689	24.60479387	1.452745e+01
1690	1.10479387	1.119412e+01
1691	0.60479387	6.587635e+00
1692	-15.89520613	-1.915311e+00
1693	-8.39520613	-6.827352e-01
1694	14.10479387	3.273626e+00
1695	8.10479387	1.215708e+01
1696	-15.89520613	3.136512e+00
1697	9.60479387	2.086596e+01
1698	28.10479387	3.335092e+01
1699	46.60479387	2.361568e+01
1700	8.10479387	8.591603e+00
1701	35.96193673	1.232838e+01
1702	39.10479387	1.189782e+01
1703	13.60479387	-2.463291e+00
1704	-4.89520613	1.970737e+00
1705	-9.39520613	1.051240e+01
1706	NA	1.168353e+01
1707	0.85479387	-3.971971e+00
1708	-20.89520613	1.897216e+00
1709	28.10479387	-2.129980e-01
1710	-14.89520613	5.100945e+00
1711	29.60479387	1.164374e+01
1712	7.10479387	1.857490e+01
1713	16.72979387	7.319695e+00
1714	-18.89520613	1.251987e+00
1715	-12.89520613	-1.207289e+00
1716	0.10479387	7.777204e-02
1717	19.60479387	5.163445e+00
1718	-0.89520613	-1.982388e+00
1719	0.39050816	2.778029e+00

1720	9.10479387	-1.315721e+00
1721	6.60479387	-8.055305e+00
1722	8.10479387	-5.473104e+00
1723	4.10479387	-6.805883e+00
1724	-5.89520613	-7.568889e+00
1725	0.10479387	1.894870e-01
1726	-8.89520613	-7.093225e-01
1727	-1.89520613	-9.686097e+00
1728	-5.89520613	-1.376905e+01
1729	2.10479387	-1.130327e+01
1730	6.10479387	-8.307896e+00
1731	-0.27020613	-1.049696e+01
1732	-17.89520613	-4.069772e+00
1733	-1.89520613	1.064487e+00
1734	42.10479387	7.202715e+00
1735	26.10479387	-3.501133e+00
1736	13.10479387	2.074764e-01
1737	-2.52020613	-2.810780e+00
1738	-18.89520613	-4.070930e+00
1739	-14.89520613	-2.643846e+00
1740	-17.89520613	-9.039680e+00
1741	-5.39520613	-1.097797e+01
1742	-4.89520613	3.479946e+00
1743	17.53336530	-2.276093e+00
1744	29.10479387	-5.413095e+00
1745	4.10479387	-8.120698e+00
1746	-8.89520613	-5.079031e+00
1747	-16.39520613	-6.278106e+00
1748	NA	-1.333366e+01
1749	-6.27020613	-1.345445e+01
1750	3.10479387	-9.643846e+00
1751	44.60479387	-4.249523e+00
1752	-7.89520613	-4.436776e+00
1753	-6.39520613	-6.139217e+00
1754	-13.89520613	-7.551254e+00
1755	12.10479387	-4.541994e+00
1756	12.10479387	5.512051e+00
1757	27.60479387	-4.236582e-02
1758	-8.89520613	-1.017028e+01
1759	-17.89520613	-1.370114e+01
1760	-13.89520613	-1.037301e+01
1761	-23.89520613	-1.140426e+01
1762	-31.89520613	-1.201885e+01

1763	5.10479387	-1.423239e+01
1764	-25.89520613	-1.366795e+01
1765	NA	-1.167956e+01
1766	NA	-9.143846e+00
1767	-10.89520613	-6.646796e-01
1768	-16.89520613	-3.373013e+00
1769	11.60479387	-7.956346e+00
1770	-7.89520613	-1.408859e+01
1771	1.10479387	-7.914680e+00
1772	-3.89520613	-1.297718e+01
1773	5.35479387	-1.441468e+01
1774	-26.89520613	-1.296825e+01
1775	11.10479387	-1.601885e+01
1776	NA	-1.726885e+01
1777	5.60479387	-1.656051e+01
1778	-5.89520613	-1.558135e+01
1779	2.10479387	-1.556051e+01
1780	4.10479387	-1.001885e+01
1781	-5.39520613	-1.646796e-01
1782	NA	-7.143846e+00
1783	2.10479387	-1.064385e+01
1784	-5.89520613	-1.022718e+01
1785	-12.02020613	-1.389385e+01
1786	NA	-1.524801e+01
1787	11.60479387	-1.710218e+01
1788	-13.89520613	-1.318551e+01
1789	-0.89520613	-4.331346e+00
1790	-6.89520613	-1.300694e+01
1791	3.47979387	-1.587301e+01
1792	1.10479387	-1.271088e+01
1793	-23.89520613	-7.706346e+00
1794	NA	-8.706346e+00
1795	-14.89520613	-5.435513e+00
1796	-14.89520613	-1.353968e+01
1797	-17.27020613	-8.081346e+00
1798	-11.89520613	-1.099801e+01
1799	1.10479387	-1.128968e+01
1800	-10.89520613	-1.422084e+01
1801	-0.39520613	-1.385218e+01
1802	-13.89520613	-1.456051e+01
1803	-9.60949184	-1.316468e+01
1804	8.10479387	-1.543551e+01
1805	-8.39520613	-1.612301e+01

1806	-5.89520613	-1.599801e+01
1807	-6.89520613	-1.558135e+01
1808	7.10479387	-1.656051e+01
1809	2.85479387	-5.602180e+00
1810	-7.89520613	-7.373013e+00
1811	-6.39520613	-1.458135e+01
1812	12.10479387	-1.191468e+01
1813	-2.89520613	-1.068551e+01
1814	3.10479387	-1.562301e+01
1815	-4.52020613	-1.731051e+01
1816	-13.89520613	-1.743551e+01
1817	-22.39520613	-1.618551e+01
1818	-11.89520613	-1.314385e+01
1819	-4.89520613	-1.489385e+01
1820	5.10479387	-1.612301e+01
1821	-0.89520613	-1.533135e+01
1822	-2.89520613	-1.024801e+01
1823	-6.89520613	-1.199801e+01
1824	8.10479387	-1.570635e+01
1825	-4.89520613	-1.438968e+01
1826	-12.89520613	-1.333859e+01
1827	-0.46663470	-1.397718e+01
1828	-2.89520613	-1.701885e+01
1829	-1.89520613	-1.731051e+01
1830	-11.89520613	-1.331051e+01
1831	-8.39520613	-1.143551e+01
1832	-3.89520613	-1.639385e+01
1833	7.53336530	-1.695635e+01
1834	-7.39520613	-1.606051e+01
1835	-0.39520613	-1.743551e+01
1836	-1.89520613	-1.495725e+01
1837	-8.89520613	-1.445635e+01
1838	-10.89520613	-1.201885e+01
1839	-15.77020613	-1.266468e+01
1840	-9.89520613	-7.873013e+00
1841	4.10479387	-1.118362e+01
1842	5.10479387	-1.162112e+01
1843	0.60479387	-8.268846e+00
1844	NA	-7.810513e+00
1845	-6.39520613	-1.220635e+01
1846	8.10479387	-1.310218e+01
1847	10.10479387	-1.493551e+01
1848	0.10479387	-1.510218e+01

1849	16.10479387	-1.084027e+01
1850	31.10479387	-7.539680e+00
1851	-9.14520613	-1.220635e+01
1852	-4.89520613	-1.166468e+01
1853	11.60479387	-1.572718e+01
1854	7.10479387	-1.401885e+01
1855	12.60479387	-1.324801e+01
1856	6.60479387	-1.714385e+01
1857	-13.77020613	-9.581346e+00
1858	7.60479387	-3.123013e+00
1859	-10.39520613	-1.501885e+01
1860	48.60479387	-1.685218e+01
1861	-7.39520613	-1.026885e+01
1862	-10.89520613	-1.145635e+01
1863	3.10479387	-1.401885e+01
1864	0.60479387	-8.706346e+00
1865	-8.89520613	-6.206346e+00
1866	9.60479387	-1.191468e+01
1867	44.10479387	-1.622718e+01
1868	-14.89520613	-8.914680e+00
1869	-2.52020613	-5.539680e+00
1870	3.60479387	-1.722718e+01
1871	-2.39520613	-1.307301e+01
1872	-8.39520613	-1.572718e+01
1873	-7.89520613	-1.243551e+01
1874	2.10479387	-9.977180e+00
1875	3.96193673	-1.573760e+01
1876	-7.89520613	-1.375172e+01
1877	3.10479387	-9.554561e+00
1878	-8.89520613	-4.687407e+00
1879	-3.89520613	-8.602180e+00
1880	1.10479387	-1.768846e+00
1881	4.22979387	-8.956346e+00
1882	2.60479387	-8.130589e+00
1883	2.10479387	-5.956346e+00
1884	0.10479387	-1.145824e+01
1885	-6.89520613	-5.977180e+00
1886	-11.89520613	3.272820e+00
1887	2.47979387	-1.018846e+00
1888	10.60479387	-8.081346e+00
1889	25.10479387	-1.253968e+01
1890	43.10479387	-1.068551e+01
1891	65.10479387	-1.260218e+01

1892	16.10479387	-1.131051e+01
1893	9.81907959	-1.589385e+01
1894	-6.39520613	-1.043551e+01
1895	0.10479387	-4.977180e+00
1896	-1.39520613	3.585320e+00
1897	0.10479387	1.751987e+00
1898	-2.39520613	-1.352180e+00
1899	-0.14520613	-1.685513e+00
1900	-6.89520613	3.561537e-01
1901	-5.39520613	-4.980130e-01
1902	-5.39520613	-7.238543e+00
1903	-7.39520613	1.897820e+00
1904	-13.39520613	7.106154e+00
1905	-9.89520613	9.327168e+00
1906	6.10479387	-3.602180e+00
1907	-0.89520613	1.010615e+01
1908	-14.39520613	6.085320e+00
1909	20.10479387	-5.998013e+00
1910	24.10479387	-2.839680e+00
1911	6.85479387	-7.248013e+00
1912	12.60479387	-3.602180e+00
1913	-7.39520613	4.397820e+00
1914	5.60479387	-1.414680e+00
1915	-8.89520613	7.835320e+00
1916	0.10479387	1.043654e+00
1917	1.47979387	-2.768846e+00
1918	-13.89520613	3.789834e+00
1919	-1.89520613	-9.193417e-01
1920	11.60479387	-5.945930e+00
1921	-13.89520613	7.501987e+00
1922	-4.89520613	1.470737e+00
1923	8.22979387	-1.591763e+00
1924	42.60479387	-4.939301e+00
1925	19.10479387	-6.288040e-02
1926	3.10479387	7.487185e+00
1927	11.10479387	5.483444e-01
1928	-15.89520613	-2.284471e+00
1929	-19.03806327	1.262178e+01
1930	-1.89520613	-3.516952e+00
1931	10.60479387	-9.670341e+00
1932	19.10479387	-9.161703e+00
1933	-7.89520613	-2.195930e+00
1934	-10.89520613	3.486362e+00

1935	6.60479387	-8.982388e+00
1936	-9.89520613	4.304070e+00
1937	-11.39520613	2.147820e+00
1938	0.60479387	-6.503853e+00
1939	3.10479387	-1.890126e+00
1940	6.60479387	-1.145521e+01
1941	-0.32377755	-1.091407e+01
1942	-19.89520613	-2.072418e+00
1943	-22.39520613	8.234416e-02
1944	-13.89520613	5.043065e+00
1945	21.10479387	-1.341537e+00
1946	18.60479387	-3.029942e+00
1947	21.47979387	-4.298511e+00
1948	107.10479387	1.348183e+01
1949	33.10479387	8.147820e+00
1950	0.60479387	-1.340275e+00
1951	-10.39520613	-4.842554e-02
1952	22.10479387	1.186976e+01
1953	-2.03806327	1.904855e+00
1954	66.10479387	2.306723e+00
1955	31.10479387	1.556449e+01
1956	15.10479387	2.617386e+01
1957	19.10479387	2.192386e+01
1958	50.10479387	1.432252e+01
1959	13.67622245	6.981154e+00
1960	NA	3.543427e+00
1961	-14.89520613	-5.932375e+00
1962	47.10479387	-7.117811e-01
1963	33.10479387	2.192163e+01
1964	1.10479387	1.558830e+01
1965	-12.77020613	2.440231e+00
1966	4.10479387	2.669107e+00
1967	NA	1.670307e+01
1968	58.10479387	1.416629e+01
1969	49.10479387	5.342155e+00
1970	20.10479387	-4.290430e-01
1971	-23.02020613	9.808535e+00
1972	NA	9.695439e+00
1973	-15.89520613	5.798026e+00
1974	4.10479387	-2.873013e+00
1975	36.10479387	3.012404e+00
1976	22.10479387	1.294130e+01
1977	-0.27020613	2.126602e+01

1978	8.10479387	1.668949e+01
1979	9.10479387	3.511498e+00
1980	-12.89520613	2.958056e+00
1981	21.10479387	2.325720e+01
1982	17.10479387	5.236362e+00
1983	19.81907959	1.285710e+01
1984	19.10479387	1.367386e+01
1985	-14.89520613	1.396032e+01
1986	-14.89520613	3.512404e+00
1987	-15.89520613	6.592114e+00
1988	-6.89520613	8.615747e+00
1989	7.96193673	7.620129e+00
1990	1.10479387	2.128764e+01
1991	27.10479387	2.589261e+01
1992	11.10479387	2.180928e+01
1993	11.10479387	1.359483e+01
1994	42.10479387	2.495511e+01
1995	38.39050816	8.319559e+00
1996	8.10479387	8.189317e+00
1997	NA	-2.066482e-01
1998	-31.89520613	1.057385e+00
1999	-24.89520613	1.246779e+00
2000	28.10479387	-5.774799e+00
2001	14.24765102	1.170245e+01
2002	6.10479387	1.254891e+01
2003	16.10479387	4.387957e+00
2004	7.10479387	6.685421e+00
2005	-16.89520613	2.158237e+00
2006	4.10479387	5.684279e+00
2007	19.60479387	1.397387e+01
2008	-15.89520613	9.578376e+00
2009	41.10479387	3.139319e+01
2010	45.10479387	2.755985e+00
2011	-9.89520613	-3.313463e-01
2012	-9.89520613	1.009574e+01
2013	-14.18092041	2.142612e+00
2014	NA	-7.015245e-01
2015	25.10479387	-3.681729e-01
2016	32.10479387	9.722498e+00
2017	-1.89520613	-5.540585e+00
2018	-1.89520613	4.667949e+00
2019	-2.27020613	6.476524e+00
2020	-8.89520613	-3.886380e-01

2021	-19.89520613	1.299390e+00
2022	-22.89520613	-7.707031e-01
2023	-14.89520613	4.103208e+00
2024	7.10479387	-6.037566e+00
2025	-5.89520613	-1.685513e+00
2026	-10.89520613	-2.041994e+00
2027	-9.89520613	7.208006e+00
2028	-15.89520613	-4.882505e-01
2029	-26.89520613	1.309254e+00
2030	-4.89520613	-5.462215e-01
2031	-4.89520613	6.846561e-01
2032	-9.89520613	7.494201e+00
2033	-0.89520613	-1.291994e+00
2034	1.10479387	8.561537e-01
2035	-4.89520613	-2.235116e+00
2036	8.10479387	1.162917e+00
2037	-10.77020613	-5.023275e+00
2038	-16.89520613	-5.944772e+00
2039	-14.89520613	9.779331e-01
2040	NA	4.184857e+00
2041	-10.89520613	3.370043e+00
2042	0.10479387	-7.797832e+00
2043	-11.39520613	-6.139217e+00
2044	-9.89520613	2.951584e+00
2045	-5.89520613	1.092882e+01
2046	27.60479387	1.093611e+01
2047	11.10479387	1.300720e+01
2048	12.10479387	8.824904e+00
2049	-0.64520613	3.835320e+00
2050	-7.89520613	4.051092e+00
2051	-7.89520613	-9.066405e+00
2052	-11.39520613	-2.846932e-01
2053	-7.89520613	-2.206246e+00
2054	-20.89520613	7.453376e+00
2055	-9.60949184	6.860783e+00
2056	48.10479387	3.073746e+00
2057	22.60479387	2.525035e+00
2058	-15.89520613	-4.245094e+00
2059	29.10479387	-3.863250e+00
2060	42.60479387	3.895002e+00
2061	22.10479387	1.411078e+01
2062	25.60479387	1.113856e+01
2063	43.60479387	1.247806e+00

2064	12.10479387	4.522820e+00
2065	-14.39520613	-7.259647e+00
2066	-2.89520613	-1.097423e+01
2067	-11.14520613	-7.868502e+00
2068	17.60479387	3.934857e+00
2069	-2.89520613	2.684857e+00
2070	4.10479387	-6.625328e+00
2071	29.10479387	-2.824402e+00
2072	22.10479387	-2.538774e+00
2073	-1.60949184	-3.060421e+00
2074	-0.89520613	-2.179204e-01
2075	0.60479387	3.923862e+00
2076	2.10479387	8.444695e+00
2077	0.60479387	1.209800e+01
2078	20.10479387	-2.919783e+00
2079	-15.14520613	-1.310983e+01
2080	7.60479387	-8.417525e+00
2081	4.60479387	-9.321383e+00
2082	5.10479387	1.286709e+00
2083	16.10479387	1.397189e+01
2084	35.60479387	4.226524e+00
2085	10.96193673	5.195997e-01
2086	69.60479387	1.427000e+01
2087	32.10479387	1.306435e+00
2088	7.60479387	-1.919908e-01
2089	-3.39520613	-5.475857e+00
2090	-6.89520613	-1.320930e+00
2091	2.24765102	-1.312664e+01
2092	3.10479387	-7.255939e+00
2093	-8.89520613	-6.508430e+00
2094	2.60479387	-4.237596e+00
2095	19.60479387	-3.096518e+00
2096	-5.89520613	-4.873013e+00
2097	-15.77020613	-5.732388e+00
2098	3.60479387	-7.402225e+00
2099	42.60479387	-1.070295e+01
2100	61.60479387	-7.627542e+00
2101	55.60479387	-3.910151e+00
2102	52.10479387	1.968875e+00
2103	6.96193673	1.023578e+01
2104	-3.39520613	4.217265e+00
2105	-10.89520613	-3.977180e+00
2106	38.10479387	-8.293678e+00

2107	53.10479387	2.241269e-01
2108	12.10479387	-3.099764e+00
2109	-14.60949184	-1.227053e+01
2110	16.10479387	-7.523476e+00
2111	25.60479387	-5.963291e+00
2112	23.10479387	-4.449402e+00
2113	30.10479387	-1.012701e+01
2114	10.60479387	-9.448079e+00
2115	-14.89520613	-1.457242e+01
2116	-2.39520613	-1.263922e+01
2117	-1.39520613	-1.047255e+01
2118	3.10479387	-3.671624e+00
2119	-3.89520613	-1.013922e+01
2120	7.10479387	-9.656893e+00
2121	9.35479387	-9.505232e+00
2122	29.10479387	-7.569557e+00
2123	95.10479387	-2.176229e+00
2124	-3.39520613	-1.846971e+00
2125	3.10479387	-7.241069e+00
2126	6.60479387	-4.195376e+00
2127	43.53336530	-1.325033e+01
2128	85.10479387	-1.143815e+01
2129	-3.89520613	-4.910151e+00
2130	-9.39520613	-6.074402e+00
2131	-15.89520613	-5.884587e+00
2132	-3.89520613	-7.320930e+00
2133	-22.18092041	-1.597492e+01
2134	-18.89520613	-1.357093e+01
2135	-20.89520613	-1.424208e+01
2136	-7.89520613	-1.510976e+01
2137	-12.89520613	-1.466196e+01
2138	-6.39520613	-1.383551e+01
2139	-6.77020613	-1.533135e+01
2140	-1.89520613	-1.222718e+01
2141	3.10479387	-1.410218e+01
2142	-9.89520613	-1.322718e+01
2143	NA	-1.259460e+01
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2145	-15.18092041	-1.176885e+01
2146	-6.89520613	-1.189385e+01
2147	-0.89520613	-1.568551e+01
2148	8.60479387	-1.565774e+01
2149	-5.39520613	-1.035097e+01

2150 -0.39520613 -1.171834e+01
2151 -1.03806327 -1.322718e+01
2152 -13.39520613 -1.406051e+01
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2168 2.60479387 -1.442162e+01
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2208 -8.39520613 -1.619940e+01
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2219 -2.39520613 -1.170423e+01
2220 2.60479387 -1.220047e+01
2221 -14.39520613 -7.685513e+00
2222 7.60479387 -5.046624e+00
2223 -13.39520613 -6.227180e+00
2224 -20.39520613 1.258931e+00
2225 -21.89520613 -1.222295e+01
2226 30.10479387 -1.633577e+01
2227 62.60479387 -1.214385e+01
2228 40.60479387 -1.157682e+01
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2233 -13.89520613 -1.258044e+01
2234 -17.39520613 -4.977180e+00
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2270 -4.89520613 -1.131304e+01
2271 6.67622245 -1.531776e+01
2272 8.10479387 -7.046624e+00
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2283	-22.27020613	7.499672e+00
2284	7.10479387	-5.534679e-01
2285	-9.39520613	-1.717920e+00
2286	-1.39520613	4.434857e+00
2287	-1.89520613	1.659092e+00
2288	0.10479387	2.075357e+00
2289	23.35479387	-3.500364e+00
2290	11.60479387	-5.131385e+00
2291	1.10479387	7.774500e-01
2292	-7.39520613	2.703376e+00
2293	-18.89520613	3.978204e-01
2294	-13.89520613	8.500935e+00
2295	-2.46663470	5.833701e+00
2296	7.10479387	-8.128552e-01
2297	-11.39520613	-8.996014e+00
2298	-9.89520613	-2.611439e+00
2299	3.10479387	4.087635e+00
2300	-5.89520613	1.033764e+01
2301	-3.02020613	-4.717920e+00
2302	-5.89520613	4.809052e+00
2303	9.60479387	8.597058e-01
2304	29.60479387	-1.217259e+00
2305	29.60479387	5.202735e+00
2306	66.10479387	1.474967e+01
2307	-15.89520613	1.165708e+01
2308	-15.39520613	1.875514e+00
2309	33.10479387	1.930228e+00
2310	12.10479387	1.605349e+00
2311	14.60479387	-1.191540e+01
2312	8.60479387	-7.329031e+00
2313	1.10479387	1.129134e+01
2314	-2.89520613	5.711709e+00
2315	-2.39520613	6.347941e-01
2316	0.10479387	-3.203867e+00
2317	19.60479387	-6.545896e+00
2318	37.60479387	-3.760429e+00
2319	26.47979387	1.425190e+01
2320	18.10479387	2.486541e+01
2321	25.10479387	1.752282e+01

2322	38.10479387	1.673532e+01
2323	3.60479387	8.927538e+00
2324	16.60479387	2.015278e+00
2325	-10.77020613	-2.443484e+00
2326	18.10479387	4.884777e+00
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2329	-3.39520613	-2.277542e+00
2330	17.10479387	-6.100601e-01
2331	-9.27020613	-2.401998e+00
2332	27.60479387	-8.717656e+00
2333	19.10479387	-2.281709e+00
2334	9.10479387	7.710320e+00
2335	-13.89520613	1.044782e+01
2336	0.10479387	1.365885e-01
2337	-5.89520613	-2.752740e+00
2338	16.10479387	2.061537e-01
2339	73.10479387	6.575719e+00
2340	58.60479387	-8.130492e-01
2341	-17.89520613	4.027450e+00
2342	-5.89520613	-3.185513e+00
2343	-22.39520613	6.601524e+00
2344	-2.89520613	-5.262786e+00
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2347	-14.39520613	-1.544390e+00
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2349	-2.27020613	6.976987e+00
2350	2.10479387	-1.330589e+01
2351	-8.89520613	-5.971287e+00
2352	0.10479387	7.390245e+00
2353	29.10479387	5.214487e+00
2354	2.10479387	1.607383e+01
2355	6.67622245	1.628532e+01
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2363	-15.89520613	5.633931e+00
2364	-3.89520613	-3.711046e+00

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2368	0.10479387	-2.692199e+00
2369	1.10479387	8.086537e-01
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2373	-0.64520613	-2.955906e+00
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2375	NA	-7.583619e+00
2376	NA	7.272820e+00
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2385	-5.60949184	7.139487e+00
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2390	26.10479387	1.033949e+01
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2393	-0.89520613	2.487835e+00
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2395	-9.89520613	1.158871e+00
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2630	16.60479387	-1.270635e+01
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2649	12.35479387	4.991570e+00
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2664	-10.39520613	7.393191e+00
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2669	37.10479387	6.407885e+00
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2743	-21.89520613	1.623999e+01
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2772	28.10479387	2.953453e+00
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2774	-14.89520613	-7.275255e-01
2775	1.35479387	5.311537e-01
2776	-7.89520613	1.165615e+01
2777	17.60479387	9.713762e+00
2778	-9.89520613	-4.096072e-01
2779	NA	-1.291165e+01
2780	-4.39520613	4.046733e+00
2781	7.35479387	-3.317545e+00
2782	7.10479387	3.698746e+00
2783	-0.89520613	-6.572131e-02
2784	-1.89520613	-4.678468e+00
2785	34.60479387	1.457758e-01
2786	18.60479387	7.472820e+00
2787	28.97979387	4.189487e+00
2788	52.10479387	1.693333e+01
2789	-2.89520613	1.139782e+01
2790	NA	-1.855130e-01
2791	12.60479387	-6.239498e+00
2792	27.60479387	2.385320e+00
2793	25.53336530	1.425090e+01
2794	58.10479387	8.292386e+00

2795	31.60479387	2.954704e+00
2796	72.60479387	1.431032e+01
2797	2.10479387	2.103204e-01
2798	-1.89520613	-1.354123e+00
2799	5.67622245	-1.050013e+01
2800	-5.89520613	-5.802864e+00
2801	-19.39520613	-5.544888e+00
2802	54.10479387	-1.178797e+01
2803	3.60479387	-2.977180e+00
2804	-10.89520613	2.793654e+00
2805	5.72979387	5.949904e+00
2806	NA	-4.930984e+00
2807	22.10479387	-6.664680e+00
2808	8.10479387	-1.016071e+01
2809	12.10479387	1.757195e+00
2810	4.10479387	6.298862e+00
2811	10.22979387	5.475945e+00
2812	54.60479387	8.960320e+00
2813	39.10479387	1.112693e+01
2814	27.60479387	8.486588e+00
2815	85.60479387	1.458295e+01
2816	43.10479387	1.524678e+01
2817	4.22979387	-1.016989e+01
2818	-5.89520613	-7.899055e+00
2819	27.60479387	-3.851233e+00
2820	46.60479387	7.003566e-01
2821	48.10479387	1.105853e+01
2822	27.60479387	2.307594e+00
2823	15.22979387	-7.734792e+00
2824	-0.89520613	-8.086555e+00
2825	-9.89520613	-3.268846e+00
2826	-8.89520613	-1.138434e+01
2827	-10.89520613	-1.390935e+01
2828	0.10479387	-9.619843e+00
2829	3.67622245	-1.311260e+01
2830	29.10479387	-6.438463e-01
2831	-18.39520613	1.137404e+00
2832	-21.39520613	3.293654e+00
2833	-15.89520613	3.195828e+00
2834	-6.89520613	-1.028684e+01
2835	6.22979387	-1.389350e+01
2836	8.10479387	1.986362e+00
2837	48.60479387	1.056970e+01

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2868 -14.89520613 -1.285218e+01
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2870 -23.89520613 3.851323e+00
2871 -17.52020613 3.594790e+00
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2873 -4.89520613 -1.640774e+01
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2878 8.10479387 -1.766136e+01
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2970	21.10479387	-1.523097e+01
2971	8.60479387	-1.031051e+01
2972	-9.39520613	-5.768846e+00
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2975	7.10479387	-1.583829e+01
2976	9.10479387	-6.189740e+00
2977	-18.39520613	-4.129957e+00
2978	-12.89520613	-7.366069e+00
2979	-10.56187279	-6.338291e+00
2980	-17.39520613	-4.283943e+00
2981	-15.39520613	-3.660260e+00
2982	-12.39520613	-7.663774e+00
2983	-7.89520613	-1.231051e+01
2984	11.60479387	-1.169819e+01
2985	7.21590499	-9.157735e+00
2986	5.10479387	-1.486607e+01
2987	-4.39520613	-8.546624e+00
2988	-14.89520613	-1.172718e+01
2989	-11.39520613	-1.796624e+00
2990	2.60479387	-9.512204e+00
2991	0.43812721	-5.963291e+00
2992	-3.39520613	8.161709e+00
2993	-2.39520613	9.870043e+00
2994	22.10479387	-1.874523e+00
2995	33.60479387	-3.935513e+00
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2997	10.32701610	-5.965706e+00
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2999	-2.39520613	-6.051298e-02
3000	22.60479387	-8.796624e+00
3001	0.60479387	-8.642035e+00
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3003	-19.11742835	-3.016746e-01
3004	-23.89520613	1.783690e+00
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3006	-9.39520613	2.856154e+00
3007	-6.39520613	1.953376e+00
3008	-11.89520613	-8.199402e+00
3009	-12.67298390	-1.830387e+01

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3011	-12.39520613	-1.264385e+01
3012	-8.39520613	-1.276281e+01
3013	-10.89520613	-6.274799e+00
3014	-15.89520613	2.314487e+00
3015	-9.56187279	1.496682e+00
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3017	3.60479387	-3.800096e+00
3018	8.10479387	3.861588e+00
3019	3.60479387	2.516480e+00
3020	6.10479387	-5.628221e+00
3021	-20.78409501	1.145734e+01
3022	-17.89520613	-1.236691e+00
3023	2.60479387	-8.970903e+00
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3025	-12.89520613	1.218445e+01
3026	-21.39520613	1.352282e+01
3027	-7.78409501	9.351987e+00
3028	3.10479387	-1.335513e+00
3029	-0.89520613	8.339487e+00
3030	13.60479387	7.680791e+00
3031	-16.39520613	5.055973e+00
3032	-6.39520613	-2.155375e+00
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3035	-14.89520613	2.210320e+00
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3037	-3.89520613	6.733803e-01
3038	0.10479387	-9.282186e+00
3039	-15.56187279	-2.527231e-01
3040	-2.39520613	-2.086600e+00
3041	-5.39520613	-2.902180e+00
3042	-26.39520613	6.256154e+00
3043	-20.89520613	3.139616e+00
3044	-17.89520613	3.010320e+00
3045	-1.11742835	-1.068846e+00
3046	1.60479387	-3.921136e+00
3047	14.60479387	1.401625e+00
3048	9.10479387	2.081154e+00
3049	10.10479387	1.786865e+01
3050	7.60479387	6.128617e+00
3051	9.88257165	1.929342e+00
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3054	1.10479387	6.499451e+00
3055	-1.39520613	4.418654e+00
3056	-12.89520613	1.017282e+01
3057	-4.11742835	2.172820e+00
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3060	-20.39520613	3.826030e-01
3061	2.60479387	1.509596e+00
3062	5.60479387	7.518654e+00
3063	-4.67298390	8.276987e+00
3064	33.10479387	6.672820e+00
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3066	-23.39520613	3.174632e+00
3067	-18.89520613	-1.557071e+00
3068	-12.39520613	3.119378e+00
3069	-4.02020613	3.143654e+00
3070	-12.89520613	8.531154e+00
3071	-17.39520613	4.343654e+00
3072	13.10479387	1.159294e+00
3073	47.10479387	8.268779e+00
3074	31.60479387	1.054655e+01
3075	31.10479387	-4.518665e+00
3076	7.60479387	1.540615e+01
3077	0.10479387	1.406938e+01
3078	12.60479387	1.424474e+01
3079	38.60479387	1.003511e+01
3080	2.60479387	1.447756e+01
3081	-15.56187279	9.761142e-01
3082	8.10479387	-2.652723e+00
3083	1.10479387	5.764487e+00
3084	-16.39520613	2.022820e+00
3085	-9.89520613	1.610502e+00
3086	24.10479387	-2.784064e+00
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3088	45.60479387	2.368278e+01
3089	54.60479387	2.356539e+01
3090	43.60479387	2.621032e+01
3091	23.60479387	2.862282e+01
3092	27.10479387	2.556952e+01
3093	24.21590499	2.934474e+01
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3095	32.10479387	2.842224e+01

3096	31.10479387	4.393949e+01
3097	41.60479387	4.715199e+01
3098	23.10479387	2.851865e+01
3099	13.21590499	1.769746e+01
3100	6.60479387	6.761045e+00
3101	20.60479387	6.449994e+00
3102	9.10479387	9.043950e+00
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3104	-15.89520613	8.151987e+00
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3109	-6.39520613	1.337391e+01
3110	8.10479387	7.876987e+00
3111	2.85479387	8.135320e+00
3112	3.10479387	2.186449e+01
3113	18.60479387	7.489125e+00
3114	22.10479387	2.020161e+01
3115	43.60479387	2.587282e+01
3116	58.60479387	3.911401e+01
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3119	-4.89520613	2.361032e+01
3120	-0.89520613	8.531154e+00
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3122	10.10479387	6.481500e+00
3123	7.43812721	-8.951144e-01
3124	0.10479387	6.248907e+00
3125	5.10479387	2.893654e+00
3126	-10.89520613	9.814487e+00
3127	10.10479387	8.205973e+00
3128	9.60479387	3.051987e+00
3129	-1.11742835	1.698908e+01
3130	4.10479387	2.163478e+01
3131	-3.89520613	1.378224e+01
3132	6.60479387	9.860320e+00
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3134	48.10479387	2.147282e+01
3135	-10.11742835	1.074927e+01
3136	-5.89520613	3.968110e+00
3137	0.10479387	-1.170472e+01
3138	5.10479387	-1.131333e+01

3139	2.10479387	6.666339e+00
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3141	3.77146054	4.003899e+00
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3145	21.60479387	7.530429e+00
3146	24.60479387	2.395881e+01
3147	14.32701610	1.976356e+01
3148	21.10479387	1.163692e+01
3149	-3.89520613	6.832422e+00
3150	11.10479387	-4.021860e+00
3151	0.60479387	7.318291e+00
3152	-0.39520613	1.665092e+01
3153	-1.67298390	3.340128e+00
3154	-20.89520613	6.756154e+00
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3157	13.60479387	3.851392e-01
3158	12.10479387	4.544948e+00
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3162	24.60479387	-4.554535e+00
3163	14.10479387	-1.498013e+00
3164	52.60479387	1.976141e+01
3165	14.43812721	1.597427e+01
3166	-11.39520613	1.145745e+00
3167	1.60479387	5.394870e-01
3168	0.10479387	1.477699e+01
3169	26.60479387	2.761032e+01
3170	56.10479387	9.143654e+00
3171	31.24765102	1.690597e+01
3172	-11.89520613	-2.845279e+00
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3178	12.10479387	5.835683e+00
3179	-7.39520613	6.410680e-01
3180	1.60479387	-4.463049e+00
3181	6.60479387	6.835320e+00

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3192 20.10479387 -1.595738e+00
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4040	5.10479387	-1.764083e+01
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4042	10.60479387	-1.721329e+01
4043	-9.89520613	-1.087996e+01
4044	4.10479387	-1.776885e+01
4045	0.10479387	-1.796208e+01
4046	0.10479387	-1.821208e+01
4047	-3.72853946	-1.633829e+01
4048	-12.89520613	-1.478274e+01
4049	-2.39520613	-1.493551e+01
4050	-10.39520613	-1.319940e+01
4051	-14.39520613	-1.067162e+01
4052	-12.39520613	-6.782735e+00
4053	-21.12597536	5.303014e+00
4054	-25.89520613	8.206999e+00
4055	-19.39520613	3.304221e+00
4056	-8.89520613	-1.324402e+00
4057	-9.39520613	4.036709e+00
4058	35.10479387	-1.489385e+01
4059	28.95094772	-1.445786e+01
4060	0.10479387	-1.514385e+01
4061	-17.89520613	-7.254957e+00
4062	-3.89520613	-1.365496e+01
4063	-4.89520613	-1.547718e+01
4064	-7.89520613	-1.185218e+01
4065	-0.20289843	-8.004957e+00
4066	-17.89520613	-8.143846e+00
4067	-25.89520613	-4.998644e+00
4068	-13.39520613	-1.391405e+01
4069	-14.39520613	-1.105862e+01
4070	-8.39520613	-6.852180e+00
4071	5.18171695	-7.602180e+00
4072	-4.89520613	-4.771796e-01
4073	2.60479387	-1.153998e+01
4074	0.60479387	-1.607614e+00
4075	-2.89520613	-5.032735e+00
4076	-9.39520613	-4.612445e+00
4077	-12.66443689	-6.754957e+00
4078	-22.89520613	-8.435513e+00
4079	-13.89520613	-1.526885e+01
4080	-24.89520613	-1.824402e+00
4081	-21.89520613	1.973303e+00
4082	-23.39520613	1.749943e-01
4083	-1.97212920	-1.034082e+01
4084	-9.39520613	3.133931e+00

4085	-18.89520613	2.328376e+00
4086	-10.89520613	1.059373e+01
4087	-16.89520613	9.950426e-01
4088	-13.89520613	-3.296624e+00
4089	3.01388478	-4.411056e+00
4090	4.10479387	-2.153357e+00
4091	-15.89520613	8.828376e+00
4092	-18.39520613	9.745043e+00
4093	-7.89520613	1.076799e+01
4094	3.60479387	-3.129957e+00
4095	1.27146054	-1.454481e+01
4096	-24.89520613	1.814487e+00
4097	-25.89520613	1.961449e+01
4098	-27.39520613	1.846449e+01
4099	-21.39520613	7.414487e+00
4100	-0.39520613	-1.252180e+00
4101	-2.43366766	-1.835381e+00
4102	-3.39520613	2.397458e+00
4103	34.60479387	1.602934e+01
4104	34.60479387	1.490893e+01
4105	-18.39520613	1.179365e+01
4106	-0.89520613	3.429070e+00
4107	-3.81187279	7.814487e+00
4108	-12.39520613	5.240212e+00
4109	-21.39520613	1.528255e+00
4110	-19.39520613	-4.561756e+00
4111	-23.39520613	1.169065e+00
4112	-27.39520613	1.000388e+01
4113	-17.89520613	1.920548e+00
4114	-0.39520613	1.481154e+00
4115	9.10479387	9.078031e-01
4116	-13.39520613	-9.774281e+00
4117	-20.39520613	6.608608e+00
4118	-18.39520613	6.360320e+00
4119	-2.89520613	2.997820e+00
4120	0.10479387	2.544782e+01
4121	6.10479387	1.438949e+01
4122	-9.39520613	4.083426e+00
4123	2.10479387	-3.864816e+00
4124	-20.89520613	-7.644670e+00
4125	-13.74135997	-9.397949e-01
4126	2.10479387	3.162972e+00
4127	-7.89520613	9.867517e+00

4128	7.10479387	4.875587e+00
4129	-10.39520613	1.116739e+01
4130	-12.39520613	1.187957e+01
4131	10.79710157	-1.123968e+00
4132	10.10479387	7.339849e+00
4133	1.10479387	1.126903e+01
4134	-9.89520613	8.909184e+00
4135	-23.39520613	1.192598e+01
4136	-9.39520613	3.250093e+00
4137	17.10479387	-4.974649e+00
4138	0.10479387	-8.649281e+00
4139	-5.39520613	-5.140388e+00
4140	1.10479387	1.227366e+00
4141	-15.39520613	3.447063e+00
4142	-5.89520613	2.381845e+00
4143	9.10479387	1.883567e+00
4144	1.10479387	5.587214e+00
4145	0.60479387	4.834909e+00
4146	-12.89520613	1.710505e+01
4147	-20.39520613	7.242517e+00
4148	-22.89520613	9.681911e+00
4149	-5.22853946	3.638867e+00
4150	12.10479387	1.581184e+01
4151	1.10479387	1.223278e+01
4152	14.10479387	1.584113e+01
4153	57.10479387	1.913749e+01
4154	3.60479387	1.681865e+01
4155	0.10479387	9.318654e+00
4156	45.10479387	1.867554e+01
4157	44.10479387	1.794452e+01
4158	3.60479387	2.519016e+00
4159	-7.89520613	7.312066e+00
4160	-5.89520613	3.299336e+00
4161	-1.97212920	1.456449e+01
4162	-6.89520613	1.381827e+01
4163	-16.39520613	1.851146e+01
4164	6.60479387	7.476213e+00
4165	25.60479387	1.782569e+01
4166	38.10479387	1.489671e+01
4167	-4.04905228	9.564487e+00
4168	15.60479387	1.403797e+01
4169	-4.39520613	2.082964e+01
4170	-4.39520613	8.756022e+00

4171	4.60479387	7.297419e+00
4172	-11.89520613	-4.567759e+00
4173	-7.39520613	3.903255e+00
4174	-24.39520613	1.920383e+00
4175	-13.39520613	-1.031051e+01
4176	-18.89520613	4.458426e+00
4177	-0.39520613	-9.595578e-01
4178	-7.89520613	-1.544703e+00
4179	3.10479387	3.806088e+00
4180	-2.39520613	-6.667383e-01
4181	-6.89520613	1.432688e+01
4182	-15.39520613	1.412888e+01
4183	-7.39520613	9.655396e+00
4184	-10.89520613	1.019878e+01
4185	5.60479387	-3.402246e+00
4186	3.10479387	3.056747e+00
4187	18.60479387	1.782722e+01
4188	-5.89520613	1.344838e+01
4189	-0.89520613	1.444706e+01
4190	-12.39520613	1.503418e+01
4191	-2.81187279	9.333426e+00
4192	4.60479387	2.228583e+01
4193	25.10479387	1.844714e+01
4194	24.60479387	2.602447e+01
4195	0.10479387	1.963625e+01
4196	9.10479387	3.022001e+01
4197	-11.71338794	2.138766e+01
4198	-2.89520613	3.380175e+00
4199	-14.39520613	8.884810e+00
4200	-6.39520613	6.009151e+00
4201	19.60479387	8.992517e+00
4202	9.60479387	1.570843e+01
4203	-9.97212920	7.125093e+00
4204	-14.89520613	7.496305e+00
4205	2.60479387	1.215243e+01
4206	-2.39520613	1.632733e+01
4207	-14.39520613	1.667878e+01
4208	-0.89520613	1.416887e+01
4209	-2.97853946	1.205622e+01
4210	-10.89520613	2.035615e+01
4211	-7.89520613	2.025388e+01
4212	30.60479387	1.758335e+01
4213	41.10479387	2.064539e+01

4214	23.60479387	2.079519e+01
4215	-1.31187279	5.369559e+00
4216	5.60479387	9.726284e+00
4217	18.60479387	1.343949e+01
4218	-1.89520613	1.673494e+01
4219	2.60479387	9.799336e+00
4220	26.60479387	1.745498e+01
4221	-10.06187279	1.158810e+00
4222	1.10479387	2.668736e+00
4223	-8.39520613	3.271338e+00
4224	-5.39520613	5.950851e+00
4225	-10.89520613	9.162972e+00
4226	10.10479387	1.056827e+01
4227	10.25864003	7.518703e+00
4228	-13.89520613	1.467878e+01
4229	-4.89520613	2.420054e+00
4230	-21.89520613	6.913631e+00
4231	-3.89520613	1.334858e+01
4232	-4.89520613	2.111752e+01
4233	27.64325541	1.536669e+01
4234	-8.39520613	1.840044e+00
4235	-6.89520613	4.637115e+00
4236	2.10479387	3.448305e+00
4237	-3.89520613	-6.751027e+00
4238	-3.89520613	1.376987e+00
4239	1.72017849	3.331154e+00
4240	-0.89520613	1.046156e+01
4241	1.10479387	5.757669e+00
4242	-4.89520613	1.115077e+01
4243	7.60479387	1.351481e+01
4244	26.10479387	8.875437e+00
4245	-5.43366766	3.556911e+00
4246	-9.39520613	9.602366e+00
4247	19.60479387	6.143327e+00
4248	-17.39520613	3.832274e+00
4249	0.10479387	3.339826e+00
4250	17.60479387	7.698380e+00
4251	14.37752115	1.373266e+01
4252	6.10479387	1.467194e+01
4253	25.10479387	2.642812e+01
4254	20.10479387	1.442232e+00
4255	-7.39520613	7.480530e+00
4256	0.10479387	7.346931e+00

4257	-1.47853946	8.827917e+00
4258	1.60479387	-4.723392e+00
4259	-4.89520613	2.602366e+00
4260	-13.89520613	4.053123e+00
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4262	11.10479387	4.146031e-02
4263	10.79710157	3.240870e+00
4264	8.10479387	6.181911e+00
4265	-8.39520613	1.735434e+01
4266	11.10479387	1.363115e+01
4267	16.60479387	3.122699e+01
4268	-12.39520613	1.093949e+01
4269	-19.20289843	-1.407276e+00
4270	-16.39520613	-3.264235e+00
4271	5.60479387	-2.110384e+00
4272	14.10479387	1.115826e+01
4273	23.10479387	1.795843e+01
4274	24.60479387	1.764024e+01
4275	14.10479387	4.715673e+00
4276	-15.89520613	-2.925796e+00
4277	-16.39520613	6.153734e+00
4278	-12.39520613	9.208756e+00
4279	12.10479387	8.799171e+00
4280	24.60479387	1.818949e+01
4281	13.68812721	2.587214e+00
4282	-20.39520613	-4.796185e+00
4283	-23.89520613	2.414351e-01
4284	-6.89520613	-7.512753e+00
4285	3.10479387	-1.101012e+01
4286	23.60479387	-7.131165e+00
4287	19.33556311	2.015918e+01
4288	0.60479387	1.333343e+01
4289	-5.39520613	-4.956856e-02
4290	10.60479387	-1.150340e+01
4291	1.60479387	-3.715232e+00
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4293	-10.51059074	-6.607090e+00
4294	-21.39520613	2.322063e+00
4295	-18.89520613	2.534184e+00
4296	3.10479387	-7.052114e+00
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4299	-22.58751382	-6.739317e+00

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4301	11.60479387	-9.468846e+00
4302	0.60479387	2.756154e+00
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4304	-9.89520613	-1.242629e+01
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4306	-7.39520613	-1.203859e+01
4307	11.60479387	5.717929e+00
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4309	-19.89520613	-3.148013e+00
4310	-8.89520613	-1.149783e+01
4311	-13.97853946	-9.555556e+00
4312	-18.39520613	-9.004370e+00
4313	-10.39520613	-1.204317e+01
4314	10.10479387	-1.176695e+01
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4316	1.60479387	-1.176468e+01
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4318	30.60479387	-1.422646e+01
4319	-17.39520613	-7.141574e+00
4320	-0.89520613	-1.433301e+01
4321	11.10479387	-1.795635e+01
4322	-18.39520613	-1.471051e+01
4323	-25.06187279	2.061537e-01
4324	-25.89520613	2.864487e+00
4325	-26.39520613	9.339487e+00
4326	-22.89520613	2.239073e-01
4327	-13.89520613	-1.391115e+01
4328	-10.89520613	-1.244782e+01
4329	4.48940926	-1.364385e+01
4330	0.10479387	-1.359176e+01
4331	11.10479387	-1.329693e+01
4332	-2.89520613	-4.727180e+00
4333	-8.89520613	-5.227180e+00
4334	-5.89520613	-1.762996e+01
4335	-2.80429703	-1.087364e+01
4336	-6.89520613	-1.261607e+01
4337	-17.89520613	-5.185513e+00
4338	-2.39520613	-1.589385e+01
4339	-6.89520613	-1.529662e+01
4340	1.60479387	-1.545824e+01
4341	-8.04905228	-1.408467e+01
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4344	6.60479387	-6.838291e+00
4345	0.10479387	-1.008829e+01
4346	0.60479387	-1.606051e+01
4347	-0.58751382	-1.823572e+01
4348	-13.89520613	-1.256051e+01
4349	16.60479387	-1.693551e+01
4350	5.10479387	-1.112996e+01
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4359	-24.72853946	-3.907735e+00
4360	-8.89520613	-1.649107e+01
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4362	-11.39520613	-1.754300e+01
4363	-5.39520613	-1.649530e+01
4364	-6.89520613	-1.571329e+01
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4366	6.60479387	-1.481716e+01
4367	-2.39520613	-1.623223e+01
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4875	4.39050816	1.258115e+01
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4877	51.10479387	5.505198e+00
4878	-18.39520613	1.337379e+00
4879	-12.39520613	1.051806e+00
4880	9.60479387	-1.591278e-01
4881	4.10479387	3.385633e+00
4882	-2.39520613	5.102366e+00
4883	-13.89520613	1.266676e+01
4884	3.10479387	-9.279372e-01
4885	7.10479387	-3.913353e-01
4886	14.10479387	-4.983633e+00
4887	-9.03806327	8.463532e+00
4888	-28.39520613	5.804112e+00
4889	-17.39520613	3.883013e+00
4890	-4.39520613	7.159184e+00
4891	17.60479387	-3.994458e-01
4892	8.10479387	5.300818e+00
4893	25.24765102	1.454966e+01
4894	22.60479387	9.840194e+00
4895	24.60479387	-2.119966e+00
4896	-2.39520613	1.289024e+01
4897	-23.39520613	5.954639e+00
4898	-24.39520613	6.428123e+00
4899	-1.18092041	6.985630e+00
4900	12.60479387	-5.565783e+00
4901	15.10479387	1.401739e+01

4902	-11.89520613	6.438454e+00
4903	-21.89520613	1.001524e+01
4904	-13.89520613	8.595614e+00
4905	-18.75234898	1.120540e+01
4906	2.10479387	9.876215e-01
4907	31.60479387	1.412600e+01
4908	21.10479387	3.118372e+01
4909	42.10479387	3.632552e+01
4910	48.60479387	1.261373e+01
4911	-12.75234898	-3.412786e+00
4912	-22.39520613	-1.084136e+01
4913	-4.89520613	-6.466475e+00
4914	-0.89520613	8.121223e+00
4915	-12.89520613	7.261382e+00
4916	-11.39520613	3.596272e+00
4917	-22.06187279	6.323957e+00
4918	-22.39520613	9.958426e+00
4919	6.60479387	1.120843e+01
4920	-2.39520613	1.990796e+00
4921	-17.39520613	7.039918e+00
4922	-10.89520613	9.162313e+00
4923	-6.22853946	4.782537e+00
4924	-10.39520613	3.325851e+00
4925	-8.39520613	1.048684e+01
4926	-14.89520613	2.945685e+00
4927	-13.39520613	2.507518e-01
4928	-3.89520613	-9.418550e+00
4929	-11.64520613	6.694771e-01
4930	-5.89520613	1.528046e+00
4931	-6.89520613	1.530988e+01
4932	-1.89520613	1.627587e+01
4933	-18.89520613	1.838120e+00
4934	-11.89520613	7.844790e+00
4935	-2.64520613	2.135706e+01
4936	-7.39520613	1.857443e+01
4937	-11.89520613	5.139256e+00
4938	4.10479387	1.490918e+01
4939	12.60479387	1.776903e+01
4940	-13.39520613	9.880207e+00
4941	-8.72853946	1.318233e+01
4942	-8.39520613	1.735887e+01
4943	2.60479387	1.376401e+01
4944	-10.89520613	1.322177e+01

4945	-17.89520613	7.435699e+00
4946	-12.39520613	3.250093e+00
4947	-4.60949184	4.379375e+00
4948	-16.89520613	1.827251e+00
4949	-22.39520613	-2.222995e-02
4950	2.10479387	-2.047682e+00
4951	-14.39520613	-2.849521e+00
4952	-17.39520613	-2.280210e+00
4953	-20.18092041	-1.840816e+00
4954	-9.89520613	1.029341e+01
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4956	28.10479387	1.644698e+01
4957	25.10479387	1.259545e+01
4958	-3.89520613	1.279883e+01
4959	-6.60949184	2.877282e+01
4960	-13.39520613	1.587756e+01
4961	-9.39520613	-1.649236e+00
4962	-2.39520613	-1.399386e+00
4963	0.10479387	6.644856e+00
4964	-28.39520613	8.220119e+00
4965	-6.69520613	3.306582e+00
4966	-0.39520613	4.100472e+00
4967	-1.89520613	1.107179e+01
4968	-11.89520613	-1.007740e+00
4969	-3.89520613	1.321075e+00
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4971	-7.69520613	3.420136e+00
4972	-10.39520613	-1.852180e+00
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4974	-10.89520613	6.501987e+00
4975	16.10479387	1.145310e+01
4976	19.60479387	1.953272e+01
4977	-16.39520613	1.789454e+00
4978	-11.89520613	2.127199e+00
4979	-21.39520613	3.411033e+00
4980	-14.39520613	-2.039680e+00
4981	-22.39520613	8.401608e+00
4982	-6.39520613	9.569428e+00
4983	7.27146054	9.318028e+00
4984	12.60479387	8.976789e+00
4985	-4.39520613	5.785157e+00
4986	19.60479387	4.430429e+00
4987	14.10479387	1.044138e+01

4988	-15.39520613	2.235805e+01
4989	3.39050816	1.181638e+01
4990	10.60479387	8.916513e+00
4991	25.10479387	1.024334e+01
4992	22.60479387	1.603526e+01
4993	23.60479387	2.138376e+01
4994	-2.39520613	1.795106e+01
4995	-0.18092041	1.684689e+01
4996	-24.89520613	4.974209e+00
4997	-21.39520613	1.043814e+01
4998	-3.39520613	5.341842e+00
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5000	8.10479387	-4.484064e+00
5001	-7.18092041	-1.195930e+00
5002	-13.89520613	-5.606346e+00
5003	3.10479387	6.591428e-01
5004	-17.39520613	-2.018846e+00
5005	7.60479387	-7.879354e+00
5006	-10.39520613	-8.285466e-01
5007	-20.75234898	-6.776422e+00
5008	-19.39520613	-5.615437e+00
5009	-8.89520613	8.509810e+00
5010	23.10479387	4.275455e+00
5011	35.60479387	2.018814e+01
5012	-12.39520613	-1.020849e+01
5013	-16.89520613	-4.587492e+00
5014	-6.89520613	-1.202766e+01
5015	-20.39520613	-7.076159e+00
5016	-29.39520613	3.072063e+00
5017	-26.89520613	-2.228003e+00
5018	-5.39520613	-9.265148e+00
5019	-11.89520613	-4.057384e+00
5020	-17.89520613	-4.186816e+00
5021	3.60479387	-9.217661e+00
5022	13.60479387	4.564487e+00
5023	31.10479387	2.765724e+01
5024	12.10479387	9.758426e+00
5025	-3.89520613	-5.056495e+00
5026	-23.89520613	8.145284e+00
5027	-20.39520613	-2.585604e+00
5028	-19.39520613	-5.020073e+00
5029	-20.89520613	-8.589498e+00
5030	-25.89520613	-7.008430e+00

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5078	-5.89520613	-1.206051e+01
5079	-10.60949184	-1.839385e+01
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5081	-5.39520613	-1.674107e+01
5082	-12.89520613	-1.811607e+01
5083	-17.39520613	-1.456430e+01
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5085	-27.46663470	8.272820e+00
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5087	-3.39520613	-1.331051e+01
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5089	-10.89520613	-1.460218e+01
5090	-7.39520613	-1.766136e+01
5091	-3.89520613	-1.236607e+01
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5095	-5.89520613	-1.119940e+01
5096	3.10479387	-1.550194e+01
5097	-0.32377755	-1.678274e+01
5098	5.10479387	-1.797235e+01
5099	-17.39520613	-1.822718e+01
5100	-15.39520613	-6.018846e+00
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5104	1.10479387	-8.511600e+00
5105	-9.39520613	-1.164385e+01
5106	-0.89520613	-1.483135e+01
5107	1.60479387	-1.045635e+01
5108	6.60479387	-1.493551e+01
5109	-8.06187279	-1.249801e+01
5110	4.10479387	-1.435218e+01
5111	-2.39520613	-1.216468e+01
5112	-10.89520613	-7.727180e+00
5113	-25.39520613	-2.289680e+00
5114	-23.39520613	-6.581346e+00
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5116	-7.89520613	-1.446013e+01

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5118	-8.89520613	-1.181051e+01
5119	-9.89520613	-1.015743e+01
5120	-11.89520613	-1.343551e+01
5121	-12.09520613	-1.081051e+01
5122	-16.89520613	-1.145635e+01
5123	NA	-1.183135e+01
5124	-2.89520613	-1.468551e+01
5125	2.10479387	-1.723805e+01
5126	1.10479387	-1.757319e+01
5127	-2.06187279	-1.485218e+01
5128	-11.89520613	-1.893551e+01
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5133	-7.89520613	-1.138932e+01
5134	-13.89520613	-8.810513e+00
5135	0.10479387	-1.428968e+01
5136	34.10479387	-1.631051e+01
5137	11.10479387	-1.624801e+01
5138	-2.89520613	-1.128210e+01
5139	-5.39520613	-1.227700e+01
5140	0.10479387	-1.481051e+01
5141	-19.39520613	-3.730130e-01
5142	-4.89520613	-1.197718e+01
5143	-2.89520613	-1.458324e+01
5144	-22.89520613	-1.318551e+01
5145	-9.56187279	-1.443642e+01
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5147	-1.39520613	-8.956346e+00
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5149	-15.89520613	-1.485218e+01
5150	1.10479387	-1.397899e+01
5151	2.60479387	-1.357229e+01
5152	0.10479387	-1.470635e+01
5153	10.60479387	-1.424801e+01
5154	-11.39520613	-4.560513e+00
5155	-17.39520613	-3.571542e+00
5156	-14.89520613	-5.361108e+00
5157	-4.89520613	-1.328968e+01
5158	0.10479387	-1.226160e+01
5159	-15.39520613	-9.248013e+00

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5162 -22.89520613 -2.456346e+00
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5206	3.60479387	-3.857483e+00
5207	-16.89520613	1.856304e+01
5208	-2.89520613	9.339487e+00
5209	21.10479387	-3.412143e+00
5210	5.10479387	-7.525664e+00
5211	9.93812721	1.296865e+01
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5213	-11.39520613	7.435864e+00
5214	-9.39520613	-5.483701e+00
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5221	-19.39520613	1.022246e+01
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5223	3.50479387	8.818835e+00
5224	22.10479387	1.479782e+01
5225	10.60479387	9.789487e+00
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5228	-12.89520613	8.518127e+00
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5230	29.60479387	1.178960e+01
5231	-16.89520613	1.646376e+01
5232	-15.39520613	9.797820e+00
5233	-5.89520613	1.588949e+01
5234	31.60479387	1.742318e+01
5235	25.77146054	2.338458e+01
5236	55.60479387	1.726485e+01
5237	63.60479387	2.278478e+01
5238	-16.89520613	1.408478e+01
5239	-15.89520613	1.132699e+01
5240	-1.39520613	1.333532e+01
5241	-6.56187279	-6.567086e-01
5242	17.60479387	7.040755e+00
5243	25.10479387	1.741818e+01
5244	34.10479387	1.668641e+01
5245	-17.89520613	1.692929e+00

5246	-26.39520613	1.172137e+01
5247	-2.89520613	3.539487e+00
5248	8.10479387	5.667433e-01
5249	9.10479387	1.069800e+01
5250	7.10479387	1.392867e+01
5251	12.10479387	4.894469e+00
5252	-13.39520613	1.794184e+01
5253	-12.39520613	1.673532e+01
5254	-10.39520613	2.156503e+01
5255	-10.39520613	4.782241e+00
5256	-8.89520613	1.125357e+00
5257	-7.89520613	-6.814150e+00
5258	-17.39520613	-5.327924e+00
5259	-13.56187279	-7.799442e+00
5260	-20.39520613	1.154821e-02
5261	-12.89520613	5.817708e+00
5262	-10.39520613	3.152450e+00
5263	-22.39520613	1.187172e+00
5264	-22.39520613	8.283040e+00
5265	-7.89520613	3.058509e+00
5266	-18.39520613	4.778963e+00
5267	-25.39520613	3.335320e+00
5268	-28.89520613	-4.010513e+00
5269	-25.39520613	1.519870e-01
5270	-14.89520613	-7.434879e+00
5271	1.43812721	-3.963230e+00
5272	-12.39520613	2.943654e+00
5273	-4.89520613	2.380429e+00
5274	9.60479387	9.993654e+00
5275	1.60479387	2.341865e+01
5276	16.10479387	1.531920e+01
5277	0.43812721	1.854936e+01
5278	27.10479387	3.238432e+01
5279	23.60479387	2.190729e+01
5280	-8.89520613	5.376754e-01
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5283	2.60479387	2.888922e+01
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5286	-11.39520613	3.950098e+00
5287	-13.89520613	1.051987e+00
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5289	-3.72853946	1.476032e+01
5290	11.60479387	1.992998e+01
5291	9.10479387	2.324603e+01
5292	23.60479387	2.267463e+01
5293	32.10479387	2.352282e+01
5294	36.60479387	2.311032e+01
5295	11.77146054	2.751032e+01
5296	-17.89520613	3.304070e+00
5297	-13.39520613	1.970737e+00
5298	-7.89520613	8.095957e-01
5299	-6.39520613	1.154782e+01
5300	-14.39520613	2.583509e+00
5301	-11.89520613	6.626715e+00
5302	0.60479387	8.578799e+00
5303	-7.89520613	3.661105e+00
5304	2.60479387	7.628939e+00
5305	1.60479387	1.426920e+01
5306	-23.89520613	5.529070e+00
5307	-13.69520613	-1.403687e+00
5308	-13.89520613	-3.238280e+00
5309	-3.39520613	9.076987e+00
5310	13.60479387	1.885199e+01
5311	24.10479387	2.145760e+01
5312	33.60479387	2.243191e+01
5313	13.90479387	7.221775e+00
5314	8.10479387	1.334626e+01
5315	24.60479387	1.356829e+01
5316	5.60479387	1.100615e+01
5317	-8.39520613	9.876987e+00
5318	0.10479387	1.597800e+00
5319	-1.49520613	1.386240e+01
5320	-13.39520613	1.129347e+01
5321	-22.89520613	8.517171e+00
5322	-8.89520613	1.114492e+01
5323	3.60479387	8.309942e+00
5324	3.60479387	1.799990e+01
5325	14.27146054	2.165181e+01
5326	11.10479387	2.270970e+01
5327	47.60479387	2.574184e+01
5328	4.60479387	2.928035e+00
5329	-10.89520613	7.548364e+00
5330	-13.89520613	4.004070e+00
5331	-1.39520613	1.841249e+01

5332	16.10479387	1.291612e+01
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5334	36.10479387	1.854496e+01
5335	32.10479387	1.729694e+01
5336	-20.39520613	4.071975e+00
5337	-17.22853946	3.049904e+00
5338	-6.89520613	8.892204e+00
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5340	-17.39520613	2.258328e+00
5341	4.60479387	2.918662e+00
5342	-2.89520613	2.141628e+00
5343	-13.39520613	-4.058339e+00
5344	-11.89520613	-7.139680e+00
5345	-17.39520613	3.599904e+00
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5347	14.10479387	-1.496473e+00
5348	10.10479387	3.591661e+00
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5350	4.10479387	1.778020e+01
5351	-7.89520613	1.197820e+00
5352	-9.39520613	7.203376e+00
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5354	-9.39520613	-3.589137e-01
5355	-1.09520613	3.401041e+00
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5359	-6.89520613	1.618654e+00
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5361	-19.29520613	2.752530e+00
5362	-2.39520613	4.216117e+00
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5364	-13.89520613	1.366661e+00
5365	-3.39520613	8.693654e+00
5366	-12.89520613	-8.248013e+00
5367	-14.49520613	-6.471992e+00
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5369	17.60479387	7.004433e+00
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5371	-18.89520613	2.793308e+00
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5378	-5.39520613	-9.341672e+00
5379	-9.06187279	-4.862596e+00
5380	-12.39520613	-4.781346e+00
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5382	-18.39520613	-5.662687e+00
5383	-13.39520613	-3.821690e+00
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5387	3.60479387	-7.627180e+00
5388	28.10479387	-6.996106e+00
5389	40.60479387	3.901965e+00
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5392	-15.39520613	-1.415002e+01
5393	-8.39520613	-8.775791e+00
5394	-9.89520613	-7.335976e+00
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5397	-8.22853946	-2.273476e+00
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5403	-22.49520613	-1.143930e+01
5404	7.10479387	-1.080387e+01
5405	34.60479387	-6.072508e+00
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5407	24.60479387	-6.315143e+00
5408	10.60479387	-2.317457e+00
5409	1.60479387	-8.982139e+00
5410	10.10479387	-8.102381e+00
5411	-0.89520613	-8.946167e+00
5412	0.10479387	-1.589123e+00
5413	-11.39520613	-5.282936e+00
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5418	58.60479387	4.298521e+00
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5420	4.60479387	-6.310513e+00
5421	2.27146054	-1.046329e+01
5422	1.10479387	-5.056545e+00
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5424	41.60479387	-1.380266e+01
5425	50.60479387	-1.250254e+01
5426	8.10479387	-9.810513e+00
5427	-1.89520613	-1.378274e+01
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5435	39.10479387	-1.660218e+01
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5551	14.10479387	-5.921624e+00
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5554	-23.39520613	1.687004e+01
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5558	-13.39520613	4.533759e-01
5559	-13.72853946	3.439487e+00
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5561	5.10479387	7.314487e+00
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5571	-9.39520613	-3.141129e+00
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5581	2.10479387	3.251370e-01
5582	-9.89520613	4.117092e-01
5583	-7.72853946	9.971894e+00
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5585	7.10479387	1.674989e+01
5586	13.10479387	9.198929e+00
5587	33.10479387	1.020327e+01
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5589	-27.09520613	2.157375e+01

5590	-24.89520613	1.081217e+01
5591	-25.89520613	6.130811e+00
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5593	-14.89520613	7.220787e+00
5594	NA	5.406375e+00
5595	-3.64520613	4.496754e+00
5596	0.10479387	5.221894e+00
5597	-19.89520613	8.374672e+00
5598	4.10479387	5.698536e+00
5599	-4.89520613	1.158187e+00
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5603	-15.89520613	8.344580e+00
5604	-17.89520613	1.434921e+01
5605	-16.89520613	6.965956e+00
5606	-26.89520613	8.119549e+00
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5608	-5.89520613	6.175799e+00
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5610	-4.39520613	1.341084e+01
5611	-16.89520613	4.585320e+00
5612	-17.89520613	8.199359e+00
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5619	-26.22853946	1.183953e+01
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5623	-26.89520613	4.628195e+00
5624	-20.39520613	-3.062828e+00
5625	-16.89520613	5.888561e+00
5626	-12.39520613	1.855986e+01
5627	8.10479387	6.737147e+00
5628	15.10479387	4.664628e+00
5629	22.10479387	1.105754e+01
5630	25.60479387	1.215245e+01
5631	5.27146054	2.114088e+01
5632	-11.89520613	1.453902e+01

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5634	1.10479387	-1.109608e+01
5635	-22.89520613	-5.091813e+00
5636	-17.89520613	5.737128e+00
5637	-4.89520613	3.439386e+00
5638	11.10479387	2.451819e+01
5639	20.10479387	3.228439e+01
5640	14.10479387	9.048988e+00
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5644	-18.39520613	-3.682128e+00
5645	-20.89520613	7.092265e+00
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5647	-6.39520613	-1.348217e+00
5648	8.10479387	1.884942e+01
5649	13.77146054	2.557694e+01
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5660	4.60479387	2.002022e+01
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5664	1.60479387	1.394209e+01
5665	-17.39520613	1.112930e+01
5666	-9.39520613	1.688393e+01
5667	10.70479387	3.170801e+01
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5672	-9.39520613	1.935964e+01
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5675	17.10479387	2.340352e+01

5676	29.10479387	2.266211e+01
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5685	-3.69520613	8.060059e+00
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5691	-3.06187279	1.491795e+01
5692	22.60479387	2.054828e+01
5693	-22.39520613	1.180986e+01
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5695	13.60479387	2.410615e+01
5696	-16.89520613	1.627514e+01
5697	-22.89520613	4.129823e+00
5698	-21.89520613	6.034898e+00
5699	-13.39520613	9.757779e+00
5700	-0.39520613	1.997127e+01
5701	7.60479387	2.845801e+01
5702	12.10479387	3.164782e+01
5703	6.10479387	2.239756e+01
5704	-4.39520613	1.036541e+01
5705	-9.39520613	-3.600871e+00
5706	5.60479387	6.109447e+00
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5708	-1.89520613	4.078376e+00
5709	-14.72853946	5.071431e+00
5710	-21.89520613	-4.523520e-02
5711	-11.39520613	2.722165e-01
5712	7.10479387	1.192155e+01
5713	-17.89520613	6.071230e+00
5714	-15.89520613	9.483437e-01
5715	-6.06187279	1.951061e+00
5716	-11.39520613	8.742728e+00
5717	-16.89520613	5.587635e+00
5718	-10.89520613	1.338172e+01

5719	-13.89520613	8.166339e+00
5720	-9.89520613	1.884377e+01
5721	1.50479387	2.277141e+01
5722	2.10479387	2.656217e+01
5723	11.10479387	1.835152e+01
5724	12.60479387	2.436541e+01
5725	-16.39520613	5.936669e+00
5726	0.60479387	1.722901e+00
5727	-9.89520613	5.804093e+00
5728	-0.89520613	1.224746e+01
5729	25.60479387	1.938486e+01
5730	31.10479387	2.344875e+01
5731	36.60479387	9.626584e+00
5732	41.60479387	7.751383e+00
5733	-18.39520613	3.414225e+00
5734	13.10479387	-2.447023e+00
5735	17.10479387	6.218956e+00
5736	7.10479387	1.804134e+01
5737	-24.89520613	7.511246e+00
5738	0.10479387	-4.709668e+00
5739	7.43812721	5.136301e+00
5740	-2.89520613	5.622989e+00
5741	8.10479387	-5.120872e+00
5742	6.10479387	-9.797228e+00
5743	-15.89520613	4.640008e+00
5744	-21.39520613	-1.617805e+00
5745	-12.89520613	-2.106725e+00
5746	-18.89520613	-1.151193e+00
5747	3.10479387	-1.020036e+00
5748	19.10479387	2.032897e+00
5749	-12.39520613	7.734664e+00
5750	4.10479387	8.952508e+00
5751	6.43812721	1.684053e+01
5752	22.60479387	1.712932e+01
5753	11.10479387	6.108758e+00
5754	-10.89520613	-2.458837e+00
5755	-10.39520613	-5.065835e+00
5756	-14.89520613	-4.278357e+00
5757	-16.22853946	-6.164680e+00
5758	-19.89520613	3.712925e+00
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5865	-4.29520613	-1.955893e+00
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5895	-9.89520613	-8.325912e+00
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5904	13.60479387	-1.001885e+01
5905	-14.39520613	1.710320e+00
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5907	-7.29520613	-6.168303e+00
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5912	-22.39520613	1.230407e+01
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5915	8.10479387	-3.695930e+00
5916	-20.89520613	1.063740e+01
5917	10.10479387	-6.570930e+00
5918	-0.39520613	-1.244593e+01
5919	9.10479387	-1.258430e+00
5920	-0.39520613	-5.829082e+00
5921	10.60479387	9.147367e+00
5922	-3.39520613	1.783237e+00
5923	5.60479387	-1.152926e+01
5924	-18.39520613	-2.533792e+00
5925	-11.49520613	-2.143846e+00
5926	2.10479387	-1.487596e+00
5927	15.10479387	7.339849e+00
5928	-10.89520613	1.061537e-01
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5930	-4.39520613	2.720737e+00
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5961	0.90479387	2.020734e+01
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5999	-8.89520613	1.240824e+01
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6003	-17.89520613	6.765008e+00
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6027	11.70479387	3.077010e+01
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6031	-7.39520613	2.149678e+01
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6066	-15.39520613	4.629591e+00
6067	-15.39520613	-2.065948e+00
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6069	-5.29520613	1.032151e+01
6070	16.60479387	1.825066e+01
6071	21.10479387	5.449111e+00
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6094	-3.39520613	1.156970e+01
6095	34.10479387	2.608871e+00
6096	11.10479387	1.001897e+01
6097	17.60479387	1.289879e+01
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6544 -16.39520613 -1.406051e+01
6545 -13.39520613 -1.148941e+01
6546 -2.39520613 -1.528589e+01
6547 -5.89520613 -1.251885e+01
6548 -5.89520613 -1.186260e+01
6549 -5.69520613 -1.378968e+01
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6551 -21.89520613 -1.500617e+01
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6556 -18.39520613 -7.915736e-01
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6558 -16.89520613 -8.739408e+00
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6560 -1.39520613 -9.539680e+00
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6562 -3.39520613 -1.051885e+01
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6565 10.60479387 -8.936419e+00
6566 -10.89520613 -7.216763e+00
6567 -7.39520613 -2.393846e+00
6568 -18.89520613 -2.841763e+00
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6577 -17.89520613 -1.298760e+01
6578 -22.39520613 -6.748013e+00

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6596 -8.89520613 -2.312557e-01
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6604 3.60479387 -1.567510e+01
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6607 -5.39520613 -6.635241e+00
6608 16.60479387 -1.319404e+01
6609 19.70479387 -1.216649e+01
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6611 6.60479387 -1.052926e+01
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6613 -15.89520613 -1.045635e+01
6614 -28.89520613 -2.031760e-01
6615 -16.09520613 -6.737596e+00
6616 -5.39520613 -2.480130e-01
6617 -0.39520613 -4.716763e+00
6618 -4.89520613 -5.758430e+00
6619 -5.89520613 -5.977180e+00
6620 -16.89520613 -8.227180e+00
6621 -8.89520613 -1.436577e+01

6622 -6.39520613 -3.730130e-01
6623 -4.39520613 4.657784e+00
6624 -9.39520613 -1.445930e+00
6625 -10.89520613 -4.487596e+00
6626 -18.89520613 -7.550096e+00
6627 -12.29520613 -1.072718e+01
6628 -5.89520613 -7.800096e+00
6629 11.60479387 -8.628901e+00
6630 1.60479387 -8.566401e+00
6631 6.10479387 -5.508430e+00
6632 -18.39520613 1.104365e+01
6633 -9.69520613 -4.466763e+00
6634 -12.89520613 -7.454535e+00
6635 -10.89520613 8.545918e+00
6636 -13.39520613 4.596684e+00
6637 4.60479387 -6.987596e+00
6638 20.60479387 -1.403968e+01
6639 0.30479387 -1.623013e+00
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6642 -8.89520613 6.268291e+00
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6646 -9.39520613 1.086657e+01
6647 -13.39520613 4.512404e+00
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6649 15.10479387 -3.889770e+00
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6651 -11.49520613 6.668654e+00
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6653 -6.39520613 -2.896796e-01
6654 -18.39520613 1.308532e+01
6655 -14.89520613 3.689034e+00
6656 -14.39520613 1.430362e+01
6657 -21.89520613 1.297074e+01
6658 11.10479387 -7.279263e+00
6659 -19.89520613 1.024157e+01
6660 -11.39520613 4.845737e+00
6661 0.10479387 -3.185513e+00
6662 3.60479387 3.252893e+00
6663 2.90479387 2.941752e+00
6664 22.60479387 1.345670e+01

6665	-13.39520613	4.876987e+00
6666	-9.89520613	-8.754716e-01
6667	-18.89520613	1.285615e+01
6668	-9.89520613	3.004963e+00
6669	13.60479387	6.307370e+00
6670	6.10479387	1.667163e+01
6671	3.10479387	5.951262e+00
6672	-22.39520613	2.134425e+01
6673	-16.39520613	1.454663e+01
6674	-7.39520613	1.115973e+01
6675	12.60479387	2.159723e+01
6676	33.10479387	2.655931e+01
6677	-12.89520613	9.048371e+00
6678	-17.89520613	1.741555e+01
6679	-16.39520613	1.625263e+01
6680	-1.39520613	7.920007e+00
6681	13.30479387	7.463297e+00
6682	6.10479387	1.776389e+01
6683	42.60479387	1.525289e+01
6684	35.10479387	1.874358e+01
6685	-11.39520613	8.042748e+00
6686	-14.39520613	1.167758e+01
6687	-19.69520613	1.041218e+01
6688	-22.89520613	1.851687e+01
6689	-19.89520613	1.800496e+01
6690	6.10479387	1.297468e+01
6691	-5.39520613	5.881904e+00
6692	3.60479387	7.849517e+00
6693	-5.09520613	7.996164e+00
6694	-9.39520613	1.158830e+01
6695	-2.39520613	7.326392e+00
6696	-8.39520613	1.237106e+00
6697	-9.89520613	-2.423608e+00
6698	-8.39520613	3.039452e+00
6699	10.90479387	6.923338e+00
6700	27.60479387	1.545734e+01
6701	31.60479387	1.512342e+01
6702	-8.39520613	1.477282e+01
6703	8.10479387	2.417758e+01
6704	28.60479387	1.249008e+01
6705	-0.64520613	1.168638e+01
6706	-16.89520613	7.177582e+00
6707	-16.89520613	4.966273e+00

6708	2.10479387	-1.265870e+00
6709	-19.89520613	9.424606e+00
6710	-23.89520613	2.579394e-01
6711	-13.14520613	4.711544e+00
6712	3.10479387	1.336793e+01
6713	14.10479387	2.257044e+01
6714	9.60479387	1.625046e+00
6715	-9.39520613	1.813889e+01
6716	8.10479387	1.330556e+01
6717	-5.89520613	1.468949e+01
6718	-15.39520613	1.297818e+01
6719	-20.89520613	7.607318e+00
6720	-14.89520613	6.027867e+00
6721	5.60479387	2.564487e+00
6722	3.60479387	3.253022e+00
6723	-17.49520613	1.749011e+00
6724	-16.39520613	3.695439e+00
6725	-14.39520613	1.281449e+01
6726	-19.89520613	3.455274e+00
6727	-6.39520613	1.778447e+01
6728	1.60479387	1.535989e+01
6729	5.10479387	9.668654e+00
6730	1.60479387	1.666345e+01
6731	-10.39520613	2.474417e+01
6732	-0.89520613	1.619990e+01
6733	5.60479387	1.985898e+01
6734	3.10479387	1.402599e+01
6735	-4.29520613	5.761158e+00
6736	4.10479387	1.326886e+01
6737	-6.89520613	1.427542e+01
6738	-15.89520613	7.496779e+00
6739	-2.89520613	1.810928e+01
6740	-3.89520613	1.578610e+01
6741	-16.49520613	-7.058934e-01
6742	-14.39520613	6.574430e+00
6743	-24.39520613	1.564261e+00
6744	-25.39520613	-3.990546e-01
6745	-14.89520613	7.153029e+00
6746	8.60479387	1.524768e+01
6747	7.10479387	2.062970e+01
6748	-14.89520613	1.238790e+01
6749	28.60479387	2.489080e+01
6750	40.10479387	3.153097e+01

6751	14.10479387	2.696330e+01
6752	8.60479387	3.578473e+01
6753	45.10479387	3.580034e+01
6754	23.60479387	3.085593e+01
6755	13.10479387	2.359257e+01
6756	4.10479387	2.568224e+01
6757	-17.89520613	1.060095e+01
6758	-20.89520613	1.135615e+01
6759	-7.09520613	1.896553e+01
6760	-1.39520613	1.716865e+01
6761	-11.39520613	1.085061e+01
6762	-17.89520613	1.443129e+01
6763	-12.39520613	1.665983e+01
6764	-15.89520613	1.781970e+01
6765	3.60479387	2.275720e+01
6766	-5.89520613	3.847074e+01
6767	4.10479387	3.820964e+01
6768	1.10479387	3.940575e+01
6769	-8.89520613	1.989782e+01
6770	-2.39520613	1.509030e+01
6771	-5.49520613	7.961113e+00
6772	-4.89520613	1.865303e+01
6773	8.60479387	2.520772e+01
6774	3.60479387	1.701229e+01
6775	1.10479387	1.747750e+01
6776	3.60479387	6.684917e+00
6777	-10.09520613	1.593813e+01
6778	-19.39520613	1.688220e+01
6779	-7.89520613	8.960320e+00
6780	10.10479387	2.816865e+01
6781	-1.39520613	1.140541e+01
6782	-10.89520613	9.829793e+00
6783	-18.49520613	1.947752e+00
6784	-4.89520613	3.650425e+00
6785	-1.39520613	7.041050e+00
6786	-11.89520613	1.299938e+01
6787	-4.39520613	2.141345e+01
6788	22.60479387	2.251354e+01
6789	26.10479387	2.123580e+01
6790	30.10479387	1.988559e+01
6791	11.60479387	1.786193e+01
6792	-6.39520613	8.600945e+00
6793	-13.39520613	1.396032e+01

6794	6.10479387	2.555928e+01
6795	21.50479387	2.017737e+01
6796	31.60479387	2.385083e+01
6797	-0.39520613	2.343979e+01
6798	-9.89520613	2.107965e+00
6799	-6.89520613	1.135513e+01
6800	-19.89520613	7.973341e+00
6801	-18.89520613	3.309279e+00
6802	0.60479387	7.952055e+00
6803	2.60479387	1.468632e+01
6804	7.10479387	1.998432e+01
6805	7.10479387	7.017612e+00
6806	-5.89520613	1.637855e+01
6807	-15.29520613	7.837925e+00
6808	-21.89520613	4.944695e+00
6809	-25.89520613	3.306222e+00
6810	-24.89520613	7.732399e+00
6811	-5.39520613	8.579093e+00
6812	12.60479387	1.612550e+01
6813	15.50479387	1.802093e+01
6814	-3.89520613	1.222074e+01
6815	-14.89520613	1.556970e+01
6816	-7.39520613	1.398455e+01
6817	-11.89520613	1.289306e+01
6818	-15.39520613	-1.927814e+00
6819	-0.89520613	1.886838e+00
6820	3.60479387	3.177485e+00
6821	-16.39520613	2.012404e+00
6822	-9.89520613	6.126987e+00
6823	-8.89520613	1.979886e+01
6824	16.10479387	2.208215e+01
6825	19.90479387	1.999270e+01
6826	-10.89520613	2.165640e+01
6827	5.10479387	1.714601e+01
6828	21.10479387	2.814261e+01
6829	31.10479387	3.230407e+01
6830	44.60479387	2.510683e+01
6831	25.10479387	1.990650e+01
6832	-15.89520613	4.433411e+00
6833	-21.89520613	3.759800e+00
6834	-21.89520613	4.538445e+00
6835	-12.39520613	6.738620e-01
6836	-11.89520613	5.767612e+00

6837	-4.29520613	6.131969e+00
6838	-1.39520613	7.524399e-01
6839	15.10479387	9.611071e+00
6840	8.60479387	1.476718e+01
6841	-24.39520613	6.085050e+00
6842	-8.39520613	-5.209323e+00
6843	-7.89520613	-5.908727e+00
6844	-19.39520613	-6.907692e+00
6845	-1.39520613	-6.075217e+00
6846	-5.39520613	-1.022211e+00
6847	-19.39520613	-7.111885e+00
6848	-0.39520613	-3.871590e+00
6849	-4.69520613	6.516868e+00
6850	-5.89520613	1.001687e+01
6851	9.10479387	5.804264e+00
6852	12.60479387	8.089591e+00
6853	13.10479387	1.108985e+01
6854	-17.39520613	-6.114731e+00
6855	-23.14520613	-4.289680e+00
6856	-27.39520613	6.564487e+00
6857	-26.39520613	8.338297e+00
6858	-21.39520613	-8.878939e-01
6859	-20.39520613	-7.477180e+00
6860	-9.39520613	-1.639178e+01
6861	14.30479387	-1.044121e+01
6862	4.60479387	-4.289680e+00
6863	-13.39520613	4.317463e+00
6864	-21.39520613	-2.489084e+00
6865	-4.39520613	-4.766776e+00
6866	2.10479387	-6.619390e+00
6867	-17.49520613	3.874246e+00
6868	-16.89520613	-6.855130e-01
6869	-21.39520613	2.809718e+00
6870	-15.89520613	-1.116468e+01
6871	-23.89520613	-7.792656e+00
6872	-26.89520613	-7.700394e+00
6873	-25.64520613	-4.808184e+00
6874	-19.89520613	-9.337299e+00
6875	-14.89520613	-9.399799e+00
6876	-8.39520613	-9.228732e+00
6877	3.10479387	-7.944442e+00
6878	-8.89520613	6.725201e+00
6879	5.30479387	-8.009718e+00

6880 -6.89520613 -1.249946e+01
6881 -5.39520613 -7.543846e+00
6882 0.60479387 5.441661e+00
6883 13.60479387 -5.292630e-01
6884 -1.89520613 -7.963291e+00
6885 -23.49520613 -4.310513e+00
6886 -2.89520613 -1.206477e+01
6887 2.60479387 -1.533497e+01
6888 -8.89520613 -1.539680e+00
6889 -9.89520613 -9.873013e+00
6890 7.60479387 -1.123760e+01
6891 -6.39520613 1.116570e+00
6892 -16.39520613 5.491570e+00
6893 -16.89520613 -8.966763e+00
6894 -23.39520613 -1.098443e+01
6895 -6.39520613 -2.466763e+00
6896 -13.39520613 -6.612596e+00
6897 -11.49520613 -1.490774e+01
6898 -8.39520613 -8.046624e+00
6899 -16.89520613 -9.616069e+00
6900 -12.89520613 -7.727180e+00
6901 -14.89520613 -6.448194e+00
6902 -20.39520613 -1.262331e+01
6903 -21.39520613 7.258931e+00
6904 -17.89520613 -7.893846e+00
6905 -12.89520613 -1.275496e+01
6906 -17.89520613 -7.768846e+00
6907 -15.39520613 -4.199100e+00
6908 -19.89520613 -7.844480e+00
6909 -16.09520613 -1.024530e+01
6910 -15.39520613 -1.240426e+01
6911 -14.39520613 -1.027926e+01
6912 -13.89520613 -9.102180e+00
6913 -18.39520613 -6.258430e+00
6914 -3.89520613 -1.298760e+01
6915 -0.89520613 -1.473397e+01
6916 5.10479387 -1.551930e+01
6917 -2.89520613 -1.344025e+01
6918 -11.89520613 -1.347718e+01
6919 -3.89520613 -1.030010e+01
6920 -19.89520613 -8.102180e+00
6921 -5.14520613 -1.440426e+01
6922 -12.89520613 -1.280689e+01

6923	-17.89520613	-1.563343e+01
6924	-17.39520613	-1.453968e+01
6925	-11.89520613	-8.268846e+00
6926	-13.89520613	-1.084176e+01
6927	-16.39520613	-5.883430e+00
6928	-12.89520613	-1.137664e+01
6929	-1.89520613	-1.558633e+01
6930	25.60479387	-1.577156e+01
6931	8.60479387	-1.405010e+01
6932	0.60479387	-1.252926e+01
6933	-8.69520613	-1.766468e+01
6934	-25.89520613	-5.081346e+00
6935	-25.39520613	-5.393846e+00
6936	-6.89520613	-1.496676e+01
6937	-6.39520613	-1.617510e+01
6938	-10.39520613	-1.264068e+01
6939	-14.69520613	-1.640109e+01
6940	-10.39520613	-1.690426e+01

Note that there are only two columns in the transmuted data frame.

217 group_by()

The `group_by()` function is used to generate **summary or aggregate statistics** from a data frame.

For example, in this air pollution dataset, you might want to know the **average annual level of PM2.5**.

So the stratum is the year, which we can derive from the date variable.

In conjunction with the `group_by()` function we often use the `summarize()` function.
> Or `summarise()` for some parts of the world.

The general operation here is a combination of **splitting** a tabel into separate pieces defined by a variable or group of variables (`group_by()`), and then **applying** a summary function across those subsets (`summarize()`), then **combining** back into another table.

This pattern is called **split, apply, and combine**. It is a fundamental pattern in data processing.

First, we can create a `year` variable using `as.POSIXlt()`.

```
chicago <- chicago %>%
  mutate(year = as.POSIXlt(date)$year + 1900)
head(chicago)
```

```
city tmpd dewpoint      date pm25 pm10tmean2 o3tmean2 no2tmean2 pm25detrend
1 chic 31.5 31.500 1987-01-01   NA  34.00000 4.250000 19.98810      NA
2 chic 33.0 29.875 1987-01-02   NA        NA 3.304348 23.19099      NA
3 chic 33.0 27.375 1987-01-03   NA  34.16667 3.333333 23.81548      NA
4 chic 29.0 28.625 1987-01-04   NA  47.00000 4.375000 30.43452      NA
5 chic 32.0 28.875 1987-01-05   NA        NA 4.750000 30.33333      NA
6 chic 40.0 35.125 1987-01-06   NA  48.00000 5.833333 25.77233      NA
year
1 1987
2 1987
3 1987
4 1987
```

```
5 1987  
6 1987
```

Now we can create a that computes summary statistics for each year in the data frame with the `summarize()` function.

```
years <- chicago %>%  
  group_by(year) %>%  
  summarize(pm25 = mean(pm25, na.rm = TRUE),  
           o3 = max(o3tmean2, na.rm = TRUE),  
           no2 = median(no2tmean2, na.rm = TRUE), .groups = "drop")  
head(years)
```

```
# A tibble: 6 x 4  
  year   pm25     o3    no2  
  <dbl> <dbl> <dbl> <dbl>  
1 1987    NaN  63.0  23.5  
2 1988    NaN  61.7  24.5  
3 1989    NaN  59.7  26.1  
4 1990    NaN  52.2  22.6  
5 1991    NaN  63.1  21.4  
6 1992    NaN  50.8  24.8
```

Note in the process, we implicitly created separate data frame that splits the original data frame by year, which is then passed to `summarize()`.

`summarize()` then returns a data frame with columns for `year` and the annual averages of `pm25`, `o3`, and `no2`.

In a slightly more complicated example, we might want to know what are the average levels of ozone (`o3`) and nitrogen dioxide (`no2`) within quintiles of `pm25`.

A slicker way to do this would be through a regression model, but we can actually do this quickly with `group_by()` and `summarize()`.

First, we can create a categorical variable of `pm25` divided into quintiles.

```
qq <- quantile(chicago$pm25, seq(0, 1, 0.2), na.rm = TRUE)
```

Then can group the data frame by the `pm25.quint` variable. and compute the mean of `o3` and `no2` within quintiles of `pm25`.

```

chicago %>%
  mutate(pm25.quint = cut(pm25, qq)) %>%
  group_by(pm25.quint) %>%
  summarize(o3 = mean(o3tmean2, na.rm = TRUE),
            no2 = mean(no2tmean2, na.rm = TRUE),
            .groups = "drop")

# A tibble: 6 x 3
  pm25.quint      o3    no2
  <fct>        <dbl> <dbl>
1 (1.7,8.7]     21.7  18.0
2 (8.7,12.4]    20.4  22.1
3 (12.4,16.7]   20.7  24.4
4 (16.7,22.6]   19.9  27.3
5 (22.6,61.5]   20.3  29.6
6 <NA>          18.8  25.8

```

From the table, it seems there isn't a strong relationship between `pm25` and `o3`, but there appears to be a positive correlation between `pm25` and `no2`.

More sophisticated statistical modeling can help to provide precise answers to these questions, but a simple application of `dplyr` functions can often get you most of the way there.

Here is another example:

```

chicago %>%
  mutate(month = as.POSIXlt(date)$mon + 1) %>%
  group_by(month) %>%                                # SPLIT
  summarize(pm25 = mean(pm25, na.rm = TRUE),           # APPLY
            o3 = max(o3tmean2, na.rm = TRUE),
            no2 = median(no2tmean2, na.rm = TRUE),
            .groups = "drop")

# A tibble: 12 x 4
  month  pm25      o3    no2
  <dbl> <dbl> <dbl> <dbl>
1     1  17.8  28.2  25.4
2     2  20.4  37.4  26.8
3     3  17.4  39.0  26.8
4     4  13.9  47.9  25.0
5     5  14.1  52.8  24.2

```

6	6	15.9	66.6	25.0
7	7	16.6	59.5	22.4
8	8	16.9	54.0	23.0
9	9	15.9	57.5	24.5
10	10	14.2	47.1	24.2
11	11	15.2	29.5	23.6
12	12	17.5	27.7	24.5

COMBINE (in the result)

218 Summary

The `dplyr` package provides a concise set of operations for managing data frames and tibbles.

It allows us to perform a number of complex operations in just a few lines of code.

In particular, we can often conduct the beginnings of an exploratory analysis with the powerful combination of `group_by()` and `summarize()`.

Once you learn the `dplyr` grammar there are a few additional benefits - `dplyr` can work with other data frame “back ends” such as SQL databases. There is an SQL interface for relational databases via the `DBI` package - `dplyr` can be integrated with the `data.table` package for large fast tables

The `dplyr` package is handy way to both simplify and speed up your data frame management code. It’s rare that you get such a combination at the same time!

Part XIII

M12 Visualization

Topics

- R's basic visualization tools
- GGPlot2
- RMarkown

Readings

Required

W3Schools R Graphics

RFDS Explore 3 Data Visualization (ggplot2)

RDFS Communicate 27 R Markdown

RDFS Communicate 28 Graphics for Communication

Optional

ggplot2 (Tidyverse)

The Complete ggplot2 Tutorial (r-statistics.co)

R Markdown (RStudio)

Overview (RStudio)

Index of Pages (RStudio)

knitr (Yihui Xie)

R Markdown: the Definitive Guide (Yihui Xie, J. J. Allaire, Garrett Grolemund)

R Markdown Cookbook (Yihui Xie, Christophe Dervieux, Emily Riederer)

Getting Started with R Markdown — Guide and Cheatsheet (Dataquest)

Gallery (RStudio)

219 GGPlot2

219.1 Introduction

Today we'll look at GGPlot2, the graphics package associated with the **Tidyverse**.

219.2 Learning Goal

You will be introduced into how and why to use **visualizations** in DS 6001.

- Visualizations in EDA
- Visualization in creating data products that communicate results, such as scientific publications, infographics, and interactive visualizations.

These things come at the end of the data science **pipeline**.

Today, I just want to introduce you to the thinking and **design logic** behind the package, so you can be confident in learning more as you need to.

219.3 The Grammar of Graphics

As with Dplyr, GGPlot2 is a an entirely new system that **supplants** the older graph functions that are built into R.

And just as with Dplyr, it is founded on a principled analysis of its domain and approaches code design through developing a basic **grammar** which can then be expressed in R.

In effect, Dplyr is built on a **grammar of data** by defining a set of **verbs** that can be used to build phrases that are put together into larger constructs.

These verbs correspond to a **process** of data transformation.

GGPlot2 is built on a **grammar of graphics** that defines a set of **nouns** that correspond to the **architecture of a graphic** (aka plot).

The phrase “grammar of graphics” actually comes from the book by that name written by statistician and computer scientist **Leland Wilkinson** in 1999 and later revised:

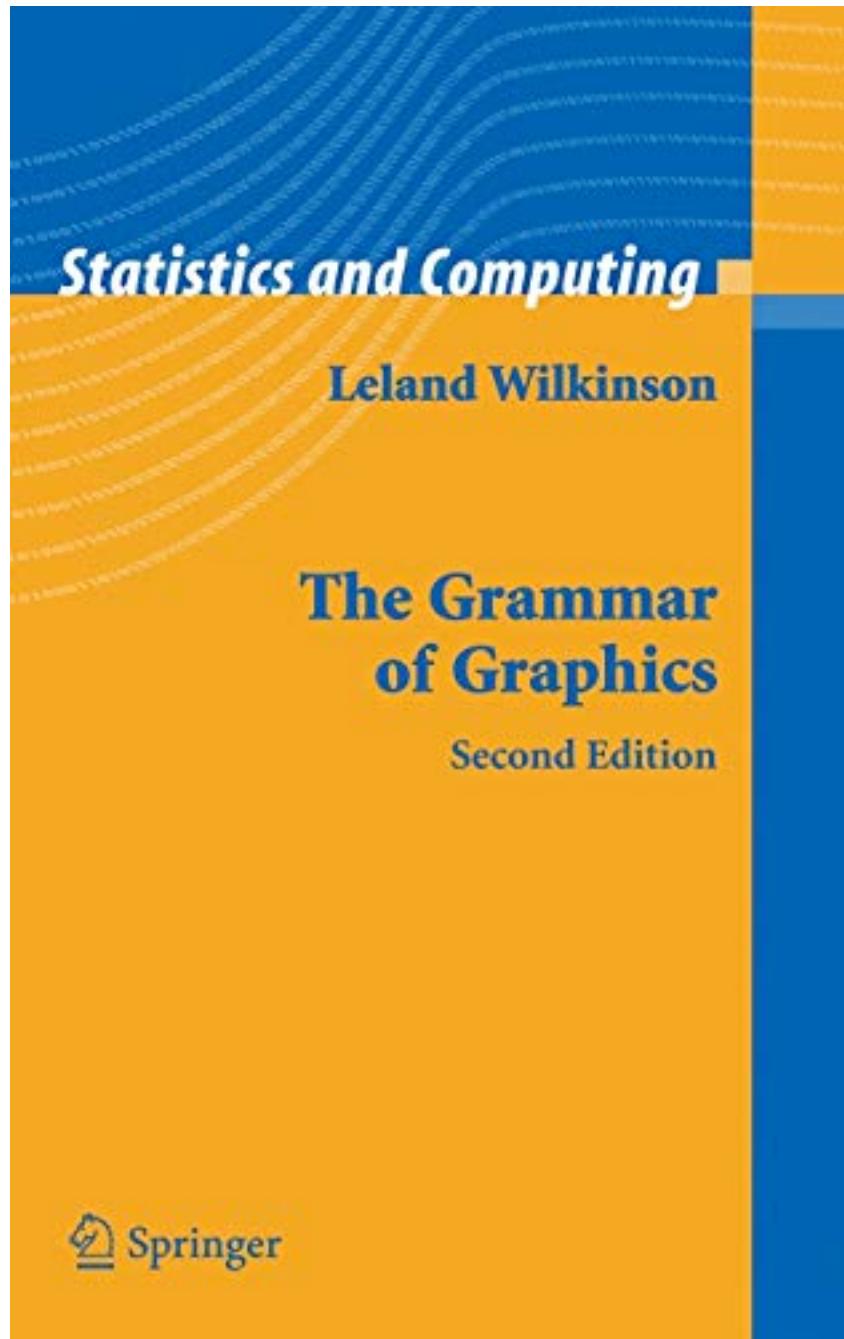


Figure 219.1: The Second Edition

It's worth reading if you want to get a solid grounding in visualization, which belongs to the **design area of data science**.

219.4 A Layered Model

Wilkinson takes an **object-oriented approach** to visualization and formalizes two main **principles**:

- I. **Graphics** are built out of distinct *layers* of grammatical **elements**.
- II. In each layer, meaningful **plots** are constructed through **mappings of data onto aesthetics**.

The essential grammatical elements to create any visualization are:

Element	Description
Data	The dataset being plotted.
Aesthetics	The scales onto which we <i>map</i> our data.
Geometries	The visual elements used for our data.

According to Wickham, who adopted these principles and applied them to R,

A grammar of graphics is a tool that enables us to **concisely describe the components of a graphic**. Such a grammar allows us to **move beyond named graphics** (e.g., the “scatterplot”) and gain insight into **the deep structure** that underlies statistical graphics ([Wickham 2012](#)).

Wickham takes this idea and develops it into this:



Source (see also [ScienceCraft](#)).

You can see that everything starts with **data**.

Then data are mapped on **aesthetics** within **geometries**.

- **Geometries** are geometric things like points, lines, and bars.
- **Aesthetics** are visual things like position, size, color and shape.

You can see how the latter are properties of the former.

Also note that aesthetics make use of visual channels to signify

- Size can mean greater than, which is good for numeric scale but not categories
- Color can signify things like value, e.g. via `red : dangerous : : green : safe`.

These are the primary layers. The other layers apply **downstream modifications** that add more **information** and **style** to the graph.

219.5 The Bare Minimum

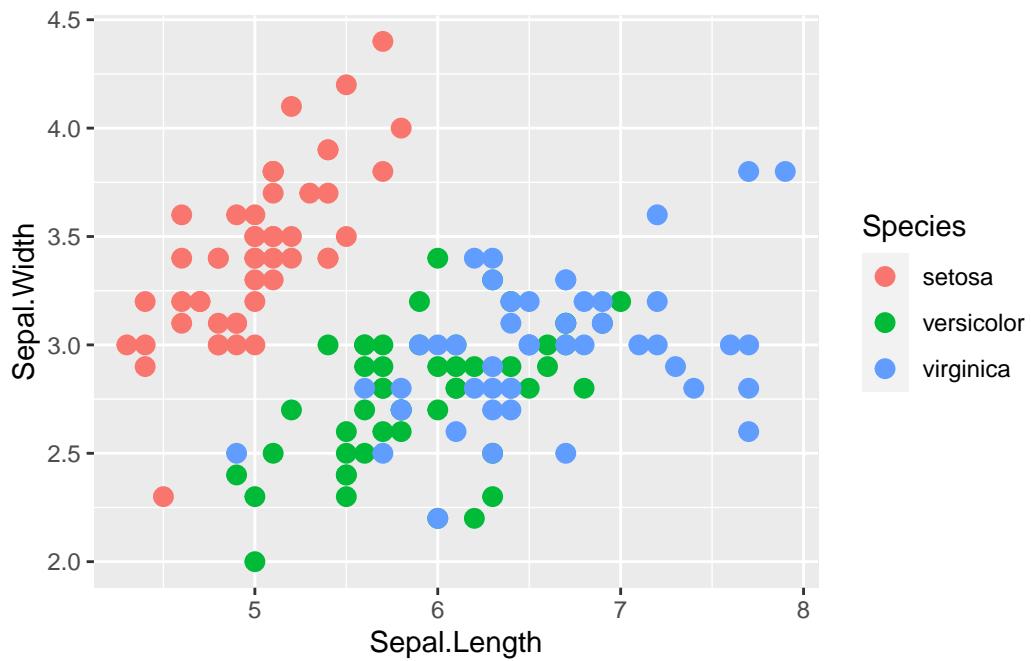
Everything starts with `ggplot()` which is part of the Tidyverse.

```
library(tidyverse)
```

```
-- Attaching packages ----- tidyverse 1.3.2 --
v ggplot2 3.3.5      v purrr    1.0.1
v tibble   3.2.1      v dplyr    1.1.1
v tidyverse 1.2.1      v stringr  1.5.0
v readr    2.1.3      v forcats  1.0.0
-- Conflicts ----- tidyverse_conflicts() --
x dplyr::filter() masks stats::filter()
x dplyr::lag()    masks stats::lag()
```

Here is a basic graph – a scatterplot comparing two features in the iris dataset. I've broken out the functions and arguments so you can see how the grammar is implemented:

```
iris %>%
ggplot(
  mapping = aes(
    x = Sepal.Length,
    y = Sepal.Width)
) +
  geom_point(size=3, aes(color=Species))
```



`ggplot()` starts by creating a **coordinate system** that you can add **layers** to.

- The **coordinate system** can be changed after the graph is initiated.

These **layers** are created by **geometry functions**.

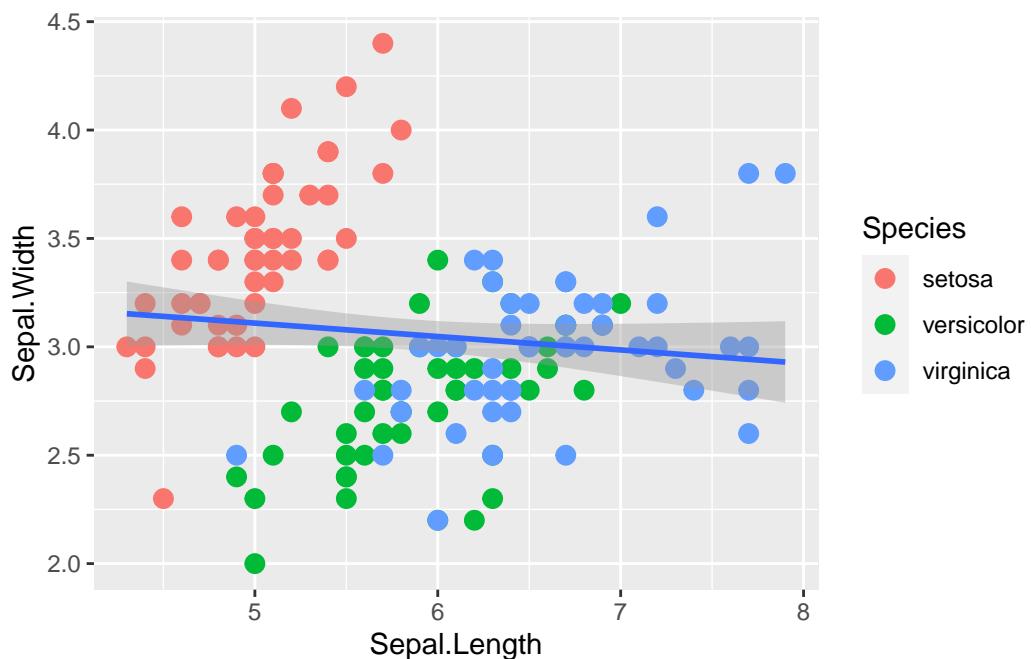
- For example, `geom_point` creates a point-based visualization.
- There are many `geom_` functions, and they can be layered on top of each other:

- `geom_point()`
- `geom_bar()`
- `geom_histogram()`
- `geom_boxplot()`
- etc.

Here we have a plot with two layers. The second layer is created by a **stat** function, which is similar to geom, but applies a statistical transformation to the data.

```
iris %>%
  ggplot(aes(
    x = Sepal.Length,
    y = Sepal.Width)) +
  geom_point(size=3, aes(color=Species)) +
  stat_smooth(method = lm)

`geom_smooth()` using formula 'y ~ x'
```



The core process is that each layer **maps data** onto what are called **aesthetics (aes)**.

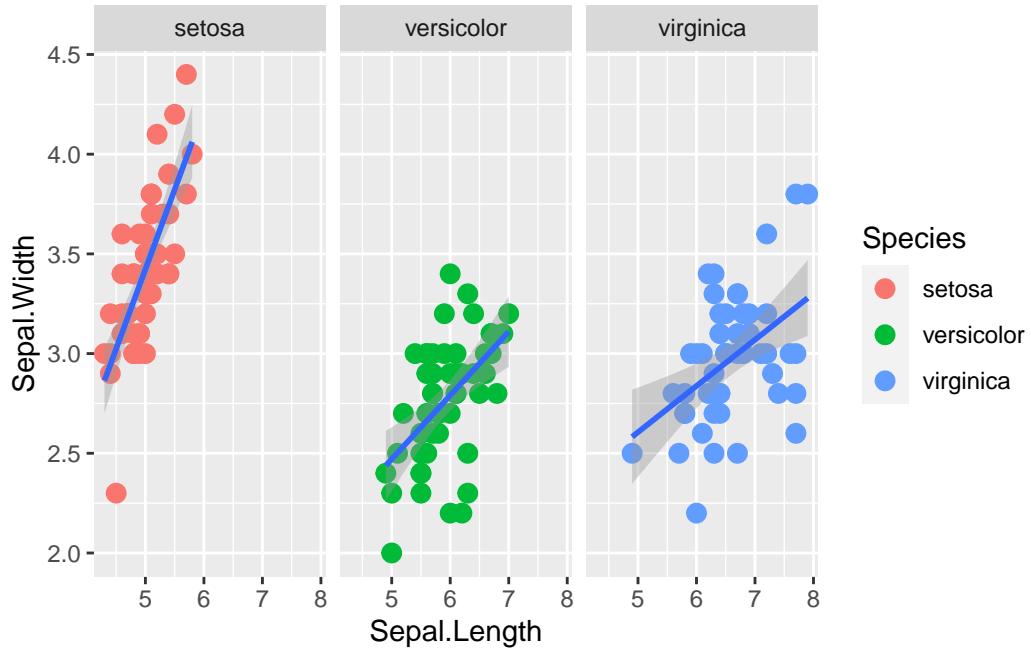
Aesthetics are **visual objects and properties** that can be used to represent numeric and categorical values

- x and y positions (in a two-dimensional system)
- Color
- Size
- Shape
- Text

In addition to these elements, ggplot also provides **faceting**, which is the visual equivalent of grouping by. Just as with group by, a data feature is used to divide the visualization into groups, each taking the same form but showing a different subset of data.

```
iris %>%
  ggplot(aes(
    x = Sepal.Length,
    y = Sepal.Width)) +
  geom_point(size=3, aes(color=Species)) +
  stat_smooth(method = lm) +
  facet_wrap(facets = vars(Species))

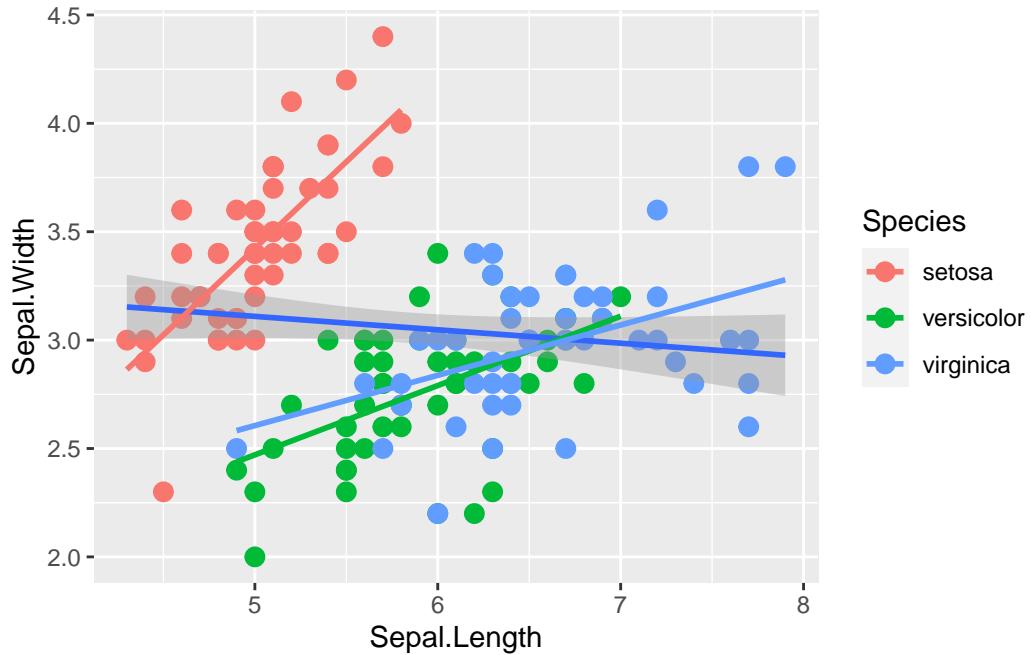
`geom_smooth()` using formula 'y ~ x'
```



By the way, this is an example of Simpson's Paradox. The overall trend is downward, but each group trend upward.

```
iris %>%
  ggplot(aes(
    x = Sepal.Length,
    y = Sepal.Width)) +
  geom_point(size=3, aes(color=Species)) +
  stat_smooth(method = lm) +
  stat_smooth(method = lm, se=FALSE, aes(color=Species))

`geom_smooth()` using formula 'y ~ x'
`geom_smooth()` using formula 'y ~ x'
```



Anyway, the **general structure** of a ggplot statement is the following:

```
ggplot(data = <DATA>) +
  <GEOM_FUNCTION>(
    mapping = aes(<MAPPINGS>),
    stat = <STAT>,
    position = <POSITION>
  ) +
  <COORDINATE_FUNCTION> +
  <FACET_FUNCTION>
```

219.6 The + operator

You will notice the use of the + operator to connect ggplot functions together to produce a final product. These are not quite the same as pipes %>%.

The difference is that pipes feed data from one function to another, whereas the + operation combines elements to produce an increasingly developed visualization.

Another thing to keep in mind: the + always goes at the **end of a line**, not at the beginning.

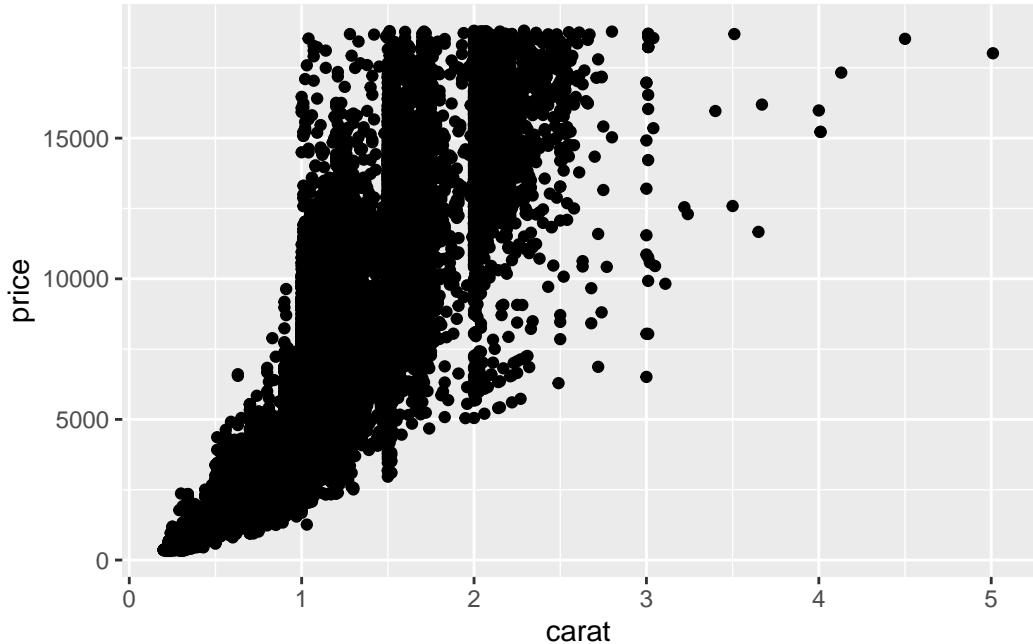
220 Examples

Let look at how to build out graphics using the built-in diamonds data.

```
diamonds
```

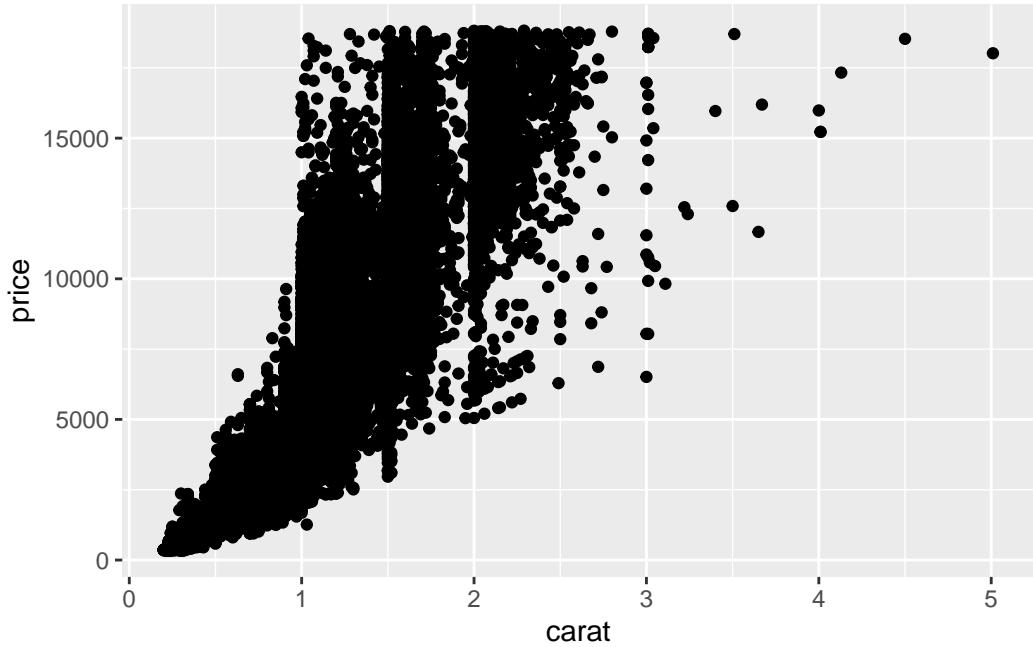
```
# A tibble: 53,940 x 10
  carat      cut      color clarity depth table price     x     y     z
  <dbl>    <ord>    <ord>   <ord>  <dbl> <dbl> <int> <dbl> <dbl> <dbl>
1 0.23 Ideal     E     SI2     61.5    55   326  3.95  3.98  2.43
2 0.21 Premium   E     SI1     59.8    61   326  3.89  3.84  2.31
3 0.23 Good      E     VS1     56.9    65   327  4.05  4.07  2.31
4 0.29 Premium   I     VS2     62.4    58   334  4.2    4.23  2.63
5 0.31 Good      J     SI2     63.3    58   335  4.34  4.35  2.75
6 0.24 Very Good J     VVS2    62.8    57   336  3.94  3.96  2.48
7 0.24 Very Good I     VVS1    62.3    57   336  3.95  3.98  2.47
8 0.26 Very Good H     SI1     61.9    55   337  4.07  4.11  2.53
9 0.22 Fair       E     VS2     65.1    61   337  3.87  3.78  2.49
10 0.23 Very Good H     VS1     59.4   61   338   4    4.05  2.39
# i 53,930 more rows
```

```
diamonds %>%
  ggplot(aes(x=carat, y=price)) +
  geom_point()
```



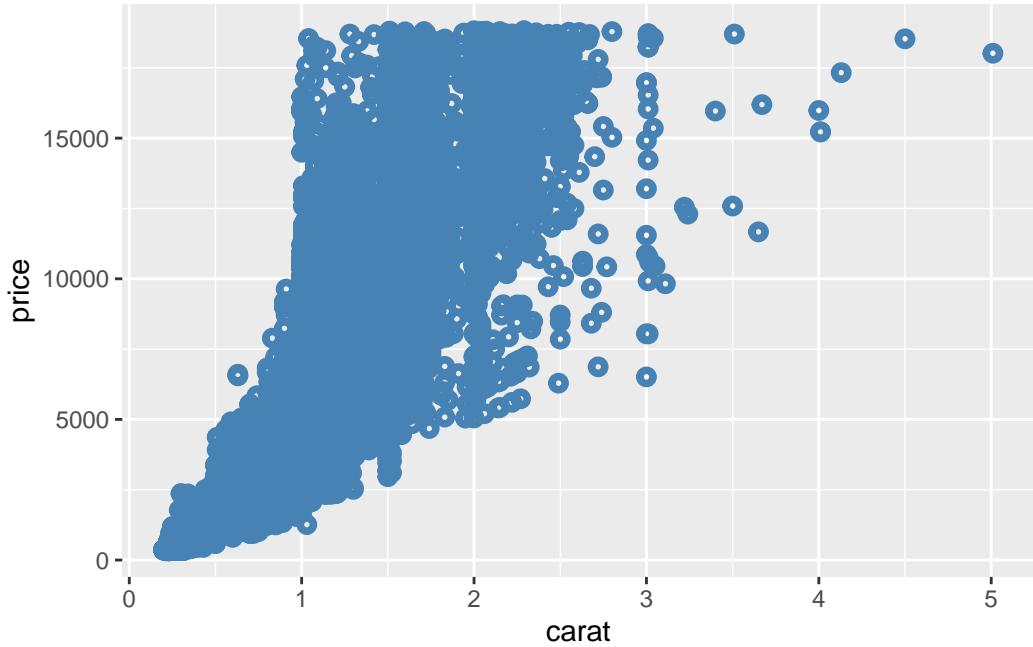
Here's another way to construct a graphic. By assigning it a variable, we can keep adding to it and showing our work.

```
gg <- ggplot(diamonds, aes(x=carat, y=price))
gg + geom_point()
```



`stroke` controls the thickness of point boundary

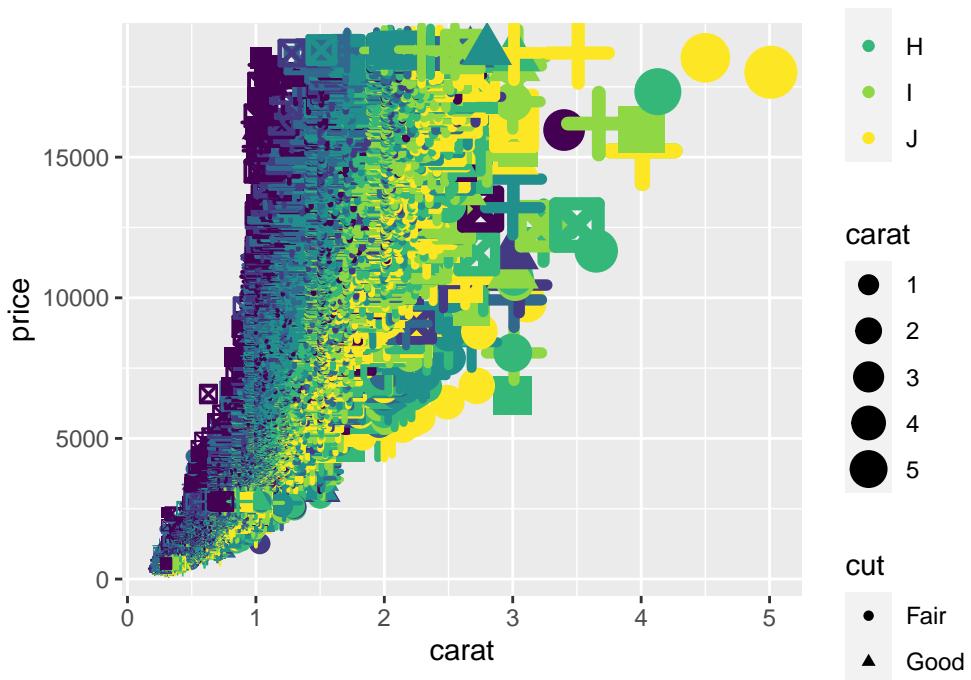
```
gg + geom_point(  
  size=1,  
  shape=1,  
  color="steelblue",  
  stroke=2)
```



Let's map the variables carat, cut and color to various aesthetics in our geometry function:

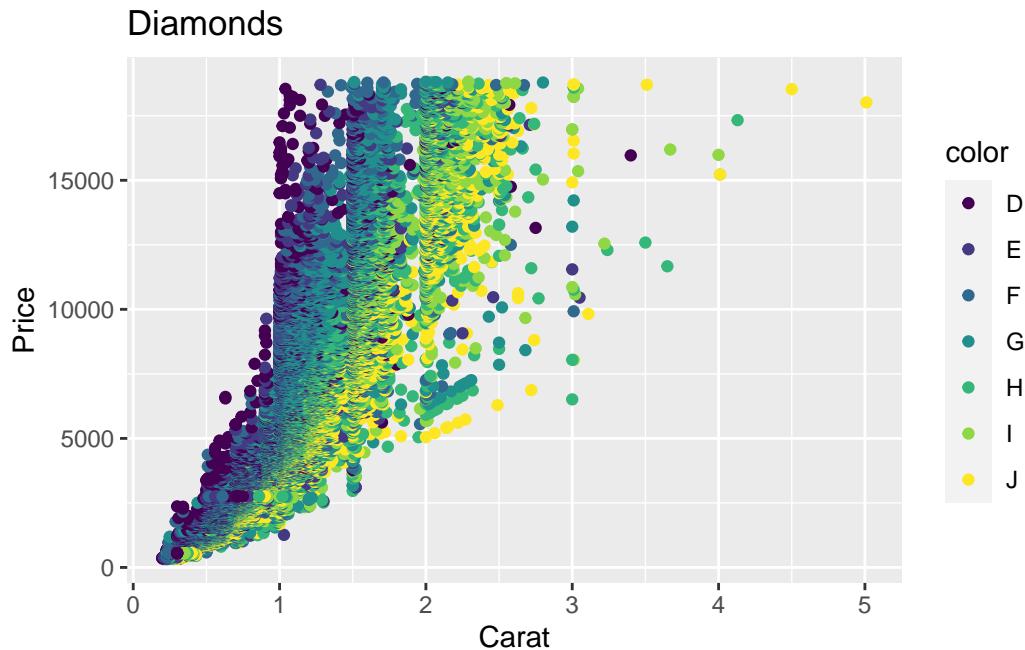
```
gg + geom_point(aes(  
  size=carat,  
  shape=cut,  
  color=color,  
  stroke=carat))
```

Warning: Using shapes for an ordinal variable is not advised



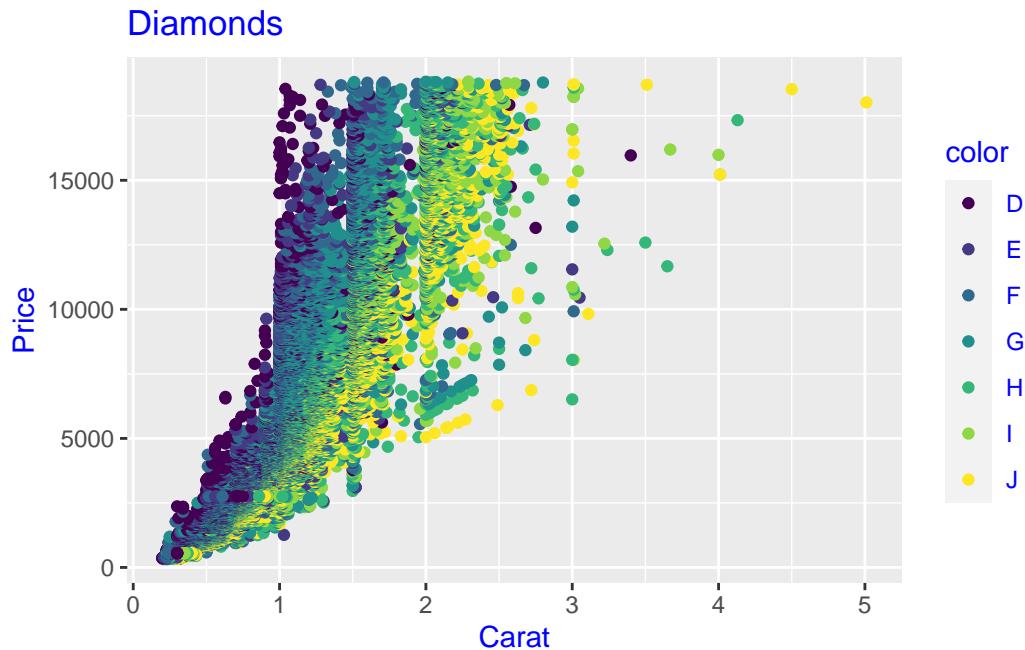
220.1 Add Title, X and Y axis labels with labs()

```
gg1 <- gg + geom_point(aes(color=color))
gg2 <- gg1 + labs(title="Diamonds", x="Carat", y="Price")
gg2
```



220.2 Change color of all text with theme()

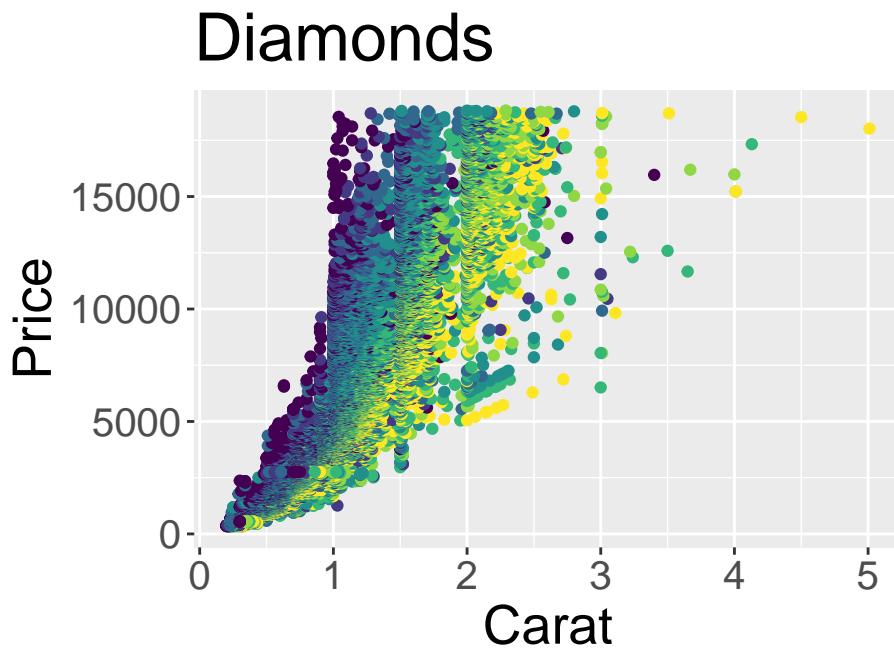
```
gg2 + theme(text=element_text(color="blue")) # all text turns blue.
```



220.3 Change title, X and Y axis label and text size

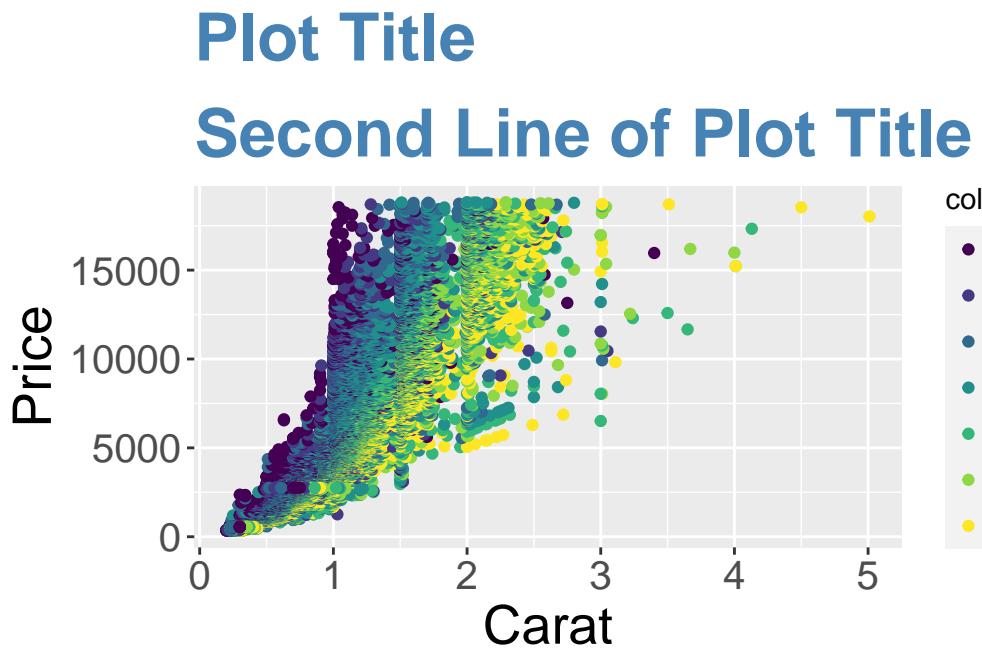
- `plot.title`: Controls plot title.
- `axis.title.x`: Controls X axis title
- `axis.title.y`: Controls Y axis title
- `axis.text.x`: Controls X axis text
- `axis.text.y`: Controls y axis text

```
gg3 <- gg2 +
  theme(plot.title=element_text(size=25),
        axis.title.x=element_text(size=20),
        axis.title.y=element_text(size=20),
        axis.text.x=element_text(size=15),
        axis.text.y=element_text(size=15)
      )
gg3
```



220.4 Change title face, color, line height

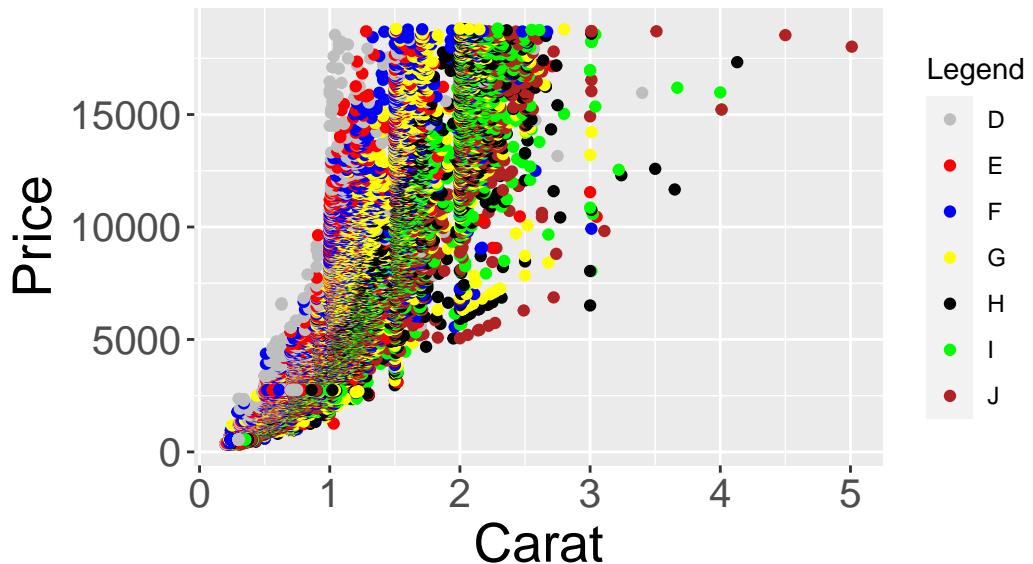
```
gg3 +  
  labs(title = "Plot Title\nSecond Line of Plot Title") +  
  theme(plot.title = element_text(  
    face="bold",  
    color="steelblue",  
    lineheight=1.2)  
)
```



220.5 Change point color

```
gg3 + scale_colour_manual(  
  name='Legend',  
  values=c('D'='grey',  
         'E'='red',  
         'F'='blue',  
         'G'='yellow',  
         'H'='black',  
         'I'='green',  
         'J'='firebrick'))
```

Diamonds

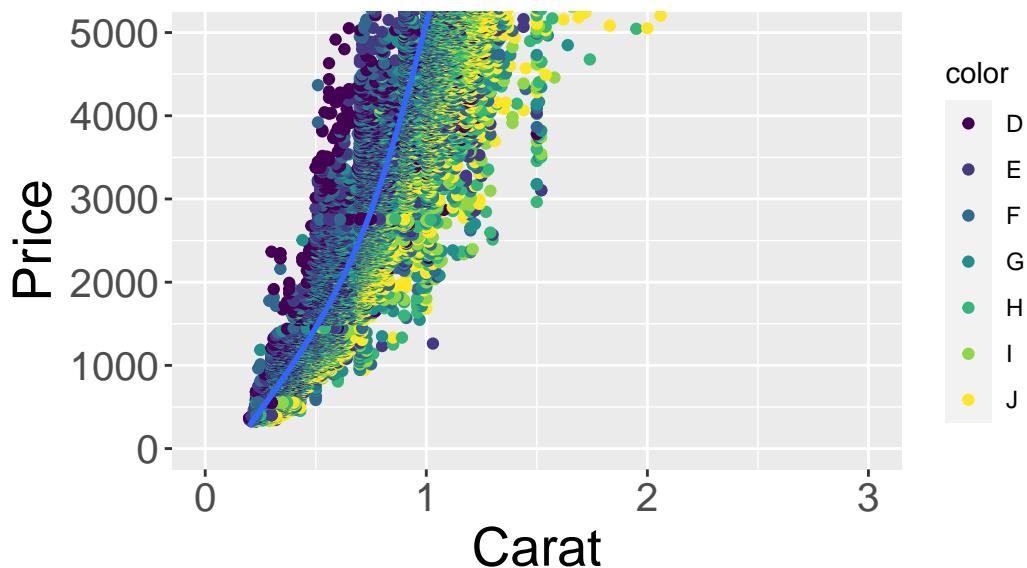


220.6 Adjust X and Y axis limits

Method 1: Zoom in

```
gg3 + coord_cartesian(xlim=c(0,3), ylim=c(0, 5000)) + geom_smooth() # zoom in  
`geom_smooth()` using method = 'gam' and formula 'y ~ s(x, bs = "cs")'
```

Diamonds



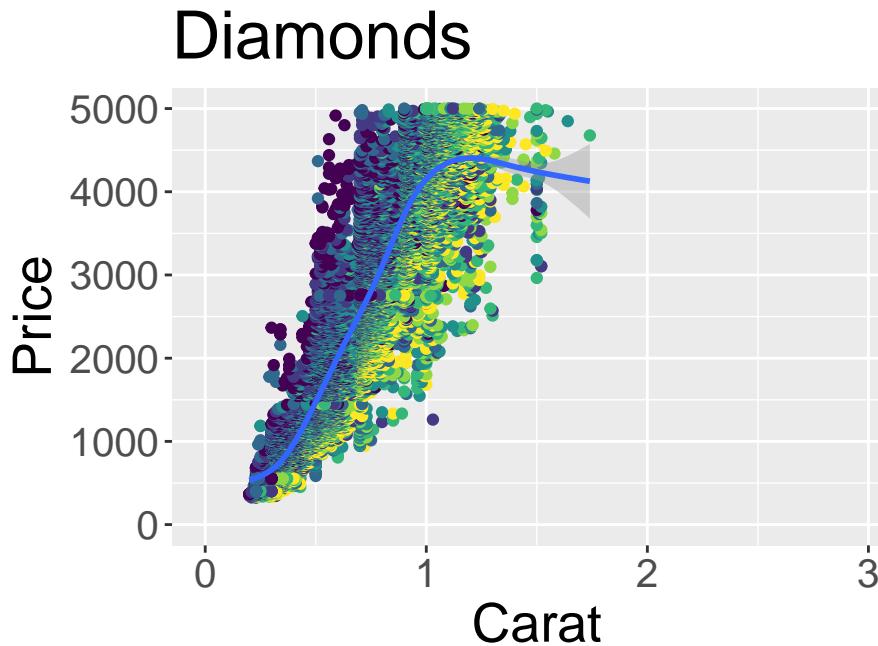
Method 2: Deletes the points outside limits

```
gg3 +
  xlim(c(0,3)) +
  ylim(c(0, 5000)) +
  geom_smooth() # deletes the points

`geom_smooth()` using method = 'gam' and formula 'y ~ s(x, bs = "cs")'

Warning: Removed 14714 rows containing non-finite values (stat_smooth).

Warning: Removed 14714 rows containing missing values (geom_point).
```



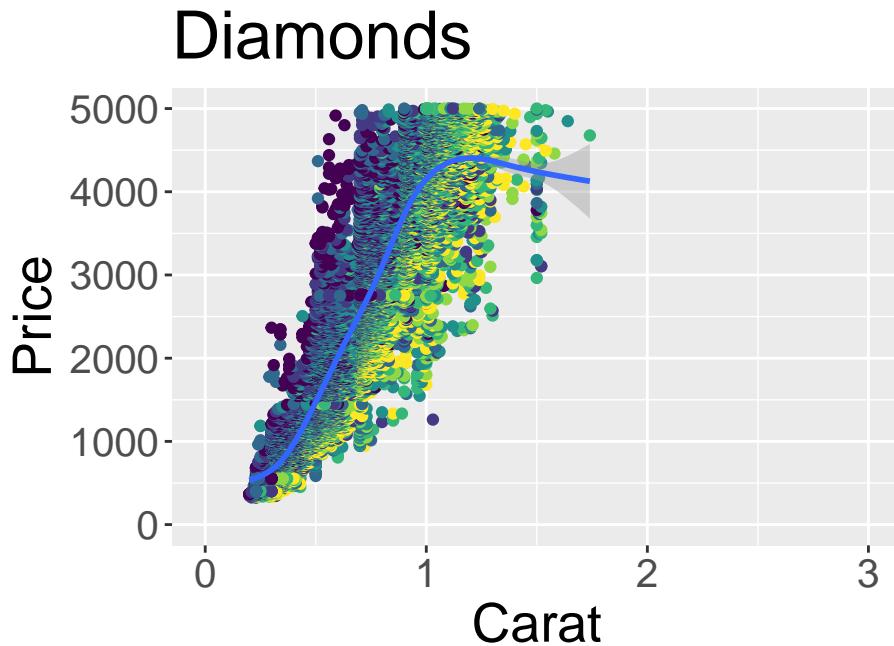
Method 3: Deletes the points outside limits

```
gg3 + scale_x_continuous(limits=c(0,3)) +
  scale_y_continuous(limits=c(0, 5000)) +
  geom_smooth() # deletes the points outside limits
```

```
`geom_smooth()` using method = 'gam' and formula 'y ~ s(x, bs = "cs")'
```

Warning: Removed 14714 rows containing non-finite values (stat_smooth).

Warning: Removed 14714 rows containing missing values (geom_point).

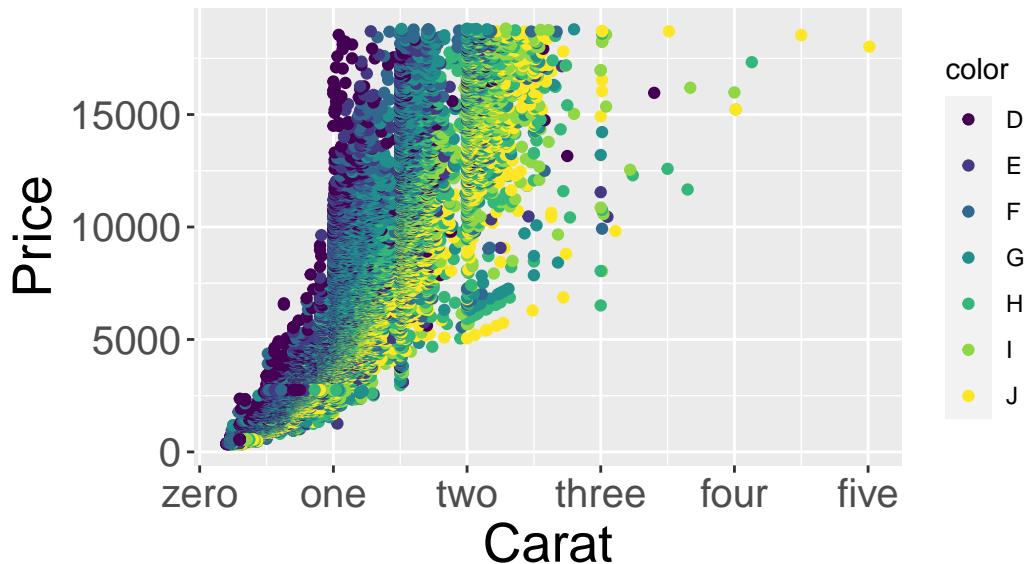


Notice the change in smoothing line because of deleted points. This could sometimes be misleading in your analysis.

220.7 Change X and Y axis labels

```
gg3 + scale_x_continuous(  
  labels=c("zero", "one", "two", "three", "four", "five"))
```

Diamonds



```
scale_y_continuous(breaks=seq(0, 20000, 4000)) # if Y is continuous, if X is a factor
```

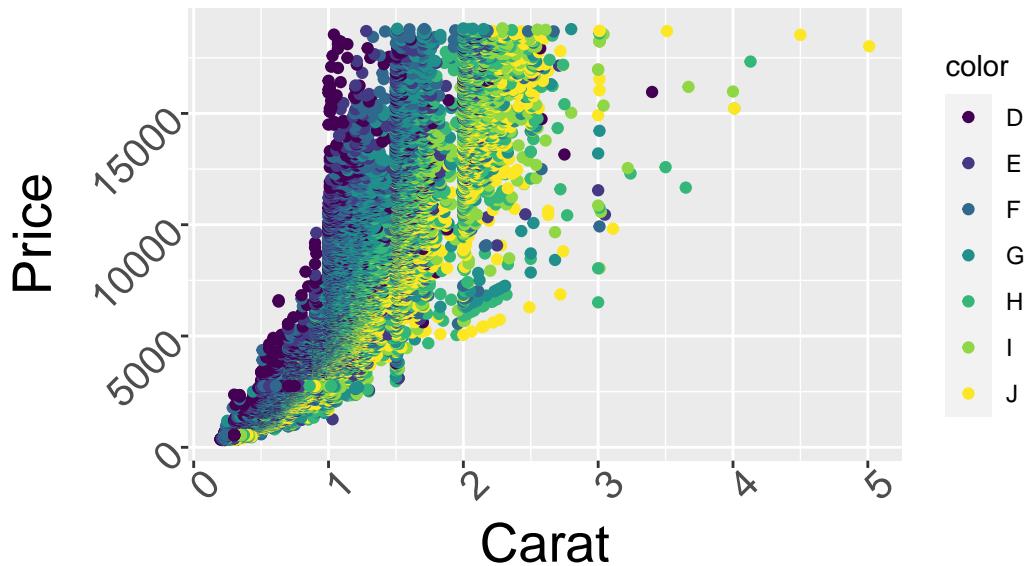
```
<ScaleContinuousPosition>
Range:
Limits:    0 -- 1
```

Use scale_x_discrete instead, if X variable is a factor.

Rotate axis text

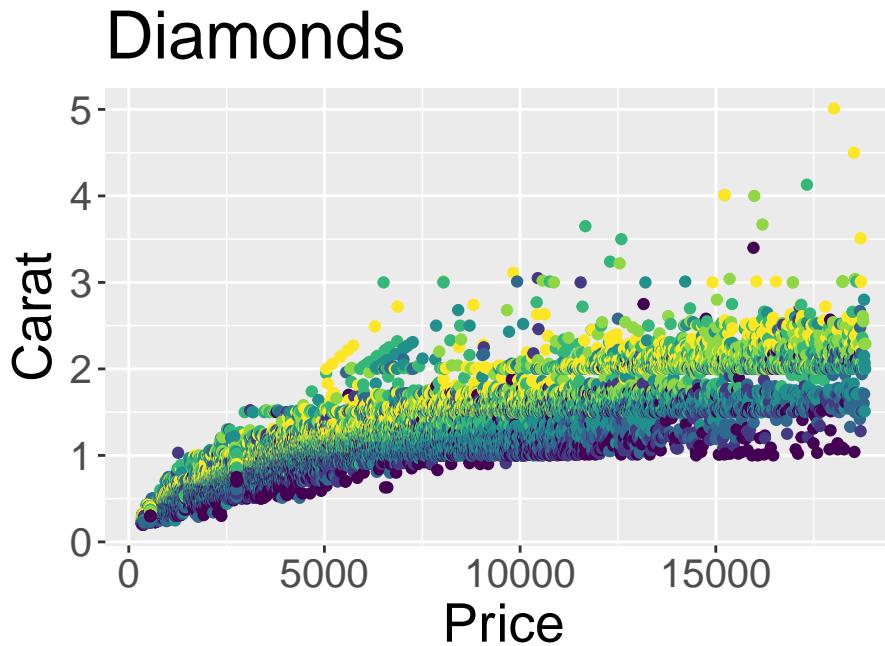
```
gg3 + theme(axis.text.x=element_text(angle=45), axis.text.y=element_text(angle=45))
```

Diamonds



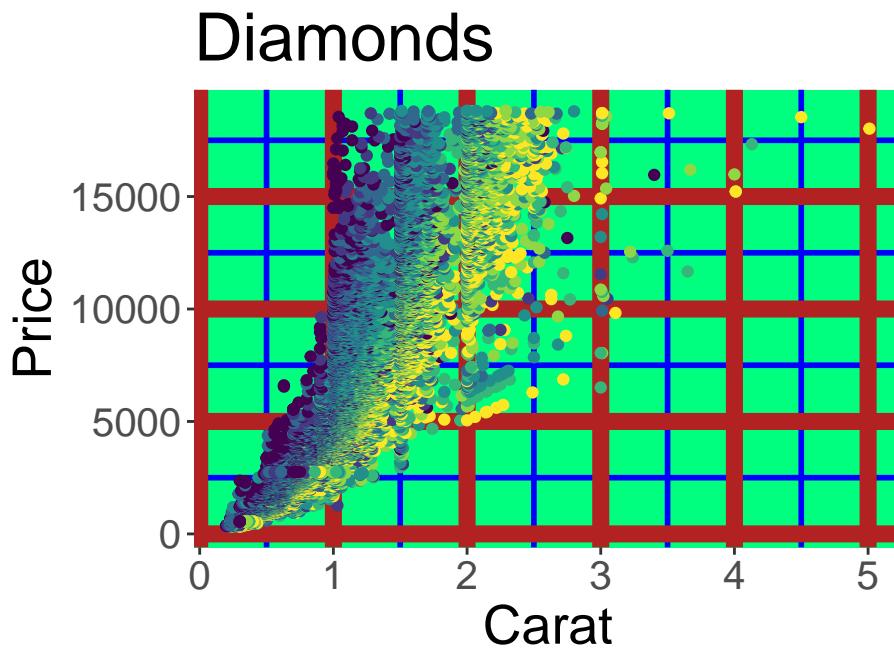
220.8 Flip X and Y Axis

```
gg3 + coord_flip() # flips X and Y axis.
```



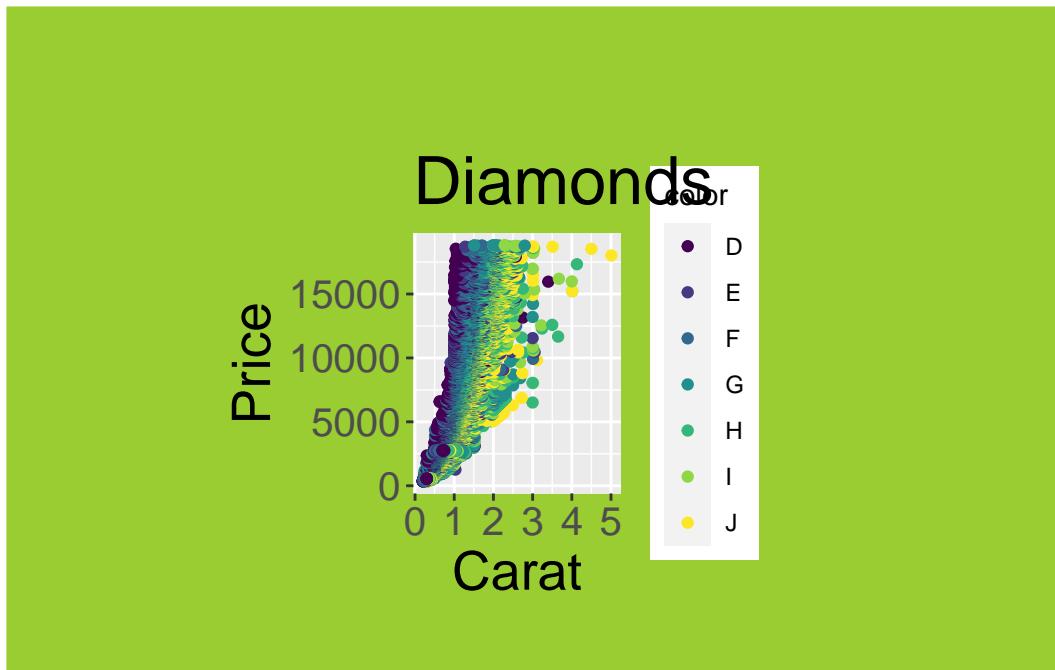
220.9 Grid lines and panel background

```
gg3 + theme(panel.background = element_rect(fill = 'springgreen'),
  panel.grid.major = element_line(colour = "firebrick", size=3),
  panel.grid.minor = element_line(colour = "blue", size=1))
```



220.10 Plot margin and background

```
gg3 + theme(plot.background=element_rect(fill="yellowgreen"), plot.margin = unit(c(2, 4, 1, 1), "mm"))
```

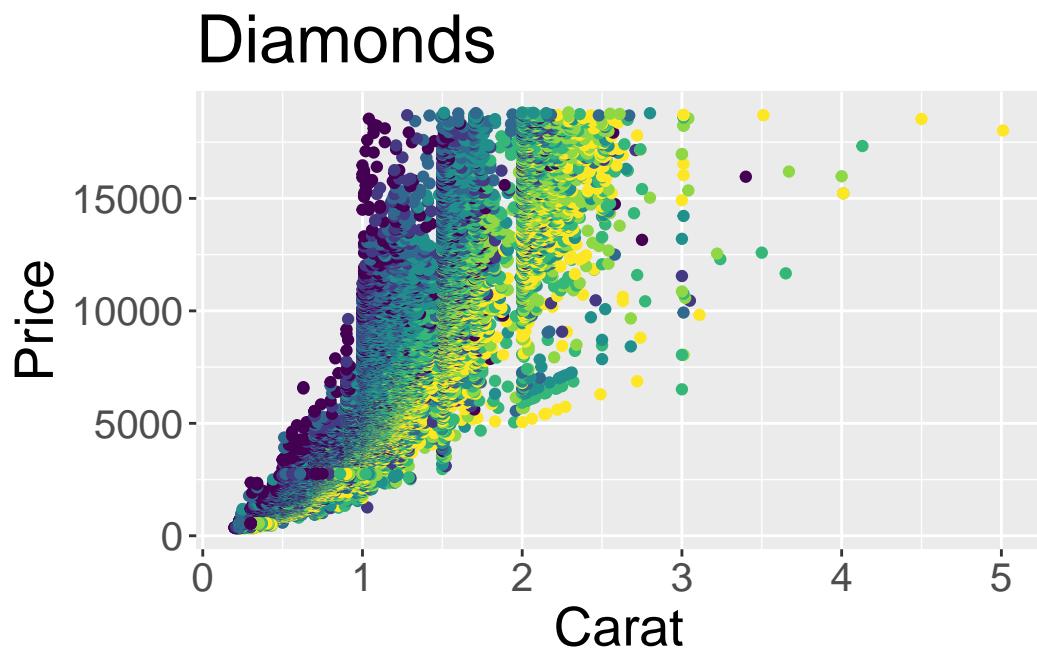


1551

221 Legend

221.1 Hide legend

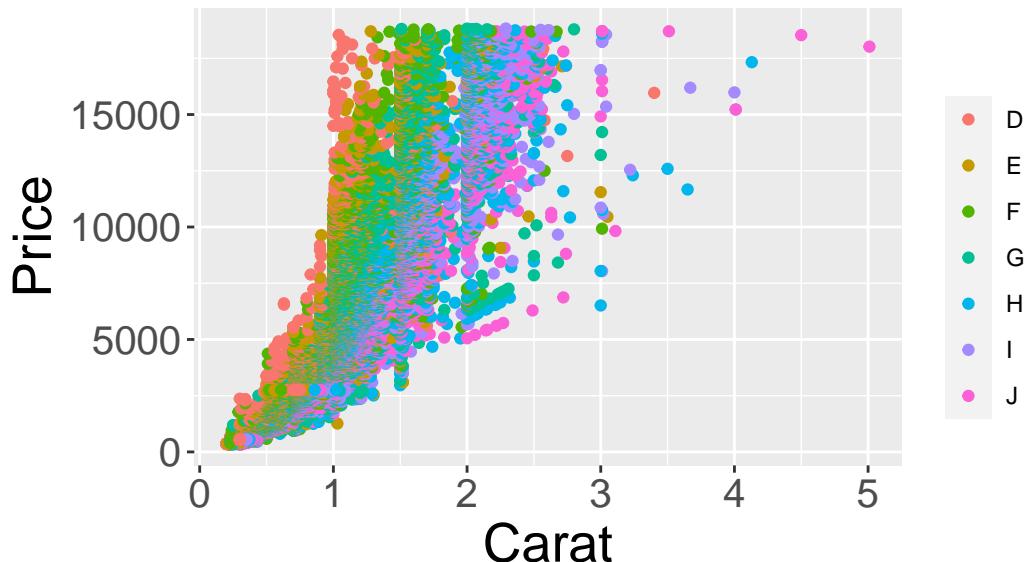
```
gg3 + theme(legend.position="none") # hides the legend
```



221.2 Change legend title

```
gg3 + scale_color_discrete(name="") # Remove legend title (method1)
```

Diamonds



```
# Remove legend title (method)
p1 <- gg3 + theme(legend.title=element_blank())

# Change legend title
p2 <- gg3 + scale_color_discrete(name="Diamonds")

# install.packages("gridExtra")

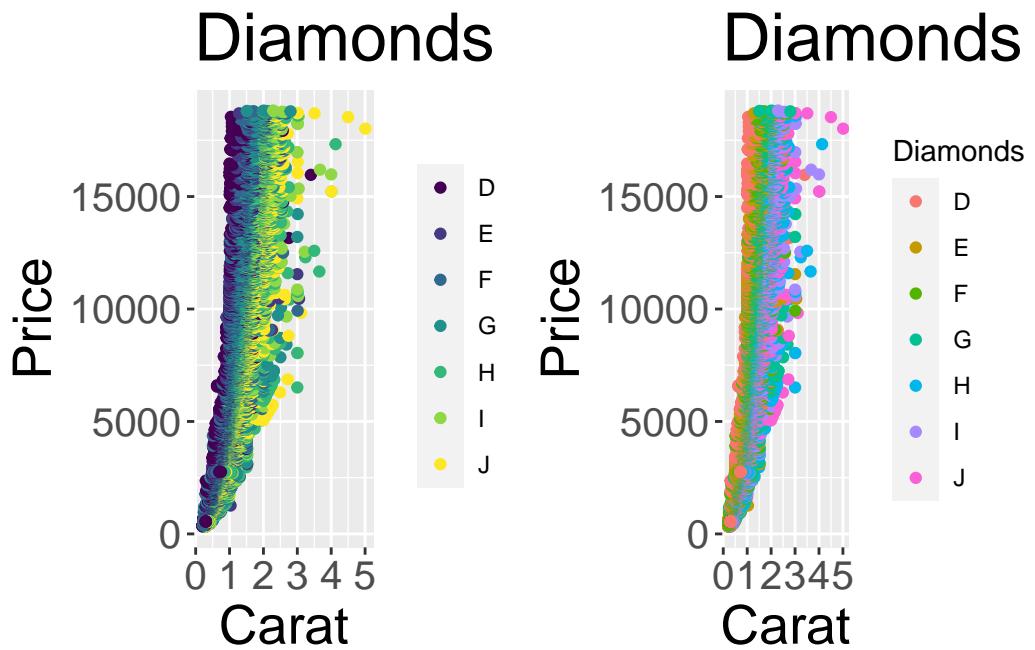
library(gridExtra)
```

```
Attaching package: 'gridExtra'
```

```
The following object is masked from 'package:dplyr':
```

```
combine
```

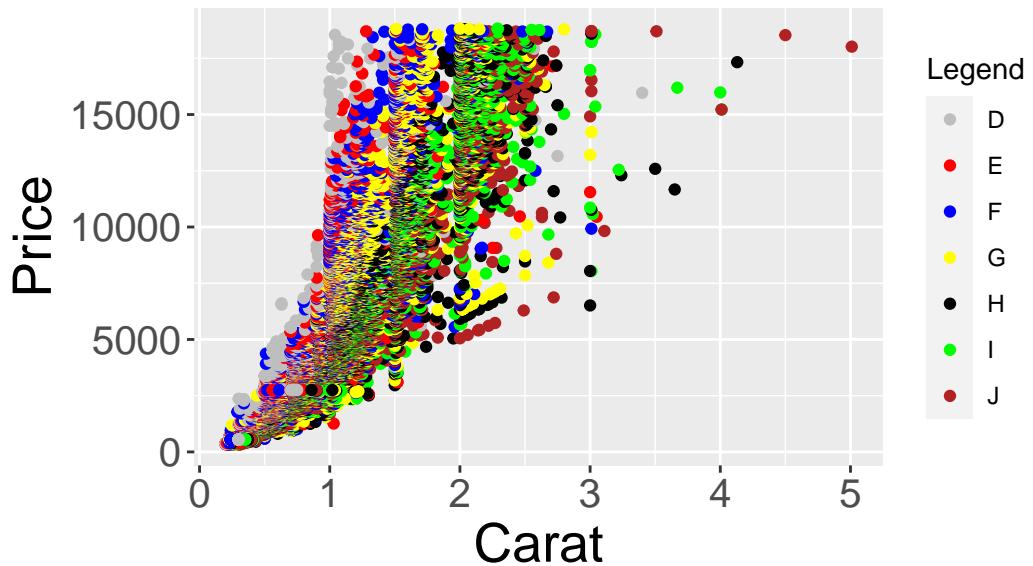
```
grid.arrange(p1, p2, ncol=2) # arrange
```



221.3 Change legend and point color

```
gg3 + scale_colour_manual(name='Legend', values=c('D'='grey', 'E'='red', 'F'='blue', 'G'='green', 'H'='cyan', 'I'='purple', 'J'='yellow')
```

Diamonds



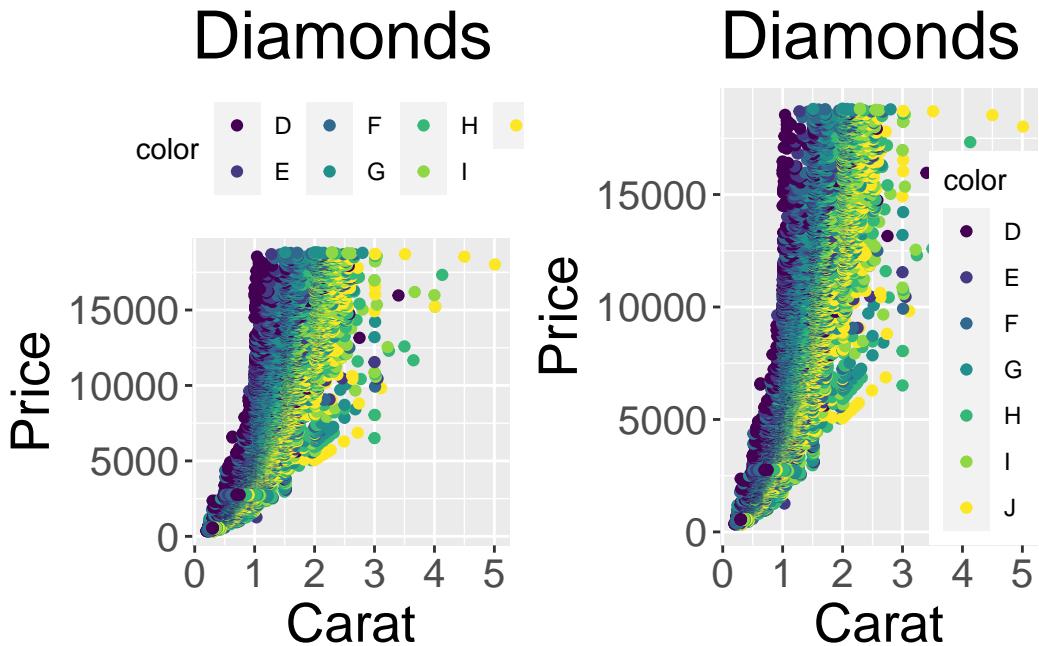
221.4 Change legend position

Outside plot

```
p1 <- gg3 + theme(legend.position="top") # top / bottom / left / right
```

Inside plot

```
p2 <- gg3 + theme(legend.justification=c(1,0), legend.position=c(1,0)) # legend justification  
gridExtra::grid.arrange(p1, p2, ncol=2)
```



221.5 Change order of legend items

```
#df$newLegendColumn <- factor(df$legendcolumn, levels=c(new_order_of_legend_items), ordered=TRUE)
```

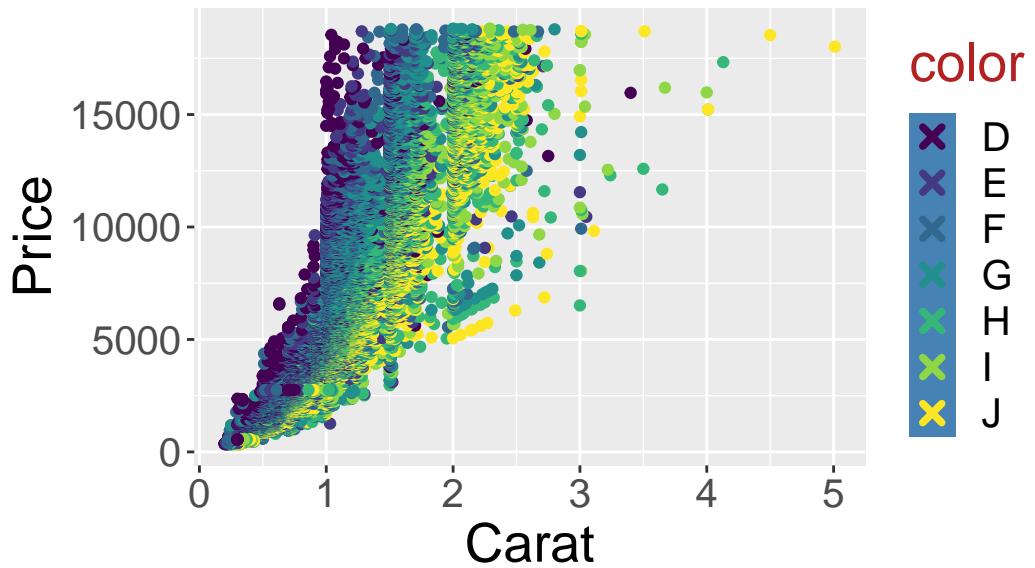
Create a new factor variable used in the legend, ordered as you need. Then use this variable instead in the plot.

221.6 Legend title, text, box, symbol

- `legend.title` - Change legend title
- `legend.text` - Change legend text
- `legend.key` - Change legend box
- `guides` - Change legend symbols

```
gg3 + theme(legend.title = element_text(size=20, color = "firebrick"), legend.text = element
```

Diamonds

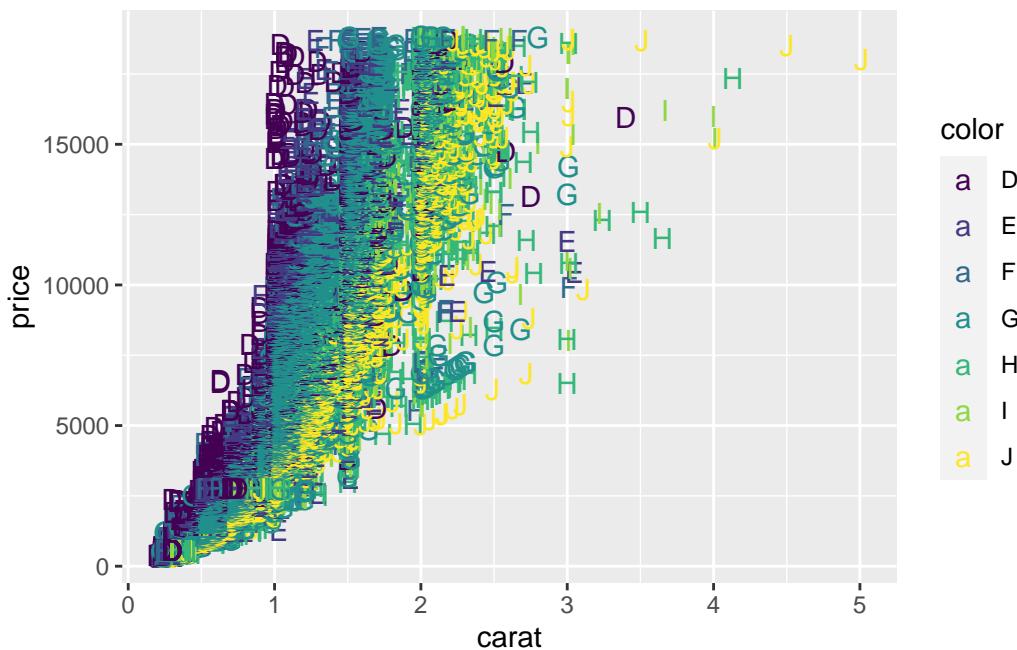


1557

222 Plot text and annotation

222.1 Add text in chart

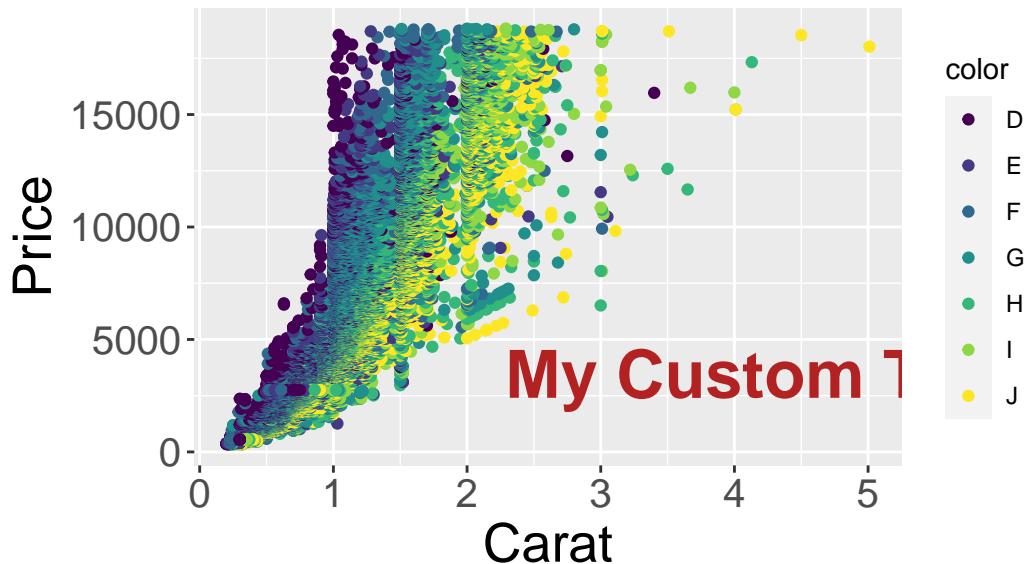
```
# Not Run: gg + geom_text(aes(xcol, ycol, label=round(labelCol), size=3))  
# general format  
gg + geom_text(aes(label=color, color=color), size=4)
```



```
##Annotation
```

```
library(grid)  
my_grob = grobTree(textGrob("My Custom Text", x=0.8, y=0.2,  
                           gp=gpar(col="firebrick", fontsize=25, fontface="bold")))  
  
gg3 + annotation_custom(my_grob)
```

Diamonds



223 Multiple plots

223.1 Multiple chart panels

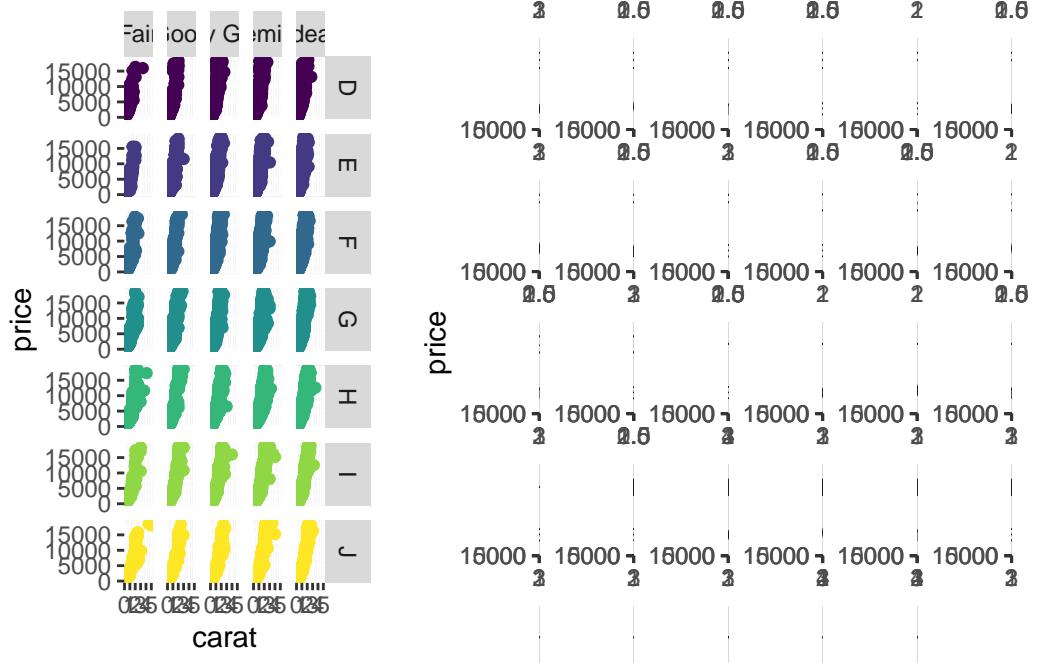
```
p1 <- gg1 + facet_grid(color ~ cut) # arrange in a grid. More space for plots. Free X and
```

By setting scales='free', the scales of both X and Y axis is freed. Use scales='free_x' to free only X-axis and scales='free_y' to free only Y-axis.

```
p2 <- gg1 + facet_wrap(color ~ cut, scales="free") # free the x and yaxis scales.
```

223.2 Arrange multiple plots

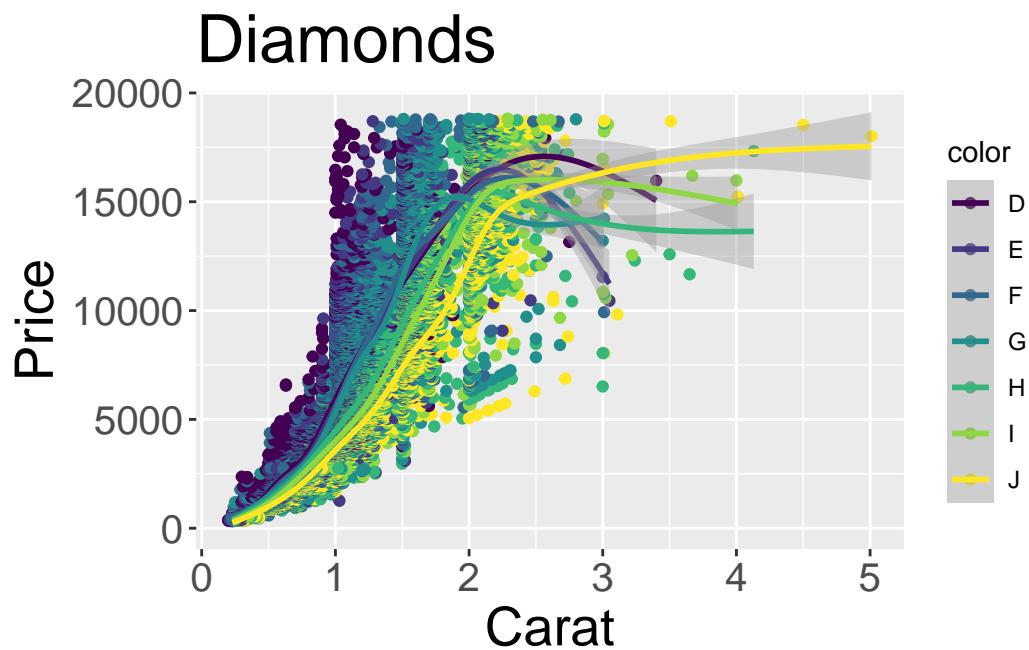
```
library(gridExtra)  
grid.arrange(p1, p2, ncol=2)
```



224 Geom layers

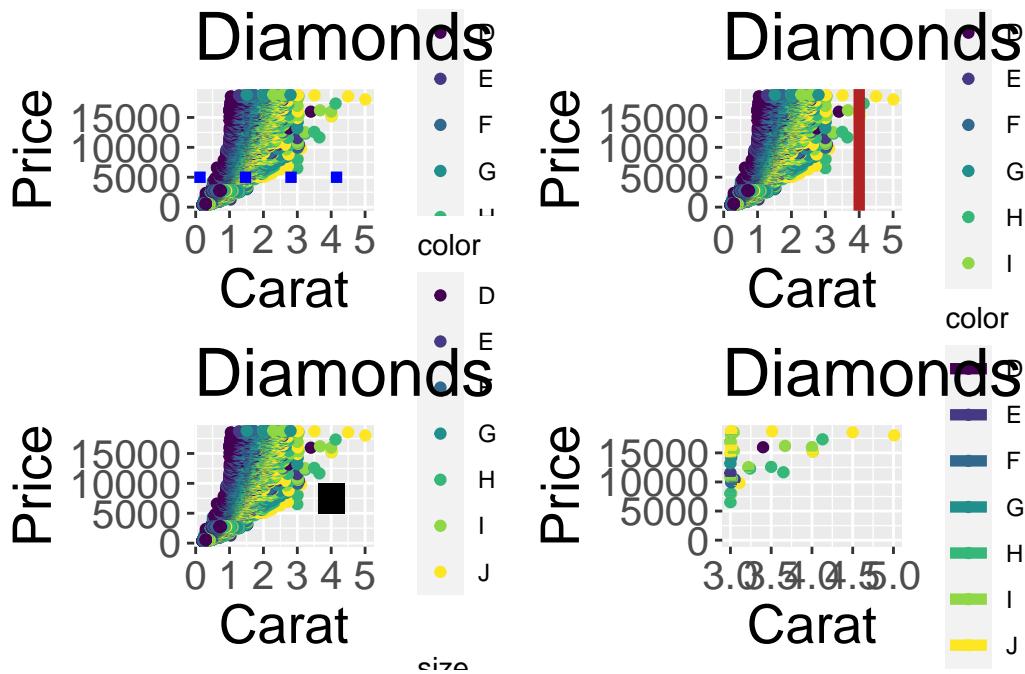
224.1 Add smoothing line

```
gg3 + geom_smooth(aes(color=color)) # method could be - 'lm', 'loess', 'gam'  
`geom_smooth()` using method = 'gam' and formula 'y ~ s(x, bs = "cs")'
```



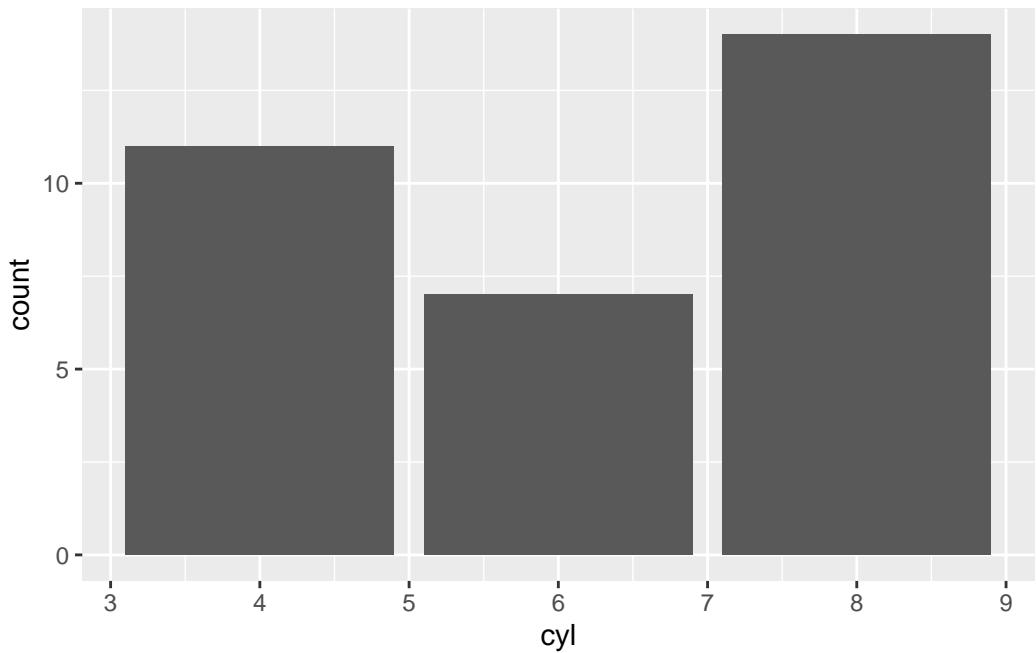
224.2 Add horizontal / vertical line

```
p1 <- gg3 + geom_hline(yintercept=5000, size=2, linetype="dotted", color="blue") # linetype  
p2 <- gg3 + geom_vline(xintercept=4, size=2, color="firebrick")  
p3 <- gg3 + geom_segment(aes(x=4, y=5000, xend=4, yend=10000, size=2, lineend="round"))  
  
Warning: Ignoring unknown aesthetics: lineend  
  
p4 <- gg3 + geom_segment(aes(x=carat, y=price,  
xend=carat, yend=price-500, color=color), size=2) + coord_cartesian(xlim=c(3, 5)) # x, y:  
gridExtra::grid.arrange(p1,p2,p3,p4, ncol=2)
```

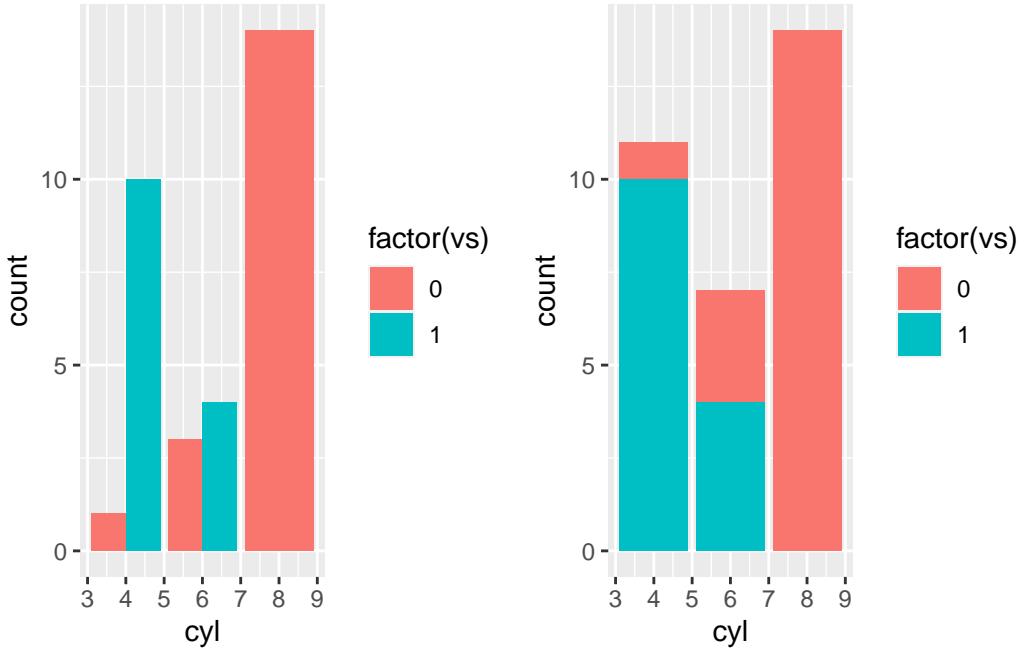


224.3 Add bar chart

```
# Frequency bar chart: Specify only X axis.  
gg <- ggplot(mtcars, aes(x=cyl))  
gg + geom_bar() # frequency table
```



```
gg <- ggplot(mtcars, aes(x=cyl))
p1 <- gg + geom_bar(position="dodge", aes(fill=factor(vs))) # side-by-side
p2 <- gg + geom_bar(aes(fill=factor(vs))) # stacked
gridExtra::grid.arrange(p1, p2, ncol=2)
```

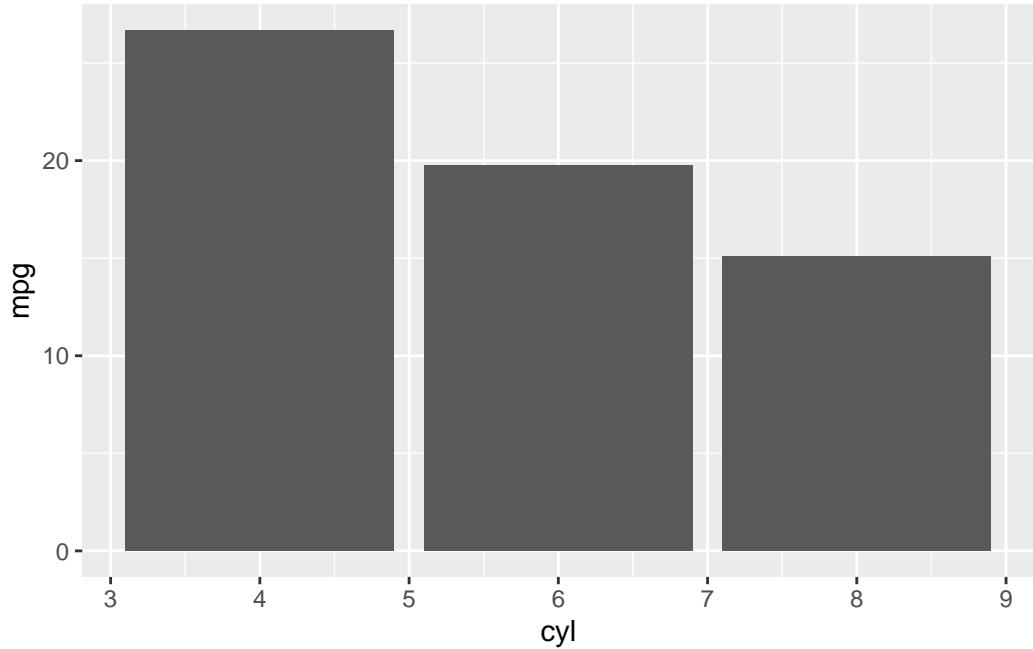


```
# Absolute bar chart: Specify both X and Y axis. Set stat="identity"
df <- aggregate(mtcars$mpg, by=list(mtcars$cyl), FUN=mean) # mean of mpg for every 'cyl'
names(df) <- c("cyl", "mpg")
head(df)
```

cyl	mpg
1	4 26.66364
2	6 19.74286
3	8 15.10000

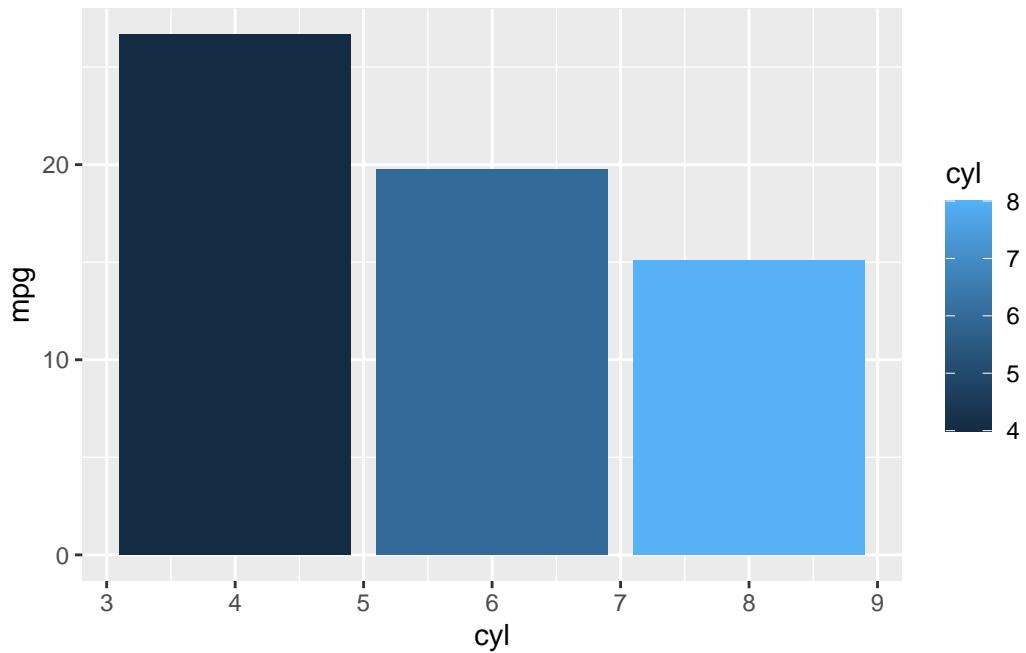
```
#> cyl mpg
#> 1 4 26.66
#> 2 6 19.74
#> 3 8 15.10
```

```
gg_bar <- ggplot(df, aes(x=cyl, y=mpg)) + geom_bar(stat = "identity") # Y axis is explicit
print(gg_bar)
```



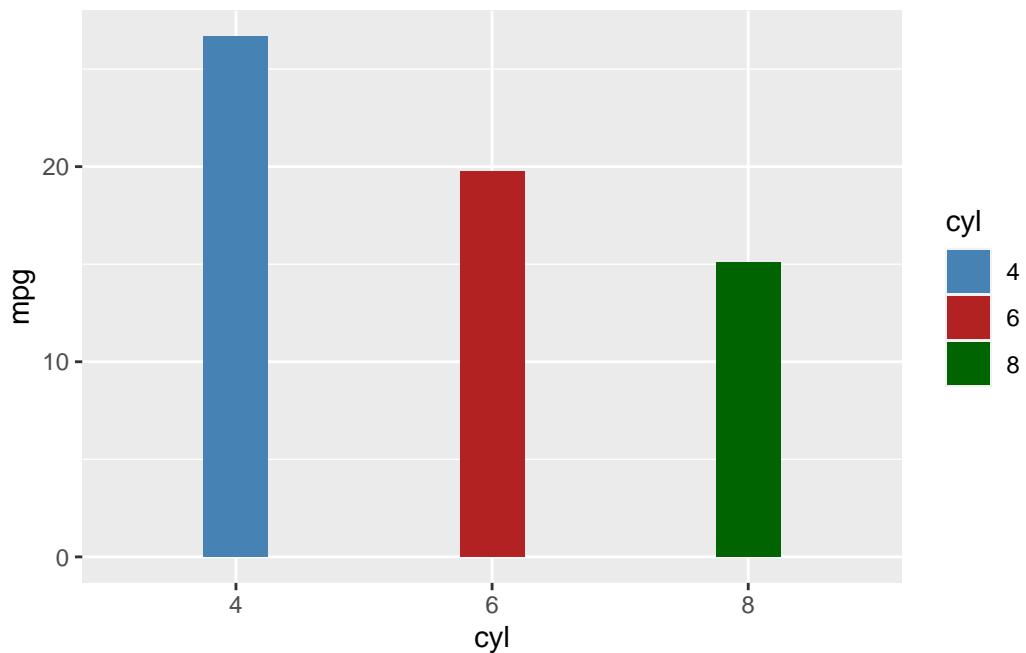
224.4 Distinct color for bars

```
gg_bar <- ggplot(df, aes(x=cyl, y=mpg)) + geom_bar(stat = "identity", aes(fill=cyl))
print(gg_bar)
```



224.5 Change color and width of bars

```
df$cyl <- as.factor(df$cyl)
gg_bar <- ggplot(df, aes(x=cyl, y=mpg)) + geom_bar(stat = "identity", aes(fill=cyl), width=1)
gg_bar + scale_fill_manual(values=c("4"="steelblue", "6"="firebrick", "8"="darkgreen"))
```

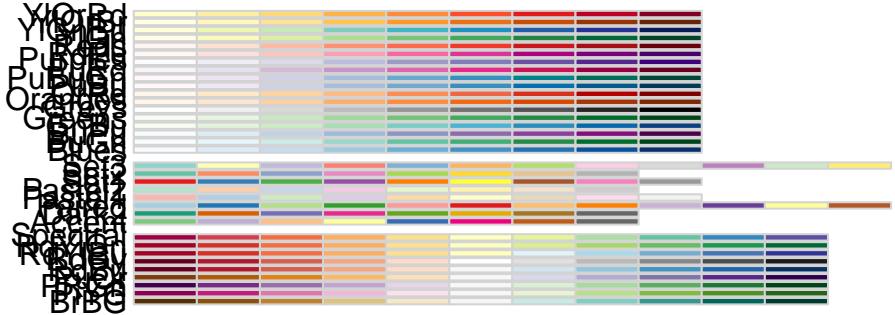


224.6 Change color palette

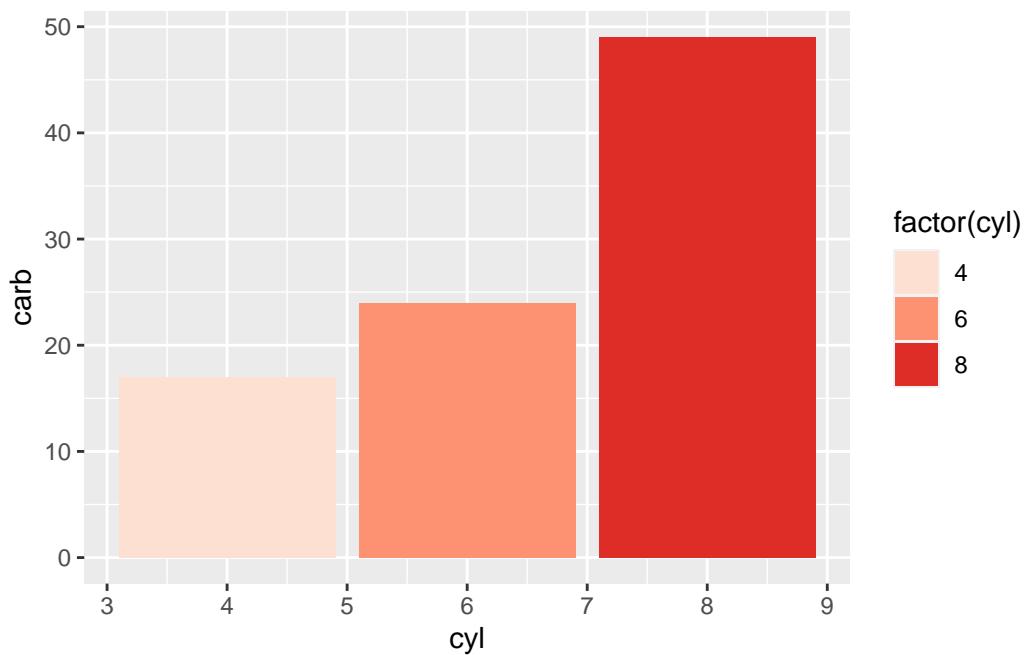
```
library(RColorBrewer)
```

```
Warning: package 'RColorBrewer' was built under R version 4.0.5
```

```
display.brewer.all(n=20, exact.n=FALSE) # display available color palettes
```

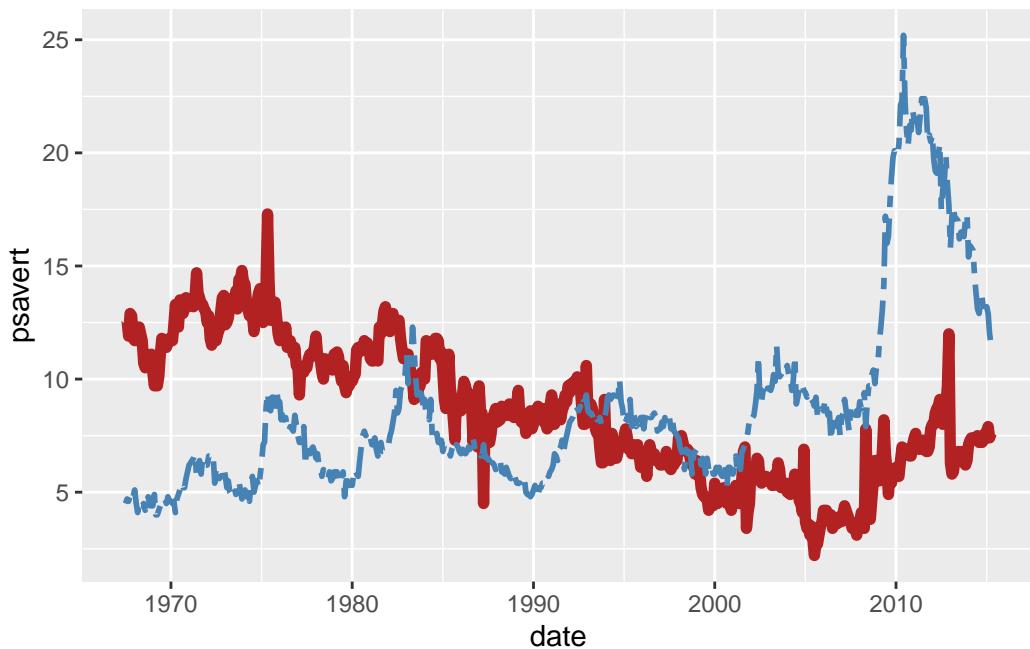


```
ggplot(mtcars, aes(x=cyl, y=carb, fill=factor(cyl))) + geom_bar(stat="identity") + scale_f
```



225 Line chart

```
# Method 1:  
gg <- ggplot(economics, aes(x=date)) # setup  
gg + geom_line(aes(y=psavert), size=2, color="firebrick") + geom_line(aes(y=uempmed), size=1)
```



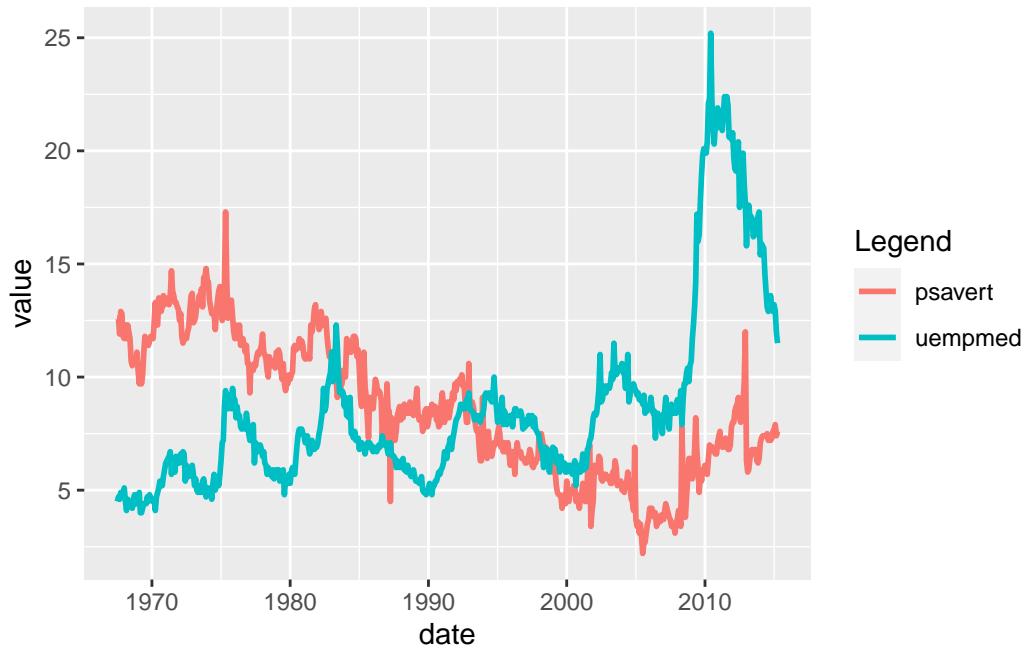
```
# available linetypes: solid, dashed, dotted, dotdash, longdash and twodash  
  
# Method 2:  
#install.packages("reshape2")  
library(reshape2)
```

Attaching package: 'reshape2'

```
The following object is masked from 'package:tidyঁ':
```

```
smiths
```

```
df_melt <- melt(economics[, c("date", "psavert", "uempmed")], id="date") # melt by date.  
gg <- ggplot(df_melt, aes(x=date)) # setup  
gg + geom_line(aes(y=value, color=variable), size=1) + scale_color_discrete(name="Legend")
```



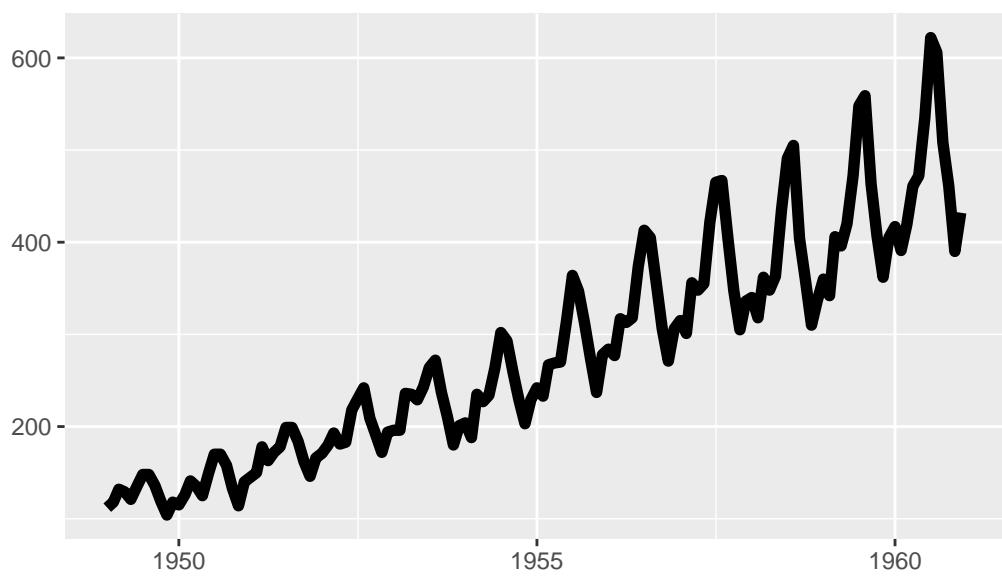
225.1 Line chart from timeseries

```
# One step method.  
# install.packages("ggfortify")  
library(ggfortify)
```

```
Warning: package 'ggfortify' was built under R version 4.0.5
```

```
autoplot(AirPassengers, size=2) + labs(title="AirPassengers")
```

AirPassengers



226 Ribbons

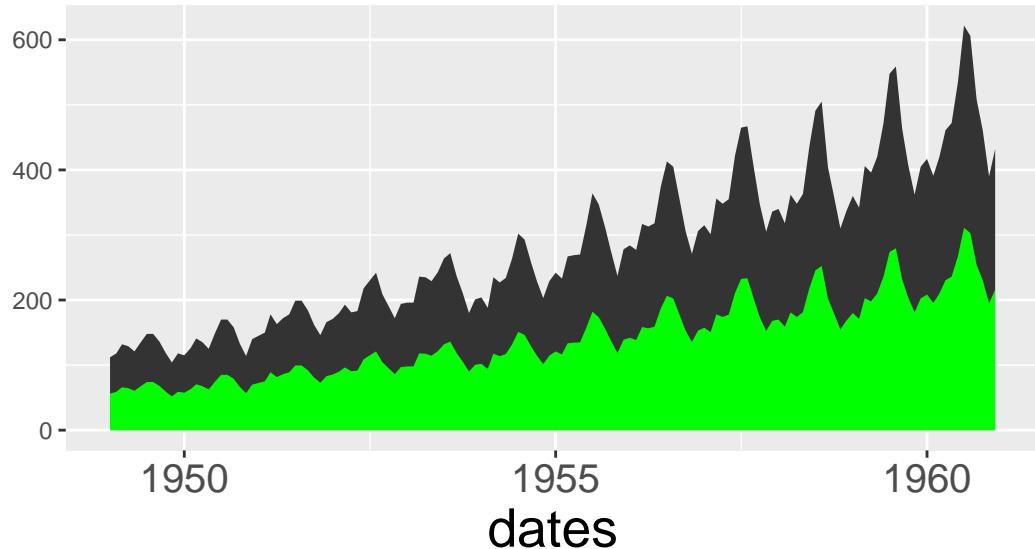
Filled time series can be plotted using `geom_ribbon()`. It takes two compulsory arguments `ymin` and `ymax`.

```
# Prepare the dataframe
st_year <- start(AirPassengers)[1]
st_month <- "01"
st_date <- as.Date(paste(st_year, st_month, "01", sep="-"))
dates <- seq.Date(st_date, length=length(AirPassengers), by="month")
df <- data.frame(dates, AirPassengers, AirPassengers/2)
head(df)
```

	dates	AirPassengers	AirPassengers.2
1	1949-01-01	112	56.0
2	1949-02-01	118	59.0
3	1949-03-01	132	66.0
4	1949-04-01	129	64.5
5	1949-05-01	121	60.5
6	1949-06-01	135	67.5

```
#>      dates AirPassengers AirPassengers.2
#> 1 1949-01-01      112      56.0
#> 2 1949-02-01      118      59.0
#> 3 1949-03-01      132      66.0
#> 4 1949-04-01      129      64.5
#> 5 1949-05-01      121      60.5
#> 6 1949-06-01      135      67.5
# Plot ribbon with ymin=0
gg <- ggplot(df, aes(x=dates)) + labs(title="AirPassengers") + theme(plot.title=element_text()
gg + geom_ribbon(aes(ymin=0, ymax=AirPassengers)) + geom_ribbon(aes(ymin=0, ymax=AirPassen
```

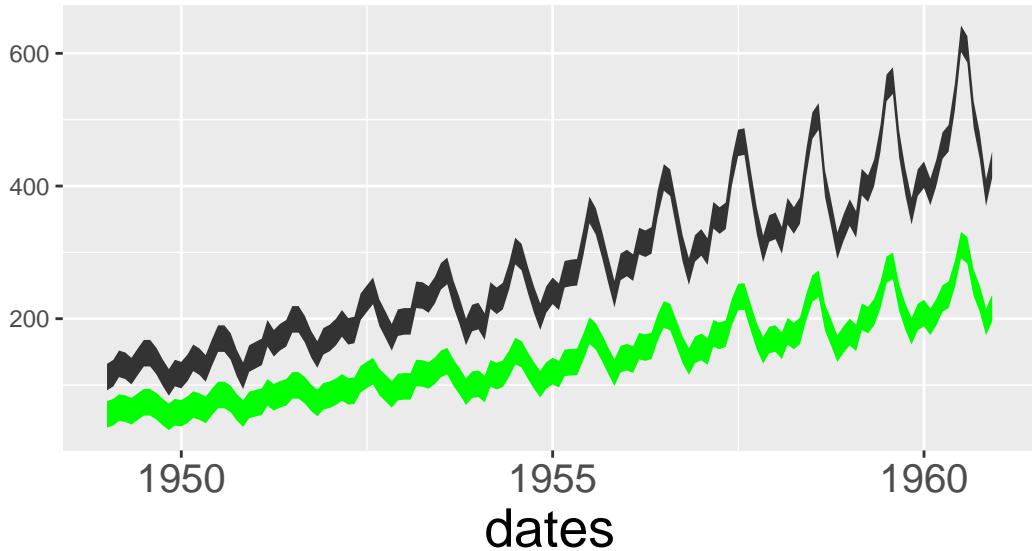
AirPassengers



```
gg + geom_ribbon(aes(ymin=AirPassengers-20, ymax=AirPassengers+20)) + geom_ribbon(aes(ymin
```

```
Don't know how to automatically pick scale for object of type ts. Defaulting to continuous.
```

AirPassengers



226.1 Area

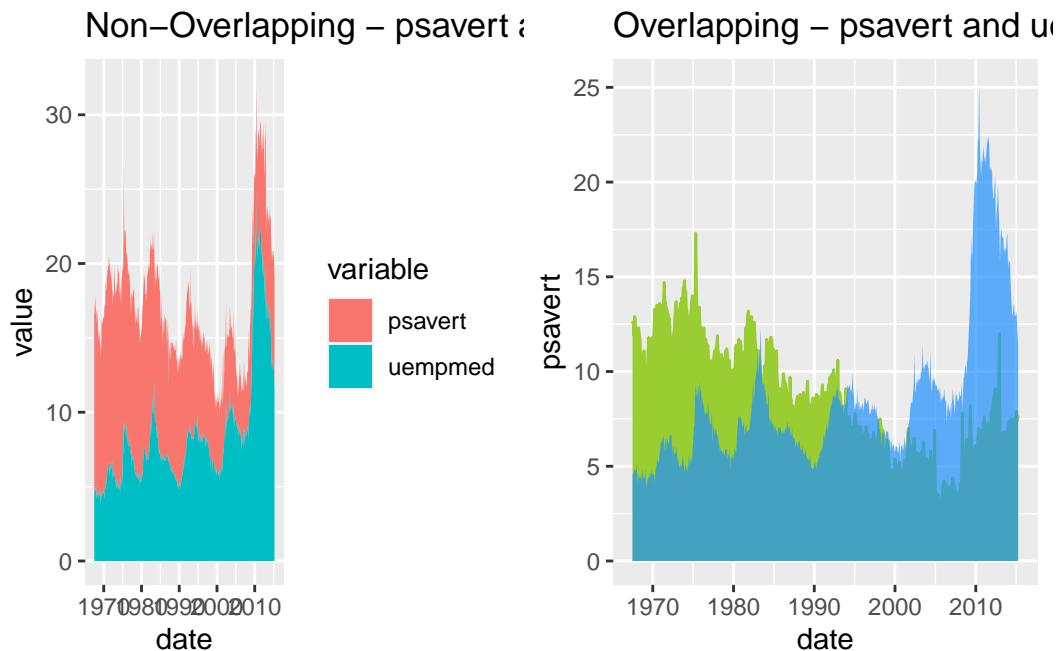
geom_area is similar to geom_ribbon, except that the ymin is set to 0. If you want to make overlapping area plot, use the alpha aesthetic to make the top layer translucent.

```
# Method1: Non-Overlapping Area
df <- reshape2::melt(economics[, c("date", "psavert", "uempmed")], id="date")
head(df, 3)

  date variable value
1 1967-07-01 psavert 12.6
2 1967-08-01 psavert 12.6
3 1967-09-01 psavert 11.9

#>      date variable value
#> 1 1967-07-01 psavert 12.5
#> 2 1967-08-01 psavert 12.5
#> 3 1967-09-01 psavert 11.7
p1 <- ggplot(df, aes(x=date)) + geom_area(aes(y=value, fill=variable)) + labs(title="Non-O
```

```
# Method2: Overlapping Area  
p2 <- ggplot(economics, aes(x=date)) + geom_area(aes(y=psavert), fill="yellowgreen", color="black") +  
  geom_area(aes(y=uempmed), fill="steelblue", color="black")  
gridExtra::grid.arrange(p1, p2, ncol=2)
```



227 Boxplot and Violin

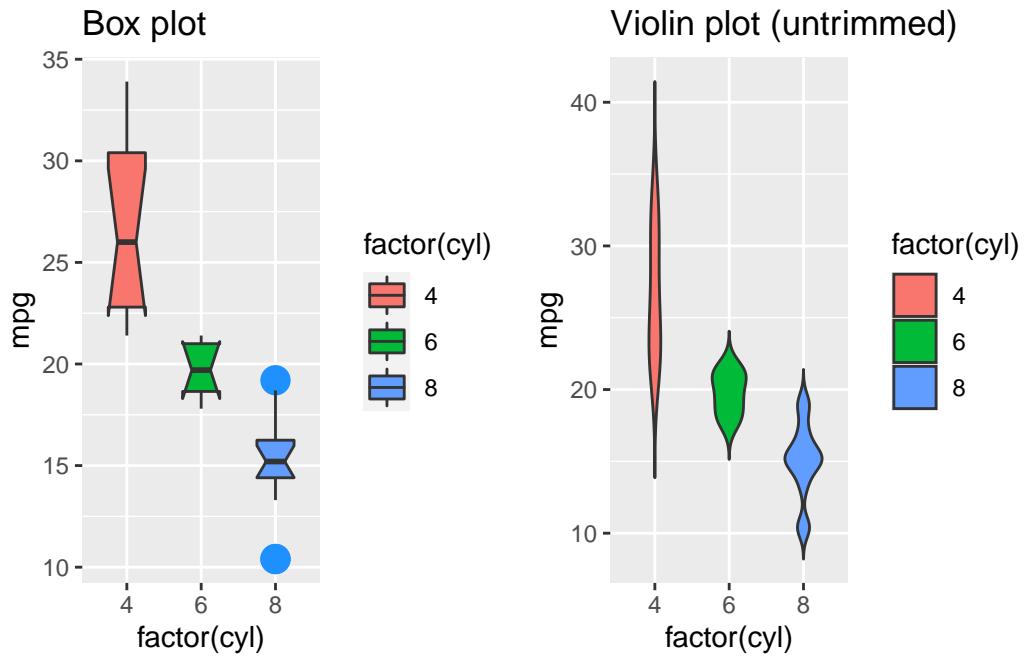
The outlier points are controlled by the following aesthetics:

- outlier.shape
- outlier.stroke
- outlier.size
- outlier.colour

If the notch is turned on (by setting it TRUE), the below boxplot is produced. Else, you would get the standard rectangular boxplots.

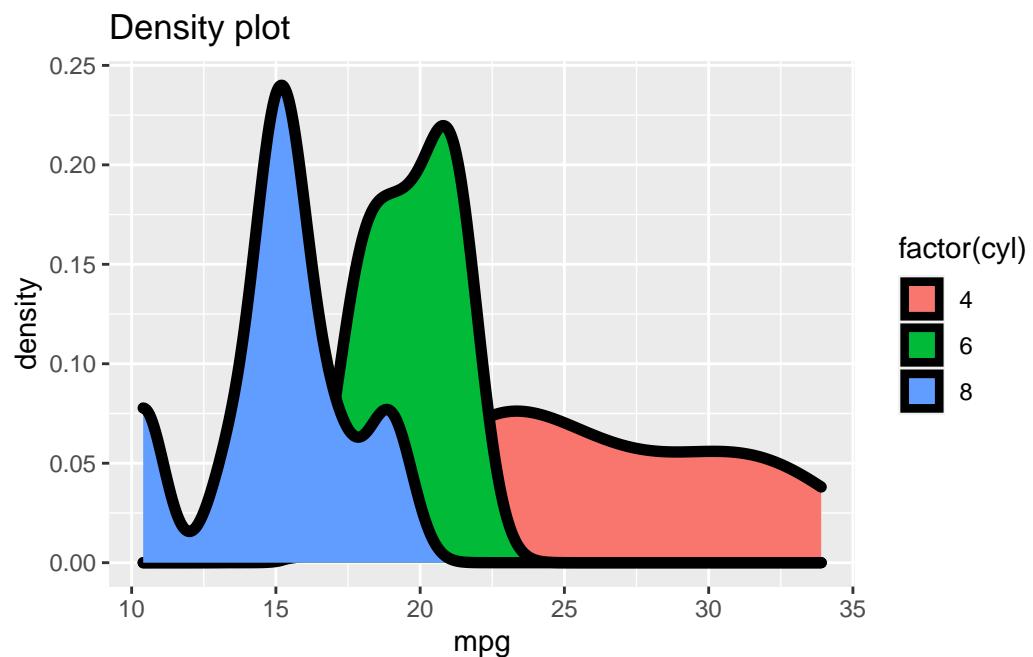
```
p1 <- ggplot(mtcars, aes(factor(cyl), mpg)) + geom_boxplot(aes(fill = factor(cyl)), width=0)
p2 <- ggplot(mtcars, aes(factor(cyl), mpg)) + geom_violin(aes(fill = factor(cyl)), width=0)
gridExtra::grid.arrange(p1, p2, ncol=2)
```

notch went outside hinges. Try setting notch=FALSE.
notch went outside hinges. Try setting notch=FALSE.



228 Density

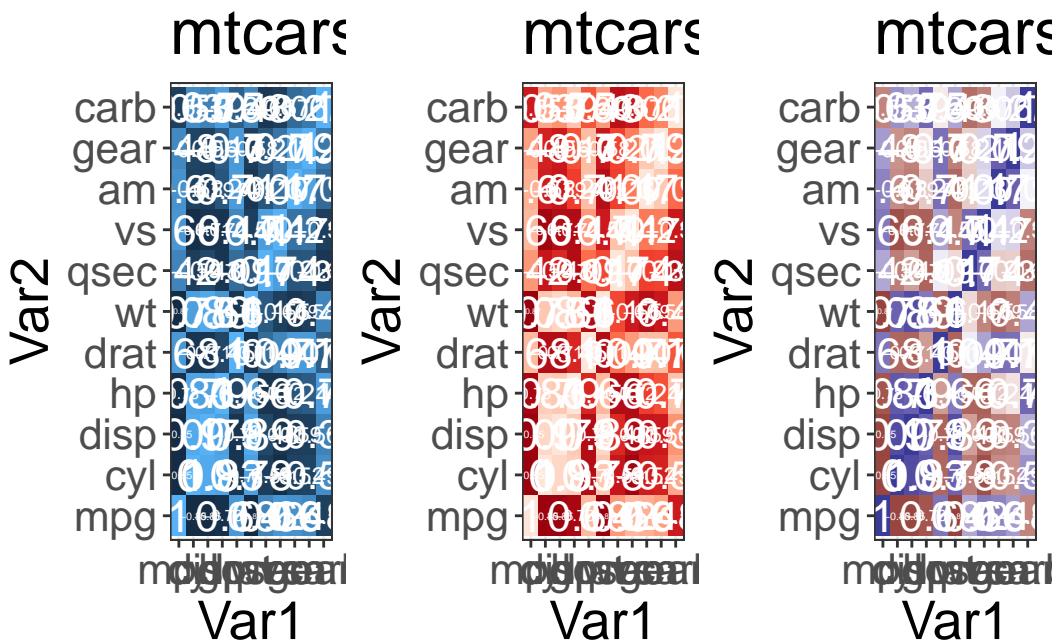
```
ggplot(mtcars, aes(mpg)) + geom_density(aes(fill = factor(cyl)),  
size=2) + labs(title="Density plot")
```



229 Tiles

```
corr <- round(cor(mtcars), 2)
df <- reshape2::melt(corr)
gg <- ggplot(df, aes(x=Var1, y=Var2, fill=value, label=value)) + geom_tile() + theme_bw()

library(RColorBrewer)
p2 <- gg + scale_fill_distiller(palette="Reds")
p3 <- gg + scale_fill_gradient2()
gridExtra::grid.arrange(gg, p2, p3, ncol=3)
```



<http://r-statistics.co/ggplot2-cheatsheet.html>

230 R Markdown

230.1 Introduction

R provides a notebook style coding environment similar to Jupyter.

- It follows the **literate programming** paradigm of **inter-leaving text and code**.
- It uses a version of [Markdown](#) to create the text components.
- It allows executable **code blocks**.
- They can be used interactively or as **exported** documents into standard formats.

How, the R approach differs in some important ways:

- RMarkdown is **not visually rendered** while you are editing.
 - The document has to be ‘knitted’ to see this.
 - Newer versions of RStudio have a visual mode that does render Markdown, and also allows you to edit in this mode.
 - This differs from Jupyter’s cell-by-cell approach.
- RMarkdown **allows several programming languages** to be run in the same notebook.
 - RMarkdown files are meant to be *published documents*, not workspaces for coding.
- RMarkdown is written in markdown and uses [YAML](#)to store configuration information.
 - Jupyter notebooks are written in **JavaScript**, which contains both configuration data and content data in the same structure.
 - This difference is what accounts for the different editing experiences. JavaScript is the native programming language of web browsers; the notebook format is executable code that can be integrated into a web application.

230.2 Varieties of R Markdown outputs

R Markdown is designed to be output to several formats:

- **R Notebooks**
 - Designed to previewed
 - Or output to `(html|pdf|doc)_notebook`

- Have Preview in RStudio toolbar (but also Knit in menu)
- **Documents**
 - Output to `(html|pdf|doc)_document`
 - Has Knit in RStudio toolbar
- **Presentations**
 - Produce slideshows from your source file, in ioslides, beamer, or powerpoint.
- **Shiny**
 - Create interactive apps that can be published on the web.

230.3 Knitting

Knitting is the process of compiling all the code and visual assets of an RMarkdown into a single file.

230.4 Publishing

RMarkdown has publication in mind as an outcome. RStudio allows you to publish in these destinations:

- [RPubs](#)
- [R Studio Connect](#)

230.5 Outputting

There are two ways to set the output of a document:

1. Permanently, by modifying the YAML header:

```
title: "Viridis Demo"
output: html_document
```

2. Transiently, by calling `rmarkdown::render()` by hand:

```
rmarkdown::render("diamond-sizes.Rmd", output_format = "word_document")
```

This is useful if you want to programmatically produce multiple types of output.

RStudio's knit button renders a file to the first format listed in its `output` field.

You can also do it by code:

```
knitr::include_graphics("screenshots/rmarkdown-knit.png")
```

Each output format is associated with an R function.

You can either write `foo` or `pkg::foo`.

If you omit `pkg`, the default is assumed to be `rmarkdown`.

It's important to know the name of the function that makes the output because that's where you get help.

For example, to figure out what parameters you can set with `html_document`, look at `?rmarkdown::html_document`.

230.5.1 Output options

To override the default parameter values, you need to use an expanded `output` field. For example, if you wanted to render an `html_document` with a floating table of contents, you'd use:

```
output:  
  html_document:  
    toc: true  
    toc_float: true
```

You can even render to multiple outputs by supplying a list of formats:

```
output:  
  html_document:  
    toc: true  
    toc_float: true  
  pdf_document: default
```

Note the special syntax if you don't want to override any of the default options.

230.6 How It Works



230.7 The RMarkdown Spec

See [The RMarkdown Reference Guide](#) and [RStudio's Guide](#).

231 Metadata

Course: DS 5100
Module: 14 Python Modules
Topic: Loose Ends from M13
Author: R.C. Alvarado
Date: 09 July 2022

```
options(warn = -1) # Turn off warnings

library(vctrs) # This fixes the vec_as_location() problem
library(tidyverse)
```

232 qplot

`qplot` creates quick and simple plots that use all of the `ggplot2` defaults.

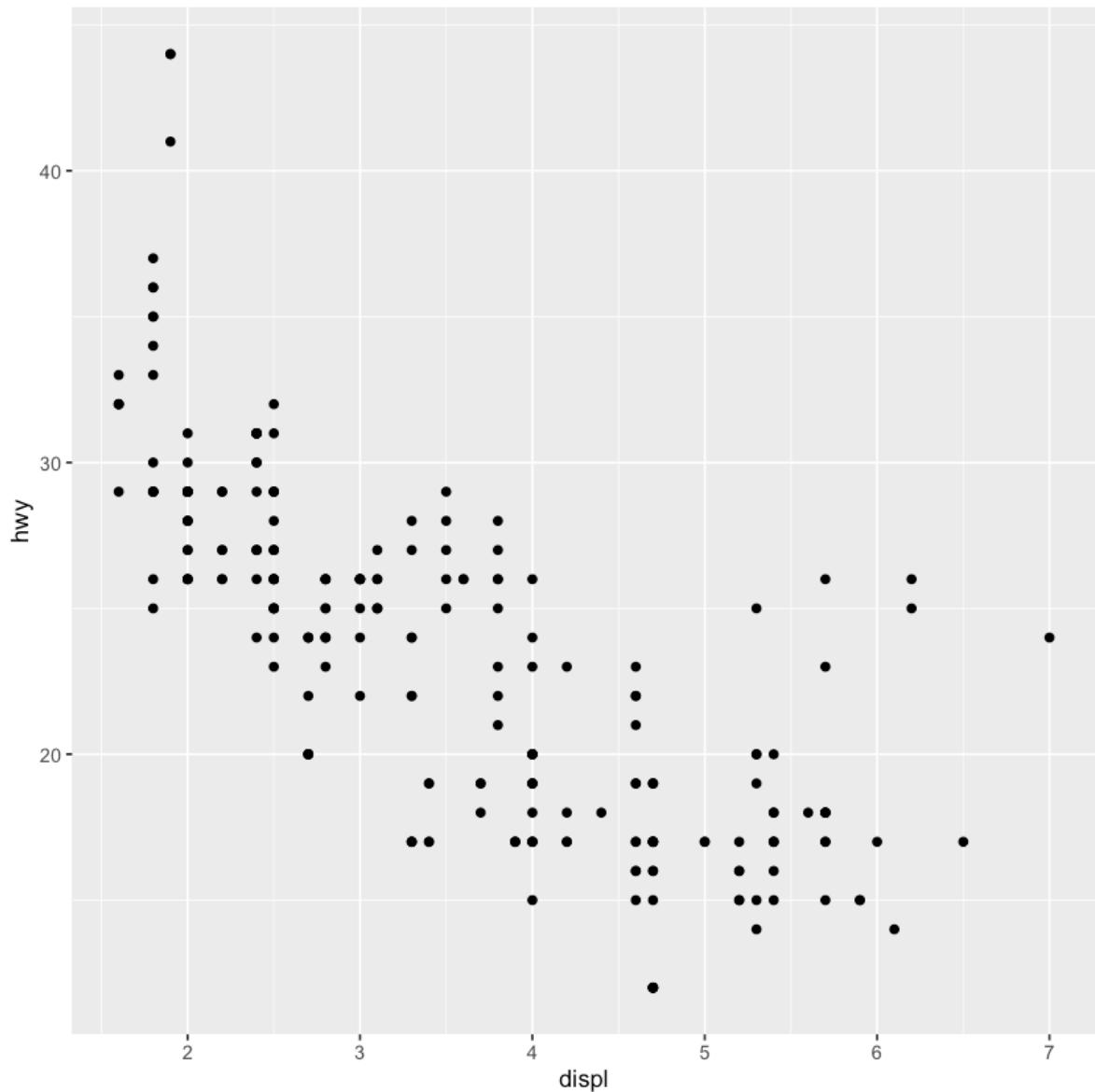
It let's you define a plot in a single call that gives a set of **aesthetics** and **a data set**.

It infers a geom from your data and mappings if you don't supply one. Recall this is how `plot` worked.

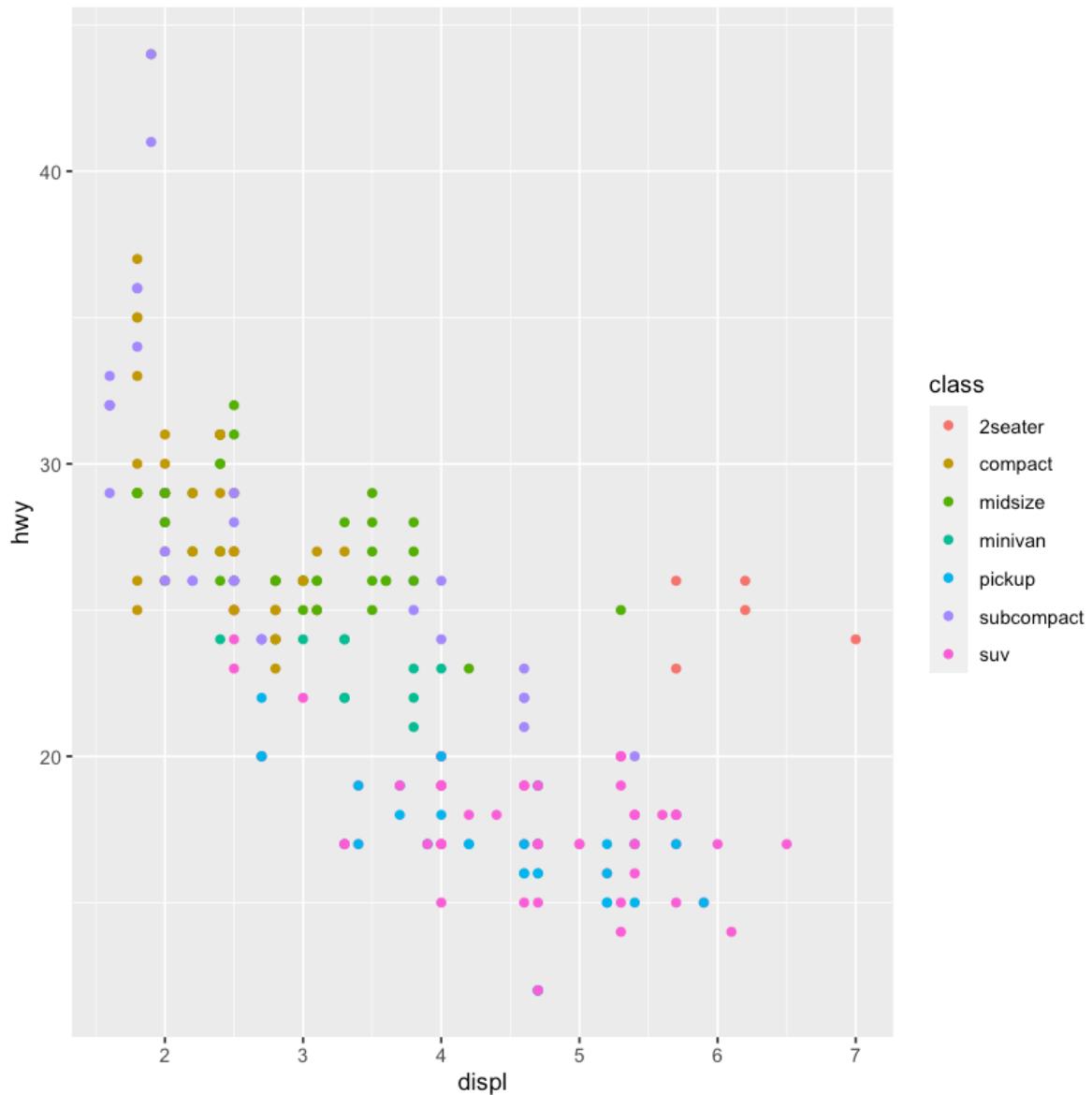
```
# plot(select(iris, -Species))

# qplot(select(iris, -Species))

qplot(displ, hwy, data = mpg)
```

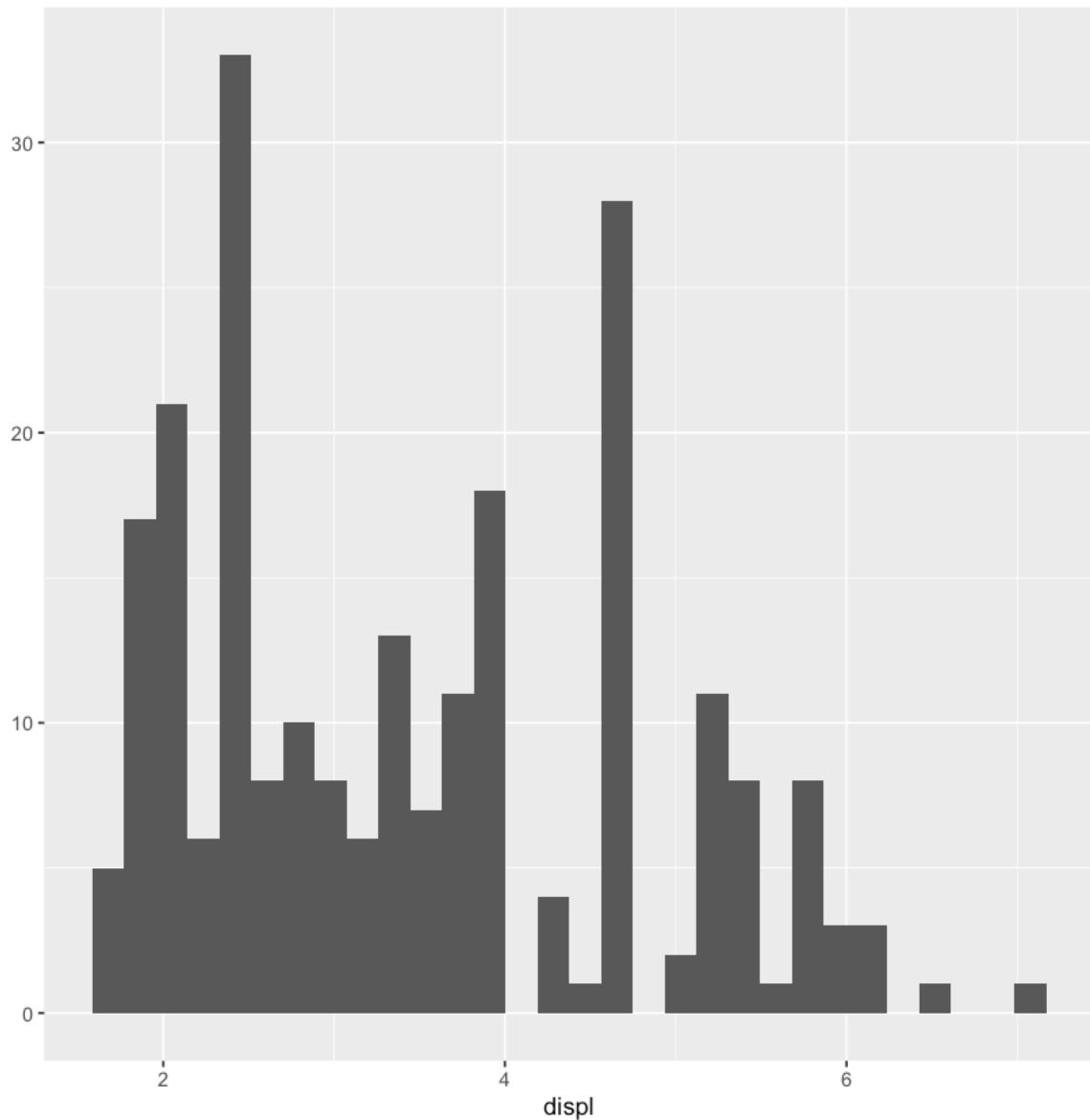


```
qplot(displ, hwy, color=class, data = mpg)
```

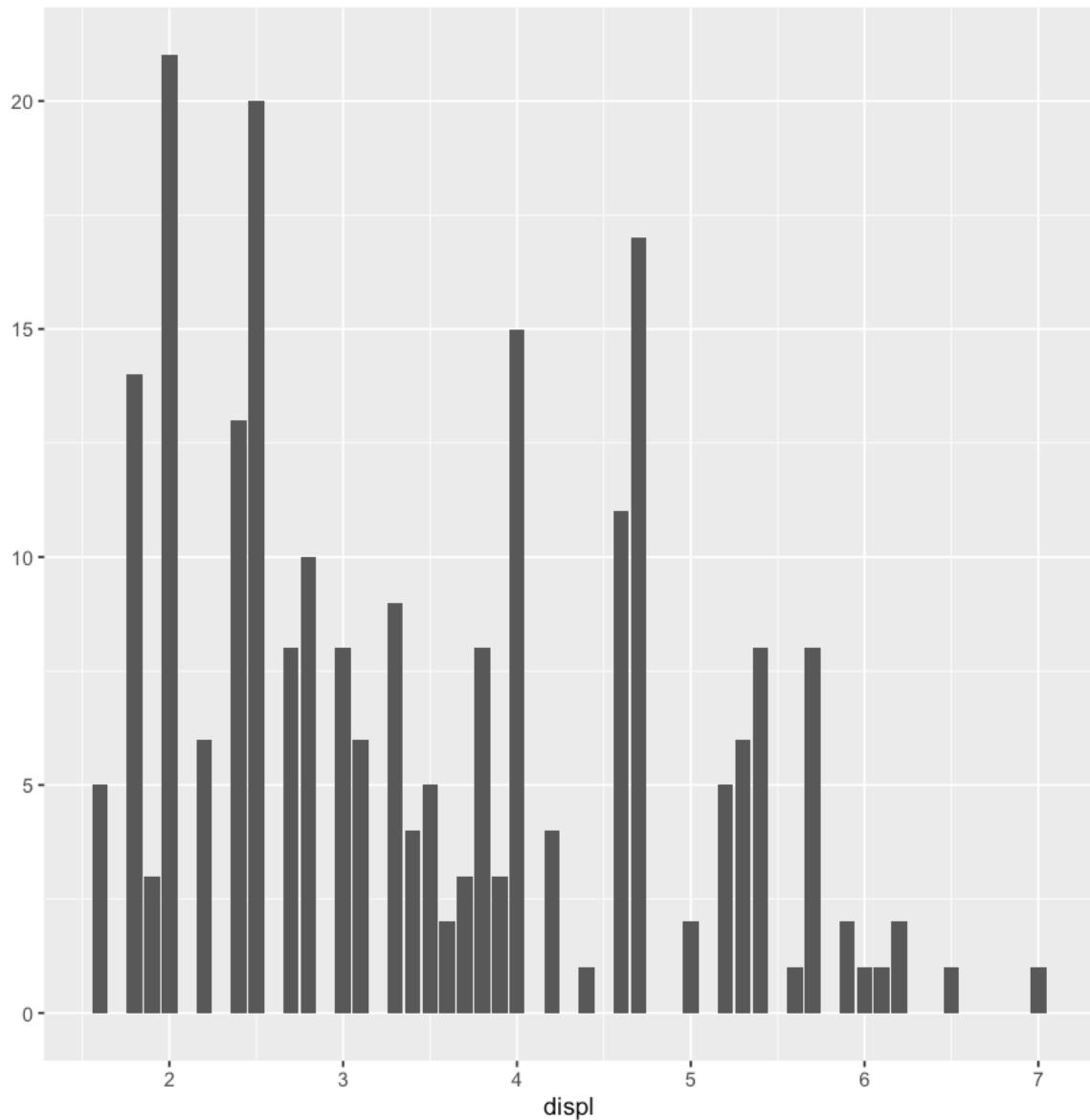


```
qplot(displ, data = mpg)
```

`stat_bin()` using `bins = 30`. Pick better value with `binwidth`.



```
qplot(displ, data = mpg, geom = c('bar'))
```



232.1 Gotchas

Oddly, `data` is not the first argument, so it won't work with `%>%`.

This will fail:

```
# mpg %>% qplot(displ, hwy)
```

Also, `data` has to be called by key, e.g. `data = mpg`.

This will fail, too:

```
# qplot(displ, hwy, mpg)
```

Here's a nice guide in PDF form: [Getting started with qplot](#)

233 GGPlot in Python

There are pygg plotnine and

Hard to replicate R syntax in Python.

But why should it? Should just implement to pattern Pythonically.

See example in M14-00a-Plotnine.ipynb.

234 Plotly in R

```
# install.packages("plotly")
```

```
There is a binary version available but the source version is later:  
  binary source needs_compilation  
plotly 4.10.0 4.10.1           FALSE
```

```
installing the source package 'plotly'
```

```
library(plotly)
```

```
Attaching package: 'plotly'
```

```
The following object is masked from 'package:ggplot2':
```

```
last_plot
```

```
The following object is masked from 'package:stats':
```

```
filter
```

```
The following object is masked from 'package:graphics':
```

```
layout
```

```
# ?plot_ly
```

Types of plots

```
'bar', 'barpolar', 'box', 'candlestick', 'carpet', 'choropleth', 'choroplethmapbox', 'cone',
```

```
head(mpg)
```

A tibble: 6 × 11

manufact	model	displ	year	cyl	trans	drv	cty	hwy	fl	class
<chr>	<chr>	<dbl>	<int>	<int>	<chr>	<chr>	<int>	<int>	<chr>	<chr>
audi	a4	1.8	1999	4	auto(l5) f	f	18	29	p	compact
audi	a4	1.8	1999	4	manual(mf5)	f	21	29	p	compact
audi	a4	2.0	2008	4	manual(mf6)	f	20	31	p	compact
audi	a4	2.0	2008	4	auto(av)f	f	21	30	p	compact
audi	a4	2.8	1999	6	auto(l5) f	f	16	26	p	compact
audi	a4	2.8	1999	6	manual(mf5)	f	18	26	p	compact

```
fig1 <- mpg %>%
  plot_ly(
    x           = ~hwy,
    y           = ~cty,
    size        = ~displ,
    type        = 'scatter',
    color       = ~class,
    mode        = "markers",
    hovertext   = ~manufacturer,
    height      = 500, width = 750)
```

```
fig1
```

HTML widgets cannot be represented in plain text (need html)

```
fig2 <- iris %>%
  plot_ly(
    x           = ~Petal.Length,
    y           = ~Petal.Width,
```

```
size      = ~Sepal.Length,  
color     = ~Sepal.Width,  
symbol    = ~Species,  
type      = "scatter",  
mode      = "markers",  
height    = 500, width = 750)
```

fig2

```
HTML widgets cannot be represented in plain text (need html)
```

```
# ?plot_ly
```

234.1 GGPlotly

Best of both worlds?

Plotly ggplot2 Open Source Graphing Library With ggplotly() by Plotly, you can convert your ggplot2 figures into interactive ones powered by plotly.js, ready for embedding into Dash applications. ggplotly is free and open source and you can view the source, report issues or contribute on GitHub. Head over to the community forum to ask questions and get help.

If call ggplotly() with no argument, it will display your last ggplot as a plotly plot.

Pretty cool.

You also pass it a plot that was assigned to a variable.

In both cases, you can then add plotly features to your graph.

ggplotly()

```
HTML widgets cannot be represented in plain text (need html)
```

```
ggplotly(height=200, width=350)
```

```
HTML widgets cannot be represented in plain text (need html)
```

»> [Learn more.](#)

```
# ?ggplotly
```

235 Using :: in R

When you load libraries in R that have the same function names, R resolves this by picking a default, and then letting you access the others using `::` operator to specify the library from which the method comes.

The rule is that the package loaded last will hide, or **mask**, the function from earlier packages.

If you want to have a certain function be the default, make sure you load it last.

For example, when we load `tidyverse`, we get this message:

```
dplyr::filter() masks stats::filter()  
dplyr::lag()    masks stats::lag()
```

This means that `dplyr` overrides the `filter()` and `lag()` methods associated with the `stats` library.

Similarly, when you load `plotly`, you'll see this:

```
Attaching package: 'plotly'
```

```
The following object is masked from 'package:ggplot2':
```

```
last_plot
```

```
The following object is masked from 'package:stats':
```

```
filter
```

```
The following object is masked from 'package:graphics':
```

```
layout
```

One thing I have noticed is that even though the last library masks the other functions, the help operator `?<objectname>` does not follow this.

Also, in this script, note that `dplyr::filter` is the default, even though `plotly::filter` loaded after dplyr. This is because Plotly's filter function is not used in the normal way; it appears in the context of the `transforms` argument to `plot_ly()`. No need to get into this now, but just know that that's why it does not mask `dplyr`.

Examples

Here, we call filter by itself and it uses the one from `dplyr`.

```
head(filter(mpg, hwy > 0))
```

A tibble: 6 × 11

manufact	model	displ	year	cyl	trans	drv	cty	hwy	fl	class
<chr>	<chr>	<dbl>	<int>	<int>	<chr>	<chr>	<int>	<int>	<chr>	<chr>
audi	a4	1.8	1999	4	auto(l5) f	f	18	29	p	compact
audi	a4	1.8	1999	4	manual(mf5)	f	21	29	p	compact
audi	a4	2.0	2008	4	manual(mf6)	f	20	31	p	compact
audi	a4	2.0	2008	4	auto(av)f	f	21	30	p	compact
audi	a4	2.8	1999	6	auto(l5) f	f	16	26	p	compact
audi	a4	2.8	1999	6	manual(mf5)	f	18	26	p	compact

But if we ask for help, we'll get the original `stats` version.

```
# ?filter
```

And if we ask for help about Plotly's version, we see this:

```
# ?plotly
```

236 Metadata

Course: DS 5100
Module: 14 Python Modules
Topic: GGPlot in Python with Plotnine
Author: R.C. Alvarado
Date: 09 July 2022

237 GGPlot in Python

There are two ports of GGPlot2 to Python: `pygg` and `plotnine`.

The first seems to have stopped development and is much less used.

Let's look at Plotnine.

```
# ! conda install -c conda-forge plotnine -y

import pandas as pd
import numpy as np
from pandas.api.types import CategoricalDtype

from plotnine import *
from plotnine.data import mpg
```

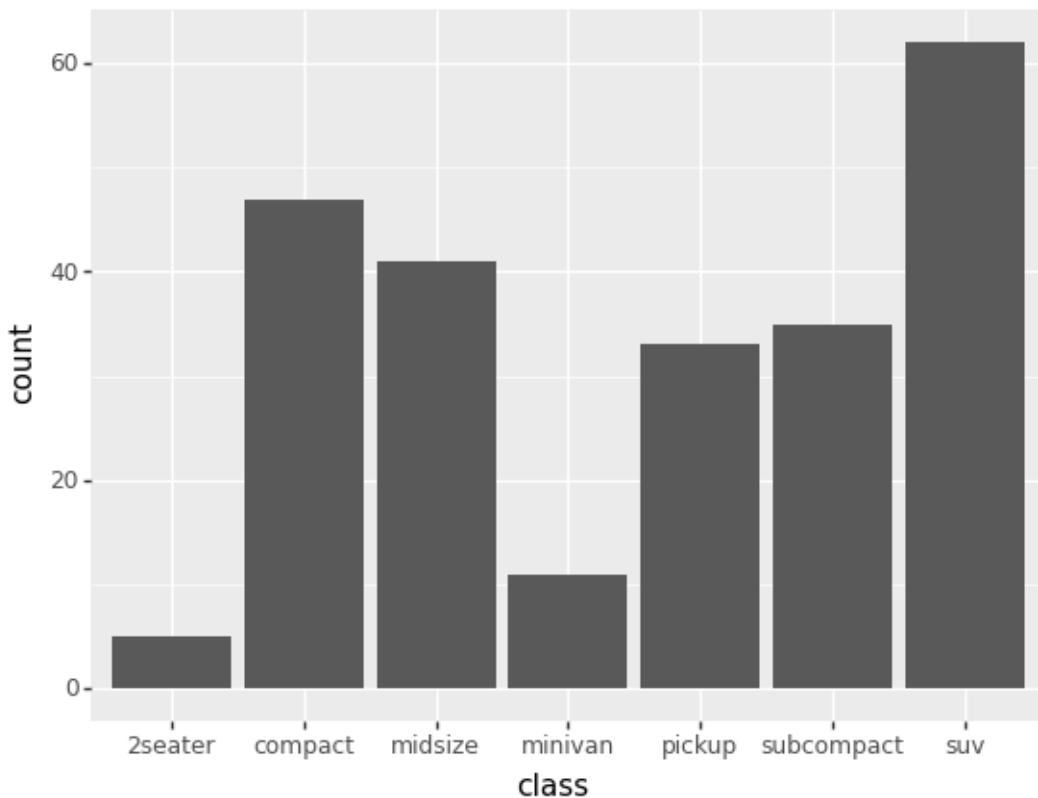
Our old friend, `mpg` in Python:

```
mpg
```

	manufacturer	model	displ	year	cyl	trans	drv	cty	hwy	fl	class
0	audi	a4	1.8	1999	4	auto(l5)	f	18	29	p	compact
1	audi	a4	1.8	1999	4	manual(m5)	f	21	29	p	compact
2	audi	a4	2.0	2008	4	manual(m6)	f	20	31	p	compact
3	audi	a4	2.0	2008	4	auto(av)	f	21	30	p	compact
4	audi	a4	2.8	1999	6	auto(l5)	f	16	26	p	compact
...
229	volkswagen	passat	2.0	2008	4	auto(s6)	f	19	28	p	midsize
230	volkswagen	passat	2.0	2008	4	manual(m6)	f	21	29	p	midsize
231	volkswagen	passat	2.8	1999	6	auto(l5)	f	16	26	p	midsize
232	volkswagen	passat	2.8	1999	6	manual(m5)	f	18	26	p	midsize
233	volkswagen	passat	3.6	2008	6	auto(s6)	f	17	26	p	midsize

238 A Simple Bar Chart

```
(ggplot(mpg)          # defining what data to use  
  + aes(x='class')    # defining what variable to use  
  + geom_bar(size=20) # defining the type of plot to use  
)
```



```
<ggplot: (8772511170545)>
```

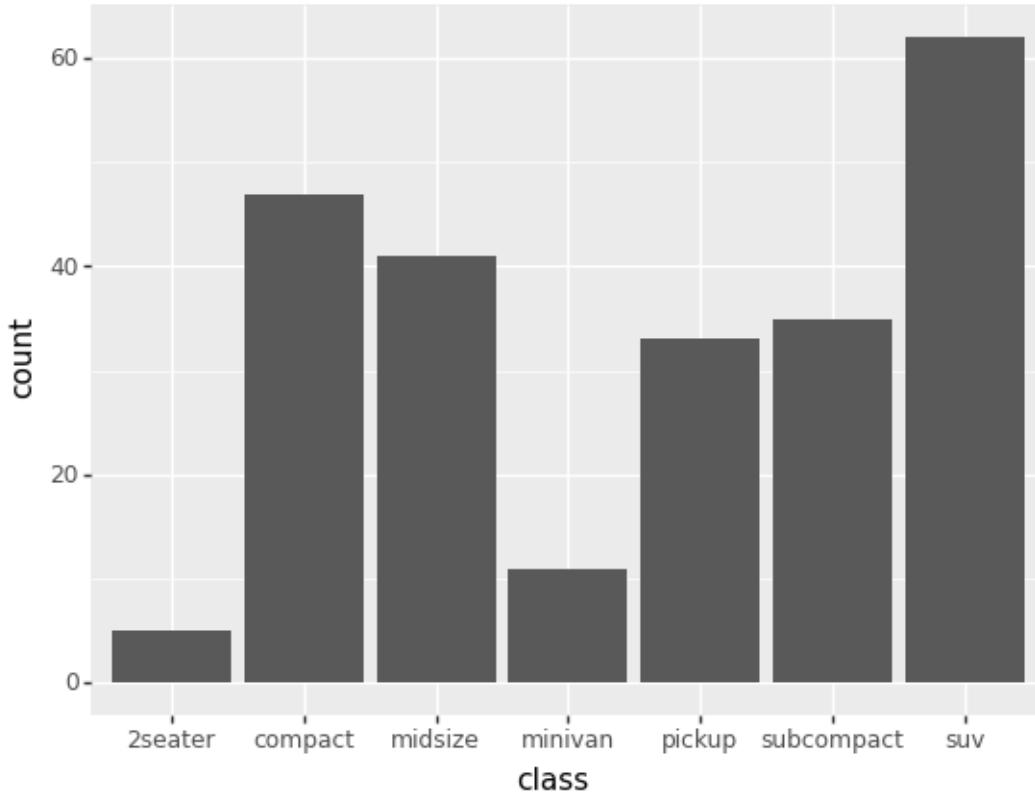
Notice that `aes()` is not a helper function (a function in the argument space).

Also, R dots become `_` in the argument names.

Note that we don't have to use the syntax above, which groups the functions in a single expression with (...).

We can do this:

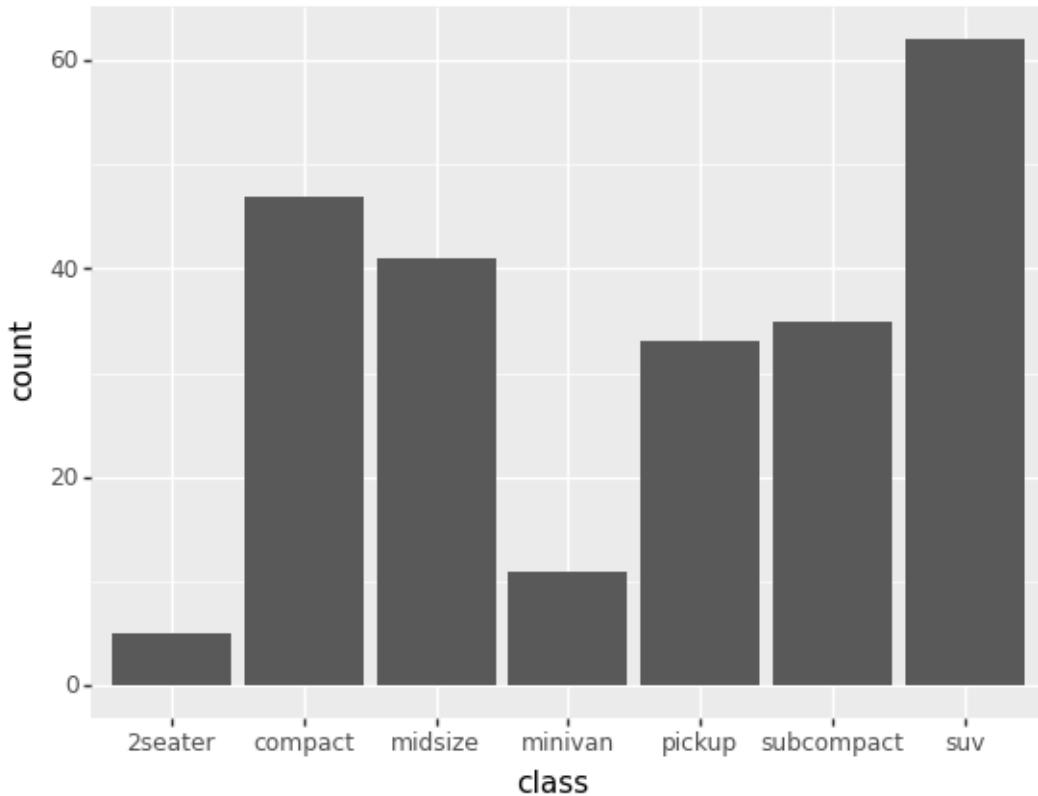
```
ggplot(mpg) + aes(x='class') + geom_bar(size=20)
```



```
<ggplot: (8772511163386)>
```

Or this:

```
ggplot(mpg) + \
  aes(x='class') + \
  geom_bar(size=20)
```

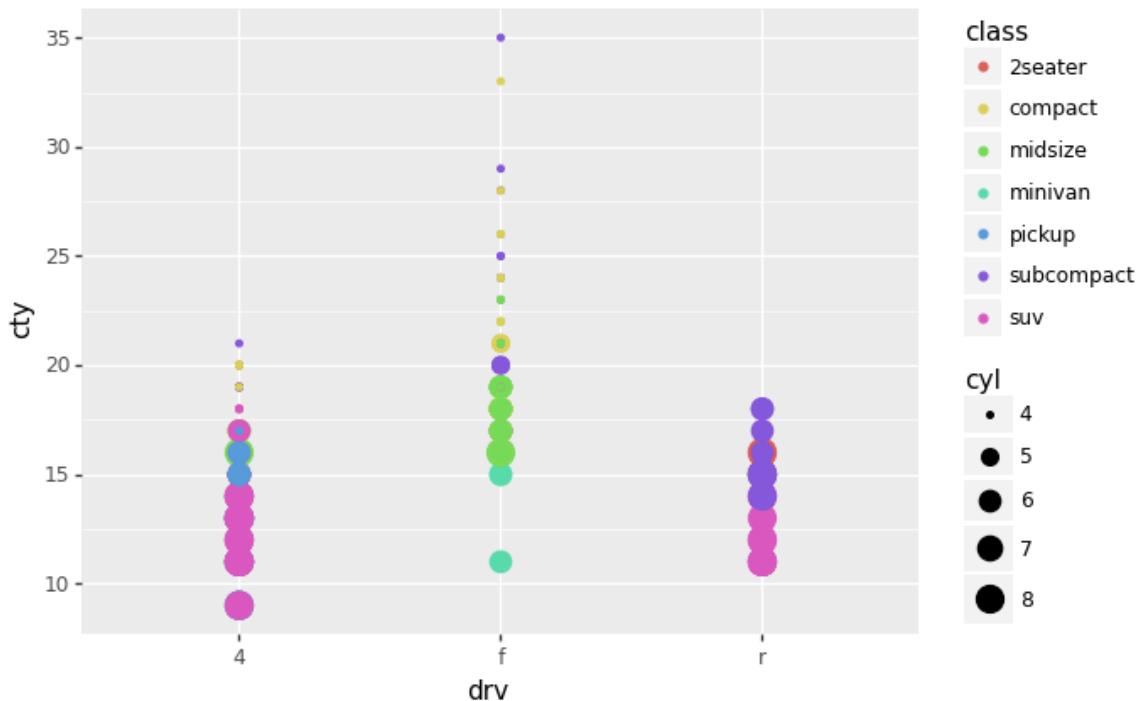


<ggplot: (8772511168516)>

Note that none of these are like R due to differing white space rules.

239 Faceting

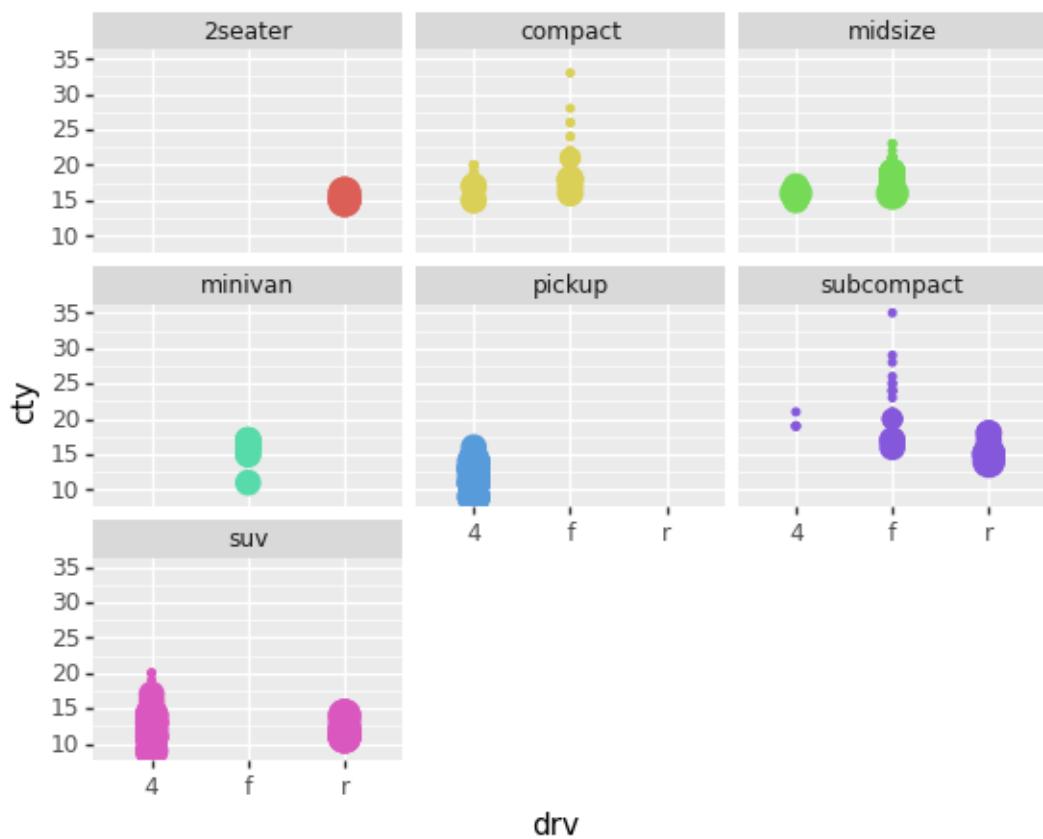
```
ggplot(mpg) +  
  aes(x = 'drv', y = 'cty', color = 'class', size='cyl') + \  
  geom_point()
```



```
<ggplot: (8772510658823)>
```

```
(ggplot(mpg)  
+ aes(x='drv', y='cty', color='class', size='cyl')  
+ geom_point()  
+ facet_wrap('class')  
+ theme(legend_position = "none")
```

)



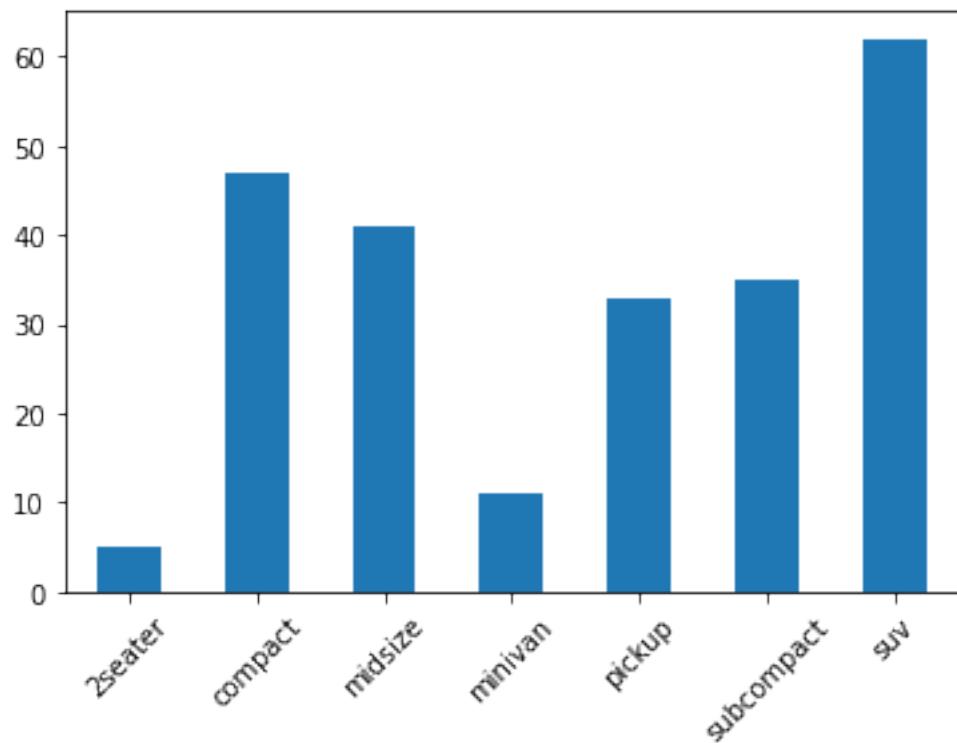
<ggplot: (8772512289440)>

240 The Pandas Way

Note the GGPlot included the computation of counts in the `geom_bar()` function.

```
mpg['class'].value_counts().sort_index().plot.bar(rot=45)
```

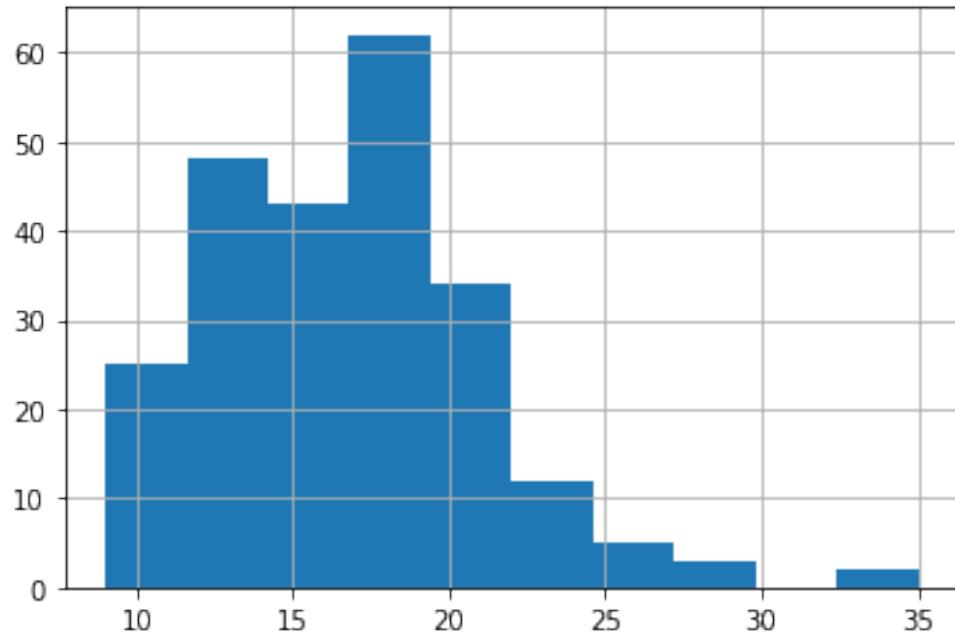
<AxesSubplot:>



However, sometimes Pandas *does* do internal calculations, as with `.hist()`:

```
mpg['cty'].hist()
```

```
<AxesSubplot:>
```



For **faceting in Pandas**, see this: <https://stackoverflow.com/questions/29786227/how-do-i-plot-facet-plots-in-pandas>

Notice that it is essentially the result of a `.groupby()` followed by `.unstack()`.

So, Pandas expects you to do the data transformations upfront.

GGPlot2 will handle these in the geometries and facets

GGPlot2 is easier, but Pandas separates concerns

As a rule, data operations should never take place in the visualization.

Part XIV

M13 Agile

Topics

- General concept of project management (PM)
- Rationale for PM
- Main types of PM
- Deeper dive into Agile PM
- Basic artifacts, tools, and processes for PM

Readings

Required

Manifesto for Agile Software Development (agilemanifesto.org)

Twelve Principles of Agile Software (agilemanifesto.org)

User Stories: An Overview (Digité)

Project Charters (Princeton)

Dataset Curation Template (Princeton)

241 Project Management

Some basic facts

Project management is an established field that is used for many activities.

It is a profession in which you can be certified as a CPM.

It is a field with an established and large body of knowledge – PMBOK.

Broadly speaking, it refers to a class of rational methods and protocols for organizing the labor of complex activities in order to achieve specific outcomes on time and on budget.

Think NASA's space program in the 1960s.

Its history dates to the early 20th century but becomes highly developed in the 1950s and 60s.

It is closely associated with US military operations, e.g. Gantt Charts and PERT.

It was later adapted to software development, due to the complexity and importances of this kind of work.

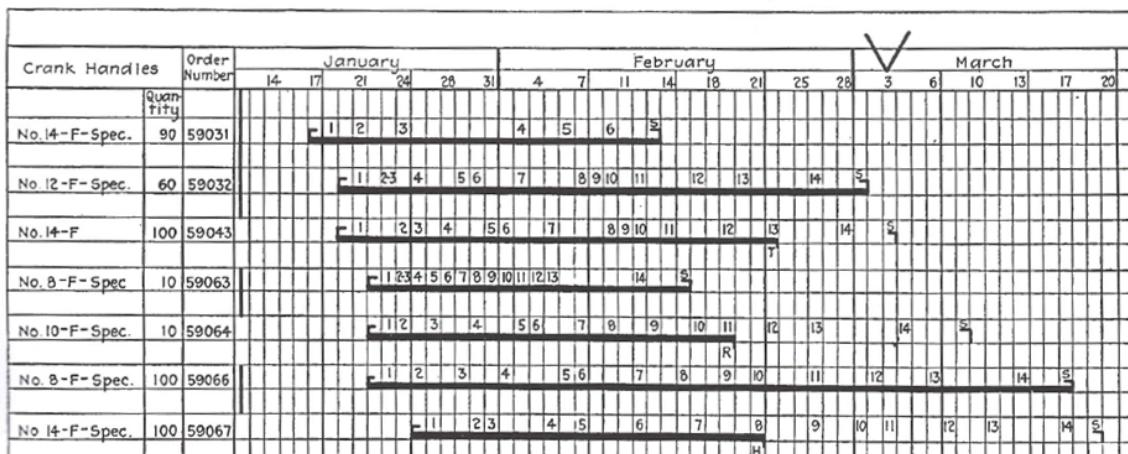


FIGURE 24. A GANTT PROGRESS CHART USED IN A PLANT WHICH MANUFACTURES ON ORDER

In this chart the angle opening to the right indicates the date on which the material was to be issued from stores; the figures indicate the operations to be done on the order and are placed under the dates on which they were to be begun; the angle opening to the left in-

dicates the date on which the parts were to be shipped. The heavy lines show what operations have been done; and the letters under the lines indicate the reasons for delay. The 'V' indicates that this chart was reproduced on March 3.

Source

Software is also mission critical

From the beginning, it has been used to support critical operations: weapons systems, air traffic control, financial systems, health care, etc.

Only recently are we seeing the effects of software design – in the form of data products – fail on the basis of bias and other flaws that lead to social harm

In the 1960s, the US Department of Defenses study of software problems found that:

47% of software delivered could not be used, as it usually didn't meet requirements

29% of funded software was never delivered, as it was usually canceled due to cost/schedule overruns

19% of software was useful after extensive rework, and it usually cost 36 times more to fix problems after release

Because of this, software engineering was developed.

But Software development is hard for many reasons:

Hardware and software are inherently complex.

Code is imperfect and error-prone.

Code is always an interpretation of specifications that are always underspecified. → DEBUGGING THE SPEC

Underspecified in two senses:

The inherent inadequacy of language to represent reality.

“The map is not the terrain”

The fact that people don't know what they want even when they say they do.

That is, reality itself changes.

The operation was a success but the patient died
- Danish Proverb



Source

Many paradigms of the software development life cycle (SDLC) have been introduced over the years to address these issues:

Waterfall

Spiral

Etc. → See Tutorialspoint on SDLC.

The Waterfall Model

[Source](#)

What they all have in is a faith in the power of planning and engineering to achieve results:

Planning as the ability to predict accurately how things will unfold
and have people understand and follow rules.

Engineering as the operationalization of labor processes

The ability to treat human behavior as a tractable variable.

the logic of the machine applied to the organization of labor.

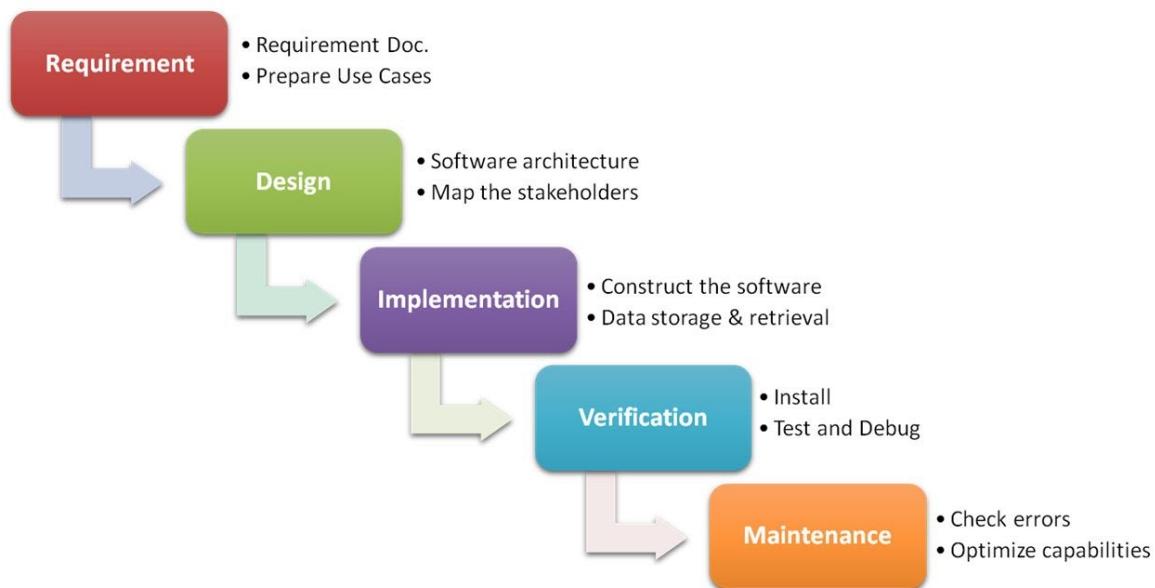


Figure 241.1: Waterfall Methodology

These assumptions are reflected in the relationship between client and developer

Notice that absence of the client in the design, building, and validation

This is partly the result of mitigating the mission creep introduced by the client

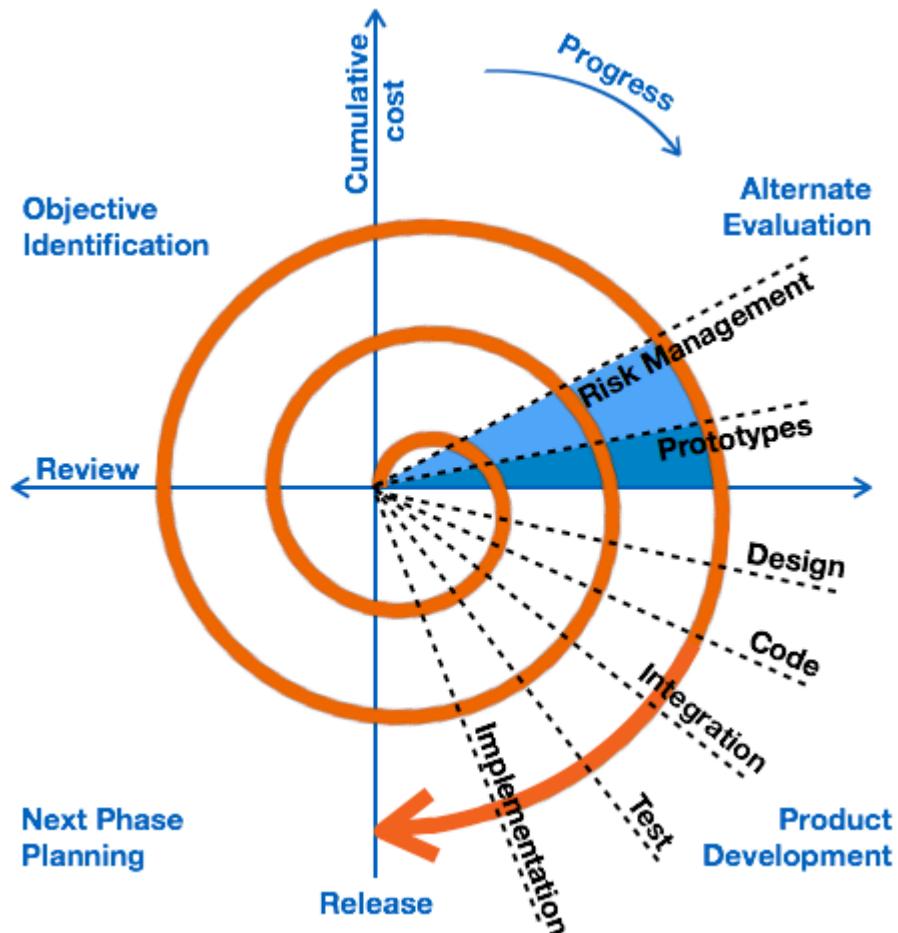
The Iron Triangle



The Spiral Method

The Spiral Method recognizes the need to be more iterative, and introduces the client at points in an ongoing cycle.

Presumably, clients are involved in objective identification and testing ...



Source

The methods have the virtue of being rational and comprehensive, defining all the things involved in software development

But they are very linear

Even the Spiral method, which is really a 2D linear process, where phases are features and iterations are observations:

Primary sequence S = OI → AE → PD → NPP

ProcessP = S1 → S2 → S3 → ... → SN

242 Agile Development

Agile development is essentially a philosophy developed in response to bureaucratic software development processes.

It is an approach that focuses on the realities of software:

Individuals and interactions over processes and tools

Working software over comprehensive documentation

Customer collaboration over contract negotiation

Responding to change over following a plan

Essentially, it is based on a mistrust of machines, plans, contracts, documents, etc.

The Agile Manifesto was written in 2001 after a number of lighter and more flexible approaches were developed in the 1990s

SCRUM

XP (Extreme Program)

Etc.

It is also a collection of methods and tools

User stories

Scrum meetings

Sprints

Task weighting with cards

Etc.

Agile is also counter-cultural, like many of the software movements that attended the rise of the web

Source

Here are the 12 Principles of Agile SD:

Customer satisfaction by early and continuous delivery of valuable software. → The “early and often” of open source development.

Welcome changing requirements, even in late development.

Deliver working software frequently (weeks rather than months)

Close, daily cooperation between business people and developers

Projects are built around motivated individuals, who should be trusted

Face-to-face conversation is the best form of communication (co-location)

Working software is the primary measure of progress

Sustainable development, able to maintain a constant pace

Continuous attention to technical excellence and good design

Simplicity—the art of maximizing the amount of work not done—is essential

Best architectures, requirements, and designs emerge from self-organizing teams

Regularly, the team reflects on how to become more effective, and adjusts accordingly

As you can see, it's all about giving teams the freedom and trust to creatively respond to client needs and change.

As an aside, it's worth noting the effect of the Web on these developments

Agile was spurred by the affordances of the Web and open source software

And for teams to organize organically, without the oversight of governmental bodies or corporations

Influenced by the success of Open Source tools like Linux

Consistent with Git as a tool for organically organizing software development

243 User Stories

User Stories are at the heart of Agile development.

Instead of eliciting requirements through a formal process, teams ask clients to provide statements in verbal form:

As a [type of user],

I want [an action]

so that [a benefit/value]

These are written on index cards.

These are accompanied by conversation to clarify the meaning of the sentences.

These are then converted into requirements:

Functional – relating specifically to how the software will work, i.e. function.

Non-functional (so-called) – relating to the broader purpose and context of usage.

These map roughly onto the second and third parts of the user story.

They also map on MACHINE and HUMAN.

This page shows some examples of stories mapping onto features (so-called acceptance criteria).

These requirements are then prioritized

Using MSCW – Must / Should / Can / Won’t

Within the context of a scope definition in a charter (not discussed here)

See this link for some guidance.

After this, requirements are serialized into a rough schedule, grouped into milestones.

In executing the “plan,” teams meet regularly in brief, stand-up meetings called scrums.

These happen daily

These involve the development team

Stakeholder representatives, such as the product manager, may attend too

At regular intervals, clients are introduced to the process

Prototypes, MVPs, etc. are presented

Feedback is elicited early and often

The process is driven by a communication plan:

Frequency of meeting

Mode of communication – F2F, Slack, Git

Task management tools – Jira, Trello, Smartsheet, etc.

Other artifacts are involved in this process:

The project charter

The project plan

A Kan Ban board

But we will get into these later.