

Pre-fitting data diagnostic

```
library(mice)

## Loading required package: lattice

##
## Attaching package: 'mice'

## The following objects are masked from 'package:base':
##   cbind, rbind
```

Since the domain of marital is 1 to 5 and all have actual meaning, by quickly view the dataset, we notice that there are some data out of the domain, so we replace such data to NA since they are NA data. ### Summary of Data

```
summary(chds_births)

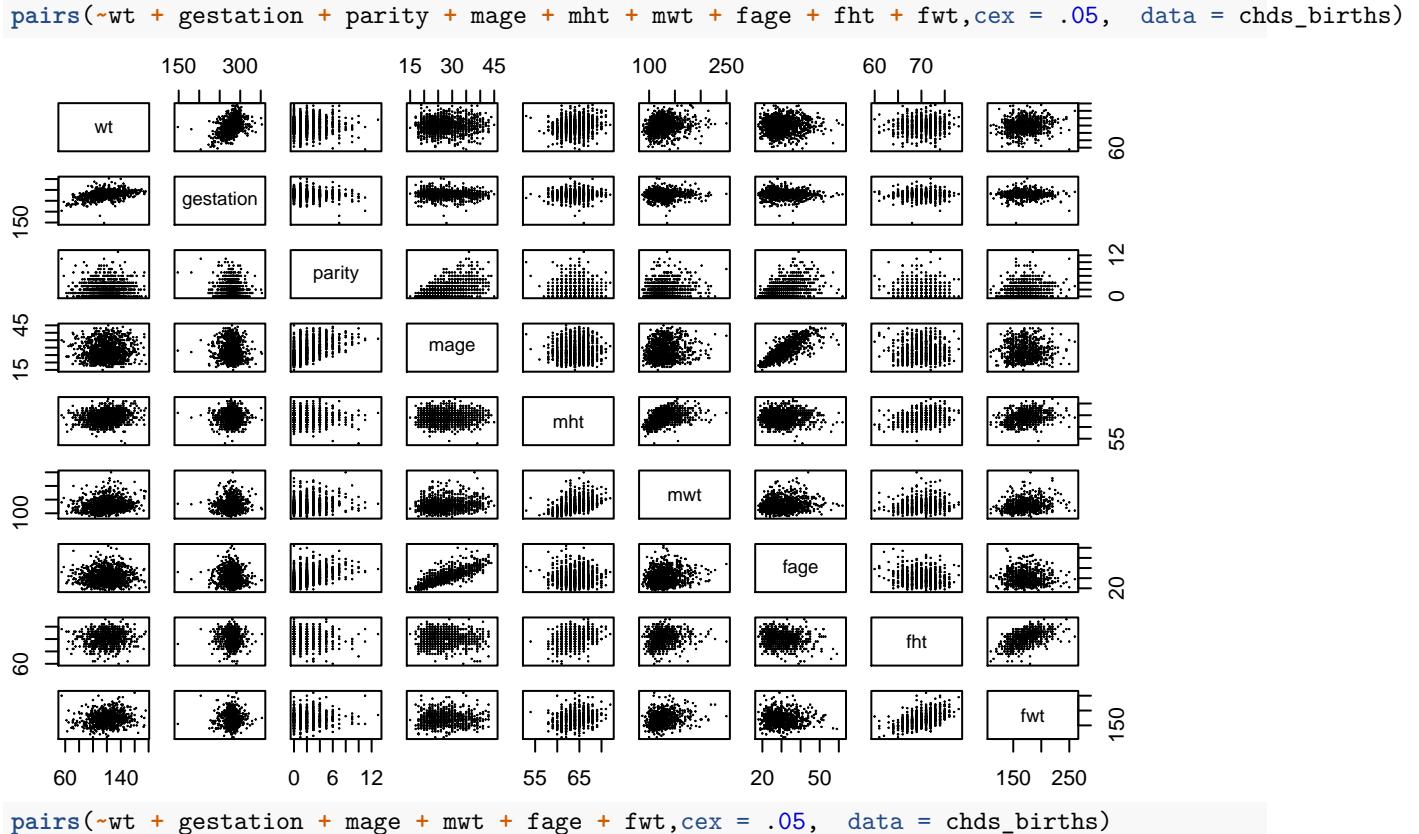
##      wt      gestation      parity      meth
##  Min.   : 55.0   Min.   :148.0   Min.   : 0.000   Min.   :0.000
##  1st Qu.:108.8  1st Qu.:272.0  1st Qu.: 0.000   1st Qu.:0.000
##  Median :120.0  Median :280.0  Median : 1.000   Median :0.000
##  Mean   :119.6  Mean   :279.3  Mean   : 1.932   Mean   :0.664
##  3rd Qu.:131.0  3rd Qu.:288.0  3rd Qu.: 3.000   3rd Qu.:2.000
##  Max.   :176.0  Max.   :353.0  Max.   :13.000   Max.   :5.000
##  NA's   :13      NA's   :1      NA's   :1       NA's   :1
##      mage      med      mht      mwt
##  Min.   :15.00  Min.   :0.000  Min.   :53.00  Min.   : 87.0
##  1st Qu.:23.00 1st Qu.:2.000  1st Qu.:62.00  1st Qu.:114.8
##  Median :26.00  Median :2.000  Median :64.00  Median :125.0
##  Mean   :27.26  Mean   :2.917  Mean   :64.05  Mean   :128.6
##  3rd Qu.:31.00  3rd Qu.:4.000  3rd Qu.:66.00  3rd Qu.:139.0
##  Max.   :45.00  Max.   :7.000  Max.   :72.00  Max.   :250.0
##  NA's   :2      NA's   :1      NA's   :22     NA's   :36
##      feth      fage      fed      fht
##  Min.   : 0.000  Min.   :18.00  Min.   :0.000  Min.   :60.0
##  1st Qu.: 0.000  1st Qu.:25.00  1st Qu.:2.000  1st Qu.:68.0
##  Median : 3.000  Median :29.00  Median :4.000  Median :71.0
##  Mean   : 3.154  Mean   :30.35  Mean   :3.127  Mean   :70.2
##  3rd Qu.: 7.000  3rd Qu.:34.00  3rd Qu.:5.000  3rd Qu.:72.0
##  Max.   :10.000  Max.   :62.00  Max.   :7.000  Max.   :78.0
##  NA's   :31     NA's   :7      NA's   :13     NA's   :492
##      fwt      marital      income      smoke
##  Min.   :110.0  Min.   :1.00  Min.   :0.000  Min.   :0.0000
##  1st Qu.:155.0  1st Qu.:1.00  1st Qu.:2.000  1st Qu.:0.0000
##  Median :170.0  Median :1.00  Median :3.000  Median :1.0000
##  Mean   :171.2  Mean   :1.04  Mean   :3.701  Mean   :0.8018
##  3rd Qu.:185.0  3rd Qu.:1.00  3rd Qu.:5.000  3rd Qu.:1.0000
##  Max.   :260.0  Max.   :5.00  Max.   :9.000  Max.   :3.0000
##  NA's   :499    NA's   :2      NA's   :124    NA's   :10
##      time      number
##  Min.   : 0.000  Min.   :0.000
##  1st Qu.: 0.000  1st Qu.:0.000
##  Median : 0.000  Median :0.000
##  Mean   : 0.000  Mean   :0.000
##  3rd Qu.: 0.000  3rd Qu.:0.000
##  Max.   : 0.000  Max.   :0.000
##  NA's   : 0.000  NA's   : 0.000
```

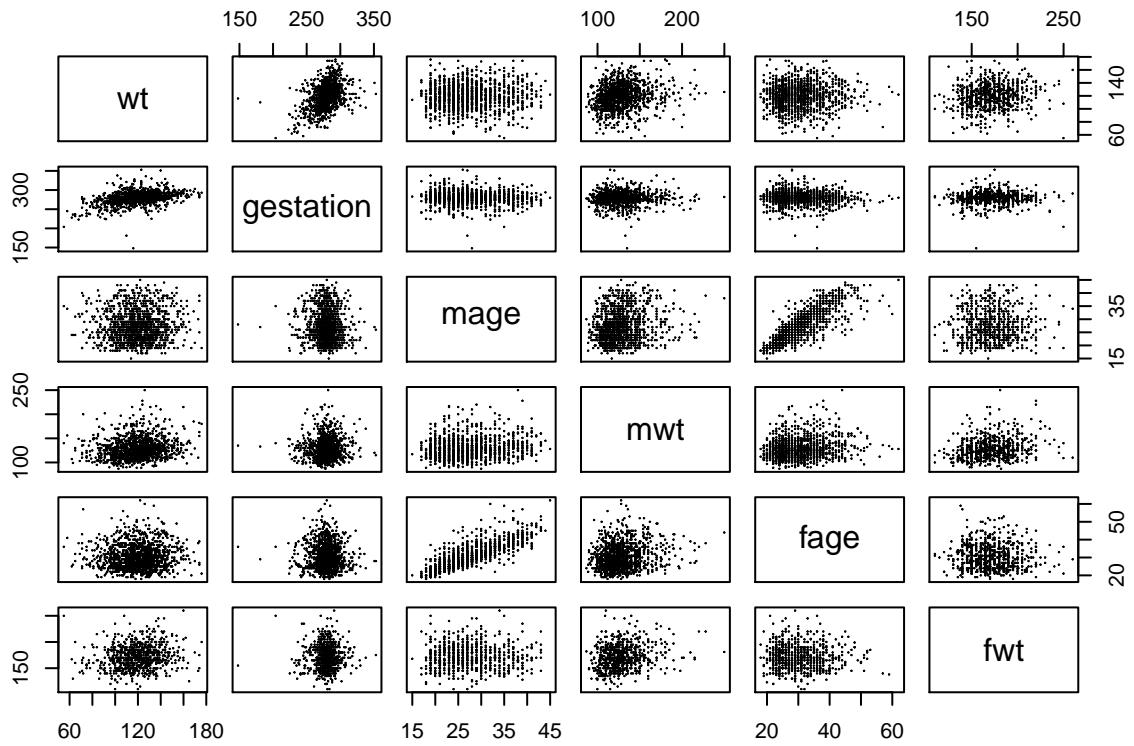
```

##  Min.   :0.0000   Min.   :0.00
##  1st Qu.:0.0000   1st Qu.:0.00
##  Median :1.0000   Median :1.00
##  Mean   :0.9625   Mean   :1.76
##  3rd Qu.:1.0000   3rd Qu.:3.00
##  Max.   :9.0000   Max.   :8.00
##  NA's    :10       NA's   :21

```

Pair plots





remove NA/Inf

```

births_mice <- mice(chds_births)

##
## iter imp variable
## 1 1 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 1 2 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 1 3 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 1 4 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 1 5 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 2 1 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 2 2 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 2 3 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 2 4 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 2 5 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 3 1 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 3 2 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 3 3 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 3 4 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 3 5 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 4 1 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 4 2 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 4 3 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 4 4 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 4 5 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 5 1 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 5 2 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 5 3 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time

```

```

## 5 4 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time
## 5 5 gestation meth mage med mht mwt feth fage fed fht fwt marital income smoke time

births_clean <- complete(births_mice)
summary(births_clean)

##          wt      gestation      parity      meth
##  Min.   :55.0   Min.   :148.0   Min.   :0.000   Min.   :0.0000
##  1st Qu.:108.8  1st Qu.:272.0  1st Qu.:0.000  1st Qu.:0.0000
##  Median :120.0  Median :280.0  Median :1.000  Median :0.0000
##  Mean   :119.6  Mean   :279.3  Mean   :1.932  Mean   :0.6634
##  3rd Qu.:131.0  3rd Qu.:288.0  3rd Qu.:3.000  3rd Qu.:2.0000
##  Max.   :176.0  Max.   :353.0  Max.   :13.000  Max.   :5.0000
##          mage     med      mht      mwt
##  Min.   :15.00  Min.   :0.000  Min.   :53.00  Min.   :87.0
##  1st Qu.:23.00  1st Qu.:2.000  1st Qu.:62.00  1st Qu.:115.0
##  Median :26.00  Median :2.000  Median :64.00  Median :125.0
##  Mean   :27.25  Mean   :2.915  Mean   :64.04  Mean   :128.6
##  3rd Qu.:31.00  3rd Qu.:4.000  3rd Qu.:66.00  3rd Qu.:139.0
##  Max.   :45.00  Max.   :7.000  Max.   :72.00  Max.   :250.0
##          feth      fage      fed      fht
##  Min.   :0.000  Min.   :18.00  Min.   :0.000  Min.   :60.00
##  1st Qu.:0.000  1st Qu.:25.00  1st Qu.:2.000  1st Qu.:68.00
##  Median :3.000  Median :29.00  Median :4.000  Median :71.00
##  Mean   :3.198  Mean   :30.37  Mean   :3.116  Mean   :70.18
##  3rd Qu.:7.000  3rd Qu.:34.00  3rd Qu.:5.000  3rd Qu.:72.00
##  Max.   :10.000  Max.   :62.00  Max.   :7.000  Max.   :78.00
##          fwt      marital      income      smoke
##  Min.   :110.0  Min.   :1.00  Min.   :0.000  Min.   :0.0000
##  1st Qu.:155.8  1st Qu.:1.00  1st Qu.:2.000  1st Qu.:0.0000
##  Median :170.0  Median :1.00  Median :3.000  Median :1.0000
##  Mean   :171.3  Mean   :1.04  Mean   :3.661  Mean   :0.8026
##  3rd Qu.:185.0  3rd Qu.:1.00  3rd Qu.:5.000  3rd Qu.:1.0000
##  Max.   :260.0  Max.   :5.00  Max.   :9.000  Max.   :3.0000
##          time      number
##  Min.   :0.000  Min.   :0.00
##  1st Qu.:0.000  1st Qu.:0.00
##  Median :1.000  Median :1.00
##  Mean   :0.962  Mean   :1.77
##  3rd Qu.:1.000  3rd Qu.:3.00
##  Max.   :9.000  Max.   :8.00

anyNA(births_clean)

## [1] FALSE
births_clean

##          wt gestation parity meth mage med mht mwt feth fage fed fht fwt
## 1    120     284      1     3    27    5   62  100    8    31    5   65 110
## 2    113     282      2     0    33    5   64  135    0    38    5   70 148
## 3    128     279      1     0    28    2   64  115    5    32    1   73 187
## 4    123     268      2     0    36    5   69  190    3    43    4   68 197
## 5    108     282      1     0    23    5   67  125    0    24    5   71 165
## 6    136     286      4     0    25    2   62  93     3    28    2   64 130
## 7    138     244      4     2    33    2   62 178    7    37    4   66 165

```

## 8	132	245	2	2	23	1	65	140	7	23	4	71	192
## 9	120	289	3	0	25	4	62	125	3	26	1	70	180
## 10	143	299	3	0	30	5	66	136	0	34	5	68	145
## 11	140	351	2	0	27	5	68	120	5	28	4	69	170
## 12	144	282	4	0	32	2	64	124	0	36	1	74	185
## 13	141	279	3	0	23	1	63	128	5	28	2	67	155
## 14	110	281	5	3	36	5	61	99	0	32	5	71	150
## 15	114	273	3	2	30	2	63	154	7	42	0	71	190
## 16	115	285	4	2	38	2	63	130	7	37	0	71	205
## 17	92	255	3	0	25	7	65	125	7	28	1	66	110
## 18	115	261	3	0	33	2	60	125	3	33	2	70	140
## 19	144	261	2	0	33	2	68	170	5	35	4	72	197
## 20	119	288	3	0	43	2	66	142	0	45	2	73	195
## 21	105	270	3	4	22	2	56	93	10	38	1	66	160
## 22	115	274	1	0	27	4	67	175	5	26	4	73	180
## 23	137	287	1	0	25	4	66	145	0	25	5	70	150
## 24	122	276	6	2	30	1	68	182	8	38	1	73	196
## 25	131	294	2	2	23	2	65	122	7	23	4	71	170
## 26	103	261	6	0	27	1	65	112	4	29	1	73	165
## 27	146	280	1	1	26	0	58	106	6	29	2	68	200
## 28	114	266	2	0	20	2	65	175	0	25	2	69	195
## 29	125	292	3	0	32	2	65	125	0	29	5	67	135
## 30	114	274	2	0	28	5	66	132	0	31	5	70	168
## 31	122	270	2	0	26	2	61	105	0	26	2	68	160
## 32	93	278	3	2	34	1	61	146	7	37	2	70	140
## 33	130	268	2	0	30	2	66	123	0	46	2	66	210
## 34	119	275	1	5	23	2	60	105	10	25	2	70	190
## 35	113	281	3	0	24	4	65	120	0	24	5	76	180
## 36	134	283	1	0	22	2	67	130	1	22	2	71	185
## 37	107	279	1	0	24	5	63	115	5	31	5	71	160
## 38	134	288	2	0	23	2	63	92	0	26	1	71	178
## 39	122	267	1	0	27	4	65	101	1	29	5	71	200
## 40	128	282	6	0	31	2	65	110	0	31	4	72	190
## 41	129	293	2	0	30	4	61	160	0	29	4	67	130
## 42	110	278	3	0	23	4	63	177	0	25	5	72	190
## 43	138	302	4	0	26	1	62	140	6	41	1	65	168
## 44	111	270	4	1	27	1	61	119	6	33	2	66	178
## 45	87	248	10	0	37	1	65	130	0	40	2	72	155
## 46	143	274	3	0	27	4	63	110	2	31	5	68	159
## 47	155	294	6	2	32	2	66	150	7	35	2	69	150
## 48	110	272	2	3	25	1	60	90	8	34	2	66	150
## 49	122	275	1	0	26	5	66	147	0	25	5	71	170
## 50	145	291	4	5	26	4	63	119	3	29	4	67	165
## 51	115	258	4	0	26	7	62	130	0	30	3	67	140
## 52	108	283	6	0	31	1	65	148	0	32	2	72	165
## 53	102	282	1	3	28	5	61	110	8	29	5	67	168
## 54	143	286	5	0	31	2	64	126	0	36	4	69	200
## 55	146	267	2	0	30	5	67	132	0	31	5	71	160
## 56	124	275	3	0	22	1	60	130	0	27	2	70	165
## 57	124	278	2	0	26	4	70	145	0	34	2	73	190
## 58	145	257	5	2	33	4	65	140	7	43	1	69	195
## 59	106	273	2	1	28	0	60	116	6	29	1	72	189
## 60	75	232	1	0	33	4	61	110	5	34	5	69	170
## 61	107	273	1	1	24	2	61	96	6	32	2	71	170

## 62	124	288	1	0	22	4	67	118	5	25	5	76	195
## 63	122	280	2	0	23	4	65	125	0	24	4	71	157
## 64	101	245	1	0	23	2	63	130	5	24	2	72	174
## 65	128	283	4	0	28	2	63	125	0	30	5	71	180
## 66	104	282	5	0	36	5	65	115	1	41	2	68	192
## 67	97	246	6	2	37	2	63	150	7	52	2	74	168
## 68	137	274	2	0	26	4	69	137	0	25	5	72	170
## 69	103	273	5	2	31	1	63	170	7	31	2	71	170
## 70	142	276	5	4	38	1	63	170	10	49	1	69	165
## 71	130	289	1	0	27	5	66	130	2	32	4	70	180
## 72	156	292	2	0	26	2	63	118	0	27	1	69	190
## 73	133	284	1	2	25	2	66	125	7	27	2	70	165
## 74	120	274	3	0	24	4	62	120	0	27	5	72	175
## 75	91	270	3	2	24	3	60	149	7	34	1	72	193
## 76	127	274	2	2	21	2	62	110	7	24	1	69	163
## 77	153	286	4	2	26	4	63	107	7	26	4	65	160
## 78	121	276	2	0	39	2	63	130	0	44	5	73	155
## 79	120	277	1	0	27	4	63	126	0	30	5	74	170
## 80	99	272	5	0	27	2	62	103	0	27	2	72	198
## 81	149	293	5	0	35	4	65	116	0	42	4	66	168
## 82	129	280	2	0	23	4	64	104	9	25	2	70	180
## 83	139	292	2	0	25	5	68	135	0	25	5	73	160
## 84	114	274	5	0	33	5	67	148	0	31	5	71	199
## 85	138	287	1	0	30	5	66	145	0	33	4	73	178
## 86	129	274	2	2	29	5	71	190	7	31	5	75	185
## 87	138	294	3	0	32	5	65	117	0	33	5	71	180
## 88	131	296	7	0	37	5	63	143	5	35	5	68	165
## 89	125	305	1	0	22	3	70	196	0	25	4	73	175
## 90	114	277	1	2	24	4	67	113	7	25	4	74	170
## 91	128	281	10	0	33	2	59	117	3	36	2	66	180
## 92	134	268	2	0	28	5	62	112	0	31	5	66	150
## 93	114	271	2	0	27	2	60	104	0	30	4	69	180
## 94	92	264	2	0	31	5	67	130	0	32	5	71	155
## 95	85	278	3	0	23	1	61	103	0	28	1	71	145
## 96	135	282	1	0	22	2	64	100	1	24	2	71	210
## 97	87	255	1	3	28	4	61	100	8	28	2	67	160
## 98	125	302	2	0	37	4	62	162	0	41	3	74	165
## 99	128	257	2	0	35	5	62	110	2	35	5	71	168
## 100	105	254	7	2	29	2	64	137	7	36	4	70	185
## 101	120	279	2	0	27	3	60	121	0	27	2	72	170
## 102	119	274	3	0	33	5	64	120	0	36	5	74	155
## 103	116	286	1	1	24	0	61	124	6	27	0	66	185
## 104	107	280	4	2	36	2	65	117	7	36	1	66	150
## 105	119	273	1	0	24	2	61	108	4	26	1	65	136
## 106	133	279	5	0	37	2	66	140	3	40	5	70	150
## 107	155	287	2	0	33	5	66	143	3	38	3	70	180
## 108	126	273	2	0	22	2	65	150	0	25	4	78	245
## 109	129	303	1	0	27	5	64	125	0	32	5	69	135
## 110	137	274	4	2	29	1	65	154	7	46	4	64	145
## 111	103	269	1	2	26	3	65	115	7	29	4	66	145
## 112	125	302	4	0	28	4	65	125	0	30	5	70	160
## 113	91	255	1	0	19	1	67	136	0	20	2	70	168
## 114	134	293	2	1	21	0	65	130	6	25	1	72	178
## 115	95	279	1	0	22	4	66	145	5	28	5	71	157

## 116	118	276	1	0	29	2	64	114	5	32	6	70	150
## 117	141	278	8	2	33	1	66	109	7	45	1	66	175
## 118	131	283	2	0	25	4	67	215	0	27	2	73	167
## 119	121	264	6	0	32	4	66	145	5	36	4	72	185
## 120	100	243	1	0	39	2	65	170	4	37	2	69	235
## 121	131	288	3	0	24	2	61	103	5	26	4	68	170
## 122	118	284	1	0	26	2	66	133	4	26	2	73	170
## 123	152	288	3	0	35	4	67	130	9	33	5	70	175
## 124	121	284	6	0	34	5	69	155	0	36	4	71	170
## 125	117	276	2	0	31	5	69	150	0	32	5	74	150
## 126	115	283	2	0	25	2	61	150	0	25	2	67	150
## 127	112	277	3	0	23	4	65	110	0	24	4	75	220
## 128	94	267	3	0	30	4	62	120	2	33	5	67	186
## 129	109	272	2	0	35	2	66	154	2	44	2	69	175
## 130	132	225	4	2	28	2	67	148	7	28	1	67	160
## 131	117	278	2	0	25	4	62	103	6	30	2	68	158
## 132	101	266	2	0	20	1	67	110	6	26	2	71	170
## 133	112	294	1	2	25	2	64	125	6	27	1	71	190
## 134	128	283	1	4	24	2	60	100	6	24	2	71	153
## 135	128	279	2	0	25	4	66	147	0	26	5	65	150
## 136	117	258	3	0	31	2	64	120	4	33	1	66	170
## 137	134	278	1	0	24	3	69	135	1	28	5	71	190
## 138	127	284	1	2	28	2	65	145	7	26	4	73	183
## 139	93	269	2	0	21	1	65	104	0	22	2	68	160
## 140	122	275	2	2	27	2	65	165	7	32	1	63	145
## 141	100	265	6	0	39	2	62	107	0	39	5	68	128
## 142	147	293	3	0	32	4	65	123	9	32	4	70	180
## 143	120	299	2	0	25	3	65	110	0	33	2	66	160
## 144	144	277	3	0	30	5	63	127	1	36	5	66	160
## 145	105	268	5	0	32	4	61	115	10	28	4	71	160
## 146	136	276	1	0	23	2	66	155	1	33	2	71	165
## 147	102	262	3	2	24	2	63	125	7	27	0	72	165
## 148	160	300	7	0	29	4	71	175	0	38	3	74	205
## 149	113	275	1	0	24	3	68	140	0	26	2	73	185
## 150	126	282	8	2	38	0	66	250	7	44	0	69	181
## 151	126	271	2	0	29	5	68	148	5	34	5	72	165
## 152	115	278	2	0	29	5	61	128	0	38	5	66	150
## 153	127	336	6	1	29	7	65	162	6	32	1	72	190
## 154	119	284	1	2	20	2	66	132	7	23	2	70	170
## 155	129	277	2	0	23	2	69	150	0	24	2	71	178
## 156	123	318	2	0	21	1	64	152	5	28	0	64	155
## 157	118	282	4	0	22	1	68	135	0	25	7	73	175
## 158	133	287	1	0	24	4	60	104	0	27	4	69	168
## 159	105	281	1	3	39	5	61	112	3	45	5	70	160
## 160	134	290	1	1	22	2	60	121	6	23	3	67	180
## 161	144	288	1	0	21	4	67	111	0	26	5	72	169
## 162	111	273	4	2	43	0	62	138	7	53	1	71	185
## 163	125	262	7	2	36	2	66	190	7	40	0	71	180
## 164	135	296	2	0	30	2	63	123	4	34	4	71	167
## 165	134	289	1	0	22	4	63	125	5	31	5	71	152
## 166	116	289	1	0	22	2	65	160	3	22	1	67	156
## 167	129	291	1	0	29	5	69	123	0	29	5	72	145
## 168	113	301	4	0	26	2	67	105	0	27	4	71	150
## 169	131	295	1	0	23	2	65	123	5	26	4	70	160

## 170	126	293	1	3	29	3	59	110	8	30	2	69	160
## 171	121	272	1	0	22	2	62	109	7	28	2	70	165
## 172	121	271	3	0	25	4	68	118	0	27	4	73	165
## 173	138	287	1	0	24	4	65	115	0	26	5	73	165
## 174	136	278	1	4	23	4	61	105	0	24	4	66	138
## 175	120	279	3	0	30	4	66	131	0	36	5	72	172
## 176	122	278	4	0	31	2	72	155	0	36	1	72	220
## 177	134	267	3	0	30	4	66	170	1	30	5	72	225
## 178	101	280	1	2	25	4	65	123	7	25	2	71	210
## 179	112	288	5	2	32	5	62	125	7	37	4	69	149
## 180	132	290	2	0	25	4	64	120	1	25	5	69	165
## 181	136	285	1	0	23	2	62	175	3	28	2	69	180
## 182	113	277	4	0	23	1	65	192	0	31	1	70	190
## 183	96	271	2	2	23	4	64	116	7	24	4	67	185
## 184	124	277	3	2	29	2	63	220	7	36	1	74	220
## 185	113	306	1	0	21	4	62	150	0	30	5	67	166
## 186	131	286	3	0	34	2	64	115	0	36	4	71	170
## 187	137	258	1	0	25	5	63	117	0	26	5	72	175
## 188	133	268	1	3	24	5	61	93	8	30	5	68	165
## 189	107	244	1	0	20	2	58	97	0	20	4	74	192
## 190	96	265	4	2	28	2	59	135	7	28	2	68	165
## 191	142	278	3	0	35	5	66	136	5	33	5	72	140
## 192	136	275	1	1	22	2	63	110	5	23	1	72	195
## 193	75	239	3	0	26	2	63	124	0	26	4	73	157
## 194	125	302	8	0	32	2	61	114	0	39	5	69	180
## 195	104	295	4	2	26	4	65	155	7	27	4	72	164
## 196	130	274	5	2	30	1	63	150	7	32	2	66	140
## 197	90	290	3	2	22	2	63	168	7	32	2	66	156
## 198	118	276	3	0	22	2	66	147	5	23	4	73	208
## 199	123	320	2	0	22	4	66	117	5	26	5	68	150
## 200	137	291	6	0	34	5	61	110	5	39	5	60	180
## 201	101	268	2	2	19	1	63	140	7	23	2	66	150
## 202	142	275	3	0	25	2	64	132	0	29	3	73	185
## 203	98	282	1	0	20	1	63	97	2	22	2	74	170
## 204	124	283	1	2	23	4	63	112	7	26	4	71	208
## 205	151	310	1	0	21	2	65	136	0	22	2	71	220
## 206	109	281	1	0	23	4	61	105	5	27	5	69	140
## 207	150	285	3	2	22	1	61	110	7	28	1	66	160
## 208	119	282	2	2	26	4	68	150	7	25	4	72	192
## 209	131	280	5	0	38	4	65	125	0	37	5	72	150
## 210	101	272	1	2	29	4	63	150	7	39	2	68	145
## 211	113	246	2	2	19	1	62	138	7	22	1	76	235
## 212	127	270	3	1	25	5	62	150	7	26	5	73	175
## 213	97	260	2	0	23	2	61	99	4	26	2	66	145
## 214	117	282	4	0	28	4	64	115	0	29	4	71	172
## 215	150	290	1	0	21	1	65	125	0	25	4	72	160
## 216	85	234	7	2	33	1	67	130	7	37	1	69	180
## 217	128	288	3	0	27	4	70	145	0	27	2	70	230
## 218	105	233	4	2	34	3	61	130	7	36	2	72	180
## 219	90	269	4	0	26	2	67	125	5	27	5	75	220
## 220	115	274	1	0	22	2	65	130	0	23	2	71	175
## 221	107	290	2	0	28	2	62	135	0	29	5	68	160
## 222	121	275	1	0	24	3	63	121	0	27	3	68	145
## 223	119	286	1	0	20	2	64	180	5	25	2	64	135

## 224	117	275	2	2	20	1	64	145	7	22	2	66	177
## 225	134	264	1	0	26	5	68	136	3	35	5	69	145
## 226	117	288	7	0	35	2	65	142	5	42	4	75	200
## 227	115	268	3	0	28	2	66	128	0	32	5	72	190
## 228	110	254	2	0	23	2	63	120	0	30	5	72	135
## 229	130	282	3	0	21	3	62	106	0	19	1	67	135
## 230	140	274	2	2	23	2	63	106	7	25	4	71	170
## 231	111	284	1	0	22	2	64	120	0	23	2	68	175
## 232	93	249	3	2	33	0	66	117	7	38	1	74	212
## 233	154	292	1	0	42	3	65	116	0	49	2	70	190
## 234	125	290	1	0	19	1	64	127	4	21	2	73	170
## 235	93	318	7	2	31	0	66	135	7	30	4	68	184
## 236	122	277	7	2	33	4	63	135	7	40	1	72	183
## 237	129	267	3	1	22	0	63	160	6	33	1	68	200
## 238	126	276	1	0	23	4	63	120	0	26	5	69	160
## 239	85	274	1	2	24	4	68	155	7	25	5	69	170
## 240	173	293	6	0	30	2	63	110	5	38	2	66	145
## 241	144	329	3	4	22	2	65	190	7	35	1	68	165
## 242	114	278	2	0	25	4	65	140	5	27	4	71	180
## 243	111	285	8	0	27	1	63	105	4	31	1	67	160
## 244	154	287	2	0	27	3	65	125	0	28	5	74	212
## 245	150	274	1	0	25	2	67	117	0	25	2	76	212
## 246	111	278	1	0	21	2	62	125	0	22	2	71	170
## 247	126	277	2	0	32	4	66	128	5	60	5	71	150
## 248	122	261	3	0	28	2	65	124	0	30	1	62	115
## 249	141	282	3	0	24	2	68	169	5	27	2	74	200
## 250	142	274	3	2	24	1	63	125	7	25	0	72	165
## 251	99	262	3	0	38	1	59	110	5	43	4	66	145
## 252	113	286	2	0	23	2	63	105	0	26	2	73	185
## 253	149	282	1	0	21	2	61	110	0	25	5	69	165
## 254	117	328	1	0	29	2	65	125	0	30	2	72	180
## 255	130	274	4	2	26	3	64	185	7	26	2	74	225
## 256	106	275	3	0	31	4	65	142	5	38	5	69	212
## 257	128	290	1	0	22	4	64	118	5	27	4	71	157
## 258	125	286	1	4	21	2	64	139	7	28	2	66	150
## 259	114	290	3	4	30	2	66	160	7	33	1	69	160
## 260	130	285	1	1	23	4	63	128	6	27	2	71	140
## 261	116	148	7	2	28	1	66	135	7	36	1	68	155
## 262	81	256	4	0	30	1	64	148	5	31	2	73	190
## 263	124	287	3	0	27	1	62	105	5	31	1	70	157
## 264	125	292	1	2	22	4	65	122	7	23	2	70	180
## 265	110	262	1	0	25	5	66	140	0	27	4	71	157
## 266	125	279	1	0	23	2	63	104	0	28	5	71	200
## 267	138	294	1	0	40	2	64	125	0	43	2	75	170
## 268	142	284	5	0	39	2	66	132	2	38	5	71	168
## 269	115	278	3	0	23	2	60	102	4	25	3	66	140
## 270	102	280	3	0	38	4	67	140	0	45	3	71	162
## 271	140	294	2	0	25	4	61	103	0	25	2	72	150
## 272	133	276	0	0	22	4	63	119	5	29	2	72	180
## 273	127	290	3	0	35	2	66	165	5	35	5	71	190
## 274	104	274	0	0	20	2	62	115	0	23	2	67	145
## 275	119	275	4	4	42	4	67	156	8	47	4	69	185
## 276	152	301	2	0	29	1	65	150	4	30	2	72	181
## 277	123	284	0	0	20	4	65	120	4	20	4	70	140

## 278	143	273	3	0	19	2	66	135	5	25	1	71	188
## 279	131	308	1	0	40	4	65	160	1	44	3	72	190
## 280	141	319	0	0	20	2	67	140	5	25	2	68	150
## 281	129	277	1	0	30	4	66	142	2	34	5	75	183
## 282	113	282	0	0	36	2	59	140	0	34	3	68	140
## 283	119	292	2	0	33	2	62	118	1	39	2	69	188
## 284	109	295	0	0	23	2	63	103	0	28	1	71	165
## 285	104	280	0	0	27	5	68	146	0	27	5	72	194
## 286	131	282	0	0	21	4	66	126	5	24	4	71	188
## 287	110	293	0	0	28	4	64	135	0	26	5	75	180
## 288	148	279	3	2	27	4	71	189	7	37	2	69	140
## 289	137	283	0	0	20	2	65	157	0	26	3	73	190
## 290	117	283	2	0	27	4	63	108	5	32	5	72	173
## 291	115	302	0	0	22	2	67	135	0	22	1	70	178
## 292	98	280	2	5	35	2	64	122	7	35	5	69	195
## 293	136	303	0	0	20	2	68	148	0	26	4	72	205
## 294	121	276	0	0	23	5	71	152	3	23	5	71	173
## 295	132	285	0	0	25	4	63	140	9	26	5	71	145
## 296	91	264	2	2	36	3	60	100	7	34	4	68	145
## 297	119	294	1	0	34	3	59	105	0	50	2	68	165
## 298	85	273	5	0	26	1	60	105	4	31	1	65	150
## 299	106	271	0	0	26	5	61	110	0	31	5	64	138
## 300	132	284	2	0	29	5	64	122	5	37	5	68	146
## 301	80	266	0	0	25	2	62	125	0	28	4	71	195
## 302	109	286	1	0	24	2	64	125	0	25	2	75	197
## 303	111	306	2	3	27	4	61	102	8	29	5	68	156
## 304	143	292	0	0	21	3	65	125	5	24	4	67	150
## 305	136	290	1	0	26	4	66	135	0	30	4	65	160
## 306	110	285	0	2	19	2	64	130	7	19	2	73	195
## 307	98	257	2	0	29	2	66	130	2	37	2	69	170
## 308	108	305	0	0	24	4	65	112	0	25	5	73	170
## 309	101	295	1	2	18	1	62	145	7	29	2	66	149
## 310	71	281	1	2	32	4	60	117	7	35	2	70	187
## 311	124	292	2	2	29	3	68	176	7	29	2	73	197
## 312	93	256	3	0	34	3	66	145	0	40	4	70	185
## 313	106	276	3	0	30	4	66	130	2	37	5	67	150
## 314	101	278	1	0	25	2	62	112	0	24	5	67	210
## 315	100	277	2	0	31	2	62	100	2	31	2	69	128
## 316	104	269	4	0	35	2	63	110	5	37	4	68	146
## 317	117	270	3	0	24	2	67	135	0	30	5	70	173
## 318	117	267	4	0	29	2	65	120	5	34	2	67	165
## 319	149	279	1	0	25	2	67	135	5	27	5	72	165
## 320	135	284	1	0	25	5	66	123	0	32	5	70	165
## 321	110	283	0	0	21	2	66	129	0	27	2	69	175
## 322	121	276	3	0	31	5	67	130	0	30	5	67	186
## 323	142	285	0	0	24	3	66	136	0	30	5	73	217
## 324	104	260	1	0	33	2	64	145	3	36	4	70	165
## 325	138	296	1	0	34	5	66	120	0	36	5	74	165
## 326	112	278	0	0	21	5	63	120	0	29	5	70	155
## 327	117	293	3	2	39	1	60	120	7	40	1	61	140
## 328	109	282	1	2	25	5	62	106	7	36	5	66	130
## 329	131	266	0	0	28	5	67	135	0	28	5	72	165
## 330	120	273	1	2	29	5	64	130	7	33	5	73	170
## 331	116	270	1	0	29	5	63	132	0	30	5	69	170

## 332	140	290	2	0	23	4	65	110	0	22	4	69	150
## 333	103	273	0	0	22	2	64	110	0	24	1	73	179
## 334	120	279	0	0	23	5	67	135	1	23	4	75	185
## 335	139	260	0	3	32	2	64	127	8	34	5	67	165
## 336	123	254	1	0	26	5	62	130	5	26	5	72	173
## 337	104	280	0	0	23	2	64	107	0	26	4	67	170
## 338	131	283	2	3	31	4	59	120	8	31	4	68	172
## 339	111	270	1	0	22	4	59	103	0	24	1	66	160
## 340	122	277	5	2	32	4	63	157	7	36	2	71	170
## 341	116	271	0	0	30	5	67	144	2	31	5	74	175
## 342	129	277	1	0	27	5	68	130	0	27	4	71	160
## 343	133	292	2	0	30	2	65	112	0	30	2	71	140
## 344	110	277	1	0	25	1	61	130	5	29	2	72	205
## 345	105	276	2	2	22	3	67	130	7	24	1	72	195
## 346	93	246	3	0	37	2	65	130	0	41	4	73	180
## 347	122	281	3	0	42	3	63	103	5	43	4	68	170
## 348	133	293	2	0	23	3	64	110	0	25	2	73	220
## 349	130	296	0	0	22	5	66	117	0	22	4	73	185
## 350	104	307	1	0	24	4	59	122	2	28	5	69	152
## 351	106	278	3	0	31	5	65	110	5	32	5	70	180
## 352	120	281	2	0	33	3	63	113	0	36	3	66	160
## 353	121	284	1	0	27	1	63	118	0	33	2	72	190
## 354	118	276	0	2	18	2	63	128	7	18	2	71	195
## 355	140	290	0	0	19	2	67	132	0	23	1	74	205
## 356	114	268	2	2	22	2	64	104	7	25	2	73	205
## 357	116	280	8	2	40	1	62	159	7	46	0	65	140
## 358	129	284	2	0	24	4	64	115	5	25	5	73	193
## 359	120	286	2	1	22	2	62	115	6	24	2	68	175
## 360	127	281	1	0	24	4	63	112	0	31	5	69	170
## 361	107	278	0	0	27	2	65	135	0	27	4	70	145
## 362	71	234	4	3	32	2	64	110	8	38	4	69	165
## 363	88	274	4	0	30	2	66	130	0	31	2	69	162
## 364	107	300	1	0	19	1	63	130	5	20	2	68	160
## 365	122	286	1	2	23	4	64	145	7	28	4	71	165
## 366	106	302	0	0	19	2	66	147	5	20	1	73	178
## 367	135	285	3	0	30	4	66	130	0	30	5	70	200
## 368	107	290	3	0	26	3	63	112	0	32	5	71	175
## 369	129	294	3	0	32	2	62	170	0	35	1	72	179
## 370	126	274	4	0	39	5	62	122	0	36	5	74	170
## 371	116	293	0	0	26	5	64	125	0	28	5	70	150
## 372	124	294	1	2	26	5	62	122	7	27	3	74	158
## 373	123	281	1	0	23	1	68	136	5	25	4	72	165
## 374	145	315	4	0	39	2	67	143	0	42	2	72	208
## 375	102	278	1	0	27	2	67	135	0	26	2	69	165
## 376	129	293	3	0	30	2	65	130	0	28	4	71	200
## 377	98	276	0	2	22	4	61	121	7	25	4	64	165
## 378	110	272	1	5	28	7	60	108	10	28	5	63	160
## 379	135	282	1	0	24	5	67	128	0	31	5	71	140
## 380	101	278	0	0	20	4	62	105	5	26	5	67	140
## 381	96	266	1	0	26	5	65	125	5	27	5	71	165
## 382	104	276	0	0	18	2	60	109	5	20	2	69	175
## 383	100	249	3	2	24	4	67	100	7	25	4	74	190
## 384	154	292	1	0	40	0	66	145	5	38	4	71	190
## 385	127	293	1	0	31	5	67	137	5	27	4	75	200

## 386	126	288	3	0	31	5	62	150	3	34	5	69	148
## 387	126	282	0	0	23	4	66	115	0	23	5	72	190
## 388	127	279	3	0	26	3	67	155	1	32	5	71	170
## 389	98	275	1	0	25	5	65	112	2	25	5	71	170
## 390	127	288	0	0	21	2	66	130	0	22	2	71	175
## 391	129	299	1	2	22	4	68	145	7	22	2	74	190
## 392	131	292	0	0	22	4	64	124	3	22	5	73	168
## 393	132	289	0	0	19	4	66	145	0	23	2	73	175
## 394	127	280	1	0	27	2	62	118	2	34	1	69	175
## 395	99	313	0	0	34	4	59	100	0	32	5	74	187
## 396	115	290	1	0	30	5	64	140	0	36	5	73	200
## 397	145	290	0	0	24	5	67	125	0	26	5	72	165
## 398	102	249	0	0	23	2	67	134	2	24	4	71	150
## 399	136	299	2	0	29	5	64	115	0	30	5	72	140
## 400	121	286	0	0	23	4	63	100	5	27	5	70	155
## 401	121	282	2	0	22	1	66	133	1	28	2	67	187
## 402	120	286	1	2	25	4	62	105	7	30	4	71	173
## 403	118	261	1	3	26	2	60	104	8	37	7	64	145
## 404	127	304	0	0	26	5	62	105	0	28	5	71	170
## 405	132	281	0	0	24	5	63	117	0	27	5	75	212
## 406	102	258	0	2	22	4	65	135	7	24	1	71	153
## 407	143	279	7	0	39	3	65	129	3	49	2	66	145
## 408	118	277	2	3	25	3	62	120	8	27	3	65	147
## 409	102	286	0	0	22	2	64	140	0	23	5	71	190
## 410	163	280	6	2	35	4	69	139	7	40	1	69	150
## 411	132	294	1	0	32	5	64	116	0	30	5	75	180
## 412	116	276	3	2	33	2	61	180	7	40	1	68	200
## 413	138	288	0	0	19	4	66	124	5	21	2	74	178
## 414	139	279	1	0	20	2	64	143	0	21	2	73	175
## 415	132	298	0	0	23	2	61	137	0	33	5	74	160
## 416	87	282	2	0	27	3	63	104	0	29	4	71	210
## 417	131	297	3	0	30	5	67	132	0	30	5	75	215
## 418	130	282	1	2	26	5	67	147	7	30	5	72	155
## 419	123	290	2	0	28	4	66	107	0	29	4	70	160
## 420	115	276	0	0	18	2	63	110	5	20	4	70	170
## 421	116	272	5	2	27	2	64	130	7	28	2	69	163
## 422	119	286	0	0	20	2	67	130	0	25	2	72	205
## 423	125	279	0	0	19	4	67	135	0	23	4	72	190
## 424	144	282	1	0	33	4	66	155	0	43	3	69	173
## 425	123	269	2	0	26	5	67	132	5	27	5	75	180
## 426	120	276	2	0	23	4	66	114	0	23	4	74	175
## 427	140	251	4	2	28	4	63	210	7	39	2	77	230
## 428	120	271	0	2	17	1	64	142	7	22	2	70	167
## 429	116	272	4	2	28	3	63	138	7	31	4	67	170
## 430	120	289	0	5	31	5	59	102	5	45	2	65	135
## 431	146	280	1	0	23	2	61	145	0	25	2	69	190
## 432	112	283	0	0	21	3	62	102	0	23	2	72	165
## 433	115	269	2	1	30	2	62	115	5	29	1	67	130
## 434	132	278	2	0	20	1	64	150	5	24	1	69	165
## 435	146	263	10	1	39	0	53	110	6	41	0	65	125
## 436	122	275	2	0	30	5	68	140	5	31	5	71	170
## 437	128	292	1	0	32	2	66	130	3	32	3	71	183
## 438	119	277	3	0	24	4	63	120	0	27	5	69	160
## 439	135	278	1	0	27	1	66	148	4	33	1	66	165

## 440	116	315	3	2	26	2	62	95	7	27	2	67	170
## 441	129	235	3	2	24	4	66	135	7	26	2	74	155
## 442	116	293	0	0	28	5	62	108	5	32	5	69	140
## 443	100	275	4	0	27	4	64	111	0	26	4	74	192
## 444	118	280	2	0	27	4	64	117	0	37	2	67	195
## 445	138	257	1	0	38	2	67	138	5	44	1	72	183
## 446	123	282	2	2	22	4	65	130	7	22	2	68	175
## 447	113	288	0	0	21	2	61	120	0	25	4	72	190
## 448	129	280	0	0	24	2	65	140	0	24	5	74	208
## 449	122	280	2	0	24	4	67	127	0	29	5	73	205
## 450	132	281	0	0	21	4	67	140	0	21	4	71	170
## 451	120	269	0	3	40	5	63	130	1	40	2	67	145
## 452	114	283	0	0	20	4	65	115	5	22	4	70	165
## 453	130	280	2	4	29	1	66	135	10	33	1	67	140
## 454	117	286	2	0	32	5	66	127	0	32	5	71	163
## 455	142	285	2	0	33	3	63	124	0	34	5	68	155
## 456	144	273	2	0	27	1	62	118	7	25	2	73	190
## 457	127	262	0	0	32	3	64	125	0	36	3	67	192
## 458	115	270	2	2	25	2	67	165	7	28	2	69	173
## 459	85	258	1	0	41	3	67	137	0	36	3	70	165
## 460	99	274	3	0	28	3	66	118	0	27	2	71	205
## 461	123	323	0	0	17	1	64	140	0	21	2	70	193
## 462	112	281	0	2	23	2	61	150	7	35	1	70	170
## 463	68	223	1	2	32	0	66	149	7	38	0	65	170
## 464	102	283	0	0	19	2	65	127	0	20	2	69	183
## 465	109	273	9	0	37	1	65	138	0	38	2	70	190
## 466	102	267	0	0	25	5	60	93	0	32	5	75	180
## 467	99	275	2	2	23	4	61	125	7	24	4	68	175
## 468	78	256	0	3	29	5	65	123	8	27	5	71	150
## 469	128	284	0	0	19	2	66	111	0	22	1	72	210
## 470	107	303	0	0	25	4	67	133	0	25	4	74	180
## 471	136	295	4	0	23	1	64	147	0	25	2	73	240
## 472	101	278	2	0	27	2	61	99	3	30	1	67	140
## 473	100	275	0	0	25	2	64	125	8	30	2	73	185
## 474	109	272	5	0	41	5	66	154	0	38	1	72	175
## 475	117	281	0	0	21	4	70	141	0	25	4	68	172
## 476	88	252	0	0	21	4	60	115	2	24	4	68	150
## 477	95	270	5	0	35	3	65	135	0	35	7	72	200
## 478	119	280	0	3	25	2	61	112	7	27	4	68	170
## 479	123	272	8	1	28	1	67	117	6	29	1	69	165
## 480	127	291	0	0	24	3	66	135	5	25	2	72	178
## 481	107	293	2	2	20	1	65	155	7	34	2	71	183
## 482	124	291	3	2	26	1	66	137	7	37	0	74	215
## 483	126	262	5	0	37	2	66	135	0	39	2	66	148
## 484	98	278	4	2	27	4	63	110	7	24	4	76	200
## 485	96	241	1	0	23	2	64	130	0	25	4	70	140
## 486	104	282	2	2	24	2	63	144	7	26	5	66	150
## 487	133	273	0	1	33	2	63	135	6	30	2	72	190
## 488	93	267	1	3	25	5	63	135	8	27	4	71	156
## 489	101	280	0	0	24	5	65	123	0	25	5	72	173
## 490	118	277	1	2	21	1	64	155	7	25	2	68	165
## 491	130	289	1	0	21	3	61	130	4	26	4	69	200
## 492	125	288	2	4	22	1	63	128	7	23	1	71	180
## 493	140	291	0	0	19	2	65	122	0	21	4	73	187

## 494	115	290	0	2	19	4	65	118	7	22	4	69	150
## 495	130	293	2	0	26	2	63	123	0	26	5	71	195
## 496	114	277	0	5	31	5	64	125	0	32	5	70	155
## 497	105	278	1	2	21	4	64	120	7	24	5	69	145
## 498	101	289	0	0	31	5	60	125	3	31	5	70	160
## 499	132	286	2	2	26	4	67	122	7	29	4	68	163
## 500	112	252	3	2	37	2	64	162	7	43	2	75	205
## 501	69	232	2	2	31	4	59	103	7	32	4	64	142
## 502	114	264	2	0	26	5	63	110	0	29	5	72	190
## 503	123	267	2	0	29	5	63	111	0	32	5	70	160
## 504	129	284	0	0	20	2	66	130	4	24	2	73	183
## 505	114	283	0	0	15	1	64	117	5	20	4	72	168
## 506	115	290	6	0	31	5	62	95	0	32	5	67	150
## 507	98	272	0	2	35	4	64	129	7	26	4	73	180
## 508	128	283	2	2	27	4	67	126	7	27	4	71	190
## 509	119	279	0	0	20	4	65	168	2	21	4	72	150
## 510	119	271	2	2	28	5	64	175	7	30	4	71	174
## 511	154	288	3	0	25	3	65	147	0	36	2	68	145
## 512	127	247	0	1	21	2	63	140	6	35	0	66	150
## 513	131	263	5	2	29	1	64	180	7	32	1	72	180
## 514	129	288	2	3	28	5	59	102	8	29	5	66	163
## 515	114	286	0	0	22	4	64	116	5	23	4	75	195
## 516	110	280	1	3	29	3	62	110	8	33	3	66	120
## 517	103	268	3	2	31	2	64	150	7	38	7	69	170
## 518	117	287	1	0	20	2	65	115	0	23	2	72	150
## 519	138	282	1	0	25	2	64	120	5	30	5	67	160
## 520	126	280	1	0	24	4	66	147	0	26	5	73	182
## 521	124	271	1	0	23	4	66	145	0	25	5	74	215
## 522	111	284	1	0	34	3	62	110	5	42	4	71	175
## 523	132	282	1	0	28	5	67	200	1	29	5	74	205
## 524	103	240	1	0	26	2	65	140	0	25	2	69	165
## 525	158	285	2	0	28	2	62	130	0	34	5	68	163
## 526	146	277	3	0	32	4	61	116	5	34	5	73	210
## 527	101	286	0	0	21	2	64	117	0	22	4	71	155
## 528	132	290	2	0	26	2	66	125	4	28	2	72	205
## 529	114	293	0	0	20	2	66	180	9	23	1	68	140
## 530	71	277	1	0	40	5	69	135	0	43	5	71	175
## 531	116	282	2	0	19	2	64	120	3	21	4	67	180
## 532	108	271	2	0	19	1	60	109	5	21	1	69	250
## 533	123	298	4	0	25	2	64	113	0	27	1	72	197
## 534	129	289	3	0	37	2	63	132	0	52	5	74	180
## 535	134	282	1	0	24	2	62	110	0	31	5	68	145
## 536	113	298	2	0	30	2	60	124	0	28	2	71	195
## 537	123	277	0	0	20	2	65	160	3	21	2	73	165
## 538	147	277	1	0	30	5	68	160	5	36	5	69	160
## 539	121	270	0	0	20	4	62	103	4	22	4	70	175
## 540	125	284	0	0	19	2	67	130	0	21	2	76	185
## 541	115	277	0	0	25	2	66	128	0	35	1	72	162
## 542	101	289	5	0	27	4	59	96	6	26	2	71	170
## 543	93	271	2	0	30	4	65	127	0	30	4	74	167
## 544	109	275	3	0	33	4	66	120	5	37	1	71	170
## 545	115	276	0	0	23	4	60	106	0	25	5	67	150
## 546	130	293	0	0	23	2	65	122	5	25	5	70	150
## 547	123	278	2	0	21	1	61	89	1	22	1	74	195

## 548	111	300	1	0	20	2	64	108	5	25	4	65	150
## 549	97	279	0	0	24	1	64	138	5	35	1	71	165
## 550	122	292	0	0	25	5	65	125	0	28	5	71	190
## 551	124	300	3	0	28	1	63	95	0	36	2	68	135
## 552	129	276	3	2	26	2	66	145	7	27	5	70	180
## 553	124	290	1	0	26	4	59	140	0	31	4	72	190
## 554	107	280	1	2	20	4	60	107	7	23	4	66	163
## 555	142	273	0	0	22	2	62	125	5	23	2	72	175
## 556	129	287	0	0	29	2	66	135	1	39	4	70	192
## 557	174	281	3	0	37	4	67	155	4	27	2	72	175
## 558	105	264	5	2	30	4	65	105	7	45	2	69	156
## 559	103	291	0	3	26	5	63	102	8	29	5	67	135
## 560	124	285	0	3	27	4	63	114	0	38	4	66	145
## 561	105	265	6	0	43	5	65	124	0	51	5	71	170
## 562	133	275	7	2	36	1	65	137	7	44	1	71	195
## 563	161	302	0	0	22	4	70	170	5	23	1	73	190
## 564	105	260	3	2	23	1	64	197	7	24	1	74	215
## 565	108	281	8	2	41	1	66	171	7	49	1	67	187
## 566	153	297	1	0	27	2	66	145	5	33	2	67	165
## 567	133	280	0	3	25	5	61	130	8	28	5	71	175
## 568	115	269	4	0	41	2	63	165	0	42	4	69	168
## 569	127	254	1	0	27	2	67	146	5	32	1	66	175
## 570	128	271	2	0	41	2	65	135	5	35	1	72	188
## 571	117	265	2	0	40	4	68	134	2	48	2	74	190
## 572	123	274	2	0	23	4	66	135	0	25	5	74	170
## 573	119	288	0	0	22	2	64	132	0	32	5	70	210
## 574	141	284	0	0	17	1	64	105	3	19	1	73	220
## 575	91	260	1	0	26	2	62	110	1	26	4	68	150
## 576	116	291	1	0	29	4	65	133	0	30	5	75	175
## 577	116	255	3	2	24	2	65	132	7	33	5	67	180
## 578	121	273	3	0	32	5	64	112	0	35	5	72	184
## 579	111	274	5	0	36	2	67	159	0	41	1	71	155
## 580	102	257	1	0	25	1	66	135	3	24	1	73	155
## 581	118	283	1	0	24	2	65	150	0	27	4	71	185
## 582	126	294	0	0	22	4	65	125	1	27	5	66	163
## 583	98	286	2	0	31	2	62	105	0	36	4	68	170
## 584	131	288	0	0	28	2	65	125	3	29	5	72	220
## 585	115	278	1	0	21	2	60	113	3	26	2	66	160
## 586	103	281	0	0	22	2	59	98	0	23	1	69	146
## 587	147	301	3	0	26	5	65	130	0	26	4	71	185
## 588	123	308	0	0	19	2	65	135	4	22	2	68	155
## 589	125	283	1	0	22	4	65	119	0	23	2	66	150
## 590	117	270	2	0	30	1	67	130	3	40	1	70	148
## 591	99	268	4	0	29	4	71	150	0	34	5	73	190
## 592	115	283	1	0	31	3	66	127	0	33	1	71	205
## 593	116	265	11	2	36	1	63	120	7	37	1	69	155
## 594	118	297	1	0	35	2	68	140	0	40	2	72	165
## 595	170	303	0	0	21	4	64	129	5	28	3	71	180
## 596	104	270	1	1	25	1	61	110	6	25	1	71	185
## 597	108	269	0	0	20	1	62	114	0	21	2	67	165
## 598	144	289	0	0	17	2	69	130	0	19	1	68	140
## 599	99	250	0	0	26	5	66	115	0	34	5	67	164
## 600	97	263	0	2	25	4	63	107	7	26	4	72	190
## 601	142	284	5	0	37	1	68	155	0	41	3	69	174

## 602	85	270	0	0	19	2	63	118	4	19	2	73	205
## 603	130	285	0	0	24	5	66	126	0	28	4	75	208
## 604	117	275	3	2	22	1	62	115	7	26	4	69	185
## 605	109	302	1	0	24	5	64	110	2	24	5	70	165
## 606	147	285	2	0	24	5	64	137	0	26	4	71	164
## 607	105	281	0	0	23	5	64	115	0	25	4	70	170
## 608	135	278	0	0	27	2	68	139	1	25	2	75	185
## 609	115	273	0	0	23	2	67	215	7	38	2	71	180
## 610	123	280	2	0	23	1	65	140	3	28	1	68	160
## 611	105	274	0	3	26	5	61	100	8	28	5	72	130
## 612	154	271	6	0	36	2	69	160	0	38	5	73	202
## 613	110	276	2	3	25	4	63	107	8	28	4	66	165
## 614	119	285	0	2	26	4	62	108	7	47	2	68	185
## 615	103	292	0	0	28	5	62	132	0	31	4	67	147
## 616	117	272	1	0	25	2	64	116	5	28	2	75	220
## 617	120	289	2	2	23	2	69	165	7	25	4	70	200
## 618	145	278	3	0	24	2	62	109	3	24	1	69	135
## 619	104	271	2	2	20	2	62	98	7	24	2	69	160
## 620	123	268	0	1	18	1	62	110	6	23	2	64	165
## 621	124	272	2	0	27	2	62	110	1	26	2	74	175
## 622	129	275	1	0	26	5	64	115	0	34	5	72	145
## 623	91	248	9	2	33	4	63	202	7	42	1	69	170
## 624	109	295	5	5	32	1	61	135	10	47	0	64	140
## 625	108	268	2	0	22	2	58	112	5	23	2	68	156
## 626	79	268	1	0	36	2	61	108	0	39	4	67	150
## 627	133	301	1	0	23	2	62	108	0	25	1	71	180
## 628	114	309	0	0	27	0	62	118	3	26	0	67	175
## 629	128	273	4	0	34	5	61	125	0	34	5	76	220
## 630	129	280	0	0	24	5	65	126	0	25	5	71	180
## 631	97	234	0	1	26	5	65	112	1	27	4	67	145
## 632	103	276	0	0	21	2	62	130	1	24	2	66	149
## 633	176	293	0	0	19	4	68	180	0	21	4	73	200
## 634	143	294	6	0	44	5	65	145	0	45	5	73	180
## 635	127	292	0	0	21	4	68	130	0	22	4	72	156
## 636	107	256	1	0	28	1	59	90	0	33	2	72	148
## 637	113	268	4	0	31	1	62	100	0	31	1	68	145
## 638	106	279	0	0	21	2	62	118	4	24	5	72	185
## 639	152	285	2	0	24	2	61	120	0	29	1	68	180
## 640	150	275	4	2	29	1	65	145	7	33	2	75	215
## 641	136	278	4	0	35	4	64	118	0	35	4	71	170
## 642	151	298	3	0	37	2	64	135	2	42	4	69	160
## 643	124	279	5	0	35	1	66	129	0	44	1	72	165
## 644	123	284	0	0	18	1	64	112	5	18	1	71	170
## 645	119	288	1	0	37	2	62	128	0	35	0	71	165
## 646	122	291	5	2	40	4	64	155	7	41	1	71	175
## 647	112	250	1	2	34	5	67	124	7	35	2	71	182
## 648	93	270	5	4	25	1	64	125	0	27	4	78	215
## 649	109	271	3	0	27	1	61	116	2	28	1	72	188
## 650	136	274	0	0	20	1	63	165	0	22	1	68	148
## 651	121	269	4	0	31	2	68	132	0	33	2	70	180
## 652	150	292	1	0	26	4	64	124	5	30	5	70	197
## 653	94	264	0	0	26	2	64	135	0	23	1	74	185
## 654	120	280	2	0	29	4	70	145	5	32	5	73	193
## 655	146	306	3	0	38	4	63	112	5	43	4	72	170

## 656	129	274	1	0	19	1	65	101	5	22	1	65	146
## 657	125	292	1	0	27	4	65	117	5	31	5	70	165
## 658	124	273	1	1	21	2	63	115	0	21	2	71	170
## 659	141	282	2	0	27	4	63	115	0	29	5	71	170
## 660	96	266	1	0	33	5	67	135	0	32	5	71	145
## 661	138	297	1	0	30	4	66	133	0	43	4	74	200
## 662	127	282	3	0	28	2	67	134	0	33	2	71	180
## 663	114	251	3	0	26	2	64	119	0	28	2	73	185
## 664	103	297	3	0	31	2	64	125	5	37	5	72	193
## 665	127	288	0	0	20	2	65	115	4	23	4	72	185
## 666	141	292	2	0	29	2	62	110	5	30	2	71	199
## 667	113	274	3	0	23	2	63	108	4	24	2	76	180
## 668	99	249	0	2	31	1	57	98	7	31	1	69	170
## 669	97	279	3	0	33	4	61	105	1	33	4	70	150
## 670	116	275	0	0	20	2	68	145	5	24	2	70	180
## 671	126	297	6	0	26	1	66	120	0	38	1	73	196
## 672	158	296	4	0	28	4	66	140	5	29	5	71	150
## 673	119	277	2	0	28	5	66	130	0	32	5	76	170
## 674	123	283	1	0	27	2	62	110	0	27	2	71	170
## 675	129	287	3	0	24	2	60	107	4	25	1	67	155
## 676	117	256	3	0	37	2	65	132	1	38	5	73	180
## 677	100	275	3	2	26	2	60	115	7	29	2	69	150
## 678	131	274	4	2	28	2	64	118	7	28	2	71	190
## 679	146	279	1	0	27	5	64	124	0	30	5	74	190
## 680	84	267	1	3	29	4	60	95	8	30	4	66	145
## 681	115	302	1	0	28	2	64	116	3	31	3	68	125
## 682	115	281	5	1	25	2	60	94	6	29	0	64	138
## 683	118	284	4	2	28	2	70	145	7	30	4	70	165
## 684	91	292	0	0	19	2	61	125	0	29	5	70	160
## 685	112	255	9	2	39	0	60	115	7	47	0	66	175
## 686	115	316	0	0	29	5	64	110	0	30	5	68	156
## 687	110	269	2	0	38	5	61	102	2	41	5	63	160
## 688	117	277	2	0	34	5	66	140	2	36	5	73	156
## 689	109	268	0	0	29	2	65	120	3	36	4	70	148
## 690	99	267	1	1	22	2	62	94	6	24	2	67	159
## 691	131	274	2	0	27	2	62	160	3	32	2	71	178
## 692	136	291	0	0	25	4	61	105	1	33	4	68	158
## 693	130	298	1	0	20	2	62	120	0	20	1	73	182
## 694	134	296	5	0	35	5	60	117	5	37	5	67	150
## 695	128	271	2	0	29	4	65	126	0	30	5	72	145
## 696	150	286	3	0	38	4	67	175	3	42	5	61	148
## 697	86	284	7	0	39	1	65	174	5	43	1	69	150
## 698	115	278	1	0	26	4	63	112	0	28	5	67	136
## 699	141	281	1	0	28	4	65	105	0	31	2	72	180
## 700	78	237	0	0	23	4	63	144	3	26	4	69	154
## 701	100	295	0	0	21	2	68	125	0	22	3	71	130
## 702	116	270	1	2	25	5	68	169	7	26	4	76	195
## 703	110	271	0	0	26	4	66	135	0	30	2	72	205
## 704	109	283	4	2	34	2	64	120	7	38	0	72	155
## 705	113	259	1	0	38	7	64	128	0	45	2	72	180
## 706	136	297	0	0	23	5	66	135	1	24	5	73	183
## 707	114	278	2	0	23	4	63	116	0	24	5	68	185
## 708	121	273	0	0	34	2	61	125	3	38	2	66	162
## 709	117	288	0	3	28	5	63	140	8	31	5	71	180

## 710	166	299	2	0	26	5	68	140	5	27	5	75	172
## 711	87	229	2	2	27	2	62	138	7	30	2	74	190
## 712	120	294	0	0	23	4	66	128	5	26	4	71	170
## 713	95	286	1	0	26	2	66	118	0	25	2	68	170
## 714	132	273	1	0	28	4	62	113	0	28	5	73	190
## 715	90	286	1	0	32	5	63	105	0	40	5	72	190
## 716	131	308	2	0	30	2	58	150	0	33	2	67	160
## 717	103	279	0	2	22	5	65	145	7	29	4	73	180
## 718	144	287	0	0	33	4	71	153	0	36	5	71	200
## 719	137	299	2	0	24	2	62	115	0	26	5	68	165
## 720	124	270	1	0	20	2	64	122	5	23	1	69	160
## 721	136	281	0	0	27	4	64	127	0	33	4	72	200
## 722	117	298	0	2	22	2	64	160	7	30	2	69	200
## 723	121	269	1	0	23	2	62	130	0	28	2	73	190
## 724	116	280	5	2	34	4	68	198	7	35	0	69	145
## 725	139	275	2	3	33	5	62	118	8	31	5	69	165
## 726	110	280	3	0	39	0	67	125	1	42	0	68	140
## 727	86	242	1	2	20	2	64	110	7	25	2	66	120
## 728	133	287	1	0	20	2	65	165	4	23	2	72	208
## 729	81	254	1	2	23	2	62	157	7	24	1	68	165
## 730	133	281	5	0	33	2	63	120	5	31	5	73	193
## 731	132	284	0	0	20	4	66	140	0	28	5	72	170
## 732	132	287	3	0	29	4	64	148	0	34	5	71	200
## 733	137	274	1	0	27	5	64	126	0	35	5	71	180
## 734	84	279	4	2	34	2	63	190	7	35	1	71	215
## 735	136	279	3	0	30	4	69	130	0	35	3	73	180
## 736	92	270	2	3	34	5	62	100	8	39	5	71	140
## 737	114	298	0	2	28	4	67	114	7	30	2	73	178
## 738	129	274	3	0	33	4	69	136	0	36	5	74	175
## 739	167	288	0	0	19	1	63	117	0	20	1	71	188
## 740	71	223	1	2	19	1	64	120	7	25	2	66	160
## 741	124	282	0	0	22	5	65	118	1	29	5	70	165
## 742	105	269	2	3	27	5	62	100	0	27	4	66	140
## 743	155	283	0	0	19	1	70	137	4	21	2	71	170
## 744	125	279	0	4	21	4	66	126	7	26	5	72	165
## 745	125	266	1	2	21	2	62	120	7	25	2	64	168
## 746	125	283	0	0	22	5	59	96	5	24	4	69	168
## 747	115	315	0	0	22	4	62	110	0	24	4	72	188
## 748	174	288	2	0	25	4	61	182	4	26	1	72	150
## 749	127	290	2	0	35	4	66	122	5	35	2	72	195
## 750	113	262	1	0	24	1	60	105	1	30	4	70	190
## 751	115	273	1	0	22	2	66	130	0	22	4	69	163
## 752	139	277	5	0	35	4	63	140	5	42	5	73	158
## 753	127	275	1	0	26	2	62	125	0	29	2	72	173
## 754	111	289	3	0	26	2	66	129	4	31	1	73	175
## 755	112	272	3	0	26	1	60	98	3	35	0	68	145
## 756	143	285	1	0	30	2	64	135	5	29	2	72	175
## 757	116	286	0	0	22	2	58	105	0	24	1	72	190
## 758	155	279	3	0	33	2	61	125	3	34	2	69	173
## 759	121	290	1	0	31	5	64	127	1	33	5	71	180
## 760	110	282	0	0	21	2	66	125	5	22	1	75	175
## 761	87	277	4	0	31	2	62	120	0	33	5	70	150
## 762	132	330	1	0	34	4	64	130	0	32	5	69	160
## 763	105	261	3	0	32	1	63	119	0	36	2	68	165

## 764	129	277	3	0	24	2	68	142	3	31	1	69	180
## 765	123	280	1	0	20	2	62	105	0	23	4	72	192
## 766	91	279	0	3	27	4	62	118	8	31	2	69	190
## 767	147	286	4	0	30	4	68	147	0	33	4	70	175
## 768	144	289	2	0	20	2	62	106	0	25	4	70	157
## 769	128	292	3	0	30	2	64	127	0	31	4	76	182
## 770	137	318	0	0	19	2	64	110	3	23	2	64	150
## 771	104	289	4	1	24	1	60	104	6	26	1	65	140
## 772	120	271	2	0	32	2	63	130	3	32	2	67	180
## 773	112	277	0	0	23	5	64	118	5	25	5	76	195
## 774	138	286	1	0	26	4	63	111	0	26	5	72	170
## 775	96	280	1	0	27	4	63	105	0	30	4	68	149
## 776	134	285	1	5	35	5	62	134	10	59	0	64	138
## 777	126	285	1	0	24	2	64	140	5	28	2	75	225
## 778	112	300	1	2	29	4	62	121	7	29	5	68	150
## 779	138	313	0	0	27	5	65	111	0	28	4	68	180
## 780	110	275	2	0	25	1	63	120	5	24	2	68	165
## 781	83	253	1	0	29	5	63	110	5	38	5	69	170
## 782	112	288	0	0	20	2	62	110	0	23	2	74	180
## 783	148	286	2	0	38	5	68	160	0	34	5	69	135
## 784	119	300	0	0	34	5	63	124	3	36	5	69	170
## 785	86	246	1	0	25	4	64	113	0	24	5	73	210
## 786	110	269	2	2	38	5	63	145	7	43	2	72	165
## 787	126	282	3	2	23	2	61	120	7	29	1	71	189
## 788	125	272	1	5	30	4	60	96	10	51	4	65	145
## 789	136	252	2	1	27	2	63	130	6	33	0	69	140
## 790	127	283	0	0	29	5	64	119	2	34	5	70	175
## 791	84	272	3	2	25	1	64	150	7	27	2	68	185
## 792	131	278	3	2	22	4	66	124	7	23	3	72	156
## 793	123	286	0	0	21	2	67	130	0	26	2	77	180
## 794	96	282	0	0	30	5	68	127	0	29	4	71	170
## 795	110	286	2	0	26	2	62	100	0	29	4	69	145
## 796	123	282	2	0	29	2	68	164	0	33	2	71	183
## 797	152	286	0	0	19	2	67	135	0	19	2	69	164
## 798	127	288	1	0	28	2	65	155	0	25	1	75	170
## 799	117	269	0	0	21	2	64	149	5	27	2	71	142
## 800	125	277	2	0	29	4	66	139	0	38	4	71	160
## 801	139	273	2	0	29	5	68	130	0	28	5	74	195
## 802	114	280	2	0	31	4	66	134	5	30	5	73	170
## 803	96	280	0	0	34	5	62	127	4	34	5	70	165
## 804	124	289	3	2	29	2	63	110	7	32	5	69	185
## 805	107	272	3	0	30	4	64	140	0	38	4	71	190
## 806	113	277	3	0	38	5	64	108	0	43	2	68	194
## 807	98	292	0	0	20	4	65	124	5	29	1	69	160
## 808	119	285	0	0	28	5	65	127	5	31	5	71	165
## 809	107	268	3	5	37	1	58	112	10	56	0	62	165
## 810	117	255	2	0	26	2	61	120	0	32	2	72	190
## 811	117	305	1	0	24	5	64	155	0	24	5	71	173
## 812	144	276	1	0	23	2	67	129	4	25	4	73	180
## 813	136	268	2	0	30	5	63	132	5	32	5	71	135
## 814	121	278	1	0	28	4	69	132	0	29	5	72	180
## 815	165	282	1	0	29	5	66	145	1	29	2	67	125
## 816	120	279	6	0	38	2	64	124	2	38	4	72	165
## 817	125	280	3	0	30	2	65	130	0	32	4	72	165

## 818	137	285	1	2	29	2	65	110	7	29	2	67	170
## 819	100	288	0	0	28	1	61	108	3	35	1	64	127
## 820	134	284	2	0	28	2	62	112	0	28	4	70	173
## 821	88	262	2	2	20	1	65	118	7	19	1	76	190
## 822	108	291	2	0	39	4	65	135	3	43	5	72	193
## 823	123	271	3	0	41	2	64	162	0	43	5	71	205
## 824	141	277	3	0	38	4	66	162	0	50	2	72	162
## 825	130	270	0	0	19	4	66	130	5	24	4	72	183
## 826	139	299	0	0	20	2	67	112	0	20	4	70	145
## 827	130	283	3	2	32	2	65	118	7	38	4	67	155
## 828	113	289	0	0	26	4	59	91	0	27	5	67	150
## 829	77	238	0	4	23	4	63	103	5	26	4	71	160
## 830	62	228	1	2	24	4	61	107	7	25	4	73	167
## 831	93	245	1	3	33	2	61	100	0	22	2	70	187
## 832	109	275	0	0	37	2	63	112	5	31	2	70	187
## 833	145	283	5	0	27	1	65	125	6	25	2	70	180
## 834	92	224	2	0	19	1	63	134	0	21	2	69	165
## 835	120	281	1	0	26	2	61	115	10	30	5	71	137
## 836	135	284	1	0	39	1	67	141	0	43	1	70	170
## 837	113	287	4	0	36	5	63	118	0	40	2	70	145
## 838	126	251	0	0	28	5	64	123	6	27	4	67	186
## 839	143	270	0	0	27	5	70	148	1	32	5	75	205
## 840	128	282	0	0	25	5	64	125	2	33	5	75	220
## 841	98	262	2	0	22	4	67	120	5	22	4	73	185
## 842	110	306	0	0	32	2	61	122	5	33	4	71	190
## 843	162	284	4	1	27	1	64	126	6	29	2	67	208
## 844	116	292	0	0	20	2	65	118	3	25	3	68	175
## 845	128	284	1	0	23	4	62	110	0	25	5	67	155
## 846	111	275	0	0	18	1	61	108	0	19	2	68	154
## 847	137	280	3	3	34	5	60	107	8	34	5	69	135
## 848	134	278	2	0	28	2	59	126	3	28	2	69	145
## 849	100	264	2	2	29	2	64	120	7	29	2	72	165
## 850	160	271	3	0	32	4	67	215	5	34	5	72	170
## 851	112	267	0	0	22	2	62	138	0	24	1	70	167
## 852	134	297	1	0	27	2	67	170	0	29	2	73	180
## 853	145	308	2	0	35	1	64	110	3	38	1	67	157
## 854	116	295	9	0	32	1	65	120	0	35	5	71	178
## 855	126	278	4	0	26	1	64	150	0	31	1	71	153
## 856	111	285	2	0	29	5	65	130	0	30	5	71	160
## 857	126	282	3	0	33	2	62	117	3	39	2	72	158
## 858	109	291	3	0	39	2	64	107	0	41	4	67	150
## 859	136	291	3	0	41	3	66	191	0	43	2	66	148
## 860	119	286	4	0	22	1	63	185	5	29	2	67	150
## 861	103	267	0	0	21	2	66	150	0	22	2	73	212
## 862	124	284	0	0	17	1	62	112	0	21	2	70	150
## 863	155	286	6	0	31	1	66	127	0	41	1	75	220
## 864	122	282	0	0	21	4	66	110	3	25	4	74	193
## 865	113	285	2	0	26	1	66	140	3	35	2	68	155
## 866	122	273	1	0	26	4	66	210	0	27	4	71	180
## 867	126	293	0	0	27	5	62	111	0	26	5	72	180
## 868	116	277	2	0	41	3	64	124	0	44	2	67	145
## 869	102	294	1	0	21	1	65	130	0	23	2	72	175
## 870	110	181	7	2	27	1	64	133	7	29	2	70	170
## 871	133	285	0	2	30	5	64	160	7	34	5	72	205

## 872	125	283	3	0	29	5	65	125	4	31	5	71	185
## 873	164	286	0	0	32	2	66	143	3	31	5	70	160
## 874	133	297	3	2	36	1	61	125	7	38	2	68	145
## 875	135	300	1	0	25	5	64	127	0	31	2	73	183
## 876	124	293	0	0	19	2	65	150	0	20	2	72	200
## 877	122	306	0	2	22	4	62	100	7	36	4	69	180
## 878	121	271	0	0	34	5	63	129	5	27	5	71	155
## 879	100	272	2	2	30	4	64	150	7	31	2	69	210
## 880	129	284	0	0	19	2	61	110	6	19	1	67	156
## 881	90	266	0	0	26	4	67	135	4	26	4	72	150
## 882	128	272	0	0	18	1	67	109	0	20	2	71	155
## 883	116	280	0	0	22	4	59	90	3	28	5	69	145
## 884	86	276	0	0	23	2	65	125	0	24	4	72	130
## 885	123	282	1	0	30	4	63	118	0	29	5	70	158
## 886	87	275	3	2	28	4	63	110	7	30	4	72	165
## 887	128	291	0	0	27	2	63	132	3	31	5	76	185
## 888	120	288	1	0	28	5	63	125	0	31	4	69	148
## 889	125	301	0	0	35	5	68	181	0	35	5	69	180
## 890	118	265	2	2	27	5	61	123	7	27	4	71	135
## 891	116	284	0	0	24	5	66	117	0	29	5	71	187
## 892	131	262	1	0	22	4	67	135	5	26	1	74	195
## 893	151	286	0	0	22	4	66	130	0	23	5	73	188
## 894	88	273	1	0	20	1	66	110	3	23	2	68	160
## 895	137	284	4	2	30	4	67	110	7	31	4	70	165
## 896	127	289	1	0	23	5	67	140	2	26	5	66	160
## 897	96	278	0	0	18	1	60	120	2	22	1	65	120
## 898	129	281	2	2	31	2	67	155	7	37	1	72	175
## 899	128	288	0	0	26	5	65	114	0	32	5	73	170
## 900	85	255	1	2	24	2	68	159	7	26	4	72	173
## 901	111	281	0	0	27	5	64	112	2	31	5	71	160
## 902	124	275	1	1	28	7	61	116	6	27	0	69	152
## 903	112	292	0	0	28	5	62	110	0	28	5	72	170
## 904	115	281	4	0	28	4	61	128	3	30	2	73	212
## 905	72	271	7	0	39	4	61	136	10	57	7	66	140
## 906	122	281	0	4	24	4	65	137	7	45	3	71	180
## 907	116	291	6	2	26	1	66	153	7	30	3	73	178
## 908	127	272	2	0	20	1	64	130	0	22	4	75	220
## 909	90	266	2	2	23	1	61	99	7	24	1	67	147
## 910	99	273	0	0	27	5	59	115	2	28	5	66	168
## 911	144	307	0	0	26	5	66	125	5	28	5	67	150
## 912	138	280	0	0	30	1	65	175	3	30	2	75	230
## 913	58	245	6	2	34	4	64	156	7	41	2	74	180
## 914	109	265	0	0	24	2	63	107	0	25	2	72	184
## 915	110	277	0	0	19	4	62	160	4	23	2	69	168
## 916	129	278	1	2	27	4	63	128	7	39	1	73	180
## 917	150	284	4	2	40	1	67	130	7	40	2	70	173
## 918	128	279	2	2	27	2	66	135	7	26	2	67	175
## 919	142	284	0	0	31	5	66	137	5	44	5	73	173
## 920	115	268	0	0	31	4	64	125	0	35	5	72	185
## 921	108	274	3	2	28	1	66	175	7	36	4	67	175
## 922	108	283	1	3	35	4	62	108	8	34	5	64	138
## 923	139	281	2	4	27	4	63	137	0	33	4	71	164
## 924	115	275	3	2	25	1	61	155	7	33	4	69	165
## 925	136	288	1	2	23	2	62	217	7	28	2	69	165

## 926	163	289	0	0	25	4	64	126	0	31	5	74	160
## 927	131	285	3	0	26	2	64	130	4	27	1	73	245
## 928	77	238	3	0	38	2	67	135	0	39	5	70	165
## 929	124	283	0	0	33	5	67	156	2	35	4	73	180
## 930	104	270	0	0	26	5	62	115	0	28	4	70	180
## 931	102	267	0	0	24	2	61	109	0	30	4	70	175
## 932	94	268	4	0	30	1	62	105	0	32	1	67	175
## 933	158	295	0	0	37	4	70	137	0	33	5	69	160
## 934	112	275	0	2	21	2	68	143	7	27	2	71	160
## 935	119	286	2	0	26	5	64	123	0	30	5	63	145
## 936	97	279	5	2	29	1	68	178	7	42	3	69	140
## 937	99	252	1	0	21	2	64	120	0	22	1	72	180
## 938	115	264	0	2	23	4	67	134	7	27	4	75	190
## 939	139	284	9	1	37	3	61	121	6	37	1	66	160
## 940	144	304	0	1	27	0	58	102	6	27	1	67	162
## 941	99	270	1	0	22	1	63	115	0	27	1	67	154
## 942	105	280	0	2	22	5	63	116	7	25	4	72	165
## 943	89	275	2	2	34	3	66	170	7	39	5	69	205
## 944	129	270	10	2	43	0	67	160	7	46	0	63	180
## 945	119	270	0	0	20	2	64	109	4	21	2	71	150
## 946	114	291	5	0	35	2	60	112	0	35	2	68	150
## 947	106	289	1	0	28	5	67	120	0	29	5	70	170
## 948	122	292	0	0	34	2	65	133	0	36	5	66	150
## 949	136	261	1	0	24	1	65	110	1	25	2	72	190
## 950	121	286	0	0	22	1	69	130	4	24	1	78	230
## 951	112	282	2	0	26	2	65	122	0	29	2	76	200
## 952	112	266	2	0	26	4	64	122	0	28	5	70	165
## 953	123	314	1	0	22	1	61	121	0	23	2	75	185
## 954	139	286	1	0	33	2	65	125	0	36	1	73	190
## 955	125	290	3	0	36	2	59	105	0	43	2	68	162
## 956	105	295	0	0	20	2	64	112	0	23	2	72	190
## 957	130	276	6	0	41	4	68	130	0	48	2	74	190
## 958	146	294	2	0	22	1	66	145	5	22	2	70	192
## 959	133	290	1	0	21	2	64	145	4	22	2	68	163
## 960	147	296	0	0	19	2	67	124	5	23	1	72	173
## 961	109	269	1	0	23	3	63	113	0	25	1	72	180
## 962	122	286	2	0	23	2	64	120	0	27	3	68	150
## 963	135	260	4	0	43	3	65	135	0	45	2	72	220
## 964	107	282	1	0	19	1	60	118	5	22	1	67	157
## 965	117	272	4	0	32	4	66	118	0	33	5	67	130
## 966	138	284	3	0	30	4	66	133	0	34	5	71	160
## 967	120	283	2	0	28	2	64	122	3	29	2	70	170
## 968	119	273	2	0	35	2	65	125	0	50	1	71	160
## 969	118	278	0	2	19	2	62	126	7	37	0	63	180
## 970	105	330	3	2	23	2	64	112	7	25	4	72	155
## 971	113	306	0	2	21	4	65	137	7	25	2	72	170
## 972	136	270	13	0	36	2	66	135	0	39	5	72	185
## 973	148	291	0	0	21	2	63	115	4	21	2	76	180
## 974	140	281	0	0	22	4	69	135	2	30	5	69	165
## 975	134	287	0	0	33	4	67	131	3	37	5	71	168
## 976	120	280	2	3	31	2	61	111	8	36	2	69	165
## 977	123	296	0	0	26	5	64	110	1	26	5	72	170
## 978	102	275	2	1	43	2	64	160	6	47	2	67	145
## 979	55	204	11	2	35	3	65	140	7	36	4	74	250

##	980	103	276	0	0	19	2	63	149	3	22	4	71	200
##	981	123	283	2	0	21	2	65	110	0	23	2	69	185
##	982	105	270	0	0	27	5	65	134	0	26	5	74	180
##	983	138	289	3	0	33	5	65	155	0	52	5	71	183
##	984	128	281	3	4	28	3	63	150	7	31	5	68	165
##	985	139	285	3	0	30	1	65	129	0	32	1	71	180
##	986	104	288	0	0	27	2	61	122	5	30	5	73	150
##	987	159	296	0	0	27	3	64	112	1	36	5	67	150
##	988	118	276	3	0	29	2	62	130	0	31	4	68	170
##	989	99	285	2	0	25	2	69	128	0	30	2	69	145
##	990	144	281	1	0	20	2	63	120	0	23	1	68	145
##	991	121	270	2	0	25	2	62	108	4	26	1	71	190
##	992	117	265	0	2	24	4	66	98	7	22	4	71	160
##	993	119	293	0	0	23	4	65	127	0	28	5	67	148
##	994	105	281	0	0	19	2	61	130	0	28	3	70	195
##	995	125	283	6	0	37	3	63	145	5	40	1	73	175
##	996	119	259	6	5	37	1	62	130	10	51	1	66	175
##	997	101	273	5	4	39	2	60	113	7	44	2	65	150
##	998	105	277	0	2	25	2	64	156	7	28	2	67	175
##	999	110	281	1	2	27	3	60	110	7	25	4	69	150
##	1000	100	270	0	2	21	4	65	132	7	24	4	72	159
##	1001	98	284	1	0	29	5	68	140	2	37	5	71	163
##	1002	127	276	8	2	37	1	64	159	7	43	0	64	156
##	1003	117	324	1	0	22	1	62	164	3	26	2	65	150
##	1004	122	278	1	0	37	7	68	114	2	37	4	73	208
##	1005	122	273	0	0	23	4	64	130	5	25	3	61	165
##	1006	118	281	0	2	36	1	66	140	7	42	3	78	205
##	1007	137	303	0	0	23	5	66	127	0	25	5	71	165
##	1008	120	275	2	0	32	5	63	115	0	31	5	70	170
##	1009	143	285	2	2	27	4	68	185	7	36	2	72	185
##	1010	108	270	2	0	29	2	67	124	3	25	2	70	200
##	1011	131	284	0	0	19	2	61	114	0	20	2	70	185
##	1012	110	277	2	3	36	5	61	116	8	37	5	66	143
##	1013	105	276	1	0	20	2	62	112	0	24	2	69	197
##	1014	133	274	1	1	30	2	63	148	6	38	0	63	142
##	1015	125	255	2	2	23	4	63	133	7	21	3	70	188
##	1016	78	258	0	0	24	4	66	115	2	25	5	71	145
##	1017	114	289	3	0	36	5	60	115	0	37	5	72	150
##	1018	111	278	1	0	29	4	65	145	0	32	5	73	220
##	1019	103	250	5	0	40	1	59	140	3	40	0	61	165
##	1020	114	276	1	2	26	4	62	127	7	27	2	71	200
##	1021	75	247	9	0	36	1	64	120	3	29	1	70	155
##	1022	169	296	2	0	33	1	67	185	0	33	2	73	200
##	1023	94	271	4	0	36	1	61	130	0	38	1	72	180
##	1024	150	287	6	0	36	2	62	135	0	36	2	75	173
##	1025	144	248	1	0	30	2	70	145	0	31	4	75	190
##	1026	144	291	1	0	28	2	67	130	4	33	2	73	190
##	1027	143	313	1	0	20	2	68	150	0	26	4	74	220
##	1028	145	304	0	0	25	2	63	109	0	44	2	70	210
##	1029	121	285	2	0	34	5	64	110	0	36	5	71	140
##	1030	105	256	3	2	31	5	66	142	7	38	4	66	135
##	1031	134	286	1	0	25	5	64	125	0	27	5	72	150
##	1032	129	294	0	0	21	4	65	132	2	21	1	73	165
##	1033	114	276	1	0	24	4	63	110	0	28	4	68	170

## 1034 97	265	2	0	30	2	61	110	0	30	4	68	166
## 1035 160	292	2	0	28	5	64	120	0	29	5	76	185
## 1036 65	237	3	0	31	4	67	130	0	32	5	73	200
## 1037 145	288	3	0	28	4	64	116	1	29	5	67	149
## 1038 95	273	1	0	23	4	60	90	1	29	5	65	115
## 1039 139	293	0	0	21	4	69	130	0	32	5	72	190
## 1040 123	288	1	0	27	5	63	125	0	34	5	72	173
## 1041 109	283	1	0	23	2	65	112	0	24	5	72	178
## 1042 110	268	2	2	34	4	64	127	7	32	4	69	157
## 1043 122	296	0	0	24	5	65	132	0	25	4	70	168
## 1044 115	307	3	0	34	5	65	128	2	38	5	71	175
## 1045 117	323	2	2	26	1	62	122	7	45	1	66	155
## 1046 108	279	0	0	19	2	64	115	0	29	2	69	140
## 1047 120	287	2	2	23	2	67	116	7	29	1	75	198
## 1048 131	269	3	0	36	2	68	145	7	29	1	68	145
## 1049 136	283	0	0	24	5	63	119	0	23	4	71	165
## 1050 125	290	4	0	32	2	63	135	4	36	1	66	146
## 1051 96	285	0	0	20	2	66	117	3	29	1	68	165
## 1052 102	282	0	0	29	5	65	125	0	25	5	73	200
## 1053 102	288	0	0	18	2	65	117	5	20	2	64	123
## 1054 112	277	0	0	22	4	67	120	0	23	4	72	210
## 1055 135	272	2	2	30	4	65	130	7	39	2	74	190
## 1056 91	266	3	2	23	1	60	120	7	26	2	64	150
## 1057 129	276	1	0	31	5	63	125	0	33	5	73	170
## 1058 155	290	1	0	26	2	66	129	0	27	2	73	183
## 1059 109	274	2	0	33	2	69	144	0	38	4	70	188
## 1060 80	262	0	4	31	5	61	100	0	34	5	73	187
## 1061 125	273	4	2	30	2	64	145	7	34	2	68	206
## 1062 94	284	5	0	24	2	63	104	7	24	1	73	185
## 1063 148	281	2	0	27	2	63	110	5	27	3	73	187
## 1064 73	277	1	2	29	2	65	145	7	30	2	73	190
## 1065 123	267	0	0	19	1	66	132	0	22	4	69	182
## 1066 65	232	1	2	24	3	66	125	7	28	4	69	160
## 1067 118	279	0	0	21	2	64	108	0	22	2	67	166
## 1068 102	283	2	0	39	2	60	119	0	37	2	67	149
## 1069 120	280	3	2	24	2	61	118	7	28	4	70	155
## 1070 108	270	0	2	21	4	65	130	7	23	2	73	200
## 1071 122	280	0	0	45	4	62	128	0	62	1	66	150
## 1072 103	268	4	0	32	2	62	97	5	33	2	73	150
## 1073 105	312	5	2	41	0	61	115	7	41	2	73	170
## 1074 126	273	0	0	25	5	68	135	3	25	5	71	165
## 1075 145	316	2	0	22	1	67	142	0	23	1	70	140
## 1076 139	293	1	0	34	2	66	131	0	37	2	70	170
## 1077 124	290	1	0	26	4	65	165	5	25	4	68	160
## 1078 121	282	3	0	30	1	65	122	3	37	1	69	152
## 1079 126	299	0	0	21	2	60	114	3	27	4	67	160
## 1080 119	286	0	0	33	5	67	137	0	31	5	74	170
## 1081 114	277	0	0	19	2	63	107	0	19	4	67	150
## 1082 118	272	1	0	23	2	64	113	0	23	2	75	175
## 1083 127	295	6	2	36	4	65	145	7	34	4	71	170
## 1084 117	290	0	0	22	2	67	110	5	26	2	71	220
## 1085 137	277	4	0	41	5	65	126	0	37	5	71	168
## 1086 133	292	4	2	29	4	65	135	7	31	4	68	165
## 1087 100	264	3	0	28	2	60	111	5	27	2	66	150

## 1088 107	273	0	0	26	4	65	135	0	27	5	71	160
## 1089 115	276	0	0	20	4	62	105	1	21	4	68	140
## 1090 91	292	0	2	26	2	61	113	7	30	2	72	185
## 1091 112	287	1	0	27	5	64	110	0	31	5	72	155
## 1092 125	289	0	0	31	5	61	120	5	29	1	73	185
## 1093 157	291	6	2	33	2	65	121	7	35	2	71	170
## 1094 108	256	0	0	26	5	67	130	5	24	4	74	180
## 1095 130	279	5	2	31	2	62	122	7	31	4	73	190
## 1096 135	289	4	2	25	2	64	127	7	25	2	74	180
## 1097 123	277	1	4	24	4	66	122	7	23	4	69	185
## 1098 100	281	2	3	24	2	61	115	8	32	2	61	110
## 1099 124	277	0	1	23	2	64	104	4	22	1	72	188
## 1100 174	284	7	2	39	2	65	163	7	39	2	69	162
## 1101 129	278	3	0	26	4	67	146	2	30	5	71	190
## 1102 119	275	1	0	27	2	59	113	0	29	1	70	175
## 1103 126	272	0	0	35	2	61	120	0	33	2	65	134
## 1104 128	267	4	2	37	3	61	142	7	42	4	69	169
## 1105 116	282	0	0	19	1	64	124	8	19	1	72	140
## 1106 100	285	1	4	18	1	68	127	7	22	2	74	215
## 1107 96	285	2	0	37	5	66	135	2	31	5	68	150
## 1108 131	279	0	0	20	4	68	122	0	24	4	72	140
## 1109 110	292	2	0	35	4	62	127	3	37	5	65	140
## 1110 108	278	3	0	28	2	63	125	5	31	4	74	158
## 1111 129	275	1	0	24	2	65	135	1	29	4	70	165
## 1112 141	285	1	0	23	4	67	150	2	22	4	70	208
## 1113 110	276	5	2	31	4	70	155	7	34	2	70	185
## 1114 118	273	2	2	21	1	63	120	7	26	4	69	185
## 1115 111	267	0	4	24	4	60	115	0	26	4	69	165
## 1116 160	297	1	4	20	1	68	136	6	31	4	69	165
## 1117 120	280	1	0	30	2	60	115	3	33	2	66	136
## 1118 121	281	3	0	29	3	63	108	5	31	5	74	165
## 1119 113	282	2	0	30	3	64	118	0	30	4	71	215
## 1120 117	270	2	1	23	1	58	115	6	35	1	70	160
## 1121 158	267	1	0	35	2	64	125	4	36	4	63	130
## 1122 128	277	2	0	39	2	61	120	0	41	2	68	160
## 1123 158	289	3	0	30	4	66	140	3	30	5	69	160
## 1124 133	289	1	0	22	1	65	123	0	26	1	70	190
## 1125 163	298	3	0	37	2	61	98	3	35	1	73	208
## 1126 128	282	0	4	19	4	66	118	0	21	4	67	150
## 1127 126	271	0	2	21	4	60	105	7	21	4	65	140
## 1128 127	283	5	2	42	1	62	154	7	48	0	69	199
## 1129 134	287	5	0	40	2	63	118	0	41	5	68	175
## 1130 140	274	5	4	41	4	63	122	8	43	4	77	195
## 1131 102	285	2	0	29	2	63	117	3	34	5	66	150
## 1132 100	252	1	2	24	2	61	150	7	25	2	69	150
## 1133 120	295	3	1	29	1	59	100	6	30	1	68	140
## 1134 98	279	0	0	18	1	65	115	0	19	2	75	170
## 1135 130	246	1	0	19	2	62	118	3	21	1	71	205
## 1136 104	280	1	2	41	5	63	118	7	44	3	73	168
## 1137 122	285	1	0	31	4	62	102	0	27	5	68	150
## 1138 137	276	0	1	25	5	64	127	6	27	5	70	150
## 1139 114	285	0	0	20	2	61	104	0	25	2	71	135
## 1140 63	236	0	0	24	5	58	99	2	26	5	66	130
## 1141 98	318	1	2	23	4	63	107	7	24	4	69	173

## 1142	99	268	2	2	32	4	63	124	7	33	2	73	190
## 1143	89	238	0	2	26	2	64	136	7	25	4	71	198
## 1144	117	283	1	0	22	2	65	142	5	23	1	71	180
## 1145	143	281	5	0	29	2	67	132	0	33	4	78	245
## 1146	106	279	3	0	29	2	63	125	3	32	4	69	170
## 1147	99	246	2	3	35	3	62	106	8	40	2	66	140
## 1148	156	300	4	0	27	2	65	120	0	39	2	71	165
## 1149	72	266	0	0	25	1	66	200	0	29	2	72	170
## 1150	75	266	3	0	37	3	61	113	5	36	2	66	150
## 1151	97	285	2	3	35	4	61	112	8	33	4	65	135
## 1152	106	264	5	0	41	2	64	114	0	42	4	69	140
## 1153	91	225	1	0	18	1	68	117	5	24	4	68	140
## 1154	117	269	0	3	28	5	61	99	0	30	5	75	195
## 1155	117	284	1	0	25	5	66	177	0	34	2	71	175
## 1156	112	291	3	2	23	1	66	145	7	24	1	67	165
## 1157	112	270	1	3	29	5	61	124	8	40	5	67	145
## 1158	141	293	4	0	28	2	61	125	4	31	4	71	190
## 1159	131	259	1	0	19	1	63	134	5	20	2	66	170
## 1160	130	290	1	0	19	2	65	123	4	21	2	69	165
## 1161	132	270	2	0	26	2	67	140	5	34	2	70	170
## 1162	114	265	1	0	23	2	67	130	0	25	2	71	170
## 1163	160	291	3	0	34	1	64	110	0	29	5	71	260
## 1164	106	283	2	2	24	4	63	119	7	31	4	68	140
## 1165	84	260	0	0	20	2	64	104	0	20	1	73	165
## 1166	112	268	0	0	25	5	59	103	2	30	5	66	170
## 1167	139	311	4	0	37	2	66	135	0	39	1	71	200
## 1168	104	267	7	2	30	3	63	180	7	33	1	71	170
## 1169	130	294	4	0	32	2	63	110	0	36	2	71	160
## 1170	71	254	2	2	19	1	61	145	7	24	1	68	145
## 1171	82	270	2	2	21	1	65	150	7	29	4	71	175
## 1172	119	280	0	1	21	3	64	128	3	22	1	65	120
## 1173	123	353	1	0	26	2	63	115	5	28	3	72	175
## 1174	115	278	1	3	27	4	59	95	8	32	4	68	160
## 1175	124	289	0	0	21	3	67	145	0	22	4	72	163
## 1176	138	292	1	0	25	3	65	130	0	26	5	69	170
## 1177	88	276	5	2	25	1	63	103	7	35	1	65	160
## 1178	146	305	2	0	23	4	65	210	0	26	2	70	170
## 1179	128	241	0	2	17	1	64	126	7	20	2	68	138
## 1180	82	274	1	5	31	4	64	101	0	34	5	67	140
## 1181	100	274	2	4	24	4	63	113	6	26	4	72	155
## 1182	114	271	5	2	32	5	61	130	7	34	5	71	160
## 1183	97	269	1	0	20	2	65	137	0	21	1	74	167
## 1184	126	298	1	1	24	0	61	112	0	38	1	71	195
## 1185	122	275	0	0	20	3	65	127	5	22	1	72	170
## 1186	152	295	1	0	39	2	62	140	4	36	2	67	170
## 1187	116	274	1	0	21	2	62	110	5	23	2	71	137
## 1188	132	302	6	1	36	1	63	145	6	38	2	69	180
## 1189	84	260	0	0	37	5	66	140	0	41	5	74	190
## 1190	119	277	0	0	18	1	61	89	0	26	1	69	140
## 1191	104	275	2	3	24	4	62	135	8	30	5	67	160
## 1192	106	312	6	2	24	1	62	135	7	25	1	73	180
## 1193	124	295	0	2	39	2	65	228	7	38	1	70	220
## 1194	139	291	1	2	24	2	65	160	7	27	2	73	190
## 1195	103	273	6	2	36	1	65	158	7	40	0	75	215

```

## 1196 112      299      1      0      24      1      67      145      0      31      1      74      172
## 1197 96       276      2      0      33      5      64      127      8      36      5      64      145
## 1198 102      281      0      0      19      1      67      135      0      22      1      71      176
## 1199 120      300      9      2      34      2      63      150      7      35      2      68      180
## 1200 102      338      2      2      19      1      64      170      7      24      2      69      170
## 1201 97       255      0      2      22      2      63      107      7      25      4      75      183
## 1202 113      285      1      0      22      4      70      145      5      27      5      74      170
## 1203 130      297      4      2      32      2      58      130      7      34      1      69      155
## 1204 97       260      0      0      25      5      63      115      3      32      5      71      185
## 1205 116      273      4      0      31      5      61      120      0      31      5      67      155
## 1206 114      266      1      3      29      2      64      113      8      36      2      69      167
## 1207 127      242      1      2      17      1      61      135      7      19      2      72      182
## 1208 87       247      0      2      18      1      66      125      7      24      4      67      140
## 1209 141      281      6      2      29      2      54      156      7      37      2      69      195
## 1210 144      283      0      0      25      2      66      140      0      27      1      71      165
## 1211 116      273      5      0      33      4      66      130      5      34      5      71      185
## 1212 75       265      1      0      21      1      65      103      0      29      1      67      150
## 1213 138      286      0      0      28      2      68      120      0      26      4      74      245
## 1214 99       271      4      2      39      1      69      151      7      39      0      69      185
## 1215 118      293      1      0      21      2      63      103      5      24      2      68      170
## 1216 152      267      3      0      28      2      62      119      0      28      4      69      145
## 1217 97       266      4      2      24      1      62      109      7      26      2      64      130
## 1218 146      319      2      0      28      2      66      145      5      33      5      73      180
## 1219 81       285      2      2      19      1      63      150      7      25      2      67      160
## 1220 110      321      2      2      28      2      66      180      7      32      1      70      190
## 1221 135      284      0      0      19      2      60      95      0      24      2      73      150
## 1222 114      290      0      0      21      4      65      120      4      22      2      73      150
## 1223 124      288      0      0      21      4      64      116      3      22      5      70      140
## 1224 115      262      0      0      23      2      64      136      1      24      4      73      201
## 1225 143      281      4      2      28      1      65      135      7      44      1      66      146
## 1226 113      287      0      0      29      5      70      145      2      32      2      73      197
## 1227 109      244      0      0      21      3      63      102      0      22      2      66      140
## 1228 103      278      2      0      30      1      60      87      4      24      1      71      182
## 1229 118      276      1      1      34      4      64      116      0      37      5      72      170
## 1230 127      290      2      0      27      4      65      121      0      42      5      66      140
## 1231 132      270      3      2      27      2      65      126      7      35      1      69      200
## 1232 113      275      0      0      27      5      60      100      0      32      4      72      190
## 1233 128      265      1      0      24      5      67      120      0      24      5      73      170
## 1234 130      291      4      0      30      2      65      150      2      30      5      70      180
## 1235 125      281      0      0      21      4      65      110      0      27      5      71      165
## 1236 117      297      4      0      38      4      65      129      4      34      1      68      172

##          marital income smoke time number
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## 2           1     4     0     0     0
## 3           1     2     1     1     1
## 4           1     8     3     5     5
## 5           1     1     1     1     5
## 6           1     4     2     2     2
## 7           1     6     0     0     0
## 8           1     2     0     0     0
## 9           1     2     0     0     0
## 10          1     2     1     1     4
## 11          1     3     3     4     2
## 12          1     2     1     1     1

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## 1112	1	7	0	0	0
## 1113	1	2	0	0	0
## 1114	1	4	2	2	2
## 1115	1	5	2	2	2
## 1116	1	3	3	4	3
## 1117	1	4	0	0	0
## 1118	1	5	2	2	1
## 1119	1	2	1	1	6
## 1120	1	1	2	2	1
## 1121	1	4	0	0	0
## 1122	1	3	0	0	0
## 1123	1	2	0	0	0
## 1124	2	5	1	1	4
## 1125	1	7	2	2	2
## 1126	1	4	0	0	0
## 1127	1	1	2	2	1
## 1128	1	2	1	1	2
## 1129	1	6	0	0	0
## 1130	1	8	0	0	0
## 1131	1	7	1	1	3
## 1132	1	1	0	0	0
## 1133	1	3	1	1	1
## 1134	1	0	1	1	2
## 1135	1	1	0	0	0
## 1136	1	7	1	1	5
## 1137	1	1	1	1	6
## 1138	1	3	0	0	0
## 1139	1	5	0	0	0
## 1140	1	7	0	0	0
## 1141	1	1	0	0	0
## 1142	1	7	1	1	2
## 1143	5	0	0	0	0
## 1144	1	1	1	1	5
## 1145	1	4	0	0	0
## 1146	1	2	1	1	1

## 1147	1	0	0	0	0
## 1148	1	2	1	1	3
## 1149	1	4	1	1	5
## 1150	1	7	1	1	5
## 1151	1	3	1	1	6
## 1152	1	7	2	2	1
## 1153	1	1	1	1	1
## 1154	1	0	0	0	0
## 1155	1	2	1	1	5
## 1156	1	1	0	0	0
## 1157	1	2	0	0	0
## 1158	1	1	2	2	2
## 1159	1	1	0	0	0
## 1160	1	6	1	1	1
## 1161	1	4	0	0	0
## 1162	1	5	1	1	2
## 1163	1	7	1	1	7
## 1164	1	1	2	2	5
## 1165	1	2	1	1	2
## 1166	1	7	2	2	5
## 1167	1	5	0	0	0
## 1168	1	3	0	0	0
## 1169	1	4	1	1	1
## 1170	1	1	1	1	1
## 1171	1	1	1	1	2
## 1172	1	5	0	0	0
## 1173	1	4	0	0	0
## 1174	1	3	0	0	0
## 1175	1	3	1	1	5
## 1176	1	1	1	1	1
## 1177	1	1	1	1	6
## 1178	1	1	3	6	3
## 1179	1	2	0	0	0
## 1180	1	7	1	1	5
## 1181	1	7	3	3	5
## 1182	1	8	0	0	0
## 1183	1	3	1	1	3
## 1184	1	5	0	0	0
## 1185	1	1	3	3	5
## 1186	1	2	0	0	0
## 1187	1	2	1	1	3
## 1188	1	1	1	1	1
## 1189	1	9	3	8	5
## 1190	1	1	1	1	2
## 1191	1	5	0	0	0
## 1192	1	1	1	1	2
## 1193	1	4	0	0	0
## 1194	1	2	0	0	0
## 1195	1	2	1	1	2
## 1196	2	5	1	1	5
## 1197	1	3	1	1	5
## 1198	2	4	1	1	5
## 1199	1	1	1	1	2
## 1200	1	1	0	0	0

```

## 1201      1      2      1      1      2
## 1202      1      2      3      3      1
## 1203      1      8      0      0      0
## 1204      1      5      1      1      5
## 1205      1      1      0      0      0
## 1206      1      7      0      0      0
## 1207      1      0      1      1      2
## 1208      1      1      1      1      2
## 1209      1      2      1      1      1
## 1210      1      6      3      4      5
## 1211      1      6      1      1      5
## 1212      1      2      1      1      5
## 1213      1      8      2      2      5
## 1214      1      8      3      5      5
## 1215      1      4      0      0      0
## 1216      1      3      1      1      5
## 1217      1      0      0      0      0
## 1218      1      9      0      0      0
## 1219      1      1      1      1      3
## 1220      1      5      0      0      0
## 1221      1      2      0      0      0
## 1222      1      1      1      1      5
## 1223      1      2      1      1      2
## 1224      1      2      1      1      7
## 1225      1      1      1      1      1
## 1226      1      9      1      1      2
## 1227      1      3      1      1      5
## 1228      1      1      1      1      5
## 1229      1      3      0      0      0
## 1230      1      7      3      8      1
## 1231      1      3      3      3      1
## 1232      1      4      0      0      0
## 1233      1      3      0      0      0
## 1234      1      3      1      1      2
## 1235      1      1      0      0      0
## 1236      1      6      0      0      0

```

MICE helps to impute missing values that are drawn from a distribution specifically designed for each missing data point. Don't like just simply replace all NA variables by mean of the data, MICE can also include the 'var' in the data prediction, which can help lessen the bias and make the data close to the original.

Automated Model Selection

Alough MICE is a good enough way to predition missing data, we still use the orignal data for automated model selection to avoid bias.

```

M0 <- lm(wt ~ 1, data = chds_births)
Mmax <- lm(wt ~ .)^2, data = chds_births)
beta.max <- coef(Mmax)
names(beta.max)[is.na(beta.max)]

## [1] "feth:marital"    "fage:marital"    "fed:marital"    "fht:marital"
## [5] "fwt:marital"     "marital:income"   "marital:smoke"   "marital:time"
## [9] "marital:number"

```

Since the NA chart shows it is obvios most of the coefficients have NA interactions with marital, thus we delete all the interaction with marital in our max in order to have a smaller model. Add quadratic terms for the continuous covariates “gestation, mage, mht,mwt,fht,fwt”. We don’t add fage as quadratic terms because we show fage has clearly linear relationship with mage above, ignore it for now for out lightly smaller model.

```
Mmax <- lm(wt ~ (. -marital)^2 + marital + I(gestation^2) + I(mage^2)+I(mht^2)+I(mwt^2)+I(fht^2)+I(fwt^2)
Mstart <- lm(wt ~ ., data = chds_births)
anyNA(coef(Mmax))
```

```
## [1] FALSE
```

From the output of anyNA is FALSE here, it shows the Max can avoid all NA possible, however, there are still some NA data in M0 because it come from the original data from input.

```
M0 <- lm(wt ~ 1, data = births_clean)
Mmax <- lm(wt ~ (. -marital)^2 + marital + I(gestation^2) + I(mage^2)+I(mht^2)+I(mwt^2)+I(fht^2)+I(fwt^2)
Mstart <- lm(wt ~ ., data = births_clean)
```

Forward Model Selection

```
system.time({
  Mfwd <- step(object = M0, # starting point model
                scope = list(lower = M0, upper = Mmax), # smallest and largest model
                direction = "forward", trace = FALSE) # trace prints out information
})

##      user    system elapsed
##     0.619    0.051   0.673

Mfwd

##
## Call:
## lm(formula = wt ~ gestation + I(mht^2) + number + meth + parity +
##      mwt + I(gestation^2) + smoke + I(fwt^2) + time + mht + gestation:number +
##      meth:mwt + number:meth + number:smoke + smoke:time + gestation:meth +
##      gestation:time, data = births_clean)
##
## Coefficients:
## (Intercept)      gestation      I(mht^2)      number
## 1.018e+02       1.554e+00      7.550e-02     -1.504e+01
## meth            parity          mwt      I(gestation^2)
## 1.576e+01       8.751e-01      9.503e-02     -2.193e-03
## smoke           I(fwt^2)        time          mht
## 5.796e+00       1.467e-04      -1.953e+01    -8.878e+00
## gestation:number      meth:mwt      number:meth  number:smoke
## 5.044e-02       -3.712e-02      -4.347e-01    -2.079e-01
## smoke:time      gestation:meth  gestation:time
## 3.007e+00       -4.576e-02      2.853e-02
```

Backward Model Selection

```
system.time({
  Mback <- step(object = Mmax, # starting point model
```

```

        scope = list(lower = M0, upper = Mmax),
        direction = "backward", trace = FALSE)
})

##      user    system elapsed
## 114.967    4.060 119.528
Mback

##
## Call:
## lm(formula = wt ~ gestation + parity + meth + mage + med + mht +
##     mwt + feth + fage + fed + fht + fwt + income + smoke + time +
##     number + I(gestation^2) + gestation:med + gestation:mht +
##     gestation:mwt + gestation:feth + gestation:fage + gestation:fwt +
##     gestation:number + parity:meth + parity:med + parity:mht +
##     parity:feth + parity:fwt + meth:mage + meth:med + meth:mwt +
##     meth:fage + meth:smoke + meth:time + mage:feth + med:feth +
##     med:fht + med:fwt + med:income + med:smoke + med:time + mht:fage +
##     mht:income + mwt:income + mwt:smoke + mwt:time + feth:fage +
##     fed:smoke + fed:time + fed:number + fht:smoke + fht:time +
##     fwt:smoke + fwt:time + smoke:time, data = births_clean)
##
## Coefficients:
## (Intercept)      gestation      parity       meth
## 385.628018     -0.286895     17.712277    4.067232
##      mage         med          mht       mwt
## -0.523655     -16.543000    -5.575894    0.743113
##      feth         fage         fed       fht
## 3.213040      -8.078001    -0.301701   -0.554661
##      fwt          income      smoke      time
## -0.441415      8.285165    75.803445   -64.067868
##      number     I(gestation^2) gestation:med gestation:mht
## -20.271391     -0.001839     0.037051    0.018040
##      gestation:mwt gestation:feth gestation:fage gestation:fwt
##      -0.002499     -0.015384     0.011595    0.002243
##      gestation:number parity:meth parity:med parity:mht
##      0.062577      0.809680     0.226368   -0.212084
##      parity:feth parity:fwt meth:mage meth:med
##      -0.301372     -0.018050    -0.563415    1.154568
##      meth:mwt meth:fage meth:smoke meth:time
##      -0.058066      0.387654    -2.783275    1.889517
##      mage:feth med:feth med:fht med:fwt
##      0.225102     -0.390229     0.215860   -0.044191
##      med:income med:smoke med:time mht:fage
##      -0.303795      1.663056    -1.551992    0.079002
##      mht:income mwt:income mwt:smoke mwt:time
##      -0.166020      0.025309    -0.095154    0.056828
##      feth:fage fed:smoke fed:time fed:number
##      -0.113090     -2.345420     1.330164    0.387797
##      fht:smoke fht:time fwt:smoke fwt:time
##      -1.038403      0.826029     0.115809   -0.080216
##      smoke:time
##      3.014313

```

Stepwise Model Selection

```

system.time({
  Mstep <- step(object = Mstart,
                 scope = list(lower = M0, upper = Mmax),
                 direction = "both", trace = FALSE)
})

##    user  system elapsed
##  5.159   0.643  5.821

c(fwd = length(coef(Mfwd)), back = length(coef(Mback)), step = length(coef(Mstep)))

##  fwd back step
##  19   57   31

# models to compare
M1 <- Mfwd
M2 <- Mstep

## 
## Call:
## lm(formula = wt ~ gestation + I(mht^2) + number + meth + parity +
##      mwt + I(gestation^2) + smoke + I(fwt^2) + time + mht + gestation:number +
##      meth:mwt + number:meth + number:smoke + smoke:time + gestation:meth +
##      gestation:time, data = births_clean)
## 
## Residuals:
##    Min      1Q  Median      3Q     Max 
## -57.921 -10.145  -0.401   9.215  58.955 
## 
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)    
## (Intercept) 1.018e+02  1.997e+02   0.510  0.610218  
## gestation   1.554e+00  3.656e-01   4.250  2.3e-05 *** 
## I(mht^2)    7.550e-02  4.698e-02   1.607  0.108302  
## number     -1.504e+01  4.015e+00  -3.747  0.000187 *** 
## meth       1.576e+01  7.652e+00   2.059  0.039705 *  
## parity     8.751e-01  2.367e-01   3.698  0.000227 *** 
## mwt        9.503e-02  2.991e-02   3.177  0.001524 ** 
## I(gestation^2) -2.193e-03 6.519e-04  -3.364  0.000791 *** 
## smoke      5.796e+00  1.602e+00   3.618  0.000309 *** 
## I(fwt^2)   1.467e-04  5.896e-05   2.487  0.012998 *  
## time       -1.953e+01  6.253e+00  -3.122  0.001836 ** 
## mht        -8.878e+00  6.009e+00  -1.478  0.139773  
## gestation:number 5.044e-02  1.430e-02   3.529  0.000433 *** 
## meth:mwt   -3.712e-02  1.854e-02  -2.002  0.045542 *  
## number:meth -4.347e-01  2.090e-01  -2.079  0.037783 *  
## number:smoke -2.079e-01  4.195e-01  -0.495  0.620357  
## smoke:time  3.007e+00  8.927e-01   3.369  0.000778 *** 
## gestation:meth -4.576e-02  2.765e-02  -1.655  0.098163 .  
## gestation:time 2.853e-02  1.981e-02   1.440  0.150086  
## --- 
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##

```

```

## Residual standard error: 15.34 on 1217 degrees of freedom
## Multiple R-squared:  0.3029, Adjusted R-squared:  0.2926
## F-statistic: 29.38 on 18 and 1217 DF,  p-value: < 2.2e-16

##
## Call:
## lm(formula = wt ~ gestation + parity + meth + mage + med + mht +
##      mwt + feth + fage + fed + fht + fwt + income + smoke + time +
##      number + I(gestation^2) + gestation:med + gestation:mht +
##      gestation:mwt + gestation:feth + gestation:fage + gestation:fwt +
##      gestation:number + parity:meth + parity:med + parity:mht +
##      parity:feth + parity:fwt + meth:mage + meth:med + meth:mwt +
##      meth:fage + meth:smoke + meth:time + mage:feth + med:feth +
##      med:fht + med:fwt + med:income + med:smoke + med:time + mht:fage +
##      mht:income + mwt:income + mwt:smoke + mwt:time + feth:fage +
##      fed:smoke + fed:time + fed:number + fht:smoke + fht:time +
##      fwt:smoke + fwt:time + smoke:time, data = births_clean)
##
## Residuals:
##    Min      1Q  Median      3Q     Max
## -51.956 -10.230 -0.247  9.212 52.694
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept) 3.856e+02 2.379e+02  1.621 0.105346
## gestation   -2.869e-01 8.902e-01 -0.322 0.747297
## parity      1.771e+01 6.313e+00  2.806 0.005104 **
## meth        4.067e+00 3.756e+00  1.083 0.279066
## mage       -5.237e-01 2.213e-01 -2.366 0.018119 *
## med         -1.654e+01 9.411e+00 -1.758 0.079037 .
## mht        -5.576e+00 3.604e+00 -1.547 0.122094
## mwt         7.431e-01 4.339e-01  1.713 0.087041 .
## feth        3.213e+00 3.007e+00  1.069 0.285505
## fage       -8.078e+00 2.505e+00 -3.225 0.001295 **
## fed         -3.017e-01 4.746e-01 -0.636 0.525129
## fht         -5.547e-01 4.534e-01 -1.223 0.221475
## fwt         -4.414e-01 3.770e-01 -1.171 0.241944
## income      8.285e+00 5.347e+00  1.549 0.121531
## smoke       7.580e+01 3.037e+01  2.496 0.012709 *
## time        -6.407e+01 1.944e+01 -3.295 0.001014 **
## number      -2.027e+01 3.839e+00 -5.280 1.53e-07 ***
## I(gestation^2) -1.839e-03 6.647e-04 -2.766 0.005759 **
## gestation:med 3.705e-02 1.897e-02  1.953 0.051082 .
## gestation:mht 1.804e-02 1.245e-02  1.449 0.147567
## gestation:mwt -2.499e-03 1.521e-03 -1.643 0.100667
## gestation:feth -1.538e-02 1.003e-02 -1.533 0.125495
## gestation:fage 1.160e-02 4.494e-03  2.580 0.009992 **
## gestation:fwt  2.243e-03 1.305e-03  1.719 0.085903 .
## gestation:number 6.258e-02 1.359e-02  4.604 4.59e-06 ***
## parity:meth   8.097e-01 3.569e-01  2.269 0.023460 *
## parity:med    2.264e-01 1.576e-01  1.437 0.151043
## parity:mht   -2.121e-01 1.015e-01 -2.089 0.036885 *
## parity:feth   -3.014e-01 1.238e-01 -2.434 0.015060 *
## parity:fwt   -1.805e-02 1.099e-02 -1.643 0.100698

```

```

## meth:mage      -5.634e-01  1.471e-01  -3.830 0.000135 ***
## meth:med       1.155e+00  4.068e-01   2.838 0.004611 **
## meth:mwt      -5.807e-02  1.952e-02  -2.975 0.002991 **
## meth:fage      3.877e-01  1.046e-01   3.705 0.000221 ***
## meth:smoke     -2.783e+00  1.324e+00  -2.103 0.035682 *
## meth:time      1.890e+00  9.733e-01   1.941 0.052444 .
## mage:feth     2.251e-01  5.856e-02   3.844 0.000127 ***
## med:feth      -3.902e-01  1.453e-01  -2.685 0.007359 **
## med:fht       2.159e-01  1.256e-01   1.719 0.085856 .
## med:fwt      -4.419e-02  1.684e-02  -2.624 0.008799 **
## med:income    -3.038e-01  1.356e-01  -2.240 0.025263 *
## med:smoke     1.663e+00  9.968e-01   1.668 0.095493 .
## med:time      1.552e+00  6.670e-01  -2.327 0.020152 *
## mht:fage      7.900e-02  3.334e-02   2.369 0.017984 *
## mht:income    -1.660e-01  9.218e-02  -1.801 0.071954 .
## mwt:income    2.531e-02  1.078e-02   2.348 0.019038 *
## mwt:smoke     -9.515e-02  5.645e-02  -1.686 0.092106 .
## mwt:time      5.683e-02  3.325e-02   1.709 0.087688 .
## feth:fage     -1.131e-01  4.611e-02  -2.453 0.014317 *
## fed:smoke     -2.345e+00  1.043e+00  -2.248 0.024751 *
## fed:time      1.330e+00  6.547e-01   2.032 0.042392 *
## fed:number     3.878e-01  1.639e-01   2.367 0.018107 *
## fht:smoke     -1.038e+00  4.972e-01  -2.088 0.036979 *
## fht:time      8.260e-01  3.194e-01   2.587 0.009814 **
## fwts:smoke    1.158e-01  6.527e-02   1.774 0.076276 .
## fwts:time     -8.022e-02  4.141e-02  -1.937 0.052950 .
## smoke:time    3.014e+00  6.897e-01   4.371 1.35e-05 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 15 on 1179 degrees of freedom
## Multiple R-squared:  0.3539, Adjusted R-squared:  0.3232
## F-statistic: 11.53 on 56 and 1179 DF,  p-value: < 2.2e-16
##
## Call:
## lm(formula = wt ~ gestation + parity + meth + mage + med + mht +
##      mwt + fage + fwt + income + smoke + time + number + I(gestation^2) +
##      gestation:number + smoke:time + med:income + meth:mwt + meth:fage +
##      parity:fwt + med:fwt + med:mwt + gestation:mage + meth:number +
##      med:time + gestation:meth + mht:fage + parity:mht + gestation:time +
##      meth:fwt, data = births_clean)
##
## Residuals:
##      Min      1Q Median      3Q      Max 
## -57.355 -9.919 -0.278  9.513  52.249 
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)    
## (Intercept) 2.124e+01  8.827e+01   0.241 0.809885    
## gestation   9.477e-01  3.984e-01   2.379 0.017533 *  
## parity      1.503e+01  6.090e+00   2.467 0.013744 *  
## meth        1.674e+01  8.504e+00   1.969 0.049185 *  
## mage        -4.191e+00  1.385e+00  -3.027 0.002521 ** 

```

```

## med          2.451e+00  2.814e+00  0.871  0.384031
## mht         -8.701e-01  9.092e-01 -0.957  0.338788
## mwt        -6.770e-03  5.188e-02 -0.130  0.896204
## fage        -4.224e+00  2.046e+00 -2.065  0.039153 *
## fwt          2.019e-01  5.157e-02  3.915  9.53e-05 ***
## income      9.573e-01  4.675e-01  2.048  0.040801 *
## smoke       5.490e+00  1.358e+00  4.043  5.62e-05 ***
## time        -1.800e+01  5.949e+00 -3.025  0.002538 **
## number      -1.549e+01  3.968e+00 -3.904  9.99e-05 ***
## I(gestation^2) -1.833e-03  6.506e-04 -2.817  0.004923 **
## gestation:number 5.068e-02  1.416e-02  3.578  0.000359 ***
## smoke:time   2.840e+00  6.787e-01  4.185  3.05e-05 ***
## med:income   -3.378e-01  1.332e-01 -2.537  0.011312 *
## meth:mwt     -3.453e-02  1.957e-02 -1.764  0.077942 .
## meth:fage    1.304e-01  5.145e-02  2.535  0.011364 *
## parity:fwt   -2.117e-02  1.062e-02 -1.994  0.046342 *
## med:fwt      -3.342e-02  1.425e-02 -2.345  0.019186 *
## med:mwt      3.754e-02  1.489e-02  2.521  0.011822 *
## gestation:mage 1.464e-02  4.910e-03  2.982  0.002924 **
## meth:number   -4.392e-01  2.081e-01 -2.110  0.035045 *
## med:time     -4.255e-01  2.070e-01 -2.056  0.040017 *
## gestation:meth -4.860e-02  2.744e-02 -1.771  0.076761 .
## mht:fage     6.609e-02  3.179e-02  2.079  0.037809 *
## parity:mht   -1.631e-01  9.923e-02 -1.644  0.100465
## gestation:time 3.013e-02  1.991e-02  1.513  0.130489
## meth:fwt     -2.722e-02  1.938e-02 -1.404  0.160500
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 15.12 on 1205 degrees of freedom
## Multiple R-squared:  0.3291, Adjusted R-squared:  0.3124
## F-statistic:  19.7 on 30 and 1205 DF,  p-value: < 2.2e-16

```

PRESS, R^2 and AIC

```

r.squared <- c(summary(Mfwd)$r.squared,summary(Mback)$r.square,summary(Mstep)$r.square)
info <- c(r.squared,AICS,presses)
info <- matrix(t(info),nrow = 3,ncol = 3)
rownames(info)<-c("MFwd","MBack","MStep")
colnames(info)<-c("R^2","AIC","Press")
info

##           R^2      AIC      Press
## MFwd  0.3028942 10277.90 304618.6
## MBack 0.3538948 10260.00 304291.4
## MStep 0.3290578 10254.62 298395.8

```

Conclusion

Model Diagnostics

Linear Model Assumptions

