

P1

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ALY 6000 Introduction to Analytics Lukas Ji

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```
123 * 453
```

```
## [1] 55719
```

```
5^2 * 40
```

```
## [1] 1000
```

```
TRUE & FALSE
```

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

```
TRUE | FALSE
```

```
## [1] TRUE
```

```
75 %% 10
```

```
## [1] 5
```

```
75 / 10
```

```
## [1] 7.5
```

```
first_vector <- c(17, 12, -33, 5)  
first_vector
```

```
## [1] 17 12 -33 5
```

```
counting_by_fives <- c(5, 10, 15, 20, 25, 30, 35)  
counting_by_fives
```

```
## [1] 5 10 15 20 25 30 35
```

```
second_vector <- seq(10, 30, by=2)
second_vector
```

```
## [1] 10 12 14 16 18 20 22 24 26 28 30
```

```
counting_by_fives_with_seq <- seq(5, 35, by=5)
counting_by_fives_with_seq
```

```
## [1] 5 10 15 20 25 30 35
```

```
third_vector <- rep(first_vector, 10)
third_vector
```

```
## [1] 17 12 -33 5 17 12 -33 5 17 12 -33 5 17 12 -33 5 17 12 -33
## [20] 5 17 12 -33 5 17 12 -33 5 17 12 -33 5 17 12 -33 5 17 12
## [39] -33 5
```

```
rep_vector <- rep(0, 20)
rep_vector
```

```
## [1] 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
```

```
fourth_vector <- (10:1)
fourth_vector
```

```
## [1] 10 9 8 7 6 5 4 3 2 1
```

```
counting_vector <- (5:15)
counting_vector
```

```
## [1] 5 6 7 8 9 10 11 12 13 14 15
```

```
grades <- c(96, 100, 85, 92, 81, 72)
grades
```

```
## [1] 96 100 85 92 81 72
```

```
bonus_points_added <- grades + 3
bonus_points_added
```

```
## [1] 99 103 88 95 84 75
```

```
one_to_one_hundred <- (1:100)
one_to_one_hundred
```

```
## [1] 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18
## [19] 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36
## [37] 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54
## [55] 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72
## [73] 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90
## [91] 91 92 93 94 95 96 97 98 99 100
```

```
reverse_numbers <- seq(100, -100, -3)
reverse_numbers
```

```
## [1] 100 97 94 91 88 85 82 79 76 73 70 67 64 61 58 55 52 49 46
## [20] 43 40 37 34 31 28 25 22 19 16 13 10 7 4 1 -2 -5 -8 -11
## [39] -14 -17 -20 -23 -26 -29 -32 -35 -38 -41 -44 -47 -50 -53 -56 -59 -62 -65 -68
## [58] -71 -74 -77 -80 -83 -86 -89 -92 -95 -98
```

```
#Every ele in second_vector add 20
second_vector + 20
```

```
## [1] 30 32 34 36 38 40 42 44 46 48 50
```

```
#Every ele in second_vector times 20
second_vector * 20
```

```
## [1] 200 240 280 320 360 400 440 480 520 560 600
```

```
#return Boolean result that if each ele in second_vector larger or equal to 20
second_vector >= 20
```

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

```
#return Boolean result that if each ele in second_vector not equal to 20
second_vector != 20 # != means "not equal"
```

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

```
total <- sum(one_to_one_hundred)
total
```

```
## [1] 5050
```

```
average_value <- mean(one_to_one_hundred)
average_value
```

```
## [1] 50.5
```

```
median_value <- median(one_to_one_hundred)
median_value
```

```
## [1] 50.5
```

```
max_value <- max(one_to_one_hundred)
max_value
```

```
## [1] 100
```

```
min_value <- min(one_to_one_hundred)
min_value
```

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

```
first_value <- second_vector[1]
first_value
```

```
## [1] 10
```

```
first_three_values <- second_vector[1:3]
first_three_values
```

```
## [1] 10 12 14
```

```
vector_from_brackets <- second_vector[c(1, 5, 10, 11)]
vector_from_brackets
```

```
## [1] 10 18 28 30
```

```
vector_from_boolean_brackets <- first_vector[c(FALSE, TRUE, FALSE, TRUE)]
vector_from_boolean_brackets #When TRUE means to extract the ele, FALSE means do not extract the ele, t
```

```
## [1] 12 5
```

```
second_vector >= 20 #return Boolean result that if each ele in second_vector larger or equal to 20
```

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

```
ages_vector <- seq(from = 10, to = 30, by = 2) #return a seq start at 10 end at 30 by 2
ages_vector
```

```
## [1] 10 12 14 16 18 20 22 24 26 28 30
```

```
ages_vector [ages_vector >= 20] #return the ele in ages_vector that is larger or equal to 20
```

```
## [1] 20 22 24 26 28 30
```

```
lowest_grades_removed <- grades[grades >= 85]
lowest_grades_removed
```

```
## [1] 96 100 85 92
```

```
middle_grades_removed <- grades[c(-3, -4)]
middle_grades_removed
```

```
## [1] 96 100 81 72
```

```
fifth_vector <- second_vector[c(-5, -10)]
fifth_vector
```

```
## [1] 10 12 14 16 20 22 24 26 30
```

```
set.seed(5) #create reproduced random number
random_vector <- runif(n=10, min = 0, max = 1000) #generate 10 values between 0 and 1000
random_vector
```

```
## [1] 200.2145 685.2186 916.8758 284.3995 104.6501 701.0575 527.9600 807.9352
## [9] 956.5001 110.4530
```

```
sum_vector <- sum(random_vector)
sum_vector
```

```
## [1] 5295.264
```

```
cumsum_vector <- cumsum(random_vector)
cumsum_vector
```

```
## [1] 200.2145 885.4330 1802.3088 2086.7083 2191.3584 2892.4159 3420.3759
## [8] 4228.3111 5184.8112 5295.2642
```

```
mean_vector <- mean(random_vector)
mean_vector
```

```
## [1] 529.5264
```

```
sd_vector <- sd(random_vector)
sd_vector
```

```
## [1] 331.3606
```

```
round_vector <- round(random_vector)
round_vector
```

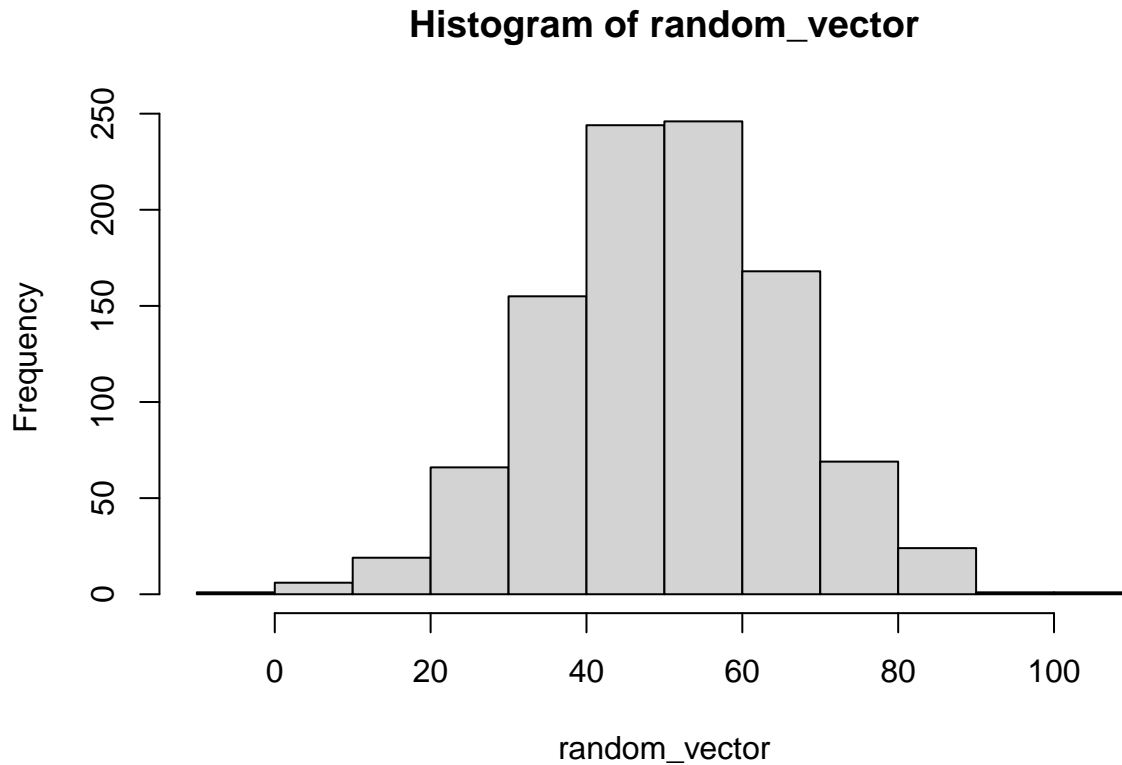
```
## [1] 200 685 917 284 105 701 528 808 957 110
```

```
sort_vector <- sort(random_vector)
sort_vector
```

```
## [1] 104.6501 110.4530 200.2145 284.3995 527.9600 685.2186 701.0575 807.9352
## [9] 916.8758 956.5001
```

```
set.seed(5) #create reproduced random number
random_vector <- rnorm(n=1000, mean = 50, sd = 15) #generate vector with length 1000 with mean 50 and s

hist(random_vector) #we can see that random_vector is a normal distribution with length 1000 mean near
```



```
#read.csv("ds_salaries.csv")
```

```
p_load(tidyverse)
```

```
first_dataframe <- read.csv("ds_salaries.csv")
```

```
#show the first 6 row of the data frame
head(first_dataframe)
```

```
##   X work_year experience_level employment_type      job_title
## 1 0      2020              MI             FT      Data Scientist
## 2 1      2020              SE             FT Machine Learning Scientist
## 3 2      2020              SE             FT      Big Data Engineer
## 4 3      2020              MI             FT      Product Data Analyst
## 5 4      2020              SE             FT Machine Learning Engineer
## 6 5      2020              EN             FT      Data Analyst
##  salary salary_currency salary_in_usd employee_residence remote_ratio
## 1  70000             EUR      79833             DE             0
```

```
## 2 260000          USD          260000          JP          0
## 3  85000          GBP          109024          GB          50
## 4  20000          USD           20000          HN          0
## 5 150000          USD          150000          US          50
## 6  72000          USD           72000          US          100
##   company_location company_size
## 1                DE           L
## 2                JP           S
## 3                GB           M
## 4                HN           S
## 5                US           L
## 6                US           L
```

```
#show the first 7 row of the data frame
head(first_dataframe, n = 7)
```

```
##   X work_year experience_level employment_type          job_title
## 1 0      2020                MI           FT      Data Scientist
## 2 1      2020                SE           FT Machine Learning Scientist
## 3 2      2020                SE           FT      Big Data Engineer
## 4 3      2020                MI           FT      Product Data Analyst
## 5 4      2020                SE           FT Machine Learning Engineer
## 6 5      2020                EN           FT      Data Analyst
## 7 6      2020                SE           FT      Lead Data Scientist
##   salary salary_currency salary_in_usd employee_residence remote_ratio
## 1  70000          EUR          79833          DE          0
## 2 260000          USD          260000          JP          0
## 3  85000          GBP          109024          GB          50
## 4  20000          USD           20000          HN          0
## 5 150000          USD          150000          US          50
## 6  72000          USD           72000          US          100
## 7 190000          USD          190000          US          100
##   company_location company_size
## 1                DE           L
## 2                JP           S
## 3                GB           M
## 4                HN           S
## 5                US           L
## 6                US           L
## 7                US           S
```

```
#show the column names of the data frame
names(first_dataframe)
```

```
## [1] "X"                "work_year"        "experience_level"
## [4] "employment_type"  "job_title"        "salary"
## [7] "salary_currency"  "salary_in_usd"    "employee_residence"
## [10] "remote_ratio"     "company_location" "company_size"
```

```
#set smaller_dataframe as the select columns of the data frame
smaller_dataframe <- select(first_dataframe, job_title, salary_in_usd)
smaller_dataframe #show smaller_dataframe
```

##	job_title	salary_in_usd
## 1	Data Scientist	79833
## 2	Machine Learning Scientist	260000
## 3	Big Data Engineer	109024
## 4	Product Data Analyst	20000
## 5	Machine Learning Engineer	150000
## 6	Data Analyst	72000
## 7	Lead Data Scientist	190000
## 8	Data Scientist	35735
## 9	Business Data Analyst	135000
## 10	Lead Data Engineer	125000
## 11	Data Scientist	51321
## 12	Data Scientist	40481
## 13	Data Scientist	39916
## 14	Lead Data Analyst	87000
## 15	Data Analyst	85000
## 16	Data Analyst	8000
## 17	Data Engineer	41689
## 18	Big Data Engineer	114047
## 19	Data Science Consultant	5707
## 20	Lead Data Engineer	56000
## 21	Machine Learning Engineer	43331
## 22	Product Data Analyst	6072
## 23	Data Engineer	47899
## 24	BI Data Analyst	98000
## 25	Lead Data Scientist	115000
## 26	Director of Data Science	325000
## 27	Research Scientist	42000
## 28	Data Engineer	33511
## 29	Business Data Analyst	100000
## 30	Machine Learning Manager	117104
## 31	Data Engineering Manager	59303
## 32	Big Data Engineer	70000
## 33	Data Scientist	68428
## 34	Research Scientist	450000
## 35	Data Analyst	46759
## 36	Data Engineer	74130
## 37	Data Science Consultant	103000
## 38	Machine Learning Engineer	250000
## 39	Data Analyst	10000
## 40	Machine Learning Engineer	138000
## 41	Data Scientist	45760
## 42	Data Engineering Manager	79833
## 43	Machine Learning Infrastructure Engineer	50180
## 44	Data Engineer	106000
## 45	Data Engineer	112872
## 46	ML Engineer	15966
## 47	Data Scientist	76958
## 48	Data Engineer	188000
## 49	Data Scientist	105000
## 50	Data Engineer	70139
## 51	Data Analyst	6072
## 52	Data Analyst	91000
## 53	AI Scientist	45896

## 54	Data Engineer	54742
## 55	Computer Vision Engineer	60000
## 56	Principal Data Scientist	148261
## 57	Data Scientist	38776
## 58	Data Scientist	118000
## 59	Data Scientist	120000
## 60	Data Scientist	138350
## 61	Data Engineer	110000
## 62	Data Engineer	130800
## 63	Data Scientist	21669
## 64	Data Scientist	412000
## 65	Machine Learning Engineer	45618
## 66	Data Scientist	62726
## 67	Data Scientist	49268
## 68	Data Science Manager	190200
## 69	Data Scientist	105000
## 70	Data Scientist	91237
## 71	Data Scientist	62726
## 72	Data Scientist	42197
## 73	Research Scientist	82528
## 74	BI Data Analyst	150000
## 75	Head of Data	235000
## 76	Data Scientist	53192
## 77	BI Data Analyst	100000
## 78	3D Computer Vision Researcher	5409
## 79	ML Engineer	270000
## 80	Data Analyst	80000
## 81	Data Analytics Engineer	79197
## 82	Data Engineer	140000
## 83	Applied Data Scientist	54238
## 84	Machine Learning Engineer	47282
## 85	Director of Data Science	153667
## 86	Data Engineer	28476
## 87	Data Analyst	59102
## 88	Data Analytics Engineer	110000
## 89	Lead Data Analyst	170000
## 90	Data Analyst	80000
## 91	Marketing Data Analyst	88654
## 92	Data Science Consultant	76833
## 93	Lead Data Analyst	19609
## 94	Lead Data Engineer	276000
## 95	Data Scientist	29751
## 96	Cloud Data Engineer	89294
## 97	AI Scientist	12000
## 98	Financial Data Analyst	450000
## 99	Computer Vision Software Engineer	70000
## 100	Computer Vision Software Engineer	95746
## 101	Data Analyst	75000
## 102	Data Engineer	150000
## 103	BI Data Analyst	36259
## 104	Data Analyst	62000
## 105	Data Scientist	73000
## 106	Data Analyst	51519
## 107	Research Scientist	187442

## 108	Data Engineer	115000
## 109	Data Engineer	150000
## 110	Data Engineer	30428
## 111	Machine Learning Engineer	94564
## 112	Director of Data Engineering	113476
## 113	Lead Data Engineer	103160
## 114	AI Scientist	12000
## 115	Data Engineer	45391
## 116	Machine Learning Scientist	225000
## 117	Data Scientist	50000
## 118	Data Science Engineer	40189
## 119	Data Analyst	90000
## 120	Data Engineer	200000
## 121	Big Data Engineer	60000
## 122	Principal Data Engineer	200000
## 123	Data Analyst	50000
## 124	Applied Data Scientist	110037
## 125	Data Analyst	10354
## 126	Principal Data Scientist	151000
## 127	Machine Learning Scientist	120000
## 128	Data Scientist	9466
## 129	Machine Learning Engineer	20000
## 130	Lead Data Scientist	40570
## 131	Machine Learning Developer	100000
## 132	Data Scientist	49646
## 133	Applied Machine Learning Scientist	38400
## 134	Computer Vision Engineer	24000
## 135	Data Scientist	100000
## 136	Data Analyst	90000
## 137	ML Engineer	63711
## 138	ML Engineer	77364
## 139	Principal Data Scientist	220000
## 140	Data Scientist	80000
## 141	Data Analyst	135000
## 142	Data Science Manager	240000
## 143	Data Engineering Manager	150000
## 144	Data Scientist	82500
## 145	Data Engineer	100000
## 146	Machine Learning Engineer	82744
## 147	Research Scientist	62649
## 148	Data Engineer	90000
## 149	Data Engineering Manager	153000
## 150	Cloud Data Engineer	160000
## 151	Director of Data Science	168000
## 152	Data Scientist	150000
## 153	Data Scientist	75774
## 154	Data Scientist	13400
## 155	Data Science Manager	144000
## 156	Data Science Engineer	127221
## 157	Data Scientist	119059
## 158	Applied Machine Learning Scientist	423000
## 159	Data Analytics Manager	120000
## 160	Machine Learning Engineer	125000
## 161	Head of Data	230000

## 162	Head of Data Science	85000
## 163	Data Engineer	28369
## 164	Data Science Consultant	63831
## 165	Director of Data Science	130026
## 166	Data Specialist	165000
## 167	Data Engineer	80000
## 168	Director of Data Science	250000
## 169	BI Data Analyst	55000
## 170	Data Architect	150000
## 171	Data Architect	170000
## 172	Data Engineer	82528
## 173	Data Analyst	60000
## 174	Principal Data Scientist	235000
## 175	Research Scientist	60757
## 176	Data Engineering Manager	174000
## 177	Data Scientist	2859
## 178	Data Scientist	40038
## 179	Machine Learning Engineer	81000
## 180	Data Scientist	5679
## 181	Big Data Engineer	22611
## 182	Data Scientist	90734
## 183	Data Engineer	26005
## 184	Finance Data Analyst	61896
## 185	Machine Learning Scientist	12000
## 186	Data Engineer	4000
## 187	Data Analytics Engineer	50000
## 188	Data Science Consultant	69741
## 189	Data Engineer	76833
## 190	Machine Learning Engineer	74000
## 191	Data Science Manager	152000
## 192	Machine Learning Engineer	21844
## 193	Big Data Engineer	18000
## 194	Data Science Manager	174000
## 195	Research Scientist	96113
## 196	Data Scientist	147000
## 197	BI Data Analyst	9272
## 198	Machine Learning Engineer	24342
## 199	Data Science Manager	54094
## 200	Data Science Consultant	90000
## 201	Data Scientist	61467
## 202	Machine Learning Infrastructure Engineer	195000
## 203	Data Scientist	37825
## 204	Research Scientist	50000
## 205	Data Scientist	160000
## 206	Data Scientist	12901
## 207	Machine Learning Engineer	200000
## 208	Data Engineer	165000
## 209	Data Engineer	20000
## 210	Data Analytics Manager	120000
## 211	Machine Learning Engineer	24823
## 212	Research Scientist	56738
## 213	Data Engineer	66022
## 214	Big Data Engineer	5882
## 215	Machine Learning Engineer	24823

## 216	Principal Data Engineer	185000
## 217	Computer Vision Engineer	28609
## 218	Data Scientist	90734
## 219	Machine Learning Engineer	88654
## 220	Data Analytics Manager	140000
## 221	Machine Learning Engineer	46597
## 222	Data Scientist	116914
## 223	Data Scientist	33808
## 224	Data Scientist	56256
## 225	Machine Learning Scientist	225000
## 226	Principal Data Scientist	416000
## 227	Data Scientist	87738
## 228	Data Scientist	88654
## 229	Data Scientist	135000
## 230	Data Analyst	71786
## 231	Big Data Engineer	16228
## 232	ML Engineer	256000
## 233	Director of Data Engineering	200000
## 234	Data Analyst	200000
## 235	Data Architect	180000
## 236	Head of Data Science	110000
## 237	Research Scientist	63810
## 238	Data Scientist	46809
## 239	Data Scientist	4000
## 240	Data Engineer	21637
## 241	Data Scientist	103691
## 242	Data Analyst	80000
## 243	Data Engineer	110000
## 244	Data Scientist	165000
## 245	AI Scientist	18053
## 246	Data Engineer	72212
## 247	Data Scientist	36643
## 248	Data Engineer	12103
## 249	Data Engineer	96282
## 250	Principal Data Analyst	170000
## 251	Data Scientist	115000
## 252	Data Scientist	90000
## 253	Principal Data Engineer	600000
## 254	Data Scientist	28399
## 255	Data Analyst	93000
## 256	Big Data Architect	99703
## 257	Data Engineer	200000
## 258	Principal Data Scientist	173762
## 259	Machine Learning Engineer	185000
## 260	Director of Data Science	141846
## 261	Data Scientist	130000
## 262	Data Analyst	63831
## 263	Data Scientist	16904
## 264	Machine Learning Engineer	66265
## 265	Data Scientist	25532
## 266	Lead Data Engineer	160000
## 267	Data Engineer	93150
## 268	Data Engineer	111775
## 269	Data Engineer	28016

## 270	Data Engineer	65013
## 271	Data Engineer	72500
## 272	Computer Vision Engineer	18907
## 273	Data Science Consultant	76833
## 274	Machine Learning Engineer	85000
## 275	Data Scientist	77684
## 276	Data Scientist	100000
## 277	Data Scientist	58000
## 278	AI Scientist	55000
## 279	Data Scientist	20171
## 280	Business Data Analyst	59102
## 281	Data Engineer	112000
## 282	Research Scientist	100000
## 283	Data Engineer	69741
## 284	Staff Data Scientist	105000
## 285	Research Scientist	69999
## 286	Data Science Manager	94665
## 287	Head of Data	102839
## 288	Data Scientist	109000
## 289	Machine Learning Engineer	51064
## 290	Data Engineer	135000
## 291	Data Analyst	155000
## 292	Data Analyst	120600
## 293	Data Scientist	130000
## 294	Data Scientist	90000
## 295	Data Engineer	170000
## 296	Data Engineer	150000
## 297	Data Analyst	102100
## 298	Data Analyst	84900
## 299	Data Scientist	136620
## 300	Data Scientist	99360
## 301	Data Scientist	117789
## 302	Data Scientist	104702
## 303	Data Scientist	146000
## 304	Data Scientist	123000
## 305	Data Engineer	52351
## 306	Data Analyst	99000
## 307	Data Analyst	116000
## 308	Data Analyst	106260
## 309	Data Analyst	126500
## 310	Data Engineer	242000
## 311	Data Engineer	200000
## 312	Data Scientist	65438
## 313	Data Scientist	39263
## 314	Data Engineer	78526
## 315	Data Engineer	52351
## 316	Data Scientist	165220
## 317	Data Engineer	45807
## 318	Data Scientist	120160
## 319	Data Analyst	90320
## 320	Data Engineer	181940
## 321	Data Engineer	132320
## 322	Data Engineer	220110
## 323	Data Engineer	160080

## 324	Data Scientist	180000
## 325	Data Scientist	120000
## 326	Data Analyst	124190
## 327	Data Analyst	130000
## 328	Data Analyst	110000
## 329	Data Analyst	170000
## 330	Data Analyst	115500
## 331	Data Analyst	112900
## 332	Data Analyst	90320
## 333	Data Analyst	112900
## 334	Data Analyst	90320
## 335	Data Engineer	165400
## 336	Data Engineer	132320
## 337	Data Analyst	167000
## 338	Data Engineer	243900
## 339	Data Analyst	136600
## 340	Data Analyst	109280
## 341	Data Engineer	128875
## 342	Data Engineer	93700
## 343	Head of Data Science	224000
## 344	Head of Data Science	167875
## 345	Analytics Engineer	175000
## 346	Data Engineer	156600
## 347	Data Engineer	108800
## 348	Data Scientist	95550
## 349	Data Engineer	113000
## 350	Data Analyst	135000
## 351	Data Science Manager	161342
## 352	Data Science Manager	137141
## 353	Data Scientist	167000
## 354	Data Scientist	123000
## 355	Data Engineer	78526
## 356	Data Engineer	65438
## 357	Data Scientist	150000
## 358	Data Scientist	211500
## 359	Data Architect	192400
## 360	Data Architect	90700
## 361	Data Analyst	130000
## 362	Data Analyst	61300
## 363	Data Analyst	130000
## 364	Data Analyst	61300
## 365	Data Engineer	160000
## 366	Data Scientist	138600
## 367	Data Engineer	136000
## 368	Data Analyst	58000
## 369	Analytics Engineer	135000
## 370	Data Scientist	170000
## 371	Data Scientist	123000
## 372	Machine Learning Engineer	189650
## 373	Machine Learning Engineer	164996
## 374	ETL Developer	54957
## 375	ETL Developer	54957
## 376	Lead Data Engineer	118187
## 377	Data Analyst	132000

## 378	Data Engineer	165400
## 379	Data Architect	208775
## 380	Data Architect	147800
## 381	Data Engineer	136994
## 382	Data Engineer	101570
## 383	Data Analyst	128875
## 384	Data Analyst	93700
## 385	Head of Machine Learning	79039
## 386	Data Engineer	132320
## 387	Machine Learning Engineer	37300
## 388	Data Analyst	164000
## 389	Data Engineer	155000
## 390	Machine Learning Engineer	124333
## 391	Machine Learning Engineer	98158
## 392	AI Scientist	120000
## 393	Data Analyst	112900
## 394	Data Analyst	90320
## 395	Data Analytics Manager	145000
## 396	Data Analytics Manager	105400
## 397	Machine Learning Engineer	87932
## 398	Data Engineer	117789
## 399	Data Scientist	215300
## 400	Data Scientist	158200
## 401	Data Engineer	209100
## 402	Data Engineer	154600
## 403	Data Analyst	115934
## 404	Data Analyst	81666
## 405	Data Engineer	175000
## 406	Data Engineer	98158
## 407	Data Analyst	58000
## 408	Data Engineer	183600
## 409	Data Analyst	52351
## 410	Data Scientist	180000
## 411	Data Scientist	71982
## 412	Data Scientist	45807
## 413	Data Engineer	65949
## 414	Data Engineer	49461
## 415	Data Engineer	78526
## 416	Data Engineer	58894
## 417	Data Scientist	260000
## 418	Data Science Engineer	60000
## 419	Data Engineer	63900
## 420	Machine Learning Scientist	160000
## 421	Machine Learning Scientist	112300
## 422	Data Science Manager	241000
## 423	Data Science Manager	159000
## 424	Data Scientist	180000
## 425	Data Scientist	80000
## 426	Data Engineer	82900
## 427	Data Engineer	100800
## 428	Data Engineer	49461
## 429	Data Scientist	140400
## 430	Data Analyst	39263
## 431	Data Analyst	43966

## 432	Data Analyst	32974
## 433	Data Engineer	87932
## 434	Data Engineer	76940
## 435	Data Engineer	104702
## 436	Data Engineer	91614
## 437	Data Engineer	65949
## 438	Data Engineer	87932
## 439	Machine Learning Engineer	189650
## 440	Machine Learning Engineer	164996
## 441	Data Analyst	43966
## 442	Data Analyst	32974
## 443	Data Engineer	98158
## 444	Data Engineer	78526
## 445	Data Scientist	215300
## 446	Data Engineer	76940
## 447	Data Engineer	209100
## 448	Data Engineer	154600
## 449	Data Engineer	180000
## 450	ML Engineer	21983
## 451	Data Engineer	80000
## 452	Machine Learning Developer	78791
## 453	Director of Data Science	196979
## 454	Machine Learning Engineer	120000
## 455	Computer Vision Engineer	125000
## 456	NLP Engineer	37236
## 457	Data Engineer	105000
## 458	Lead Machine Learning Engineer	87932
## 459	Business Data Analyst	18442
## 460	Data Scientist	31615
## 461	Machine Learning Infrastructure Engineer	58255
## 462	Financial Data Analyst	100000
## 463	Data Engineer	54957
## 464	Data Scientist	18442
## 465	Principal Data Scientist	162674
## 466	Data Engineer	120000
## 467	Research Scientist	144000
## 468	Data Scientist	104890
## 469	Data Engineer	100000
## 470	Data Scientist	140000
## 471	Data Analyst	135000
## 472	Data Analyst	50000
## 473	Data Scientist	220000
## 474	Data Scientist	140000
## 475	Data Scientist	183228
## 476	Data Scientist	91614
## 477	Data Scientist	185100
## 478	Machine Learning Engineer	220000
## 479	Data Scientist	200000
## 480	Data Scientist	120000
## 481	Machine Learning Engineer	120000
## 482	Machine Learning Engineer	65000
## 483	Data Engineer	324000
## 484	Data Engineer	216000
## 485	Data Engineer	210000

## 486	Machine Learning Engineer	120000
## 487	Data Scientist	230000
## 488	Data Scientist	100000
## 489	Data Scientist	100000
## 490	Applied Machine Learning Scientist	31875
## 491	Head of Data	200000
## 492	Principal Data Analyst	75000
## 493	Data Scientist	35590
## 494	Machine Learning Developer	78791
## 495	Data Scientist	100000
## 496	Machine Learning Scientist	153000
## 497	Data Engineer	58035
## 498	Data Scientist	165000
## 499	Research Scientist	93427
## 500	Data Scientist	52396
## 501	Machine Learning Engineer	62651
## 502	Head of Data	32974
## 503	Data Scientist	40000
## 504	Machine Learning Engineer	87425
## 505	Data Engineer	115000
## 506	Data Scientist	86703
## 507	Applied Machine Learning Scientist	75000
## 508	Research Scientist	64849
## 509	Research Scientist	120000
## 510	Applied Data Scientist	157000
## 511	Computer Vision Software Engineer	150000
## 512	Business Data Analyst	70912
## 513	Data Engineer	65000
## 514	Machine Learning Engineer	71444
## 515	Data Analytics Engineer	20000
## 516	Data Scientist	48000
## 517	Data Science Manager	152500
## 518	Data Engineer	68147
## 519	Data Scientist	122346
## 520	Applied Data Scientist	380000
## 521	Data Scientist	69336
## 522	Computer Vision Engineer	10000
## 523	Data Analyst	20000
## 524	Data Analytics Lead	405000
## 525	Data Scientist	135000
## 526	Applied Data Scientist	177000
## 527	Data Scientist	78000
## 528	Data Analyst	135000
## 529	Data Analyst	100000
## 530	Data Analyst	90320
## 531	Data Analyst	85000
## 532	Data Analyst	75000
## 533	Machine Learning Engineer	214000
## 534	Machine Learning Engineer	192600
## 535	Data Architect	266400
## 536	Data Architect	213120
## 537	Data Analyst	112900
## 538	Data Engineer	155000
## 539	Data Scientist	141300

## 540	Data Scientist	102100
## 541	Data Analyst	115934
## 542	Data Analyst	81666
## 543	Data Engineer	206699
## 544	Data Engineer	99100
## 545	Data Engineer	130000
## 546	Data Engineer	115000
## 547	Data Engineer	110500
## 548	Data Engineer	130000
## 549	Data Analyst	99050
## 550	Data Engineer	160000
## 551	Data Scientist	205300
## 552	Data Scientist	140400
## 553	Data Scientist	176000
## 554	Data Scientist	144000
## 555	Data Engineer	200100
## 556	Data Engineer	160000
## 557	Data Engineer	145000
## 558	Data Engineer	70500
## 559	Data Scientist	205300
## 560	Data Scientist	140400
## 561	Analytics Engineer	205300
## 562	Analytics Engineer	184700
## 563	Data Engineer	175100
## 564	Data Engineer	140250
## 565	Data Analyst	116150
## 566	Data Engineer	54000
## 567	Data Analyst	170000
## 568	Data Analyst	65438
## 569	Data Analyst	80000
## 570	Data Scientist	140000
## 571	Data Scientist	210000
## 572	Data Scientist	140000
## 573	Data Analyst	100000
## 574	Data Analyst	69000
## 575	Data Scientist	210000
## 576	Data Scientist	140000
## 577	Data Scientist	210000
## 578	Data Analyst	150075
## 579	Data Engineer	100000
## 580	Data Engineer	25000
## 581	Data Analyst	126500
## 582	Data Analyst	106260
## 583	Data Engineer	220110
## 584	Data Engineer	160080
## 585	Data Analyst	105000
## 586	Data Analyst	110925
## 587	Data Analyst	45807
## 588	Data Scientist	140000
## 589	Data Analyst	99000
## 590	Data Analyst	60000
## 591	Data Architect	192564
## 592	Data Architect	144854
## 593	Data Scientist	230000

## 594	Data Scientist	150000
## 595	Data Analytics Manager	150260
## 596	Data Analytics Manager	109280
## 597	Data Scientist	210000
## 598	Data Analyst	170000
## 599	Data Scientist	160000
## 600	Data Scientist	130000
## 601	Data Analyst	67000
## 602	Data Analyst	52000
## 603	Data Engineer	154000
## 604	Data Engineer	126000
## 605	Data Analyst	129000
## 606	Data Analyst	150000
## 607	AI Scientist	200000

```
#set the better_smaller_dataframe as the data frame in order of the selected column
better_smaller_dataframe <- arrange(smaller_dataframe,
desc(salary_in_usd))
#show better_small_dataframe
better_smaller_dataframe
```

##	job_title	salary_in_usd
## 1	Principal Data Engineer	600000
## 2	Research Scientist	450000
## 3	Financial Data Analyst	450000
## 4	Applied Machine Learning Scientist	423000
## 5	Principal Data Scientist	416000
## 6	Data Scientist	412000
## 7	Data Analytics Lead	405000
## 8	Applied Data Scientist	380000
## 9	Director of Data Science	325000
## 10	Data Engineer	324000
## 11	Lead Data Engineer	276000
## 12	ML Engineer	270000
## 13	Data Architect	266400
## 14	Machine Learning Scientist	260000
## 15	Data Scientist	260000
## 16	ML Engineer	256000
## 17	Machine Learning Engineer	250000
## 18	Director of Data Science	250000
## 19	Data Engineer	243900
## 20	Data Engineer	242000
## 21	Data Science Manager	241000
## 22	Data Science Manager	240000
## 23	Head of Data	235000
## 24	Principal Data Scientist	235000
## 25	Head of Data	230000
## 26	Data Scientist	230000
## 27	Data Scientist	230000
## 28	Machine Learning Scientist	225000
## 29	Machine Learning Scientist	225000
## 30	Head of Data Science	224000
## 31	Data Engineer	220110
## 32	Data Engineer	220110

## 33	Principal Data Scientist	220000
## 34	Data Scientist	220000
## 35	Machine Learning Engineer	220000
## 36	Data Engineer	216000
## 37	Data Scientist	215300
## 38	Data Scientist	215300
## 39	Machine Learning Engineer	214000
## 40	Data Architect	213120
## 41	Data Scientist	211500
## 42	Data Engineer	210000
## 43	Data Scientist	210000
## 44	Data Scientist	210000
## 45	Data Scientist	210000
## 46	Data Scientist	210000
## 47	Data Engineer	209100
## 48	Data Engineer	209100
## 49	Data Architect	208775
## 50	Data Engineer	206699
## 51	Data Scientist	205300
## 52	Data Scientist	205300
## 53	Analytics Engineer	205300
## 54	Data Engineer	200100
## 55	Data Engineer	200000
## 56	Principal Data Engineer	200000
## 57	Machine Learning Engineer	200000
## 58	Director of Data Engineering	200000
## 59	Data Analyst	200000
## 60	Data Engineer	200000
## 61	Data Engineer	200000
## 62	Data Scientist	200000
## 63	Head of Data	200000
## 64	AI Scientist	200000
## 65	Director of Data Science	196979
## 66	Machine Learning Infrastructure Engineer	195000
## 67	Machine Learning Engineer	192600
## 68	Data Architect	192564
## 69	Data Architect	192400
## 70	Data Science Manager	190200
## 71	Lead Data Scientist	190000
## 72	Machine Learning Engineer	189650
## 73	Machine Learning Engineer	189650
## 74	Data Engineer	188000
## 75	Research Scientist	187442
## 76	Data Scientist	185100
## 77	Principal Data Engineer	185000
## 78	Machine Learning Engineer	185000
## 79	Analytics Engineer	184700
## 80	Data Engineer	183600
## 81	Data Scientist	183228
## 82	Data Engineer	181940
## 83	Data Architect	180000
## 84	Data Scientist	180000
## 85	Data Scientist	180000
## 86	Data Scientist	180000

## 87	Data Engineer	180000
## 88	Applied Data Scientist	177000
## 89	Data Scientist	176000
## 90	Data Engineer	175100
## 91	Analytics Engineer	175000
## 92	Data Engineer	175000
## 93	Data Engineering Manager	174000
## 94	Data Science Manager	174000
## 95	Principal Data Scientist	173762
## 96	Lead Data Analyst	170000
## 97	Data Architect	170000
## 98	Principal Data Analyst	170000
## 99	Data Engineer	170000
## 100	Data Analyst	170000
## 101	Data Scientist	170000
## 102	Data Analyst	170000
## 103	Data Analyst	170000
## 104	Director of Data Science	168000
## 105	Head of Data Science	167875
## 106	Data Analyst	167000
## 107	Data Scientist	167000
## 108	Data Engineer	165400
## 109	Data Engineer	165400
## 110	Data Scientist	165220
## 111	Data Specialist	165000
## 112	Data Engineer	165000
## 113	Data Scientist	165000
## 114	Data Scientist	165000
## 115	Machine Learning Engineer	164996
## 116	Machine Learning Engineer	164996
## 117	Data Analyst	164000
## 118	Principal Data Scientist	162674
## 119	Data Science Manager	161342
## 120	Data Engineer	160080
## 121	Data Engineer	160080
## 122	Cloud Data Engineer	160000
## 123	Data Scientist	160000
## 124	Lead Data Engineer	160000
## 125	Data Engineer	160000
## 126	Machine Learning Scientist	160000
## 127	Data Engineer	160000
## 128	Data Engineer	160000
## 129	Data Scientist	160000
## 130	Data Science Manager	159000
## 131	Data Scientist	158200
## 132	Applied Data Scientist	157000
## 133	Data Engineer	156600
## 134	Data Analyst	155000
## 135	Data Engineer	155000
## 136	Data Engineer	155000
## 137	Data Engineer	154600
## 138	Data Engineer	154600
## 139	Data Engineer	154000
## 140	Director of Data Science	153667

## 141	Data Engineering Manager	153000
## 142	Machine Learning Scientist	153000
## 143	Data Science Manager	152500
## 144	Data Science Manager	152000
## 145	Principal Data Scientist	151000
## 146	Data Analytics Manager	150260
## 147	Data Analyst	150075
## 148	Machine Learning Engineer	150000
## 149	BI Data Analyst	150000
## 150	Data Engineer	150000
## 151	Data Engineer	150000
## 152	Data Engineering Manager	150000
## 153	Data Scientist	150000
## 154	Data Architect	150000
## 155	Data Engineer	150000
## 156	Data Scientist	150000
## 157	Computer Vision Software Engineer	150000
## 158	Data Scientist	150000
## 159	Data Analyst	150000
## 160	Principal Data Scientist	148261
## 161	Data Architect	147800
## 162	Data Scientist	147000
## 163	Data Scientist	146000
## 164	Data Analytics Manager	145000
## 165	Data Engineer	145000
## 166	Data Architect	144854
## 167	Data Science Manager	144000
## 168	Research Scientist	144000
## 169	Data Scientist	144000
## 170	Director of Data Science	141846
## 171	Data Scientist	141300
## 172	Data Scientist	140400
## 173	Data Scientist	140400
## 174	Data Scientist	140400
## 175	Data Engineer	140250
## 176	Data Engineer	140000
## 177	Data Analytics Manager	140000
## 178	Data Scientist	140000
## 179	Data Scientist	140000
## 180	Data Scientist	140000
## 181	Data Scientist	140000
## 182	Data Scientist	140000
## 183	Data Scientist	140000
## 184	Data Scientist	138600
## 185	Data Scientist	138350
## 186	Machine Learning Engineer	138000
## 187	Data Science Manager	137141
## 188	Data Engineer	136994
## 189	Data Scientist	136620
## 190	Data Analyst	136600
## 191	Data Engineer	136000
## 192	Business Data Analyst	135000
## 193	Data Analyst	135000
## 194	Data Scientist	135000

## 195	Data Engineer	135000
## 196	Data Analyst	135000
## 197	Analytics Engineer	135000
## 198	Data Analyst	135000
## 199	Data Scientist	135000
## 200	Data Analyst	135000
## 201	Data Engineer	132320
## 202	Data Engineer	132320
## 203	Data Engineer	132320
## 204	Data Analyst	132000
## 205	Data Engineer	130800
## 206	Director of Data Science	130026
## 207	Data Scientist	130000
## 208	Data Scientist	130000
## 209	Data Analyst	130000
## 210	Data Analyst	130000
## 211	Data Analyst	130000
## 212	Data Engineer	130000
## 213	Data Engineer	130000
## 214	Data Scientist	130000
## 215	Data Analyst	129000
## 216	Data Engineer	128875
## 217	Data Analyst	128875
## 218	Data Science Engineer	127221
## 219	Data Analyst	126500
## 220	Data Analyst	126500
## 221	Data Engineer	126000
## 222	Lead Data Engineer	125000
## 223	Machine Learning Engineer	125000
## 224	Computer Vision Engineer	125000
## 225	Machine Learning Engineer	124333
## 226	Data Analyst	124190
## 227	Data Scientist	123000
## 228	Data Scientist	123000
## 229	Data Scientist	123000
## 230	Data Scientist	122346
## 231	Data Analyst	120600
## 232	Data Scientist	120160
## 233	Data Scientist	120000
## 234	Machine Learning Scientist	120000
## 235	Data Analytics Manager	120000
## 236	Data Analytics Manager	120000
## 237	Data Scientist	120000
## 238	AI Scientist	120000
## 239	Machine Learning Engineer	120000
## 240	Data Engineer	120000
## 241	Data Scientist	120000
## 242	Machine Learning Engineer	120000
## 243	Machine Learning Engineer	120000
## 244	Research Scientist	120000
## 245	Data Scientist	119059
## 246	Lead Data Engineer	118187
## 247	Data Scientist	118000
## 248	Data Scientist	117789

## 249	Data Engineer	117789
## 250	Machine Learning Manager	117104
## 251	Data Scientist	116914
## 252	Data Analyst	116150
## 253	Data Analyst	116000
## 254	Data Analyst	115934
## 255	Data Analyst	115934
## 256	Data Analyst	115500
## 257	Lead Data Scientist	115000
## 258	Data Engineer	115000
## 259	Data Scientist	115000
## 260	Data Engineer	115000
## 261	Data Engineer	115000
## 262	Big Data Engineer	114047
## 263	Director of Data Engineering	113476
## 264	Data Engineer	113000
## 265	Data Analyst	112900
## 266	Data Analyst	112900
## 267	Data Analyst	112900
## 268	Data Analyst	112900
## 269	Data Engineer	112872
## 270	Machine Learning Scientist	112300
## 271	Data Engineer	112000
## 272	Data Engineer	111775
## 273	Data Analyst	110925
## 274	Data Engineer	110500
## 275	Applied Data Scientist	110037
## 276	Data Engineer	110000
## 277	Data Analytics Engineer	110000
## 278	Head of Data Science	110000
## 279	Data Engineer	110000
## 280	Data Analyst	110000
## 281	Data Analyst	109280
## 282	Data Analytics Manager	109280
## 283	Big Data Engineer	109024
## 284	Data Scientist	109000
## 285	Data Engineer	108800
## 286	Data Analyst	106260
## 287	Data Analyst	106260
## 288	Data Engineer	106000
## 289	Data Analytics Manager	105400
## 290	Data Scientist	105000
## 291	Data Scientist	105000
## 292	Staff Data Scientist	105000
## 293	Data Engineer	105000
## 294	Data Analyst	105000
## 295	Data Scientist	104890
## 296	Data Scientist	104702
## 297	Data Engineer	104702
## 298	Data Scientist	103691
## 299	Lead Data Engineer	103160
## 300	Data Science Consultant	103000
## 301	Head of Data	102839
## 302	Data Analyst	102100

## 303	Data Scientist	102100
## 304	Data Engineer	101570
## 305	Data Engineer	100800
## 306	Business Data Analyst	100000
## 307	BI Data Analyst	100000
## 308	Machine Learning Developer	100000
## 309	Data Scientist	100000
## 310	Data Engineer	100000
## 311	Data Scientist	100000
## 312	Research Scientist	100000
## 313	Financial Data Analyst	100000
## 314	Data Engineer	100000
## 315	Data Scientist	100000
## 316	Data Scientist	100000
## 317	Data Scientist	100000
## 318	Data Analyst	100000
## 319	Data Analyst	100000
## 320	Data Engineer	100000
## 321	Big Data Architect	99703
## 322	Data Scientist	99360
## 323	Data Engineer	99100
## 324	Data Analyst	99050
## 325	Data Analyst	99000
## 326	Data Analyst	99000
## 327	Machine Learning Engineer	98158
## 328	Data Engineer	98158
## 329	Data Engineer	98158
## 330	BI Data Analyst	98000
## 331	Data Engineer	96282
## 332	Research Scientist	96113
## 333	Computer Vision Software Engineer	95746
## 334	Data Scientist	95550
## 335	Data Science Manager	94665
## 336	Machine Learning Engineer	94564
## 337	Data Engineer	93700
## 338	Data Analyst	93700
## 339	Research Scientist	93427
## 340	Data Engineer	93150
## 341	Data Analyst	93000
## 342	Data Engineer	91614
## 343	Data Scientist	91614
## 344	Data Scientist	91237
## 345	Data Analyst	91000
## 346	Data Scientist	90734
## 347	Data Scientist	90734
## 348	Data Architect	90700
## 349	Data Analyst	90320
## 350	Data Analyst	90320
## 351	Data Analyst	90320
## 352	Data Analyst	90320
## 353	Data Analyst	90320
## 354	Data Analyst	90000
## 355	Data Analyst	90000
## 356	Data Engineer	90000

## 357	Data Science Consultant	90000
## 358	Data Scientist	90000
## 359	Data Scientist	90000
## 360	Cloud Data Engineer	89294
## 361	Marketing Data Analyst	88654
## 362	Machine Learning Engineer	88654
## 363	Data Scientist	88654
## 364	Machine Learning Engineer	87932
## 365	Data Engineer	87932
## 366	Data Engineer	87932
## 367	Lead Machine Learning Engineer	87932
## 368	Data Scientist	87738
## 369	Machine Learning Engineer	87425
## 370	Lead Data Analyst	87000
## 371	Data Scientist	86703
## 372	Data Analyst	85000
## 373	Head of Data Science	85000
## 374	Machine Learning Engineer	85000
## 375	Data Analyst	85000
## 376	Data Analyst	84900
## 377	Data Engineer	82900
## 378	Machine Learning Engineer	82744
## 379	Research Scientist	82528
## 380	Data Engineer	82528
## 381	Data Scientist	82500
## 382	Data Analyst	81666
## 383	Data Analyst	81666
## 384	Machine Learning Engineer	81000
## 385	Data Analyst	80000
## 386	Data Analyst	80000
## 387	Data Scientist	80000
## 388	Data Engineer	80000
## 389	Data Analyst	80000
## 390	Data Scientist	80000
## 391	Data Engineer	80000
## 392	Data Analyst	80000
## 393	Data Scientist	79833
## 394	Data Engineering Manager	79833
## 395	Data Analytics Engineer	79197
## 396	Head of Machine Learning	79039
## 397	Machine Learning Developer	78791
## 398	Machine Learning Developer	78791
## 399	Data Engineer	78526
## 400	Data Engineer	78526
## 401	Data Engineer	78526
## 402	Data Engineer	78526
## 403	Data Scientist	78000
## 404	Data Scientist	77684
## 405	ML Engineer	77364
## 406	Data Scientist	76958
## 407	Data Engineer	76940
## 408	Data Engineer	76940
## 409	Data Science Consultant	76833
## 410	Data Engineer	76833

## 411	Data Science Consultant	76833
## 412	Data Scientist	75774
## 413	Data Analyst	75000
## 414	Principal Data Analyst	75000
## 415	Applied Machine Learning Scientist	75000
## 416	Data Analyst	75000
## 417	Data Engineer	74130
## 418	Machine Learning Engineer	74000
## 419	Data Scientist	73000
## 420	Data Engineer	72500
## 421	Data Engineer	72212
## 422	Data Analyst	72000
## 423	Data Scientist	71982
## 424	Data Analyst	71786
## 425	Machine Learning Engineer	71444
## 426	Business Data Analyst	70912
## 427	Data Engineer	70500
## 428	Data Engineer	70139
## 429	Big Data Engineer	70000
## 430	Computer Vision Software Engineer	70000
## 431	Research Scientist	69999
## 432	Data Science Consultant	69741
## 433	Data Engineer	69741
## 434	Data Scientist	69336
## 435	Data Analyst	69000
## 436	Data Scientist	68428
## 437	Data Engineer	68147
## 438	Data Analyst	67000
## 439	Machine Learning Engineer	66265
## 440	Data Engineer	66022
## 441	Data Engineer	65949
## 442	Data Engineer	65949
## 443	Data Scientist	65438
## 444	Data Engineer	65438
## 445	Data Analyst	65438
## 446	Data Engineer	65013
## 447	Machine Learning Engineer	65000
## 448	Data Engineer	65000
## 449	Research Scientist	64849
## 450	Data Engineer	63900
## 451	Data Science Consultant	63831
## 452	Data Analyst	63831
## 453	Research Scientist	63810
## 454	ML Engineer	63711
## 455	Data Scientist	62726
## 456	Data Scientist	62726
## 457	Machine Learning Engineer	62651
## 458	Research Scientist	62649
## 459	Data Analyst	62000
## 460	Finance Data Analyst	61896
## 461	Data Scientist	61467
## 462	Data Analyst	61300
## 463	Data Analyst	61300
## 464	Research Scientist	60757

## 465	Computer Vision Engineer	60000
## 466	Big Data Engineer	60000
## 467	Data Analyst	60000
## 468	Data Science Engineer	60000
## 469	Data Analyst	60000
## 470	Data Engineering Manager	59303
## 471	Data Analyst	59102
## 472	Business Data Analyst	59102
## 473	Data Engineer	58894
## 474	Machine Learning Infrastructure Engineer	58255
## 475	Data Engineer	58035
## 476	Data Scientist	58000
## 477	Data Analyst	58000
## 478	Data Analyst	58000
## 479	Research Scientist	56738
## 480	Data Scientist	56256
## 481	Lead Data Engineer	56000
## 482	BI Data Analyst	55000
## 483	AI Scientist	55000
## 484	ETL Developer	54957
## 485	ETL Developer	54957
## 486	Data Engineer	54957
## 487	Data Engineer	54742
## 488	Applied Data Scientist	54238
## 489	Data Science Manager	54094
## 490	Data Engineer	54000
## 491	Data Scientist	53192
## 492	Data Scientist	52396
## 493	Data Engineer	52351
## 494	Data Engineer	52351
## 495	Data Analyst	52351
## 496	Data Analyst	52000
## 497	Data Analyst	51519
## 498	Data Scientist	51321
## 499	Machine Learning Engineer	51064
## 500	Machine Learning Infrastructure Engineer	50180
## 501	Data Scientist	50000
## 502	Data Analyst	50000
## 503	Data Analytics Engineer	50000
## 504	Research Scientist	50000
## 505	Data Analyst	50000
## 506	Data Scientist	49646
## 507	Data Engineer	49461
## 508	Data Engineer	49461
## 509	Data Scientist	49268
## 510	Data Scientist	48000
## 511	Data Engineer	47899
## 512	Machine Learning Engineer	47282
## 513	Data Scientist	46809
## 514	Data Analyst	46759
## 515	Machine Learning Engineer	46597
## 516	AI Scientist	45896
## 517	Data Engineer	45807
## 518	Data Scientist	45807

## 519	Data Analyst	45807
## 520	Data Scientist	45760
## 521	Machine Learning Engineer	45618
## 522	Data Engineer	45391
## 523	Data Analyst	43966
## 524	Data Analyst	43966
## 525	Machine Learning Engineer	43331
## 526	Data Scientist	42197
## 527	Research Scientist	42000
## 528	Data Engineer	41689
## 529	Lead Data Scientist	40570
## 530	Data Scientist	40481
## 531	Data Science Engineer	40189
## 532	Data Scientist	40038
## 533	Data Scientist	40000
## 534	Data Scientist	39916
## 535	Data Scientist	39263
## 536	Data Analyst	39263
## 537	Data Scientist	38776
## 538	Applied Machine Learning Scientist	38400
## 539	Data Scientist	37825
## 540	Machine Learning Engineer	37300
## 541	NLP Engineer	37236
## 542	Data Scientist	36643
## 543	BI Data Analyst	36259
## 544	Data Scientist	35735
## 545	Data Scientist	35590
## 546	Data Scientist	33808
## 547	Data Engineer	33511
## 548	Data Analyst	32974
## 549	Data Analyst	32974
## 550	Head of Data	32974
## 551	Applied Machine Learning Scientist	31875
## 552	Data Scientist	31615
## 553	Data Engineer	30428
## 554	Data Scientist	29751
## 555	Computer Vision Engineer	28609
## 556	Data Engineer	28476
## 557	Data Scientist	28399
## 558	Data Engineer	28369
## 559	Data Engineer	28016
## 560	Data Engineer	26005
## 561	Data Scientist	25532
## 562	Data Engineer	25000
## 563	Machine Learning Engineer	24823
## 564	Machine Learning Engineer	24823
## 565	Machine Learning Engineer	24342
## 566	Computer Vision Engineer	24000
## 567	Big Data Engineer	22611
## 568	ML Engineer	21983
## 569	Machine Learning Engineer	21844
## 570	Data Scientist	21669
## 571	Data Engineer	21637
## 572	Data Scientist	20171

## 573	Product Data Analyst	20000
## 574	Machine Learning Engineer	20000
## 575	Data Engineer	20000
## 576	Data Analytics Engineer	20000
## 577	Data Analyst	20000
## 578	Lead Data Analyst	19609
## 579	Computer Vision Engineer	18907
## 580	Business Data Analyst	18442
## 581	Data Scientist	18442
## 582	AI Scientist	18053
## 583	Big Data Engineer	18000
## 584	Data Scientist	16904
## 585	Big Data Engineer	16228
## 586	ML Engineer	15966
## 587	Data Scientist	13400
## 588	Data Scientist	12901
## 589	Data Engineer	12103
## 590	AI Scientist	12000
## 591	AI Scientist	12000
## 592	Machine Learning Scientist	12000
## 593	Data Analyst	10354
## 594	Data Analyst	10000
## 595	Computer Vision Engineer	10000
## 596	Data Scientist	9466
## 597	BI Data Analyst	9272
## 598	Data Analyst	8000
## 599	Product Data Analyst	6072
## 600	Data Analyst	6072
## 601	Big Data Engineer	5882
## 602	Data Science Consultant	5707
## 603	Data Scientist	5679
## 604	3D Computer Vision Researcher	5409
## 605	Data Engineer	4000
## 606	Data Scientist	4000
## 607	Data Scientist	2859

```
#set better_smaller_dataframe as the data frame retaining all rows that satisfy the conditions
better_smaller_dataframe <- filter(smaller_dataframe, salary_in_usd >
80000)
#show better_small_dataframe
better_smaller_dataframe
```

##	job_title	salary_in_usd
## 1	Machine Learning Scientist	260000
## 2	Big Data Engineer	109024
## 3	Machine Learning Engineer	150000
## 4	Lead Data Scientist	190000
## 5	Business Data Analyst	135000
## 6	Lead Data Engineer	125000
## 7	Lead Data Analyst	87000
## 8	Data Analyst	85000
## 9	Big Data Engineer	114047
## 10	BI Data Analyst	98000
## 11	Lead Data Scientist	115000

## 12	Director of Data Science	325000
## 13	Business Data Analyst	100000
## 14	Machine Learning Manager	117104
## 15	Research Scientist	450000
## 16	Data Science Consultant	103000
## 17	Machine Learning Engineer	250000
## 18	Machine Learning Engineer	138000
## 19	Data Engineer	106000
## 20	Data Engineer	112872
## 21	Data Engineer	188000
## 22	Data Scientist	105000
## 23	Data Analyst	91000
## 24	Principal Data Scientist	148261
## 25	Data Scientist	118000
## 26	Data Scientist	120000
## 27	Data Scientist	138350
## 28	Data Engineer	110000
## 29	Data Engineer	130800
## 30	Data Scientist	412000
## 31	Data Science Manager	190200
## 32	Data Scientist	105000
## 33	Data Scientist	91237
## 34	Research Scientist	82528
## 35	BI Data Analyst	150000
## 36	Head of Data	235000
## 37	BI Data Analyst	100000
## 38	ML Engineer	270000
## 39	Data Engineer	140000
## 40	Director of Data Science	153667
## 41	Data Analytics Engineer	110000
## 42	Lead Data Analyst	170000
## 43	Marketing Data Analyst	88654
## 44	Lead Data Engineer	276000
## 45	Cloud Data Engineer	89294
## 46	Financial Data Analyst	450000
## 47	Computer Vision Software Engineer	95746
## 48	Data Engineer	150000
## 49	Research Scientist	187442
## 50	Data Engineer	115000
## 51	Data Engineer	150000
## 52	Machine Learning Engineer	94564
## 53	Director of Data Engineering	113476
## 54	Lead Data Engineer	103160
## 55	Machine Learning Scientist	225000
## 56	Data Analyst	90000
## 57	Data Engineer	200000
## 58	Principal Data Engineer	200000
## 59	Applied Data Scientist	110037
## 60	Principal Data Scientist	151000
## 61	Machine Learning Scientist	120000
## 62	Machine Learning Developer	100000
## 63	Data Scientist	100000
## 64	Data Analyst	90000
## 65	Principal Data Scientist	220000

## 66	Data Analyst	135000
## 67	Data Science Manager	240000
## 68	Data Engineering Manager	150000
## 69	Data Scientist	82500
## 70	Data Engineer	100000
## 71	Machine Learning Engineer	82744
## 72	Data Engineer	90000
## 73	Data Engineering Manager	153000
## 74	Cloud Data Engineer	160000
## 75	Director of Data Science	168000
## 76	Data Scientist	150000
## 77	Data Science Manager	144000
## 78	Data Science Engineer	127221
## 79	Data Scientist	119059
## 80	Applied Machine Learning Scientist	423000
## 81	Data Analytics Manager	120000
## 82	Machine Learning Engineer	125000
## 83	Head of Data	230000
## 84	Head of Data Science	85000
## 85	Director of Data Science	130026
## 86	Data Specialist	165000
## 87	Director of Data Science	250000
## 88	Data Architect	150000
## 89	Data Architect	170000
## 90	Data Engineer	82528
## 91	Principal Data Scientist	235000
## 92	Data Engineering Manager	174000
## 93	Machine Learning Engineer	81000
## 94	Data Scientist	90734
## 95	Data Science Manager	152000
## 96	Data Science Manager	174000
## 97	Research Scientist	96113
## 98	Data Scientist	147000
## 99	Data Science Consultant	90000
## 100	Machine Learning Infrastructure Engineer	195000
## 101	Data Scientist	160000
## 102	Machine Learning Engineer	200000
## 103	Data Engineer	165000
## 104	Data Analytics Manager	120000
## 105	Principal Data Engineer	185000
## 106	Data Scientist	90734
## 107	Machine Learning Engineer	88654
## 108	Data Analytics Manager	140000
## 109	Data Scientist	116914
## 110	Machine Learning Scientist	225000
## 111	Principal Data Scientist	416000
## 112	Data Scientist	87738
## 113	Data Scientist	88654
## 114	Data Scientist	135000
## 115	ML Engineer	256000
## 116	Director of Data Engineering	200000
## 117	Data Analyst	200000
## 118	Data Architect	180000
## 119	Head of Data Science	110000

## 120	Data Scientist	103691
## 121	Data Engineer	110000
## 122	Data Scientist	165000
## 123	Data Engineer	96282
## 124	Principal Data Analyst	170000
## 125	Data Scientist	115000
## 126	Data Scientist	90000
## 127	Principal Data Engineer	600000
## 128	Data Analyst	93000
## 129	Big Data Architect	99703
## 130	Data Engineer	200000
## 131	Principal Data Scientist	173762
## 132	Machine Learning Engineer	185000
## 133	Director of Data Science	141846
## 134	Data Scientist	130000
## 135	Lead Data Engineer	160000
## 136	Data Engineer	93150
## 137	Data Engineer	111775
## 138	Machine Learning Engineer	85000
## 139	Data Scientist	100000
## 140	Data Engineer	112000
## 141	Research Scientist	100000
## 142	Staff Data Scientist	105000
## 143	Data Science Manager	94665
## 144	Head of Data	102839
## 145	Data Scientist	109000
## 146	Data Engineer	135000
## 147	Data Analyst	155000
## 148	Data Analyst	120600
## 149	Data Scientist	130000
## 150	Data Scientist	90000
## 151	Data Engineer	170000
## 152	Data Engineer	150000
## 153	Data Analyst	102100
## 154	Data Analyst	84900
## 155	Data Scientist	136620
## 156	Data Scientist	99360
## 157	Data Scientist	117789
## 158	Data Scientist	104702
## 159	Data Scientist	146000
## 160	Data Scientist	123000
## 161	Data Analyst	99000
## 162	Data Analyst	116000
## 163	Data Analyst	106260
## 164	Data Analyst	126500
## 165	Data Engineer	242000
## 166	Data Engineer	200000
## 167	Data Scientist	165220
## 168	Data Scientist	120160
## 169	Data Analyst	90320
## 170	Data Engineer	181940
## 171	Data Engineer	132320
## 172	Data Engineer	220110
## 173	Data Engineer	160080

## 174	Data Scientist	180000
## 175	Data Scientist	120000
## 176	Data Analyst	124190
## 177	Data Analyst	130000
## 178	Data Analyst	110000
## 179	Data Analyst	170000
## 180	Data Analyst	115500
## 181	Data Analyst	112900
## 182	Data Analyst	90320
## 183	Data Analyst	112900
## 184	Data Analyst	90320
## 185	Data Engineer	165400
## 186	Data Engineer	132320
## 187	Data Analyst	167000
## 188	Data Engineer	243900
## 189	Data Analyst	136600
## 190	Data Analyst	109280
## 191	Data Engineer	128875
## 192	Data Engineer	93700
## 193	Head of Data Science	224000
## 194	Head of Data Science	167875
## 195	Analytics Engineer	175000
## 196	Data Engineer	156600
## 197	Data Engineer	108800
## 198	Data Scientist	95550
## 199	Data Engineer	113000
## 200	Data Analyst	135000
## 201	Data Science Manager	161342
## 202	Data Science Manager	137141
## 203	Data Scientist	167000
## 204	Data Scientist	123000
## 205	Data Scientist	150000
## 206	Data Scientist	211500
## 207	Data Architect	192400
## 208	Data Architect	90700
## 209	Data Analyst	130000
## 210	Data Analyst	130000
## 211	Data Engineer	160000
## 212	Data Scientist	138600
## 213	Data Engineer	136000
## 214	Analytics Engineer	135000
## 215	Data Scientist	170000
## 216	Data Scientist	123000
## 217	Machine Learning Engineer	189650
## 218	Machine Learning Engineer	164996
## 219	Lead Data Engineer	118187
## 220	Data Analyst	132000
## 221	Data Engineer	165400
## 222	Data Architect	208775
## 223	Data Architect	147800
## 224	Data Engineer	136994
## 225	Data Engineer	101570
## 226	Data Analyst	128875
## 227	Data Analyst	93700

## 228	Data Engineer	132320
## 229	Data Analyst	164000
## 230	Data Engineer	155000
## 231	Machine Learning Engineer	124333
## 232	Machine Learning Engineer	98158
## 233	AI Scientist	120000
## 234	Data Analyst	112900
## 235	Data Analyst	90320
## 236	Data Analytics Manager	145000
## 237	Data Analytics Manager	105400
## 238	Machine Learning Engineer	87932
## 239	Data Engineer	117789
## 240	Data Scientist	215300
## 241	Data Scientist	158200
## 242	Data Engineer	209100
## 243	Data Engineer	154600
## 244	Data Analyst	115934
## 245	Data Analyst	81666
## 246	Data Engineer	175000
## 247	Data Engineer	98158
## 248	Data Engineer	183600
## 249	Data Scientist	180000
## 250	Data Scientist	260000
## 251	Machine Learning Scientist	160000
## 252	Machine Learning Scientist	112300
## 253	Data Science Manager	241000
## 254	Data Science Manager	159000
## 255	Data Scientist	180000
## 256	Data Engineer	82900
## 257	Data Engineer	100800
## 258	Data Scientist	140400
## 259	Data Engineer	87932
## 260	Data Engineer	104702
## 261	Data Engineer	91614
## 262	Data Engineer	87932
## 263	Machine Learning Engineer	189650
## 264	Machine Learning Engineer	164996
## 265	Data Engineer	98158
## 266	Data Scientist	215300
## 267	Data Engineer	209100
## 268	Data Engineer	154600
## 269	Data Engineer	180000
## 270	Director of Data Science	196979
## 271	Machine Learning Engineer	120000
## 272	Computer Vision Engineer	125000
## 273	Data Engineer	105000
## 274	Lead Machine Learning Engineer	87932
## 275	Financial Data Analyst	100000
## 276	Principal Data Scientist	162674
## 277	Data Engineer	120000
## 278	Research Scientist	144000
## 279	Data Scientist	104890
## 280	Data Engineer	100000
## 281	Data Scientist	140000

## 282	Data Analyst	135000
## 283	Data Scientist	220000
## 284	Data Scientist	140000
## 285	Data Scientist	183228
## 286	Data Scientist	91614
## 287	Data Scientist	185100
## 288	Machine Learning Engineer	220000
## 289	Data Scientist	200000
## 290	Data Scientist	120000
## 291	Machine Learning Engineer	120000
## 292	Data Engineer	324000
## 293	Data Engineer	216000
## 294	Data Engineer	210000
## 295	Machine Learning Engineer	120000
## 296	Data Scientist	230000
## 297	Data Scientist	100000
## 298	Data Scientist	100000
## 299	Head of Data	200000
## 300	Data Scientist	100000
## 301	Machine Learning Scientist	153000
## 302	Data Scientist	165000
## 303	Research Scientist	93427
## 304	Machine Learning Engineer	87425
## 305	Data Engineer	115000
## 306	Data Scientist	86703
## 307	Research Scientist	120000
## 308	Applied Data Scientist	157000
## 309	Computer Vision Software Engineer	150000
## 310	Data Science Manager	152500
## 311	Data Scientist	122346
## 312	Applied Data Scientist	380000
## 313	Data Analytics Lead	405000
## 314	Data Scientist	135000
## 315	Applied Data Scientist	177000
## 316	Data Analyst	135000
## 317	Data Analyst	100000
## 318	Data Analyst	90320
## 319	Data Analyst	85000
## 320	Machine Learning Engineer	214000
## 321	Machine Learning Engineer	192600
## 322	Data Architect	266400
## 323	Data Architect	213120
## 324	Data Analyst	112900
## 325	Data Engineer	155000
## 326	Data Scientist	141300
## 327	Data Scientist	102100
## 328	Data Analyst	115934
## 329	Data Analyst	81666
## 330	Data Engineer	206699
## 331	Data Engineer	99100
## 332	Data Engineer	130000
## 333	Data Engineer	115000
## 334	Data Engineer	110500
## 335	Data Engineer	130000

## 336	Data Analyst	99050
## 337	Data Engineer	160000
## 338	Data Scientist	205300
## 339	Data Scientist	140400
## 340	Data Scientist	176000
## 341	Data Scientist	144000
## 342	Data Engineer	200100
## 343	Data Engineer	160000
## 344	Data Engineer	145000
## 345	Data Scientist	205300
## 346	Data Scientist	140400
## 347	Analytics Engineer	205300
## 348	Analytics Engineer	184700
## 349	Data Engineer	175100
## 350	Data Engineer	140250
## 351	Data Analyst	116150
## 352	Data Analyst	170000
## 353	Data Scientist	140000
## 354	Data Scientist	210000
## 355	Data Scientist	140000
## 356	Data Analyst	100000
## 357	Data Scientist	210000
## 358	Data Scientist	140000
## 359	Data Scientist	210000
## 360	Data Analyst	150075
## 361	Data Engineer	100000
## 362	Data Analyst	126500
## 363	Data Analyst	106260
## 364	Data Engineer	220110
## 365	Data Engineer	160080
## 366	Data Analyst	105000
## 367	Data Analyst	110925
## 368	Data Scientist	140000
## 369	Data Analyst	99000
## 370	Data Architect	192564
## 371	Data Architect	144854
## 372	Data Scientist	230000
## 373	Data Scientist	150000
## 374	Data Analytics Manager	150260
## 375	Data Analytics Manager	109280
## 376	Data Scientist	210000
## 377	Data Analyst	170000
## 378	Data Scientist	160000
## 379	Data Scientist	130000
## 380	Data Engineer	154000
## 381	Data Engineer	126000
## 382	Data Analyst	129000
## 383	Data Analyst	150000
## 384	AI Scientist	200000

```

#creates new columns that are functions of existing variables and modify it *0.94
better_smaller_dataframe <-
  mutate(smaller_dataframe, salary_in_euros = salary_in_usd * .94)
#show better_small_dataframe

```

better_smaller_dataframe

##	job_title	salary_in_usd	salary_in_euros
## 1	Data Scientist	79833	75043.02
## 2	Machine Learning Scientist	260000	244400.00
## 3	Big Data Engineer	109024	102482.56
## 4	Product Data Analyst	20000	18800.00
## 5	Machine Learning Engineer	150000	141000.00
## 6	Data Analyst	72000	67680.00
## 7	Lead Data Scientist	190000	178600.00
## 8	Data Scientist	35735	33590.90
## 9	Business Data Analyst	135000	126900.00
## 10	Lead Data Engineer	125000	117500.00
## 11	Data Scientist	51321	48241.74
## 12	Data Scientist	40481	38052.14
## 13	Data Scientist	39916	37521.04
## 14	Lead Data Analyst	87000	81780.00
## 15	Data Analyst	85000	79900.00
## 16	Data Analyst	8000	7520.00
## 17	Data Engineer	41689	39187.66
## 18	Big Data Engineer	114047	107204.18
## 19	Data Science Consultant	5707	5364.58
## 20	Lead Data Engineer	56000	52640.00
## 21	Machine Learning Engineer	43331	40731.14
## 22	Product Data Analyst	6072	5707.68
## 23	Data Engineer	47899	45025.06
## 24	BI Data Analyst	98000	92120.00
## 25	Lead Data Scientist	115000	108100.00
## 26	Director of Data Science	325000	305500.00
## 27	Research Scientist	42000	39480.00
## 28	Data Engineer	33511	31500.34
## 29	Business Data Analyst	100000	94000.00
## 30	Machine Learning Manager	117104	110077.76
## 31	Data Engineering Manager	59303	55744.82
## 32	Big Data Engineer	70000	65800.00
## 33	Data Scientist	68428	64322.32
## 34	Research Scientist	450000	423000.00
## 35	Data Analyst	46759	43953.46
## 36	Data Engineer	74130	69682.20
## 37	Data Science Consultant	103000	96820.00
## 38	Machine Learning Engineer	250000	235000.00
## 39	Data Analyst	10000	9400.00
## 40	Machine Learning Engineer	138000	129720.00
## 41	Data Scientist	45760	43014.40
## 42	Data Engineering Manager	79833	75043.02
## 43	Machine Learning Infrastructure Engineer	50180	47169.20
## 44	Data Engineer	106000	99640.00
## 45	Data Engineer	112872	106099.68
## 46	ML Engineer	15966	15008.04
## 47	Data Scientist	76958	72340.52
## 48	Data Engineer	188000	176720.00
## 49	Data Scientist	105000	98700.00
## 50	Data Engineer	70139	65930.66

## 51	Data Analyst	6072	5707.68
## 52	Data Analyst	91000	85540.00
## 53	AI Scientist	45896	43142.24
## 54	Data Engineer	54742	51457.48
## 55	Computer Vision Engineer	60000	56400.00
## 56	Principal Data Scientist	148261	139365.34
## 57	Data Scientist	38776	36449.44
## 58	Data Scientist	118000	110920.00
## 59	Data Scientist	120000	112800.00
## 60	Data Scientist	138350	130049.00
## 61	Data Engineer	110000	103400.00
## 62	Data Engineer	130800	122952.00
## 63	Data Scientist	21669	20368.86
## 64	Data Scientist	412000	387280.00
## 65	Machine Learning Engineer	45618	42880.92
## 66	Data Scientist	62726	58962.44
## 67	Data Scientist	49268	46311.92
## 68	Data Science Manager	190200	178788.00
## 69	Data Scientist	105000	98700.00
## 70	Data Scientist	91237	85762.78
## 71	Data Scientist	62726	58962.44
## 72	Data Scientist	42197	39665.18
## 73	Research Scientist	82528	77576.32
## 74	BI Data Analyst	150000	141000.00
## 75	Head of Data	235000	220900.00
## 76	Data Scientist	53192	50000.48
## 77	BI Data Analyst	100000	94000.00
## 78	3D Computer Vision Researcher	5409	5084.46
## 79	ML Engineer	270000	253800.00
## 80	Data Analyst	80000	75200.00
## 81	Data Analytics Engineer	79197	74445.18
## 82	Data Engineer	140000	131600.00
## 83	Applied Data Scientist	54238	50983.72
## 84	Machine Learning Engineer	47282	44445.08
## 85	Director of Data Science	153667	144446.98
## 86	Data Engineer	28476	26767.44
## 87	Data Analyst	59102	55555.88
## 88	Data Analytics Engineer	110000	103400.00
## 89	Lead Data Analyst	170000	159800.00
## 90	Data Analyst	80000	75200.00
## 91	Marketing Data Analyst	88654	83334.76
## 92	Data Science Consultant	76833	72223.02
## 93	Lead Data Analyst	19609	18432.46
## 94	Lead Data Engineer	276000	259440.00
## 95	Data Scientist	29751	27965.94
## 96	Cloud Data Engineer	89294	83936.36
## 97	AI Scientist	12000	11280.00
## 98	Financial Data Analyst	450000	423000.00
## 99	Computer Vision Software Engineer	70000	65800.00
## 100	Computer Vision Software Engineer	95746	90001.24
## 101	Data Analyst	75000	70500.00
## 102	Data Engineer	150000	141000.00
## 103	BI Data Analyst	36259	34083.46
## 104	Data Analyst	62000	58280.00

## 105	Data Scientist	73000	68620.00
## 106	Data Analyst	51519	48427.86
## 107	Research Scientist	187442	176195.48
## 108	Data Engineer	115000	108100.00
## 109	Data Engineer	150000	141000.00
## 110	Data Engineer	30428	28602.32
## 111	Machine Learning Engineer	94564	88890.16
## 112	Director of Data Engineering	113476	106667.44
## 113	Lead Data Engineer	103160	96970.40
## 114	AI Scientist	12000	11280.00
## 115	Data Engineer	45391	42667.54
## 116	Machine Learning Scientist	225000	211500.00
## 117	Data Scientist	50000	47000.00
## 118	Data Science Engineer	40189	37777.66
## 119	Data Analyst	90000	84600.00
## 120	Data Engineer	200000	188000.00
## 121	Big Data Engineer	60000	56400.00
## 122	Principal Data Engineer	200000	188000.00
## 123	Data Analyst	50000	47000.00
## 124	Applied Data Scientist	110037	103434.78
## 125	Data Analyst	10354	9732.76
## 126	Principal Data Scientist	151000	141940.00
## 127	Machine Learning Scientist	120000	112800.00
## 128	Data Scientist	9466	8898.04
## 129	Machine Learning Engineer	20000	18800.00
## 130	Lead Data Scientist	40570	38135.80
## 131	Machine Learning Developer	100000	94000.00
## 132	Data Scientist	49646	46667.24
## 133	Applied Machine Learning Scientist	38400	36096.00
## 134	Computer Vision Engineer	24000	22560.00
## 135	Data Scientist	100000	94000.00
## 136	Data Analyst	90000	84600.00
## 137	ML Engineer	63711	59888.34
## 138	ML Engineer	77364	72722.16
## 139	Principal Data Scientist	220000	206800.00
## 140	Data Scientist	80000	75200.00
## 141	Data Analyst	135000	126900.00
## 142	Data Science Manager	240000	225600.00
## 143	Data Engineering Manager	150000	141000.00
## 144	Data Scientist	82500	77550.00
## 145	Data Engineer	100000	94000.00
## 146	Machine Learning Engineer	82744	77779.36
## 147	Research Scientist	62649	58890.06
## 148	Data Engineer	90000	84600.00
## 149	Data Engineering Manager	153000	143820.00
## 150	Cloud Data Engineer	160000	150400.00
## 151	Director of Data Science	168000	157920.00
## 152	Data Scientist	150000	141000.00
## 153	Data Scientist	75774	71227.56
## 154	Data Scientist	13400	12596.00
## 155	Data Science Manager	144000	135360.00
## 156	Data Science Engineer	127221	119587.74
## 157	Data Scientist	119059	111915.46
## 158	Applied Machine Learning Scientist	423000	397620.00

## 159	Data Analytics Manager	120000	112800.00
## 160	Machine Learning Engineer	125000	117500.00
## 161	Head of Data	230000	216200.00
## 162	Head of Data Science	85000	79900.00
## 163	Data Engineer	28369	26666.86
## 164	Data Science Consultant	63831	60001.14
## 165	Director of Data Science	130026	122224.44
## 166	Data Specialist	165000	155100.00
## 167	Data Engineer	80000	75200.00
## 168	Director of Data Science	250000	235000.00
## 169	BI Data Analyst	55000	51700.00
## 170	Data Architect	150000	141000.00
## 171	Data Architect	170000	159800.00
## 172	Data Engineer	82528	77576.32
## 173	Data Analyst	60000	56400.00
## 174	Principal Data Scientist	235000	220900.00
## 175	Research Scientist	60757	57111.58
## 176	Data Engineering Manager	174000	163560.00
## 177	Data Scientist	2859	2687.46
## 178	Data Scientist	40038	37635.72
## 179	Machine Learning Engineer	81000	76140.00
## 180	Data Scientist	5679	5338.26
## 181	Big Data Engineer	22611	21254.34
## 182	Data Scientist	90734	85289.96
## 183	Data Engineer	26005	24444.70
## 184	Finance Data Analyst	61896	58182.24
## 185	Machine Learning Scientist	12000	11280.00
## 186	Data Engineer	4000	3760.00
## 187	Data Analytics Engineer	50000	47000.00
## 188	Data Science Consultant	69741	65556.54
## 189	Data Engineer	76833	72223.02
## 190	Machine Learning Engineer	74000	69560.00
## 191	Data Science Manager	152000	142880.00
## 192	Machine Learning Engineer	21844	20533.36
## 193	Big Data Engineer	18000	16920.00
## 194	Data Science Manager	174000	163560.00
## 195	Research Scientist	96113	90346.22
## 196	Data Scientist	147000	138180.00
## 197	BI Data Analyst	9272	8715.68
## 198	Machine Learning Engineer	24342	22881.48
## 199	Data Science Manager	54094	50848.36
## 200	Data Science Consultant	90000	84600.00
## 201	Data Scientist	61467	57778.98
## 202	Machine Learning Infrastructure Engineer	195000	183300.00
## 203	Data Scientist	37825	35555.50
## 204	Research Scientist	50000	47000.00
## 205	Data Scientist	160000	150400.00
## 206	Data Scientist	12901	12126.94
## 207	Machine Learning Engineer	200000	188000.00
## 208	Data Engineer	165000	155100.00
## 209	Data Engineer	20000	18800.00
## 210	Data Analytics Manager	120000	112800.00
## 211	Machine Learning Engineer	24823	23333.62
## 212	Research Scientist	56738	53333.72

## 213	Data Engineer	66022	62060.68
## 214	Big Data Engineer	5882	5529.08
## 215	Machine Learning Engineer	24823	23333.62
## 216	Principal Data Engineer	185000	173900.00
## 217	Computer Vision Engineer	28609	26892.46
## 218	Data Scientist	90734	85289.96
## 219	Machine Learning Engineer	88654	83334.76
## 220	Data Analytics Manager	140000	131600.00
## 221	Machine Learning Engineer	46597	43801.18
## 222	Data Scientist	116914	109899.16
## 223	Data Scientist	33808	31779.52
## 224	Data Scientist	56256	52880.64
## 225	Machine Learning Scientist	225000	211500.00
## 226	Principal Data Scientist	416000	391040.00
## 227	Data Scientist	87738	82473.72
## 228	Data Scientist	88654	83334.76
## 229	Data Scientist	135000	126900.00
## 230	Data Analyst	71786	67478.84
## 231	Big Data Engineer	16228	15254.32
## 232	ML Engineer	256000	240640.00
## 233	Director of Data Engineering	200000	188000.00
## 234	Data Analyst	200000	188000.00
## 235	Data Architect	180000	169200.00
## 236	Head of Data Science	110000	103400.00
## 237	Research Scientist	63810	59981.40
## 238	Data Scientist	46809	44000.46
## 239	Data Scientist	4000	3760.00
## 240	Data Engineer	21637	20338.78
## 241	Data Scientist	103691	97469.54
## 242	Data Analyst	80000	75200.00
## 243	Data Engineer	110000	103400.00
## 244	Data Scientist	165000	155100.00
## 245	AI Scientist	18053	16969.82
## 246	Data Engineer	72212	67879.28
## 247	Data Scientist	36643	34444.42
## 248	Data Engineer	12103	11376.82
## 249	Data Engineer	96282	90505.08
## 250	Principal Data Analyst	170000	159800.00
## 251	Data Scientist	115000	108100.00
## 252	Data Scientist	90000	84600.00
## 253	Principal Data Engineer	600000	564000.00
## 254	Data Scientist	28399	26695.06
## 255	Data Analyst	93000	87420.00
## 256	Big Data Architect	99703	93720.82
## 257	Data Engineer	200000	188000.00
## 258	Principal Data Scientist	173762	163336.28
## 259	Machine Learning Engineer	185000	173900.00
## 260	Director of Data Science	141846	133335.24
## 261	Data Scientist	130000	122200.00
## 262	Data Analyst	63831	60001.14
## 263	Data Scientist	16904	15889.76
## 264	Machine Learning Engineer	66265	62289.10
## 265	Data Scientist	25532	24000.08
## 266	Lead Data Engineer	160000	150400.00

## 267	Data Engineer	93150	87561.00
## 268	Data Engineer	111775	105068.50
## 269	Data Engineer	28016	26335.04
## 270	Data Engineer	65013	61112.22
## 271	Data Engineer	72500	68150.00
## 272	Computer Vision Engineer	18907	17772.58
## 273	Data Science Consultant	76833	72223.02
## 274	Machine Learning Engineer	85000	79900.00
## 275	Data Scientist	77684	73022.96
## 276	Data Scientist	100000	94000.00
## 277	Data Scientist	58000	54520.00
## 278	AI Scientist	55000	51700.00
## 279	Data Scientist	20171	18960.74
## 280	Business Data Analyst	59102	55555.88
## 281	Data Engineer	112000	105280.00
## 282	Research Scientist	100000	94000.00
## 283	Data Engineer	69741	65556.54
## 284	Staff Data Scientist	105000	98700.00
## 285	Research Scientist	69999	65799.06
## 286	Data Science Manager	94665	88985.10
## 287	Head of Data	102839	96668.66
## 288	Data Scientist	109000	102460.00
## 289	Machine Learning Engineer	51064	48000.16
## 290	Data Engineer	135000	126900.00
## 291	Data Analyst	155000	145700.00
## 292	Data Analyst	120600	113364.00
## 293	Data Scientist	130000	122200.00
## 294	Data Scientist	90000	84600.00
## 295	Data Engineer	170000	159800.00
## 296	Data Engineer	150000	141000.00
## 297	Data Analyst	102100	95974.00
## 298	Data Analyst	84900	79806.00
## 299	Data Scientist	136620	128422.80
## 300	Data Scientist	99360	93398.40
## 301	Data Scientist	117789	110721.66
## 302	Data Scientist	104702	98419.88
## 303	Data Scientist	146000	137240.00
## 304	Data Scientist	123000	115620.00
## 305	Data Engineer	52351	49209.94
## 306	Data Analyst	99000	93060.00
## 307	Data Analyst	116000	109040.00
## 308	Data Analyst	106260	99884.40
## 309	Data Analyst	126500	118910.00
## 310	Data Engineer	242000	227480.00
## 311	Data Engineer	200000	188000.00
## 312	Data Scientist	65438	61511.72
## 313	Data Scientist	39263	36907.22
## 314	Data Engineer	78526	73814.44
## 315	Data Engineer	52351	49209.94
## 316	Data Scientist	165220	155306.80
## 317	Data Engineer	45807	43058.58
## 318	Data Scientist	120160	112950.40
## 319	Data Analyst	90320	84900.80
## 320	Data Engineer	181940	171023.60

## 321	Data Engineer	132320	124380.80
## 322	Data Engineer	220110	206903.40
## 323	Data Engineer	160080	150475.20
## 324	Data Scientist	180000	169200.00
## 325	Data Scientist	120000	112800.00
## 326	Data Analyst	124190	116738.60
## 327	Data Analyst	130000	122200.00
## 328	Data Analyst	110000	103400.00
## 329	Data Analyst	170000	159800.00
## 330	Data Analyst	115500	108570.00
## 331	Data Analyst	112900	106126.00
## 332	Data Analyst	90320	84900.80
## 333	Data Analyst	112900	106126.00
## 334	Data Analyst	90320	84900.80
## 335	Data Engineer	165400	155476.00
## 336	Data Engineer	132320	124380.80
## 337	Data Analyst	167000	156980.00
## 338	Data Engineer	243900	229266.00
## 339	Data Analyst	136600	128404.00
## 340	Data Analyst	109280	102723.20
## 341	Data Engineer	128875	121142.50
## 342	Data Engineer	93700	88078.00
## 343	Head of Data Science	224000	210560.00
## 344	Head of Data Science	167875	157802.50
## 345	Analytics Engineer	175000	164500.00
## 346	Data Engineer	156600	147204.00
## 347	Data Engineer	108800	102272.00
## 348	Data Scientist	95550	89817.00
## 349	Data Engineer	113000	106220.00
## 350	Data Analyst	135000	126900.00
## 351	Data Science Manager	161342	151661.48
## 352	Data Science Manager	137141	128912.54
## 353	Data Scientist	167000	156980.00
## 354	Data Scientist	123000	115620.00
## 355	Data Engineer	78526	73814.44
## 356	Data Engineer	65438	61511.72
## 357	Data Scientist	150000	141000.00
## 358	Data Scientist	211500	198810.00
## 359	Data Architect	192400	180856.00
## 360	Data Architect	90700	85258.00
## 361	Data Analyst	130000	122200.00
## 362	Data Analyst	61300	57622.00
## 363	Data Analyst	130000	122200.00
## 364	Data Analyst	61300	57622.00
## 365	Data Engineer	160000	150400.00
## 366	Data Scientist	138600	130284.00
## 367	Data Engineer	136000	127840.00
## 368	Data Analyst	58000	54520.00
## 369	Analytics Engineer	135000	126900.00
## 370	Data Scientist	170000	159800.00
## 371	Data Scientist	123000	115620.00
## 372	Machine Learning Engineer	189650	178271.00
## 373	Machine Learning Engineer	164996	155096.24
## 374	ETL Developer	54957	51659.58

## 375	ETL Developer	54957	51659.58
## 376	Lead Data Engineer	118187	111095.78
## 377	Data Analyst	132000	124080.00
## 378	Data Engineer	165400	155476.00
## 379	Data Architect	208775	196248.50
## 380	Data Architect	147800	138932.00
## 381	Data Engineer	136994	128774.36
## 382	Data Engineer	101570	95475.80
## 383	Data Analyst	128875	121142.50
## 384	Data Analyst	93700	88078.00
## 385	Head of Machine Learning	79039	74296.66
## 386	Data Engineer	132320	124380.80
## 387	Machine Learning Engineer	37300	35062.00
## 388	Data Analyst	164000	154160.00
## 389	Data Engineer	155000	145700.00
## 390	Machine Learning Engineer	124333	116873.02
## 391	Machine Learning Engineer	98158	92268.52
## 392	AI Scientist	120000	112800.00
## 393	Data Analyst	112900	106126.00
## 394	Data Analyst	90320	84900.80
## 395	Data Analytics Manager	145000	136300.00
## 396	Data Analytics Manager	105400	99076.00
## 397	Machine Learning Engineer	87932	82656.08
## 398	Data Engineer	117789	110721.66
## 399	Data Scientist	215300	202382.00
## 400	Data Scientist	158200	148708.00
## 401	Data Engineer	209100	196554.00
## 402	Data Engineer	154600	145324.00
## 403	Data Analyst	115934	108977.96
## 404	Data Analyst	81666	76766.04
## 405	Data Engineer	175000	164500.00
## 406	Data Engineer	98158	92268.52
## 407	Data Analyst	58000	54520.00
## 408	Data Engineer	183600	172584.00
## 409	Data Analyst	52351	49209.94
## 410	Data Scientist	180000	169200.00
## 411	Data Scientist	71982	67663.08
## 412	Data Scientist	45807	43058.58
## 413	Data Engineer	65949	61992.06
## 414	Data Engineer	49461	46493.34
## 415	Data Engineer	78526	73814.44
## 416	Data Engineer	58894	55360.36
## 417	Data Scientist	260000	244400.00
## 418	Data Science Engineer	60000	56400.00
## 419	Data Engineer	63900	60066.00
## 420	Machine Learning Scientist	160000	150400.00
## 421	Machine Learning Scientist	112300	105562.00
## 422	Data Science Manager	241000	226540.00
## 423	Data Science Manager	159000	149460.00
## 424	Data Scientist	180000	169200.00
## 425	Data Scientist	80000	75200.00
## 426	Data Engineer	82900	77926.00
## 427	Data Engineer	100800	94752.00
## 428	Data Engineer	49461	46493.34

## 429	Data Scientist	140400	131976.00
## 430	Data Analyst	39263	36907.22
## 431	Data Analyst	43966	41328.04
## 432	Data Analyst	32974	30995.56
## 433	Data Engineer	87932	82656.08
## 434	Data Engineer	76940	72323.60
## 435	Data Engineer	104702	98419.88
## 436	Data Engineer	91614	86117.16
## 437	Data Engineer	65949	61992.06
## 438	Data Engineer	87932	82656.08
## 439	Machine Learning Engineer	189650	178271.00
## 440	Machine Learning Engineer	164996	155096.24
## 441	Data Analyst	43966	41328.04
## 442	Data Analyst	32974	30995.56
## 443	Data Engineer	98158	92268.52
## 444	Data Engineer	78526	73814.44
## 445	Data Scientist	215300	202382.00
## 446	Data Engineer	76940	72323.60
## 447	Data Engineer	209100	196554.00
## 448	Data Engineer	154600	145324.00
## 449	Data Engineer	180000	169200.00
## 450	ML Engineer	21983	20664.02
## 451	Data Engineer	80000	75200.00
## 452	Machine Learning Developer	78791	74063.54
## 453	Director of Data Science	196979	185160.26
## 454	Machine Learning Engineer	120000	112800.00
## 455	Computer Vision Engineer	125000	117500.00
## 456	NLP Engineer	37236	35001.84
## 457	Data Engineer	105000	98700.00
## 458	Lead Machine Learning Engineer	87932	82656.08
## 459	Business Data Analyst	18442	17335.48
## 460	Data Scientist	31615	29718.10
## 461	Machine Learning Infrastructure Engineer	58255	54759.70
## 462	Financial Data Analyst	100000	94000.00
## 463	Data Engineer	54957	51659.58
## 464	Data Scientist	18442	17335.48
## 465	Principal Data Scientist	162674	152913.56
## 466	Data Engineer	120000	112800.00
## 467	Research Scientist	144000	135360.00
## 468	Data Scientist	104890	98596.60
## 469	Data Engineer	100000	94000.00
## 470	Data Scientist	140000	131600.00
## 471	Data Analyst	135000	126900.00
## 472	Data Analyst	50000	47000.00
## 473	Data Scientist	220000	206800.00
## 474	Data Scientist	140000	131600.00
## 475	Data Scientist	183228	172234.32
## 476	Data Scientist	91614	86117.16
## 477	Data Scientist	185100	173994.00
## 478	Machine Learning Engineer	220000	206800.00
## 479	Data Scientist	200000	188000.00
## 480	Data Scientist	120000	112800.00
## 481	Machine Learning Engineer	120000	112800.00
## 482	Machine Learning Engineer	65000	61100.00

## 483	Data Engineer	324000	304560.00
## 484	Data Engineer	216000	203040.00
## 485	Data Engineer	210000	197400.00
## 486	Machine Learning Engineer	120000	112800.00
## 487	Data Scientist	230000	216200.00
## 488	Data Scientist	100000	94000.00
## 489	Data Scientist	100000	94000.00
## 490	Applied Machine Learning Scientist	31875	29962.50
## 491	Head of Data	200000	188000.00
## 492	Principal Data Analyst	75000	70500.00
## 493	Data Scientist	35590	33454.60
## 494	Machine Learning Developer	78791	74063.54
## 495	Data Scientist	100000	94000.00
## 496	Machine Learning Scientist	153000	143820.00
## 497	Data Engineer	58035	54552.90
## 498	Data Scientist	165000	155100.00
## 499	Research Scientist	93427	87821.38
## 500	Data Scientist	52396	49252.24
## 501	Machine Learning Engineer	62651	58891.94
## 502	Head of Data	32974	30995.56
## 503	Data Scientist	40000	37600.00
## 504	Machine Learning Engineer	87425	82179.50
## 505	Data Engineer	115000	108100.00
## 506	Data Scientist	86703	81500.82
## 507	Applied Machine Learning Scientist	75000	70500.00
## 508	Research Scientist	64849	60958.06
## 509	Research Scientist	120000	112800.00
## 510	Applied Data Scientist	157000	147580.00
## 511	Computer Vision Software Engineer	150000	141000.00
## 512	Business Data Analyst	70912	66657.28
## 513	Data Engineer	65000	61100.00
## 514	Machine Learning Engineer	71444	67157.36
## 515	Data Analytics Engineer	20000	18800.00
## 516	Data Scientist	48000	45120.00
## 517	Data Science Manager	152500	143350.00
## 518	Data Engineer	68147	64058.18
## 519	Data Scientist	122346	115005.24
## 520	Applied Data Scientist	380000	357200.00
## 521	Data Scientist	69336	65175.84
## 522	Computer Vision Engineer	10000	9400.00
## 523	Data Analyst	20000	18800.00
## 524	Data Analytics Lead	405000	380700.00
## 525	Data Scientist	135000	126900.00
## 526	Applied Data Scientist	177000	166380.00
## 527	Data Scientist	78000	73320.00
## 528	Data Analyst	135000	126900.00
## 529	Data Analyst	100000	94000.00
## 530	Data Analyst	90320	84900.80
## 531	Data Analyst	85000	79900.00
## 532	Data Analyst	75000	70500.00
## 533	Machine Learning Engineer	214000	201160.00
## 534	Machine Learning Engineer	192600	181044.00
## 535	Data Architect	266400	250416.00
## 536	Data Architect	213120	200332.80

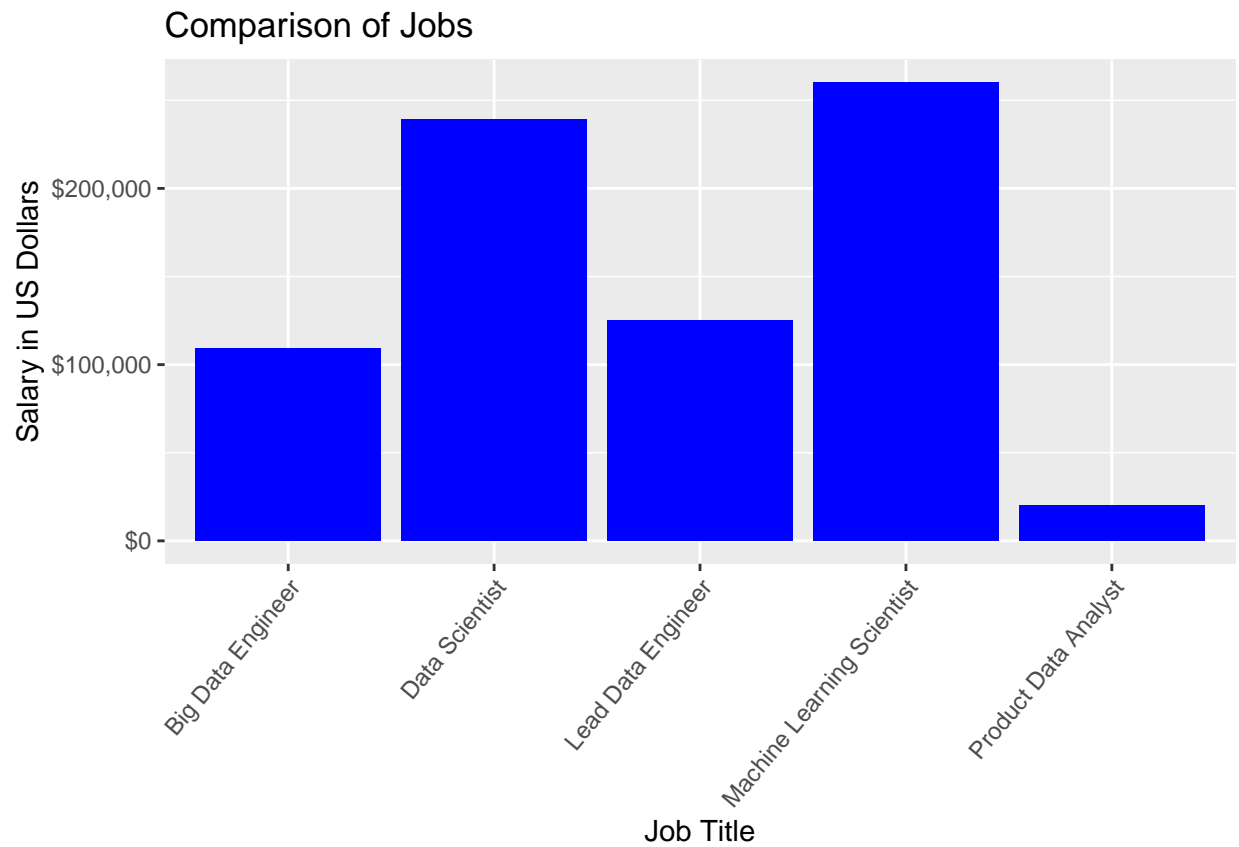
## 537	Data Analyst	112900	106126.00
## 538	Data Engineer	155000	145700.00
## 539	Data Scientist	141300	132822.00
## 540	Data Scientist	102100	95974.00
## 541	Data Analyst	115934	108977.96
## 542	Data Analyst	81666	76766.04
## 543	Data Engineer	206699	194297.06
## 544	Data Engineer	99100	93154.00
## 545	Data Engineer	130000	122200.00
## 546	Data Engineer	115000	108100.00
## 547	Data Engineer	110500	103870.00
## 548	Data Engineer	130000	122200.00
## 549	Data Analyst	99050	93107.00
## 550	Data Engineer	160000	150400.00
## 551	Data Scientist	205300	192982.00
## 552	Data Scientist	140400	131976.00
## 553	Data Scientist	176000	165440.00
## 554	Data Scientist	144000	135360.00
## 555	Data Engineer	200100	188094.00
## 556	Data Engineer	160000	150400.00
## 557	Data Engineer	145000	136300.00
## 558	Data Engineer	70500	66270.00
## 559	Data Scientist	205300	192982.00
## 560	Data Scientist	140400	131976.00
## 561	Analytics Engineer	205300	192982.00
## 562	Analytics Engineer	184700	173618.00
## 563	Data Engineer	175100	164594.00
## 564	Data Engineer	140250	131835.00
## 565	Data Analyst	116150	109181.00
## 566	Data Engineer	54000	50760.00
## 567	Data Analyst	170000	159800.00
## 568	Data Analyst	65438	61511.72
## 569	Data Analyst	80000	75200.00
## 570	Data Scientist	140000	131600.00
## 571	Data Scientist	210000	197400.00
## 572	Data Scientist	140000	131600.00
## 573	Data Analyst	100000	94000.00
## 574	Data Analyst	69000	64860.00
## 575	Data Scientist	210000	197400.00
## 576	Data Scientist	140000	131600.00
## 577	Data Scientist	210000	197400.00
## 578	Data Analyst	150075	141070.50
## 579	Data Engineer	100000	94000.00
## 580	Data Engineer	25000	23500.00
## 581	Data Analyst	126500	118910.00
## 582	Data Analyst	106260	99884.40
## 583	Data Engineer	220110	206903.40
## 584	Data Engineer	160080	150475.20
## 585	Data Analyst	105000	98700.00
## 586	Data Analyst	110925	104269.50
## 587	Data Analyst	45807	43058.58
## 588	Data Scientist	140000	131600.00
## 589	Data Analyst	99000	93060.00
## 590	Data Analyst	60000	56400.00


```
## 591          Data Architect      192564      181010.16
## 592          Data Architect      144854      136162.76
## 593          Data Scientist      230000      216200.00
## 594          Data Scientist      150000      141000.00
## 595      Data Analytics Manager      150260      141244.40
## 596      Data Analytics Manager      109280      102723.20
## 597          Data Scientist      210000      197400.00
## 598          Data Analyst        170000      159800.00
## 599          Data Scientist      160000      150400.00
## 600          Data Scientist      130000      122200.00
## 601          Data Analyst         67000       62980.00
## 602          Data Analyst         52000       48880.00
## 603          Data Engineer      154000      144760.00
## 604          Data Engineer      126000      118440.00
## 605          Data Analyst      129000      121260.00
## 606          Data Analyst      150000      141000.00
## 607          AI Scientist        200000      188000.00
```

```
#index rows by their (integer) locations.
better_smaller_dataframe <- slice(smaller_dataframe, 1, 1, 2, 3, 4, 10,
1)
#show better_small_dataframe
better_smaller_dataframe
```

```
##          job_title salary_in_usd
## 1      Data Scientist      79833
## 2      Data Scientist      79833
## 3 Machine Learning Scientist 260000
## 4      Big Data Engineer 109024
## 5      Product Data Analyst   20000
## 6      Lead Data Engineer 125000
## 7      Data Scientist      79833
```

```
# plot the better_smaller_dataframe, using job-title as x and salary_in_usd as y, fill it with color blue
ggplot(better_smaller_dataframe) +
  geom_col(mapping = aes(x = job_title, y = salary_in_usd), fill =
"blue") +
  xlab("Job Title") +
  ylab("Salary in US Dollars") +
  labs(title = "Comparison of Jobs ") +
  scale_y_continuous(labels = scales::dollar) +
  theme(axis.text.x = element_text(angle = 50, hjust = 1))
```



```
library(pacman)
p_load(testthat)
test_file("project1_tests.R")
```

```
## [ FAIL 0 | WARN 0 | SKIP 0 | PASS 0 ][ FAIL 0 | WARN 0 | SKIP 0 | PASS 1 ][ FAIL 0 | WARN 0 | SKIP 0
```