CreditCard_Prediction.R

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```r
#Loading the dataset

#The dataset has been taken from AER package and can be obtained using:

library(AER)
```

```
## Loading required package: car
```

```
## Loading required package: lmtest
```

```
## Loading required package: zoo
```

```
##
## Attaching package: 'zoo'
```

```
## The following objects are masked from 'package:base':
##
##     as.Date, as.Date.numeric
```

```
## Loading required package: sandwich
```

```
## Loading required package: survival
```

```r
data("CreditCard")

head(CreditCard)
```

```
##   card reports      age income       share expenditure owner selfemp
## 1  yes       0 37.66667 4.5200 0.033269910  124.983300   yes      no
## 2  yes       0 33.25000 2.4200 0.005216942    9.854167    no      no
## 3  yes       0 33.66667 4.5000 0.004155556   15.000000   yes      no
## 4  yes       0 30.50000 2.5400 0.065213780  137.869200    no      no
## 5  yes       0 32.16667 9.7867 0.067050590  546.503300   yes      no
## 6  yes       0 23.25000 2.5000 0.044438400   91.996670    no      no
##   dependents months majorcards active
## 1          3     54          1     12
## 2          3     34          1     13
## 3          4     58          1      5
## 4          0     25          1      7
## 5          2     64          1      5
## 6          0     54          1      1
```
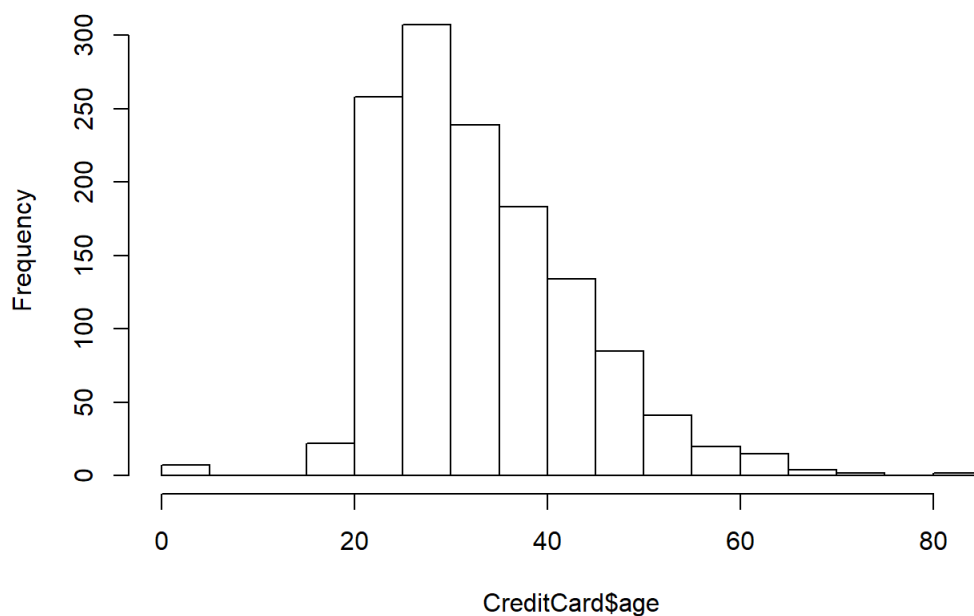
```r
str(CreditCard)
```

```
## 'data.frame':    1319 obs. of  12 variables:
##  $ card       : Factor w/ 2 levels "no","yes": 2 2 2 2 2 2 2 2 2 2 ...
##  $ reports    : num  0 0 0 0 0 0 0 0 0 0 ...
##  $ age        : num  37.7 33.2 33.7 30.5 32.2 ...
##  $ income     : num  4.52 2.42 4.5 2.54 9.79 ...
##  $ share      : num  0.03327 0.00522 0.00416 0.06521 0.06705 ...
##  $ expenditure: num  124.98 9.85 15 137.87 546.5 ...
##  $ owner      : Factor w/ 2 levels "no","yes": 2 1 2 1 2 1 1 2 2 1 ...
##  $ selfemp    : Factor w/ 2 levels "no","yes": 1 1 1 1 1 1 1 1 1 1 ...
##  $ dependents : num  3 3 4 0 2 0 2 0 0 0 ...
##  $ months     : num  54 34 58 25 64 54 7 77 97 65 ...
##  $ majorcards : num  1 1 1 1 1 1 1 1 1 1 ...
##  $ active     : num  12 13 5 7 5 1 5 3 6 18 ...
```

```
summary(CreditCard)
```

```
##   card         reports              age              income
## no : 296   Min.   : 0.0000   Min.   : 0.1667   Min.   : 0.210
## yes:1023   1st Qu.: 0.0000   1st Qu.:25.4167   1st Qu.: 2.244
##            Median : 0.0000   Median :31.2500   Median : 2.900
##            Mean   : 0.4564   Mean   :33.2131   Mean   : 3.365
##            3rd Qu.: 0.0000   3rd Qu.:39.4167   3rd Qu.: 4.000
##            Max.   :14.0000   Max.   :83.5000   Max.   :13.500
##      share            expenditure        owner      selfemp
## Min.   :0.0001091   Min.   :   0.000   no :738   no :1228
## 1st Qu.:0.0023159   1st Qu.:   4.583   yes:581   yes:  91
## Median :0.0388272   Median : 101.298
## Mean   :0.0687322   Mean   : 185.057
## 3rd Qu.:0.0936168   3rd Qu.: 249.036
## Max.   :0.9063205   Max.   :3099.505
##    dependents         months         majorcards         active
## Min.   :0.0000   Min.   :  0.00   Min.   :0.0000   Min.   : 0.000
## 1st Qu.:0.0000   1st Qu.: 12.00   1st Qu.:1.0000   1st Qu.: 2.000
## Median :1.0000   Median : 30.00   Median :1.0000   Median : 6.000
## Mean   :0.9939   Mean   : 55.27   Mean   :0.8173   Mean   : 6.997
## 3rd Qu.:2.0000   3rd Qu.: 72.00   3rd Qu.:1.0000   3rd Qu.:11.000
## Max.   :6.0000   Max.   :540.00   Max.   :1.0000   Max.   :46.000
```

```
hist(CreditCard$age)
```


Histogram of CreditCard$age

```
library(ggplot2)
```

```
## Warning: package 'ggplot2' was built under R version 3.4.3
```

```
#Since age has few outliers, we will clean the data.

#Cleaning the dataset

creditcard_sub<-subset(CreditCard, age>18)

summary(creditcard_sub)
```
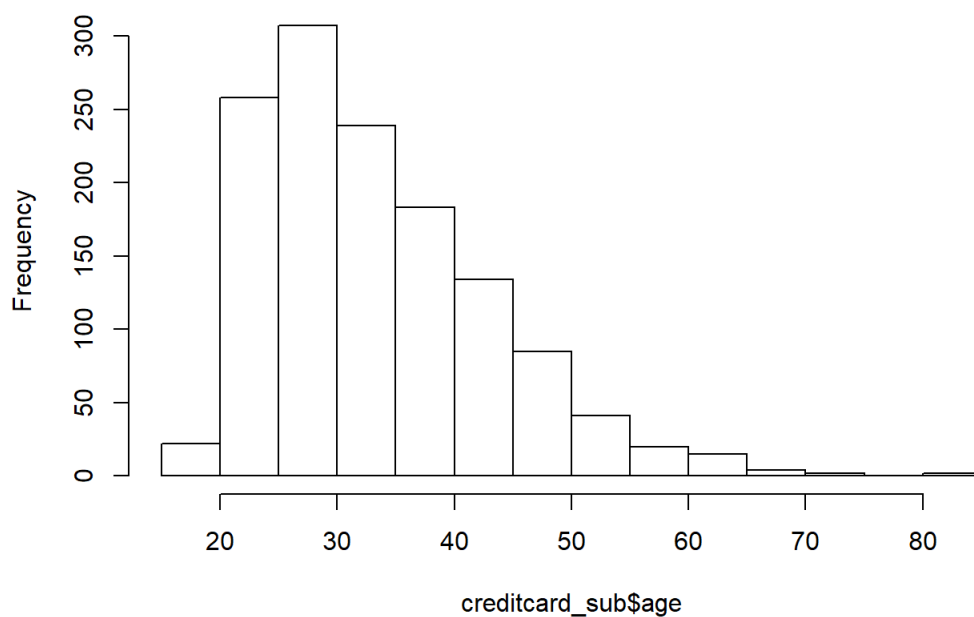
```
##  card        reports              age            income
##  no : 295   Min.   : 0.0000   Min.   :18.17   Min.   : 0.210
##  yes:1017   1st Qu.: 0.0000   1st Qu.:25.42   1st Qu.: 2.237
##             Median : 0.0000   Median :31.29   Median : 2.900
##             Mean   : 0.4581   Mean   :33.39   Mean   : 3.367
##             3rd Qu.: 0.0000   3rd Qu.:39.42   3rd Qu.: 4.000
##             Max.   :14.0000   Max.   :83.50   Max.   :13.500
##      share           expenditure        owner      selfemp
##  Min.   :0.0001091   Min.   :   0.000   no :733   no :1221
##  1st Qu.:0.0022080   1st Qu.:   4.583   yes:579   yes:  91
##  Median :0.0387754   Median : 101.232
##  Mean   :0.0686361   Mean   : 184.970
##  3rd Qu.:0.0935162   3rd Qu.: 248.971
##  Max.   :0.9063205   Max.   :3099.505
##    dependents         months         majorcards         active
##  Min.   :0.0000   Min.   :  0.00   Min.   :0.0000   Min.   : 0.000
##  1st Qu.:0.0000   1st Qu.: 12.00   1st Qu.:1.0000   1st Qu.: 2.000
##  Median :1.0000   Median : 30.00   Median :1.0000   Median : 6.000
##  Mean   :0.9939   Mean   : 55.18   Mean   :0.8178   Mean   : 6.999
##  3rd Qu.:2.0000   3rd Qu.: 72.00   3rd Qu.:1.0000   3rd Qu.:11.000
##  Max.   :6.0000   Max.   :540.00   Max.   :1.0000   Max.   :46.000
```

```r
hist(creditcard_sub$age) #Histogram After removing Age
```

Histogram of creditcard_sub$age


```r
#Split the data into testing and training

library(caTools) #Library to split the data
```

```
## Warning: package 'caTools' was built under R version 3.4.3
```

```r
split=sample.split(creditcard_sub,SplitRatio=0.7)

split
```

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

```
#Training Data
training<- subset(creditcard_sub, split="TRUE")

training
```

```
##       card reports      age income       share expenditure owner selfemp
## 1     yes        0 37.66667 4.5200 0.0332699100  124.9833000   yes      no
## 2     yes        0 33.25000 2.4200 0.0052169420    9.8541670    no      no
## 3     yes        0 33.66667 4.5000 0.0041555560   15.0000000   yes      no
## 4     yes        0 30.50000 2.5400 0.0652137800  137.8692000    no      no
## 5     yes        0 32.16667 9.7867 0.0670505900  546.5033000   yes      no
## 6     yes        0 23.25000 2.5000 0.0444384000   91.9966700    no      no
## 7     yes        0 27.91667 3.9600 0.0125757600   40.8333300    no      no
## 8     yes        0 29.16667 2.3700 0.0764337600  150.7900000   yes      no
## 9     yes        0 37.00000 3.8000 0.2456279000  777.8217000   yes      no
## 10    yes        0 28.41667 3.2000 0.0197800000   52.5800000    no      no
## 11    yes        0 30.50000 3.9500 0.0780245600  256.6642000   yes      no
## 12     no        0 42.00000 1.9800 0.0006060606    0.0000000   yes      no
## 13     no        0 30.00000 1.7300 0.0006936416    0.0000000   yes      no
## 14    yes        0 28.83333 2.4500 0.0387955100   78.8741700   yes      no
## 15    yes        0 35.33333 1.9080 0.0269067100   42.6150000   yes      no
## 16    yes        0 41.16667 3.2000 0.1258194000  335.4350000   yes      no
## 17    yes        0 40.08333 4.0000 0.0748157500  248.7192000   yes      no
## 18     no        7 29.50000 3.0000 0.0004000000    0.0000000   yes      no
## 19    yes        0 39.50000 9.9999 0.0657948600  548.0350000   yes     yes
## 20     no        3 45.75000 3.4000 0.0003529412    0.0000000    no      no
## 21    yes        0 35.25000 2.3500 0.0223859600   43.3391700   yes      no
## 22     no        1 25.16667 1.8750 0.0006400000    0.0000000    no      no
## 23    yes        0 34.25000 2.0000 0.1311120000  218.5200000   yes      no
## 24    yes        1 35.75000 4.0000 0.0511922500  170.6408000    no      no
## 25    yes        0 42.66667 5.1400 0.0089494170   37.5833300   yes      no
## 26    yes        0 30.25000 4.5060 0.1337421000  502.2017000    no      no
## 27     no        0 21.66667 3.8400 0.0003125000    0.0000000    no     yes
## 28    yes        0 22.25000 1.5000 0.0586080000   73.1766700    no      no
## 29     no        0 34.25000 2.5000 0.0004800000    0.0000000   yes      no
## 30    yes        0 40.00000 5.5000 0.3344596000 1532.7730000   yes      no
## 31    yes        0 21.83333 2.0272 0.0253201400   42.6908300    no      no
## 32    yes        1 29.41667 3.2000 0.1567194000  417.8350000    no      no
## 33     no        1 24.91667 3.1500 0.0003809524    0.0000000   yes      no
## 34    yes        0 21.00000 2.4663 0.2689328000  552.7242000   yes      no
## 35    yes        0 23.83333 3.0000 0.0890156600  222.5392000    no      no
## 36    yes        0 42.83333 3.5412 0.1834562000  541.2958000   yes      no
## 37     no        0 42.58333 2.2845 0.0005252790    0.0000000    no      no
## 38    yes        0 36.58333 5.7000 0.1197419000  568.7742000   yes      no
## 39    yes        0 26.75000 3.5000 0.1181043000  344.4708000    no      no
## 40    yes        0 27.75000 4.6000 0.1057439000  405.3517000   yes      no
## 41    yes        0 26.25000 3.0000 0.1243750000  310.9375000   yes      no
## 42    yes        0 23.33333 2.5850 0.0250576400   53.6450000    no      no
## 43    yes        0 29.91667 1.5100 0.0512582800   63.9166700    no      no
## 44    yes        0 30.00000 1.8500 0.1075816000  165.8550000    no      no
## 45    yes        0 38.33333 2.6000 0.0048076920    9.5833330    no      no
## 46     no        0 28.16667 1.8000 0.0006666667    0.0000000    no     yes
## 47    yes        0 35.58333 2.0000 0.1920440000  319.4900000    no      no
## 48     no        0 37.75000 3.2628 0.0003677823    0.0000000    no      no
## 49    yes        0 26.08333 2.3500 0.0428510600   83.0833400    no      no
## 50    yes        0 27.75000 7.0000 0.1105849000  644.8283000   yes      no
## 51     no        0 49.75000 3.6000 0.0003333333    0.0000000    no      no
## 52    yes        0 24.25000 2.0000 0.0559685000   93.1975000    no      no
## 53    yes        0 20.66667 1.7000 0.0742082400  105.0450000    no      no
## 54    yes        0 23.75000 2.8000 0.0148750000   34.1250000    no      no
## 55    yes        0 25.75000 2.4000 0.0207195800   41.1891700    no      no
## 56    yes        1 32.91667 3.0000 0.0680220000  169.8883000    no      no
## 57    yes        0 34.33333 4.8000 0.4745083000 1898.0330000    no      no
## 58    yes        0 33.25000 3.1800 0.3058082000  810.3917000    no      no
## 59     no        0 44.66667 1.8000 0.0006666667    0.0000000    no      no
## 60    yes        0 21.16667 1.5000 0.0265533300   32.7750000    no      no
## 61    yes        2 25.08333 3.0000 0.0384530000   95.7991600    no      no
## 62    yes        0 27.16667 2.2800 0.0149280700   27.7800000    no      no
## 63    yes        0 26.41667 2.8000 0.0921725000  215.0692000    no      no
## 64    yes        0 22.00000 2.7000 0.0354492600   79.5108300    no      no
## 65     no        3 27.33333 4.9000 0.0002448980    0.0000000   yes      no
## 66     no        0 26.16667 2.5000 0.0004800000    0.0000000    no     yes
```

```
## 66    no    0 26.16667  2.5000 0.0004800000    0.0000000   no    yes
## 67    yes   0 40.75000  6.0000 0.0612396600  306.0317000   no    yes
## 68    yes   0 42.08333  3.9000 0.0322161500  104.5358000   no    no
## 69    no    0 21.66667  5.1000 0.0002352941    0.0000000   no    no
## 70    yes   0 24.66667  3.0740 0.2508032000  642.4742000   no    no
## 71    yes   0 30.75000  2.4585 0.1503596000  308.0492000   yes   no
## 72    yes   0 27.41667  2.0000 0.1118120000  186.3533000   no    no
## 73    yes   0 33.00000  3.2480 0.0208987100   56.1491700   no    no
## 74    yes   0 37.33333  2.7250 0.0571919300  129.3733000   no    no
## 75    yes   0 26.58333  2.2000 0.0507854600   93.1066700   no    no
## 76    no    1 24.33333  4.1000 0.0002926829    0.0000000   no    no
## 77    yes   0 24.25000  3.7500 0.0936789300  292.6633000   no    no
## 78    yes   0 25.25000  2.8800 0.0410614600   98.4641600   no    no
## 80    yes   0 32.83333  2.5500 0.0479294100  101.6833000   no    no
## 81    no    0 32.75000  4.0000 0.0003000000    0.0000000   no    no
## 82    yes   1 54.58333  2.6400 0.0298469700   65.2466700   yes   no
## 83    yes   0 19.58333  1.6500 0.0790478700  108.6075000   no    no
## 84    yes   0 29.33333  2.4000 0.0249445800   49.5558300   no    no
## 85    no    3 40.16667  3.7099 0.0003234589    0.0000000   no    no
## 86    yes   0 40.75000  7.2400 0.0390450200  235.5717000   yes   no
## 87    no    0 41.25000  4.3860 0.0002735978    0.0000000   yes   no
## 88    no    0 34.50000  3.3000 0.0003636364    0.0000000   yes   no
## 89    no    0 23.66667  2.3040 0.0005208334    0.0000000   no    no
## 90    no    1 53.66667  4.1800 0.0002870813    0.0000000   no    no
## 91    no    2 34.00000  2.4875 0.0004824121    0.0000000   no    no
## 92    no    0 44.91667  2.8055 0.0004277313    0.0000000   yes   no
## 93    yes   0 43.41667  2.4000 0.0343587500   68.3841700   no    no
## 94    no    4 35.16667  1.5000 0.0008000000    0.0000000   no    no
## 95    no    2 35.83333  8.4000 0.0001428571    0.0000000   no    no
## 96    yes   0 21.66667  1.5600 0.0007692308    0.0000000   no    no
## 97    yes   1 32.66667  6.0000 0.0948300000  474.1500000   yes   no
## 98    yes   1 25.41667  3.6000 0.0780438900  234.0483000   no    no
## 99    yes   0 26.25000  5.0000 0.1082892000  451.2050000   yes   no
## 100   yes   0 46.00000  5.5000 0.0548772700  251.5208000   yes   no
## 101   yes   1 35.00000  9.9999 0.1101059000  917.5400000   yes   no
## 102   no    0 35.00000  4.5500 0.0002637363    0.0000000   yes   no
## 103   no    0 20.91667  2.9000 0.0004137931    0.0000000   no    no
## 104   yes   0 25.16667  1.8000 0.0984822200  147.7233000   no    no
## 105   yes   0 31.25000  4.2000 0.0476838100  166.7267000   yes   no
## 106   yes   0 23.16667  3.9200 0.2269911000  741.5042000   no    no
## 107   yes   0 23.00000  3.6250 0.0351456600  106.1692000   no    no
## 108   yes   0 24.83333  2.4800 0.1313552000  271.4675000   no    no
## 109   yes   0 40.91667  9.9999 0.0762068600  635.0508000   yes   no
## 110   yes   0 43.66667 10.0393 0.0218630800  182.8250000   yes   no
## 111   yes   0 23.08333  2.9500 0.0364220300   89.3708300   yes   no
## 112   yes   0 41.91667  5.0000 0.2427200000 1011.3330000   no    no
## 113   yes   0 28.16667  2.4000 0.1137675000  227.3683000   no    no
## 114   yes   0 45.58333 13.5000 0.0103111100  115.4167000   yes   no
## 115   no    3 25.91667  4.0000 0.0003000000    0.0000000   no    no
## 116   yes   1 37.33333  3.9000 0.0916836000  297.9717000   no    no
## 117   yes   1 37.66667  2.0000 0.0608075000  101.2625000   yes   no
## 118   yes   0 30.25000  2.1500 0.0319223300   56.6941700   no    no
## 119   yes   0 21.25000  3.0000 0.0309760000   77.3566700   no    no
## 120   yes   0 40.08333  4.3000 0.0341902300  122.5150000   no    no
## 121   no    4 23.41667  9.9999 0.0001200012    0.0000000   no    no
## 122   yes   0 21.83333  2.5000 0.0067932000   13.4025000   no    no
## 123   yes   0 22.16667  3.0000 0.0511136700  127.5342000   no    no
## 124   yes   0 40.83333  2.6000 0.0042307690    8.3333330   yes   no
## 125   yes   1 18.66667  1.6600 0.0568759000   78.4283400   yes   no
## 126   yes   0 34.33333  4.5000 0.0032000000   11.1666700   yes   yes
## 127   yes   0 25.08333  5.0000 0.0316508000  131.8783000   no    no
## 128   yes   0 20.08333  1.7400 0.1919466000  277.9892000   no    no
## 129   yes   0 24.75000  1.8750 0.0807077400  126.0225000   no    no
## 130   yes   0 41.91667  3.0000 0.0956090000  238.8558000   yes   no
## 131   no    5 31.08333  4.2000 0.0002857143    0.0000000   no    no
## 132   no    0 53.33333  4.9000 0.0002448980    0.0000000   yes   yes
## 133   yes   0 24.25000  2.1300 0.0212206600   37.0833300   no    no
## 134   no    1 25.41667  1.7000 0.0007058823    0.0000000   no    no
## 135   yes   0 21.83333  1.6800 0.1119048000  156.5833000   no    no
## 136   no    0 20.58333  2.6400 0.0004545455    0.0000000   yes   no
## 137   yes   0 18.41667  1.9680 0.0064552850    9.7533330   no    no
## 138   yes   0 22.00000  3.3000 0.0394775800  108.3967000   no    no
## 139   yes   0 21.41667  1.5896 0.2052491000  271.5533000   no    no
```

```
## 140   yes   0 42.00000 3.6000 0.0178505600  53.3016700   no    yes
## 141   yes   0 36.41667 3.0000 0.1130587000 282.5633000   no    no
## 142   yes   0 41.50000 3.8000 0.0831560500 263.3275000   no    no
## 143   yes   0 26.50000 3.3600 0.0026252980   6.5175000   no    no
## 144   no    2 33.16667 2.3204 0.0005171522   0.0000000   no    no
## 145   yes   0 43.08333 7.8000 0.0066855130  43.0391700   yes   no
## 146   yes   0 30.33333 2.5000 0.0356228000  73.7975000   yes   yes
## 147   yes   0 25.08333 1.5000 0.0128000000  15.4166700   no    no
## 148   yes   0 35.66667 3.5822 0.1049978000 313.3525000   yes   no
## 149   yes   1 44.50000 4.0000 0.0179582500  59.1941700   yes   no
## 150   yes   3 43.25000 6.7200 0.0314281200 175.9975000   yes   no
## 151   yes   2 50.00000 4.3000 0.0362027900 129.3933000   yes   yes
## 152   yes   0 31.75000 3.5000 0.0105551400  30.3691700   yes   no
## 153   no    1 43.25000 3.9500 0.0003037975   0.0000000   yes   no
## 154   no    5 27.16667 4.0000 0.0003000000   0.0000000   yes   no
## 155   yes   0 24.91667 2.4000 0.2306300000 461.2600000   no    no
## 156   yes   0 49.66667 2.7000 0.0887703700 199.7333000   yes   no
## 157   yes   0 28.33333 6.6000 0.0071298480  38.7141600   no    no
## 158   yes   0 26.50000 2.7000 0.0411170400  92.2633400   no    no
## 159   yes   0 29.41667 4.1000 0.0426475600 145.3792000   no    no
## 160   yes   0 71.83334 7.7010 0.0625105800 400.9117000   yes   no
## 161   yes   0 24.50000 2.8000 0.0595557100 138.7133000   no    no
## 162   yes   0 25.08333 3.1200 0.0424564100 110.3033000   no    no
## 163   yes   0 24.91667 2.3000 0.0285547800  54.6466700   no    no
## 164   yes   0 30.08333 3.6700 0.0017983650   4.5833330   yes   no
## 165   no    0 32.58333 6.5000 0.0001846154   0.0000000   yes   no
## 166   yes   0 23.08333 2.5600 0.1502422000 320.5167000   no    no
## 167   yes   0 48.91667 3.5000 0.0678880000 197.9233000   yes   no
## 168   yes   0 25.33333 3.2400 0.0256311700  68.8708300   no    no
## 169   yes   0 25.33333 3.4800 0.0512103400 148.2600000   yes   no
## 170   yes   0 24.91667 2.9380 0.0281279800  68.5333300   no    no
## 171   no    1 29.16667 2.4750 0.0004848485   0.0000000   no    no
## 172   no    5 28.58333 3.1200 0.0003846154   0.0000000   no    no
## 173   no    0 32.33333 2.5000 0.0004800000   0.0000000   no    no
## 174   yes   0 26.50000 3.0000 0.0486556600 121.5558000   yes   no
## 175   yes   0 34.33333 6.0000 0.0172620000  86.2266700   yes   no
## 176   yes   0 28.41667 2.6000 0.0485438400 105.0950000   yes   no
## 177   yes   0 23.58333 3.9000 0.0183048700  58.9908300   no    no
## 178   no    1 30.83333 2.5000 0.0004800000   0.0000000   no    no
## 179   no    1 34.66667 3.3000 0.0003636364   0.0000000   no    no
## 180   yes   0 31.50000 5.9050 0.0251939000 123.8917000   no    no
## 181   yes   1 36.16667 7.8000 0.0121089700  78.5416600   yes   no
## 182   no    3 32.41667 2.0600 0.0005825243   0.0000000   no    no
## 183   yes   0 31.25000 5.6965 0.0081234090  38.0625000   yes   yes
## 184   yes   0 28.08333 2.1600 0.0257268500  46.1416700   no    no
## 185   no    3 41.58333 4.6000 0.0002608696   0.0000000   no    no
## 186   yes   0 21.75000 3.5000 0.0908620000 265.0142000   no    no
## 187   yes   0 30.25000 2.5500 0.0353223500  74.7266700   yes   no
## 188   yes   0 43.50000 1.7472 0.0740138500 107.7642000   yes   no
## 189   yes   0 29.58333 1.9500 0.0045641030   6.5000000   yes   no
## 190   yes   0 33.75000 5.0000 0.0501734000 209.0558000   yes   no
## 191   yes   0 24.16667 2.8896 0.0801775400 193.0675000   no    no
## 192   yes   0 25.41667 2.7000 0.0641707400 144.3842000   yes   no
## 193   yes   0 24.25000 4.0000 0.1076917000 358.9725000   no    no
## 194   yes   0 24.08333 2.3000 0.0309900000  59.1475000   no    no
## 195   yes   0 32.00000 2.4000 0.0005000000   0.0000000   no    no
## 196   no    0 46.16667 2.6000 0.0004615385   0.0000000   no    no
## 197   yes   0 21.91667 2.4000 0.2326392000 465.1950000   yes   no
## 198   yes   0 36.25000 2.5200 0.0678138900 142.2425000   no    no
## 199   yes   0 23.83333 1.5600 0.3860019000 501.8025000   no    no
## 200   yes   0 49.41667 2.4000 0.0443795800  88.5925000   no    yes
## 201   yes   0 26.08333 2.0000 0.1700255000 282.8758000   no    no
## 202   yes   1 29.16667 2.5800 0.1680209000 361.1617000   no    no
## 203   yes   0 33.00000 3.1500 0.0572657100 150.1767000   no    yes
## 204   yes   0 29.33333 2.3000 0.0400404300  76.2441600   no    no
## 205   yes   0 47.58333 4.6500 0.0151602200  58.2458300   no    no
## 206   yes   0 21.58333 3.1200 0.0339679500  88.2333300   no    no
## 207   yes   0 30.41667 2.0000 0.0048000000   7.0833330   yes   no
## 208   no    6 62.91667 2.5500 0.0004705882   0.0000000   no    no
## 209   yes   1 21.58333 2.4600 0.1409972000 289.0442000   no    no
## 210   yes   0 30.66667 3.8000 0.0325189500 102.9767000   no    no
## 211   yes   0 47.75000 2.6372 0.0066358260  13.9166700   yes   no
## 212   yes   1 39.75000 7.0000 0.1099580000 641.4216000   yes   no
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## 213    no    0 53.16667  2.8000 0.0004285714    0.0000000    no    no
## 214    no    0 22.83333  3.1475 0.0003812550    0.0000000    no    no
## 215    no    1 24.91667  6.0000 0.0002000000    0.0000000    no    no
## 216   yes    0 25.16667  3.2500 0.0312400000   84.2750000    no    no
## 217   yes    0 61.08333  4.3200 0.0369724600  132.8508000   yes    no
## 218   yes    0 29.16667  2.5000 0.0767256000  159.5950000    no    no
## 219   yes    0 35.33333  3.0000 0.0540180000  135.0450000    no    no
## 220   yes    0 26.08333  3.5000 0.0859500000  250.5208000    no    no
## 221   yes    0 42.75000  4.5600 0.0496589900  188.6208000    no    no
## 222   yes    0 27.58333  2.7600 0.0103623200   23.2500000    no    no
## 223   yes    0 22.50000  2.5350 0.1013325000  214.0650000   yes    no
## 224    no    7 40.91667  3.2388 0.0003705076    0.0000000    no    no
## 225    no    2 35.16667  3.8400 0.0003125000    0.0000000    no    no
## 226   yes    0 32.83333  1.3200 0.0387553100   42.6308300    no    no
## 227    no    0 25.83333  3.9000 0.0003076923    0.0000000    no    no
## 228    no    0 56.91667  2.0400 0.0005882353    0.0000000   yes    no
## 229   yes    1 30.16667  7.2904 0.0781850100  474.5000000   yes    no
## 230   yes    0 25.08333  7.5000 0.0487010700  304.3817000   yes    no
## 231   yes    0 34.58333  3.2604 0.0291071600   78.7508300    no    no
## 232   yes    0 24.66667  1.6320 0.1754246000  238.3275000    no    no
## 233   yes    0 40.75000  8.0000 0.0466713800  311.1425000   yes    no
## 234   yes    0 31.33333  2.2000 0.0421618200   77.0466700   yes    no
## 235   yes    0 27.83333  5.0000 0.0289768000  120.4033000   yes    no
## 236   yes    0 30.83333  3.0000 0.0626290000  156.5725000   yes    no
## 237   yes    0 46.25000  2.0000 0.0068500000   10.5833300   yes    no
## 238   yes    0 20.50000  1.5400 0.0895967600  114.8158000    no    no
## 239    no    0 28.00000  1.5000 0.0008000000    0.0000000    no    no
## 240   yes    0 51.66667  3.0000 0.0721063300  179.7658000   yes    no
## 241   yes    1 41.83333  5.0000 0.1501082000  625.3675000   yes    no
## 242   yes    0 51.75000  4.7232 0.0216554500   84.9025000   yes    no
## 243   yes    0 53.50000  1.5000 0.0008000000    0.0000000   yes    no
## 244   yes    0 26.08333  2.3000 0.0356086900   67.6666600    no    no
## 245   yes    0 20.50000  1.6000 0.0838318800  111.6925000    no    no
## 246   yes    0 27.75000  2.2000 0.1403464000  257.3017000    no    no
## 247   yes    0 23.25000  4.3200 0.1877141000  675.7708000    no    no
## 248    no    0 23.08333  2.6000 0.0004615385    0.0000000    no   yes
## 249   yes    0 20.33333  1.6752 0.1757384000  245.3308000    no    no
## 250   yes    0 83.50000  2.8725 0.0058485640   13.3333300   yes   yes
## 251   yes    0 24.50000  2.6000 0.0690592300  149.5450000    no   yes
## 252   yes    0 33.75000  2.9000 0.1048410000  253.3658000   yes    no
## 253   yes    0 25.08333  2.6500 0.0096509440   20.4791700    no    no
## 254   yes    0 26.91667  1.9000 0.0266736800   41.8166700    no    no
## 255   yes    0 65.91666  2.9500 0.0485613600  118.7133000   yes    no
## 256   yes    0 21.58333  3.1200 0.0867791700  225.4592000    no    no
## 257   yes    0 35.00000  4.1125 0.0296269900  101.2008000   yes    no
## 258    no    1 46.00000  6.0000 0.0002000000    0.0000000   yes    no
## 259   yes    0 25.33333  2.0000 0.0066520000   10.4200000    no    no
## 260    no    2 35.91667  3.3800 0.0003550296    0.0000000   yes    no
## 261   yes    0 33.66667  3.5000 0.0027428570    7.1666670    no    no
## 262   yes    0 30.08333  2.6000 0.0059615380   12.0833300   yes    no
## 263    no   11 26.41667  3.5000 0.0003428572    0.0000000    no    no
## 264   yes    1 24.58333  2.8000 0.0629767900  146.8625000    no    no
## 265   yes    0 37.75000  5.9000 0.0660410200  324.6183000   yes    no
## 266   yes    0 46.25000  5.4000 0.0597720400  268.7242000   yes    no
## 267   yes    0 29.50000  2.8000 0.1067854000  249.1658000    no    no
## 268   yes    0 43.83333  3.9000 0.0155897400   50.0833300   yes    no
## 269   yes    0 46.91667  3.4000 0.0310188200   87.6366700    no    no
## 270   yes    0 21.83333  2.0800 0.1174231000  203.3667000    no    no
## 271   yes    0 57.66667  2.5000 0.0507400000  105.1250000   yes    no
## 272   yes    1 23.66667  1.9500 0.0309815400   50.1783300    no    no
## 273   yes    0 25.66667  2.1000 0.1869200000  327.1100000    no    no
## 274    no    0 30.66667  3.0000 0.0004000000    0.0000000   yes    no
## 275   yes    1 34.83333  3.2000 0.0656762500  175.1367000   yes    no
## 276    no    4 37.50000  2.6000 0.0004615385    0.0000000    no    no
## 277   yes    0 40.33333  3.0670 0.1596997000  408.0825000    no    no
## 278   yes    0 24.41667  2.8000 0.0146375000   33.5708300    no    no
## 279   yes    0 31.25000  4.8000 0.1011433000  404.4900000   yes    no
## 280    no    0 41.16667  4.7400 0.0002531646    0.0000000   yes    no
## 281   yes    0 29.83333  2.8000 0.0345860700   80.4508400   yes    no
## 282   yes    0 35.91667  4.2000 0.0026190480    8.3333330   yes    no
## 283   yes    0 42.91667  4.0000 0.0721332500  240.2775000    no    no
## 284    no    4 25.83333  1.6500 0.0007272727    0.0000000    no    no
## 285   yes    0 34.16667  4.3000 0.0249386000   88.9466700    no    no
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## 285     yes      0 34.16667    4.5000 0.0249586000    88.9466700    no       no
## 286     yes      0 63.50000    6.4532 0.0001859543     0.0000000    yes      no
## 287     yes      1 21.91667    3.0000 0.0047016670    11.0041700    no       no
## 288     yes      0 21.25000    1.7500 0.1932389000   281.8067000    no       no
## 289      no      0 22.33333    1.8000 0.0006666667     0.0000000    no       no
## 290     yes      0 22.91667    2.1500 0.0099562790    17.1716700    no       no
## 291      no      0 23.83333    7.8800 0.0001522843     0.0000000    no       yes
## 292      no      2 26.83333    2.6000 0.0004615385     0.0000000    no       no
## 293     yes      0 35.83333    2.4200 0.0594834700   119.6250000    yes      no
## 294     yes      0 41.08333    2.8000 0.0371628600    86.5466700    yes      no
## 295     yes      0 40.75000    3.6400 0.0311379100    94.1183300    no       no
## 296     yes      1 53.58333    9.9999 0.0998702000   832.2433000    yes      no
## 297      no      0 20.75000    1.9500 0.0006153846     0.0000000    no       no
## 298     yes      2 34.83333    6.5000 0.1407468000   762.3784000    yes      no
## 299     yes      0 32.16667    3.8050 0.0084362680    26.0000000    yes      no
## 300     yes      0 40.75000    2.1500 0.1270335000   227.6017000    no       no
## 301     yes      2 38.58333    4.0000 0.1139598000   379.8658000    no       no
## 302     yes      0 22.41667    3.1000 0.2400213000   620.0550000    no       no
## 303      no      0 31.00000    4.0104 0.0002992220     0.0000000    no       no
## 304     yes      0 29.08333    4.5800 0.0128685600    48.6150000    no       no
## 305     yes      0 33.75000    1.8000 0.1306339000   195.4508000    yes      no
## 306      no      4 38.00000    1.7095 0.0007019597     0.0000000    no       no
## 307     yes      0 21.91667    2.2593 0.0649891600   122.1917000    yes      no
## 308     yes      0 26.41667    3.5000 0.1319654000   384.8992000    no       no
## 309     yes      0 40.33333    9.9999 0.0156001600   129.3333000    yes      no
## 310     yes      0 23.75000    1.5678 0.0007654037     0.0000000    yes      no
## 311     yes      0 37.58333    2.9623 0.0022279990     4.5833330    yes      yes
## 312     yes      1 27.75000    2.7000 0.0936211100   210.6475000    no       no
## 313     yes      0 21.66667    2.1600 0.1106287000   198.5483000    yes      no
## 314     yes      0 26.16667    4.0000 0.0012000000     3.1666670    no       no
## 315      no      5 31.75000    4.5000 0.0002666667     0.0000000    yes      no
## 316      no      0 33.75000    1.8000 0.0006666667     0.0000000    yes      no
## 317     yes      0 27.33333    2.7500 0.0671898200   153.7267000    no       no
## 318     yes      0 39.75000    2.4200 0.0170194200    34.1558300    yes      no
## 319      no      0 23.25000    2.2500 0.0005333333     0.0000000    no       no
## 320      no      0 23.91667    1.2000 0.0010000000     0.0000000    no       no
## 321      no      2 28.16667    2.6000 0.0004615385     0.0000000    yes      no
## 322      no      0 26.33333    1.5000 0.0008000000     0.0000000    no       no
## 323     yes      0 25.33333    2.1000 0.1966748000   344.1808000    yes      no
## 325      no      0 36.58333    2.2200 0.0005405406     0.0000000    yes      no
## 326      no      2 34.83333    4.9000 0.0002448980     0.0000000    no       no
## 327     yes      0 41.58333    2.3000 0.0457504400    87.1050000    yes      no
## 328      no      2 28.33333    3.3000 0.0003636364     0.0000000    no       no
## 329      no      3 44.58333    2.5000 0.0004800000     0.0000000    yes      no
## 330     yes      0 34.00000    2.2050 0.0440099800    80.8683300    yes      no
## 331     yes      1 35.83333    2.4000 0.0717150000   143.3467000    yes      no
## 332     yes      0 22.00000    2.7000 0.0468296300   105.2833000    no       no
## 333     yes      0 34.00000    3.7000 0.1893335000   583.7783000    yes      yes
## 334      no      5 27.66667    2.1200 0.0005660377     0.0000000    no       no
## 335     yes      0 34.50000    6.2000 0.1840382000   950.8641000    yes      no
## 336     yes      0 40.33333    2.5000 0.0509016000   105.9617000    no       no
## 337      no      1 24.25000    2.0000 0.0006000000     0.0000000    no       no
## 338      no      0 30.16667    2.4000 0.0005000000     0.0000000    no       yes
## 339     yes      0 45.00000    4.0300 0.0409146400   137.0717000    no       no
## 340      no      0 31.66667    3.0000 0.0004000000     0.0000000    no       no
## 341     yes      0 24.91667    2.9000 0.0005086207     0.3125000    yes      no
## 342     yes      0 27.83333    1.9900 0.0603879400   100.1433000    yes      no
## 343     yes      0 56.91667    1.9200 0.2004224000   320.6758000    yes      yes
## 344     yes      1 34.41667    5.0000 0.1640628000   683.4283000    yes      yes
## 345      no      2 32.58333    2.1600 0.0005555556     0.0000000    yes      no
## 346     yes      0 26.58333    2.2000 0.0796977300   145.6958000    no       no
## 347     yes      0 20.41667    2.2375 0.0506382100    93.9191700    no       no
## 348      no      2 40.00000    2.4000 0.0005000000     0.0000000    no       no
## 349     yes      0 40.16667    1.9000 0.1059958000   167.8267000    yes      no
## 350     yes      0 25.66667    5.5000 0.1535069000   703.4067000    yes      no
## 351      no      0 32.08333    2.1600 0.0005555556     0.0000000    no       no
## 352     yes      2 26.00000    7.0000 0.2215290000  1292.0030000    no       yes
## 353      no      3 36.91667    2.6000 0.0004615385     0.0000000    yes      no
## 354      no      0 22.66667    2.5000 0.0004800000     0.0000000    no       no
## 355     yes      0 28.25000    3.9000 0.0766120600   248.9058000    no       no
## 356     yes      0 49.16667    5.2000 0.0166415400    71.5300000    yes      no
## 357     yes      1 24.16667    3.2500 0.1285348000   347.9483000    no       no
## 358     yes      0 32.66667    3.6000 0.0018333330     4.5833330    no       no
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## 359    yes    0 32.58333 10.0000 0.0998078100 831.7317000    yes     no
## 360    yes    0 36.00000  3.7000 0.0331124300 101.7633000    yes     no
## 361    yes    0 29.25000  4.4670 0.1139494000 424.1767000    yes    yes
## 362     no    0 36.41667  5.2000 0.0002307692   0.0000000    yes     no
## 363    yes    0 22.91667  4.8000 0.0580689600 232.2758000     no     no
## 364    yes    0 61.00000  1.5000 0.2685167000 335.5625000    yes     no
## 365    yes    0 54.41667  1.5000 0.0166113300  20.1808300     no     no
## 366     no    0 25.66667  1.8504 0.0006485084   0.0000000     no     no
## 367    yes    0 30.33333  2.4500 0.0583265300 119.0000000     no     no
## 368    yes    0 27.08333  1.8900 0.0442005300  69.0325000     no     no
## 369    yes    0 39.00000  3.5000 0.0451454300 131.6742000    yes     no
## 370     no    0 24.16667  2.7885 0.0004303389   0.0000000     no     no
## 371    yes    0 47.08333  4.5000 0.1395000000 523.1250000    yes     no
## 372     no    4 24.83333  2.8000 0.0004285714   0.0000000     no     no
## 373     no    3 32.16667  2.8000 0.0004285714   0.0000000    yes     no
## 374    yes    0 33.08333  4.5000 0.1043780000 391.4175000     no     no
## 375    yes    0 45.00000  3.8000 0.0313747400  99.1033300    yes     no
## 376     no    0 32.83333  5.0000 0.0002400000   0.0000000     no    yes
## 377    yes    0 23.33333  2.7000 0.1686141000 379.2983000     no     no
## 378     no    2 25.16667  2.5000 0.0004800000   0.0000000     no    yes
## 379    yes    0 26.58333  3.2000 0.1495691000 398.8508000    yes     no
## 380    yes    0 22.91667  1.9200 0.0214635400  34.0916700    yes     no
## 381    yes    0 45.66667  2.3080 0.2200399000 423.1267000     no     no
## 382     no    0 29.16667  1.7000 0.0007058823   0.0000000     no     no
## 383    yes    0 48.91667  3.0000 0.0967026700 241.4233000    yes     no
## 384    yes    0 39.75000  2.4500 0.0714951000 145.7192000    yes     no
## 385    yes    0 20.08333  3.4000 0.0006470588   0.9166667     no     no
## 386    yes    0 32.91667  2.5000 0.2457660000 512.0125000     no     no
## 387    yes    0 39.66667  3.0000 0.1275373000 318.5100000    yes     no
## 388    yes    0 26.83333  3.1500 0.0722606300 189.6842000     no     no
## 389    yes    0 27.25000  3.5000 0.0667028600 194.4667000     no     no
## 390    yes    0 19.58333  1.8000 0.1217950000 182.6092000     no     no
## 391    yes    0 24.08333  2.2500 0.1584613000 297.0317000     no     no
## 392    yes    0 22.83333  2.0000 0.0229845000  37.9741700     no     no
## 393    yes    0 27.08333  4.1000 0.1157810000 395.5850000    yes     no
## 394    yes    0 23.83333  2.9700 0.0826410800 204.5367000     no     no
## 395    yes    0 41.66667  5.5000 0.0324449100 148.3725000    yes     no
## 396    yes    0 27.25000  3.1500 0.0649396900 170.4667000    yes     no
## 397    yes    0 46.50000  3.5000 0.0422900000 122.9292000     no    yes
## 398    yes    0 21.08333  1.5344 0.0043013560   4.5833330     no     no
## 399    yes    0 32.33333  5.1000 0.1013590000 430.6925000    yes     no
## 400    yes    0 22.58333  2.2500 0.0111111100  20.0833300     no     no
## 401    yes    0 25.58333  3.4100 0.0065225810  17.7850000    yes     no
## 402    yes    0 35.25000  3.7000 0.1221516000 376.6342000    yes     no
## 403     no    0 34.58333  3.4000 0.0003529412   0.0000000     no     no
## 404    yes    0 35.75000  4.1400 0.1375309000 474.0650000    yes     no
## 405     no    4 38.25000  4.8000 0.0002500000   0.0000000    yes     no
## 406    yes    0 34.75000  7.0000 0.0502398600 293.0658000    yes     no
## 407    yes    0 28.75000  7.0000 0.1083524000 631.9725000    yes    yes
## 408    yes    1 29.16667  2.2000 0.0382054600  69.7933300     no     no
## 409     no    0 28.58333  2.0600 0.0005825243   0.0000000    yes     no
## 410     no    0 22.08333  1.5360 0.0007812500   0.0000000     no     no
## 411     no    3 36.50000  4.0000 0.0003000000   0.0000000    yes     no
## 412    yes    0 43.83333 10.5000 0.0010952380   8.7500000    yes     no
## 413    yes    0 32.00000  3.0500 0.0501859000 127.4725000     no     no
## 414    yes    1 56.91667  3.4838 0.0628954000 182.0958000    yes     no
## 415    yes    0 24.33333  3.0000 0.0027916670   6.1458330    yes     no
## 416    yes    0 34.58333  5.1000 0.0970047000 412.1867000    yes     no
## 417    yes    0 53.00000  2.4500 0.0177183700  35.6750000    yes     no
## 418    yes    0 31.16667  2.0000 0.1235615000 205.9358000    yes     no
## 419    yes    0 54.08333  4.0000 0.0133672500  43.9741700    yes     no
## 420    yes    0 45.83333  3.4800 0.0648637900 188.1050000    yes    yes
## 421    yes    0 20.83333  2.0000 0.0047500000   7.0833330    yes    yes
## 422    yes    0 27.33333  2.1500 0.2703846000 484.4392000     no     no
## 423     no    0 37.58333  4.4750 0.0002681564   0.0000000     no     no
## 424    yes    0 33.25000  1.7000 0.0067258820   8.7783340     no     no
## 425    yes    0 28.08333  3.0000 0.0699700000 174.9250000     no     no
## 426    yes    0 27.16667  2.3558 0.0111214900  21.3333300    yes     no
## 427    yes    0 50.00000  4.5000 0.0962653300 360.9950000    yes     no
## 428    yes    0 48.33333  3.7000 0.0372221600 114.6017000    yes     no
## 429    yes    0 25.25000  5.5000 0.0247918200 113.2958000    yes    yes
## 430    yes    0 30.75000  3.3740 0.0120062200  33.5075000    yes     no
## 431    yes    0 63.16667  5.5000 0.0204818200  93.6250000    yes     no
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## 432    no     1 32.33333  6.0000 0.0002000000    0.0000000   yes      no
## 433   yes     0 28.41667  6.9000 0.0723140500  415.8058000   yes      no
## 434   yes     0 28.91667  2.7500 0.3822785000  875.8884000   yes      no
## 436   yes     0 25.66667  2.0000 0.0049000000    7.4166670   no       no
## 437   yes     0 21.91667  2.6875 0.0741268800  165.9300000   no       no
## 438   yes     0 27.16667  2.6796 0.0072772060   15.5833300   no       no
## 439   yes     0 22.50000  1.8000 0.1196106000  178.9158000   no       no
## 440   yes     0 25.33333  1.5600 0.0350198700   44.9425000   no       no
## 441   yes     0 20.16667  1.5000 0.1196407000  149.5508000   no       no
## 442   yes     0 25.00000  1.8804 0.0029780900    3.7500000   no       no
## 443    no     2 36.58333  2.5200 0.0004761905    0.0000000   yes      no
## 444   yes     0 19.66667  2.2348 0.0447489700   82.9208400   no       no
## 445    no     0 31.25000  1.7800 0.0006741573    0.0000000   no       no
## 446   yes     0 29.08333  4.0100 0.0027431420    8.3333330   no       no
## 447   yes     0 51.58333 12.4999 0.2975549000 3099.5050000   yes      no
## 448   yes     0 31.50000  1.6000 0.2253456000  300.4608000   no       no
## 449   yes     0 46.50000  5.0000 0.0272400000  112.9167000   yes      no
## 450   yes     0 24.66667  2.2750 0.0498347200   94.1450000   yes      no
## 451   yes     0 54.75000  3.4000 0.0760373500  215.4392000   no       no
## 452   yes     0 21.41667  1.7500 0.0244582900   35.1683300   yes      no
## 453   yes     0 27.08333  3.2500 0.0086015380   22.4625000   yes      no
## 454   yes     0 45.08333  3.9000 0.0906400000  294.5800000   no       no
## 455    no     0 35.91667  1.8500 0.0006486487    0.0000000   no       no
## 456   yes     0 40.91667  4.0000 0.0033122500   10.2908300   yes      no
## 457   yes     0 54.50000  4.3000 0.1763946000  632.0808000   yes      no
## 458   yes     0 28.16667  3.5000 0.1119657000  326.5667000   yes      no
## 459   yes     1 34.08333  8.1000 0.1107659000  747.6700000   yes     yes
## 460   yes     1 30.00000  4.0000 0.0510542500  170.1808000   yes      no
## 461   yes     1 33.91667  2.0000 0.9063205000 1510.5340000   no       no
## 463   yes     0 51.25000  5.3000 0.0434418900  191.7017000   no       no
## 464    no     7 25.91667  2.6000 0.0004615385    0.0000000   no       no
## 465   yes     0 27.91667  2.5200 0.0896123100  188.1858000   no       no
## 466    no     0 23.83333  2.2000 0.0005454546    0.0000000   no       no
## 467   yes     0 29.00000  2.5000 0.5263956000 1096.6570000   no       no
## 468   yes     0 33.50000  3.5000 0.0949660000  276.9842000   no       no
## 469    no     1 30.83333  4.3500 0.0002758621    0.0000000   no       no
## 470    no     0 38.75000  1.6000 0.0007500000    0.0000000   no       no
## 471   yes     0 32.16667  2.0000 0.0232690000   38.3650000   no       no
## 472   yes     1 43.33333  4.8000 0.3706127000 1482.3680000   yes      no
## 473   yes     0 29.83333  3.0000 0.0185503300   45.8758300   yes      no
## 474   yes     0 62.00000  1.6380 0.0470018300   64.0741700   yes      no
## 475    no     2 35.50000  2.9000 0.0004137931    0.0000000   no       no
## 476   yes     0 21.50000  2.3779 0.0179990800   35.1666700   no       no
## 477   yes     0 38.25000  2.3000 0.0676087000  129.4167000   yes      no
## 478   yes     0 39.58333  8.1000 0.0983361800  663.7692000   yes      no
## 479    no     2 40.50000  3.5700 0.0003361345    0.0000000   no      yes
## 480    no     0 34.25000  1.9440 0.0006172840    0.0000000   no       no
## 481   yes     0 34.83333  2.7500 0.0331494500   75.6341700   yes      no
## 482   yes     0 28.16667  3.5000 0.0016000000    3.7500000   yes      no
## 483   yes     0 47.16667  7.0000 0.0516718600  301.2525000   yes      no
## 484   yes     0 28.16667  2.8000 0.0962850000  224.5817000   no       no
## 485   yes     0 22.41667  1.9500 0.0373338500   60.5841700   no       no
## 486    no     0 45.50000  6.5000 0.0001846154    0.0000000   no       no
## 487   yes     0 22.91667  2.5000 0.2395248000  498.9267000   no       no
## 488   yes     1 37.08333  3.0000 0.0036666670    8.3333330   no       no
## 489   yes     0 27.25000  1.8000 0.0703383300  105.5075000   yes      no
## 490   yes     0 39.58333  2.6000 0.0262307700   56.3333300   yes      no
## 491   yes     0 51.83333  3.6000 0.0709650000  212.4783000   yes      no
## 492   yes     0 23.66667  2.3000 0.0077817390   14.3316700   no       no
## 493    no     1 21.50000  1.7800 0.0006741573    0.0000000   no       no
## 494   yes     0 21.91667  3.8600 0.0003108808    0.0000000   yes     yes
## 495   yes     0 45.58333  4.9000 0.0145340800   58.9308300   yes      no
## 496    no     0 39.91667  3.6000 0.0003333333    0.0000000   no       no
## 497   yes     0 42.25000  3.2350 0.0247656900   66.2641700   yes      no
## 498    no     2 27.50000  1.8500 0.0006486487    0.0000000   no       no
## 499   yes     0 25.75000  1.8500 0.0596524300   91.9641700   yes      no
## 500   yes     0 25.41667  1.5600 0.1660628000  215.8817000   no       no
## 501   yes     0 31.83333  4.0750 0.0070144790   22.9866700   yes      no
## 502    no     5 25.25000  3.3000 0.0003636364    0.0000000   yes      no
## 503   yes     0 24.16667  2.5100 0.1149625000  240.3800000   no       no
## 504   yes     0 28.16667  4.3750 0.0248105100   89.9550000   yes      no
## 505   yes     0 26.58333  2.3500 0.0648855300  126.6508000   no       no
## 506   yes     0 20.91667  4.0000 0.0421290000  140.3467000   yes      no
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## 506     yes     0 20.91667     4.0000 0.0421290000  140.3467000     yes       no
## 507      no     2 35.58333     5.1000 0.0002352941    0.0000000     yes       no
## 508     yes     0 32.16667     3.0000 0.1178903000  294.5592000     yes       no
## 509     yes     0 28.66667     3.5000 0.0235802800   68.3591700     yes       no
## 510     yes     0 39.75000     3.5000 0.0349694300  101.4942000     yes       no
## 511     yes     0 34.83333     5.5000 0.2375431000 1088.7390000     yes       no
## 512     yes     0 51.75000     3.8000 0.0151171100   47.7875000     yes       no
## 513     yes     0 22.66667     1.7900 0.0340413400   50.0283300      no       no
## 514     yes     0 38.25000     5.1000 0.0810800000  344.0067000     yes       no
## 515     yes     0 46.25000     8.9400 0.0252856800  188.2950000     yes       no
## 516     yes     0 50.33333     7.1000 0.0414819700  245.3517000     yes       no
## 517     yes     0 32.08333     2.4000 0.1426413000  285.2825000     yes       no
## 518     yes     1 30.58333     3.3050 0.0066868380   17.5833300      no       no
## 519     yes     0 38.83333     6.5000 0.2897866000 1569.6770000     yes       no
## 520     yes     0 39.58333     4.8100 0.0110588400   43.7441700     yes       no
## 521     yes     0 39.66667     3.0000 0.0224043400   55.7608300     yes      yes
## 522     yes     0 41.66667     2.7000 0.0435611100   97.5125000     yes       no
## 523     yes     0 38.83333     5.4000 0.0129935200   58.0541600     yes      yes
## 524     yes     0 37.08333     8.1240 0.0315060300  213.1292000     yes      yes
## 525     yes     0 27.83333     3.0400 0.0379266400   95.9975000      no       no
## 526     yes     1 29.50000     2.0800 0.0354514400   61.1991700     yes       no
## 527     yes     0 28.91667     1.5110 0.0007941761    0.0000000      no       no
## 528      no     1 31.08333     3.0000 0.0004000000    0.0000000     yes       no
## 529     yes     0 30.33333     2.6000 0.2956862000  640.6533000     yes       no
## 530     yes     0 37.41667     2.5000 0.0298332000   61.7358300     yes       no
## 531     yes     0 44.58333     3.5000 0.0119822900   34.5316700     yes       no
## 532     yes     0 25.33333     2.4000 0.1066462000  213.2925000      no       no
## 533     yes     0 26.83333     2.3200 0.0075862070   14.0000000      no       no
## 534     yes     0 46.16667     2.5800 0.0767333400  164.6433000     yes       no
## 535     yes     0 28.08333     2.1000 0.0906800000  158.6067000     yes       no
## 536     yes     0 38.41667     2.3500 0.0685374400  133.9692000      no       no
## 537     yes     0 46.75000     2.8000 0.0004285714    0.0000000     yes       no
## 538      no     2 52.25000     3.7000 0.0003243243    0.0000000      no       no
## 539      no     0 37.16667     1.6800 0.0007142857    0.0000000     yes       no
## 540      no     0 25.33333     2.6400 0.0004545455    0.0000000      no       no
## 541     yes     1 28.25000     2.3000 0.0348960900   66.3008300     yes       no
## 542     yes     2 35.33333     6.8880 0.0102362100   58.5058300     yes       no
## 543      no     4 25.41667     4.0000 0.0003000000    0.0000000      no       no
## 544     yes     0 28.16667     2.0000 0.0602500000  100.4167000     yes       no
## 545      no     0 19.00000     1.9700 0.0006091371    0.0000000      no       no
## 546     yes     0 25.41667     3.0000 0.0104696700   25.5075000      no       no
## 547     yes     0 26.08333     2.7500 0.1835625000  420.5808000     yes       no
## 548     yes     0 31.25000     5.0000 0.0743784000  309.9100000     yes       no
## 549     yes     0 33.66667     2.1000 0.0449081000   78.2558400      no       no
## 550     yes     0 27.91667     4.0000 0.0370917500  123.2225000     yes       no
## 551     yes     1 48.33333     3.0000 0.0318723300   79.1758300     yes      yes
## 552     yes     0 36.83333     3.3000 0.1568097000  431.1433000      no       no
## 553      no     3 45.41667     2.3500 0.0005106383    0.0000000      no       no
## 554      no     2 53.00000     2.1600 0.0005555556    0.0000000      no      yes
## 555     yes     0 27.58333     3.9000 0.0413751300  134.3858000     yes       no
## 556     yes     0 40.00000     2.3115 0.0286234100   54.9691700      no       no
## 557     yes     0 49.16667     1.7000 0.0007058823    0.0000000      no       no
## 558     yes     0 40.33333     2.0000 0.0723855000  120.5592000      no       no
## 559     yes     0 23.83333     4.8000 0.0801425000  320.4867000      no      yes
## 560     yes     0 34.25000     3.0000 0.5409953000 1352.4880000     yes       no
## 561     yes     0 21.41667     1.5600 0.0671660300   87.1491700      no       no
## 562     yes     0 39.33333     2.0000 0.0490590000   81.2650000     yes       no
## 563     yes     0 24.25000     2.6000 0.2969185000  643.3233000      no       no
## 564     yes     0 47.83333     4.6800 0.0347440200  134.9183000     yes       no
## 565     yes     0 34.83333     4.0000 0.2582515000  860.7550000      no      yes
## 566     yes     0 52.25000     1.8744 0.0552038000   85.9783300     yes       no
## 567     yes     3 47.50000     3.1000 0.1792845000  463.1517000      no       no
## 568     yes     0 25.75000     2.8000 0.0575146400  134.2008000      no       no
## 569     yes     0 24.08333     2.0400 0.1136103000  192.7208000      no       no
## 570     yes     0 24.50000     2.1000 0.3213481000  562.3592000      no       no
## 571     yes     0 22.33333     2.0000 0.1649680000  274.9467000      no       no
## 572     yes     0 33.16667     5.6000 0.0852958900  398.0475000     yes       no
## 573     yes     0 38.91667     3.0000 0.0497903300  124.4758000     yes       no
## 574     yes     0 22.16667     2.4000 0.0818337500  163.4175000      no       no
## 575     yes     0 23.33333     1.8500 0.0605794600   93.3100000      no       no
## 576     yes     0 24.08333     2.9000 0.0470686200  113.2492000     yes       no
## 577      no     0 26.66667     2.0000 0.0006000000    0.0000000      no      yes
## 578     yes     0 52.41667     1.8900 0.0239232800   37.4291600      no       no
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## 579    yes      0 20.25000   2.0000 0.2048970000   341.2450000    no      no
## 580    yes      0 25.41667   1.6417 0.3715959000   508.2908000    no      no
## 581     no      4 22.75000   2.3400 0.0005128205     0.0000000    no      no
## 582    yes      0 24.41667   1.9000 0.2731216000   432.3592000    no      no
## 583    yes      0 21.50000   1.5300 0.0365032700    46.2916700   yes      no
## 584    yes      0 22.41667   3.9946 0.0761916100   253.6292000    no      no
## 585    yes      0 46.33333   1.6000 0.0463068800    61.7425000    no      no
## 586    yes      0 19.41667   1.8000 0.0841500000   125.8917000    no      no
## 587    yes      1 29.83333   3.7000 0.5957760000  1836.9760000    no      no
## 588    yes      0 28.91667   2.1000 0.0092857140    15.5833300    no      no
## 589    yes      0 26.66667   2.0000 0.0314500000    51.7500000    no      no
## 590     no      1 44.83333   2.6000 0.0004615385     0.0000000   yes      no
## 591    yes      0 27.00000   2.6750 0.0348201900    77.2866700   yes      no
## 592     no      1 30.16667   4.1600 0.0002884615     0.0000000   yes     yes
## 593    yes      0 24.83333   2.1000 0.1375624000   240.4842000    no      no
## 594    yes      0 28.00000   2.4000 0.0337825000    67.3983300    no      no
## 595    yes      0 39.16667   3.1200 0.0267397400    69.2733300   yes     yes
## 596    yes      0 31.41667   3.0000 0.0691713300   172.5717000   yes      no
## 597    yes      0 40.41667   3.1150 0.0767592300   199.0042000   yes      no
## 598     no      3 23.16667   1.6213 0.0007401468     0.0000000    no      no
## 599    yes      0 43.58333   4.3681 0.0442927100   160.4792000   yes      no
## 600     no      0 25.16667   2.5340 0.0004735596     0.0000000    no      no
## 601     no      2 40.58333   3.1000 0.0003870968     0.0000000   yes      no
## 602     no      7 32.08333   2.7161 0.0004418099     0.0000000    no      no
## 603    yes      0 42.16667   4.0400 0.0133653500    44.4133300    no      no
## 604    yes      0 47.33333   2.7495 0.2148416000   492.2558000    no      no
## 605    yes      0 27.83333   3.0000 0.1608053000   401.9300000    no      no
## 606    yes      0 30.66667   3.1500 0.0682901600   179.1783000   yes      no
## 607     no      0 38.50000   5.9700 0.0002010050     0.0000000   yes      no
## 608    yes      0 31.00000   2.6000 0.0841927000   182.1675000    no      no
## 609     no      0 47.91667   8.4000 0.0001428571     0.0000000   yes      no
## 610    yes      0 21.91667   1.9500 0.0383810300    61.9525000    no      no
## 611    yes      0 36.75000   3.0000 0.0324970000    80.8258400   yes      no
## 612    yes      0 23.50000   2.8000 0.0039285710     8.3333330   yes      no
## 613    yes      1 25.33333   4.5500 0.0446525300   169.0575000   yes      no
## 614    yes      0 21.25000   1.9900 0.0349633200    57.9808300    no      no
## 615    yes      0 48.91667   4.5000 0.0541688900   203.1333000    no      no
## 616     no      0 35.58333   4.0000 0.0003000000     0.0000000    no      no
## 617    yes      0 39.08333   3.5000 0.0620622900   181.0150000   yes      no
## 618     no      1 27.66667   2.1500 0.0005581395     0.0000000    no      no
## 619     no      0 23.25000   1.6200 0.0007407407     0.0000000    no      no
## 620    yes      0 31.16667   3.5000 0.1656494000   483.0608000    no      no
## 621    yes      0 26.83333   2.9000 0.0068720690    15.9408300   yes     yes
## 622    yes      0 39.25000   3.4064 0.0636407900   180.6550000    no     yes
## 623    yes      0 24.83333   4.0000 0.0016500000     4.5833330    no     yes
## 624    yes      0 27.16667   2.6000 0.8778461000  1902.0000000    no      no
## 625    yes      0 24.66667   2.0676 0.2071184000   356.7817000    no      no
## 626    yes      0 44.66667   2.4000 0.0005000000     0.0000000    no      no
## 627    yes      0 25.16667   3.4200 0.0089152050    24.5750000    no      no
## 628    yes      0 21.91667   6.7000 0.0541486600   302.2467000    no      no
## 629    yes      0 40.41667   5.4300 0.0075060770    33.2150000    no      no
## 630    yes      0 24.08333   1.6200 0.0105080200    13.6858300    no      no
## 631    yes      0 31.83333   2.4192 0.0580038800   116.3525000    no      no
## 632    yes      0 24.66667   3.4000 0.0511402900   144.3975000    no      no
## 633    yes      0 47.41667   3.6000 0.0381111100   113.7500000   yes     yes
## 634    yes      0 27.16667   2.5000 0.0887728000   184.9433000    no      no
## 635    yes      0 49.58333   1.7500 0.0107422900    15.3325000   yes      no
## 636    yes      0 32.00000   2.5000 0.0544468000   113.1808000    no      no
## 637    yes      0 35.00000   4.5000 0.0102222200    37.5833300   yes      no
## 638     no      1 26.16667   2.4660 0.0004866180     0.0000000   yes      no
## 639    yes      0 20.66667   2.7000 0.0698444500   156.9000000    no      no
## 640     no      0 34.25000   2.4000 0.0005000000     0.0000000    no      no
## 641    yes      0 49.83333   6.9000 0.0607597100   349.2017000   yes      no
## 642    yes      0 40.75000   4.8000 0.1537802000   615.1208000   yes      no
## 643    yes      0 20.83333   1.9200 0.1300521000   208.0833000    no      no
## 644    yes      0 40.33333   2.8000 0.0381382100    88.7391700    no      no
## 645    yes      0 25.08333   1.6949 0.0246769700    34.5208300    no      no
## 646    yes      0 29.33333   3.5000 0.1257411000   366.7450000    no      no
## 647    yes      1 40.50000   2.2500 0.0238222200    44.0000000    no      no
## 648     no      2 30.75000   2.3150 0.0005183585     0.0000000    no      no
## 649    yes      0 30.66667   4.0000 0.0901157500   299.8858000   yes      no
## 650    yes      0 40.00000   4.5000 0.0957660100   359.1225000    no      no
## 651    yes      0 23.00000   3.1782 0.0931297600   246.5708000    no      no
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##   -
## 652    yes    0 23.08333  3.0000 0.0258633300  63.9916600    no     no
## 653    yes    0 31.33333  3.0000 0.0206580000  51.6450000   yes     no
## 654     no    0 24.58333  2.0000 0.0006000000   0.0000000    no     no
## 655    yes    0 36.50000  3.5000 0.2171703000 633.4133000   yes     no
## 657     no    0 28.83333  2.5800 0.0004651163   0.0000000   yes     no
## 658    yes    0 45.58333 11.9999 0.0200661700 200.4933000   yes    yes
## 660     no    0 23.25000  1.4340 0.0008368201   0.0000000   yes     no
## 661    yes    0 38.91667  3.6800 0.0195225600  59.6191700   yes     no
## 662     no    0 23.83333  2.5500 0.0004705882   0.0000000   yes     no
## 663     no    4 37.25000  3.5000 0.0003428572   0.0000000   yes     no
## 664    yes    0 28.25000  2.3000 0.1644965000 315.2017000   yes     no
## 665    yes    0 26.25000  3.1894 0.0972123300 258.2908000    no     no
## 666    yes    0 26.50000  2.3500 0.0005106383   0.0000000    no     no
## 667     no    4 25.83333  1.9700 0.0006091371   0.0000000    no     no
## 668    yes    0 41.25000  3.6000 0.1525236000 457.4875000   yes     no
## 669     no    1 38.58333  3.2000 0.0003750000   0.0000000    no     no
## 670    yes    0 34.75000  2.0000 0.0033000000   4.5833330   yes     no
## 671    yes    0 31.50000  2.8500 0.3137003000 745.0383000   yes     no
## 672    yes    0 24.00000  3.0950 0.0698588000 180.1775000   yes     no
## 673    yes    0 25.16667  1.5000 0.0898046700 111.8392000   yes     no
## 674    yes    0 57.08333  4.8000 0.1534315000 613.6425000   yes     no
## 675    yes    0 23.83333  2.6000 0.1539746000 333.6117000    no     no
## 676    yes    0 23.16667  2.8500 0.0874582500 207.7133000   yes     no
## 677    yes    0 28.16667  3.3500 0.0716247800 199.3692000   yes     no
## 678    yes    0 32.58333  1.8142 0.0541406700  81.4350000   yes     no
## 679    yes    0 34.83333  3.6000 0.0388272200 116.3150000   yes    yes
## 680     no    0 31.08333  1.5150 0.0007920792   0.0000000    no     no
## 681    yes    0 24.83333  2.4000 0.2650900000 530.1800000    no     no
## 682     no    0 38.66667  3.0000 0.0004000000   0.0000000    no     no
## 683     no    7 36.91667  3.5000 0.0003428572   0.0000000   yes     no
## 684    yes    0 29.75000  3.0000 0.0467130000 116.4492000   yes     no
## 685    yes    0 34.75000  2.3400 0.1833799000 357.5908000   yes     no
## 686    yes    0 25.08333  2.1000 0.1227771000 214.8600000    no     no
## 687    yes    0 22.16667  1.6000 0.1506275000 200.5867000   yes     no
## 688    yes    0 26.66667  2.2160 0.0307563200  56.4633300    no     no
## 689    yes    0 32.00000  3.6500 0.0060821920  17.6666700   yes     no
## 690     no    6 39.33333  3.2000 0.0003750000   0.0000000    no     no
## 691     no    0 30.91667  2.6000 0.0004615385   0.0000000    no     no
## 692    yes    1 60.08333  6.1000 0.0943482000 479.4367000   yes     no
## 693     no    2 36.41667  3.0000 0.0004000000   0.0000000    no     no
## 694    yes    0 36.91667  4.5000 0.0823800000 308.9250000   yes     no
## 695    yes    0 28.83333  2.1840 0.0795650200 144.6417000   yes     no
## 696     no    0 66.50000  3.2500 0.0003692308   0.0000000   yes     no
## 697    yes    0 35.16667  2.2000 0.1334473000 244.6533000   yes     no
## 698    yes    0 74.16666  2.8065 0.0168893600  38.8333300   yes     no
## 699    yes    0 28.41667  2.4304 0.2284344000 462.6558000   yes     no
## 700    yes    0 55.16667  6.7000 0.0385852200 214.9342000   yes     no
## 701     no    1 38.33333  4.0000 0.0003000000   0.0000000   yes    yes
## 702     no    0 37.83333  5.1600 0.0002325581   0.0000000   yes    yes
## 703    yes    0 39.66667  5.1000 0.0575113700 244.4233000   yes     no
## 704    yes    0 44.58333  4.2000 0.0386716700 135.1842000   yes     no
## 705    yes    0 30.75000  5.6000 0.0398010700 185.7383000   yes     no
## 706    yes    0 23.41667  1.8600 0.2670521000 413.5975000    no     no
## 707     no    0 27.41667  1.6400 0.0007317073   0.0000000    no     no
## 708    yes    0 51.91667  6.8000 0.0027058820  14.6666700    no     no
## 709    yes    0 22.83333  1.8468 0.0114230000  16.9133300    no     no
## 710     no    0 22.50000  1.8000 0.0006666667   0.0000000    no     no
## 711     no    1 36.83333  3.0000 0.0004000000   0.0000000   yes     no
## 712    yes    0 36.41667  2.2000 0.0114545500  20.3333300   yes     no
## 713     no    1 22.75000  1.8000 0.0006666667   0.0000000    no     no
## 714    yes    0 32.00000  2.6000 0.0029615380   5.5833330    no     no
## 715     no    0 27.08333  2.0000 0.0006000000   0.0000000    no     no
## 716    yes    0 38.33333  5.0000 0.0572476000 238.3650000   yes     no
## 717    yes    0 28.66667  4.2200 0.0855907500 300.9942000   yes     no
## 718    yes    0 38.16667  4.0188 0.1649273000 552.3417000    no     no
## 719    yes    0 26.08333  3.0000 0.0454690000 113.5892000    no     no
## 720    yes    0 22.00000  3.1532 0.0382151500  99.9166600    no     no
## 721    yes    0 23.50000  2.8000 0.0633928600 147.3333000    no     no
## 722    yes    0 29.58333  2.8600 0.2015343000 480.3233000    no     no
## 723    yes    0 23.08333  2.0400 0.1794971000 304.8950000    no    yes
## 724    yes    0 33.83333  3.5000 0.0218994300  63.4566700   yes     no
## 725    yes    0 64.58334  7.1250 0.0253389500 149.7000000   yes     no
## 726     no    0 23.50000  2.5000 0.0004800000   0.0000000    no     no
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## 726    no    0 23.50000  2.5000 0.0004800000    0.0000000    no    no
## 727   yes    0 23.83333  3.3000 0.0604457600  166.0592000    no    no
## 728   yes    0 36.91667  2.2000 0.0809218100  148.1900000    no    no
## 729   yes    1 38.25000  3.2000 0.0454578100  121.2208000   yes    no
## 730   yes    0 22.00000  4.0000 0.0480585000  160.0283000   yes    no
## 731   yes    0 38.50000  5.5689 0.0434159300  201.4825000    no    no
## 732   yes    0 36.58333  7.0000 0.0102061400   59.1191700   yes    no
## 733    no    1 26.25000  2.3000 0.0005217391    0.0000000    no    no
## 734   yes    0 21.50000  5.5000 0.0779554500  356.8792000    no    no
## 735   yes    1 41.41667  2.5000 0.0765740100  159.1958000    no   yes
## 736    no    1 40.83333  2.5000 0.0004800000    0.0000000   yes    no
## 737   yes    0 25.16667  8.0000 0.0170067500  112.8783000   yes    no
## 738   yes    0 23.50000  1.8300 0.0715699400  108.9775000    no    no
## 739   yes    0 27.25000  2.9000 0.0382155200   91.6875000    no    no
## 740    no    3 38.75000  4.7000 0.0002553191    0.0000000   yes    no
## 741    no    2 23.08333  1.7250 0.0006956522    0.0000000    no    no
## 742    no    0 37.25000  1.5548 0.0007718034    0.0000000    no    no
## 743   yes    0 41.58333  3.8200 0.1451636000  462.0208000    no    no
## 744   yes    0 52.41667  2.4000 0.0692845900  138.5692000    no   yes
## 745   yes    0 31.75000  2.4000 0.1869583000  373.4167000    no    no
## 746   yes    0 36.00000  3.0000 0.1218490000  304.6225000    no    no
## 747   yes    0 21.41667  1.6000 0.2893312000  385.7750000    no    no
## 748   yes    0 42.08333  2.6800 0.1430284000  319.4300000    no    no
## 749   yes    0 32.33333  6.3000 0.0887660300  465.9383000    no   yes
## 750   yes    0 24.25000  1.6000 0.0450900000   59.7866700    no    no
## 751   yes    0 32.25000  2.6000 0.0787903800  170.4625000    no    no
## 752   yes    0 28.91667  2.1000 0.1384924000  242.1950000    no    no
## 753    no    1 28.33333  1.9324 0.0006209894    0.0000000    no    no
## 754   yes    0 23.16667  2.5000 0.2298220000  478.7125000   yes    no
## 755    no    1 44.58333  1.8000 0.0006666667    0.0000000    no   yes
## 756   yes    0 31.41667  3.5600 0.0332061800   98.3450000    no    no
## 757   yes    0 24.91667  3.4000 0.1063297000  301.0175000    no    no
## 758   yes    0 28.25000  2.5500 0.2395941000  509.0542000    no    no
## 759   yes    0 47.41667  4.9200 0.0448939000  183.8983000   yes   yes
## 760   yes    0 26.41667  3.9000 0.0144687200   46.5233300    no    no
## 761   yes    0 37.08333  5.2000 0.0591584600  256.1867000    no    no
## 762   yes    0 54.41667  9.0000 0.0628297800  470.9733000   yes    no
## 763   yes    0 35.25000  6.0000 0.4582348000 2291.1740000    no    no
## 764   yes    0 35.50000  7.5000 0.0205616000  128.4267000   yes    no
## 765   yes    0 44.50000  9.0000 0.2599927000 1949.8620000    no    no
## 766   yes    0 20.16667  2.1000 0.1538495000  269.1533000    no    no
## 767   yes    0 23.75000  3.0000 0.0168260000   41.4816700    no    no
## 768   yes    0 27.58333  2.6000 0.0366665400   79.3608300    no    no
## 769   yes    0 54.75000  5.4800 0.1342037000  612.8633000   yes    no
## 770   yes    0 40.33333  8.2000 0.0282001200  192.4508000   yes    no
## 771   yes    1 32.83333  2.5000 0.1573136000  327.7367000    no    no
## 772   yes    0 28.50000  3.0000 0.0710463400  177.6158000   yes    no
## 773   yes    0 35.50000  6.5000 0.0675980000  365.9058000   yes    no
## 774   yes    1 56.75000  7.5720 0.0066693080   41.3333300   yes   yes
## 775   yes    1 28.16667  2.0000 0.0518390000   86.1483300    no    no
## 776    no    3 31.00000  3.2500 0.0003692308    0.0000000    no    no
## 777    no    2 24.00000  3.0000 0.0004000000    0.0000000    no    no
## 778   yes    0 40.75000  7.0000 0.0645882900  376.7650000    no    no
## 779    no    7 33.00000  7.5000 0.0001600000    0.0000000    no    no
## 780   yes    0 38.41667  3.8000 0.0598715800  189.1767000   yes    no
## 781   yes    0 25.91667  3.7000 0.0843635100  260.1208000   yes    no
## 782   yes    0 33.16667  3.4000 0.1436397000  406.9792000   yes    no
## 783    no    1 27.91667  2.8500 0.0004210526    0.0000000    no    no
## 784   yes    0 28.33333  2.6000 0.0548715400  118.7217000    no    no
## 785   yes    0 22.08333  1.5660 0.0706762400   91.7325000    no    no
## 786   yes    0 24.25000  1.8000 0.1336028000  200.2375000   yes    no
## 787   yes    0 39.41667  3.1000 0.1696903000  438.3667000   yes    no
## 788    no    0 25.41667  1.5000 0.0008000000    0.0000000    no   yes
## 789   yes    1 19.00000  2.1900 0.3406356000  621.6600000    no    no
## 790   yes    0 31.25000  5.5000 0.0708629000  324.7050000   yes    no
## 791   yes    0 31.91667  4.4000 0.0404252300  148.0592000   yes    no
## 792   yes    0 33.25000  3.0000 0.3761903000  940.3925000   yes    no
## 793   yes    1 26.33333  2.9500 0.1325831000  325.8500000    no    no
## 794   yes    0 26.66667  1.6000 0.0235362500   30.5483300   yes    no
## 795   yes    0 22.41667  2.0000 0.1157910000  192.8183000    no    no
## 796   yes    0 25.08333  2.8542 0.1362319000  324.0275000    no   yes
## 797   yes    0 26.66667  2.2000 0.0502668200   91.9891700    no    no
## 798   yes    0 29.41667  3.6500 0.0878953400  267.3483000    no    no
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## 799    no     9 35.08333  1.7000 0.0007058823    0.0000000    no     no
## 800   yes     0 57.33333  1.6500 0.0095151510   12.2500000    no     no
## 801   yes     0 52.16667  2.6600 0.0446221800   98.5791600   yes     no
## 802   yes     0 41.83333  2.7500 0.0190720000   43.2066700   yes     no
## 803   yes     0 39.41667  1.5600 0.0466538400   60.0666700    no     no
## 804    no     1 56.75000  8.0000 0.0001500000    0.0000000   yes     no
## 805   yes     0 28.25000  2.0272 0.1110255000  187.1425000   yes     no
## 806   yes     0 38.08333  4.0000 0.0092175000   29.9750000   yes     no
## 807   yes     0 55.08333  6.7000 0.0798607500  445.8058000   yes     no
## 808   yes     0 29.33333  2.5000 0.1795448000  374.0517000   yes     no
## 809   yes     0 19.83333  3.0000 0.0004000000    0.0000000    no     no
## 810   yes     0 25.25000  3.2000 0.0454271800  121.0558000    no     no
## 811   yes     0 27.25000  3.1800 0.0908757900  240.8208000    no     no
## 812   yes     0 27.50000  3.2000 0.0310034400   82.3425000   yes     no
## 813   yes     1 26.00000  1.7305 0.0912042800  131.5242000    no     no
## 814   yes     0 25.91667  2.4000 0.1078696000  215.7392000    no     no
## 815    no     1 32.25000  2.2500 0.0005333333    0.0000000    no     no
## 816   yes     0 43.33333  3.9495 0.1571475000  517.2117000   yes     no
## 817   yes     0 34.91667  3.0000 0.0146486700   36.2050000    no     no
## 818   yes     0 27.75000  2.6500 0.0725984900  159.6550000    no     no
## 819    no     5 28.00000  2.2360 0.0005366727    0.0000000    no     no
## 820   yes     0 39.41667  4.7000 0.0631402100  247.2992000   yes     no
## 821   yes     0 40.83333  3.4800 0.0076890800   21.7150000    no     no
## 822   yes     0 23.33333  2.5500 0.0079607840   16.2500000    no     no
## 823   yes     1 43.58333  2.7700 0.0436476500  100.3367000   yes     no
## 824   yes     0 47.83333  3.1131 0.0250576600   64.7558400    no     no
## 825   yes     0 18.75000  1.9680 0.0638719500  103.9167000    no     no
## 826   yes     1 21.16667  1.8000 0.1925344000  288.8017000    no     no
## 827    no     1 54.83333  9.4000 0.0001276596    0.0000000   yes     no
## 828   yes     0 35.50000  5.5000 0.0128963600   58.6083300    no     no
## 829    no     0 24.16667  1.5000 0.0008000000    0.0000000    no     no
## 830   yes     0 24.83333  2.7000 0.1720774000  387.1742000    no     no
## 831   yes     0 23.83333  2.3500 0.0697655300  136.0408000    no     no
## 832   yes     0 39.91667  4.6000 0.0275195700  105.3250000    no     no
## 833   yes     0 31.75000 10.9999 0.0107009200   97.4241600    no     no
## 834   yes     0 62.50000  2.6545 0.1037453000  229.4933000    no     no
## 835   yes     1 36.33333  7.3500 0.0712285700  436.2750000    no     no
## 836   yes     0 23.00000  3.2000 0.0171090600   45.1241700    no     no
## 837   yes     0 28.33333  6.2000 0.0689293600  355.9683000   yes     no
## 838   yes     1 38.00000  3.2700 0.2386927000  650.4375000    no     no
## 839   yes     2 49.16667  3.7000 0.1435230000  442.4458000    no     no
## 840   yes     0 50.91667  1.7500 0.2131486000  310.8417000    no     no
## 841    no     0 23.58333  2.4250 0.0004948454    0.0000000    no    yes
## 842    no     1 29.00000  2.7000 0.0004444444    0.0000000    no     no
## 843   yes     0 45.25000  3.7000 0.1384322000  426.8325000    no     no
## 844   yes     0 31.66667  3.2000 0.0137812500   36.2500000    no     no
## 845   yes     0 31.83333  3.1000 0.1304742000  337.0583000    no     no
## 846    no     0 37.58333  9.0000 0.0001333333    0.0000000    no     no
## 847   yes     3 27.58333  5.5000 0.2204731000 1010.5020000    no    yes
## 848    no     0 36.08333  4.1000 0.0002926829    0.0000000   yes     no
## 849   yes     0 38.33333  3.0000 0.2273640000  568.2433000   yes     no
## 850   yes     0 25.50000  2.8000 0.1980021000  461.9217000    no     no
## 851   yes     0 41.50000  5.1000 0.0329643200  140.0150000    no     no
## 852   yes     0 34.58333  7.0000 0.0354654300  206.3817000    no    yes
## 853   yes     0 24.50000  2.3040 0.3747426000  719.5059000    no     no
## 854   yes     0 32.16667  2.3000 0.2000322000  383.3117000    no     no
## 855    no     1 24.58333  1.9000 0.0006315790    0.0000000    no     no
## 856   yes     0 23.83333  2.3000 0.1386009000  265.6517000    no     no
## 857    no     1 22.66667  1.5000 0.0008000000    0.0000000    no     no
## 858   yes     0 26.08333  2.3750 0.1428510000  282.7258000    no    yes
## 859   yes     0 30.16667  2.8000 0.1643857000  383.5667000    no     no
## 860   yes     0 27.08333  2.5224 0.2354365000  494.8875000    no     no
## 861   yes     0 27.16667  2.2000 0.0073095450   12.6508300    no     no
## 862   yes     0 32.41667  3.2000 0.1192053000  317.4642000    no     no
## 863   yes     0 32.50000  3.7000 0.0034567570    9.7416670    no     no
## 864   yes     0 46.00000  1.8000 0.0335000000   49.4166700    no     no
## 865    no     2 47.00000  2.3500 0.0005106383    0.0000000   yes     no
## 866   yes     0 22.75000  1.8200 0.5418599000  821.8208000    no     no
## 867   yes     0 42.08333  5.5000 0.0706803600  323.9517000    no     no
## 868    no    12 30.41667  2.6000 0.0004615385    0.0000000    no     no
## 869   yes     0 21.41667  2.1500 0.2658507000  476.3158000    no     no
## 870   yes     0 36.66667  3.8000 0.0359192100  112.9942000   yes     no
## 871   yes     0 37.16667  2.0000 0.0269280000   44.4633300    no     no
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##     -
## 872   yes    2 26.58333  2.4500 0.1217171000  248.5058000   no    no
## 873   yes    1 46.41667  3.5000 0.1096431000  319.7925000  yes    no
## 874   yes    0 25.58333  2.8000 0.3252597000  758.9391000   no    no
## 875   yes    1 30.33333  1.9900 0.2490915000  412.9933000   no    no
## 876    no    0 27.50000  2.0000 0.0006000000    0.0000000   no    no
## 877   yes    0 21.00000  2.1000 0.0755176200  131.9892000  yes    no
## 878   yes    0 20.00000  2.7900 0.0226835100   52.4891700   no    no
## 879   yes    0 23.25000  2.3200 0.1166047000  225.2692000   no    no
## 880   yes    0 45.08333  4.6000 0.0777669500  298.0233000   no    no
## 881    no    1 26.50000  2.0000 0.0006000000    0.0000000  yes    no
## 882   yes    0 29.75000  3.0000 0.0694203300  173.4675000   no    no
## 883   yes    0 52.33333  3.3280 0.0288227200   79.6850000  yes    no
## 884   yes    0 41.66667  2.4752 0.0672495100  138.5467000   no    no
## 885   yes    0 22.75000  4.3000 0.1578128000  565.3292000   no    no
## 886    no    0 33.00000  1.7700 0.0006779661    0.0000000   no    no
## 887   yes    1 29.83333  2.4500 0.1085196000  220.8942000   no    no
## 888   yes    0 20.25000  1.8500 0.3426108000  527.9417000  yes    no
## 889   yes    0 26.08333  2.2300 0.0565201800  104.7833000   no    no
## 890    no    0 22.50000  2.5000 0.0004800000    0.0000000   no    no
## 891   yes    3 32.83333  3.5091 0.1596184000  466.3475000   no    no
## 892   yes    0 27.33333  3.2875 0.0324200800   88.8175000   no    no
## 893   yes    0 28.50000  4.2320 0.1239747000  437.1342000   no   yes
## 894    no    1 36.91667  1.8500 0.0006486487    0.0000000   no    no
## 895   yes    0 26.00000  2.2000 0.0625927300  114.2533000   no    no
## 896    no    0 41.83333  3.5000 0.0003428572    0.0000000   no    no
## 897   yes    0 23.75000  3.0000 0.1172833000  293.0417000   no    no
## 898   yes    0 25.25000  1.8000 0.4559923000  683.9883000  yes    no
## 899   yes    0 25.66667  1.7000 0.0800700000  113.0992000   no    no
## 900   yes    0 29.00000  5.5000 0.0629520000  288.3633000   no    no
## 901   yes    0 40.58333  2.5685 0.0523301500  111.6750000   no    no
## 902    no    2 59.00000  3.5000 0.0003428572    0.0000000   no    no
## 903   yes    0 37.41667  2.5000 0.0726416000  151.3367000   no    no
## 904   yes    0 30.83333  3.3026 0.0019984250    4.5833330   no    no
## 905   yes    0 29.83333  2.2500 0.1068240000  199.7950000   no    no
## 906   yes    1 32.50000 10.0000 0.0370400000  308.2500000  yes    no
## 907   yes    0 25.50000  2.9000 0.0801558600  193.2933000   no    no
## 908    no    2 36.33333  2.9500 0.0004067797    0.0000000   no    no
## 909    no    0 25.33333  1.6000 0.0007500000    0.0000000   no    no
## 910   yes    0 28.50000  3.4000 0.0212132400   59.8541700   no    no
## 911    no    4 22.00000  2.1000 0.0005714286    0.0000000  yes    no
## 912   yes    0 27.58333  3.2000 0.1177562000  313.4333000   no    no
## 913    no    0 29.33333  3.5000 0.0003428572    0.0000000   no    no
## 914   yes    0 31.50000  2.4700 0.0947886600  195.0233000   no    no
## 915   yes    0 27.66667  2.6000 0.0750519200  162.4458000   no    no
## 916    no    2 39.16667  4.0248 0.0002981515    0.0000000   no    no
## 917   yes    0 22.66667  2.1000 0.1797090000  314.4908000   no    no
## 918   yes    0 30.08333  1.9500 0.1804298000  292.9483000   no    no
## 919    no    0 34.16667  3.5995 0.0003333796    0.0000000   no    no
## 920    no    2 42.83333  3.7000 0.0003243243    0.0000000   no    no
## 921   yes    0 31.58333  3.0000 0.2136177000  533.6275000   no    no
## 922   yes    0 32.33333  4.5000 0.0916633300  343.6542000   no    no
## 923    no   11 24.75000  2.3000 0.0005217391    0.0000000   no    no
## 924   yes    0 45.16667  3.5000 0.1362400000  397.0333000  yes    no
## 925   yes    0 25.41667  2.1000 0.0412857200   71.6666600  yes    no
## 926   yes    0 40.75000  5.0000 0.1209914000  503.5475000   no    no
## 927   yes    0 40.16667  2.4500 0.0700069400  142.5142000   no    no
## 928   yes    0 41.41667  3.5000 0.0031428570    8.3333330   no    no
## 929   yes    0 24.50000  2.5000 0.2339912000  487.4817000   no    no
## 930    no   11 30.33333  3.6000 0.0003333333    0.0000000   no    no
## 931   yes    0 25.16667  2.6560 0.1594194000  352.8483000  yes    no
## 932    no    0 28.33333  2.5000 0.0004800000    0.0000000   no    no
## 933    no    0 28.41667  2.0000 0.0006000000    0.0000000   no    no
## 934   yes    0 25.08333  3.5200 0.0210795500   61.1666700   no    no
## 935   yes    1 23.25000  1.8769 0.3536299000  553.1067000   no    no
## 936   yes    0 21.25000  2.2500 0.0318697800   59.0891600   no    no
## 937   yes    0 39.83333  1.7123 0.0930713000  132.4717000  yes    no
## 938   yes    0 25.75000  4.0000 0.0269980000   89.8266700   no    no
## 939   yes    0 25.25000  2.1600 0.0205555600   36.3333300   no    no
## 940   yes    2 40.41667  3.3000 0.0397793900  108.9767000   no    no
## 941   yes    0 37.66667  7.0000 0.0111674300   64.5600000  yes    no
## 942   yes    0 25.25000  2.1000 0.1102229000  192.6400000   no    no
## 943   yes    0 41.66667  3.0000 0.0529396700  131.7658000  yes    no
## 944   yes    1 24.25000  3.5000 0.0699628600  203.8917000   no    no
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## 944     yes      1 24.25000   3.5000 0.0069628000  203.8917000    no       no
## 945     no       0 22.91667   2.0700 0.0005797101    0.0000000    no       no
## 946     yes      0 19.00000   2.8000 0.1672143000  390.1667000   yes       no
## 947     yes      0 57.08333   5.0000 0.0002400000    0.0000000   yes      yes
## 948     yes      0 33.91667   2.1888 0.1483196000  270.3683000    no       no
## 949     no      14 48.25000   2.0000 0.0006000000    0.0000000   yes       no
## 950     yes      1 48.75000   2.7000 0.0004444444    0.0000000    no      yes
## 951     yes      0 28.91667   2.6900 0.1571033000  352.1733000    no       no
## 952     yes      1 40.83333   3.7300 0.0578351200  179.7708000   yes       no
## 953     yes      0 32.83333   2.0000 0.0938035000  156.0892000   yes       no
## 954     yes      0 44.33333   4.3000 0.0163951200   57.9158300   yes       no
## 955     yes      0 38.16667   5.5000 0.0449301800  205.5133000   yes       no
## 956     yes      0 37.33333   5.9200 0.0302802400  149.2992000   yes       no
## 957     yes      1 44.25000   7.6000 0.0490635500  310.7358000   yes       no
## 958     yes      0 18.16667   2.8200 0.0418539000   97.9400000    no       no
## 959     yes      0 24.58333   2.2000 0.0693827300  127.1183000   yes       no
## 960     yes      0 47.50000   2.6611 0.0995644600  220.7925000   yes       no
## 961     no       3 31.66667   7.5000 0.0001600000    0.0000000    no       no
## 962     yes      0 33.08333   4.0000 0.2564355000  854.7850000   yes       no
## 963     yes      0 31.58333   6.5000 0.1113085000  602.9208000   yes       no
## 964     yes      0 38.41667   5.6000 0.0934841000  436.2592000   yes       no
## 965     no       0 19.58333   2.1000 0.0005714286    0.0000000    no       no
## 966     yes      0 35.33333   4.5000 0.0180482200   67.0975000   yes       no
## 967     yes      0 29.25000   2.5100 0.0451083700   94.2683300    no       no
## 968     yes      2 46.00000  10.0320 0.0101344700   84.3908300   yes       no
## 969     yes      0 19.91667   3.5000 0.0602094300  175.4442000    no       no
## 970     yes      0 22.83333   3.5000 0.0454157100  132.1292000    no      yes
## 971     yes      0 24.33333   3.9000 0.0941038400  305.8375000    no       no
## 972     yes      0 18.50000   2.5000 0.2115316000  440.6908000    no       no
## 973     yes      0 49.16667   5.2000 0.1465260000  634.8625000   yes       no
## 974     no       0 47.75000   1.5000 0.0008000000    0.0000000   yes       no
## 975     yes      0 49.16667   9.9999 0.0111631100   92.4416700   yes       no
## 976     yes      0 57.58333   4.1000 0.0838985400  286.5700000   yes       no
## 977     yes      0 24.58333   2.2000 0.0660168200  121.0308000    no       no
## 978     yes      0 26.41667   4.3800 0.0373627800  136.1242000   yes       no
## 979     no       5 38.25000   2.4852 0.0004828585    0.0000000    no       no
## 980     yes      1 29.58333   6.6000 0.0927436400  510.0900000   yes       no
## 981     yes      1 30.66667   2.7400 0.0185667900   42.3108300   yes       no
## 982     yes      1 58.91667   2.7000 0.0032222220    6.4166670   yes       no
## 983     yes      0 38.50000   3.2618 0.0029431600    7.0833330    no       no
## 984     yes      0 45.66667   5.8000 0.0330648300  159.7300000   yes       no
## 985     yes      0 25.83333   2.5000 0.0598016000  124.5033000    no       no
## 986     yes      0 30.00000   3.5000 0.3527866000 1028.9610000   yes       no
## 987     no       0 80.16666   1.5000 0.0008000000    0.0000000    no       no
## 988     no       0 25.58333   1.7500 0.0006857143    0.0000000    no       no
## 989     no       5 40.08333   4.4000 0.0002727273    0.0000000   yes       no
## 990     yes      0 42.08333   4.7000 0.0184789400   71.9591700   yes      yes
## 991     yes      0 49.00000   3.3000 0.0407093900  111.6175000   yes       no
## 992     yes      0 44.00000   5.8000 0.0799074200  386.0525000   yes       no
## 993     no       1 43.16667   5.3200 0.0002255639    0.0000000   yes       no
## 994     yes      0 25.00000   2.4000 0.0315875000   62.5083300    no       no
## 995     yes      0 43.83333   3.2500 0.0589021600  159.3600000   yes       no
## 996     yes      0 24.50000   3.0600 0.1705402000  434.8775000    no       no
## 997     yes      0 39.50000   3.0000 0.0162310000   40.3275000   yes       no
## 998     yes      0 25.66667   2.2000 0.0214772700   38.7083300   yes       no
## 999     yes      0 43.66667   3.0000 0.0230226700   57.3066700   yes       no
## 1000    yes      0 46.33333   4.2000 0.0088416660   30.4458300   yes       no
## 1001    yes      0 34.16667   2.3700 0.0541202500  106.7208000   yes       no
## 1002    yes      1 38.83333   2.5200 0.0864670600  181.4142000   yes       no
## 1003    yes      1 37.08333   5.4900 0.1602140000  732.9792000   yes       no
## 1004    yes      0 19.50000   2.9800 0.0004026846    0.0000000    no       no
## 1005    no       0 27.41667   3.6000 0.0003333333    0.0000000    no       no
## 1006    yes      0 39.91667   2.2500 0.0511706700   95.5283400   yes       no
## 1007    yes      0 45.66667   3.2240 0.3338480000  896.9384000   yes       no
## 1008    yes      0 52.16667   5.0000 0.0204978000   85.2408300   yes       no
## 1009    no       3 34.75000   2.6700 0.0004494382    0.0000000    no       no
## 1010    yes      0 30.08333   3.7500 0.0956197300  298.4783000   yes       no
## 1011    yes      0 61.58333   3.7500 0.0003200000    0.0000000   yes       no
## 1012    yes      0 32.66667   3.7000 0.0040689190   11.7125000   yes       no
## 1013    yes      0 38.83333   3.3000 0.0241157600   65.8183400   yes       no
## 1014    yes      0 37.08333   7.0000 0.1540159000  898.4258000   yes       no
## 1015    yes      2 33.50000   3.3748 0.1758282000  494.4875000    no       no
## 1016    no       0 30.08333   3.1200 0.0003846154    0.0000000    no       no
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## 1017   yes    0 42.66667  2.5900 0.0314837800   67.5358400   yes    yes
## 1018   yes    2 29.41667  2.1000 0.0722971400  126.1033000   yes     no
## 1019   yes    0 52.66667  3.0000 0.0395730000   98.6825000   yes     no
## 1020   yes    0 29.83333  3.0000 0.1059863000  264.9658000   yes     no
## 1021   yes    0 45.75000  4.4000 0.0048636370   17.0833300   yes     no
## 1022   yes    0 30.16667  3.1000 0.1816442000  469.2475000   yes     no
## 1023   yes    0 30.83333  2.9800 0.0437432900  108.2958000    no     no
## 1024   yes    0 22.25000  2.8000 0.2532993000  590.9484000   yes     no
## 1025    no    0 37.16667  1.8339 0.0006543432    0.0000000    no     no
## 1026   yes    0 22.00000  3.2905 0.0175657200   48.0833300    no     no
## 1027   yes    0 29.00000  2.7000 0.0004444444    0.0000000    no     no
## 1028   yes    0 28.33333  3.9000 0.0436476900  141.6883000   yes     no
## 1029    no    5 27.16667  1.8000 0.0006666667    0.0000000    no     no
## 1030   yes    0 31.33333  3.2000 0.0411346900  109.6092000    no     no
## 1031   yes    0 32.66667  3.6500 0.5383649000 1637.5270000   yes     no
## 1032   yes    0 30.58333  3.5000 0.0393054300  114.5575000    no     no
## 1033   yes    0 40.66667  4.7700 0.0031461220   11.6725000   yes     no
## 1034   yes    0 39.08333  4.2000 0.0065545240   22.3575000   yes     no
## 1035    no   10 43.25000  5.0000 0.0002400000    0.0000000   yes    yes
## 1036   yes    0 24.75000  2.0000 0.0549975000   91.4125000   yes    yes
## 1037   yes    0 26.50000  2.6000 0.1106477000  239.4867000   yes     no
## 1038   yes    0 61.16667  5.0000 0.0457034000  190.4308000   yes     no
## 1039   yes    0 44.08333  4.0000 0.0201197500   66.7325000   yes    yes
## 1040   yes    0 61.08333  5.3726 0.0495787900  221.8892000   yes    yes
## 1041   yes    0 40.66667  2.7246 0.1966153000  446.4150000    no     no
## 1042   yes    0 20.83333  1.8000 0.5535178000  830.2767000    no     no
## 1043   yes    0 45.91667  4.0000 0.0342142500  113.6308000   yes     no
## 1044   yes    0 26.83333  2.1000 0.0005714286    0.0000000    no     no
## 1045    no    0 33.58333  2.5500 0.0004705882    0.0000000    no     no
## 1046   yes    0 30.66667  2.5000 0.0611788000  127.3725000   yes     no
## 1047   yes    0 23.91667  2.0000 0.1001910000  166.9017000    no     no
## 1048   yes    0 34.83333  3.0000 0.1263770000  315.9425000    no     no
## 1049   yes    0 38.58333  2.6000 0.0793973100  171.8608000   yes     no
## 1050   yes    1 35.83333  2.4000 0.0235945800   46.6058300    no    yes
## 1051   yes    0 36.00000  4.0000 0.0920405000  306.4683000   yes     no
## 1052   yes    0 42.66667  6.2000 0.0061451610   31.0000000   yes     no
## 1053   yes    0 22.58333  2.2000 0.0766177300  140.2992000    no     no
## 1054    no    1 28.50000  2.0000 0.0006000000    0.0000000    no     no
## 1055   yes    1 44.91667  5.8000 0.0363574100  175.6442000   yes     no
## 1056   yes    0 30.58333  1.8000 0.0198994400   29.5158300    no     no
## 1057   yes    0 27.25000  3.2640 0.0248290400   67.2016700    no     no
## 1058   yes    0 24.00000  2.1000 0.0836781000  146.2700000   yes     no
## 1059   yes    0 23.41667  2.7456 0.0024038460    4.5833330    no     no
## 1060   yes    1 55.33333  3.7000 0.0522005400  160.4517000   yes     no
## 1061   yes    0 35.16667  4.8150 0.0429522300  171.5125000   yes     no
## 1062   yes    0 46.33333  3.0500 0.0034918030    8.1250000   yes     no
## 1063   yes    0 39.41667  2.4000 0.1922946000  384.1725000    no     no
## 1064   yes    0 34.91667  5.0000 0.4258454000 1774.3560000   yes     no
## 1065   yes    0 19.08333  2.6000 0.1316562000  285.2550000    no     no
## 1066   yes    0 27.58333  4.0000 0.0149500000   49.2500000   yes    yes
## 1067   yes    0 46.25000  6.8000 0.0071380880   40.1991700   yes    yes
## 1068   yes    0 47.16667  1.9400 0.0168041200   26.5000000    no     no
## 1069   yes    0 25.41667  2.4500 0.0900706100  183.5608000    no     no
## 1070   yes    0 51.33333  4.5300 0.0121468000   45.3541700   yes     no
## 1071   yes    0 41.00000  6.8250 0.1168532000  664.6025000    no     no
## 1072   yes    1 36.33333  3.8500 0.0117189600   37.0150000    no     no
## 1073   yes    0 32.41667  2.7500 0.3767844000  862.9642000   yes     no
## 1074    no    3 41.75000  3.5000 0.0003428572    0.0000000   yes     no
## 1075    no    3 32.75000  3.0000 0.0004000000    0.0000000   yes     no
## 1076   yes    0 21.91667  2.3000 0.0749195600  143.4292000   yes     no
## 1077   yes    0 29.25000  1.8000 0.0833661200  124.6325000    no     no
## 1078   yes    0 21.08333  2.2000 0.3152637000  577.9833000    no     no
## 1079   yes    0 34.66667  4.8000 0.0665858300  266.3433000   yes     no
## 1080   yes    0 27.91667  2.0400 0.0179230400   30.0525000   yes     no
## 1081   yes    1 36.50000  1.6800 0.1381470000  193.3225000   yes     no
## 1082   yes    0 24.00000  2.7811 0.0525547500  121.6333000    no     no
## 1083   yes    0 63.75000  6.0000 0.0018333330    8.3333330    no     no
## 1084   yes    0 25.83333  3.5000 0.0544920000  158.6017000    no     no
## 1085    no    4 42.41667  1.8000 0.0006666667    0.0000000    no     no
## 1086   yes    0 35.00000  3.9000 0.0549607700  178.4558000   yes     no
## 1087   yes    0 20.66667  2.0000 0.1002240000  167.0400000    no     no
## 1088   yes    2 41.83333  7.1195 0.0959976100  569.5458000   yes     no
## 1089    no    2 24.91667  1.8500 0.0006486487    0.0000000    no     no
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## 1090   yes   0 32.08333  1.6000 0.2635850000  351.3633000    no     no
## 1091   yes   0 34.08333  4.8500 0.0489954700  198.0233000   yes     no
## 1092   yes   0 37.16667  2.8250 0.0653458400  153.7517000   yes     no
## 1093    no   1 27.08333  2.7000 0.0004444444    0.0000000    no     no
## 1094    no   0 56.00000  1.4500 0.0008275862    0.0000000   yes     no
## 1095   yes   0 26.75000  1.8000 0.0066111110    9.1666670   yes     no
## 1096    no   0 33.25000  3.7000 0.0003243243    0.0000000   yes     no
## 1097   yes   0 19.16667  1.9000 0.2829621000  448.0233000    no     no
## 1098   yes   0 35.91667  2.6200 0.2154031000  470.2967000   yes     no
## 1099   yes   0 25.16667  3.7500 0.1280760000  400.0708000   yes     no
## 1100   yes   0 45.75000  4.5000 0.0398702200  149.0967000   yes     no
## 1101    no   4 38.50000  3.7000 0.0003243243    0.0000000    no     no
## 1102   yes   1 42.00000  3.8360 0.1039330000  332.2392000   yes     no
## 1103    no   0 25.83333  1.5900 0.0007547170    0.0000000    no     no
## 1104    no   2 25.91667  2.0700 0.0005797101    0.0000000    no     no
## 1105   yes   0 31.08333  5.1000 0.1696612000  721.0600000   yes     no
## 1106    no   3 40.50000  4.0128 0.0002990431    0.0000000    no     no
## 1107   yes   0 67.16666  4.4692 0.0021480350    7.0833330    no     no
## 1108   yes   0 33.08333  3.5000 0.0570531400  166.2383000    no     no
## 1109   yes   0 45.75000  5.0000 0.0015250000    5.5208330   yes     no
## 1110   yes   1 28.16667  2.5000 0.0032000000    5.8333330    no     no
## 1111   yes   0 30.41667  1.5000 0.0634413400   78.8850000    no     no
## 1112   yes   1 47.00000  3.8425 0.0065842550   20.2500000   yes     no
## 1113   yes   1 42.75000  3.6000 0.0380658300  113.9475000   yes     no
## 1114   yes   0 44.50000  2.9500 0.2008407000  493.7333000    no     no
## 1115   yes   0 37.66667  2.3850 0.1676499000  332.7042000   yes    yes
## 1116   yes   0 28.00000  2.1600 0.0236666700   42.5166700    no     no
## 1117   yes   0 31.75000  2.0070 0.0904529200  151.0325000    no     no
## 1118   yes   0 22.91667  1.5600 0.0985173100  128.0725000   yes     no
## 1119    no   4 57.75000  2.0000 0.0006000000    0.0000000   yes    yes
## 1120   yes   0 23.00000  2.9000 0.0004137931    0.0000000    no     no
## 1121   yes   0 24.16667  3.7000 0.0711151400  219.2717000   yes     no
## 1122   yes   0 37.16667  3.8400 0.0118375000   37.7133300    no     no
## 1123    no   1 63.41667  2.1375 0.0005614035    0.0000000   yes     no
## 1124    no   0 23.00000  2.4000 0.0005000000    0.0000000    no     no
## 1125   yes   0 24.33333  2.4000 0.1813192000  362.6383000    no     no
## 1126   yes   0 41.08333  2.0000 0.0055000000    8.3333330   yes     no
## 1127    no   0 28.16667  1.5480 0.0007751938    0.0000000    no     no
## 1128    no   1 52.33333  2.0000 0.0006000000    0.0000000   yes     no
## 1129   yes   0 28.00000  3.1000 0.2248926000  580.9725000   yes     no
## 1130   yes   0 28.75000  2.5000 0.0123800000   25.2916700   yes     no
## 1131   yes   0 39.08333  5.1000 0.0495243100  210.2283000   yes     no
## 1132   yes   0 32.25000  2.0000 0.0730520000  121.3367000   yes     no
## 1133   yes   0 33.25000  3.6000 0.0259911100   77.8066600    no     no
## 1134   yes   0 25.00000  3.3984 0.0003531073    0.0000000   yes     no
## 1135   yes   0 42.41667  4.2000 0.0250161900   87.3066600   yes     no
## 1136    no   3 35.25000  1.7000 0.0007058823    0.0000000   yes     no
## 1137    no   0 33.08333  1.9390 0.0006188757    0.0000000    no     no
## 1138   yes   0 33.83333  2.9000 0.1951083000  471.3450000   yes     no
## 1139   yes   0 48.16667  1.7000 0.0122123500   16.6341700   yes     no
## 1140    no   0 26.75000  4.9000 0.0002448980    0.0000000    no     no
## 1141   yes   0 40.08333  2.2224 0.3980818000  737.0808000   yes     no
## 1142   yes   0 32.41667  6.1064 0.1070066000  544.5208000   yes     no
## 1143    no   1 20.91667  2.6250 0.0004571429    0.0000000    no    yes
## 1144    no   2 21.50000  1.5600 0.0007692308    0.0000000   yes     no
## 1145   yes   0 27.83333  2.6520 0.0728318200  160.8750000   yes     no
## 1146   yes   0 43.91667  2.8000 0.0466242900  108.6233000   yes     no
## 1147   yes   0 24.25000  1.6000 0.3755244000  500.6158000   yes     no
## 1148   yes   0 29.08333  5.0000 0.1619782000  674.9092000   yes     no
## 1149   yes   1 27.75000  2.0400 0.2145995000  364.8192000    no     no
## 1150   yes   0 47.58333  5.0400 0.0514678600  216.1650000    no     no
## 1151    no   0 19.83333  1.9200 0.0006250000    0.0000000    no     no
## 1152    no   0 42.00000  3.4000 0.0003529412    0.0000000   yes     no
## 1153   yes   0 42.75000  3.2000 0.1080344000  287.7583000   yes     no
## 1154   yes   0 44.58333  3.1000 0.1251213000  323.0633000   yes     no
## 1155   yes   0 35.83333  1.8829 0.1364475000  214.0975000    no     no
## 1156   yes   0 21.83333  2.4000 0.0819195800  163.8392000    no     no
## 1157   yes   0 25.91667  3.0000 0.0618960000  154.7400000   yes     no
## 1158    no   0 40.91667  1.8400 0.0006521739    0.0000000    no    yes
## 1159   yes   0 35.83333  2.5000 0.0791488000  164.8100000   yes     no
## 1160   yes   0 31.00000  5.1120 0.0297464800  126.3867000   yes     no
## 1161   yes   0 51.66667  2.5000 0.0193976000   39.9116700   yes     no
## 1162   yes   0 34.00000  5.4000 0.0713801800  321.2108000   yes     no
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## 1162    yes    0 54.00000   5.4000 0.0713601800   321.2108000   yes    no
## 1163    no     2 30.58333   2.5000 0.0004800000     0.0000000    no     no
## 1164    yes    0 33.33333   2.1000 0.1308376000   228.9658000    no     no
## 1165    yes    1 32.75000   6.0000 0.0898078300   449.0392000    no     no
## 1166    yes    0 26.08333   1.5600 0.0612378200    79.6091700    no     no
## 1167    yes    0 31.91667   4.0700 0.0688574900   233.0417000    no     no
## 1168    yes    1 20.58333   2.7000 0.1183070000   266.1908000    no     no
## 1169    yes    0 23.41667   2.0400 0.1200515000   204.0875000   yes    no
## 1170    yes    0 60.25000   2.8000 0.0437232100   101.8542000   yes    no
## 1171    yes    0 24.83333   6.2000 0.1706156000   881.2642000    no     no
## 1172    yes    0 30.16667   2.1900 0.4874438000   889.5850000    no     no
## 1173    yes    0 29.33333   3.2000 0.0536728100   142.8775000    no     no
## 1174    yes    0 48.16667   2.3000 0.2265000000   434.1250000   yes    no
## 1175    yes    0 25.25000   1.7600 0.1375511000   201.6583000    no     no
## 1176    no     0 69.75000   1.8000 0.0006666667     0.0000000   yes    no
## 1177    yes    0 53.25000   3.9600 0.0024242420     7.0833330   yes    no
## 1178    yes    0 54.08333   2.5000 0.0091220000    18.2541700   yes    no
## 1179    yes    0 32.00000   2.2800 0.0673596500   127.9833000   yes    no
## 1180    yes    0 33.75000   2.5000 0.0775176000   161.1617000   yes    no
## 1181    yes    0 23.16667   2.6000 0.8245508000  1786.2770000    no     no
## 1182    yes    0 24.75000   2.2000 0.1550486000   284.2558000   yes    no
## 1183    yes    4 40.41667   2.4480 0.2090833000   426.4467000   yes    no
## 1184    no     2 48.25000   6.8000 0.0001764706     0.0000000   yes    yes
## 1185    no     0 35.83333   4.5000 0.0002666667     0.0000000   yes    no
## 1186    yes    0 49.66667   4.9600 0.1054817000   435.9908000   yes    no
## 1187    yes    0 34.66667   5.0000 0.0140794000    58.0808300   yes    no
## 1188    yes    0 34.91667   2.1000 0.0590447600   103.3283000    no     no
## 1189    yes    0 47.33333  10.4000 0.2309477000  2001.5470000   yes    no
## 1190    no     0 19.50000   1.5600 0.0007692308     0.0000000   yes    no
## 1191    no     9 30.33333   2.3000 0.0005217391     0.0000000    no     yes
## 1192    no     0 40.00000   4.9875 0.0002406015     0.0000000   yes    no
## 1193    no     6 35.25000   5.6335 0.0002130114     0.0000000   yes    no
## 1194    no     0 23.75000   1.6720 0.0007177034     0.0000000    no     no
## 1196    yes    0 24.83333   1.5100 0.2052980000   258.1667000   yes    no
## 1197    yes    0 38.75000   2.8463 0.0070266660    15.8333300   yes    no
## 1198    yes    0 24.91667   2.3000 0.0851943500   163.0392000    no     no
## 1199    yes    0 25.33333   3.0000 0.1900073000   475.0183000    no     no
## 1200    yes    1 23.25000   2.2000 0.2345391000   429.9050000   yes    no
## 1201    yes    0 49.83333   0.2100 0.2718571000    47.2416600   yes    no
## 1202    yes    0 37.08333   2.8000 0.1699286000   396.5000000    no     no
## 1203    no     0 20.16667   1.8000 0.0006666667     0.0000000    no     no
## 1204    no     2 24.58333   2.2000 0.0005454546     0.0000000    no     no
## 1205    yes    1 28.50000   3.0000 0.0294690000    73.1725000    no     no
## 1206    yes    0 45.58333   2.4000 0.0121666700    23.5833300   yes    no
## 1207    no     0 20.58333   1.2000 0.0010000000     0.0000000    no     yes
## 1208    yes    0 54.25000   6.8000 0.1005738000   569.9183000    no     no
## 1209    yes    0 24.58333   1.5000 0.0197226700    24.0700000    no     no
## 1210    yes    0 31.91667   2.7000 0.1151311000   258.8783000    no     no
## 1211    yes    1 43.75000   3.5000 0.1329034000   387.2183000   yes    no
## 1212    no     0 31.91667   2.1000 0.0005714286     0.0000000    no     no
## 1213    yes    0 22.83333   2.5000 0.4028644000   839.3008000    no     no
## 1214    yes    0 28.08333   5.4700 0.0291923200   133.0683000   yes    no
## 1215    no     0 27.58333   2.3500 0.0005106383     0.0000000    no     no
## 1216    yes    0 22.08333   1.6500 0.0498515100    68.5458300    no     no
## 1217    yes    0 34.16667   9.2000 0.0866244600   664.1208000   yes    no
## 1218    yes    1 54.66667   7.2900 0.1065361000   647.2067000   yes    no
## 1219    yes    0 32.91667   2.7200 0.1776717000   402.7225000    no     no
## 1220    yes    0 40.00000   3.6240 0.0157003300    47.0816700   yes    no
## 1221    yes    0 26.00000   5.3000 0.0548252800   242.1450000   yes    no
## 1222    yes    0 55.25000   4.9000 0.0669771400   273.4900000   yes    no
## 1223    yes    0 32.25000   3.6208 0.0498370500   150.2917000   yes    no
## 1224    yes    0 38.91667   2.1360 0.0596633900   106.2008000    no     no
## 1225    yes    0 28.41667   2.5000 0.1933780000   402.7875000   yes    no
## 1226    no     0 39.58333   0.4900 0.0024489800     0.0000000   yes    no
## 1227    yes    1 55.58333   4.3000 0.0350181400   125.4817000   yes    no
## 1228    yes    0 42.00000   6.3000 0.0406507900   213.0000000   yes    no
## 1229    yes    0 21.16667   2.4000 0.1008329000   201.5825000    no     no
## 1230    yes    0 33.08333   2.8000 0.0301578600    70.2850000   yes    no
## 1231    yes    0 37.75000   5.0000 0.0452946000   188.7275000   yes    no
## 1232    yes    0 28.41667   2.8000 0.0142142900    32.6666700    no     no
## 1233    yes    0 31.08333   2.8000 0.0868442800   202.4700000   yes    no
## 1234    yes    0 30.50000   2.6500 0.0314766100    69.4275000    no     no
## 1235    no     0 25.25000   1.6000 0.0007500000     0.0000000    no     no
```

```
## 1236    no      4 46.91667  2.1000 0.0005714286    0.0000000    no     no
## 1237    no      0 36.16667  2.4080 0.0004983389    0.0000000    no     no
## 1238    no      1 52.75000  3.1000 0.0003870968    0.0000000   yes     no
## 1239   yes      0 34.16667  2.6160 0.0388677300   84.7316700    no     no
## 1240    no      0 53.00000 11.0000 0.0001090909    0.0000000   yes    yes
## 1241   yes      0 22.33333  1.8000 0.0534255600   80.0550000    no     no
## 1242   yes      0 30.00000  2.5000 0.0210496000   43.4366700   yes     no
## 1243   yes      0 25.16667  1.8000 0.0953005600  142.9508000    no     no
## 1244    no      0 21.08333  2.7268 0.0004400763    0.0000000    no     no
## 1245    no      0 22.91667  2.0500 0.0005853659    0.0000000    no     no
## 1246   yes      0 40.66667  5.0500 0.0284281200  119.3017000   yes     no
## 1247    no      2 33.83333  3.8000 0.0003157895    0.0000000   yes     no
## 1248    no      1 35.16667  4.2880 0.0002798507    0.0000000   yes     no
## 1249   yes      0 28.83333  3.6000 0.0433977800  130.0267000   yes    yes
## 1250   yes      0 30.75000  4.3000 0.1346951000  482.6575000   yes     no
## 1251    no      0 41.33333  4.4400 0.0002702703    0.0000000   yes     no
## 1252   yes      0 38.50000  2.6000 0.3961604000  858.3475000    no     no
## 1253    no      1 33.75000  4.1000 0.0002926829    0.0000000   yes     no
## 1254    no      0 29.08333  2.8600 0.0004195804    0.0000000    no     no
## 1255   yes      0 27.08333  2.4000 0.0167983300   33.0133300    no     no
## 1256   yes      0 23.25000  1.8000 0.0309816700   46.0558400    no     no
## 1257   yes      0 33.83333  1.8000 0.1132511000  169.8767000    no     no
## 1258   yes      0 38.16667  5.1000 0.0213090200   90.0633300    no     no
## 1259   yes      0 35.58333  3.5606 0.1090841000  323.5875000    no     no
## 1260   yes      0 30.41667  4.1500 0.1505325000  520.3417000    no     no
## 1261    no      0 31.58333  2.0237 0.0005929733    0.0000000    no     no
## 1262   yes      0 23.00000  1.8000 0.1114750000  167.2125000    no     no
## 1263   yes      1 25.25000  2.9000 0.0868665500  209.8442000    no     no
## 1264    no      6 35.58333  4.0000 0.0003000000    0.0000000    no     no
## 1265   yes      0 28.66667  2.9500 0.0936125400  229.7975000    no     no
## 1266    no      0 37.00000  3.2000 0.0003750000    0.0000000    no     no
## 1267   yes      0 41.08333  4.5000 0.1431333000  536.2500000   yes     no
## 1268    no      6 37.41667  7.0000 0.0001714286    0.0000000   yes     no
## 1269    no      0 19.41667  2.2000 0.0005454546    0.0000000    no     no
## 1270   yes      0 22.33333  2.8000 0.0822867900  191.8358000    no     no
## 1271   yes      0 29.08333  2.2000 0.0005454546    0.0000000    no     no
## 1272   yes      0 26.75000  5.7700 0.0754774700  362.7542000   yes     no
## 1273   yes      0 43.08333  2.4317 0.0805263800  163.1800000    no     no
## 1274   yes      0 37.33333  7.0000 0.0302322900  176.2717000   yes     no
## 1275   yes      0 26.75000  2.1500 0.0342790700   61.3333300    no     no
## 1276   yes      0 42.16667  5.2000 0.0134286500   57.4408300   yes     no
## 1277   yes      0 28.16667  4.7000 0.2421564000  948.3625000   yes     no
## 1278   yes      0 26.08333  2.5000 0.0637624000  132.5883000   yes     no
## 1279   yes      0 48.25000  5.0000 0.0219424000   91.1766700    no     no
## 1280   yes      0 27.83333  3.5000 0.0502322900  146.4275000   yes     no
## 1281   yes      0 26.33333  2.4500 0.0549314300  111.8183000    no     no
## 1282    no      0 21.08333  9.9999 0.0001200012    0.0000000    no     no
## 1283   yes      0 30.58333  3.2000 0.1486019000  396.2717000   yes     no
## 1284   yes      0 27.83333  3.5400 0.0068666660   19.5900000    no     no
## 1285   yes      0 49.16667  3.1144 0.0084953760   21.4650000   yes     no
## 1286    no      2 35.00000  2.2500 0.0005333333    0.0000000    no     no
## 1287   yes      1 48.66667  6.0000 0.1770172000  885.0858000   yes     no
## 1288    no     11 24.58333  1.6800 0.0007142857    0.0000000    no     no
## 1289   yes      0 29.58333  2.4000 0.0152700000   29.9566700    no     no
## 1290   yes      0 41.41667  3.2000 0.0102356300   26.8783300    no     no
## 1291   yes      0 40.91667  6.0000 0.0789643300  394.5717000   yes     no
## 1292   yes      0 22.00000  1.7500 0.6214691000  906.3092000    no     no
## 1293    no      0 36.00000  4.5000 0.0002666667    0.0000000   yes     no
## 1294   yes      0 39.58333  2.5000 0.1922148000  400.4475000    no     no
## 1295   yes      0 31.58333  2.5500 0.1429055000  303.6742000    no     no
## 1296   yes      0 33.08333  3.2600 0.0527358900  143.0158000    no     no
## 1297   yes      1 22.83333  3.6000 0.0488416700  146.4417000    no     no
## 1298    no      0 35.41667  2.7800 0.0004316547    0.0000000    no     no
## 1299   yes      0 58.08333  4.4000 0.0265956800   97.1841700   yes    yes
## 1300   yes      0 38.75000  3.2000 0.0147803100   38.9975000   yes     no
## 1301    no      0 27.41667  1.6000 0.0007500000    0.0000000   yes     no
## 1302    no      0 23.91667  1.6360 0.0007334963    0.0000000    no     no
## 1303   yes      0 30.08333  2.7000 0.0124814800   27.4166700    no     no
## 1304   yes      0 34.08333  3.5000 0.0616742900  179.7167000   yes     no
## 1305   yes      1 39.08333  3.4224 0.0290997500   82.6591600   yes     no
## 1306   yes      0 38.41667  6.5000 0.0292173800  157.8442000   yes     no
## 1307   yes      0 20.50000  2.0000 0.0384310000   63.5516700    no     no
## 1308   yes      0 35.58333  3.5800 0.0519919000  154.8592000   yes     no
```

```
## 1309   yes       0 25.91667  2.5000 0.0212500000  44.0208300     no       no
## 1310   yes       1 40.16667  2.0000 0.2548275000 424.6292000    yes       no
## 1311   yes       0 30.58333  2.5120 0.0026273890   4.5833330     no      yes
## 1312    no       0 39.33333  2.3004 0.0005216484   0.0000000     no      yes
## 1313    no       0 22.58333  3.8600 0.0003108808   0.0000000     no       no
## 1314    no       1 30.33333  2.1800 0.0005504587   0.0000000     no      yes
## 1315   yes       0 33.58333  4.5660 0.0021462990   7.3333330    yes       no
## 1316    no       5 23.91667  3.1920 0.0003759399   0.0000000     no       no
## 1317   yes       0 40.58333  4.6000 0.0265126100 101.2983000    yes       no
## 1318   yes       0 32.83333  3.7000 0.0089989190  26.9966700     no      yes
## 1319   yes       0 48.25000  3.7000 0.1116186000 344.1575000    yes       no
##       dependents months majorcards active
## 1             3     54         1     12
## 2             3     34         1     13
## 3             4     58         1      5
## 4             0     25         1      7
## 5             2     64         1      5
## 6             0     54         1      1
## 7             2      7         1      5
## 8             0     77         1      3
## 9             0     97         1      6
## 10            0     65         1     18
## 11            1     24         1     20
## 12            2     36         1      0
## 13            1     42         0     12
## 14            0     26         1      3
## 15            2    120         0      5
## 16            1    168         1     22
## 17            2     96         1      0
## 18            2     60         1      8
## 19            0     28         1      0
## 20            0     28         1     10
## 21            2    115         1      1
## 22            2      7         0      2
## 23            0     12         1      0
## 24            2     18         1     22
## 25            2     13         1     17
## 26            2     38         1      7
## 27            1     12         0      1
## 28            0     64         1      6
## 29            1     12         1      0
## 30            4     74         1     19
## 31            0      9         0      5
## 32            0     14         1      6
## 33            1     40         1      5
## 34            1     12         1     10
## 35            0     12         1      5
## 36            6    108         1     15
## 37            2     46         1      0
## 38            1     36         1     16
## 39            0      2         1     14
## 40            4     28         1     13
## 41            0      7         1     10
## 42            0      8         1      1
## 43            1      7         0      1
## 44            0     60         1     12
## 45            0     12         1      1
## 46            2     26         1      2
## 47            0    156         1      4
## 48            1     98         0      1
## 49            1     30         0      2
## 50            0      0         1     13
## 51            2     12         0      0
## 52            0     18         1     12
## 53            0      6         1      4
## 54            2     48         1      8
## 55            0     34         1      2
## 56            0    216         0      5
## 57            3     12         1      1
## 58            4     18         0      3
## 59            2     33         0      0
## 60            0     20         1      4
## 61            0      8         0      4
```

```
## 61      0      8      0      4
## 62      3     36      1      5
## 63      1     12      1     16
## 64      0      3      1      0
## 65      2     16      1     15
## 66      0     18      0      0
## 67      2    182      1     16
## 68      0     78      1      2
## 69      0     25      1      0
## 70      0      4      1      0
## 71      2     53      1     16
## 72      0      9      1      5
## 73      2    144      0      2
## 74      2     13      1     14
## 75      0    144      1     10
## 76      1      5      0      4
## 77      0     18      1     11
## 78      0      7      1      0
## 80      2      6      1     18
## 81      2     25      1      0
## 82      1     78      1     19
## 83      0     37      1      8
## 84      0     30      1      4
## 85      2     15      1     11
## 86      2    177      1     13
## 87      3    172      1      9
## 88      2     33      0     18
## 89      1     12      1      0
## 90      1    288      1      2
## 91      1     87      1      3
## 92      5      4      1      0
## 93      0     12      1      0
## 94      1      7      1      9
## 95      2     69      1     12
## 96      0     12      1      2
## 97      0     48      1      6
## 98      2     12      1      4
## 99      0      5      1     16
## 100     2    161      1      7
## 101     0     72      1     29
## 102     3     36      1     15
## 103     0     36      1      3
## 104     0      1      0      9
## 105     0     53      1      0
## 106     0     16      1      0
## 107     1     51      0      6
## 108     0     18      1      0
## 109     3    120      1     17
## 110     1     12      1     18
## 111     0     12      1     17
## 112     1     36      1      5
## 113     0      1      1     29
## 114     2    126      1      9
## 115     0     36      0      5
## 116     0     51      1      4
## 117     3     42      1      3
## 118     0     12      1      4
## 119     2     18      0      2
## 120     0    108      1      4
## 121     2     27      1      5
## 122     0     32      1      3
## 123     0    120      1     11
## 124     0     52      1      3
## 125     0     51      1      2
## 126     4     30      1      6
## 127     0     38      1     16
## 128     0      8      1     11
## 129     1     14      0      1
## 130     3    120      0      0
## 131     3     52      0     19
## 132     0    108      0      1
## 133     1     13      1      4
## 134     2      8      0     11
```

```
## 135            0      18        0       2
## 136            3       7        1       1
## 137            0     114        0       2
## 138            0       6        1       8
## 139            0     180        1      16
## 140            0      41        0      14
## 141            2      16        1       6
## 142            0      67        1       4
## 143            0      12        1       4
## 144            0      62        0       3
## 145            0      60        0       2
## 146            3      30        1       9
## 147            1      12        1       7
## 148            1      84        1      10
## 149            0      36        1      13
## 150            3      30        1      27
## 151            1     264        1      15
## 152            1      36        1       5
## 153            2      27        1       4
## 154            0      37        1       7
## 155            1     164        0       1
## 156            0     120        0       3
## 157            2      55        1       7
## 158            0      18        1       0
## 159            0      13        1       0
## 160            1      24        1       9
## 161            0       5        1       0
## 162            2       3        1       6
## 163            0      30        1       2
## 164            0      57        1       3
## 165            0      50        1       6
## 166            1      11        1       2
## 167            0      48        1       9
## 168            0      30        1      19
## 169            0      14        1       5
## 170            0      14        1       0
## 171            1      12        0       5
## 172            0      13        0       7
## 173            1      60        1       0
## 174            0      12        1       4
## 175            1      48        1       5
## 176            0      27        1       6
## 177            1      14        1       7
## 178            0      18        1       6
## 179            3      48        0       3
## 180            1      12        1       2
## 181            1      24        1      18
## 182            0      48        1       8
## 183            2      84        0      26
## 184            2       7        1       0
## 185            0      57        1       3
## 186            2      42        1       9
## 187            1      11        1       0
## 188            0      18        0       2
## 189            2      96        1       2
## 190            3      10        1      10
## 191            0      12        0       0
## 192            1      17        1       8
## 193            0       7        1      10
## 194            0      12        1       0
## 195            1      11        1       8
## 196            0      61        1       8
## 197            1     168        1       4
## 198            2      53        0       3
## 199            0      33        0       1
## 200            0      14        1       6
## 201            0       2        1       2
## 202            0       6        1      12
## 203            0     128        0       3
## 204            2      24        0       5
## 205            2      25        1      11
## 206            0      56        1       3
## 207            3      45        1      14
```

```
## 208   2    20    0    13
## 209   1     4    1    11
## 210   0    26    0     1
## 211   0     4    1    12
## 212   2    30    0    22
## 213   1   156    0    11
## 214   2    19    0     0
## 215   2    17    1     2
## 216   0     6    1    17
## 217   1   252    0     0
## 218   0     7    1    21
## 219   1     6    1     8
## 220   0    52    1     2
## 221   0   144    1    11
## 222   0    30    1     1
## 223   2    23    1     9
## 224   0    50    1    16
## 225   0    38    0     2
## 226   1     6    1     2
## 227   0    18    1     3
## 228   0    35    1    11
## 229   4    43    1    14
## 230   0   300    1     8
## 231   1    31    1     6
## 232   1     4    1     5
## 233   2    38    1     0
## 234   2    17    1    16
## 235   1    24    1     0
## 236   2    72    1     8
## 237   0    76    1     1
## 238   0     6    1     2
## 239   1     5    0     0
## 240   0   121    1     0
## 241   3    84    1     7
## 242   1    60    0     0
## 243   0    57    0     6
## 244   0    24    1     0
## 245   0     3    1     0
## 246   0     3    0     1
## 247   2    36    1    11
## 248   0    37    1     7
## 249   0    10    1     0
## 250   0    38    0    11
## 251   0    21    1     2
## 252   2    14    1    20
## 253   0    12    1     9
## 254   0    18    1     9
## 255   1   230    1    19
## 256   1    10    0     6
## 257   1    37    1    23
## 258   2    84    1    46
## 259   0    24    1    19
## 260   2    18    1    15
## 261   0    12    1     0
## 262   4    51    1    16
## 263   0    14    0    27
## 264   0    14    1    11
## 265   3    28    1    11
## 266   4   204    1     7
## 267   0    50    1     3
## 268   3   179    1     6
## 269   0    42    1     4
## 270   0     5    1     0
## 271   0    24    1    13
## 272   0     3    1     4
## 273   0    15    1     6
## 274   1    28    1     6
## 275   2    25    1     8
## 276   0    40    1    14
## 277   2    18    0     0
## 278   0    60    1    11
## 279   0    30    1    13
## 280   0    13    1     0
```

```
## 280     0     15     1      0
## 281     0     80     1     14
## 282     4     59     1     13
## 283     2    180     1      9
## 284     0     36     1      5
## 285     1     12     1      2
## 286     0     42     1     13
## 287     1     18     0      7
## 288     0      6     0      3
## 289     0      3     0      6
## 290     0     12     1      1
## 291     4      6     1      9
## 292     0     12     1      9
## 293     0     56     1     10
## 294     0     48     0      6
## 295     1     41     1      1
## 296     3    120     1      3
## 297     0     14     0      1
## 298     0     12     1     13
## 299     0     51     1      7
## 300     1     67     0     16
## 301     0    120     1      8
## 302     0      3     1      0
## 303     0     42     1      0
## 304     0     50     1      7
## 305     3     12     1      2
## 306     2     42     1      2
## 307     0      6     1      0
## 308     2     12     1      0
## 309     4     72     1     21
## 310     1      6     1      0
## 311     1     93     1     13
## 312     0      9     1     13
## 313     0     18     1      7
## 314     2     18     0      0
## 315     0     36     1     11
## 316     2     11     1     13
## 317     0      6     1      3
## 318     1     49     1     25
## 319     3     12     1      0
## 320     0     15     0      0
## 321     2     31     1      3
## 322     0      8     1      0
## 323     1     22     1     19
## 325     2      4     1      0
## 326     2    408     1      3
## 327     0     42     1     12
## 328     1     36     1     17
## 329     2     62     1     18
## 330     2      4     1     10
## 331     0     27     1     18
## 332     0     15     1      7
## 333     2      5     1      2
## 334     0     44     1     10
## 335     0     60     1     11
## 336     1     24     1      2
## 337     0     52     0      3
## 338     2     72     1     11
## 339     0     72     1      2
## 340     0     12     0      0
## 341     0     60     1      8
## 342     1     12     1      5
## 343     1     64     1      9
## 344     1    108     1      6
## 345     1     38     0      8
## 346     0     30     1      3
## 347     0     27     1      1
## 348     0     72     1      6
## 349     3    108     1     17
## 350     1     30     1     13
## 351     0     42     0      0
## 352     0     13     1     31
## 353     1     54     1     14
```

```
## 354         0     27      1      0
## 355         0     48      1     10
## 356         1     15      1      6
## 357         0     12      0      5
## 358         0     25      1      2
## 359         3      7      1     28
## 360         2      6      0     18
## 361         0     63      1      5
## 362         2     12      1      0
## 363         2      2      1      4
## 364         1    372      1     24
## 365         0     24      0      1
## 366         0     14      1      0
## 367         0      8      1      0
## 368         0     51      1     12
## 369         2    113      0     13
## 370         0      4      1      0
## 371         0      3      1     13
## 372         0     12      1      7
## 373         3    106      0     11
## 374         1     36      1      2
## 375         1     90      1      3
## 376         0     14      1      0
## 377         0      2      1      0
## 378         1     30      1     18
## 379         2     12      1      0
## 380         2     12      1     21
## 381         1     94      1      5
## 382         1     28      1      0
## 383         2    120      0      3
## 384         3     38      1      8
## 385         0     15      0      0
## 386         1      6      1      9
## 387         0     72      1      9
## 388         0      6      1      0
## 389         0      6      1      0
## 390         0     12      1      0
## 391         1     10      1      9
## 392         0     25      1     11
## 393         2     41      1     14
## 394         0      4      1      7
## 395         3      9      1      0
## 396         2     24      1      9
## 397         2     48      1      1
## 398         0     14      1     11
## 399         0     38      1     10
## 400         0     12      1      4
## 401         1      7      1      6
## 402         1     12      1      0
## 403         0     12      1      0
## 404         0     12      1     18
## 405         1     42      1      6
## 406         3      3      1      0
## 407         0     12      1      5
## 408         0     49      1      7
## 409         0     31      0     12
## 410         0     12      0      3
## 411         0     28      1     12
## 412         4    168      1     16
## 413         0     62      0     10
## 414         0    540      1      7
## 415         2     18      1      6
## 416         4      3      1      0
## 417         0      3      1     11
## 418         1     42      0      6
## 419         1    188      1     13
## 420         1     16      1     21
## 421         0     18      0      3
## 422         0      6      1     12
## 423         2     60      1     15
## 424         0    146      1     17
## 425         0     18      1     11
## 426         2      6      1      5
```

```
## 427      2   301   1   11
## 428      2   192   0    7
## 429      0    16   1    0
## 430      0    10   1    9
## 431      1   192   1   15
## 432      4    18   1    4
## 433      0    14   1    0
## 434      1     3   1    3
## 436      0    26   1   13
## 437      3    85   1   12
## 438      4    36   1    4
## 439      0     6   0    2
## 440      1    12   1    0
## 441      0     3   1    3
## 442      0     4   1    5
## 443      0    77   1    9
## 444      0   133   0    5
## 445      0    14   1    0
## 446      0   120   1   15
## 447      1   120   1   21
## 448      0     6   1    8
## 449      1     7   1    7
## 450      2    31   1    6
## 451      1    12   1    7
## 452      0   131   1    3
## 453      0    48   1    6
## 454      0   120   1   12
## 455      0    62   0    0
## 456      1    84   1    9
## 457      1   120   1    6
## 458      2    48   0    7
## 459      3    36   1   15
## 460      5    28   1    7
## 461      0    12   1    5
## 463      1   108   1    2
## 464      3    36   1   11
## 465      1    12   1    0
## 466      0    31   0    0
## 467      0    12   1   14
## 468      0     4   1   13
## 469      0    28   1    5
## 470      0    51   1    1
## 471      2    24   1    4
## 472      0     3   1    4
## 473      2    28   1    4
## 474      0   270   0    1
## 475      1   102   1   21
## 476      0     7   0    5
## 477      0     3   1    3
## 478      3    43   1   13
## 479      0    31   1    7
## 480      1    54   1    1
## 481      0   151   1   11
## 482      1    31   1    7
## 483      1   144   1    8
## 484      0     5   0    1
## 485      0     3   1    0
## 486      2    34   1    9
## 487      0     2   1    0
## 488      0    60   1    9
## 489      2     6   1    4
## 490      3    70   1    9
## 491      1   125   1   13
## 492      2    14   0    0
## 493      0     5   1    1
## 494      0    18   1    8
## 495      2   159   1    4
## 496      0    14   0    0
## 497      2    36   1    3
## 498      0    24   1   12
## 499      0    24   1    9
## 500      0    12   1    0
## 501      1   101   1    9
```

```
## 501     1    101    1     9
## 502     1     75    1    23
## 503     0     10    1    12
## 504     1     84    0     1
## 505     1     26    1     2
## 506     0     24    1     4
## 507     1     63    1     8
## 508     2      9    1     0
## 509     5     42    1    12
## 510     0     12    1     0
## 511     4     12    1     0
## 512     1     51    1     5
## 513     0      3    1     0
## 514     3    126    1    17
## 515     0     96    1    17
## 516     2     12    1     0
## 517     0     96    0     8
## 518     0     19    1    12
## 519     4    117    1    18
## 520     1      8    1     9
## 521     1    132    1    22
## 522     2     28    1    11
## 523     0    108    1    17
## 524     3    120    1     5
## 525     0     13    1     0
## 526     2     12    1    11
## 527     0     44    1    15
## 528     2     51    1     2
## 529     0     25    1     4
## 530     2    120    0     4
## 531     1     33    1    13
## 532     0      5    1    10
## 533     0      2    1     0
## 534     2    120    0    15
## 535     1     24    0    11
## 536     1     72    1     8
## 537     1     84    1     2
## 538     4      1    1     6
## 539     3    120    0     8
## 540     0     24    1    33
## 541     1     24    1    14
## 542     0      5    1    18
## 543     0     36    1    32
## 544     1     38    0     8
## 545     1     24    1     2
## 546     2      3    1    11
## 547     1      6    1    11
## 548     2     12    1    12
## 549     4     12    1     0
## 550     2      2    1     0
## 551     0    180    1    12
## 552     0      3    1     0
## 553     0     36    1    15
## 554     0     74    0     5
## 555     3     12    1     6
## 556     1    158    1     9
## 557     1     14    0     6
## 558     0     24    1     4
## 559     0     42    1     2
## 560     0     72    1     3
## 561     0     24    0     5
## 562     2    200    1     9
## 563     1     10    1    11
## 564     1    210    1     6
## 565     0    204    0     6
## 566     0    250    1     4
## 567     0     24    1    15
## 568     0      6    0     3
## 569     0    109    1     5
## 570     0     28    1     5
## 571     0     13    1     7
## 572     4     84    1     4
## 573     1     84    1    11
```

```
## 574          0     23        1      0
## 575          0      4        1      1
## 576          0     60        1      3
## 577          1     63        1      2
## 578          0    240        1      6
## 579          0     24        1      7
## 580          0     19        1      9
## 581          0     61        1      6
## 582          0     19        1      6
## 583          0     22        1     11
## 584          0    268        1      2
## 585          0    162        1     11
## 586          0      3        1      0
## 587          0     24        1      7
## 588          0     28        1      5
## 589          1      6        1      1
## 590          0     48        1      1
## 591          0    135        1      0
## 592          2     37        1     15
## 593          1     24        1      5
## 594          1     24        1      4
## 595          2     66        1      5
## 596          1     24        1     13
## 597          1     60        1     11
## 598          1    144        0      4
## 599          2    110        1     10
## 600          0     14        1      3
## 601          1     66        1      5
## 602          1     60        0     10
## 603          0      5        1      6
## 604          0    156        0     11
## 605          1     24        1      2
## 606          1     19        1      9
## 607          1      3        1     19
## 608          0      5        1      0
## 609          3      6        1      0
## 610          0     40        0      4
## 611          3    134        0      4
## 612          0     12        1      3
## 613          1     42        1     10
## 614          2      8        1      5
## 615          2     17        1      0
## 616          2     70        1      1
## 617          1     42        1      0
## 618          0     97        1      1
## 619          0     32        1      7
## 620          1     14        0      0
## 621          1     26        1      3
## 622          1    120        1      7
## 623          2     48        1      4
## 624          0      4        1      7
## 625          0      4        1     17
## 626          0     36        1     11
## 627          0      3        1      0
## 628          0      8        1      6
## 629          0     14        1     11
## 630          0     12        0      4
## 631          0     24        1      7
## 632          0     12        1      8
## 633          2    120        1     12
## 634          0     12        1      8
## 635          1     38        1      3
## 636          0      8        1      5
## 637          3    144        1      3
## 638          0     14        1     20
## 639          1     38        1     10
## 640          0     27        1      2
## 641          3    160        0      0
## 642          3    122        1     17
## 643          0     84        1      6
## 644          3     19        0      0
## 645          0      3        0     16
## 646          0     19        1      0
```

```
## 647            0      86       1      10
## 648            1      17       1       8
## 649            1      37       0       6
## 650            5       2       1       0
## 651            0      17       1       3
## 652            0       3       1       0
## 653            2      44       0      12
## 654            0       7       0       6
## 655            0      95       1      17
## 657            0      41       1      11
## 658            1      24       1       6
## 660            0      12       1       6
## 661            3      44       1      11
## 662            2      24       1       0
## 663            2      15       1       9
## 664            1      13       0       4
## 665            0      10       1      11
## 666            0      36       1      11
## 667            0       7       1       6
## 668            3      68       1      10
## 669            2      14       1       6
## 670            2      38       1       6
## 671            2      30       1      11
## 672            1      12       1      23
## 673            1      14       1      19
## 674            0     138       1       4
## 675            0       6       1       0
## 676            1      50       0       8
## 677            0      18       1       2
## 678            0       9       1      22
## 679            4      48       1       8
## 680            2      20       1       0
## 681            1      24       1      13
## 682            0      36       0       2
## 683            2      60       1       7
## 684            1      12       1       8
## 685            0     108       0      11
## 686            0      26       1      17
## 687            0      27       1       3
## 688            0      10       1       2
## 689            2      20       1      17
## 690            0      88       1       7
## 691            0       5       0       0
## 692            1     244       1      14
## 693            0      74       1      16
## 694            0      60       1      16
## 695            0       5       1      14
## 696            3     300       1      13
## 697            1      13       1       9
## 698            0     511       1      10
## 699            2      29       1      17
## 700            1     300       1      13
## 701            3      40       1       7
## 702            0      86       1       1
## 703            3     132       1      15
## 704            2     150       0       2
## 705            0       1       0       8
## 706            0       3       1       4
## 707            0     104       1       0
## 708            0      38       0       5
## 709            0      48       1       4
## 710            2       4       1       0
## 711            1      12       1      16
## 712            0      77       1       0
## 713            0       6       1       2
## 714            0      84       1      21
## 715            0      24       1       4
## 716            3       9       1       0
## 717            1      22       1       3
## 718            3     102       0       3
## 719            0      28       1       8
## 720            0      14       0       3
## 721            0      64       1       8
```

```
## 721      0     64     1      8
## 722      0     47     1      1
## 723      0     12     1      9
## 724      0     12     1      8
## 725      1    241     1      8
## 726      0     36     0      0
## 727      0      2     1      5
## 728      1      8     1      4
## 729      1     84     0     12
## 730      0     27     1      4
## 731      3     30     1      7
## 732      3     18     1      5
## 733      0     66     1      3
## 734      0     50     1      0
## 735      2    131     0      3
## 736      1     96     1      8
## 737      2     18     1      0
## 738      1     12     0     10
## 739      0      9     0      3
## 740      3     36     1      8
## 741      0    204     0      5
## 742      1     36     1      0
## 743      2     36     1      2
## 744      1     96     1      2
## 745      1     54     0      1
## 746      1    180     1      5
## 747      0    192     1      3
## 748      1     84     1      0
## 749      4     60     1      7
## 750      0     43     1      2
## 751      1     76     0      3
## 752      2     24     1      7
## 753      2     74     1      4
## 754      0     12     1      4
## 755      0     60     1      2
## 756      0     72     1      9
## 757      0     17     1      7
## 758      1     90     1      3
## 759      1    288     1     14
## 760      0     30     1     13
## 761      0     12     0      0
## 762      3    147     1      6
## 763      2     10     1      0
## 764      4     19     1     12
## 765      2      4     1      7
## 766      1     27     0      6
## 767      3     18     1      3
## 768      0    168     1      5
## 769      1    146     1      4
## 770      3    172     1     15
## 771      0    147     1      3
## 772      0     20     1      0
## 773      0      6     1      0
## 774      2     39     1     18
## 775      1     61     1      2
## 776      1     72     1      7
## 777      0     24     1      4
## 778      3      6     1      2
## 779      0     24     1      8
## 780      0     23     1      6
## 781      0    236     1      6
## 782      1     36     1      7
## 783      0     60     0      7
## 784      0     33     1      4
## 785      0     18     1      1
## 786      0    151     1      5
## 787      2     18     1      3
## 788      4     48     0      1
## 789      0     59     1      2
## 790      3      6     1      7
## 791      2     72     1      8
## 792      2     97     1      4
## 793      0     24     1      5
```

```
## 794            0      24         1      5
## 795            0       8         1      8
## 796            1      42         1      3
## 797            0      42         1      8
## 798            0      24         1     17
## 799            0      90         1     10
## 800            0      24         1      3
## 801            3     228         1      0
## 802            1     136         0      9
## 803            0      25         1      3
## 804            0     408         1      7
## 805            1      91         1      1
## 806            0      16         1      8
## 807            0      35         1      0
## 808            0      70         1      9
## 809            0      49         1      3
## 810            0       4         1      6
## 811            2      12         0      0
## 812            0      23         1      9
## 813            0       8         1     10
## 814            0     150         1     18
## 815            1      42         0     13
## 816            6       3         0      0
## 817            1      30         0      2
## 818            0       8         1      0
## 819            0      72         1     11
## 820            4      12         1     10
## 821            0      28         1     22
## 822            1       6         1      0
## 823            0      44         1     14
## 824            0       7         1     16
## 825            0      64         0      1
## 826            0     192         1      8
## 827            1      94         0      2
## 828            0      36         1      2
## 829            0      18         1      0
## 830            1      18         1      4
## 831            0      25         1      9
## 832            2       4         1      1
## 833            0      12         1      0
## 834            0     100         1      1
## 835            0      51         0     14
## 836            0      14         1      0
## 837            0      18         1      9
## 838            2       7         1      3
## 839            4     216         1     11
## 840            0      36         1      1
## 841            2     132         1      1
## 842            1     347         0      1
## 843            0      24         1      2
## 844            1      12         1      1
## 845            1      52         1      3
## 846            0     132         1      0
## 847            0      72         1     11
## 848            2      30         1      0
## 849            0      46         1      2
## 850            0      66         1      3
## 851            1      63         1      4
## 852            6      63         1      3
## 853            0      76         1      2
## 854            1      63         1      6
## 855            1      14         0      4
## 856            0       6         1      3
## 857            3      14         1      4
## 858            1     114         1      1
## 859            0      12         1      6
## 860            1     100         1      3
## 861            0      60         0      2
## 862            0      30         1      1
## 863            0      86         1      8
## 864            1     168         1      2
## 865            0     159         1      4
## 866            0      93         1      2
```

```
## 867      0     98    1    4
## 868      0    228    1   14
## 869      0     30    1    0
## 870      3     77    1    4
## 871      1     38    0    3
## 872      0      5    1   15
## 873      1    121    0    5
## 874      0      2    1    7
## 875      0     82    1    8
## 876      0     48    1    0
## 877      0    194    1    5
## 878      0     86    1    5
## 879      0      3    1    8
## 880      2     72    1    5
## 881      2     60    1    7
## 882      1     60    1    1
## 883      1    243    1    3
## 884      2    222    0   10
## 885      0     12    1   11
## 886      0    102    1    1
## 887      2     84    1   13
## 888      0     96    1    2
## 889      0     12    1    1
## 890      3     30    0    0
## 891      0     22    1    9
## 892      1     54    1   12
## 893      0     30    1    5
## 894      2    192    1    2
## 895      1     28    1   10
## 896      0     54    1    0
## 897      0     14    1    0
## 898      0     98    1    2
## 899      1     27    1    8
## 900      2     18    1    3
## 901      0     54    1    3
## 902      0    365    0    5
## 903      0     15    1    2
## 904      1     90    1    4
## 905      0     36    1    0
## 906      3     35    1    4
## 907      0      2    1    0
## 908      1     72    1    3
## 909      0     93    1    0
## 910      0    207    1    4
## 911      0    209    1   10
## 912      0     24    1    2
## 913      6      0    1    2
## 914      3     94    1    2
## 915      2     60    1    6
## 916      1     84    1    4
## 917      0     12    0    4
## 918      0     50    1   10
## 919      4     14    1    0
## 920      4     84    0    3
## 921      0      7    1    1
## 922      0     48    1    4
## 923      0     24    1   12
## 924      0    234    0    2
## 925      0     44    1    5
## 926      0     38    1   19
## 927      0    180    1    0
## 928      1    120    1    9
## 929      0     15    0    1
## 930      0    108    1   16
## 931      0     96    1    0
## 932      0     82    1    0
## 933      0    108    1    0
## 934      0     15    1    3
## 935      0     12    1    3
## 936      0     15    1    1
## 937      0     72    1    0
## 938      0     60    0    5
## 939      0     38    0    2
```

```
## 939       0     38     0      2
## 940       1     58     1     14
## 941       3     96     1      5
## 942       0      4     1      8
## 943       0    166     1      7
## 944       0     60     1     11
## 945       0      1     1      0
## 946       0     10     0      0
## 947       0    144     1      7
## 948       0     15     1      7
## 949       1    120     1     15
## 950       0    120     1      3
## 951       1     62     0      0
## 952       1    151     1      7
## 953       2      8     0      2
## 954       3    156     1      9
## 955       4     99     1      9
## 956       2     48     1      7
## 957       6    207     1     11
## 958       0      2     0      1
## 959       0    229     0      1
## 960       0    269     1      8
## 961       0     30     1      7
## 962       2     42     1      4
## 963       2     12     1      6
## 964       4    114     0      7
## 965       0    124     1      2
## 966       1     14     1      0
## 967       1     12     0      0
## 968       2    134     1     15
## 969       1     24     1      3
## 970       0      8     1      3
## 971       2     27     1      0
## 972       0      4     0      1
## 973       1    303     1     11
## 974       0     60     1      0
## 975       4    218     0     12
## 976       3    121     1     15
## 977       0     22     1      6
## 978       5     24     1      6
## 979       2     24     1     10
## 980       0     24     1     14
## 981       3     76     1      8
## 982       0    252     1      8
## 983       4     18     1      0
## 984       0    118     1      6
## 985       0      6     0      0
## 986       0      6     0      2
## 987       0     24     1      0
## 988       0    108     0      0
## 989       1     84     1     15
## 990       3    150     1      2
## 991       0    252     1      0
## 992       4     25     1     16
## 993       5    110     1      7
## 994       0    192     1      9
## 995       2    109     1      6
## 996       0      3     1      0
## 997       3     14     1      9
## 998       1     26     1      7
## 999       1      3     1      5
## 1000      1    216     1     27
## 1001      0     38     1     13
## 1002      0    138     1      8
## 1003      1     60     1     19
## 1004      0     18     1      0
## 1005      0     18     1      2
## 1006      0    240     1      7
## 1007      5    168     0      9
## 1008      1    201     0     16
## 1009      0     51     1     25
## 1010      1     12     1      9
## 1011      0    288     1      5
```

```
## 1012          2      30         1      15
## 1013          3     188         1      19
## 1014          3      24         1       8
## 1015          1      66         1      15
## 1016          2      12         0       5
## 1017          3      96         1       5
## 1018          3      90         0       5
## 1019          1     220         1       8
## 1020          1      51         0      11
## 1021          3      12         1      18
## 1022          2      40         1      15
## 1023          3      36         1       9
## 1024          1       6         1       7
## 1025          2      52         1       0
## 1026          2      21         1       5
## 1027          0      24         1      20
## 1028          1      49         1      17
## 1029          2      34         1       7
## 1030          2      17         1       0
## 1031          1      32         1       7
## 1032          5      57         1       9
## 1033          0     144         1      10
## 1034          0      24         1       5
## 1035          4     144         1      11
## 1036          1      24         0      10
## 1037          0      12         1      13
## 1038          2       6         0       0
## 1039          2     120         1      12
## 1040          0      12         1       0
## 1041          2      36         1      14
## 1042          0       5         0       0
## 1043          2      24         0      16
## 1044          2      30         1      18
## 1045          3      36         1       0
## 1046          1      24         1      23
## 1047          0       9         1       0
## 1048          6      12         0      16
## 1049          0      51         1       9
## 1050          1      37         1      13
## 1051          0      12         1      11
## 1052          2     132         1      14
## 1053          0       9         1       3
## 1054          3       0         1       2
## 1055          2     148         1      16
## 1056          0       6         1      10
## 1057          0      16         1       5
## 1058          0      24         1      14
## 1059          0       7         1       9
## 1060          1     300         1       4
## 1061          2      48         1      18
## 1062          0      96         0       4
## 1063          1      96         1       7
## 1064          3      36         1       7
## 1065          0      87         1       2
## 1066          3      40         1      13
## 1067          0      48         1       2
## 1068          0      10         0      13
## 1069          0      48         1       6
## 1070          4     126         0       5
## 1071          2      12         1       0
## 1072          1      36         1       8
## 1073          2      27         1       9
## 1074          2      38         1      19
## 1075          3      32         1       7
## 1076          2      24         1      10
## 1077          0      51         1       3
## 1078          0     143         1       6
## 1079          3      15         1       0
## 1080          2      38         1       4
## 1081          0      44         1      12
## 1082          0       3         1       0
## 1083          0      50         1      14
## 1084          0      34         0       2
```

```
## 1085       2      48      1      10
## 1086       2      36      1       7
## 1087       0      14      1       1
## 1088       3      96      1       6
## 1089       0      14      0       3
## 1090       0       6      1       3
## 1091       2     114      1      12
## 1092       0     240      1       2
## 1093       1     169      0       6
## 1094       0     242      1       4
## 1095       0      53      1       9
## 1096       2      72      1       0
## 1097       0     192      0       1
## 1098       1       6      0       9
## 1099       0       7      1      11
## 1100       2     132      1       9
## 1101       2      24      1      11
## 1102       3      14      1      14
## 1103       0      87      1       9
## 1104       0      20      0       7
## 1105       3      15      1       9
## 1106       1      12      1      17
## 1107       1      36      1       1
## 1108       0      26      1       1
## 1109       0     144      1      14
## 1110       1      24      1       6
## 1111       1      24      0       5
## 1112       2     233      1      16
## 1113       2      60      1      22
## 1114       0     180      1      13
## 1115       0     168      1      13
## 1116       0      50      0       3
## 1117       1       4      1       0
## 1118       0       6      0       7
## 1119       0      36      0      44
## 1120       1      12      1       0
## 1121       1       8      1       5
## 1122       3      10      1       0
## 1123       0     240      1       7
## 1124       0       1      1       0
## 1125       0      16      1       0
## 1126       0       9      0       4
## 1127       3       5      0       1
## 1128       3      54      1       7
## 1129       0      15      1       5
## 1130       0      27      1      16
## 1131       3      60      0      22
## 1132       1      24      1       2
## 1133       3      16      1       9
## 1134       2      29      0       4
## 1135       4      36      1      14
## 1136       3     135      0      25
## 1137       1      96      1       5
## 1138       2     147      1       8
## 1139       0     108      1      18
## 1140       2       6      1       0
## 1141       2      10      1      14
## 1142       1      67      1       1
## 1143       0      20      1       2
## 1144       0       1      1      12
## 1145       3      24      1       3
## 1146       0     147      1       1
## 1147       0      48      0       1
## 1148       4       3      1       0
## 1149       0      24      1      10
## 1150       3      47      1       9
## 1151       0       6      0       4
## 1152       3       5      1       9
## 1153       0      68      1       9
## 1154       0      75      1       5
## 1155       1       3      1      12
## 1156       0     105      0       1
## 1157       0      40      1      16
```

```
## 1157    0     40    1    16
## 1158    2     18    1     0
## 1159    1     42    0    11
## 1160    2     16    1    19
## 1161    0    138    0     3
## 1162    3     24    1     4
## 1163    0     12    1    18
## 1164    0      6    0     0
## 1165    0      6    0    17
## 1166    2     13    1    13
## 1167    0     12    1    14
## 1168    0    147    1    22
## 1169    0      7    1    12
## 1170    3    232    1     7
## 1171    0     12    1     7
## 1172    0      6    1     0
## 1173    0     36    0     6
## 1174    0     72    0     2
## 1175    0     28    1    12
## 1176    0    528    0     5
## 1177    1    180    0     5
## 1178    1    102    0    13
## 1179    0     48    0    15
## 1180    1     30    1     6
## 1181    0      4    1     0
## 1182    0     36    1     6
## 1183    1     41    1    12
## 1184    1     56    0    20
## 1185    6      6    0     0
## 1186    4    168    1     7
## 1187    4      6    1     0
## 1188    2     49    1     4
## 1189    2      9    0     0
## 1190    0     46    0     3
## 1191    3     15    1     9
## 1192    2     32    1    16
## 1193    3     18    0    10
## 1194    0     27    1     0
## 1196    0     30    1     2
## 1197    1    120    1    16
## 1198    0     26    1     7
## 1199    0     10    0     0
## 1200    0    228    0     9
## 1201    2     42    1     1
## 1202    0     36    1    23
## 1203    0      4    0     1
## 1204    0      6    1     8
## 1205    0     51    1     5
## 1206    2    122    1    11
## 1207    1     24    1     0
## 1208    0     24    1    15
## 1209    0     28    1     5
## 1210    0     19    1     0
## 1211    3    180    0    19
## 1212    2     60    1     2
## 1213    0      4    1     1
## 1214    3     18    1     0
## 1215    3      6    1     0
## 1216    0     36    1     3
## 1217    5     81    1     7
## 1218    2     78    1     9
## 1219    1      6    1     8
## 1220    3    124    1    19
## 1221    1     24    1    20
## 1222    2     96    1    17
## 1223    3     97    1    13
## 1224    1     66    1    14
## 1225    0     18    1     7
## 1226    2    100    1     0
## 1227    0      6    1    31
## 1228    4     72    1    20
## 1229    0      2    1     5
## 1230    1     72    1    20
```

```
## 1231      4       36        1       25
## 1232      0       27        1       19
## 1233      3       15        1       17
## 1234      3       36        1        9
## 1235      0       12        1        0
## 1236      0       25        0        3
## 1237      4       14        1        0
## 1238      2       75        1        9
## 1239      2        3        1       12
## 1240      0      429        1        0
## 1241      0       48        0        1
## 1242      3       50        1       14
## 1243      0       24        0        4
## 1244      1       18        1        0
## 1245      0       42        0        4
## 1246      0      128        1       10
## 1247      0      153        1       11
## 1248      3       24        0       13
## 1249      0       56        1       10
## 1250      4       16        1        7
## 1251      2       98        1        3
## 1252      0       33        1       16
## 1253      2       22        1       15
## 1254      0       38        1        0
## 1255      0       56        1        1
## 1256      1        4        0        0
## 1257      0        4        1        8
## 1258      0       60        1        7
## 1259      0       12        1        0
## 1260      1       16        1        4
## 1261      0       14        1        3
## 1262      0        6        1        0
## 1263      0      276        1        6
## 1264      0       29        0        5
## 1265      0       26        1        4
## 1266      0       14        1        0
## 1267      2        6        1       10
## 1268      4      120        1       10
## 1269      0        6        1        0
## 1270      0        4        1        0
## 1271      0        9        1        0
## 1272      1       13        1       11
## 1273      2       18        1       28
## 1274      2       14        1       17
## 1275      0       10        0        4
## 1276      3       29        1        9
## 1277      0        6        1       19
## 1278      0       14        1       13
## 1279      3        7        1        0
## 1280      2       17        1       11
## 1281      0        6        1       11
## 1282      2        8        0        0
## 1283      2       12        0        7
## 1284      2        3        1        0
## 1285      1      154        0        6
## 1286      1       84        1        3
## 1287      3      114        1       19
## 1288      2        2        1        8
## 1289      1       18        1        8
## 1290      1       16        1        2
## 1291      0       42        1        5
## 1292      0        2        1        0
## 1293      2      228        1        0
## 1294      0       12        1        4
## 1295      1       60        1        7
## 1296      0       37        1       18
## 1297      0       30        1       20
## 1298      0        6        1        0
## 1299      1      132        1       12
## 1300      2       24        1       19
## 1301      1       30        0        0
## 1302      1       13        1        0
## 1303      2        1        1        8
```

```
## 1304           0     24          0     10
## 1305           0     41          1     12
## 1306           3     60          1      9
## 1307           0    111          1      6
## 1308           2    123          1      7
## 1309           0     25          1     10
## 1310           1    121          1     10
## 1311           3     36          0      4
## 1312           0     46          1      3
## 1313           1     36          0      4
## 1314           0     13          1      1
## 1315           0     94          1     19
## 1316           3     12          1      5
## 1317           2      1          1      2
## 1318           0     60          1      7
## 1319           2      2          1      0
```

```
testing<- subset(creditcard_sub, split="FALSE")

#Applying logistic Regression

#FULL MODEL ANOVA TEST

model<-glm(card ~.,family=binomial(link="logit"),data=training)
```

```
## Warning: glm.fit: algorithm did not converge
```

```
## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred
```

```
summary(model)
```

```
##
## Call:
## glm(formula = card ~ ., family = binomial(link = "logit"), data = training)
##
## Deviance Residuals:
##    Min      1Q  Median      3Q     Max
##  -8.49    0.00    0.00    0.00    8.49
##
## Coefficients:
##               Estimate Std. Error    z value Pr(>|z|)
## (Intercept)  4.411e+14  8.622e+06   51160947  <2e-16 ***
## reports     -5.568e+14  1.436e+06 -387757523  <2e-16 ***
## age          3.481e+12  2.303e+05   15117748  <2e-16 ***
## income      -2.089e+13  1.472e+06  -14189162  <2e-16 ***
## share        1.785e+16  4.356e+07  409908256  <2e-16 ***
## expenditure -8.382e+11  1.568e+04  -53456118  <2e-16 ***
## owneryes     3.346e+13  4.369e+06    7656801  <2e-16 ***
## selfempyes   1.406e+14  7.375e+06   19061690  <2e-16 ***
## dependents  -1.241e+12  1.623e+06    -764501  <2e-16 ***
## months      -2.997e+11  3.181e+04   -9421887  <2e-16 ***
## majorcards   3.795e+13  4.875e+06    7784177  <2e-16 ***
## active       4.215e+12  3.179e+05   13259193  <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance:  1398.5  on 1311  degrees of freedom
## Residual deviance: 12110.7  on 1300  degrees of freedom
## AIC: 12135
##
## Number of Fisher Scoring iterations: 25
```

```
#*** means 99% confident

#Null Deviance shows how well the response variable is predicted by a model that includes #only the inter
cept (beta0)

#Residual Deviance shows how well the response variable is predicted with inclusion of independant variab
les

#Null Deviance must be greater than Residual Deviance #We remove the Insignificant variables

#Insignificant variables must be removed.

model2<-glm(card ~ age + income + reports + dependents + months + owner + selfemp, family= "binomial", da
ta=training)
summary(model2)
```

```
##
## Call:
## glm(formula = card ~ age + income + reports + dependents + months +
##     owner + selfemp, family = "binomial", data = training)
##
## Deviance Residuals:
##    Min      1Q  Median      3Q     Max
## -2.853   0.275   0.471   0.604   2.576
##
## Coefficients:
##               Estimate Std. Error z value Pr(>|z|)
## (Intercept)  1.2679794  0.3087017   4.107 4.00e-05 ***
## age         -0.0088340  0.0098928  -0.893 0.371872
## income       0.2778539  0.0647286   4.293 1.77e-05 ***
## reports     -1.3621675  0.1150612 -11.839  < 2e-16 ***
## dependents  -0.2611007  0.0672456  -3.883 0.000103 ***
## months       0.0000331  0.0013584   0.024 0.980561
## owneryes     0.8357101  0.1900837   4.397 1.10e-05 ***
## selfempyes  -0.6542231  0.2819490  -2.320 0.020321 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 1398.5  on 1311  degrees of freedom
## Residual deviance: 1045.1  on 1304  degrees of freedom
## AIC: 1061.1
##
## Number of Fisher Scoring iterations: 6
```

```
coef(model2)
```

```
##   (Intercept)           age        income        reports    dependents
##   1.267979e+00 -8.834000e-03  2.778539e-01 -1.362168e+00 -2.611007e-01
##        months       owneryes     selfempyes
##   3.309925e-05  8.357101e-01 -6.542231e-01
```

```
#Model has all the significant variables.

###Prediction of model

res<-predict(model2, training , type="response")

head(res, 20)
```

```
##           1            2            3            4            5
## 0.9042466688 0.7035954644 0.8822734361 0.8462020816 0.9823414436
##           6            7            8            9           10
## 0.8530857392 0.8319757584 0.9246376040 0.9445845540 0.8708202052
##          11           12           13           14           15
## 0.9353219512 0.8534352354 0.8869186831 0.9262578724 0.8585708685
##          16           17           18           19           20
## 0.9147930964 0.9122950320 0.0006239973 0.9797662314 0.0930416858
```

```
#comparing with the training data

head(training,20)
```

```
##      card reports      age income        share expenditure owner selfemp
## 1     yes       0 37.66667 4.5200 0.0332699100  124.983300   yes      no
## 2     yes       0 33.25000 2.4200 0.0052169420    9.854167    no      no
## 3     yes       0 33.66667 4.5000 0.0041555560   15.000000   yes      no
## 4     yes       0 30.50000 2.5400 0.0652137800  137.869200    no      no
## 5     yes       0 32.16667 9.7867 0.0670505900  546.503300   yes      no
## 6     yes       0 23.25000 2.5000 0.0444384000   91.996670    no      no
## 7     yes       0 27.91667 3.9600 0.0125757600   40.833330    no      no
## 8     yes       0 29.16667 2.3700 0.0764337600  150.790000   yes      no
## 9     yes       0 37.00000 3.8000 0.2456279000  777.821700   yes      no
## 10    yes       0 28.41667 3.2000 0.0197800000   52.580000    no      no
## 11    yes       0 30.50000 3.9500 0.0780245600  256.664200   yes      no
## 12     no       0 42.00000 1.9800 0.0006060606    0.000000   yes      no
## 13     no       0 30.00000 1.7300 0.0006936416    0.000000   yes      no
## 14    yes       0 28.83333 2.4500 0.0387955100   78.874170   yes      no
## 15    yes       0 35.33333 1.9080 0.0269067100   42.615000   yes      no
## 16    yes       0 41.16667 3.2000 0.1258194000  335.435000   yes      no
## 17    yes       0 40.08333 4.0000 0.0748157500  248.719200   yes      no
## 18     no       7 29.50000 3.0000 0.0004000000    0.000000   yes      no
## 19    yes       0 39.50000 9.9999 0.0657948600  548.035000   yes     yes
## 20     no       3 45.75000 3.4000 0.0003529412    0.000000    no      no
##    dependents months majorcards active
## 1          3     54          1    12
## 2          3     34          1    13
## 3          4     58          1     5
## 4          0     25          1     7
## 5          2     64          1     5
## 6          0     54          1     1
## 7          2      7          1     5
## 8          0     77          1     3
## 9          0     97          1     6
## 10         0     65          1    18
## 11         1     24          1    20
## 12         2     36          1     0
## 13         1     42          0    12
## 14         0     26          1     3
## 15         2    120          0     5
## 16         1    168          1    22
## 17         2     96          1     0
## 18         2     60          1     8
## 19         0     28          1     0
## 20         0     28          1    10
```

```
#After predicting the values for the test dataset, we found that our model is predicting correct data.

#MODEL ACCURACY

table(Actialvalue=testing$card, Predictedvalue=res>0.5)
```

```
##            Predictedvalue
## Actialvalue FALSE TRUE
##         no    115  180
##         yes    20  997
```

```r
#Assuming Threshold to be 0.5.

#Confusion matrix says: For actual card= 'yes' ,

#model predicted FALSE for 13 times that means an #applicant cannot get the credit card.

#This is the error.

#For actual card='no', the model always predicted TRUE value.

#Accuracy: (115+997)/(115+180+20+997)= 0.84 #Our model is very much accurate that is around 84%% accurate


#ROC Curve

library(ROCR)
```

```
## Warning: package 'ROCR' was built under R version 3.4.3
```

```
## Loading required package: gplots
```

```
##
## Attaching package: 'gplots'
```

```
## The following object is masked from 'package:stats':
##
##      lowess
```

```r
#Receiver operating characteristic curve(ROC Curve), used to measure accuracy of the model
##As we assumed threshold to be 0.5, we predicted our model to be 85% accurate.
#Accuracy is measured by area under the curve

ROCRPred = prediction(res, training$card)

ROCRPerf <- performance(ROCRPred, "tpr", "fpr")

plot(ROCRPerf)

abline(a=0,b=1)
```
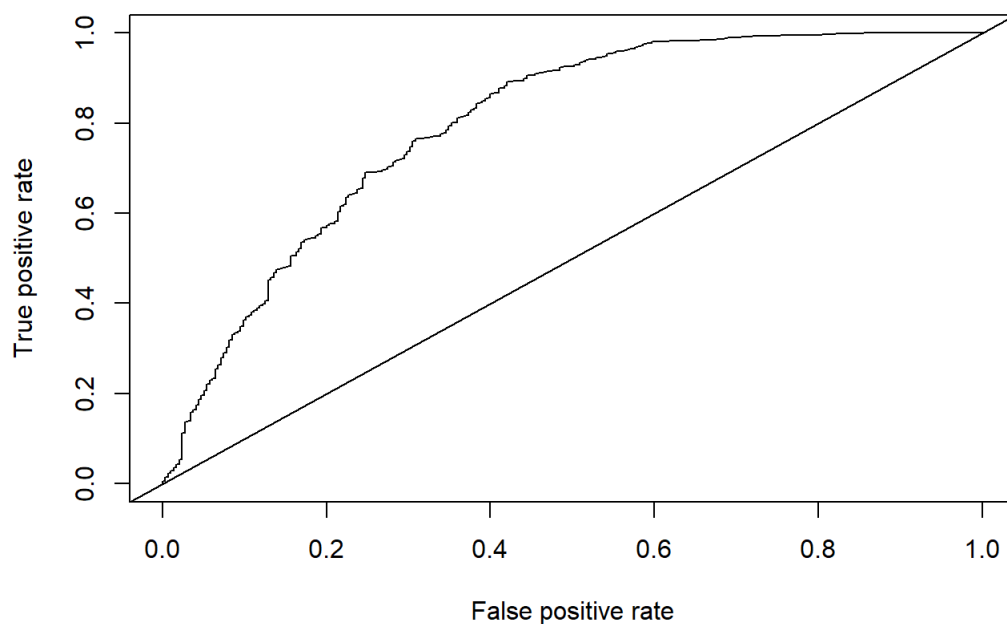
```
plot(ROCRPerf, colorize = TRUE, print.cutoffs.at=seq(0.1, by=0.1))
```