Decision Tree Case Study

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example 1

```
data("mtcars")
str(mtcars)
```

```
## 'data.frame':    32 obs. of  11 variables:
##  $ mpg : num  21 21 22.8 21.4 18.7 18.1 14.3 24.4 22.8 19.2 ...
##  $ cyl : num  6 6 4 6 8 6 8 4 4 6 ...
##  $ disp: num  160 160 108 258 360 ...
##  $ hp  : num  110 110 93 110 175 105 245 62 95 123 ...
##  $ drat: num  3.9 3.9 3.85 3.08 3.15 2.76 3.21 3.69 3.92 3.92 ...
##  $ wt  : num  2.62 2.88 2.32 3.21 3.44 ...
##  $ qsec: num  16.5 17 18.6 19.4 17 ...
##  $ vs  : num  0 0 1 1 0 1 0 1 1 1 ...
##  $ am  : num  1 1 1 0 0 0 0 0 0 0 ...
##  $ gear: num  4 4 4 3 3 3 3 4 4 4 ...
##  $ carb: num  4 4 1 1 2 1 4 2 2 4 ...
```

```
mtcars$vs <- as.factor(mtcars$vs)
mtcars$am <- as.factor(mtcars$am)
```

Step 1 : split the data into train and test data

```
library(caret)
```

```
## Loading required package: lattice
```

```
## Loading required package: ggplot2
```

```
library(caTools)
library(rpart.plot)
```

```
## Loading required package: rpart
```

```
set.seed(1)
split <- sample.split(mtcars, SplitRatio = 0.8)
split
```

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

```
train <- subset(mtcars, split = "TRUE")
test <- subset(mtcars, split="FALSE")
str(train)
```

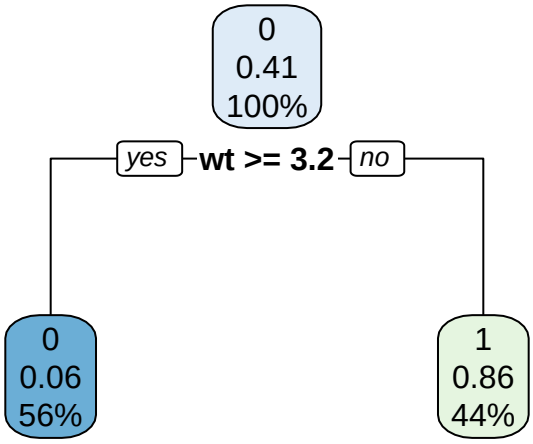
```
## 'data.frame':    32 obs. of  11 variables:
##  $ mpg : num  21 21 22.8 21.4 18.7 18.1 14.3 24.4 22.8 19.2 ...
##  $ cyl : num  6 6 4 6 8 6 8 4 4 6 ...
##  $ disp: num  160 160 108 258 360 ...
##  $ hp  : num  110 110 93 110 175 105 245 62 95 123 ...
##  $ drat: num  3.9 3.9 3.85 3.08 3.15 2.76 3.21 3.69 3.92 3.92 ...
##  $ wt  : num  2.62 2.88 2.32 3.21 3.44 ...
##  $ qsec: num  16.5 17 18.6 19.4 17 ...
##  $ vs  : Factor w/ 2 levels "0","1": 1 1 2 2 1 2 1 2 2 2 ...
##  $ am  : Factor w/ 2 levels "0","1": 2 2 2 1 1 1 1 1 1 1 ...
##  $ gear: num  4 4 4 3 3 3 3 4 4 4 ...
##  $ carb: num  4 4 1 1 2 1 4 2 2 4 ...
```

```
str(test)
```

```
## 'data.frame':    32 obs. of  11 variables:
##  $ mpg : num  21 21 22.8 21.4 18.7 18.1 14.3 24.4 22.8 19.2 ...
##  $ cyl : num  6 6 4 6 8 6 8 4 4 6 ...
##  $ disp: num  160 160 108 258 360 ...
##  $ hp  : num  110 110 93 110 175 105 245 62 95 123 ...
##  $ drat: num  3.9 3.9 3.85 3.08 3.15 2.76 3.21 3.69 3.92 3.92 ...
##  $ wt  : num  2.62 2.88 2.32 3.21 3.44 ...
##  $ qsec: num  16.5 17 18.6 19.4 17 ...
##  $ vs  : Factor w/ 2 levels "0","1": 1 1 2 2 1 2 1 2 2 2 ...
##  $ am  : Factor w/ 2 levels "0","1": 2 2 2 1 1 1 1 1 1 1 ...
##  $ gear: num  4 4 4 3 3 3 3 4 4 4 ...
##  $ carb: num  4 4 1 1 2 1 4 2 2 4 ...
```

#Step 2: Train the model

```
#recurssive partitioning
library(rpart)
Dec_Tree_Model <- rpart(am ~., data = train, method = "class")
rpart.plot(Dec_Tree_Model)
```




```
#step 3 - Prediction

fitted.value <- predict(Dec_Tree_Model, newdata = test, type = "class")
```

#Step 4 - evaluate

```
table(test$am, fitted.value)
```

```
##    fitted.value
##      0  1
##   0 17  2
##   1  1 12
```

```
misClassError <- mean(fitted.value != test$am)
print(paste('Accuracy = ', 1 -misClassError ))
```

```
## [1] "Accuracy =  0.90625"
```

```
churn_data <- read.csv("Churn Data.csv")
churn_data
```

```
##      Churn AccountWeeks ContractRenewal DataPlan DataUsage CustServCalls
## 1        0          128               1        1      2.70             1
```

```
## 2        0         107          1         1       3.70          1
## 3        0         137          1         0       0.00          0
## 4        0          84          0         0       0.00          2
## 5        0          75          0         0       0.00          3
## 6        0         118          0         0       0.00          0
## 7        0         121          1         1       2.03          3
## 8        0         147          0         0       0.00          0
## 9        0         117          1         0       0.19          1
## 10       0         141          0         1       3.02          0
## 11       1          65          1         0       0.29          4
## 12       0          74          1         0       0.34          0
## 13       0         168          1         0       0.00          1
## 14       0          95          1         0       0.44          3
## 15       0          62          1         0       0.00          4
## 16       1         161          1         0       0.00          4
## 17       0          85          1         1       3.73          1
## 18       0          93          1         0       0.00          3
## 19       0          76          1         1       2.70          1
## 20       0          73          1         0       0.00          1
## 21       0         147          1         0       0.31          0
## 22       1          77          1         0       0.00          5
## 23       0         130          1         0       0.00          0
## 24       0         111          1         0       0.39          2
## 25       0         132          1         0       0.00          0
## 26       0         174          1         0       0.00          3
## 27       0          57          1         1       2.57          0
## 28       0          54          1         0       0.00          3
## 29       0          20          1         0       0.32          0
## 30       0          49          1         0       0.21          1
## 31       0         142          1         0       0.00          2
## 32       0          75          1         0       0.00          1
## 33       0         172          1         0       0.00          3
## 34       1          12          1         0       0.00          1
## 35       0          57          1         1       2.24          0
## 36       0          72          1         1       3.97          3
## 37       0          36          1         1       3.92          0
## 38       0          78          1         0       0.00          1
## 39       0         136          0         1       2.84          3
## 40       0         149          1         0       0.00          1
## 41       0          98          1         0       0.30          3
## 42       1         135          0         1       3.94          0
## 43       0          34          1         0       0.00          2
## 44       0         160          1         0       0.38          3
## 45       0          64          1         0       0.24          1
## 46       0          59          1         1       2.30          2
## 47       0          65          1         0       0.00          3
## 48       0         142          1         0       0.35          2
## 49       1         119          1         0       0.00          5
## 50       0          97          1         1       2.97          1
## 51       0          52          1         0       0.32          3
## 52       0          60          1         0       0.00          1
## 53       0          10          1         0       0.00          2
## 54       0          96          1         0       0.21          2
## 55       1          87          1         0       0.00          5
```

```
## 56      0          81          1        0      0.11          1
## 57      0         141          1        0      0.00          1
## 58      1         121          1        1      1.57          3
## 59      0          68          1        0      0.00          3
## 60      0         125          1        0      0.00          1
## 61      0         174          1        0      0.00          1
## 62      0         116          1        1      3.13          2
## 63      0          74          1        1      3.94          2
## 64      0         149          1        1      3.40          3
## 65      0          38          1        0      0.00          2
## 66      0          40          1        1      1.67          2
## 67      0          43          0        0      0.00          0
## 68      0         113          0        0      0.00          0
## 69      0         126          1        0      0.00          1
## 70      1         150          1        0      0.00          4
## 71      0         138          1        0      0.00          3
## 72      0         162          1        1      3.27          0
## 73      0         147          1        0      0.00          3
## 74      0          90          1        0      0.00          1
## 75      0          85          1        0      0.00          0
## 76      0          50          1        0      0.00          1
## 77      1          82          1        0      0.21          0
## 78      1         144          1        0      0.21          4
## 79      0          46          1        0      0.26          2
## 80      0          70          1        0      0.30          1
## 81      0         144          1        0      0.00          1
## 82      0         116          0        0      0.30          3
## 83      0          55          1        1      2.97          3
## 84      0          70          1        1      2.65          1
## 85      1         106          1        0      0.00          2
## 86      0         128          1        1      2.32          0
## 87      1          94          1        0      0.00          4
## 88      0         111          1        0      0.00          1
## 89      0          74          1        1      2.94          2
## 90      1         128          1        0      0.00          1
## 91      0          82          1        0      0.17          1
## 92      1         155          1        0      0.00          0
## 93      0          80          1        0      0.00          1
## 94      0          78          1        0      0.00          3
## 95      0          90          1        0      0.00          3
## 96      0         104          1        0      0.30          1
## 97      0          73          1        0      0.00          0
## 98      0          99          1        0      0.00          4
## 99      1         120          1        0      0.00          1
## 100     1          77          1        0      0.00          2
## 101     0          98          1        1      1.19          4
## 102     0         108          1        0      0.34          0
## 103     0         135          1        0      0.00          0
## 104     0          95          1        0      0.00          1
## 105     0         122          1        0      0.39          1
## 106     0          95          1        0      0.00          4
## 107     0          36          1        1      2.43          2
## 108     0          93          1        1      2.65          1
## 109     0         141          1        1      2.73          1
```

```
## 110      0         157              1        0      0.00             3
## 111      0         120              1        0      0.00             1
## 112      0         103              1        0      0.00             2
## 113      0          98              1        0      0.00             4
## 114      0         125              1        0      0.00             1
## 115      0          63              1        0      0.00             1
## 116      1          36              0        1      5.40             0
## 117      0          64              1        0      0.29             1
## 118      1          74              1        0      0.21             1
## 119      0         112              1        1      2.70             2
## 120      0          97              1        0      0.00             2
## 121      0          46              1        0      0.21             1
## 122      0          41              1        1      1.94             0
## 123      0         121              1        0      0.00             3
## 124      0         193              1        0      0.00             1
## 125      0         130              1        0      0.00             2
## 126      0          85              1        0      0.40             1
## 127      1         162              1        0      0.00             4
## 128      1          61              1        1      1.73             4
## 129      0          92              1        0      0.00             2
## 130      0         131              1        1      2.57             3
## 131      0          90              1        0      0.00             3
## 132      0          75              1        0      0.00             1
## 133      0          78              1        0      0.00             1
## 134      0          82              1        0      0.00             4
## 135      0         163              1        0      0.00             1
## 136      0          91              0        0      0.31             3
## 137      0          75              1        1      1.43             5
## 138      0          91              1        0      0.00             3
## 139      0         127              1        1      3.02             1
## 140      0         113              1        1      2.75             2
## 141      0         110              1        0      0.00             1
## 142      0         120              1        1      2.84             0
## 143      0         157              1        1      1.84             3
## 144      0         103              1        0      0.00             1
## 145      1         117              0        0      0.00             2
## 146      0         140              1        0      0.00             3
## 147      0         127              1        0      0.00             1
## 148      0          83              0        0      0.26             1
## 149      0         121              1        0      0.00             1
## 150      0         145              1        1      3.00             2
## 151      0         113              1        0      0.00             1
## 152      0         117              1        0      0.00             1
## 153      0          65              1        0      0.00             1
## 154      0          56              1        0      0.00             1
## 155      0          96              1        0      0.00             5
## 156      0         151              1        0      0.00             0
## 157      1          83              1        0      0.00             0
## 158      0         139              1        1      3.70             0
## 159      0           6              1        0      0.00             1
## 160      0         115              1        1      2.59             1
## 161      0          87              1        0      0.31             0
## 162      0         141              1        0      0.00             0
## 163      0         141              1        1      2.84             3
```

```
## 164      0          62          1          0      0.00          1
## 165      0         146          1          0      0.00          1
## 166      0          92          1          1      3.27          2
## 167      0         185          1          1      2.03          1
## 168      0         148          1          0      0.39          1
## 169      0          94          1          1      3.46          1
## 170      0          32          1          0      0.00          0
## 171      0          68          1          0      0.00          1
## 172      0          64          1          1      2.86          2
## 173      0          25          1          0      0.14          3
## 174      0          65          1          0      0.00          1
## 175      0         179          1          0      0.00          0
## 176      0          94          1          0      0.00          2
## 177      0          62          1          0      0.00          0
## 178      0         127          1          0      0.00          2
## 179      0         116          1          0      0.23          3
## 180      0          70          1          0      0.00          3
## 181      0          94          0          1      2.57          4
## 182      1         126          1          0      0.00          5
## 183      0          67          1          1      2.67          2
## 184      0          19          1          0      0.14          2
## 185      0         170          0          0      0.00          3
## 186      0          73          1          0      0.00          1
## 187      0         106          1          0      0.00          1
## 188      0          93          1          0      0.19          2
## 189      0         164          1          0      0.27          1
## 190      0          51          1          0      0.00          1
## 191      0         107          1          0      0.00          0
## 192      0         130          1          0      0.35          1
## 193      0          80          1          0      0.00          2
## 194      0          94          1          0      0.22          0
## 195      0         118          1          1      2.57          1
## 196      0         117          1          1      1.84          1
## 197      0          78          1          0      0.00          0
## 198      1         208          1          0      0.33          2
## 199      1         131          0          1      3.73          4
## 200      0          63          1          0      0.00          0
## 201      0          53          1          1      3.54          3
## 202      0          62          1          0      0.00          2
## 203      0          97          1          0      0.00          3
## 204      0         105          1          0      0.00          2
## 205      0         157          1          0      0.00          1
## 206      0          66          1          1      3.27          1
## 207      0         122          1          0      0.00          2
## 208      0          38          1          0      0.00          3
## 209      0         106          1          0      0.00          3
## 210      0          99          1          0      0.00          3
## 211      0          99          1          0      0.00          1
## 212      0         144          0          0      0.00          0
## 213      0          82          1          1      2.89          1
## 214      0          86          1          1      3.29          1
## 215      1          70          0          0      0.00          2
## 216      0          93          1          0      0.00          3
## 217      0          93          1          0      0.31          0
```

```
## 218      0         120              1         0       0.00              3
## 219      1         136              1         0       0.00              1
## 220      0         106              1         0       0.40              0
## 221      0          81              1         0       0.00              3
## 222      0         127              1         1       2.75              1
## 223      0          65              1         0       0.00              1
## 224      0          35              1         0       0.32              2
## 225      0          88              1         0       0.00              2
## 226      0          65              1         0       0.00              1
## 227      0         123              1         0       0.00              3
## 228      0         126              1         1       2.59              2
## 229      0         104              1         1       3.59              4
## 230      0          45              1         1       3.21              0
## 231      1          93              0         0       0.00              0
## 232      0          63              0         1       2.97              1
## 233      0         100              1         0       0.25              3
## 234      0          53              1         0       0.00              0
## 235      0          92              0         0       0.00              1
## 236      1         139              1         0       0.00              5
## 237      0         110              1         1       2.43              2
## 238      0         110              1         0       0.31              3
## 239      0         215              1         0       0.31              0
## 240      0          73              1         0       0.00              1
## 241      0         138              1         0       0.00              0
## 242      1         137              0         0       0.00              2
## 243      0          36              1         0       0.25              1
## 244      0          85              1         0       0.00              3
## 245      1         108              1         0       0.00              0
## 246      0          22              1         0       0.00              0
## 247      0         107              1         1       3.00              0
## 248      0          51              1         0       0.00              0
## 249      0          94              1         0       0.00              4
## 250      0         119              1         1       3.19              2
## 251      1          33              1         1       3.75              4
## 252      0         106              1         0       0.00              4
## 253      0          82              1         0       0.00              3
## 254      0          86              1         1       2.57              0
## 255      0          97              0         0       0.28              0
## 256      0         106              1         1       3.81              4
## 257      0         108              1         0       0.00              1
## 258      0         114              1         0       0.29              1
## 259      1          92              0         0       0.00              1
## 260      0          59              1         0       0.00              1
## 261      0          24              1         1       1.81              1
## 262      0         151              1         0       0.00              1
## 263      0         117              1         0       0.00              1
## 264      0          78              1         0       0.51              1
## 265      0         155              1         0       0.00              2
## 266      0         114              1         1       3.08              1
## 267      0         114              1         1       2.27              4
## 268      0         119              1         0       0.00              3
## 269      0          64              1         1       1.22              0
## 270      0         118              0         0       0.00              2
## 271      0         101              1         0       0.00              0
```

```
## 272      0         117              1         0       0.00              1
## 273      0          49              1         1       2.16              3
## 274      0         139              1         0       0.00              3
## 275      0          92              1         1       2.70              1
## 276      0          83              1         0       0.00              3
## 277      0         148              0         0       0.00              0
## 278      1         144              1         1       1.76              2
## 279      0         131              1         1       2.94              2
## 280      0         146              0         0       0.00              3
## 281      0         143              1         0       0.42              2
## 282      0          81              1         0       0.13              2
## 283      0          48              1         1       3.29              1
## 284      0          86              1         1       2.43              1
## 285      0          71              1         0       0.00              3
## 286      0         145              1         1       4.21              2
## 287      0         137              1         0       0.00              2
## 288      0         137              1         0       0.27              2
## 289      0         167              1         0       0.00              0
## 290      1          89              1         0       0.00              1
## 291      0         199              1         1       2.16              0
## 292      0         132              1         0       0.00              0
## 293      0          94              1         0       0.00              1
## 294      1          96              1         1       2.78              5
## 295      0          96              1         1       2.65              1
## 296      0         166              1         0       0.29              1
## 297      0          74              1         0       0.20              2
## 298      0          36              1         0       0.34              0
## 299      0         113              1         0       0.00              4
## 300      0          94              1         0       0.00              1
## 301      0          67              1         0       0.00              2
## 302      1         127              1         0       0.26              1
## 303      1         121              1         0       0.00              0
## 304      0         158              1         0       0.00              1
## 305      0         136              1         0       0.34              1
## 306      0         196              1         0       0.00              2
## 307      1         113              1         0       0.00              1
## 308      1         122              1         0       0.00              4
## 309      0         112              1         0       0.29              0
## 310      0         209              1         0       0.00              3
## 311      1          62              1         0       0.00              1
## 312      0         110              1         1       2.62              1
## 313      0          16              1         0       0.00              0
## 314      0          73              1         0       0.00              0
## 315      0         128              1         0       0.00              0
## 316      0          39              1         0       0.23              1
## 317      0         103              1         1       2.08              2
## 318      0         119              1         1       2.05              3
## 319      0         173              1         1       1.35              3
## 320      1         128              0         1       2.54              2
## 321      0          86              1         0       0.00              0
## 322      0         114              1         1       3.48              1
## 323      0         104              1         0       0.00              0
## 324      0         148              1         0       0.00              1
## 325      0         129              1         0       0.00              3
```

```
## 326      0         100              1        1      1.92             0
## 327      0         121              1        1      3.08             1
## 328      0         143              1        1      2.57             1
## 329      0          76              1        0      0.00             0
## 330      0         158              1        0      0.14             0
## 331      0         116              1        0      0.24             3
## 332      1          54              1        0      0.00             1
## 333      1          86              1        0      0.30             7
## 334      0         108              1        0      0.00             0
## 335      0          66              1        0      0.00             1
## 336      0         151              1        1      2.32             1
## 337      0          99              1        0      0.00             0
## 338      0          55              1        0      0.00             2
## 339      0          77              1        0      0.00             2
## 340      0          78              1        0      0.00             0
## 341      1          89              1        0      0.00             1
## 342      0         101              1        0      0.00             1
## 343      0          44              1        1      3.78             0
## 344      0          98              1        1      0.00             2
## 345      0          64              1        1      3.59             1
## 346      0         141              1        0      0.00             3
## 347      0          81              1        1      3.29             1
## 348      0         162              1        0      0.00             1
## 349      0          83              1        1      3.54             3
## 350      1         100              1        0      0.34             4
## 351      0          59              1        0      0.51             4
## 352      0         179              0        1      2.73             4
## 353      0          79              1        0      0.00             1
## 354      0         117              1        0      0.00             2
## 355      1          64              0        0      0.18             2
## 356      0          31              1        0      0.28             1
## 357      0         124              0        0      0.00             1
## 358      0         122              1        1      2.30             2
## 359      0          37              0        1      2.48             1
## 360      0          90              1        1      1.57             1
## 361      1         159              0        0      0.44             1
## 362      0         148              1        0      0.00             0
## 363      0          39              1        1      3.24             1
## 364      0          77              1        0      0.14             2
## 365      0         194              1        0      0.00             0
## 366      1         154              1        0      0.00             1
## 367      0         112              1        0      0.00             4
## 368      0          45              1        0      0.00             1
## 369      0         132              1        0      0.22             1
## 370      0         128              1        0      0.28             0
## 371      0         135              1        0      0.42             1
## 372      0          56              1        0      0.00             2
## 373      1         151              0        0      0.29             0
## 374      0          32              1        0      0.00             2
## 375      0          90              1        0      0.00             2
## 376      0          87              1        1      2.86             0
## 377      0         138              1        0      0.43             2
## 378      0          79              1        0      0.00             1
## 379      1          95              0        0      0.00             1
```

```
## 380      0         127              1         0       0.33             2
## 381      0         137              1         0       0.00             3
## 382      0          97              1         0       0.00             1
## 383      0         149              0         0       0.18             0
## 384      0         117              0         1       1.00             1
## 385      0          84              1         0       0.00             2
## 386      0         137              1         0       0.45             4
## 387      0          99              1         0       0.00             3
## 388      0          54              1         0       0.00             1
## 389      0          85              1         0       0.00             1
## 390      0         150              1         0       0.36             3
## 391      0          43              1         0       0.00             1
## 392      0          35              1         0       0.00             0
## 393      0          98              1         0       0.00             5
## 394      0         112              1         0       0.27             2
## 395      1          16              1         0       0.00             0
## 396      0          98              1         1       2.62             0
## 397      0          84              1         0       0.00             0
## 398      1          94              1         0       0.18             1
## 399      0          84              1         0       0.00             1
## 400      1          66              1         0       0.00             1
## 401      0          98              1         1       3.24             1
## 402      0          74              1         0       0.00             0
## 403      0          96              1         1       2.67             1
## 404      0         119              1         0       0.34             1
## 405      0          73              1         0       0.00             4
## 406      0          92              0         0       0.00             0
## 407      0          21              1         0       0.00             0
## 408      1         122              1         0       0.29             4
## 409      0         133              0         0       0.00             1
## 410      0         145              1         0       0.00             2
## 411      0          25              1         0       0.26             2
## 412      0          64              1         0       0.28             2
## 413      0          85              1         0       0.20             0
## 414      0         126              1         0       0.00             3
## 415      0          76              1         0       0.00             0
## 416      1         113              1         0       0.00             2
## 417      1         224              0         0       0.26             1
## 418      0         117              1         0       0.00             0
## 419      0         128              1         1       4.32             1
## 420      0         115              1         0       0.00             2
## 421      0         141              1         1       2.51             2
## 422      0          51              1         0       0.00             1
## 423      0         100              1         0       0.00             0
## 424      0          96              1         1       2.78             3
## 425      0         112              1         1       3.05             1
## 426      0         129              0         0       0.39             1
## 427      0         163              1         0       0.00             1
## 428      0          67              1         1       2.59             1
## 429      0         140              1         0       0.00             3
## 430      0          49              1         0       0.00             2
## 431      1          46              1         0       0.00             2
## 432      0         148              1         0       0.39             1
## 433      0         112              1         0       0.00             1
```

```
## 434      0          78          1          0      0.00          2
## 435      0          61          1          1      2.32          0
## 436      0          58          1          1      3.02          1
## 437      0         155          1          0      0.00          1
## 438      1         100          1          0      0.32          0
## 439      0         113          1          0      0.00          1
## 440      0          81          1          0      0.00          2
## 441      0         135          1          1      3.32          1
## 442      0          99          1          0      0.00          0
## 443      0          59          1          1      1.84          1
## 444      0         135          1          0      0.00          1
## 445      0          85          0          0      0.00          2
## 446      0          70          1          0      0.31          0
## 447      0          88          1          0      0.00          3
## 448      0          55          1          0      0.00          2
## 449      0          75          1          0      0.34          1
## 450      0          79          1          1      1.70          4
## 451      0          85          1          0      0.25          0
## 452      0          86          1          1      2.65          0
## 453      0          91          1          0      0.00          0
## 454      0         149          1          1      3.86          1
## 455      1          97          1          0      0.00          1
## 456      1          88          1          0      0.00          1
## 457      0          60          1          0      0.00          2
## 458      0          54          1          0      0.16          2
## 459      0          11          1          1      1.62          3
## 460      0         109          1          0      0.00          0
## 461      0          90          1          0      0.00          1
## 462      0         115          1          0      0.00          3
## 463      0         144          1          1      2.73          1
## 464      0          91          1          0      0.00          0
## 465      0         105          1          1      2.30          0
## 466      1          71          0          0      0.00          3
## 467      1         132          1          1      2.84          3
## 468      0         112          1          0      0.38          1
## 469      0          86          1          1      3.00          3
## 470      0          41          1          1      4.64          2
## 471      0          44          1          0      0.00          1
## 472      0          78          1          0      0.00          3
## 473      0         149          1          0      0.00          1
## 474      1          72          1          1      1.67          4
## 475      0         139          1          1      4.00          0
## 476      0          74          1          0      0.00          3
## 477      0          50          1          0      0.29          1
## 478      0         141          1          1      2.05          3
## 479      0         140          1          0      0.00          1
## 480      0          99          1          0      0.00          2
## 481      0         166          1          0      0.21          1
## 482      0         124          1          0      0.00          1
## 483      0          74          1          0      0.00          0
## 484      0         117          1          0      0.00          2
## 485      0          85          1          0      0.00          3
## 486      0          36          1          1      1.81          0
## 487      0         102          0          0      0.00          0
```

```
## 488      0          76          1          0      0.00          0
## 489      0         165          1          0      0.00          1
## 490      0         130          1          0      0.00          1
## 491      0          78          1          0      0.00          0
## 492      1          55          0          0      0.32          1
## 493      1          92          0          0      0.21          2
## 494      0         129          1          1      1.59          2
## 495      0          18          1          0      0.00          1
## 496      0         161          0          0      0.00          2
## 497      0          93          1          1      2.16          2
## 498      0         144          1          0      0.00          2
## 499      1          75          0          0      0.00          4
## 500      0          95          1          0      0.00          1
## 501      0         126          1          1      3.40          3
## 502      0         124          1          1      2.03          1
## 503      1          93          0          0      0.00          1
## 504      0         109          0          1      2.51          0
## 505      0          80          1          0      0.00          0
## 506      0          41          1          0      0.19          1
## 507      0         136          1          1      3.08          2
## 508      1          92          1          0      0.00          3
## 509      0         143          1          1      3.13          1
## 510      1         118          1          1      2.59          5
## 511      0         193          1          1      3.32          1
## 512      0          73          1          0      0.00          3
## 513      0          62          1          0      0.00          2
## 514      0          30          1          1      1.78          0
## 515      1          60          0          1      3.78          0
## 516      0         148          1          1      4.73          1
## 517      0          96          1          0      0.00          2
## 518      0          52          1          0      0.35          2
## 519      0          87          1          0      0.00          1
## 520      0          41          1          0      0.21          3
## 521      0         112          1          0      0.00          1
## 522      1          88          1          0      0.00          4
## 523      0         122          1          1      2.48          7
## 524      0          61          1          0      0.00          2
## 525      0          87          1          0      0.38          1
## 526      0         176          1          0      0.25          2
## 527      0          30          1          0      0.00          0
## 528      0          95          1          1      3.21          0
## 529      0          46          1          0      0.00          2
## 530      0         100          0          0      0.19          0
## 531      0          47          1          1      2.11          2
## 532      0          77          1          0      0.00          2
## 533      0          98          1          1      2.89          2
## 534      0         125          1          1      1.46          1
## 535      0          67          1          0      0.22          4
## 536      0         194          1          0      0.00          1
## 537      0         128          1          1      3.78          1
## 538      0         190          1          1      2.30          0
## 539      0         165          1          0      0.00          0
## 540      0          59          1          0      0.00          2
## 541      0          47          1          1      2.11          1
```

```
## 542      0         150              1        1      1.78             0
## 543      1         152              0        1      3.83             9
## 544      0          26              1        0      0.00             3
## 545      0          79              1        1      3.29             3
## 546      0          95              1        1      3.21             1
## 547      1          69              0        0      0.00             2
## 548      1          95              0        1      2.78             5
## 549      0          31              1        1      1.59             0
## 550      0         121              1        1      2.73             4
## 551      1         111              1        0      0.00             4
## 552      0         157              1        0      0.00             2
## 553      1          44              1        0      0.21             3
## 554      0          61              0        0      0.00             2
## 555      0          65              1        0      0.00             2
## 556      0          74              1        1      3.54             2
## 557      0         123              1        0      0.00             0
## 558      0          58              1        1      2.57             1
## 559      1          74              1        0      0.00             2
## 560      0         125              1        0      0.39             2
## 561      0          80              1        0      0.00             1
## 562      0          53              1        1      1.94             0
## 563      0          99              1        1      2.46             1
## 564      0          99              1        0      0.33             1
## 565      0          66              1        1      2.16             2
## 566      0          97              1        0      0.00             3
## 567      0          75              1        1      3.05             2
## 568      0          85              0        0      0.00             2
## 569      0         108              1        0      0.00             2
## 570      1         133              0        1      4.16             2
## 571      0          51              1        0      0.00             1
## 572      0         186              1        1      3.92             2
## 573      0          44              0        0      0.00             1
## 574      0          64              1        1      2.43             3
## 575      1          44              1        0      0.33             2
## 576      0         114              1        1      3.83             1
## 577      0          92              1        0      0.16             3
## 578      0         110              1        0      0.29             2
## 579      0          90              1        1      2.08             1
## 580      0          72              1        1      4.46             1
## 581      1         113              1        0      0.00             1
## 582      0         171              1        1      2.75             3
## 583      0         104              1        0      0.00             1
## 584      0         165              1        0      0.13             1
## 585      1         104              1        0      0.00             0
## 586      0         110              1        0      0.00             1
## 587      0          90              0        0      0.00             1
## 588      0         114              1        0      0.40             1
## 589      1         101              1        0      0.00             5
## 590      0         117              1        1      2.32             1
## 591      0         109              1        0      0.42             2
## 592      0          82              1        0      0.00             1
## 593      0          92              1        0      0.31             2
## 594      0          82              1        1      2.57             2
## 595      0          90              1        0      0.00             2
```

```
## 596      0          87              1         1      0.00             1
## 597      0         124              1         0      0.00             3
## 598      0          39              1         0      0.00             2
## 599      0          84              1         0      0.00             1
## 600      0          75              1         1      2.48             0
## 601      0         102              1         0      0.00             2
## 602      1          62              0         0      0.00             0
## 603      0         143              1         0      0.27             1
## 604      0          53              1         0      0.00             3
## 605      0          30              1         0      0.00             1
## 606      1         112              1         0      0.00             2
## 607      0         129              1         0      0.00             0
## 608      0          63              1         1      1.78             1
## 609      0          28              1         0      0.00             0
## 610      0         111              1         0      0.00             3
## 611      0          91              1         0      0.00             3
## 612      0          90              1         0      0.00             1
## 613      0         151              1         0      0.24             4
## 614      1         105              0         1      3.56             1
## 615      0          41              1         1      1.97             2
## 616      0          48              1         1      2.16             1
## 617      0         166              0         1      2.38             2
## 618      0          79              1         0      0.00             3
## 619      0         153              1         0      0.00             1
## 620      1         110              0         0      0.00             0
## 621      0         163              1         0      0.00             1
## 622      0         126              1         0      0.00             1
## 623      0         105              1         1      2.86             2
## 624      0         172              1         0      0.00             3
## 625      0         126              1         0      0.00             0
## 626      0          97              1         0      0.27             3
## 627      1          95              0         1      1.11             0
## 628      0          87              1         0      0.00             4
## 629      0          97              1         0      0.00             1
## 630      1          76              1         0      0.00             0
## 631      0         140              1         0      0.00             0
## 632      0         169              1         0      0.00             0
## 633      0          68              1         1      1.30             3
## 634      0         122              1         1      4.21             2
## 635      0          36              1         0      0.00             2
## 636      0         120              1         1      2.75             5
## 637      0         121              1         0      0.00             1
## 638      0          64              1         1      2.03             0
## 639      0          13              1         1      3.48             1
## 640      0         106              1         0      0.00             0
## 641      0          88              1         0      0.00             2
## 642      0          74              1         0      0.00             1
## 643      0          83              1         0      0.00             0
## 644      0          49              1         0      0.00             0
## 645      0         111              1         1      3.78             1
## 646      0          50              1         1      2.30             3
## 647      0         153              1         1      4.16             0
## 648      0          88              1         0      0.00             1
## 649      0         131              1         1      2.46             0
```

```
## 650      1           79              1         0       0.00             3
## 651      0          140              1         0       0.00             2
## 652      0          105              1         0       0.38             1
## 653      0           54              1         1       2.48             3
## 654      0           87              1         1       2.30             3
## 655      0           96              1         1       2.84             1
## 656      1           79              1         0       0.00             5
## 657      0           55              1         0       0.00             0
## 658      0          130              1         0       0.00             2
## 659      0           34              1         0       0.00             0
## 660      0          139              1         0       0.29             1
## 661      1          109              1         0       0.00             1
## 662      0           65              1         1       3.24             1
## 663      0           63              1         0       0.37             0
## 664      0          152              1         0       0.00             3
## 665      0          147              1         0       0.00             1
## 666      0          112              1         1       2.48             2
## 667      0          120              1         0       0.00             2
## 668      0           27              1         0       0.00             0
## 669      0          171              1         0       0.00             1
## 670      0          101              1         1       4.19             0
## 671      0           32              1         1       4.40             1
## 672      0            3              1         1       3.21             2
## 673      0          151              1         0       0.43             0
## 674      0           60              1         0       0.35             3
## 675      0          119              1         0       0.39             1
## 676      0           43              1         0       0.00             1
## 677      0           42              1         0       0.00             0
## 678      0           84              1         0       0.00             1
## 679      0           65              1         0       0.33             0
## 680      1           75              0         0       0.00             1
## 681      0          116              1         0       0.00             1
## 682      0          107              1         0       0.00             0
## 683      0          189              1         1       3.08             3
## 684      0          123              1         0       0.00             1
## 685      0          110              1         0       0.24             3
## 686      0           63              1         1       2.32             1
## 687      0          176              1         0       0.00             3
## 688      0          108              1         0       0.00             1
## 689      0           13              1         1       3.27             3
## 690      0           71              1         0       0.00             1
## 691      0           88              1         0       0.00             2
## 692      0          137              1         0       0.00             1
## 693      0           82              1         0       0.00             4
## 694      0           92              1         1       2.16             3
## 695      0          165              1         0       0.00             6
## 696      0           96              1         0       0.00             1
## 697      0          156              1         0       0.33             1
## 698      0           63              1         0       0.00             0
## 699      0           37              1         0       0.00             0
## 700      0           98              1         0       0.00             0
## 701      0          121              1         0       0.00             0
## 702      0           94              1         0       0.15             0
## 703      0           99              1         0       0.00             1
```

```
## 704      0         163              1         1      2.81             1
## 705      0         161              1         0      0.32             3
## 706      0          99              1         0      0.00             1
## 707      0         108              1         0      0.00             1
## 708      0          84              1         1      2.05             3
## 709      0          83              0         1      2.86             2
## 710      0         139              1         0      0.00             2
## 711      0          69              1         0      0.29             3
## 712      0         129              1         0      0.00             4
## 713      0         106              1         0      0.31             2
## 714      0         158              1         0      0.00             2
## 715      0         168              1         1      1.97             2
## 716      1         115              0         0      0.00             1
## 717      0          57              0         1      3.08             2
## 718      0          67              1         0      0.00             1
## 719      0         127              1         0      0.00             1
## 720      0          78              1         0      0.00             2
## 721      0         100              1         1      2.00             0
## 722      1         103              1         1      2.94             6
## 723      0         113              1         0      0.00             1
## 724      0          78              1         0      0.00             3
## 725      0         129              1         1      4.43             1
## 726      0          57              1         0      0.20             2
## 727      0          82              1         0      0.00             1
## 728      0          64              1         0      0.00             1
## 729      0          86              1         1      3.43             2
## 730      0         151              1         1      3.62             0
## 731      1          94              1         0      0.00             3
## 732      0          90              1         0      0.00             2
## 733      0          48              1         0      0.00             2
## 734      0          85              1         1      2.57             2
## 735      0          93              0         1      3.27             1
## 736      0         169              0         0      0.00             3
## 737      1          68              1         0      0.00             5
## 738      1          91              0         0      0.00             2
## 739      0          68              1         0      0.00             1
## 740      0         101              1         0      0.00             1
## 741      0          67              1         1      2.54             1
## 742      0          66              1         0      0.00             0
## 743      0         116              1         1      3.08             5
## 744      0         158              1         0      0.00             1
## 745      0          78              1         0      0.00             1
## 746      0         119              1         1      1.78             1
## 747      0         120              1         0      0.30             1
## 748      0         155              1         0      0.34             1
## 749      0         106              1         0      0.00             1
## 750      0          87              0         0      0.00             1
## 751      0         146              1         1      2.21             3
## 752      0         101              1         1      2.73             0
## 753      0          22              1         1      3.43             3
## 754      0          90              1         0      0.00             2
## 755      0          41              1         0      0.34             1
## 756      0          69              1         0      0.00             2
## 757      0          33              1         0      0.00             2
```

```
## 758      0         112              1         0       0.00              1
## 759      0         108              1         1       2.65              2
## 760      0         136              1         1       2.57              2
## 761      0         128              1         0       0.00              1
## 762      0          27              1         0       0.00              2
## 763      0         161              0         0       0.00              1
## 764      0          33              1         1       4.05              0
## 765      0         120              1         1       3.08              0
## 766      0         113              1         0       0.00              2
## 767      1         122              0         0       0.00              0
## 768      0         148              1         1       4.10              2
## 769      0          74              1         0       0.00              3
## 770      0         106              1         0       0.26              1
## 771      0         179              1         0       0.00              1
## 772      1         149              0         1       2.38              5
## 773      0          77              1         0       0.00              0
## 774      1         127              0         0       0.00              1
## 775      0          80              1         0       0.00              1
## 776      0         106              1         0       0.00              1
## 777      0          61              1         1       2.84              0
## 778      0         135              0         1       1.57              2
## 779      0         115              1         1       3.67              6
## 780      0         167              0         0       0.00              2
## 781      0         107              0         0       0.00              2
## 782      0         112              0         0       0.00              1
## 783      0          35              1         1       2.54              1
## 784      0         103              0         0       0.38              3
## 785      0         107              1         1       3.02              1
## 786      0          69              1         0       0.00              3
## 787      0          85              1         0       0.00              0
## 788      1          24              1         0       0.00              2
## 789      0          90              1         0       0.00              2
## 790      0         137              1         0       0.00              3
## 791      0          92              0         1       2.03              0
## 792      0          38              1         0       0.00              2
## 793      1          69              0         1       2.21              1
## 794      0          45              1         0       0.00              2
## 795      0          73              1         0       0.00              1
## 796      0          92              1         0       0.00              1
## 797      0         113              1         1       2.27              1
## 798      1          68              0         0       0.00              1
## 799      0         135              1         1       3.94              2
## 800      0         100              1         1       4.29              1
## 801      0          96              1         1       3.05              1
## 802      0         108              1         0       0.00              1
## 803      0          84              1         0       0.00              0
## 804      0         134              1         0       0.35              1
## 805      0          72              1         0       0.00              0
## 806      0          83              1         0       0.00              0
## 807      0         137              1         0       0.00              0
## 808      0          56              1         1       3.27              1
## 809      0          61              0         1       3.05              0
## 810      0         171              1         1       1.57              1
## 811      0         123              1         0       0.00              1
```

```
## 812      0          58              1         0      0.19             0
## 813      0         156              1         0      0.00             1
## 814      0         166              1         0      0.00             0
## 815      0          75              1         1      3.35             1
## 816      1          75              1         0      0.00             2
## 817      0          83              1         0      0.00             1
## 818      0         243              1         0      0.00             2
## 819      0         153              1         0      0.00             1
## 820      0         150              1         0      0.26             1
## 821      0          92              1         1      3.43             2
## 822      0          80              1         0      0.00             0
## 823      0         134              1         0      0.31             1
## 824      0          77              1         1      2.73             1
## 825      0         147              1         0      0.00             2
## 826      0          74              1         0      0.00             1
## 827      0         138              0         0      0.00             1
## 828      0         143              1         0      0.42             0
## 829      0          64              1         0      0.00             2
## 830      0         120              1         0      0.00             2
## 831      1         121              0         0      0.00             3
## 832      0          88              1         0      0.00             2
## 833      1          87              1         0      0.00             2
## 834      0         100              1         0      0.30             0
## 835      0         104              1         0      0.00             3
## 836      0          27              1         0      0.00             1
## 837      0          81              1         1      2.62             0
## 838      0          64              0         1      2.19             0
## 839      0         107              1         1      3.21             1
## 840      0          88              1         1      4.35             1
## 841      0         111              1         0      0.00             3
## 842      0          77              1         0      0.00             5
## 843      0          67              0         0      0.00             2
## 844      0         102              1         0      0.00             1
## 845      0         146              1         1      3.94             1
## 846      0         144              1         1      2.70             1
## 847      1          96              1         0      0.00             1
## 848      0          70              1         1      2.78             1
## 849      0         149              1         0      0.00             0
## 850      0         129              1         0      0.00             2
## 851      0         166              1         0      0.00             0
## 852      1         136              0         0      0.00             3
## 853      0         149              1         0      0.00             3
## 854      0          70              1         0      0.00             3
## 855      0         120              1         1      2.62             2
## 856      0          66              1         0      0.00             2
## 857      0         104              1         0      0.27             1
## 858      0         160              1         0      0.00             1
## 859      0         129              1         1      3.16             1
## 860      1          93              1         0      0.00             3
## 861      0         169              1         0      0.00             2
## 862      0          58              1         0      0.00             1
## 863      0          75              1         1      3.54             3
## 864      0          45              1         0      0.00             1
## 865      0         155              1         0      0.00             3
```

```
## 866      0          52          1         0      0.00          4
## 867      0         119          1         1      3.00          0
## 868      0          86          1         0      0.00          1
## 869      0          42          1         0      0.00          0
## 870      0         127          0         0      0.26          2
## 871      0         123          1         0      0.00          0
## 872      1          98          1         0      0.00          4
## 873      0         149          1         1      2.94          1
## 874      0         160          1         0      0.18          1
## 875      0         103          1         0      0.00          5
## 876      0         132          1         1      2.46          1
## 877      0         137          1         0      0.00          1
## 878      0         129          0         0      0.00          1
## 879      0          62          1         0      0.00          1
## 880      0         122          1         1      3.19          4
## 881      0          32          1         0      0.00          1
## 882      0          86          1         0      0.00          3
## 883      0         130          1         0      0.35          1
## 884      0          42          1         0      0.00          1
## 885      0          73          1         0      0.00          2
## 886      0          66          1         1      1.46          2
## 887      0         103          1         1      2.40          0
## 888      0         128          1         0      0.00          1
## 889      0         104          1         0      0.23          2
## 890      0         103          1         0      0.00          0
## 891      0         124          1         0      0.00          0
## 892      0          87          1         0      0.00          1
## 893      1         109          1         1      3.32          1
## 894      0         167          0         0      0.00          2
## 895      1          97          1         0      0.00          4
## 896      0         106          1         0      0.25          2
## 897      0         125          1         0      0.00          2
## 898      0         108          1         1      4.19          0
## 899      0         125          1         0      0.30          1
## 900      0          89          1         1      2.35          1
## 901      0          72          0         1      1.49          0
## 902      1          23          1         0      0.00          2
## 903      0         149          1         0      0.00          7
## 904      0          73          1         0      0.00          0
## 905      1          61          1         0      0.00          1
## 906      1         161          1         0      0.16          4
## 907      0          73          1         0      0.00          0
## 908      0         118          1         1      4.56          1
## 909      0          23          1         0      0.00          6
## 910      0         127          1         1      1.38          0
## 911      0          42          1         1      2.19          0
## 912      1         118          1         0      0.00          5
## 913      0          45          1         0      0.00          2
## 914      0          50          1         1      2.86          1
## 915      1         179          1         0      0.00          0
## 916      0         152          1         0      0.22          2
## 917      0         105          1         0      0.00          2
## 918      0          72          1         0      0.00          0
## 919      0          52          1         0      0.00          1
```

```
## 920      0         125              1         0       0.00              1
## 921      0         143              1         0       0.29              1
## 922      0          65              1         0       0.00              1
## 923      0          80              1         0       0.00              1
## 924      0           1              1         0       0.00              1
## 925      0          60              1         0       0.00              1
## 926      0          43              1         0       0.00              1
## 927      0         143              1         0       0.00              0
## 928      0          81              1         1       3.08              0
## 929      0         205              1         1       2.11              2
## 930      0          24              1         0       0.00              1
## 931      0          74              1         0       0.00              0
## 932      0          77              1         0       0.00              1
## 933      0          74              1         0       0.00              1
## 934      1          74              0         0       0.00              1
## 935      0         200              1         0       0.00              1
## 936      0          86              1         0       0.00              4
## 937      0          91              1         1       2.48              0
## 938      0          76              1         0       0.00              2
## 939      0         130              1         0       0.00              1
## 940      0          56              1         0       0.32              2
## 941      0         117              1         0       0.00              0
## 942      0          63              1         0       0.36              2
## 943      0         126              1         0       0.00              0
## 944      0         132              1         0       0.31              1
## 945      1          81              1         1       2.48              4
## 946      0         122              1         0       0.00              2
## 947      1          46              1         0       0.00              2
## 948      0         150              1         1       2.97              1
## 949      0          99              1         0       0.00              1
## 950      0          87              1         0       0.00              1
## 951      0         108              1         0       0.00              1
## 952      0         101              1         0       0.00              4
## 953      0          53              1         0       0.22              3
## 954      0         132              1         1       2.32              2
## 955      0         158              1         0       0.00              2
## 956      0         114              1         1       2.78              0
## 957      0          77              1         1       1.92              2
## 958      0         144              0         0       0.27              0
## 959      0          91              1         1       3.32              3
## 960      0          58              1         0       0.00              2
## 961      0           5              1         0       0.00              3
## 962      0          97              1         0       0.29              0
## 963      0         107              1         0       0.47              3
## 964      0         142              1         1       2.92              1
## 965      0           9              1         1       3.59              1
## 966      0          73              1         0       0.00              0
## 967      1          48              1         1       4.24              2
## 968      0          43              1         0       0.36              0
## 969      1         122              1         1       3.65              1
## 970      0          93              1         0       0.42              0
## 971      0          85              1         0       0.00              1
## 972      0          59              1         0       0.28              3
## 973      0          87              1         0       0.29              1
```

```
## 974      0         137              1        0      0.26            0
## 975      0          21              1        1      2.57            6
## 976      1         129              1        0      0.00            0
## 977      0         104              1        0      0.00            0
## 978      1          93              1        1      3.19            4
## 979      1          63              1        0      0.00            4
## 980      0         161              1        0      0.00            0
## 981      0          50              1        0      0.00            3
## 982      0         103              1        1      1.86            1
## 983      0          84              1        1      3.51            1
## 984      0          92              1        0      0.29            1
## 985      0          77              1        0      0.00            1
## 986      1          64              0        0      0.00            1
## 987      0         159              1        1      3.19            1
## 988      1         110              0        1      2.24            1
## 989      0         138              1        0      0.28            3
## 990      0         178              1        0      0.00            1
## 991      0          38              1        1      1.05            0
## 992      0          50              1        1      2.13            2
## 993      0          45              1        1      2.08            1
## 994      0          70              1        0      0.17            0
## 995      0         147              1        1      2.81            3
## 996      0          94              1        0      0.00            1
## 997      0         179              1        0      0.00            0
## 998      0         116              1        0      0.23            2
## 999      0          59              1        0      0.00            0
## 1000     0         165              1        0      0.00            0
## 1001     1         133              1        0      0.00            2
## 1002     0         140              1        0      0.00            1
## 1003     0          93              1        1      1.84            2
## 1004     0          52              1        1      2.21            0
## 1005     0          64              1        1      3.32            1
## 1006     0          12              0        0      0.00            2
## 1007     0          48              1        0      0.00            2
## 1008     0         181              1        0      0.00            1
## 1009     0         168              1        1      3.08            2
## 1010     0         155              1        0      0.00            3
## 1011     0         105              1        0      0.00            0
## 1012     0          11              1        0      0.00            2
## 1013     0         182              1        0      0.36            2
## 1014     0         104              1        0      0.00            1
## 1015     0         102              1        0      0.00            0
## 1016     0         122              1        0      0.00            0
## 1017     0          41              1        0      0.00            1
## 1018     0         132              1        0      0.00            2
## 1019     1          76              1        0      0.00            1
## 1020     0          13              1        0      0.00            1
## 1021     0         115              1        1      3.83            2
## 1022     0          67              1        0      0.42            1
## 1023     0         154              1        0      0.00            0
## 1024     0         100              1        0      0.00            2
## 1025     0         146              0        0      0.00            1
## 1026     0         148              1        1      3.32            1
## 1027     0          67              1        1      2.70            2
```

```
## 1028     1          161              0         0       0.00             1
## 1029     0           70              1         0       0.00             1
## 1030     0          116              1         0       0.00             0
## 1031     1           99              1         1       2.51             2
## 1032     0           87              1         0       0.29             1
## 1033     0           87              1         0       0.32             1
## 1034     0           70              1         0       0.00             2
## 1035     0          131              1         0       0.00             2
## 1036     0          119              1         0       0.18             2
## 1037     0          119              1         1       3.24             3
## 1038     0           87              0         0       0.00             0
## 1039     1          112              1         0       0.00             5
## 1040     0           75              1         0       0.00             2
## 1041     0          150              1         0       0.00             4
## 1042     0          161              1         1       4.35             0
## 1043     0           91              0         1       2.67             0
## 1044     0          124              1         0       0.00             3
## 1045     0           94              0         0       0.00             4
## 1046     0          217              1         0       0.00             4
## 1047     0          158              1         0       0.31             0
## 1048     0          102              1         0       0.33             0
## 1049     0           85              1         0       0.00             0
## 1050     0           79              1         0       0.00             1
## 1051     0          139              1         1       3.48             2
## 1052     0          103              1         0       0.00             0
## 1053     0           98              0         0       0.00             1
## 1054     0           78              1         0       0.21             2
## 1055     0           50              1         0       0.00             1
## 1056     0          161              1         0       0.00             1
## 1057     0           67              1         0       0.00             0
## 1058     0           86              1         1       3.59             1
## 1059     0           92              1         0       0.00             0
## 1060     0          174              1         0       0.29             1
## 1061     0          124              1         0       0.00             1
## 1062     0          132              1         1       2.78             1
## 1063     0          190              1         1       2.67             1
## 1064     0          101              1         0       0.00             1
## 1065     0          185              0         1       3.48             2
## 1066     0           68              1         1       2.67             0
## 1067     0          117              1         1       3.19             0
## 1068     0          118              1         0       0.32             1
## 1069     0          124              1         0       0.21             0
## 1070     0           22              1         0       0.00             1
## 1071     0           75              1         0       0.00             1
## 1072     0          134              1         0       0.00             1
## 1073     0          164              1         1       3.86             1
## 1074     0           44              1         0       0.32             1
## 1075     0          177              1         0       0.00             2
## 1076     0          110              1         0       0.00             0
## 1077     0           53              1         1       1.76             1
## 1078     1          108              1         0       0.00             4
## 1079     1           80              1         0       0.00             0
## 1080     0          158              1         0       0.00             1
## 1081     0          114              1         0       0.00             0
```

```
## 1082     0          64              1        1      2.03            1
## 1083     0          88              1        0      0.00            3
## 1084     0          82              0        0      0.00            3
## 1085     0         111              1        0      0.00            3
## 1086     0          60              1        0      0.00            2
## 1087     0         113              1        0      0.00            3
## 1088     0         109              1        0      0.00            1
## 1089     0         105              1        1      3.48            0
## 1090     0          85              1        0      0.00            2
## 1091     0         131              1        0      0.46            0
## 1092     0          59              1        0      0.27            2
## 1093     0         148              1        0      0.45            1
## 1094     0         210              1        0      0.28            2
## 1095     0         115              1        0      0.00            0
## 1096     0         106              1        0      0.00            1
## 1097     0          93              1        0      0.00            1
## 1098     0          57              1        1      3.51            1
## 1099     0          98              1        0      0.41            1
## 1100     0         157              1        0      0.00            3
## 1101     0         116              1        1      2.24            1
## 1102     0          30              1        0      0.00            2
## 1103     1         111              1        0      0.00            4
## 1104     0          52              1        0      0.00            0
## 1105     0          72              1        0      0.00            4
## 1106     1         135              1        1      3.48            2
## 1107     0          86              1        0      0.42            3
## 1108     0          98              1        1      3.46            3
## 1109     0         151              1        0      0.00            3
## 1110     0         118              1        0      0.00            0
## 1111     0         117              1        0      0.41            2
## 1112     0          55              1        0      0.23            0
## 1113     0          82              1        0      0.00            0
## 1114     0         152              1        0      0.00            1
## 1115     0         108              1        1      2.94            1
## 1116     1          98              1        0      0.00            1
## 1117     0         130              1        0      0.00            3
## 1118     0         136              0        0      0.00            1
## 1119     0          47              1        0      0.00            3
## 1120     0         189              1        0      0.00            3
## 1121     0         107              1        0      0.00            1
## 1122     1          91              1        0      0.00            5
## 1123     1         159              1        0      0.00            1
## 1124     0          11              1        1      2.70            2
## 1125     0         167              1        0      0.00            1
## 1126     0         111              1        0      0.26            2
## 1127     0          99              1        1      1.97            2
## 1128     0         159              1        1      4.56            0
## 1129     0         114              0        1      3.32            2
## 1130     0          71              1        0      0.00            2
## 1131     0         122              1        0      0.00            1
## 1132     0         100              1        1      3.51            1
## 1133     0          83              1        1      3.19            1
## 1134     1          64              1        0      0.00            5
## 1135     0         105              1        0      0.00            1
```

```
## 1136     0         144               1        1      3.29             2
## 1137     1         106               0        1      3.89             1
## 1138     0          19               1        1      3.05             1
## 1139     0          46               1        0      0.42             1
## 1140     0         127               1        0      0.00             2
## 1141     0           9               1        1      2.73             1
## 1142     0         157               1        0      0.00             1
## 1143     1         105               1        0      0.00             6
## 1144     0         105               1        1      2.70             0
## 1145     0         155               1        0      0.39             2
## 1146     0          31               1        0      0.00             0
## 1147     0         161               1        0      0.00             1
## 1148     0          95               1        1      2.86             0
## 1149     0         122               1        0      0.00             3
## 1150     0          37               0        0      0.00             2
## 1151     1         132               1        0      0.00             5
## 1152     0         119               1        1      3.05             0
## 1153     0          16               1        0      0.00             1
## 1154     0          99               1        0      0.00             1
## 1155     0          76               1        1      2.19             1
## 1156     1         167               1        0      0.00             4
## 1157     0         129               1        0      0.00             1
## 1158     0         116               1        0      0.20             1
## 1159     0          60               0        0      0.00             1
## 1160     0         128               1        0      0.00             0
## 1161     0          47               1        1      2.86             0
## 1162     0          40               0        0      0.00             3
## 1163     0         173               1        0      0.00             0
## 1164     0         157               1        1      1.92             1
## 1165     0          66               1        1      3.24             2
## 1166     0          50               0        1      2.16             0
## 1167     0          72               1        0      0.42             3
## 1168     0         130               1        0      0.00             1
## 1169     0         143               1        0      0.20             1
## 1170     0          89               0        0      0.00             1
## 1171     0         108               1        0      0.00             0
## 1172     0          32               1        0      0.00             1
## 1173     0         166               1        0      0.00             2
## 1174     0         109               1        0      0.00             1
## 1175     0          72               1        1      1.57             1
## 1176     0         134               1        1      2.32             0
## 1177     0          13               1        0      0.00             4
## 1178     0          90               1        0      0.00             3
## 1179     0         111               1        1      3.02             3
## 1180     0         101               1        1      1.97             1
## 1181     0          72               1        0      0.00             0
## 1182     0          67               1        1      2.03             1
## 1183     1         172               1        0      0.00             3
## 1184     0         154               1        1      2.43             2
## 1185     0          69               1        0      0.29             2
## 1186     0         123               1        0      0.15             3
## 1187     0         130               1        1      2.35             0
## 1188     0         142               1        1      1.59             2
## 1189     0          29               1        0      0.00             1
```

```
## 1190     0          87              1         1      3.02             0
## 1191     0         149              1         0      0.00             0
## 1192     0         146              0         0      0.00             2
## 1193     1          88              0         0      0.00             4
## 1194     1         119              0         1      2.35             5
## 1195     0          48              1         0      0.00             1
## 1196     0         135              1         0      0.00             1
## 1197     0         100              1         0      0.00             1
## 1198     0          98              1         0      0.00             4
## 1199     0          75              1         1      3.62             2
## 1200     0         180              1         1      2.05             1
## 1201     0         100              1         1      3.13             1
## 1202     0         119              1         1      2.16             2
## 1203     0          86              1         0      0.00             0
## 1204     0         155              1         1      1.38             1
## 1205     1          78              0         0      0.00             1
## 1206     0         153              1         0      0.00             1
## 1207     0          92              1         1      2.62             0
## 1208     0          13              1         1      3.05             2
## 1209     0         154              1         0      0.00             3
## 1210     0         144              0         1      3.46             0
## 1211     0          48              1         0      0.20             1
## 1212     0          94              1         0      0.00             1
## 1213     0         139              1         0      0.00             1
## 1214     0         126              1         0      0.00             1
## 1215     0         122              1         0      0.29             2
## 1216     0         139              1         0      0.00             1
## 1217     0          95              1         0      0.00             3
## 1218     0          80              1         1      2.89             4
## 1219     0         131              1         1      2.05             3
## 1220     0          36              1         0      0.00             1
## 1221     0         180              1         0      0.00             2
## 1222     0          25              1         0      0.00             2
## 1223     0         113              1         0      0.00             3
## 1224     0          88              1         1      3.08             1
## 1225     0         120              1         0      0.00             1
## 1226     0          74              1         0      0.00             1
## 1227     0         109              1         0      0.00             2
## 1228     0         162              1         1      3.32             0
## 1229     0         124              1         1      2.40             1
## 1230     0         177              1         0      0.27             2
## 1231     0          91              1         0      0.00             1
## 1232     1         105              1         0      0.00             0
## 1233     1          24              1         0      0.23             0
## 1234     0          48              1         0      0.00             0
## 1235     0          86              1         0      0.00             2
## 1236     0         163              1         0      0.35             4
## 1237     0          91              1         0      0.30             0
## 1238     0          56              1         0      0.00             3
## 1239     0         147              0         1      2.19             3
## 1240     0          64              1         0      0.43             2
## 1241     1         108              1         1      2.59             4
## 1242     0         159              1         0      0.29             5
## 1243     0         136              0         0      0.00             3
```

```
## 1244     0         116              1        1      2.97             1
## 1245     0          45              1        1      2.08             1
## 1246     0         122              1        0      0.23             2
## 1247     0         138              1        0      0.00             5
## 1248     0         132              1        0      0.00             1
## 1249     0         101              0        0      0.38             0
## 1250     0          58              1        0      0.29             2
## 1251     0          81              1        0      0.00             1
## 1252     0          87              1        0      0.00             3
## 1253     0         116              1        0      0.00             2
## 1254     0          85              0        0      0.38             4
## 1255     1          62              1        1      3.00             2
## 1256     0          90              1        0      0.00             0
## 1257     0          98              1        0      0.00             2
## 1258     0          73              1        0      0.00             1
## 1259     0         107              0        0      0.00             2
## 1260     0          55              1        1      3.38             2
## 1261     0          76              1        1      2.57             3
## 1262     0          30              1        0      0.00             3
## 1263     0         157              1        0      0.00             4
## 1264     1          40              1        1      2.03             1
## 1265     0          72              1        0      0.28             1
## 1266     0          95              1        1      2.73             1
## 1267     0          42              1        0      0.00             0
## 1268     0          86              1        0      0.34             1
## 1269     0         131              1        0      0.33             0
## 1270     1          55              1        1      2.97             4
## 1271     0          74              1        0      0.00             0
## 1272     0          81              0        1      2.13             1
## 1273     0          81              1        0      0.00             4
## 1274     1          28              1        0      0.00             6
## 1275     0         111              1        0      0.00             0
## 1276     0           3              1        1      3.08             2
## 1277     1          51              1        0      0.00             1
## 1278     0          68              1        1      3.97             1
## 1279     1         163              1        0      0.35             0
## 1280     0          87              1        0      0.36             2
## 1281     1          58              1        0      0.00             0
## 1282     0         109              1        0      0.27             0
## 1283     0         111              1        0      0.00             4
## 1284     0         144              1        0      0.00             2
## 1285     1         135              1        0      0.00             5
## 1286     0         109              1        1      2.43             4
## 1287     0         107              1        1      2.03             1
## 1288     0         149              1        0      0.00             2
## 1289     0          56              1        0      0.30             1
## 1290     0         129              1        0      0.37             0
## 1291     0          92              1        0      0.00             0
## 1292     0          67              1        1      3.92             1
## 1293     0         120              1        0      0.00             0
## 1294     0         166              1        0      0.39             1
## 1295     0          66              1        0      0.24             1
## 1296     0          76              1        0      0.00             0
## 1297     0          79              1        0      0.00             2
```

```
## 1298     0          98              1        1      3.48            2
## 1299     0         141              1        1      2.11            1
## 1300     1          49              1        0      0.00            2
## 1301     0          46              1        0      0.21            3
## 1302     0         137              1        0      0.13            3
## 1303     1         171              1        0      0.00            1
## 1304     0          10              1        0      0.42            1
## 1305     0          88              1        0      0.00            3
## 1306     0          89              1        0      0.00            2
## 1307     1          82              1        0      0.00            3
## 1308     0         139              1        0      0.00            3
## 1309     0          87              1        0      0.00            0
## 1310     0         137              0        0      0.34            2
## 1311     1          45              1        0      0.00            1
## 1312     0          90              1        0      0.00            1
## 1313     0         103              1        0      0.00            1
## 1314     0         100              1        0      0.21            2
## 1315     0         110              1        0      0.00            3
## 1316     0         124              1        0      0.00            2
## 1317     0          10              1        0      0.00            2
## 1318     0          89              1        1      2.03            2
## 1319     0         121              1        0      0.32            2
## 1320     0         101              1        0      0.00            3
## 1321     0         103              1        1      3.92            2
## 1322     0          51              1        0      0.00            1
## 1323     1           2              0        0      0.27            2
## 1324     0         111              1        0      0.00            0
## 1325     0         118              1        0      0.00            2
## 1326     1          17              1        1      2.70            6
## 1327     0         130              1        0      0.00            2
## 1328     1         193              1        0      0.29            2
## 1329     0         114              1        0      0.40            1
## 1330     0         137              1        0      0.29            2
## 1331     0         185              1        1      3.73            2
## 1332     0         101              1        0      0.00            3
## 1333     0          95              1        1      2.84            3
## 1334     0           7              1        1      2.92            1
## 1335     1         126              1        0      0.00            1
## 1336     0          71              1        0      0.00            0
## 1337     0         124              1        0      0.00            3
## 1338     1          97              0        0      0.38            0
## 1339     0          28              1        0      0.00            2
## 1340     1          90              0        0      0.00            4
## 1341     0         190              1        0      0.00            1
## 1342     0          31              1        1      3.11            1
## 1343     0          52              1        1      1.11            2
## 1344     0          73              1        0      0.00            0
## 1345     1         111              1        0      0.00            0
## 1346     1          98              1        0      0.00            4
## 1347     1         106              0        0      0.00            1
## 1348     0         111              1        0      0.00            0
## 1349     0          59              1        0      0.26            1
## 1350     0          71              1        1      1.51            2
## 1351     1          55              1        0      0.40            0
```

```
## 1352     0          13          1         0      0.00          1
## 1353     0         136          1         1      3.54          0
## 1354     0         123          1         0      0.24          0
## 1355     0         105          1         0      0.26          2
## 1356     0          50          1         1      3.67          3
## 1357     0         118          1         0      0.00          1
## 1358     0          97          1         0      0.00          3
## 1359     0          51          1         0      0.00          0
## 1360     1          73          1         0      0.00          1
## 1361     0          35          1         0      0.32          2
## 1362     0          64          1         0      0.00          1
## 1363     0          63          1         0      0.00          3
## 1364     0         117          1         1      2.08          3
## 1365     1         115          1         0      0.00          1
## 1366     0         162          1         0      0.00          1
## 1367     0          89          1         0      0.00          3
## 1368     0          94          0         0      0.28          1
## 1369     0         129          1         0      0.00          4
## 1370     0          86          1         0      0.00          1
## 1371     0          96          1         0      0.00          1
## 1372     0         190          1         0      0.00          1
## 1373     0          80          1         0      0.00          1
## 1374     1         108          1         0      0.00          4
## 1375     0          97          1         1      2.30          0
## 1376     0          84          1         1      3.05          0
## 1377     1          65          1         0      0.00          4
## 1378     0         131          1         1      3.62          1
## 1379     0          58          0         1      2.40          1
## 1380     0          36          1         0      0.29          3
## 1381     0          54          1         0      0.00          1
## 1382     0          45          1         0      0.37          1
## 1383     0         125          1         1      2.46          2
## 1384     0          72          1         1      2.21          2
## 1385     0         141          1         0      0.26          3
## 1386     0         113          1         0      0.00          0
## 1387     0          20          1         1      1.92          0
## 1388     0         212          1         0      0.00          1
## 1389     0          99          0         0      0.00          4
## 1390     0          94          1         0      0.00          1
## 1391     0          40          1         0      0.00          1
## 1392     0          86          1         1      2.27          3
## 1393     1         101          1         0      0.00          3
## 1394     0         170          1         0      0.21          0
## 1395     0         105          1         0      0.00          1
## 1396     0         103          1         0      0.33          0
## 1397     0         140          0         1      3.11          4
## 1398     0         101          1         0      0.30          1
## 1399     0          98          1         1      2.97          1
## 1400     0         104          1         0      0.33          4
## 1401     0         115          1         0      0.00          3
## 1402     0         112          1         0      0.00          0
## 1403     0          70          1         0      0.00          1
## 1404     0         126          1         0      0.00          0
## 1405     0          87          1         1      2.57          3
```

```
## 1406     1         125              1        0      0.00            4
## 1407     0          86              1        0      0.00            1
## 1408     1          73              1        1      3.19            6
## 1409     0         232              1        0      0.14            1
## 1410     0           1              1        1      2.27            0
## 1411     0         133              1        0      0.00            1
## 1412     0         103              1        0      0.00            1
## 1413     0         131              1        1      2.54            1
## 1414     0          95              1        1      2.65            0
## 1415     0         182              1        0      0.35            1
## 1416     0          99              1        0      0.00            0
## 1417     0          27              1        0      0.00            3
## 1418     0         141              1        0      0.32            1
## 1419     0          29              0        1      1.54            2
## 1420     0          65              1        0      0.00            2
## 1421     1          81              0        0      0.00            3
## 1422     0          37              1        1      2.81            0
## 1423     0         107              1        1      1.51            1
## 1424     0         127              0        1      2.81            1
## 1425     0          78              1        0      0.34            0
## 1426     0          55              1        0      0.00            2
## 1427     0          86              1        1      2.65            2
## 1428     0         176              1        0      0.00            2
## 1429     0          96              0        0      0.00            2
## 1430     0          11              1        1      1.89            1
## 1431     0          48              1        1      2.05            1
## 1432     0         127              1        0      0.00            1
## 1433     0          63              1        0      0.27            0
## 1434     0          79              1        0      0.00            1
## 1435     0          47              1        1      3.56            2
## 1436     1          89              0        1      3.00            0
## 1437     0          83              1        1      2.92            1
## 1438     0         126              0        1      2.62            4
## 1439     0          60              1        0      0.27            2
## 1440     0         122              1        0      0.00            0
## 1441     0         136              1        0      0.00            1
## 1442     0         172              1        1      2.38            1
## 1443     1         102              1        0      0.00            1
## 1444     0         113              0        0      0.31            1
## 1445     0          79              1        0      0.00            3
## 1446     0          55              1        1      2.62            1
## 1447     0         111              1        1      2.78            2
## 1448     0         160              1        0      0.31            0
## 1449     0         110              1        0      0.00            4
## 1450     0         192              1        0      0.00            4
## 1451     0          93              1        0      0.00            0
## 1452     0         101              1        1      2.57            2
## 1453     0          77              1        0      0.00            2
## 1454     0         105              1        1      2.19            2
## 1455     1         133              1        1      3.81            2
## 1456     0         131              1        0      0.00            1
## 1457     0         106              1        1      2.67            1
## 1458     0         118              1        0      0.00            1
## 1459     0         125              1        0      0.00            1
```

```
## 1460     0          95          1          0       0.00          0
## 1461     0          80          1          0       0.00          3
## 1462     0         145          1          0       0.32          0
## 1463     0          37          1          0       0.00          2
## 1464     0          87          1          0       0.00          1
## 1465     0          69          1          0       0.00          3
## 1466     0          83          1          0       0.00          1
## 1467     0         195          1          0       0.00          0
## 1468     1          67          0          1       4.56          0
## 1469     0          75          1          1       1.13          3
## 1470     0         123          1          1       4.05          0
## 1471     0          41          1          1       1.59          1
## 1472     0          75          1          0       0.00          0
## 1473     1          76          0          0       0.30          1
## 1474     0          86          0          0       0.00          1
## 1475     0         140          1          0       0.38          0
## 1476     0          70          1          0       0.00          3
## 1477     0         121          1          1       1.59          0
## 1478     0         112          1          0       0.00          1
## 1479     0         118          1          0       0.00          2
## 1480     0          66          1          1       2.40          1
## 1481     0          78          1          0       0.35          0
## 1482     0         129          1          1       4.00          2
## 1483     0           6          1          0       0.00          3
## 1484     0         107          0          0       0.29          1
## 1485     1         107          0          0       0.00          3
## 1486     0         138          1          0       0.27          1
## 1487     0         103          1          0       0.00          0
## 1488     0         116          1          1       3.00          0
## 1489     0         189          1          0       0.00          2
## 1490     0         161          1          0       0.00          2
## 1491     0           1          1          0       0.25          1
## 1492     0          89          1          0       0.00          1
## 1493     0          64          1          0       0.00          1
## 1494     1         126          1          1       3.46          4
## 1495     0         129          1          0       0.00          2
## 1496     0         128          1          1       2.92          0
## 1497     0          81          1          1       3.16          3
## 1498     0         114          1          0       0.00          1
## 1499     0          50          1          0       0.00          0
## 1500     0          86          1          0       0.00          3
## 1501     0          96          1          0       0.00          1
## 1502     0          72          1          0       0.27          0
## 1503     0          64          1          1       1.59          8
## 1504     0          57          0          1       3.29          2
## 1505     0          65          1          0       0.00          2
## 1506     0         163          1          0       0.00          1
## 1507     0         136          1          0       0.36          2
## 1508     0         116          1          0       0.00          1
## 1509     0          93          1          0       0.17          3
## 1510     0         142          1          1       2.48          3
## 1511     0          92          1          0       0.00          1
## 1512     0          70          1          0       0.00          1
## 1513     0          22          1          1       1.13          1
```

```
## 1514     0          37          1         0      0.00          2
## 1515     0          51          1         0      0.00          1
## 1516     0         174          1         0      0.22          2
## 1517     1          68          1         0      0.21          1
## 1518     0         130          1         0      0.00          1
## 1519     0         104          1         0      0.00          2
## 1520     0         134          1         0      0.35          2
## 1521     0         108          1         1      2.57          2
## 1522     0         103          1         0      0.00          3
## 1523     0          62          1         0      0.29          1
## 1524     0         162          1         0      0.28          2
## 1525     0          93          1         1      3.38          2
## 1526     0          42          1         0      0.00          1
## 1527     0         155          1         1      3.62          2
## 1528     0          36          1         0      0.00          0
## 1529     1         143          1         0      0.00          0
## 1530     0         197          1         0      0.24          3
## 1531     1          81          1         0      0.00          1
## 1532     1         138          0         0      0.00          4
## 1533     1         103          1         1      3.11          0
## 1534     1         127          0         0      0.00          2
## 1535     1         136          1         0      0.31          1
## 1536     0          99          1         0      0.33          2
## 1537     0          95          1         0      0.00          0
## 1538     1         118          0         1      3.00          4
## 1539     1         113          1         0      0.00          5
## 1540     0         128          0         0      0.00          0
## 1541     0         117          1         0      0.00          3
## 1542     0          48          1         1      2.05          3
## 1543     0          81          0         0      0.25          0
## 1544     0          57          1         0      0.19          1
## 1545     0         140          1         0      0.26          1
## 1546     0         107          1         1      2.97          2
## 1547     0          56          1         0      0.00          1
## 1548     0         159          1         0      0.00          1
## 1549     0         102          1         0      0.33          1
## 1550     0         107          1         0      0.00          1
## 1551     0         106          1         0      0.24          2
## 1552     1         225          1         0      0.30          0
## 1553     0          75          1         0      0.00          2
## 1554     0          86          1         0      0.00          0
## 1555     0         169          1         0      0.00          1
## 1556     0         122          1         1      2.32          2
## 1557     0         106          1         0      0.00          0
## 1558     0          52          1         1      3.65          2
## 1559     0          79          1         1      4.00          2
## 1560     0         135          1         0      0.17          2
## 1561     0          70          1         0      0.00          0
## 1562     0          80          1         0      0.00          2
## 1563     0          37          1         0      0.00          0
## 1564     0         161          1         1      1.97          1
## 1565     0         137          1         0      0.36          1
## 1566     0         123          1         0      0.00          0
## 1567     0          80          1         1      2.57          2
```

```
## 1568     0          94              1        0      0.00            0
## 1569     0         105              1        1      3.08            1
## 1570     0          73              1        1      3.11            0
## 1571     0         112              1        0      0.00            2
## 1572     0         179              1        0      0.32            1
## 1573     0          57              1        0      0.31            1
## 1574     0         127              1        1      3.13            1
## 1575     0         122              0        1      3.43            1
## 1576     0          33              1        1      2.30            1
## 1577     0          94              1        0      0.00            3
## 1578     0         100              1        0      0.00            1
## 1579     0         106              1        0      0.00            2
## 1580     0         148              1        1      4.46            2
## 1581     0         120              1        1      2.86            0
## 1582     0          91              1        1      1.51            1
## 1583     0          86              1        0      0.00            1
## 1584     0          78              1        1      3.56            0
## 1585     0          94              1        0      0.00            1
## 1586     1          85              1        0      0.00            2
## 1587     0          89              1        0      0.00            1
## 1588     0         128              1        0      0.00            1
## 1589     0         115              0        0      0.00            1
## 1590     0          76              1        0      0.00            1
## 1591     0          75              1        1      3.05            1
## 1592     0          90              1        1      3.00            2
## 1593     0          30              1        0      0.00            3
## 1594     1         105              0        0      0.00            1
## 1595     0         102              1        1      1.70            3
## 1596     0          83              1        0      0.00            3
## 1597     0          63              1        1      2.21            0
## 1598     0         155              1        0      0.00            2
## 1599     0          82              1        1      2.38            2
## 1600     0          87              1        0      0.00            1
## 1601     0         115              1        1      1.22            0
## 1602     1          99              0        0      0.00            0
## 1603     0         121              0        1      2.35            3
## 1604     0          54              1        1      3.05            2
## 1605     0         105              1        0      0.24            3
## 1606     0          73              1        0      0.34            1
## 1607     0          95              1        0      0.00            0
## 1608     0          21              1        1      3.48            3
## 1609     0         163              1        1      3.73            2
## 1610     0          57              1        0      0.00            0
## 1611     0         104              0        0      0.00            4
## 1612     0          83              1        1      3.02            0
## 1613     0         141              1        0      0.24            2
## 1614     0          95              1        0      0.00            3
## 1615     1         184              1        0      0.00            1
## 1616     0          74              1        0      0.00            2
## 1617     0          67              1        0      0.00            0
## 1618     0         104              0        0      0.00            0
## 1619     0          71              1        1      3.21            1
## 1620     1         149              1        0      0.00            4
## 1621     0         154              1        1      2.59            0
```

```
## 1622     0         138              1        1      2.13            0
## 1623     0         117              1        0      0.00            1
## 1624     0         130              1        0      0.00            1
## 1625     0          73              1        0      0.00            2
## 1626     0         100              1        1      2.65            0
## 1627     0         149              1        0      0.37            1
## 1628     0          29              1        0      0.00            2
## 1629     0         131              1        0      0.00            1
## 1630     0         153              1        0      0.00            2
## 1631     0          84              1        0      0.14            2
## 1632     0         133              1        0      0.00            2
## 1633     0         112              1        0      0.00            0
## 1634     0          87              1        0      0.00            0
## 1635     0          72              1        0      0.00            2
## 1636     1          66              1        0      0.00            4
## 1637     0          65              1        1      2.40            1
## 1638     0          74              1        0      0.45            2
## 1639     1         116              1        0      0.00            6
## 1640     0          68              1        0      0.20            2
## 1641     0          68              1        0      0.11            3
## 1642     0          54              0        0      0.00            1
## 1643     0          99              1        0      0.00            1
## 1644     0         107              1        0      0.00            3
## 1645     0         124              1        0      0.00            1
## 1646     0          95              1        1      3.05            3
## 1647     1         173              1        0      0.00            0
## 1648     0         110              1        0      0.30            1
## 1649     0         102              1        0      0.00            0
## 1650     0         130              1        0      0.00            0
## 1651     0          91              1        1      2.59            1
## 1652     1          64              0        0      0.00            1
## 1653     0         176              1        1      1.94            1
## 1654     1          93              0        0      0.00            1
## 1655     0          84              1        1      2.89            1
## 1656     0         138              1        0      0.00            3
## 1657     0         101              1        1      2.89            1
## 1658     0         136              1        0      0.30            2
## 1659     0         111              1        0      0.25            2
## 1660     0         132              1        1      3.70            0
## 1661     0         128              1        0      0.36            3
## 1662     0          92              1        1      2.40            1
## 1663     1         197              0        0      0.12            5
## 1664     0         191              1        0      0.00            1
## 1665     0          99              1        1      2.86            2
## 1666     0         106              1        1      3.32            3
## 1667     0          88              1        0      0.29            2
## 1668     0          78              1        0      0.00            0
## 1669     0          98              1        0      0.16            1
## 1670     0          17              1        1      2.19            1
## 1671     0          56              1        1      3.43            1
## 1672     0          84              1        0      0.16            2
## 1673     0          95              1        0      0.00            2
## 1674     0          16              1        0      0.00            5
## 1675     1          76              0        0      0.34            1
```

```
## 1676     0          93           1        0      0.21           0
## 1677     0          83           1        0      0.00           2
## 1678     0         123           1        0      0.00           1
## 1679     0          64           1        0      0.31           1
## 1680     1          82           1        0      0.00           0
## 1681     0         107           1        0      0.00           2
## 1682     0         110           1        0      0.00           1
## 1683     0          96           1        1      2.30           1
## 1684     0          47           1        1      3.48           2
## 1685     0         115           1        0      0.00           2
## 1686     0          69           1        0      0.27           3
## 1687     0         163           1        1      3.32           2
## 1688     0          90           1        0      0.00           3
## 1689     0          98           1        0      0.00           3
## 1690     0          90           1        1      3.08           1
## 1691     0         174           1        1      3.35           1
## 1692     1          95           1        0      0.00           2
## 1693     1          79           1        0      0.31           1
## 1694     0         123           1        1      3.38           1
## 1695     1          99           1        0      0.00           7
## 1696     0         114           1        0      0.00           2
## 1697     0         141           1        0      0.00           1
## 1698     0         132           1        0      0.00           1
## 1699     0         133           1        0      0.00           0
## 1700     0         133           1        0      0.00           4
## 1701     0          93           1        1      2.54           2
## 1702     1          34           1        0      0.29           2
## 1703     1         140           1        0      0.00           4
## 1704     0          96           1        1      3.00           2
## 1705     1         144           1        0      0.00           1
## 1706     0          24           1        1      1.94           3
## 1707     0          54           1        0      0.00           1
## 1708     1          50           1        0      0.00           5
## 1709     0          92           1        1      3.02           4
## 1710     0          96           1        0      0.00           3
## 1711     0         146           1        0      0.00           2
## 1712     0         138           0        1      3.16           0
## 1713     0         102           1        0      0.00           4
## 1714     1          76           1        0      0.36           5
## 1715     0          99           1        0      0.00           3
## 1716     0          83           1        1      3.59           0
## 1717     0          36           1        1      2.46           1
## 1718     0          70           1        0      0.00           1
## 1719     1         109           0        0      0.00           2
## 1720     0         100           1        0      0.00           2
## 1721     0         104           1        0      0.24           1
## 1722     0         106           1        0      0.00           1
## 1723     0          84           1        0      0.00           1
## 1724     0          80           1        0      0.40           2
## 1725     0         100           1        0      0.00           1
## 1726     0          99           1        0      0.00           2
## 1727     0          50           1        0      0.00           1
## 1728     0         105           1        0      0.00           1
## 1729     0         113           1        1      2.57           4
```

```
## 1730     0         111              1        1      3.62            2
## 1731     0         161              1        0      0.00            2
## 1732     1          70              1        0      0.00            0
## 1733     0          97              1        1      2.24            3
## 1734     0         130              1        0      0.00            0
## 1735     0          92              1        0      0.00            1
## 1736     0         119              1        0      0.00            0
## 1737     1         115              1        0      0.00            1
## 1738     0         134              1        0      0.00            0
## 1739     0         127              1        1      1.30            0
## 1740     1          80              1        0      0.00            2
## 1741     0         153              1        1      2.54            0
## 1742     0          85              1        0      0.00            3
## 1743     0          79              1        0      0.00            1
## 1744     0          35              1        0      0.00            1
## 1745     0         120              1        1      2.08            0
## 1746     0          68              1        0      0.33            0
## 1747     1          60              1        0      0.00            1
## 1748     0         120              1        0      0.00            1
## 1749     0          71              1        1      3.81            1
## 1750     0         124              1        0      0.00            3
## 1751     1          23              1        0      0.00            1
## 1752     0         225              1        0      0.00            1
## 1753     1         181              0        0      0.21            0
## 1754     0          63              1        0      0.00            2
## 1755     1          54              0        0      0.38            2
## 1756     0          80              0        1      3.21            1
## 1757     0         118              0        1      2.48            1
## 1758     0          42              0        0      0.00            2
## 1759     0         134              1        0      0.00            0
## 1760     0          66              1        1      2.40            0
## 1761     0          66              1        0      0.31            2
## 1762     0         127              1        1      2.08            1
## 1763     0         146              1        0      0.00            0
## 1764     0          93              1        1      3.11            1
## 1765     1          77              1        0      0.00            0
## 1766     1         111              1        0      0.00            4
## 1767     0         125              1        0      0.00            2
## 1768     0         115              1        1      2.84            2
## 1769     1         115              0        0      0.00            2
## 1770     0         114              1        0      0.00            2
## 1771     0         106              1        0      0.00            0
## 1772     0         118              1        1      3.43            2
## 1773     0          59              1        0      0.19            1
## 1774     0          87              0        1      3.11            1
## 1775     0          21              1        0      0.30            1
## 1776     0         142              1        1      2.57            0
## 1777     0          62              1        0      0.00            0
## 1778     1         149              1        0      0.00            3
## 1779     0          54              1        1      3.05            2
## 1780     0         112              1        0      0.00            1
## 1781     0          68              1        0      0.00            1
## 1782     0         201              1        1      4.08            1
## 1783     0          88              1        0      0.00            1
```

```
## 1784     0          85          1         1      2.94          1
## 1785     1          51          0         0      0.00          0
## 1786     0          45          1         1      2.13          2
## 1787     0         116          1         0      0.00          0
## 1788     0         146          1         1      2.11          1
## 1789     0          63          1         1      3.32          1
## 1790     0         133          1         0      0.00          0
## 1791     0         125          1         0      0.00          2
## 1792     0          72          1         0      0.00          1
## 1793     0         130          1         0      0.18          0
## 1794     0          97          1         0      0.00          1
## 1795     1          54          1         0      0.00          1
## 1796     0         160          1         1      4.10          1
## 1797     0          79          1         0      0.24          1
## 1798     0          92          1         1      2.75          0
## 1799     0          59          1         0      0.00          1
## 1800     0         132          1         0      0.32          1
## 1801     0          21          1         0      0.00          0
## 1802     0          93          1         0      0.23          2
## 1803     0         147          1         1      3.73          5
## 1804     0         101          1         0      0.00          1
## 1805     1         125          0         0      0.00          0
## 1806     0          63          1         0      0.27          3
## 1807     0         107          1         0      0.00          0
## 1808     0         110          1         0      0.00          3
## 1809     0          83          1         0      0.00          3
## 1810     0         117          1         0      0.42          1
## 1811     0         124          1         0      0.00          0
## 1812     0         115          1         0      0.00          3
## 1813     0         156          0         0      0.20          1
## 1814     0          89          1         0      0.15          0
## 1815     0          72          1         0      0.00          0
## 1816     0         101          1         1      2.57          0
## 1817     0          53          1         0      0.00          2
## 1818     0         116          1         0      0.00          2
## 1819     0          78          1         0      0.00          3
## 1820     0         117          1         1      1.19          0
## 1821     0          56          1         0      0.00          1
## 1822     0         123          1         1      4.16          1
## 1823     0         127          1         0      0.00          2
## 1824     0         116          1         1      3.19          2
## 1825     0         138          1         1      4.05          1
## 1826     0         120          1         0      0.00          3
## 1827     0         102          1         0      0.00          3
## 1828     0          95          1         0      0.00          2
## 1829     0         102          1         0      0.00          2
## 1830     0          89          1         1      2.86          1
## 1831     0          50          1         0      0.21          1
## 1832     0          93          1         1      3.05          7
## 1833     0          68          1         0      0.00          1
## 1834     0          70          1         0      0.00          2
## 1835     0         138          1         1      3.83          0
## 1836     0         141          1         1      2.16          4
## 1837     0         112          1         1      2.62          0
```

```
## 1838     1         117           0        0      0.00           1
## 1839     0           1           1        1      2.19           1
## 1840     0          70           1        0      0.00           1
## 1841     0          87           1        1      1.92           2
## 1842     0          52           1        1      1.43           2
## 1843     1          97           1        0      0.40           0
## 1844     0         105           1        0      0.00           2
## 1845     1          77           1        1      3.11           4
## 1846     1          80           0        0      0.00           2
## 1847     0         120           1        1      3.11           1
## 1848     0          54           1        1      3.38           2
## 1849     0         148           0        0      0.00           2
## 1850     1         119           1        0      0.00           2
## 1851     1         162           1        1      2.51           1
## 1852     1          85           1        0      0.00           5
## 1853     0         101           1        1      3.92           1
## 1854     0         172           1        0      0.00           0
## 1855     0          80           1        0      0.00           1
## 1856     0          67           1        0      0.00           2
## 1857     0          86           1        0      0.00           1
## 1858     1         107           1        0      0.00           1
## 1859     0         133           1        0      0.00           0
## 1860     0         116           1        0      0.00           0
## 1861     0          63           1        0      0.36           0
## 1862     1         119           0        1      2.08           0
## 1863     1         133           0        0      0.00           0
## 1864     0          94           0        0      0.00           1
## 1865     0          69           1        0      0.41           0
## 1866     1         146           1        0      0.00           7
## 1867     1         119           1        0      0.00           2
## 1868     0         142           0        1      2.65           0
## 1869     0         123           1        0      0.00           3
## 1870     1         101           1        0      0.00           1
## 1871     0          43           1        0      0.35           0
## 1872     0          69           1        0      0.00           0
## 1873     0          15           0        0      0.00           2
## 1874     0         107           1        1      3.24           1
## 1875     0          67           1        0      0.00           2
## 1876     0          99           1        0      0.28           1
## 1877     0          46           1        0      0.00           1
## 1878     0          55           0        0      0.00           1
## 1879     1          39           1        0      0.00           1
## 1880     0          92           1        0      0.00           2
## 1881     1          56           1        0      0.16           4
## 1882     1          76           1        0      0.00           0
## 1883     0         132           0        1      3.48           2
## 1884     0         140           1        1      3.00           1
## 1885     0          51           0        1      3.32           2
## 1886     0          27           1        0      0.16           1
## 1887     0         224           1        0      0.21           3
## 1888     1         105           0        1      3.97           0
## 1889     0         117           1        0      0.00           2
## 1890     1          91           1        0      0.00           1
## 1891     0         135           1        0      0.00           4
```

```
## 1892     0          146              1         0       0.00             3
## 1893     1          147              0         0       0.00             0
## 1894     1           68              1         0       0.00             2
## 1895     0           68              1         0       0.41             3
## 1896     0           86              1         1       2.73             0
## 1897     0          131              1         0       0.00             1
## 1898     0           86              1         1       3.48             1
## 1899     1          159              1         0       0.00             2
## 1900     0          134              1         1       2.92             1
## 1901     0          113              1         0       0.00             1
## 1902     0          132              1         0       0.00             1
## 1903     0           85              1         0       0.00             1
## 1904     1           93              0         1       3.78             1
## 1905     1          174              1         1       3.92             4
## 1906     0           61              1         0       0.00             2
## 1907     0           91              1         1       2.94             1
## 1908     0           88              1         1       2.65             2
## 1909     0           88              1         1       3.46             2
## 1910     0          195              1         1       3.27             0
## 1911     0          182              1         0       0.00             0
## 1912     0          118              1         0       0.00             4
## 1913     1          103              1         0       0.00             8
## 1914     0           65              1         0       0.28             2
## 1915     0           61              1         1       2.67             3
## 1916     0          172              1         0       0.00             1
## 1917     0           72              1         0       0.00             1
## 1918     0          113              1         0       0.00             2
## 1919     0          177              1         0       0.00             1
## 1920     1          100              1         0       0.00             6
## 1921     0           67              1         0       0.35             1
## 1922     0          136              1         0       0.00             3
## 1923     0           71              1         0       0.23             4
## 1924     0          134              1         0       0.00             1
## 1925     0          124              1         0       0.00             1
## 1926     0           84              1         0       0.26             2
## 1927     0           39              1         0       0.00             2
## 1928     0          110              1         0       0.00             3
## 1929     0          102              1         0       0.00             1
## 1930     0           70              1         0       0.00             0
## 1931     0          142              1         0       0.00             1
## 1932     0           81              0         0       0.00             1
## 1933     0           17              1         0       0.00             1
## 1934     1          119              1         0       0.00             1
## 1935     1          105              1         0       0.00             0
## 1936     1          108              0         1       3.67             3
## 1937     0           90              1         0       0.00             2
## 1938     0          100              1         1       3.27             1
## 1939     0          155              1         1       1.84             1
## 1940     1          113              1         0       0.00             2
## 1941     0          123              1         0       0.36             1
## 1942     0          145              1         0       0.00             1
## 1943     0           42              1         0       0.00             2
## 1944     0          125              1         0       0.00             0
## 1945     0          131              1         1       1.81             1
```

```
## 1946     0         107              1        0      0.00             1
## 1947     0          48              1        0      0.00             1
## 1948     0          76              1        0      0.00             0
## 1949     0         128              1        0      0.00             1
## 1950     0          73              1        0      0.00             0
## 1951     1          52              1        0      0.00             4
## 1952     0         126              0        1      2.59             1
## 1953     0         124              1        0      0.00             1
## 1954     0         137              1        0      0.00             0
## 1955     1          71              1        0      0.00             0
## 1956     0         139              1        0      0.00             0
## 1957     0         107              1        1      3.40             3
## 1958     0         147              1        0      0.33             1
## 1959     0         116              1        0      0.00             3
## 1960     0          60              1        1      3.46             2
## 1961     0          38              1        0      0.00             0
## 1962     0          63              1        0      0.00             3
## 1963     0          94              1        0      0.00             3
## 1964     0         131              1        0      0.00             0
## 1965     0         158              1        0      0.33             1
## 1966     1         139              1        0      0.00             1
## 1967     0          77              1        0      0.00             1
## 1968     0         140              1        0      0.28             3
## 1969     0          72              1        0      0.00             1
## 1970     0          52              1        1      3.65             1
## 1971     0         103              1        0      0.24             5
## 1972     0          74              1        1      2.43             1
## 1973     0         124              1        0      0.00             2
## 1974     0          85              1        1      1.70             5
## 1975     1         113              1        1      2.35             5
## 1976     0          71              1        0      0.00             2
## 1977     0         177              1        1      2.81             1
## 1978     1          49              0        0      0.26             2
## 1979     1         106              0        0      0.00             3
## 1980     0          60              1        0      0.00             1
## 1981     0          43              1        0      0.00             4
## 1982     0          66              1        0      0.00             1
## 1983     0         125              1        0      0.00             0
## 1984     0         114              1        1      2.54             3
## 1985     1         112              1        0      0.00             3
## 1986     0         101              1        1      2.21             2
## 1987     0          70              1        0      0.27             0
## 1988     0          59              1        0      0.19             0
## 1989     0          59              1        0      0.42             1
## 1990     0         124              1        1      3.24             2
## 1991     0          99              1        0      0.00             2
## 1992     0         150              1        0      0.00             1
## 1993     0          81              1        0      0.28             2
## 1994     0          86              1        0      0.35             0
## 1995     0          84              1        0      0.00             0
## 1996     0         118              1        1      3.16             1
## 1997     0          89              1        0      0.00             1
## 1998     0          93              1        0      0.00             3
## 1999     0          85              1        0      0.00             2
```

```
## 2000     0         160              1        0      0.00             0
## 2001     0          28              1        0      0.00             3
## 2002     1          73              1        0      0.00             1
## 2003     0         156              1        0      0.00             3
## 2004     0          33              0        0      0.00             1
## 2005     0          77              1        0      0.21             4
## 2006     0         119              1        0      0.00             1
## 2007     0          91              1        1      1.78             3
## 2008     0         102              1        0      0.00             3
## 2009     0          86              1        1      3.21             3
## 2010     0          82              1        0      0.00             0
## 2011     0          89              1        0      0.00             0
## 2012     0          86              1        0      0.00             3
## 2013     0         134              1        0      0.00             1
## 2014     0          92              1        0      0.25             2
## 2015     0          87              1        0      0.00             3
## 2016     0          64              1        0      0.00             0
## 2017     0          80              1        0      0.23             3
## 2018     0         165              1        1      2.57             3
## 2019     0         153              1        1      2.03             1
## 2020     0          41              1        1      3.00             1
## 2021     0         108              1        0      0.00             2
## 2022     0         104              1        1      3.00             1
## 2023     0         115              1        0      0.00             1
## 2024     0          87              1        0      0.00             1
## 2025     0         159              1        1      3.40             2
## 2026     0         119              1        0      0.23             2
## 2027     0          69              1        0      0.00             1
## 2028     0          87              0        1      2.92             1
## 2029     1          93              1        0      0.29             1
## 2030     1         154              0        0      0.36             0
## 2031     0          57              1        1      3.19             1
## 2032     0         130              1        0      0.00             5
## 2033     0         151              1        0      0.00             2
## 2034     1         162              1        0      0.33             2
## 2035     0          60              1        0      0.00             1
## 2036     0          81              1        0      0.00             3
## 2037     0         132              1        0      0.00             3
## 2038     0          86              1        0      0.00             1
## 2039     1         136              1        0      0.45             1
## 2040     0         121              1        1      2.86             1
## 2041     0         105              1        1      2.62             2
## 2042     0         105              1        1      2.67             2
## 2043     0          51              1        1      3.02             1
## 2044     0          64              1        0      0.26             3
## 2045     0          80              0        1      2.70             0
## 2046     0          56              1        0      0.00             4
## 2047     0         120              1        0      0.00             1
## 2048     0         103              1        0      0.00             3
## 2049     0         164              1        1      2.59             3
## 2050     0         116              1        1      1.89             2
## 2051     0         121              1        0      0.32             1
## 2052     0          55              0        0      0.00             1
## 2053     0         183              1        0      0.00             2
```

```
## 2054     0          104              1         0       0.00             0
## 2055     0           90              1         0       0.00             1
## 2056     0           82              1         0       0.00             1
## 2057     0          101              1         0       0.31             3
## 2058     0            9              1         1       3.11             2
## 2059     0           97              1         0       0.00             0
## 2060     1           94              1         0       0.28             3
## 2061     0          127              1         1       1.97             0
## 2062     0          125              1         1       2.78             0
## 2063     0          140              1         0       0.00             1
## 2064     0           90              1         0       0.28             2
## 2065     0           67              1         0       0.00             2
## 2066     0          113              1         0       0.00             1
## 2067     0          121              1         1       4.08             0
## 2068     0           93              1         0       0.00             4
## 2069     0          121              1         0       0.00             1
## 2070     1           53              1         0       0.31             0
## 2071     0           75              1         0       0.00             1
## 2072     0          132              1         0       0.00             2
## 2073     0          162              1         0       0.00             3
## 2074     0          140              1         0       0.00             1
## 2075     0           91              1         0       0.00             2
## 2076     0           73              1         1       2.38             2
## 2077     1           95              0         0       0.00             4
## 2078     0          145              1         0       0.00             0
## 2079     0          100              1         0       0.00             1
## 2080     0          122              1         0       0.00             2
## 2081     0          109              1         0       0.00             0
## 2082     0           82              1         0       0.00             1
## 2083     0           65              1         1       2.65             0
## 2084     0           52              1         0       0.00             3
## 2085     0          136              1         1       2.38             2
## 2086     0           75              1         0       0.00             1
## 2087     0          146              1         0       0.00             1
## 2088     0          105              1         0       0.00             4
## 2089     0           48              1         0       0.00             2
## 2090     0           45              1         0       0.00             1
## 2091     0          106              1         1       2.86             2
## 2092     0           33              1         0       0.00             2
## 2093     0           68              1         0       0.00             2
## 2094     0          106              1         0       0.00             0
## 2095     0          141              1         0       0.00             0
## 2096     0           98              1         0       0.33             0
## 2097     0           94              1         1       4.35             0
## 2098     0           65              1         0       0.00             2
## 2099     0           85              1         0       0.00             1
## 2100     1           71              1         0       0.00             3
## 2101     0          112              1         1       3.59             0
## 2102     0          110              1         0       0.00             0
## 2103     0          111              1         0       0.00             2
## 2104     1           74              1         0       0.32             2
## 2105     0          105              1         0       0.00             2
## 2106     0           40              1         0       0.28             0
## 2107     1          128              0         1       3.67             0
```

```
## 2108     1          123              1         0       0.00             2
## 2109     0          122              1         0       0.00             0
## 2110     0          114              1         1       3.40             3
## 2111     0          102              1         1       2.75             2
## 2112     0          126              1         0       0.00             0
## 2113     1          150              1         0       0.00             4
## 2114     1           60              1         0       0.00             2
## 2115     0          123              1         0       0.00             3
## 2116     1          138              0         0       0.00             0
## 2117     0           29              1         0       0.00             1
## 2118     0          111              1         0       0.00             4
## 2119     1           37              0         0       0.00             0
## 2120     1          111              1         0       0.00             0
## 2121     0           81              1         0       0.00             1
## 2122     0           46              1         0       0.00             1
## 2123     0           69              1         1       4.43             0
## 2124     0          125              1         0       0.00             1
## 2125     0           43              1         0       0.38             3
## 2126     0          127              1         1       1.03             1
## 2127     0           94              1         0       0.00             1
## 2128     0           46              1         0       0.00             3
## 2129     0           73              1         1       2.75             2
## 2130     0          146              1         1       2.00             2
## 2131     0           93              1         0       0.24             1
## 2132     0           52              1         1       2.97             1
## 2133     0          202              1         0       0.00             3
## 2134     0          129              1         1       2.78             2
## 2135     0           94              1         0       0.00             1
## 2136     0          100              1         0       0.21             0
## 2137     0           43              1         0       0.00             1
## 2138     0          130              1         0       0.28             0
## 2139     0          124              1         0       0.00             3
## 2140     1           92              0         0       0.00             3
## 2141     0           48              1         0       0.00             4
## 2142     0           98              1         1       1.78             2
## 2143     1          100              1         0       0.00             1
## 2144     0           79              1         0       0.31             3
## 2145     0          164              1         0       0.00             1
## 2146     0          105              1         0       0.33             1
## 2147     0           89              0         0       0.00             0
## 2148     1          126              1         0       0.00             3
## 2149     0           96              1         0       0.30             1
## 2150     0          120              1         1       3.13             0
## 2151     1          212              1         0       0.23             2
## 2152     0           72              1         0       0.00             2
## 2153     0          155              0         1       3.00             1
## 2154     0           89              1         0       0.38             2
## 2155     0          126              0         0       0.00             2
## 2156     1          172              1         0       0.00             2
## 2157     0           75              1         0       0.00             3
## 2158     0          143              1         0       0.00             2
## 2159     1          166              0         0       0.00             0
## 2160     0          132              1         0       0.00             1
## 2161     1           94              0         0       0.00             1
```

```
## 2162     0          99              1        0      0.00             0
## 2163     0         136              1        1      1.86             1
## 2164     0         119              1        0      0.00             1
## 2165     1         115              0        0      0.00             3
## 2166     0         160              1        0      0.00             2
## 2167     0         166              1        0      0.26             2
## 2168     0         120              1        0      0.00             1
## 2169     0         173              1        0      0.00             1
## 2170     0         156              1        0      0.00             0
## 2171     0          70              1        0      0.31             0
## 2172     0          41              1        0      0.31             1
## 2173     0         132              1        0      0.00             0
## 2174     1          47              0        0      0.00             0
## 2175     0         160              1        0      0.28             1
## 2176     0         180              1        0      0.00             3
## 2177     0          93              1        0      0.00             2
## 2178     0         109              1        0      0.36             2
## 2179     0          80              1        0      0.00             0
## 2180     0          54              1        1      3.13             2
## 2181     0         121              1        0      0.00             2
## 2182     0         157              1        1      4.05             1
## 2183     0         170              1        1      3.51             0
## 2184     0         138              1        0      0.00             3
## 2185     0          92              1        1      3.19             1
## 2186     0         126              1        0      0.00             1
## 2187     1          41              1        0      0.00             3
## 2188     1         167              1        0      0.00             4
## 2189     0          91              1        0      0.00             2
## 2190     0         127              1        0      0.26             3
## 2191     0          88              1        1      2.94             1
## 2192     0         113              1        0      0.00             1
## 2193     0          78              1        0      0.00             2
## 2194     0         123              1        0      0.26             2
## 2195     0         136              0        1      2.43             2
## 2196     0          68              1        1      1.65             1
## 2197     0         132              1        1      3.11             0
## 2198     0         133              1        0      0.00             2
## 2199     0         127              1        0      0.00             0
## 2200     0         110              1        0      0.00             2
## 2201     0         121              1        0      0.00             1
## 2202     0         116              1        0      0.00             2
## 2203     0         112              0        1      2.81             1
## 2204     1          97              0        0      0.00             4
## 2205     0          43              1        0      0.26             2
## 2206     0         110              1        0      0.00             3
## 2207     0          67              1        0      0.00             1
## 2208     0         166              1        0      0.23             0
## 2209     0         129              1        0      0.00             1
## 2210     0         103              0        0      0.00             3
## 2211     1          71              1        0      0.00             0
## 2212     0         112              1        1      3.00             4
## 2213     0           8              1        1      1.30             1
## 2214     1          98              1        0      0.20             0
## 2215     0          90              1        0      0.00             1
```

```
## 2216     1          13          1        0      0.00          0
## 2217     0          58          1        0      0.00          2
## 2218     0         137          1        1      3.08          2
## 2219     1         116          1        0      0.33          5
## 2220     0          94          1        1      2.67          3
## 2221     0          87          1        0      0.00          3
## 2222     0         120          1        0      0.00          2
## 2223     0          97          1        1      3.27          0
## 2224     0         134          1        0      0.35          6
## 2225     0          68          1        0      0.00          2
## 2226     0          93          1        0      0.00          1
## 2227     0         120          1        0      0.00          1
## 2228     0          41          1        0      0.00          2
## 2229     0          80          1        0      0.24          2
## 2230     0          83          1        1      4.75          2
## 2231     0         109          0        0      0.25          2
## 2232     0          66          1        1      1.92          3
## 2233     0         104          1        0      0.00          0
## 2234     0          89          1        0      0.00          1
## 2235     0         127          1        0      0.32          2
## 2236     0         117          1        1      2.62          1
## 2237     0         128          1        0      0.00          2
## 2238     1          88          1        0      0.00          4
## 2239     1          61          1        0      0.00          1
## 2240     0          22          1        0      0.00          2
## 2241     0          78          1        0      0.00          0
## 2242     0          56          1        1      1.32          1
## 2243     0         192          1        0      0.34          2
## 2244     0          70          1        0      0.30          2
## 2245     0         148          1        0      0.00          1
## 2246     0          65          1        1      2.38          2
## 2247     0         119          1        0      0.00          1
## 2248     0          80          1        0      0.00          0
## 2249     0         152          1        1      3.59          5
## 2250     0         113          1        0      0.00          3
## 2251     0          75          1        0      0.26          1
## 2252     0          80          1        0      0.00          1
## 2253     0         148          1        0      0.00          1
## 2254     0          63          0        0      0.00          1
## 2255     0          97          1        1      1.81          1
## 2256     0         166          1        0      0.00          0
## 2257     0          94          1        0      0.00          1
## 2258     0          85          1        1      3.65          1
## 2259     1          80          0        0      0.00          1
## 2260     0         210          1        1      2.73          3
## 2261     0          88          0        1      3.51          1
## 2262     0         100          1        0      0.33          4
## 2263     0         154          1        1      3.94          1
## 2264     0          32          1        1      2.43          1
## 2265     0          18          1        0      0.27          3
## 2266     0         126          1        1      2.35          0
## 2267     0         144          1        1      2.70          1
## 2268     1          29          1        0      0.00          2
## 2269     0          86          1        1      3.05          0
```

```
## 2270     0         138              1        1      2.21            0
## 2271     0         146              1        0      0.00            3
## 2272     0         175              1        0      0.00            1
## 2273     0          74              1        0      0.00            2
## 2274     0          48              1        0      0.00            2
## 2275     0          74              1        1      2.67            4
## 2276     0         105              0        0      0.00            0
## 2277     0         157              1        0      0.39            3
## 2278     0         217              1        0      0.29            0
## 2279     0          68              1        0      0.28            1
## 2280     0          80              1        0      0.00            1
## 2281     0          38              1        1      3.62            2
## 2282     0         107              1        1      2.24            0
## 2283     0         140              1        0      0.00            3
## 2284     1          98              1        0      0.38            5
## 2285     0         114              1        0      0.00            2
## 2286     0          46              1        0      0.00            1
## 2287     0         118              1        1      2.81            0
## 2288     0          37              1        0      0.00            3
## 2289     0          34              1        0      0.31            0
## 2290     0          98              0        1      2.92            1
## 2291     1         113              1        0      0.00            3
## 2292     0          69              1        0      0.00            0
## 2293     0         121              1        0      0.00            2
## 2294     0          59              0        1      2.46            1
## 2295     0          59              1        0      0.00            0
## 2296     0         190              1        0      0.26            0
## 2297     0         109              1        0      0.00            1
## 2298     0         136              1        0      0.00            2
## 2299     0          86              1        0      0.00            1
## 2300     0         100              1        1      2.16            0
## 2301     0         106              1        0      0.00            0
## 2302     0         104              1        0      0.00            2
## 2303     0         129              1        0      0.41            2
## 2304     0         205              1        0      0.32            2
## 2305     0          93              1        1      2.97            0
## 2306     0         123              1        0      0.00            3
## 2307     0          99              1        0      0.00            1
## 2308     0          61              1        1      2.94            3
## 2309     0          71              1        0      0.00            1
## 2310     0           4              0        0      0.00            0
## 2311     0         148              1        1      3.65            3
## 2312     0         141              1        0      0.00            1
## 2313     0          56              1        0      0.37            0
## 2314     0         160              1        0      0.00            3
## 2315     0          43              1        1      3.13            3
## 2316     0          42              1        0      0.33            2
## 2317     0         135              0        0      0.00            1
## 2318     0         106              1        0      0.00            3
## 2319     0         106              1        0      0.00            0
## 2320     0          83              1        1      2.35            3
## 2321     0         110              1        0      0.00            1
## 2322     0         153              1        0      0.29            1
## 2323     0         109              1        1      2.86            5
```

```
## 2324     0          31          1          0       0.00          1
## 2325     1         124          1          0       0.00          4
## 2326     1         110          1          0       0.00          2
## 2327     0         124          1          0       0.00          0
## 2328     1          82          1          0       0.31          6
## 2329     0         122          1          0       0.00          1
## 2330     0         137          1          0       0.21          1
## 2331     0          69          1          0       0.00          1
## 2332     0          46          1          1       1.94          1
## 2333     0         103          1          0       0.00          1
## 2334     0          16          1          0       0.21          2
## 2335     0         119          1          0       0.00          3
## 2336     1         124          0          0       0.00          3
## 2337     0         122          1          1       3.13          1
## 2338     0         139          1          0       0.00          4
## 2339     0          67          1          0       0.31          2
## 2340     0          84          1          0       0.27          1
## 2341     0         101          1          1       3.40          0
## 2342     0          40          1          0       0.25          0
## 2343     0          61          1          0       0.00          2
## 2344     1         120          0          0       0.00          1
## 2345     0          95          1          0       0.00          1
## 2346     0          98          1          0       0.00          0
## 2347     0         114          1          0       0.00          2
## 2348     1          68          0          1       3.65          1
## 2349     0         149          1          1       3.05          2
## 2350     0          22          1          0       0.00          0
## 2351     0         176          1          0       0.34          0
## 2352     0         152          1          0       0.00          2
## 2353     0         118          1          0       0.00          0
## 2354     0         101          0          0       0.17          1
## 2355     1         102          1          0       0.00          2
## 2356     0         118          1          0       0.00          2
## 2357     1         105          1          0       0.00          2
## 2358     1         153          1          0       0.00          1
## 2359     0          71          1          0       0.00          0
## 2360     0          71          1          1       3.54          1
## 2361     0          68          1          0       0.00          2
## 2362     0          66          1          0       0.33          3
## 2363     0         101          1          0       0.25          3
## 2364     0         116          1          0       0.00          0
## 2365     0          54          1          1       3.70          0
## 2366     0         112          1          1       3.11          1
## 2367     0         122          1          1       3.78          1
## 2368     0          74          1          0       0.00          3
## 2369     0          90          1          0       0.00          1
## 2370     1         112          1          0       0.00          4
## 2371     0          85          1          0       0.00          4
## 2372     0         100          1          0       0.00          1
## 2373     0         114          1          0       0.00          2
## 2374     0          83          1          0       0.24          0
## 2375     0         157          0          0       0.00          0
## 2376     0          51          1          0       0.31          2
## 2377     1          42          1          0       0.00          1
```

```
## 2378     1         101              1        1      2.38           1
## 2379     0         112              1        0      0.00           3
## 2380     0          56              1        0      0.00           2
## 2381     1          53              1        0      0.00           9
## 2382     0          64              1        1      2.05           1
## 2383     0         123              1        0      0.00           0
## 2384     0          68              1        1      2.59           2
## 2385     0          40              0        0      0.23           0
## 2386     0         132              1        0      0.00           0
## 2387     1         120              0        0      0.00           2
## 2388     1         108              1        1      2.46           6
## 2389     1         161              1        0      0.00           1
## 2390     1         130              1        0      0.24           0
## 2391     0         122              1        0      0.00           0
## 2392     0         130              1        1      2.92           2
## 2393     0          90              1        0      0.00           1
## 2394     0         139              1        1      2.24           0
## 2395     0          57              1        0      0.31           3
## 2396     0         128              1        0      0.00           4
## 2397     0         127              0        0      0.32           2
## 2398     1         107              1        0      0.00           1
## 2399     0         177              1        0      0.00           1
## 2400     0         121              1        0      0.00           1
## 2401     0          99              0        1      2.27           0
## 2402     1         126              0        0      0.00           1
## 2403     1          77              1        1      4.13           5
## 2404     0          21              1        0      0.00           2
## 2405     0          56              1        0      0.33           1
## 2406     1          92              1        1      1.73           1
## 2407     0          81              1        0      0.00           2
## 2408     1         139              0        1      3.62           1
## 2409     0          68              1        0      0.34           1
## 2410     0         183              1        1      2.35           2
## 2411     0          90              1        0      0.00           0
## 2412     0         165              1        0      0.13           1
## 2413     1          89              1        0      0.00           1
## 2414     0          59              1        0      0.00           0
## 2415     0          16              0        0      0.00           0
## 2416     1         114              1        0      0.00           5
## 2417     0         113              1        0      0.00           2
## 2418     0         120              1        0      0.36           2
## 2419     0         115              1        0      0.26           0
## 2420     1          37              1        0      0.00           2
## 2421     1         100              0        0      0.00           2
## 2422     1         132              1        0      0.00           4
## 2423     0          38              1        1      4.10           2
## 2424     0           1              1        0      0.00           0
## 2425     0          97              1        1      1.73           1
## 2426     0          55              1        1      2.32           2
## 2427     0          75              1        0      0.00           1
## 2428     0          83              1        0      0.00           2
## 2429     1          40              1        0      0.00           6
## 2430     0         101              1        1      2.70           2
## 2431     0         120              1        1      4.21           0
```

```
## 2432     0         183              1         1      2.75             1
## 2433     1          75              1         0      0.00             4
## 2434     0          80              1         0      0.00             2
## 2435     0          88              1         0      0.00             0
## 2436     0         112              1         1      2.78             1
## 2437     0          63              1         0      0.00             1
## 2438     1         105              1         1      2.24             4
## 2439     0          92              1         0      0.33             2
## 2440     0         177              1         0      0.00             1
## 2441     0         118              1         0      0.43             0
## 2442     0         111              1         1      3.27             1
## 2443     0          82              1         1      1.27             3
## 2444     0          74              1         0      0.22             0
## 2445     0         121              1         1      2.62             5
## 2446     0         131              1         0      0.31             1
## 2447     0         125              1         0      0.30             2
## 2448     0          19              1         0      0.31             1
## 2449     0         138              1         0      0.00             3
## 2450     0         119              1         0      0.00             3
## 2451     0         137              1         0      0.00             1
## 2452     1         182              1         0      0.00             2
## 2453     0         135              1         0      0.00             1
## 2454     0         134              1         1      2.70             1
## 2455     0          45              1         0      0.00             1
## 2456     0         129              1         0      0.00             1
## 2457     0         142              1         0      0.20             4
## 2458     0         130              1         1      3.29             1
## 2459     0         163              1         1      2.38             1
## 2460     0         105              1         0      0.40             4
## 2461     0         119              1         0      0.00             2
## 2462     0          78              1         0      0.00             0
## 2463     0          92              1         0      0.27             2
## 2464     0         146              1         1      2.73             2
## 2465     0         125              1         1      2.54             1
## 2466     0          88              1         0      0.00             3
## 2467     0          83              1         1      2.84             0
## 2468     0           3              0         0      0.26             1
## 2469     1         152              0         1      1.16             1
## 2470     0          48              1         0      0.00             3
## 2471     0         189              1         0      0.25             3
## 2472     0          95              1         1      2.00             0
## 2473     1         129              1         0      0.23             1
## 2474     0          66              1         1      2.30             0
## 2475     0          80              1         1      2.51             0
## 2476     0           1              1         0      0.00             1
## 2477     0          84              1         0      0.00             1
## 2478     0          96              1         0      0.00             1
## 2479     0         123              1         1      3.56             1
## 2480     1         116              0         1      3.16             3
## 2481     0         105              0         0      0.31             3
## 2482     0          80              1         0      0.24             1
## 2483     0         157              1         0      0.00             2
## 2484     0          67              1         1      3.48             2
## 2485     0         141              1         1      3.32             0
```

```
## 2486     0          79          1         1      3.24          1
## 2487     0          76          1         0      0.00          0
## 2488     0         111          1         0      0.25          0
## 2489     0          94          1         0      0.00          0
## 2490     1         143          1         0      0.00          4
## 2491     0         109          1         0      0.00          1
## 2492     0         138          1         0      0.28          2
## 2493     0          73          1         0      0.00          0
## 2494     1          21          1         0      0.00          5
## 2495     0         148          1         1      2.19          1
## 2496     0         103          1         0      0.00          1
## 2497     0         143          1         1      2.11          1
## 2498     0          79          1         1      1.13          2
## 2499     0          89          1         0      0.00          1
## 2500     0         120          1         0      0.00          1
## 2501     0         121          1         1      2.59          1
## 2502     0         101          1         0      0.00          0
## 2503     0         115          1         0      0.00          2
## 2504     0         168          1         0      0.37          2
## 2505     0          90          1         0      0.00          1
## 2506     0          70          1         0      0.30          3
## 2507     0         138          1         0      0.18          1
## 2508     0          43          1         0      0.00          0
## 2509     0         117          1         1      2.35          2
## 2510     0         108          1         0      0.00          2
## 2511     0         118          1         0      0.00          2
## 2512     0         169          1         0      0.00          3
## 2513     0          62          1         1      2.75          0
## 2514     0          86          1         0      0.17          2
## 2515     0          44          1         0      0.35          0
## 2516     1         111          1         0      0.00          5
## 2517     0         127          1         1      3.29          2
## 2518     0         151          0         0      0.26          0
## 2519     0          53          1         0      0.00          2
## 2520     0          15          1         0      0.00          2
## 2521     0         123          1         1      2.11          1
## 2522     0         137          1         0      0.00          1
## 2523     0         106          1         0      0.00          2
## 2524     0          88          1         0      0.26          3
## 2525     0         106          1         0      0.00          1
## 2526     0          95          1         0      0.13          0
## 2527     1          57          0         0      0.00          0
## 2528     0         184          1         0      0.21          2
## 2529     0         109          1         0      0.37          3
## 2530     0         127          1         0      0.27          2
## 2531     0          82          1         0      0.38          2
## 2532     0         180          1         0      0.40          1
## 2533     0         174          1         0      0.21          2
## 2534     1          92          1         0      0.00          2
## 2535     0          81          1         0      0.00          1
## 2536     1         125          1         0      0.32          2
## 2537     1         119          1         0      0.00          0
## 2538     0         122          1         0      0.00          3
## 2539     0          34          1         0      0.00          1
```

```
## 2540     1         138              0         1       2.89              3
## 2541     0          90              1         1       3.48              1
## 2542     0          73              1         0       0.22              2
## 2543     1          19              1         0       0.00              1
## 2544     0         120              1         1       1.86              1
## 2545     0         160              1         0       0.00              3
## 2546     0         141              1         0       0.00              0
## 2547     0          90              1         0       0.32              2
## 2548     0          72              1         0       0.31              2
## 2549     0         117              1         1       3.21              1
## 2550     0          79              0         0       0.31              2
## 2551     0          87              1         0       0.43              1
## 2552     0         102              1         0       0.00              1
## 2553     0          49              1         0       0.15              1
## 2554     0          67              1         0       0.34              6
## 2555     0         107              1         0       0.00              2
## 2556     0         190              1         0       0.17              2
## 2557     0         118              1         0       0.00              2
## 2558     0         120              1         0       0.21              0
## 2559     0          94              1         0       0.00              0
## 2560     0         115              1         1       3.11              1
## 2561     0          61              1         0       0.00              1
## 2562     0         143              1         1       2.08              1
## 2563     0         110              1         0       0.33              1
## 2564     0         104              1         0       0.24              1
## 2565     0          16              1         0       0.00              1
## 2566     0         183              1         0       0.00              0
## 2567     0         147              1         0       0.25              2
## 2568     1          58              1         0       0.00              2
## 2569     0         102              0         0       0.00              3
## 2570     0         123              1         0       0.00              3
## 2571     0          64              1         1       2.30              1
## 2572     0         103              1         0       0.00              2
## 2573     1         152              1         0       0.00              1
## 2574     1         124              1         0       0.00              1
## 2575     0          97              1         0       0.00              1
## 2576     1         131              1         0       0.00              1
## 2577     0          57              1         1       3.00              2
## 2578     0         157              1         0       0.00              2
## 2579     0         194              1         0       0.00              0
## 2580     0          66              1         0       0.00              1
## 2581     0         155              1         0       0.00              0
## 2582     1         123              1         0       0.00              4
## 2583     0         116              1         0       0.35              2
## 2584     0          63              1         0       0.00              1
## 2585     0          64              1         0       0.00              3
## 2586     0          96              1         0       0.00              3
## 2587     0          53              1         0       0.00              1
## 2588     0         105              1         0       0.17              3
## 2589     0          53              1         1       3.24              2
## 2590     0         101              1         0       0.00              1
## 2591     0         129              1         1       2.51              3
## 2592     1         122              1         0       0.00              1
## 2593     0         163              1         0       0.00              5
```

```
## 2594     0          93          1        0      0.00          0
## 2595     1         115          0        0      0.00          1
## 2596     1          25          1        0      0.00          1
## 2597     0          73          1        0      0.00          1
## 2598     0         120          1        0      0.00          2
## 2599     0         196          1        0      0.36          1
## 2600     1          97          1        0      0.00          0
## 2601     0         148          1        0      0.00          1
## 2602     0          85          1        1      3.11          1
## 2603     1          86          0        0      0.00          2
## 2604     0          78          1        1      1.73          2
## 2605     0         106          1        0      0.00          3
## 2606     0         147          1        1      3.81          2
## 2607     1         145          1        0      0.00          1
## 2608     0          91          1        0      0.00          3
## 2609     0          81          1        1      1.81          4
## 2610     0         116          1        1      2.89          1
## 2611     0          69          1        1      1.59          1
## 2612     0         135          1        0      0.00          0
## 2613     0          73          1        0      0.00          2
## 2614     0          48          1        0      0.00          1
## 2615     1         125          0        0      0.30          0
## 2616     0         100          1        0      0.00          1
## 2617     0         165          1        1      4.32          0
## 2618     0          64          1        0      0.00          2
## 2619     0         116          0        1      1.86          1
## 2620     1         147          0        1      3.00          3
## 2621     0         115          1        0      0.00          1
## 2622     0          84          1        1      2.03          4
## 2623     0          86          1        1      3.13          4
## 2624     0         134          1        0      0.00          2
## 2625     1         105          1        0      0.00          0
## 2626     0          88          1        0      0.00          2
## 2627     0          90          1        1      3.40          2
## 2628     0          86          1        0      0.00          1
## 2629     0          37          1        0      0.30          4
## 2630     1         141          1        1      1.81          1
## 2631     0         148          1        0      0.00          2
## 2632     0         163          1        1      3.35          2
## 2633     0          89          1        1      3.19          1
## 2634     0          63          1        0      0.19          0
## 2635     0         102          1        0      0.00          2
## 2636     0          76          1        0      0.21          1
## 2637     0         104          1        0      0.00          2
## 2638     0         109          1        0      0.00          3
## 2639     0         105          1        0      0.28          2
## 2640     0          63          1        1      3.29          1
## 2641     0         105          1        1      2.92          3
## 2642     0          68          0        1      3.05          1
## 2643     0          63          0        1      2.70          1
## 2644     0          74          1        0      0.00          3
## 2645     0          76          1        0      0.35          0
## 2646     1          91          0        0      0.00          2
## 2647     0         101          1        0      0.00          5
```

```
## 2648     1          116              1         0       0.00             0
## 2649     0          131              1         1       3.43             1
## 2650     0           84              1         0       0.00             1
## 2651     0          104              1         0       0.00             2
## 2652     0          108              1         0       0.21             3
## 2653     0          111              1         0       0.33             0
## 2654     0          155              1         1       3.35             1
## 2655     0           66              1         0       0.00             1
## 2656     0           64              1         0       0.40             1
## 2657     0           69              1         0       0.30             2
## 2658     0          116              1         0       0.00             3
## 2659     0          101              1         0       0.00             0
## 2660     0           15              1         0       0.00             2
## 2661     1           88              1         0       0.39             4
## 2662     0          197              1         0       0.00             0
## 2663     1           50              0         0       0.34             2
## 2664     0          172              1         0       0.00             2
## 2665     1          188              0         1       3.89             1
## 2666     0           85              0         0       0.00             3
## 2667     1          103              0         0       0.00             1
## 2668     0          136              1         1       2.70             3
## 2669     0          155              1         1       2.32             0
## 2670     0          145              1         0       0.00             2
## 2671     0          116              1         1       2.43             2
## 2672     0          152              1         0       0.00             2
## 2673     1           65              0         0       0.31             0
## 2674     1          180              1         0       0.00             3
## 2675     0           67              1         0       0.00             0
## 2676     0           60              1         0       0.00             0
## 2677     0          138              1         0       0.00             0
## 2678     1           44              1         0       0.34             4
## 2679     0           25              1         0       0.33             2
## 2680     0          145              1         0       0.00             1
## 2681     0          122              1         1       2.08             2
## 2682     1          121              1         0       0.21             0
## 2683     0           55              0         0       0.00             0
## 2684     0           77              1         0       0.00             1
## 2685     0           12              1         0       0.00             2
## 2686     0           64              1         0       0.31             3
## 2687     0           92              1         1       2.70             2
## 2688     1          125              0         1       4.59             1
## 2689     0          160              1         0       0.00             1
## 2690     0           79              1         0       0.00             0
## 2691     0           36              1         0       0.00             3
## 2692     0          102              1         0       0.00             2
## 2693     0          138              0         0       0.00             1
## 2694     0          164              1         0       0.00             3
## 2695     1          125              1         0       0.00             0
## 2696     0           72              1         0       0.28             2
## 2697     1           74              1         0       0.00             3
## 2698     0          134              1         1       3.21             0
## 2699     0          145              1         0       0.00             1
## 2700     0          136              1         0       0.00             0
## 2701     1          209              1         0       0.00             3
```

```
## 2702     0          66              0        0      0.28             3
## 2703     0         152              1        1      2.13             1
## 2704     0         162              1        0      0.00             1
## 2705     0          72              1        0      0.20             2
## 2706     0         101              1        0      0.37             4
## 2707     0         125              1        0      0.00             0
## 2708     0          46              1        0      0.00             2
## 2709     1         132              1        0      0.00             1
## 2710     0         193              1        1      3.16             0
## 2711     1          63              1        0      0.00             0
## 2712     0         124              1        0      0.00             1
## 2713     0         144              1        0      0.00             0
## 2714     0         116              1        1      1.62             2
## 2715     0         189              1        1      4.16             1
## 2716     0          97              1        1      1.65             1
## 2717     0         137              1        1      3.27             2
## 2718     0         142              1        1      1.16             0
## 2719     0          84              1        0      0.00             1
## 2720     0         119              1        1      2.70             1
## 2721     0         158              1        0      0.00             1
## 2722     0          50              1        0      0.29             1
## 2723     0          98              1        0      0.39             2
## 2724     0         101              1        1      3.51             2
## 2725     1         182              1        0      0.00             2
## 2726     0          51              1        0      0.00             0
## 2727     0         117              1        0      0.26             2
## 2728     0          92              0        0      0.00             0
## 2729     0          86              1        0      0.30             2
## 2730     0         122              1        0      0.00             2
## 2731     0         156              1        1      4.00             1
## 2732     1         127              1        0      0.00             0
## 2733     1         130              0        0      0.00             5
## 2734     0         158              1        0      0.00             2
## 2735     0         145              0        1      3.00             1
## 2736     1          90              0        1      3.59             0
## 2737     0         127              1        1      2.48             3
## 2738     0         109              1        0      0.00             1
## 2739     0          88              1        0      0.27             1
## 2740     0         101              1        1      2.92             0
## 2741     0         171              1        0      0.25             0
## 2742     0          21              1        0      0.00             1
## 2743     0         145              1        1      2.89             2
## 2744     0          90              1        0      0.28             2
## 2745     0          33              1        0      0.21             1
## 2746     1          61              1        1      2.75             2
## 2747     0         107              1        0      0.32             3
## 2748     1         147              1        0      0.00             0
## 2749     0         117              1        0      0.00             2
## 2750     0          95              1        0      0.00             1
## 2751     0         186              1        0      0.00             1
## 2752     0         128              1        0      0.00             0
## 2753     0          55              1        1      2.19             3
## 2754     0         134              1        0      0.00             2
## 2755     0          96              1        1      3.05             1
```

```
## 2756     0         107              1         0       0.35              0
## 2757     0         123              1         0       0.00              2
## 2758     0          35              1         0       0.00              2
## 2759     0          74              1         0       0.00              0
## 2760     0         130              1         0       0.23              1
## 2761     1         137              0         0       0.00              0
## 2762     0          88              1         0       0.31              1
## 2763     0          80              1         0       0.00              3
## 2764     0         116              1         1       2.21              3
## 2765     0         123              1         1       4.02              2
## 2766     0         120              1         0       0.00              1
## 2767     0         146              0         0       0.00              1
## 2768     0         106              1         1       2.21              3
## 2769     0         121              1         1       3.24              1
## 2770     0         137              1         0       0.23              1
## 2771     0          84              1         1       1.54              2
## 2772     0          67              1         1       3.56              1
## 2773     1         161              1         0       0.00              4
## 2774     1         134              1         1       1.65              2
## 2775     1          62              0         1       3.56              0
## 2776     0         120              1         1       2.43              1
## 2777     0         130              1         1       2.00              0
## 2778     0          20              1         0       0.00              2
## 2779     0          68              1         0       0.00              1
## 2780     0         112              1         0       0.00              0
## 2781     0          77              1         0       0.00              3
## 2782     0         109              1         0       0.00              2
## 2783     0         108              1         0       0.00              3
## 2784     0          79              1         1       2.46              1
## 2785     1         119              1         0       0.21              3
## 2786     1          38              1         0       0.42              5
## 2787     1         109              1         1       2.43              6
## 2788     0          78              1         0       0.00              1
## 2789     0         134              1         0       0.00              0
## 2790     0          47              1         1       2.08              2
## 2791     0          59              1         1       2.46              0
## 2792     0         151              1         0       0.00              0
## 2793     0         129              1         0       0.00              1
## 2794     0         107              1         1       3.89              2
## 2795     1         137              0         0       0.21              0
## 2796     0          76              1         0       0.38              1
## 2797     0          24              1         0       0.00              0
## 2798     0         169              1         0       0.00              2
## 2799     0          30              1         0       0.00              1
## 2800     0          70              1         0       0.00              3
## 2801     1          52              0         0       0.00              0
## 2802     0           3              1         0       0.00              4
## 2803     0          38              1         0       0.00              2
## 2804     0         104              1         0       0.00              3
## 2805     0          27              1         0       0.00              1
## 2806     0         166              0         1       3.08              1
## 2807     0          13              1         0       0.00              2
## 2808     0          52              1         0       0.00              2
## 2809     0         114              1         1       3.13              1
```

```
## 2810     0         156              1        0      0.42            1
## 2811     0          90              1        1      3.00            0
## 2812     0          62              1        0      0.00            2
## 2813     0          82              1        1      2.97            2
## 2814     0          52              1        0      0.00            3
## 2815     0         146              1        0      0.00            1
## 2816     0         120              1        1      1.94            2
## 2817     1         130              1        0      0.00            1
## 2818     0          90              1        0      0.24            1
## 2819     0         147              0        0      0.00            1
## 2820     1         159              1        0      0.00            0
## 2821     0          74              1        1      3.56            4
## 2822     0         130              1        0      0.32            0
## 2823     0         155              0        0      0.00            0
## 2824     0          87              1        0      0.00            2
## 2825     1          81              1        0      0.00            0
## 2826     0          99              1        0      0.00            2
## 2827     0         131              1        0      0.00            2
## 2828     1          89              1        0      0.00            5
## 2829     1         123              0        0      0.00            4
## 2830     0         130              1        1      3.40            1
## 2831     0          99              1        0      0.00            1
## 2832     0          36              1        0      0.00            1
## 2833     0          87              1        0      0.00            3
## 2834     0         139              1        0      0.00            2
## 2835     0         189              1        0      0.00            1
## 2836     0          96              1        1      2.81            3
## 2837     0         112              1        0      0.00            2
## 2838     0          75              1        0      0.00            1
## 2839     0         178              1        1      2.84            2
## 2840     1         112              1        0      0.28            2
## 2841     0         108              1        1      2.92            0
## 2842     0         100              1        0      0.00            0
## 2843     0         121              1        1      2.54            0
## 2844     0         116              1        0      0.16            1
## 2845     0         161              1        0      0.00            1
## 2846     0          19              0        0      0.00            0
## 2847     0         104              1        0      0.00            1
## 2848     0         119              0        1      3.29            0
## 2849     0         125              1        0      0.00            0
## 2850     0         156              1        0      0.00            1
## 2851     0         109              1        0      0.00            2
## 2852     0          95              1        0      0.00            2
## 2853     0          90              1        0      0.00            1
## 2854     0         105              1        1      2.35            2
## 2855     0         101              1        0      0.00            1
## 2856     0          95              1        0      0.00            1
## 2857     0         123              1        0      0.24            0
## 2858     0         160              1        0      0.17            1
## 2859     0         141              1        1      2.00            1
## 2860     0          87              1        0      0.00            0
## 2861     0          81              1        0      0.00            2
## 2862     0          75              1        1      3.54            4
## 2863     0         126              1        1      3.27            0
```

```
## 2864     0          28          1         0      0.00          3
## 2865     0         153          1         0      0.33          0
## 2866     1          97          1         1      2.32          2
## 2867     0         115          1         0      0.00          2
## 2868     0          95          1         0      0.00          1
## 2869     1          17          0         0      0.36          0
## 2870     0         105          1         1      2.40          1
## 2871     0         121          1         0      0.00          2
## 2872     0         125          1         0      0.00          2
## 2873     0         124          1         0      0.00          2
## 2874     0          35          1         0      0.00          2
## 2875     1         134          1         0      0.00          0
## 2876     0         123          1         1      1.78          3
## 2877     0         124          1         0      0.00          3
## 2878     0         133          1         0      0.00          2
## 2879     0         185          1         1      2.59          0
## 2880     0           1          1         1      2.70          1
## 2881     0         107          1         0      0.00          1
## 2882     0          91          1         1      1.67          1
## 2883     1         178          0         0      0.00          2
## 2884     0         123          1         0      0.20          1
## 2885     1         170          1         0      0.00          1
## 2886     0         135          1         0      0.00          1
## 2887     0          85          1         0      0.00          1
## 2888     0         134          1         1      3.00          2
## 2889     0         148          1         1      2.94          1
## 2890     1          93          1         0      0.24          1
## 2891     0         138          1         0      0.00          0
## 2892     0         159          1         0      0.00          0
## 2893     0         103          1         1      3.19          1
## 2894     0         150          1         1      1.94          0
## 2895     0          37          1         0      0.32          3
## 2896     0          33          0         0      0.00          0
## 2897     0          55          1         0      0.00          1
## 2898     0         134          1         1      4.48          0
## 2899     0         107          1         0      0.00          2
## 2900     0          80          1         1      1.03          1
## 2901     1          78          1         0      0.00          1
## 2902     1          85          1         1      2.51          4
## 2903     0          61          1         1      2.70          2
## 2904     0          97          1         1      1.81          5
## 2905     0         136          0         0      0.00          2
## 2906     0         135          1         0      0.32          3
## 2907     0          87          1         1      0.00          1
## 2908     0         165          1         0      0.00          0
## 2909     1         148          1         0      0.00          2
## 2910     0          99          1         0      0.00          2
## 2911     0         123          1         0      0.00          2
## 2912     0         127          0         0      0.30          1
## 2913     0         151          1         0      0.00          0
## 2914     0         185          1         0      0.19          1
## 2915     0          65          1         1      3.38          4
## 2916     0          58          1         0      0.00          4
## 2917     0         104          1         0      0.30          2
```

```
## 2918     0          44              1        0      0.00            0
## 2919     0          58              1        0      0.00            4
## 2920     0         108              1        0      0.00            0
## 2921     0         132              1        0      0.00            1
## 2922     0          80              1        0      0.35            2
## 2923     0         162              1        0      0.00            2
## 2924     0         110              1        0      0.00            2
## 2925     1          96              1        0      0.00            1
## 2926     1         168              1        0      0.00            2
## 2927     1          72              1        0      0.00            4
## 2928     0         125              1        1      2.75            1
## 2929     0         170              1        0      0.00            2
## 2930     0          71              1        0      0.32            3
## 2931     0         124              1        0      0.00            1
## 2932     0          68              1        0      0.00            2
## 2933     0          97              1        0      0.00            1
## 2934     0          98              0        0      0.00            1
## 2935     1          24              1        0      0.00            2
## 2936     0         136              1        0      0.16            0
## 2937     1          44              1        0      0.00            0
## 2938     0          96              1        1      3.62            0
## 2939     0          31              1        0      0.19            1
## 2940     0          72              1        0      0.00            0
## 2941     0          24              1        0      0.00            1
## 2942     0         112              1        1      3.11            4
## 2943     1         117              0        0      0.00            1
## 2944     0         137              1        1      2.11            0
## 2945     0         136              1        0      0.00            0
## 2946     0          95              1        0      0.00            0
## 2947     0          82              1        1      1.11            1
## 2948     1         145              1        0      0.00            1
## 2949     0          56              0        0      0.00            1
## 2950     0         155              0        0      0.00            2
## 2951     1         133              1        0      0.00            0
## 2952     0          53              1        0      0.00            2
## 2953     1         123              1        0      0.00            5
## 2954     0         136              1        0      0.00            7
## 2955     0          57              1        0      0.00            3
## 2956     0          62              1        0      0.00            1
## 2957     0         112              1        0      0.00            1
## 2958     0          55              1        1      1.97            1
## 2959     1          95              1        0      0.00            6
## 2960     0         125              1        0      0.00            1
## 2961     1           1              1        0      0.00            5
## 2962     1          98              1        1      2.16            6
## 2963     0         105              1        0      0.00            1
## 2964     0         113              1        1      3.13            0
## 2965     1          99              1        0      0.00            3
## 2966     0         103              1        0      0.00            1
## 2967     0         177              1        0      0.00            1
## 2968     0         149              1        1      2.75            0
## 2969     1         160              1        0      0.00            1
## 2970     0         116              1        0      0.00            2
## 2971     0          90              1        1      1.73            1
```

```
## 2972     1         148              0        0      0.21             0
## 2973     1         147              1        1      2.73             2
## 2974     0          95              1        0      0.00             0
## 2975     0         201              1        0      0.24             1
## 2976     0          80              1        0      0.00             0
## 2977     0         122              0        0      0.00             1
## 2978     0         132              1        0      0.00             0
## 2979     0          83              1        0      0.00             1
## 2980     1          99              1        0      0.12             7
## 2981     1          84              1        0      0.00             3
## 2982     0          46              1        0      0.30             1
## 2983     0          87              1        0      0.00             2
## 2984     0         150              1        0      0.00             1
## 2985     0          73              1        0      0.43             1
## 2986     0           7              1        0      0.00             3
## 2987     0          89              1        1      2.84             2
## 2988     1         131              0        0      0.34             3
## 2989     0         105              1        0      0.00             3
## 2990     1         108              0        0      0.38             2
## 2991     0          47              1        1      2.24             1
## 2992     0         101              0        0      0.00             1
## 2993     0         182              1        1      3.13             1
## 2994     0         161              1        0      0.00             1
## 2995     1         128              1        0      0.00             1
## 2996     0          69              1        1      3.56             2
## 2997     0         113              1        1      3.59             1
## 2998     0          87              1        1      2.11             0
## 2999     0          71              1        0      0.21             0
## 3000     0          76              1        0      0.00             1
## 3001     0          87              1        0      0.42             3
## 3002     0         117              1        0      0.39             1
## 3003     1         177              1        0      0.00             3
## 3004     0          95              1        0      0.00             1
## 3005     0          76              1        0      0.00             1
## 3006     0          66              1        0      0.00             2
## 3007     0         110              1        0      0.23             1
## 3008     0         204              1        0      0.00             3
## 3009     0          32              1        1      3.51             0
## 3010     0         133              1        1      1.81             5
## 3011     0         185              1        0      0.00             2
## 3012     0         103              1        1      2.86             1
## 3013     0          91              1        0      0.00             1
## 3014     0         131              1        0      0.00             2
## 3015     0         153              1        0      0.00             0
## 3016     0         132              1        1      1.92             2
## 3017     0         148              1        0      0.15             1
## 3018     0         141              1        0      0.00             5
## 3019     0         105              1        0      0.00             2
## 3020     1         169              1        0      0.25             3
## 3021     0         127              1        1      2.65             1
## 3022     0          57              1        0      0.00             0
## 3023     0         123              1        1      0.78             0
## 3024     1         103              1        1      3.75             4
## 3025     0         101              1        0      0.00             1
```

```
## 3026     0         123              1        1      4.21            2
## 3027     0          78              1        1      2.92            6
## 3028     0         101              1        1      2.54            4
## 3029     0         129              1        0      0.00            1
## 3030     0          67              1        1      2.48            0
## 3031     0          37              1        0      0.00            3
## 3032     0          64              0        0      0.26            3
## 3033     0         173              1        0      0.00            1
## 3034     0         135              1        0      0.33            1
## 3035     0          75              1        1      3.02            1
## 3036     1          88              1        0      0.00            4
## 3037     0         112              1        0      0.00            3
## 3038     0         113              1        0      0.00            0
## 3039     0         121              1        1      1.73            2
## 3040     0          70              1        0      0.00            1
## 3041     0          90              1        0      0.22            0
## 3042     0          39              1        0      0.00            0
## 3043     0         142              1        0      0.42            0
## 3044     0         176              1        0      0.32            1
## 3045     0         105              1        0      0.30            1
## 3046     1          57              1        0      0.00            2
## 3047     0         110              1        0      0.24            1
## 3048     0          88              1        0      0.00            2
## 3049     0          95              1        0      0.00            0
## 3050     0         147              1        0      0.00            3
## 3051     1         101              1        0      0.00            4
## 3052     0         115              1        0      0.00            1
## 3053     0         103              1        0      0.00            2
## 3054     0          82              1        0      0.00            0
## 3055     0         141              1        0      0.00            0
## 3056     0         149              1        0      0.00            2
## 3057     0         131              1        0      0.00            2
## 3058     0         119              1        0      0.00            1
## 3059     0         112              1        0      0.26            3
## 3060     0         116              1        1      3.19            2
## 3061     0          94              1        0      0.00            3
## 3062     0          90              1        0      0.22            2
## 3063     0         114              1        1      3.51            0
## 3064     0          63              1        1      3.29            1
## 3065     1         130              1        0      0.33            4
## 3066     0         122              1        1      2.27            3
## 3067     0         166              1        0      0.00            3
## 3068     0          62              1        0      0.00            0
## 3069     0          78              1        1      2.57            2
## 3070     0         148              1        1      2.67            1
## 3071     1         154              1        0      0.00            3
## 3072     0         110              1        1      1.70            1
## 3073     1          75              1        0      0.00            0
## 3074     0          84              1        1      2.00            2
## 3075     0         113              1        0      0.27            1
## 3076     0         181              1        1      1.70            2
## 3077     0          51              1        0      0.00            2
## 3078     0         102              1        1      3.86            0
## 3079     0         107              1        0      0.00            1
```

```
## 3080     1          88          1         0      0.00          5
## 3081     0          82          1         0      0.21          0
## 3082     0         204          1         0      0.00          6
## 3083     0         130          1         0      0.00          3
## 3084     0         174          1         0      0.00          0
## 3085     0         129          1         0      0.00          2
## 3086     0         190          0         0      0.00          3
## 3087     0          54          0         0      0.00          3
## 3088     0          78          1         0      0.00          0
## 3089     0         100          1         1      2.40          1
## 3090     0          70          1         1      2.54          3
## 3091     0         111          1         0      0.35          1
## 3092     0         117          1         0      0.00          1
## 3093     0          68          1         0      0.00          0
## 3094     1          27          1         0      0.36          2
## 3095     0          91          1         0      0.00          1
## 3096     0         181          1         1      2.86          1
## 3097     0         118          1         1      2.65          3
## 3098     0         112          1         0      0.00          2
## 3099     0          93          1         0      0.00          0
## 3100     0         102          1         0      0.00          0
## 3101     0          93          1         0      0.00          0
## 3102     0         107          1         1      2.21          1
## 3103     0         100          1         1      3.40          3
## 3104     0         115          1         0      0.00          2
## 3105     0          63          1         1      2.78          0
## 3106     0          57          1         0      0.00          0
## 3107     0         119          1         1      3.13          1
## 3108     0          73          1         0      0.41          1
## 3109     0          98          1         1      2.97          2
## 3110     0         139          0         0      0.00          0
## 3111     0          31          1         1      2.86          1
## 3112     0         129          1         1      3.08          1
## 3113     1         115          1         0      0.00          7
## 3114     1         108          1         0      0.27          2
## 3115     0         139          1         0      0.35          0
## 3116     0         102          1         0      0.00          4
## 3117     0         149          1         0      0.00          1
## 3118     0         113          1         0      0.00          2
## 3119     0         131          1         1      1.40          1
## 3120     0          83          1         0      0.00          0
## 3121     0          96          1         1      2.92          2
## 3122     0          98          1         0      0.00          1
## 3123     0           3          1         0      0.00          3
## 3124     0          77          1         1      3.05          0
## 3125     0          75          1         1      2.54          3
## 3126     1          40          1         0      0.00          4
## 3127     0         108          1         0      0.00          0
## 3128     1         100          1         0      0.00          4
## 3129     0          16          1         0      0.33          3
## 3130     0         115          1         1      1.51          2
## 3131     0         108          1         1      2.35          3
## 3132     0         107          1         0      0.21          5
## 3133     1         161          1         0      0.00          2
```

```
## 3134     0         147              1         0       0.26             2
## 3135     0         107              1         0       0.00             3
## 3136     0         120              1         0       0.26             1
## 3137     0         107              1         1       2.78             1
## 3138     0          58              1         0       0.00             3
## 3139     0          91              1         0       0.00             2
## 3140     0          13              1         0       0.00             2
## 3141     0         104              1         0       0.27             5
## 3142     0          93              1         1       2.89             1
## 3143     0          95              1         0       0.22             2
## 3144     0         104              1         0       0.34             3
## 3145     1          35              1         0       0.00             5
## 3146     0          62              1         0       0.00             3
## 3147     0         143              1         0       0.00             1
## 3148     0          62              1         0       0.00             4
## 3149     1          60              0         0       0.00             0
## 3150     0          41              1         0       0.00             1
## 3151     0          34              1         1       2.89             2
## 3152     1          56              1         0       0.25             0
## 3153     0         183              1         0       0.28             1
## 3154     0          94              1         0       0.00             2
## 3155     0          73              1         1       1.70             2
## 3156     0         123              1         0       0.00             2
## 3157     0          64              1         0       0.29             3
## 3158     1         127              0         0       0.00             4
## 3159     0          33              1         0       0.00             3
## 3160     0          27              1         0       0.00             1
## 3161     0         123              1         0       0.00             0
## 3162     0         148              1         0       0.00             2
## 3163     0          81              1         0       0.00             0
## 3164     0         122              1         1       1.86             2
## 3165     0          52              1         0       0.00             1
## 3166     0          91              1         1       2.46             1
## 3167     1          54              1         0       0.21             2
## 3168     0         152              1         0       0.00             1
## 3169     1         201              1         0       0.00             1
## 3170     1          78              1         0       0.40             4
## 3171     0          67              1         0       0.14             0
## 3172     0         100              1         0       0.00             1
## 3173     0          41              1         0       0.00             3
## 3174     0         133              1         0       0.00             3
## 3175     0          36              1         1       2.32             2
## 3176     0          51              1         1       2.24             0
## 3177     0         122              1         0       0.00             0
## 3178     0          84              1         1       3.46             1
## 3179     0          91              1         0       0.00             0
## 3180     0         110              1         0       0.34             1
## 3181     0          91              0         0       0.00             1
## 3182     0         121              1         0       0.00             5
## 3183     0         109              1         0       0.31             3
## 3184     0          95              1         0       0.00             2
## 3185     0          72              1         0       0.28             0
## 3186     0          73              1         0       0.31             0
## 3187     0         108              1         0       0.33             3
```

```
## 3188     0          58          1         1      1.46          1
## 3189     0         148          0         0      0.00          1
## 3190     1          76          0         0      0.00          0
## 3191     1         103          1         0      0.00          6
## 3192     1          87          1         0      0.00          0
## 3193     0          35          1         1      1.35          2
## 3194     0          88          1         0      0.00          1
## 3195     0          67          1         1      3.62          0
## 3196     0          77          1         1      2.62          2
## 3197     0         124          1         0      0.00          1
## 3198     0          30          1         0      0.00          0
## 3199     0          53          1         1      3.46          2
## 3200     0         152          1         0      0.23          1
## 3201     0         100          0         0      0.00          1
## 3202     0          59          1         1      2.38          1
## 3203     0         143          1         0      0.00          3
## 3204     0         142          1         1      1.73          1
## 3205     0         105          1         0      0.23          1
## 3206     1         111          1         0      0.00          1
## 3207     0         143          1         0      0.00          1
## 3208     0          93          1         1      3.16          0
## 3209     0          79          1         0      0.00          2
## 3210     1          68          0         1      3.83          3
## 3211     0          93          0         0      0.32          1
## 3212     0         103          1         0      0.38          2
## 3213     0         144          1         1      1.00          0
## 3214     0          93          1         0      0.19          1
## 3215     0         149          0         0      0.27          3
## 3216     0          23          1         1      2.54          1
## 3217     0         221          1         1      0.65          0
## 3218     0         164          1         1      3.56          1
## 3219     0         104          1         1      3.62          2
## 3220     0         150          1         1      2.38          2
## 3221     0         184          1         1      2.75          0
## 3222     0          88          1         0      0.31          1
## 3223     0          61          0         1      3.16          3
## 3224     0         110          1         0      0.00          2
## 3225     1         115          1         0      0.00          3
## 3226     0          33          1         0      0.00          2
## 3227     1         100          1         0      0.20          2
## 3228     0         209          1         0      0.00          0
## 3229     0          27          1         0      0.00          5
## 3230     0         117          1         0      0.22          1
## 3231     0          87          1         0      0.00          1
## 3232     0         129          1         1      1.78          1
## 3233     0         142          1         0      0.00          1
## 3234     0         112          1         0      0.00          0
## 3235     0          75          1         1      0.68          1
## 3236     0          97          1         1      1.32          3
## 3237     0         121          1         1      2.03          0
## 3238     0         142          0         0      0.00          1
## 3239     1         121          1         0      0.00          3
## 3240     0          87          1         1      2.75          2
## 3241     0          34          1         0      0.00          1
```

```
## 3242     1         177              0        0      0.00             1
## 3243     0          58              1        1      2.27             0
## 3244     1         113              0        0      0.00             5
## 3245     0         101              1        0      0.00             1
## 3246     0          89              1        0      0.00             3
## 3247     1          77              0        1      3.21             0
## 3248     1         146              1        0      0.00             4
## 3249     0          93              1        0      0.00             0
## 3250     0         160              1        0      0.00             0
## 3251     0          55              1        0      0.00             0
## 3252     0          88              1        0      0.00             2
## 3253     0          63              1        0      0.00             0
## 3254     0         127              1        1      2.43             1
## 3255     0          57              1        1      3.97             1
## 3256     1         138              0        0      0.00             2
## 3257     0         115              1        0      0.23             3
## 3258     0         171              1        0      0.31             2
## 3259     0         148              1        0      0.29             2
## 3260     0         127              1        0      0.35             1
## 3261     0          61              1        0      0.20             1
## 3262     0         131              1        0      0.00             1
## 3263     0          88              1        0      0.00             1
## 3264     0         130              1        0      0.26             2
## 3265     0          89              1        1      1.59             0
## 3266     1          82              1        0      0.00             3
## 3267     0         138              1        1      2.62             3
## 3268     0         115              1        0      0.00             1
## 3269     1          84              1        0      0.00             2
## 3270     0         117              0        0      0.00             1
## 3271     0          60              1        0      0.00             2
## 3272     0          62              1        0      0.00             2
## 3273     1         133              1        0      0.00             2
## 3274     0         131              1        0      0.28             3
## 3275     0          65              1        0      0.00             1
## 3276     0         120              1        1      0.00             1
## 3277     0         142              1        1      2.38             1
## 3278     0         134              1        0      0.00             2
## 3279     0          87              1        0      0.00             2
## 3280     0         139              1        1      2.24             2
## 3281     1          76              1        0      0.00             4
## 3282     0         100              1        0      0.00             1
## 3283     0          99              1        1      2.08             3
## 3284     0          99              1        0      0.00             3
## 3285     0          48              1        1      3.56             1
## 3286     0          57              1        0      0.00             0
## 3287     0         106              1        1      3.54             0
## 3288     1         170              1        1      2.94             4
## 3289     0          78              1        0      0.17             1
## 3290     0          39              1        0      0.00             1
## 3291     0         127              1        0      0.00             0
## 3292     1         119              0        1      3.75             1
## 3293     0         114              1        0      0.12             1
## 3294     0          95              1        0      0.00             0
## 3295     0         116              1        0      0.00             1
```

```
## 3296     0          110               1        0      0.00             1
## 3297     0           74               1        0      0.00             1
## 3298     0          148               1        1      3.05             1
## 3299     0           83               1        0      0.00             1
## 3300     0           73               1        0      0.00             2
## 3301     0          111               1        1      1.92             1
## 3302     1           84               1        0      0.00             0
## 3303     0           75               0        0      0.29             1
## 3304     0          114               1        1      3.11             2
## 3305     1           71               0        0      0.00             4
## 3306     0           58               1        1      3.11             2
## 3307     0          106               1        1      2.19             1
## 3308     0          172               1        0      0.00             4
## 3309     0           45               1        0      0.00             1
## 3310     0          100               0        0      0.00             4
## 3311     0           94               1        0      0.21             2
## 3312     0          128               1        0      0.00             2
## 3313     0          181               1        0      0.26             2
## 3314     0          127               1        0      0.00             1
## 3315     0           89               1        0      0.29             1
## 3316     0          149               1        1      1.76             0
## 3317     0          103               1        1      3.32             0
## 3318     0          163               0        0      0.00             1
## 3319     0           52               1        0      0.34             2
## 3320     0           89               1        0      0.25             3
## 3321     1          122               0        0      0.30             4
## 3322     0           60               1        0      0.00             3
## 3323     1           62               1        0      0.00             4
## 3324     1          117               1        0      0.39             5
## 3325     0          159               1        0      0.00             1
## 3326     0           78               1        0      0.23             2
## 3327     0           96               1        0      0.36             1
## 3328     0           79               1        0      0.00             2
## 3329     0          192               1        1      2.67             2
## 3330     0           68               1        0      0.34             3
## 3331     0           28               1        0      0.00             2
## 3332     0          184               0        0      0.00             2
## 3333     0           74               1        1      3.70             0
##      DayMins DayCalls MonthlyCharge RoamMins
## 1      265.1      110          89.0     10.0
## 2      161.6      123          82.0     13.7
## 3      243.4      114          52.0     12.2
## 4      299.4       71          57.0      6.6
## 5      166.7      113          41.0     10.1
## 6      223.4       98          57.0      6.3
## 7      218.2       88          87.3      7.5
## 8      157.0       79          36.0      7.1
## 9      184.5       97          63.9      8.7
## 10     258.6       84          93.2     11.2
## 11     129.1      137          44.9     12.7
## 12     187.7      127          49.4      9.1
## 13     128.8       96          31.0     11.2
## 14     156.6       88          52.4     12.3
## 15     120.7       70          47.0     13.1
```

```
## 16     332.9       67          84.0      5.4
## 17     196.4      139          95.3     13.8
## 18     190.7      114          51.0      8.1
## 19     189.7       66          78.0     10.0
## 20     224.4       90          52.0     13.0
## 21     155.1      117          50.1     10.6
## 22      62.4       89          26.0      5.7
## 23     183.0      112          38.0      9.5
## 24     110.4      103          34.9      7.7
## 25      81.1       86          35.0     10.3
## 26     124.3       76          45.0     15.5
## 27     213.0      115          78.7      9.5
## 28     134.3       73          37.0     14.7
## 29     190.0      109          58.2      6.3
## 30     119.3      117          41.1     11.1
## 31      84.8       95          27.0     14.2
## 32     226.1      105          56.0     10.3
## 33     212.0      121          39.0     12.6
## 34     249.6      118          64.0     11.8
## 35     176.8       94          69.4      8.3
## 36     220.0       80          95.7     14.7
## 37     146.3      128          78.2     14.5
## 38     130.8       64          42.0     10.0
## 39     203.9      106          79.4     10.5
## 40     140.4       94          47.0     11.1
## 41     126.3      102          39.0      9.4
## 42     173.1       85          86.4     14.6
## 43     124.8       82          46.0     10.0
## 44      85.8       77          32.8      9.2
## 45     154.0       67          48.4      3.5
## 46     120.9       97          62.0      8.5
## 47     211.3      120          50.0     13.2
## 48     187.0      133          47.5      7.4
## 49     159.1      114          47.0      8.8
## 50     133.2      135          71.7     11.0
## 51     191.9      108          59.2      7.8
## 52     220.6       57          56.0      6.8
## 53     186.1      112          48.0     11.4
## 54     160.2      117          52.1      9.3
## 55     151.0       83          45.0      9.7
## 56     175.5       67          53.1     10.2
## 57     126.9       98          37.0      8.0
## 58     198.4      129          56.7      5.8
## 59     148.8       70          47.0     12.1
## 60     229.3      103          55.0     12.0
## 61     192.1       97          48.0     11.4
## 62     268.6       83          92.3     11.6
## 63     193.7       91          93.4     14.6
## 64     180.7       92          81.0     12.6
## 65     131.2       98          37.0      8.2
## 66     148.1       74          56.7      6.2
## 67     251.5      105          61.0      9.3
## 68     125.2       93          39.0      8.3
## 69     211.6       70          55.0      7.8
```

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## 70     178.9      101          45.0     13.8
## 71     241.8       93          56.0     11.8
## 72     224.9       97          87.7     12.1
## 73     248.6       83          55.0      8.0
## 74     203.4      146          54.0      7.3
## 75     235.8      109          54.0     12.0
## 76     157.1       90          46.0      6.1
## 77     300.3      109          69.1     11.7
## 78      61.6      117          20.1      8.2
## 79     214.1       72          53.6      8.2
## 80     170.2       98          46.0     15.0
## 81     201.1       99          60.0     13.2
## 82     215.4      104          58.0     12.6
## 83     165.6      123          69.7     11.0
## 84     249.5      101          91.5      9.8
## 85     210.6       96          57.0     12.4
## 86     179.3      104          73.2      8.6
## 87     157.9      105          41.0      8.0
## 88     214.3      118          55.0     12.0
## 89     154.1      104          66.4     10.9
## 90     237.9      125          62.0     13.9
## 91     143.9       61          43.7     11.1
## 92     203.4      100          51.0      8.9
## 93     124.3      100          36.0      7.9
## 94     252.9       93          59.0      9.5
## 95     179.1       71          47.0     10.6
## 96     278.4      106          58.0      9.8
## 97     160.1      110          46.0     13.0
## 98     198.2       87          52.0      8.7
## 99     212.1      131          54.0      5.3
## 100    251.8       72          61.0      9.8
## 101    161.2      114          60.9      4.4
## 102    178.3      137          50.4     14.6
## 103    151.7       82          36.0     10.5
## 104    135.0       99          39.0     12.5
## 105    170.5       94          47.9     11.3
## 106    238.1       65          57.0     11.8
## 107    281.4      102          90.3      9.0
## 108    117.9      131          61.5      9.8
## 109    148.6       91          64.3     10.1
## 110    229.8       90          52.0      9.6
## 111    165.0      100          56.0      8.3
## 112    185.0      117          51.0     12.6
## 113    161.0      117          44.0     12.1
## 114    126.7      108          40.0     13.3
## 115     58.9      125          25.0      9.4
## 116    196.8       89         110.0     20.0
## 117    162.6       83          43.9     14.2
## 118    282.5      114          69.1      9.4
## 119    113.7      117          60.0     10.0
## 120    239.8      125          60.0      8.7
## 121    210.2       92          58.1     13.1
## 122    213.8      102          68.4      7.2
## 123    190.7      103          49.0      9.8
```

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## 124    170.9      124          41.0     11.6
## 125    154.2      119          36.0      9.2
## 126    201.4       52          58.0     12.0
## 127     70.7      108          26.0      9.1
## 128    187.5      124          62.3      6.4
## 129     91.7       90          33.0      9.2
## 130    214.2      115          76.7      9.5
## 131    145.5       92          44.0     10.9
## 132    166.3      125          42.0      6.1
## 133    231.0      115          59.0      9.5
## 134    200.3       96          52.0      7.1
## 135    197.0      109          51.0      9.1
## 136    129.9      112          40.1     11.2
## 137    175.8       97          63.3      5.3
## 138    203.1      106          53.0     12.0
## 139    183.2      117          72.2     11.2
## 140    205.0      101          75.5     10.2
## 141    148.5      115          49.0     12.4
## 142    200.3       68          81.4     10.5
## 143    192.6      107          68.4      6.8
## 144    246.5       47          59.0     11.7
## 145    167.1       86          44.0     14.1
## 146    231.9      101          54.0     14.3
## 147    146.7       91          43.0     13.7
## 148    271.5       87          67.6     11.7
## 149    181.5      121          50.0      8.5
## 150    257.7       97          88.0     11.1
## 151    193.8       99          52.0     10.6
## 152    102.8      119          36.0     10.1
## 153    187.9      116          46.0      7.5
## 154    226.0      112          60.0      6.9
## 155    260.4      115          57.0     11.5
## 156    178.7      116          56.0      9.8
## 157    337.4      120          77.0     15.8
## 158    157.6      129          85.0     13.7
## 159    183.6      117          54.0     10.2
## 160    142.1      124          65.9      9.6
## 161    136.3       97          41.1      7.1
## 162    217.1      110          58.0     12.0
## 163    187.5       99          81.4     10.5
## 164     98.9      103          29.0     12.2
## 165    206.3      151          48.0      6.1
## 166    243.1       92          92.7     12.1
## 167    189.8      126          67.3      7.5
## 168    202.0      102          59.9     10.9
## 169    170.1      124          80.6     12.8
## 170    230.9       87          56.0      6.3
## 171    237.1      105          60.0     13.2
## 172    182.1       91          74.6     10.6
## 173    119.3       87          40.4     10.5
## 174    116.8       87          36.0     14.1
## 175    219.2       92          50.0      6.1
## 176    252.6      104          58.0     11.1
## 177    147.1       91          42.0     12.2
```

```
## 178    202.1      103          54.0     11.5
## 179    173.5       93          48.3     16.2
## 180    232.1      122          65.0      0.0
## 181    197.1      125          77.7      9.5
## 182     58.2       94          22.0     11.9
## 183    115.6      111          66.7      9.9
## 184    186.1       98          55.4     14.6
## 185    259.9       68          66.0      8.4
## 186    214.3      145          60.0     10.8
## 187    158.7       74          33.0     10.2
## 188    271.6       71          67.9     10.9
## 189    160.6      111          44.7      9.0
## 190    232.4      109          56.0      9.1
## 191    133.8       85          39.0      8.9
## 192    176.9      109          41.5      9.5
## 193    209.9       74          53.0      8.8
## 194    137.5      118          43.2     13.4
## 195    289.5       52          89.7      9.5
## 196    198.1       86          67.4      6.8
## 197    149.7      119          41.0      9.7
## 198    326.5       67          74.3     10.7
## 199    292.9      101         104.3     13.8
## 200     83.0       64          30.0     13.0
## 201    145.7      146          79.4     13.1
## 202    182.3      101          59.0     11.2
## 203    218.0       86          53.0      6.4
## 204    140.6      109          40.0      6.8
## 205    152.7      105          48.0      9.4
## 206    106.7       76          68.7     12.1
## 207    243.8       98          49.0     13.7
## 208    194.4       94          49.0     10.8
## 209    213.9       95          50.0     12.2
## 210    217.2      112          58.0     15.8
## 211    241.1       72          55.0     11.6
## 212    203.5      100          56.0     11.9
## 213    155.2      131          76.9     10.7
## 214    167.6      139          71.9     12.2
## 215    226.7       98          58.0     17.6
## 216    179.3       93          46.0     11.5
## 217    151.4       89          45.1     10.9
## 218    180.0       80          50.0      4.7
## 219    250.2      121          66.0     13.0
## 220    223.0      121          52.0      7.1
## 221    183.6      116          45.0     12.2
## 222    166.0      114          71.5     10.2
## 223    136.1      112          47.0      4.4
## 224    149.3      113          49.2      8.9
## 225     65.4       97          26.0     13.8
## 226    213.4      111          57.0      2.7
## 227    206.9       85          56.0      7.7
## 228    186.2       78          73.9      9.6
## 229    280.2      136         102.9     13.3
## 230    196.6       84          93.1     11.9
## 231    312.0      109          65.0     10.5
```

```
## 232    199.0      110          88.7     11.0
## 233    203.1       96          55.5     13.5
## 234    168.8       97          48.0     10.9
## 235    173.1      140          50.0      9.0
## 236    134.4      106          41.0     10.2
## 237    202.6      103          69.3      9.0
## 238     74.5      117          33.1      9.8
## 239     83.6      148          28.1     10.7
## 240    192.2       86          47.0      9.4
## 241    220.2       89          45.0     12.9
## 242    135.1       95          35.0     12.3
## 243    253.4       77          61.5      8.4
## 244    225.0       81          54.0      7.1
## 245    198.5       99          57.0      9.4
## 246    110.3      107          33.0      9.5
## 247     60.0      102          49.0     11.1
## 248    214.8       94          50.0     10.2
## 249    181.8       85          49.0      9.2
## 250    154.0      114          81.9     11.8
## 251    157.4       99          74.5     13.9
## 252    207.9       91          50.0     14.4
## 253    207.0       90          55.0      9.1
## 254    119.0      101          65.7      9.5
## 255    143.7      117          50.8     10.9
## 256    165.9      126          85.1     14.1
## 257    138.6      122          39.0      9.8
## 258     84.7      118          38.9     14.5
## 259     62.6      111          26.0     10.4
## 260    155.2       79          47.0      8.7
## 261    164.9      110          64.1      6.7
## 262    134.5       88          36.0     15.4
## 263    143.3      103          43.0     11.5
## 264    168.3      110          53.1     12.5
## 265    262.4       55          62.0      8.3
## 266    206.2       79          88.8     11.4
## 267    225.8       94          77.7      8.4
## 268    138.3       89          38.0     13.5
## 269     94.4      104          40.2      4.5
## 270    160.0      123          43.0      9.9
## 271    206.6      105          55.0     14.6
## 272    134.7      121          39.0      7.7
## 273    214.4       78          78.6      8.0
## 274    192.8      104          53.0     13.0
## 275    151.1       90          70.0     10.0
## 276    221.4      103          58.0      9.8
## 277    218.9       88          55.0     11.1
## 278    189.8       96          60.6      6.5
## 279    192.7       85          81.4     10.9
## 280    204.4      135          54.0     10.5
## 281    172.3       97          49.2     13.0
## 282    198.4       93          53.3     10.4
## 283    211.7      115          82.9     12.2
## 284    221.6       74          87.3      9.0
## 285    197.9      108          50.0      6.7
```

```
## 286    147.5       90          83.1     15.6
## 287    206.4      122          46.0      8.8
## 288    205.9       88          55.7     14.5
## 289    207.6       88          47.0     14.1
## 290    303.9       95          74.0      5.3
## 291    230.6      121          79.6      8.0
## 292     99.5      110          28.0      9.7
## 293    177.1      112          47.0      5.9
## 294    172.7       93          67.8     10.3
## 295    172.7       86          67.5      9.8
## 296    204.2      115          52.9      9.5
## 297     85.7       83          38.0     10.1
## 298    157.6      117          46.4     11.9
## 299    215.5      129          56.0      6.6
## 300    181.5       98          48.0      6.6
## 301    171.7       80          39.0     11.9
## 302    266.6      106          70.6      5.9
## 303    170.4      108          59.0     11.2
## 304    158.0      106          52.0      9.1
## 305     92.0      117          41.4     10.3
## 306    234.0      109          61.0      9.1
## 307    272.1      111          70.0      8.5
## 308    296.4       99          69.0     11.4
## 309    194.4      101          52.9     11.4
## 310    227.2      128          61.0      8.9
## 311    248.7      109          61.0     13.2
## 312    236.3      102          83.2      9.7
## 313    205.6       69          50.0     10.9
## 314     94.1      136          40.0      9.8
## 315    125.2       99          39.0     18.9
## 316     60.4      158          39.3     12.4
## 317    121.0      105          64.8      7.7
## 318    117.8       66          62.5      7.6
## 319    232.4       96          71.5      5.0
## 320    223.5       81          80.4      9.4
## 321    176.3       79          52.0      6.2
## 322    125.2       79          71.8     12.9
## 323    138.7      107          46.0     10.0
## 324     86.3      134          36.0     11.3
## 325    207.0       91          49.0     13.4
## 326     58.8      104          48.2      7.1
## 327     68.7       95          60.8     11.4
## 328    239.2      109          86.7      9.5
## 329    198.3      130          53.0     12.5
## 330    205.2       97          57.4     14.4
## 331    192.1       98          62.4      7.9
## 332    272.6       83          68.0      9.5
## 333    128.3      121          42.0     12.2
## 334    169.6       99          52.0      9.3
## 335    201.3       95          48.0      7.5
## 336    214.7       97          72.2      8.6
## 337    169.2       70          52.0     10.6
## 338    194.1      121          49.0      7.0
## 339    233.8      104          63.0      7.6
```

```
## 340    225.1       67          56.0     14.6
## 341    213.0       63          52.0      9.1
## 342    183.9      115          54.0     10.8
## 343    221.8      105          89.8     14.0
## 344     64.6       98          26.0      0.0
## 345    154.6       92          69.9     13.3
## 346    260.2      131          60.0      7.2
## 347    161.6      117          70.9     12.2
## 348    220.6      117          51.0     10.5
## 349    155.9      122          76.4     13.1
## 350    107.0       63          31.4     12.8
## 351    182.5      104          54.1     11.3
## 352    220.1       78          85.3     10.1
## 353    152.2      112          41.0      5.3
## 354    181.5       95          49.0     14.7
## 355    236.2       77          60.8     13.2
## 356    166.1      105          37.8     12.7
## 357    244.6       89          58.0     11.3
## 358    134.2       85          66.0      8.5
## 359    149.7      122          68.8      9.2
## 360    150.1      109          64.7      5.8
## 361    257.1       53          75.4      8.8
## 362    124.4       83          37.0     11.3
## 363    141.7      121          76.4     12.0
## 364    230.0       87          49.4     11.3
## 365    162.3       88          46.0     10.9
## 366    350.8       75          79.0     10.1
## 367    193.3       96          56.0      9.1
## 368     78.2      127          35.0     18.0
## 369     83.4      110          36.2      7.6
## 370    195.6       99          59.8     16.0
## 371    201.8       81          58.2     10.3
## 372    197.0      110          53.0     10.6
## 373    218.0       57          49.9     12.4
## 374    164.8       98          48.0     14.8
## 375    179.2       77          49.0      9.2
## 376    214.0      113          80.6     10.6
## 377    170.5       87          44.3     11.2
## 378    205.7      123          54.0      6.7
## 379    165.5       84          53.0     11.5
## 380    221.0      100          55.3      6.8
## 381    242.1      118          58.0     14.7
## 382    151.6      107          39.0     14.7
## 383    176.2       87          44.8      5.7
## 384    196.0       82          71.0      3.7
## 385    159.5      125          49.0      7.2
## 386    230.2      113          62.5     10.7
## 387    146.7       64          49.0      8.9
## 388    210.5      102          54.0      8.5
## 389    102.0       95          41.0     10.7
## 390    126.0       99          45.6     10.2
## 391    168.4      125          50.0     11.1
## 392    105.6      129          40.0      8.7
## 393    206.5       92          51.0     12.4
```

```
## 394    217.1       76          57.7      9.4
## 395    229.6       78          57.0     10.8
## 396    278.3       89          82.2      9.7
## 397    138.6      102          41.0      7.8
## 398    234.4      103          65.8      2.0
## 399    181.5      129          42.0      8.5
## 400    167.3       91          48.0     10.6
## 401    121.0      105          72.4     12.0
## 402    221.1      124          48.0     10.6
## 403    145.8      108          68.7      9.9
## 404    222.8      122          55.4     11.2
## 405    183.4       80          52.0      7.5
## 406    264.3       91          59.0      9.3
## 407    146.0       78          35.0      6.8
## 408    157.1      134          45.9      8.5
## 409    127.3      108          43.0     10.3
## 410    187.9      110          49.0      4.8
## 411    178.8       90          45.6      8.4
## 412     97.2       80          35.8     10.4
## 413    259.8       85          67.0      5.4
## 414    256.5      112          61.0      7.0
## 415    169.5       77          40.0     10.0
## 416    239.7       47          65.0      8.7
## 417    171.5       99          45.6      5.0
## 418    239.9       84          56.0      9.8
## 419    142.3       73          84.2     16.0
## 420    184.1       98          60.0      7.5
## 421    206.9      126          83.1      9.3
## 422    259.9      114          60.0     15.3
## 423    203.8      122          59.0     12.5
## 424    248.8      124          82.8     10.3
## 425    221.6      110          79.5     11.3
## 426    192.9      131          52.9     10.9
## 427    122.4      129          31.0     12.5
## 428    104.9       65          62.9      9.6
## 429    173.2       91          47.0     11.2
## 430    119.4       69          44.0     12.4
## 431    250.3      100          65.0     13.3
## 432    178.3       98          58.9     11.4
## 433    243.4       77          57.0     12.8
## 434    155.0      106          42.0     11.8
## 435    288.7      101          90.2      8.6
## 436    240.4       80          81.2     11.2
## 437    190.3      123          58.0      8.0
## 438    278.0       76          66.2      8.3
## 439    155.0       93          55.0     13.5
## 440    153.5       99          43.0      6.3
## 441    273.4      141          93.2     12.3
## 442    155.3       93          49.0     12.4
## 443    133.1      114          60.4      6.8
## 444    246.8      129          58.0     12.6
## 445    165.4      107          45.0      9.6
## 446     59.5      103          35.1     11.1
## 447    138.3      116          44.0      9.6
```

```
## 448    286.7      100         61.0      6.9
## 449    117.3      114         41.4     12.2
## 450    264.3       79         80.0      6.3
## 451    127.9      107         47.5     12.5
## 452    225.5      107         86.5      9.8
## 453    149.0      115         47.0      8.3
## 454    198.9       77         96.6     14.3
## 455    256.4      125         67.0     11.1
## 456    264.8      124         66.0     14.8
## 457     98.2       88         33.0      9.3
## 458    159.8       99         51.6      9.7
## 459    190.6       86         68.2      6.0
## 460    184.0      120         42.0     11.0
## 461    261.8      128         64.0      9.6
## 462    147.9      109         45.0      9.6
## 463    106.4      109         55.3     10.1
## 464    133.7       75         40.0      5.9
## 465    193.5       85         75.0      8.5
## 466    178.2      113         45.0     13.6
## 467    226.2      103         82.4     10.5
## 468    170.4      103         49.8     11.6
## 469     70.9      163         57.0     11.1
## 470    194.4       63        101.4     17.2
## 471    240.3      146         55.0     10.6
## 472     75.0      116         34.0      9.5
## 473     69.1      117         24.0      6.3
## 474     96.6       59         60.7      6.2
## 475    214.6      101         97.0     14.8
## 476    148.5      111         38.0      9.9
## 477    258.1      106         60.9     11.7
## 478    149.7      112         60.5      7.6
## 479    149.8      134         40.0      8.1
## 480    190.4      102         46.0     11.2
## 481    181.4      108         55.1     11.6
## 482    151.1      123         42.0      5.3
## 483    155.7      116         42.0      8.1
## 484    149.9       95         48.0     13.3
## 485    222.3      132         58.0     11.0
## 486    149.4      111         55.1      6.7
## 487    233.8      103         59.0     12.8
## 488    204.2      100         60.0     10.5
## 489    242.9      126         60.0      0.0
## 490    150.4      119         46.0     12.3
## 491    208.9      119         57.0     12.8
## 492    191.9       91         58.2     14.3
## 493    130.7      113         47.1      9.4
## 494    119.6      104         60.9      5.9
## 495    273.6       93         57.0      8.2
## 496    156.1      114         42.0     11.1
## 497    178.7      134         67.6      8.0
## 498    177.5       93         55.0     11.9
## 499    211.3       61         45.0      9.7
## 500    175.2       91         51.0      7.5
## 501    114.3      102         70.0     12.6
```

```
## 502    251.4      104          82.3      7.5
## 503    216.9       61          55.0     17.5
## 504    217.2      138          75.1      9.3
## 505    206.3       97          49.0     12.4
## 506    159.3       66          39.9     11.1
## 507    143.1       88          75.8     11.4
## 508    154.0      122          55.0      5.6
## 509    186.6       69          82.3     11.6
## 510    170.8      114          71.9      9.6
## 511    124.0      102          72.2     12.3
## 512    198.3       94          58.0     14.8
## 513    172.8      101          47.0      9.1
## 514    217.4       74          73.8      6.6
## 515    265.9      113         101.8     14.0
## 516     93.6      137          80.3     17.5
## 517     98.2      100          43.0      7.6
## 518    214.7       68          53.5      9.4
## 519    168.2       92          48.0     12.9
## 520    202.9       97          50.1      9.0
## 521    261.4      108          58.0     11.6
## 522     73.3       86          27.0      8.2
## 523    253.7       84          87.8      9.2
## 524     45.0      108          21.0      9.8
## 525    231.3      105          57.8     13.0
## 526     47.4      125          25.5     10.5
## 527    227.4       88          55.0     12.5
## 528     40.9      126          51.1     11.9
## 529    124.8      133          35.0      8.6
## 530     68.5      110          42.9     12.1
## 531    163.5       77          67.1      7.8
## 532    163.0      112          47.0      6.7
## 533    213.7       61          86.9     10.7
## 534    201.3      117          52.6      5.4
## 535    310.4       97          61.2      9.2
## 536     48.4      101          33.0     18.2
## 537    171.2       88          79.8     14.0
## 538    166.5       93          67.0      8.5
## 539    216.6      126          54.0     12.4
## 540    107.8      113          37.0      9.9
## 541    141.3       94          60.1      7.8
## 542    209.9       77          67.8      6.6
## 543    237.5      120         100.3     14.2
## 544    234.5      109          59.0      3.5
## 545    103.1       90          71.9     12.2
## 546    129.5      106          76.1     11.9
## 547    279.8       90          69.0      8.4
## 548    136.8       91          68.8     10.3
## 549    100.1       54          53.9      5.9
## 550    237.1       63          85.3     10.1
## 551    172.8       58          45.0      7.9
## 552    224.5      111          56.0     11.5
## 553    288.1      112          73.1     10.2
## 554     78.2      103          30.0     10.1
## 555    148.7       80          48.0     12.7
```

```
## 556    194.6       84          79.4     13.1
## 557    159.5       77          53.0     12.0
## 558    194.5      110          77.7      9.5
## 559    174.1       96          51.0      8.3
## 560    131.8       97          38.9      7.7
## 561    160.6      103          48.0     10.7
## 562    146.8      107          71.4      7.2
## 563    200.7       88          81.6      9.1
## 564    145.6      106          37.3     10.9
## 565    229.4      104          82.6      8.0
## 566    211.0       76          52.0      4.7
## 567    121.5       97          74.5     11.3
## 568    216.0       73          53.0      3.6
## 569    293.0       88          64.0     10.0
## 570    221.1      137         102.6     15.4
## 571    181.5      108          48.0     10.3
## 572     74.3      107          67.2     14.5
## 573     62.3       92          34.0     10.8
## 574    228.6       88          84.3      9.0
## 575    228.1      121          66.3      9.9
## 576    309.9       90         108.3     14.2
## 577    201.9       74          55.6     13.7
## 578    149.8      112          43.9     11.7
## 579    183.8       76          71.8      7.7
## 580    186.7      108         105.6     16.5
## 581    209.4      151          66.0      7.4
## 582    223.2       77          81.5     10.2
## 583    164.2      109          42.0     10.7
## 584    150.5       75          43.3     10.3
## 585    234.2      128          65.0      9.8
## 586     55.3      102          24.0     10.2
## 587    221.8       97          56.0      8.4
## 588    169.6       85          38.0      7.4
## 589     89.7      118          38.0     13.5
## 590     80.2       81          56.2      8.6
## 591    218.9      105          67.2     11.3
## 592    125.7       96          40.0     12.9
## 593    176.3       85          41.1      9.6
## 594    207.2      111          82.7      9.5
## 595    205.7      138          49.0     12.5
## 596    151.4       95          39.0      0.0
## 597    157.5       70          38.0      9.6
## 598    160.4       68          36.0      9.1
## 599    159.0       80          42.0     12.3
## 600    214.1       62          78.8      9.2
## 601    102.6       89          39.0      9.1
## 602    159.7       86          44.0     13.9
## 603    202.8      109          51.7      4.6
## 604     57.5       95          33.0     11.6
## 605    169.9      144          49.0     11.4
## 606    335.5       77          76.0     12.7
## 607    139.5      119          49.0     13.1
## 608    142.3      107          52.8      6.6
## 609    187.8       94          54.0     10.6
```

```
## 610    146.2       55         48.0      8.7
## 611    231.8      120         53.0     11.6
## 612    193.7       83         47.0     12.7
## 613    156.4      108         49.4      7.7
## 614    220.7       82         92.6     13.2
## 615    239.8      110         79.7      7.3
## 616    172.0      111         68.6      8.0
## 617    128.2      138         69.8      8.8
## 618    130.2      119         47.0     14.0
## 619    195.4      107         47.0     11.6
## 620    293.3       79         66.0     14.5
## 621    191.3       89         49.0     12.8
## 622    122.4       88         34.0     11.5
## 623    209.6       68         77.6     10.6
## 624    215.7      140         50.0      7.1
## 625    161.4      110         47.0      5.1
## 626    144.2       91         46.7     13.8
## 627    220.2      109         65.1      4.1
## 628    256.2      105         58.0      7.4
## 629    112.7      119         38.0      6.5
## 630    299.5      125         71.0     13.7
## 631    194.8      107         48.0     13.9
## 632    100.8      112         37.0      9.5
## 633     82.5       97         52.0      4.8
## 634    146.4      104         75.1     15.6
## 635    177.9      129         50.0     10.8
## 636    153.5       84         70.5     10.2
## 637    150.7      105         43.0      9.2
## 638    180.1      106         62.3      7.5
## 639    265.3       94         92.8     12.9
## 640    128.6       83         34.0     11.4
## 641    161.5       92         43.0      7.9
## 642    165.3      120         45.0      9.8
## 643    195.0       92         52.0     11.0
## 644    213.8       79         59.0     15.6
## 645    205.5      114         91.8     14.0
## 646    252.9      112         82.0      8.5
## 647    235.6       74        101.6     15.4
## 648    192.0       91         44.0      7.5
## 649     69.1      122         45.6      9.1
## 650    261.7       97         63.0      6.0
## 651    235.5       81         62.0     11.5
## 652    213.4      100         57.8      9.5
## 653    206.9      143         71.8      9.2
## 654    263.8       65         77.0      8.5
## 655    183.4      126         76.4     10.5
## 656    157.6       85         44.0      9.4
## 657    175.6      147         44.0      9.3
## 658    242.5      101         50.0      9.3
## 659    151.0      102         37.0      9.9
## 660    138.1      103         40.9      8.3
## 661    264.7       69         71.0      9.5
## 662    282.3       70         93.4     12.0
## 663    211.2       80         60.7     12.3
```

```
## 664    197.1      126          45.0      7.4
## 665    205.3       95          50.0      7.8
## 666    181.8      110          75.8      9.2
## 667    252.0      120          56.0      9.6
## 668    193.8      102          44.0      9.2
## 669    231.2      135          56.0     12.3
## 670    200.1      108          92.9     15.5
## 671    266.7      109         110.0     16.3
## 672    118.1      117          71.1     11.9
## 673    175.3      106          47.3     11.8
## 674    125.1       99          46.5     11.2
## 675    176.8       90          53.9      7.5
## 676    241.9      101          53.0      5.9
## 677    241.2      134          51.0     10.6
## 678    217.1       99          57.0      9.4
## 679    195.4      110          52.3      8.9
## 680    222.4       78          66.0      8.7
## 681    189.5       90          49.0     13.1
## 682    123.1      100          35.0      9.3
## 683    256.7       98          87.8     11.4
## 684    159.1       94          48.0      6.5
## 685    100.1       90          39.4     11.1
## 686     30.9      113          45.2      8.6
## 687    223.2       76          57.0     10.1
## 688    187.4      101          49.0     12.6
## 689    315.6      105         104.7     12.1
## 690    277.5      104          59.0      8.2
## 691    189.8      111          50.0     14.9
## 692    147.2      119          42.0     10.2
## 693    185.8       36          56.0      5.7
## 694    155.4      110          64.6      8.0
## 695    154.2       91          50.0     10.9
## 696     97.6       98          26.0     11.6
## 697    178.8       94          49.3      7.5
## 698    149.3      104          49.0      9.1
## 699    206.0       89          51.0      8.4
## 700    216.8       86          54.0     11.0
## 701    103.3      110          29.0     10.7
## 702    139.4       95          39.5      7.7
## 703    191.2      110          47.0     14.1
## 704    160.0      104          72.1     10.4
## 705    221.7       95          58.2      6.5
## 706     62.9       81          31.0      8.5
## 707    215.6       78          54.0      3.6
## 708    165.3       97          68.5      7.6
## 709     94.7      111          58.6     10.6
## 710    203.2       81          48.0      9.7
## 711    195.3       70          54.9     12.5
## 712    143.7      114          50.0     11.4
## 713    114.4      104          30.1      0.0
## 714    222.8      101          56.0      6.9
## 715    175.9       70          67.7      7.3
## 716    249.9       95          64.0     15.3
## 717    234.5      130          87.8     11.4
```

```
## 718    210.7      116         55.0      7.2
## 719    182.3      124         46.0      9.3
## 720    190.3       88         49.0     11.7
## 721    177.1       88         65.0      7.4
## 722     87.2       92         59.4     10.9
## 723    215.6       96         54.0     13.5
## 724    137.4      109         44.0     14.0
## 725    192.8      103         92.3     16.4
## 726    149.3      100         45.0     11.9
## 727    143.7      116         39.0      7.8
## 728    224.8      111         55.0      9.2
## 729    261.2      122         97.3     12.7
## 730    196.5       98         85.2     13.4
## 731    271.2      105         64.0     11.5
## 732    207.2      121         61.0      8.0
## 733    300.4       94         63.0      7.2
## 734    229.6      123         76.7      9.5
## 735    187.5      110         79.7     12.1
## 736     57.1       98         27.0      6.5
## 737    162.1       86         41.0     11.0
## 738    145.0       89         40.0     16.7
## 739    159.5      123         48.0     11.4
## 740    190.7       72         51.0      8.8
## 741    230.6       40         81.4      9.4
## 742     34.0      133         30.0     11.5
## 743    193.4      112         84.8     11.4
## 744    202.0      126         49.0     10.4
## 745    191.7      122         54.0      9.1
## 746    161.3       97         66.8      6.6
## 747    150.6       85         39.0      6.4
## 748    184.6      102         52.4      7.8
## 749    220.7      120         61.0      8.7
## 750    167.3      119         46.0     11.0
## 751    154.0       80         64.1      8.2
## 752    121.1      116         64.3     10.1
## 753    182.1       94         79.3     12.7
## 754    109.6       88         31.0     11.0
## 755    209.9      105         50.4      9.6
## 756    167.5       76         50.0     11.4
## 757    213.9       88         57.0      9.8
## 758    115.8      108         41.0     13.1
## 759    276.6       99         92.5      9.8
## 760    179.4       88         71.7      9.5
## 761    187.3       84         55.0     10.1
## 762    201.2      128         54.0      8.4
## 763    189.6       78         55.0      1.3
## 764    186.8      124         94.5     15.0
## 765    153.5       83         75.8     11.4
## 766    187.6       97         50.0      8.7
## 767    230.9      132         60.0     11.0
## 768    244.9      150         93.0     15.2
## 769    230.9       93         59.0      9.7
## 770    187.1      104         56.6     11.0
## 771    170.7       54         46.0     13.3
```

```
## 772    126.9       97          59.8      8.8
## 773    189.5      112          50.0      9.2
## 774    176.9      110          45.0      7.7
## 775    161.1       99          45.0     10.6
## 776    169.4      107          46.0     10.7
## 777    254.4      133          85.4     10.5
## 778    127.7       54          55.7      5.8
## 779    170.5      107          84.7     13.6
## 780    219.1      100          58.0     10.1
## 781    273.5      104          63.0     11.0
## 782    161.9      138          45.0     10.7
## 783    241.7       87          79.4      9.4
## 784     62.8      124          29.8      9.4
## 785    281.1       83          90.2     11.2
## 786    228.2       70          62.0     10.7
## 787    209.8       82          53.0     11.3
## 788    265.6       86          63.0     11.1
## 789    214.9       97          47.0     11.8
## 790    110.5       79          38.0     10.5
## 791    281.1       88          85.3      7.5
## 792    137.8       86          48.0     14.1
## 793    271.5       98          90.1      8.2
## 794    112.8      108          38.0      9.0
## 795    187.3      118          53.0     15.1
## 796    197.0       84          57.0     10.8
## 797    180.4       89          64.7      8.4
## 798    148.5      126          44.0     14.5
## 799    197.1      113          95.4     14.6
## 800    153.7      115          80.9     15.9
## 801    261.3       96          94.5     11.3
## 802    246.2      102          60.0      9.4
## 803    191.0       88          60.0      6.5
## 804    208.3       86          60.5     12.6
## 805    253.0       73          62.0      9.8
## 806    202.3       87          52.0      6.8
## 807    174.4      120          43.0     10.2
## 808    127.1       89          69.7     12.1
## 809    143.5       76          76.5     11.3
## 810    186.9       94          68.7      5.8
## 811    194.0      118          54.0     12.1
## 812    234.8       89          50.9      9.9
## 813    123.7       96          30.0     13.1
## 814    173.9      103          54.0     15.3
## 815    130.9      115          73.5     12.4
## 816    314.6      102          68.0      5.7
## 817    227.9       78          57.0     12.1
## 818     95.5       92          31.0      6.6
## 819    185.3      127          50.0     15.1
## 820    146.3      133          45.6     13.1
## 821    184.0       99          72.3     12.7
## 822    105.8      110          22.0     13.1
## 823    178.0      110          47.1     11.7
## 824    149.4       74          63.3     10.1
## 825    209.4      104          47.0     11.3
```

```
## 826    172.1      105          48.0     11.6
## 827    169.3       82          48.0      9.4
## 828    119.1      117          49.2     12.2
## 829    194.2      147          48.0      5.5
## 830    198.8       56          54.0      9.9
## 831    167.7       94          37.0     13.4
## 832    202.2       86          53.0     11.8
## 833    322.5      106          73.0      9.4
## 834    216.2      107          59.0     10.2
## 835     76.4      116          23.0      9.4
## 836     72.7       75          31.0      9.9
## 837    210.4      100          81.2      9.7
## 838    127.2       93          57.9      8.1
## 839    201.8       79          93.1     11.9
## 840    219.5       78         100.5     16.1
## 841     99.3      112          40.0      9.0
## 842    239.2      114          54.0     10.3
## 843    120.9       58          41.0     11.4
## 844    224.7       81          50.0     15.8
## 845    176.6       88          83.4     14.6
## 846    283.9       98          92.0     10.0
## 847    180.6       92          47.0     10.3
## 848    125.9      101          66.8     10.3
## 849    237.6       79          57.0      9.1
## 850    198.4       91          57.0      9.2
## 851    274.3      110          52.0     10.9
## 852    199.6       89          52.0     11.0
## 853    217.7       91          61.0      9.6
## 854    134.7       96          43.0      7.6
## 855    212.7       73          85.2      9.7
## 856    256.3      135          59.0      6.2
## 857    183.6      133          44.7     12.7
## 858    176.2       90          47.0      9.2
## 859    205.0       94          80.6     11.7
## 860    267.9      114          65.0     11.3
## 861    179.2      111          46.0      9.9
## 862    149.4      145          43.0     14.9
## 863    163.6      132          76.4     13.1
## 864    207.6       71          49.0     12.4
## 865    165.4      108          44.0      8.9
## 866    209.8      114          51.0      9.9
## 867    220.1      128          91.0     11.1
## 868    141.3       72          38.0      8.2
## 869    196.5       89          54.0      4.0
## 870    180.9      114          51.6      7.4
## 871    105.0      150          40.0     14.9
## 872    271.4      119          63.0     11.1
## 873    206.7       79          79.4     10.9
## 874    166.8      109          50.8      9.3
## 875    204.9      107          47.0     10.4
## 876    154.6      128          72.6      9.1
## 877    127.0      107          50.0      7.5
## 878    267.4       78          63.0      5.9
## 879    281.0       66          62.0      0.0
```

```
## 880    270.8       96          96.9     11.8
## 881    171.2       82          45.0     10.2
## 882    124.1       82          39.0      6.7
## 883    162.8      113          56.5      7.2
## 884    146.3       84          47.0      8.0
## 885    254.8       85          56.0     15.0
## 886    254.9      108          78.6      5.4
## 887    107.7      124          59.0      8.9
## 888    158.8       75          50.0      7.6
## 889    182.9      113          54.3      5.5
## 890    198.5      112          38.0     12.4
## 891    178.4       72          51.0     12.0
## 892    110.9       91          33.0      6.2
## 893    166.9       85          81.2     12.3
## 894    244.8       91          47.0     10.7
## 895    120.8       96          35.0     11.9
## 896    165.3      118          48.5      8.5
## 897    126.7      113          35.0     14.4
## 898    215.9      106          95.9     15.5
## 899    140.1      132          45.0      8.0
## 900    209.9      113          80.5      8.7
## 901    139.8      114          50.9      5.5
## 902    321.6      107          77.0     11.3
## 903    166.6       61          47.0      8.2
## 904    214.2       90          54.0      5.9
## 905    260.0      123          63.0      9.0
## 906    191.9      113          40.6     13.4
## 907    213.0       95          53.0     13.5
## 908    118.1       83          75.6     16.9
## 909    190.2       89          47.0     15.0
## 910     82.2       95          41.8      5.1
## 911    163.8       80          64.9      8.1
## 912    267.8      145          73.0     14.4
## 913    159.8       91          38.0     10.6
## 914    214.3      129          90.6     10.6
## 915    287.3      123          74.0     10.5
## 916    101.2      122          32.2      7.5
## 917    102.8       74          42.0     13.2
## 918    109.1       97          29.0      8.3
## 919    215.9       67          56.0      5.2
## 920    203.4      110          46.0     11.0
## 921    110.1      113          36.9      9.2
## 922    111.0       51          38.0      4.4
## 923    239.9      121          53.0      9.3
## 924    144.8      107          35.0     13.8
## 925    135.4      134          41.0      7.9
## 926     84.2      134          22.0     10.8
## 927    209.1      127          45.0     14.0
## 928    130.1      117          69.8     11.4
## 929    175.8      139          65.1      7.8
## 930    241.9      104          54.0      6.6
## 931    136.7      106          43.0      9.8
## 932     67.7       68          29.0     12.0
## 933    200.4       87          61.0     10.0
```

```
## 934    125.8      103          40.0     14.1
## 935    128.2       87          34.0     11.2
## 936    226.3       88          58.0     13.0
## 937    162.3      107          72.8      9.2
## 938    224.4      121          51.0      6.7
## 939    120.5      127          37.0     14.3
## 940     91.1       90          34.2     11.9
## 941    168.8      137          50.0     15.5
## 942    153.5       81          54.6      6.5
## 943    226.2       88          51.0      6.4
## 944    191.9      107          54.1     12.6
## 945    167.9      147          69.8      9.2
## 946    180.0       88          43.0     11.5
## 947    257.4       67          66.0     13.4
## 948    174.4       75          74.7     11.0
## 949    159.7       83          41.0      8.4
## 950    237.2      124          60.0     11.0
## 951    103.0      129          39.0      7.9
## 952    153.8       89          47.0     11.6
## 953    205.1       86          51.2     10.7
## 954    175.7       93          69.2      8.6
## 955    155.9      123          46.0      8.6
## 956    154.4      109          73.8     10.3
## 957    209.7       73          71.2      7.1
## 958    150.0       69          52.7      9.4
## 959    232.4       97          89.2     12.3
## 960    165.4      100          38.0     12.8
## 961    199.2      106          50.0     13.3
## 962    217.6       81          67.9      4.2
## 963    212.1       95          53.7      7.7
## 964    154.0       75          70.2     10.8
## 965    193.8      130          86.9     13.3
## 966    175.4      130          51.0     12.2
## 967    152.0       63          90.4     15.7
## 968    230.2      147          58.6      9.2
## 969    174.9      103          87.5     13.5
## 970    190.2       68          59.2      8.8
## 971    176.4      122          50.0     11.5
## 972    160.9       95          51.8      5.0
## 973    228.7       90          55.9     11.8
## 974    144.0       90          42.6     12.3
## 975    135.9       90          72.7      9.5
## 976    334.3      118          74.0     10.4
## 977    130.5       77          34.0     13.0
## 978    134.2      105          68.9     11.8
## 979    278.0      102          70.0     13.1
## 980    105.4       70          37.0      7.8
## 981    188.9       94          50.0     11.6
## 982    111.8       85          58.6      6.9
## 983    159.1      106          75.1     13.0
## 984    212.4      105          58.9      9.0
## 985    142.3      112          51.0      9.9
## 986    346.8       55          81.0     13.3
## 987    113.9      102          63.9     11.8
```

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## 988   267.9      103         90.4      8.3
## 989   171.4      117         41.8     17.0
## 990   275.4      150         63.0     13.6
## 991   197.2      118         65.5      3.9
## 992   192.6       97         66.3      7.9
## 993    91.7      104         49.8      7.7
## 994   126.3       99         35.7      9.6
## 995   251.5      107         91.1     10.4
## 996   190.6      108         46.0      7.5
## 997   116.1      101         37.0     11.6
## 998   217.3       91         58.3     11.3
## 999   179.4       80         51.0     14.7
## 1000  207.7      109         50.0      7.9
## 1001  277.3      138         67.0     12.8
## 1002  125.3       84         36.0      8.4
## 1003  138.1       91         56.4      6.8
## 1004  169.3       88         70.1      8.2
## 1005  201.3      101         80.2     12.3
## 1006  216.7      117         47.0      9.8
## 1007  190.4       92         60.0      8.3
## 1008  143.3       91         41.0      6.0
## 1009   97.4       57         64.8     11.4
## 1010  181.4      111         46.0     11.3
## 1011  246.4       83         64.0      3.8
## 1012  143.4      130         49.0      9.7
## 1013  104.9      111         38.6      8.0
## 1014  156.2       93         43.0     13.1
## 1015  114.8      125         27.0     12.0
## 1016  232.5       96         57.0     11.9
## 1017  143.6      117         38.0      8.6
## 1018  176.7      132         51.0      9.1
## 1019  263.4      148         65.0     11.4
## 1020  146.4       74         38.0     11.3
## 1021  145.0       72         80.3     14.2
## 1022  167.8       91         47.2      8.4
## 1023  166.9       99         42.0      7.2
## 1024  142.5       87         41.0      7.8
## 1025  133.0       65         45.0     11.2
## 1026  252.9      129        101.2     12.3
## 1027   95.0       94         68.0     10.0
## 1028  194.2      106         55.0     12.9
## 1029  222.8      114         57.0      0.0
## 1030  201.8       82         54.0     16.5
## 1031  216.0      125         82.1      9.3
## 1032  146.3      108         42.9      5.3
## 1033  234.8       85         55.2      9.5
## 1034  198.6      111         52.0     10.6
## 1035   94.4       80         35.0     13.1
## 1036  190.4       74         52.8     10.0
## 1037  142.6       77         74.4     12.0
## 1038  134.2       80         37.0     10.7
## 1039  111.9       92         29.0     14.1
## 1040  122.8       89         39.0     10.7
## 1041  189.3       77         51.0      9.2
```

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## 1042   240.4      112         102.5     16.1
## 1043    93.5      112          58.7      9.9
## 1044   158.6      104          45.0     10.2
## 1045   243.2      109          54.0      7.2
## 1046   176.4      115          44.0      9.3
## 1047   220.9      129          62.1      6.4
## 1048   144.4       87          51.3      7.1
## 1049   212.3      107          56.0      7.7
## 1050   147.0       72          40.0      8.4
## 1051    96.2      112          66.8     12.9
## 1052   263.4      118          60.0     10.3
## 1053    12.5       67          24.0      7.7
## 1054   162.3      116          46.1     10.1
## 1055   183.6      107          37.0      8.7
## 1056   178.1      109          43.0      8.5
## 1057   201.4      101          43.0      7.0
## 1058   123.0      158          68.9     13.3
## 1059   208.0      125          53.0      8.6
## 1060   239.2       72          59.9      8.8
## 1061   193.0       97          41.0     15.3
## 1062   174.5      101          78.8     10.3
## 1063   116.7       71          59.7      9.9
## 1064    93.8      127          29.0     10.7
## 1065   154.1      114          71.8     12.9
## 1066   239.5       82          85.7      9.9
## 1067   216.0      140          87.9     11.8
## 1068   187.4       97          50.2     12.2
## 1069   167.4      119          51.1     10.3
## 1070   160.4      108          46.0     12.5
## 1071   143.2       92          43.0     11.9
## 1072   205.3      122          56.0      5.0
## 1073   219.1       88          89.6     14.3
## 1074   143.2       77          42.2      7.6
## 1075   232.8      106          55.0     12.5
## 1076   162.0       81          49.0      8.9
## 1077    25.9      119          39.6      6.5
## 1078   154.2      123          36.0     15.4
## 1079   322.3      113          74.0      6.7
## 1080   209.9      112          55.0      8.2
## 1081   191.5       88          48.0      0.0
## 1082   291.1      150          89.3      7.5
## 1083   215.6      115          56.0     11.8
## 1084   208.8      101          54.0     12.4
## 1085   255.9       97          61.0     12.3
## 1086   252.7       97          62.0     12.4
## 1087   132.1       72          44.0      6.9
## 1088   217.0      115          55.0      8.2
## 1089   101.9       79          71.8     12.9
## 1090   211.5      100          52.0     13.3
## 1091   153.4       86          47.6     10.4
## 1092   166.3       95          51.7     10.0
## 1093   185.2       87          50.5      9.5
## 1094   104.6      121          33.8      6.5
## 1095   245.2      105          56.0      7.2
```

```
## 1096   274.4      120          64.0      6.0
## 1097    98.4       78          38.0     14.2
## 1098   279.9      121         102.1     13.0
## 1099   187.2      127          53.1      5.1
## 1100   276.2       95          62.0      2.2
## 1101   200.4      104          80.4      8.3
## 1102   162.3       96          49.0      9.1
## 1103   176.9      128          39.0     10.5
## 1104   165.5       78          46.0     12.2
## 1105   217.8       93          54.0     10.4
## 1106   201.4      100          90.8     12.9
## 1107   190.5      115          52.2     10.1
## 1108   179.9       97          81.6     12.8
## 1109   235.9      104          47.0      5.8
## 1110   140.4      112          40.0      7.9
## 1111   144.6      115          51.1      7.4
## 1112   189.0      100          45.3     17.1
## 1113   101.0       93          31.0     13.3
## 1114   206.3       98          60.0     10.6
## 1115   165.1       85          80.4     10.9
## 1116   165.0      129          46.0     12.5
## 1117   155.9       95          49.0     11.7
## 1118   199.2      122          53.0     11.8
## 1119   155.3      116          43.0     12.3
## 1120   208.3      106          56.0     11.3
## 1121   157.1       79          41.0     12.1
## 1122   154.4      165          41.0     11.7
## 1123   189.1      105          54.0     10.4
## 1124   131.5       98          69.0     10.0
## 1125   166.4       85          49.0      9.9
## 1126   142.3       75          37.6     12.8
## 1127    87.7      103          53.7      7.3
## 1128   184.1       78          93.6     16.9
## 1129   174.5      104          82.2     12.3
## 1130   103.3      103          30.0      9.0
## 1131    35.1       62          22.0     12.7
## 1132   246.6       94          89.1     13.0
## 1133    78.5      109          63.9     11.8
## 1134   148.1       73          40.0     12.3
## 1135   206.2       84          57.0      9.0
## 1136   251.6       87          92.9     12.2
## 1137   270.3      111         103.9     14.4
## 1138   156.6       97          76.5     11.3
## 1139   139.4       81          47.2     13.6
## 1140   220.2      108          54.0     11.7
## 1141   214.1      108          78.3     10.1
## 1142   196.0       74          52.0      7.9
## 1143   106.4       71          39.0      5.3
## 1144   179.4      113          81.0     10.0
## 1145   216.7       30          53.9     10.8
## 1146   177.3      129          44.0      5.1
## 1147   151.6      117          45.0      4.0
## 1148   262.2      123          87.6     10.6
## 1149   173.6      110          38.0      9.7
```

```
## 1150   106.6       76          31.0      9.6
## 1151   193.3      106          44.0     11.6
## 1152   217.2       94          79.5     11.3
## 1153   209.5       89          51.0      8.8
## 1154    95.4      105          34.0      5.6
## 1155   214.6      110          75.9      8.1
## 1156   131.6      120          41.0     11.1
## 1157   168.4      117          48.0     11.8
## 1158   146.4      123          42.0      7.8
## 1159   183.0      110          49.0     11.1
## 1160   103.3      122          39.0      6.4
## 1161   112.2       70          61.6     10.6
## 1162   170.7       55          45.0      8.2
## 1163   172.5       78          42.0     10.9
## 1164   194.3      107          73.2      7.1
## 1165   187.8      117          75.4     12.0
## 1166   307.1       94          98.6      8.0
## 1167   118.2      106          39.2     12.2
## 1168   154.0       95          44.0     12.9
## 1169   155.5      101          47.0      7.6
## 1170   125.6      108          40.0      5.4
## 1171   199.3      104          53.0     15.2
## 1172   157.9       88          43.0     12.8
## 1173   203.4       81          49.0      9.2
## 1174   222.2      113          57.0     10.9
## 1175    92.8       98          54.7      5.8
## 1176   216.8       78          69.2      8.6
## 1177   193.2       89          50.0      9.7
## 1178   113.2      108          36.0     14.1
## 1179   166.2       54          79.2     11.2
## 1180   262.2      101          77.7      7.3
## 1181   207.8       92          52.0     13.1
## 1182   245.4       89          75.3      7.5
## 1183   287.1      108          64.0     14.4
## 1184   192.3       82          71.3      9.0
## 1185   194.2      122          56.9      9.7
## 1186   211.0       92          56.5      9.8
## 1187   141.9       92          67.5      8.7
## 1188   220.5       94          73.9      5.9
## 1189   157.4      122          40.0      9.3
## 1190   143.5      106          74.2     11.2
## 1191   156.0       56          32.0      8.9
## 1192   160.1       63          45.0      9.2
## 1193   235.1       98          62.0      7.2
## 1194   160.0       95          69.5      8.7
## 1195   188.4       63          47.0     13.2
## 1196   194.8       97          54.0     11.0
## 1197   247.8      117          54.0      6.9
## 1198   221.2       80          56.0     11.9
## 1199   118.5       86          75.2     13.4
## 1200   231.8       78          80.5      7.6
## 1201   215.9       90          90.3     11.6
## 1202   217.1       92          77.6      8.0
## 1203    83.5       96          33.0     12.6
```

```
## 1204   183.3      106          62.8      5.1
## 1205   236.8      141          63.0      9.5
## 1206   193.8       90          50.0      8.5
## 1207   134.0      112          67.2      9.7
## 1208   176.6       65          75.5     11.3
## 1209   191.4       93          50.0     10.2
## 1210   174.8      127          83.6     12.8
## 1211   275.2       67          65.0      7.9
## 1212   174.0       85          51.0      7.9
## 1213   165.0      132          50.0     12.6
## 1214   228.7      102          54.0     11.8
## 1215   107.9       88          41.9      9.5
## 1216   221.3      140          52.0     11.3
## 1217   141.1       84          42.0      5.9
## 1218   166.4       92          77.9     10.7
## 1219   249.6       87          82.5      7.6
## 1220   178.6       83          49.0     10.9
## 1221   139.0       96          43.0     15.7
## 1222   134.3       98          41.0     12.6
## 1223   215.9       93          58.0      4.9
## 1224   181.6       91          79.8     11.4
## 1225   178.4       97          45.0      9.3
## 1226   106.4       84          31.0     11.4
## 1227   170.7      101          50.0     11.4
## 1228   184.5      139          80.2     12.3
## 1229   161.2      109          69.0      8.9
## 1230    84.9       77          39.7      7.5
## 1231   217.9       71          57.0     10.6
## 1232   270.9       98          66.0      8.8
## 1233   243.0       91          59.3     15.3
## 1234   128.2       71          26.0      8.9
## 1235   126.3      115          36.0      9.8
## 1236   178.7       56          52.5     10.6
## 1237   159.0      109          52.0     10.1
## 1238   150.9       79          40.0     11.7
## 1239   219.9      118          77.9      8.1
## 1240   168.0      116          49.3     10.1
## 1241   162.1       83          68.9      9.6
## 1242   198.8      107          53.9     16.5
## 1243   256.8       90          64.0      9.1
## 1244   182.8      122          79.7     11.0
## 1245   196.8       92          76.8      7.7
## 1246   140.1      120          46.3     11.2
## 1247   194.3       83          50.0      9.0
## 1248   117.6       66          39.0      8.8
## 1249   193.7      108          52.8     11.6
## 1250   243.1      105          63.9      7.8
## 1251   145.4      132          36.0      5.2
## 1252   169.1      105          44.0      9.9
## 1253   229.3       93          55.0      8.8
## 1254   197.2       97          55.8      8.3
## 1255   186.4       84          79.0     11.1
## 1256    76.1      121          38.0     10.8
## 1257   162.8       65          44.0      6.0
```

```
## 1258   182.3      115          48.0     18.0
## 1259   194.4       83          55.0     11.2
## 1260   189.3       95          76.8     12.5
## 1261   160.1      107          67.7      9.5
## 1262   145.0       76          46.0      7.1
## 1263   220.7      105          48.0     11.5
## 1264   224.7       69          70.3      7.5
## 1265   147.0       79          41.8     10.5
## 1266   260.8      130          90.3     10.1
## 1267   155.4      127          41.0      9.0
## 1268   166.2      112          53.4      5.4
## 1269   211.8      115          62.3     10.8
## 1270   130.5      114          69.7     11.0
## 1271   162.7      102          53.0      8.7
## 1272   237.1       76          84.3      7.9
## 1273   166.2      102          47.0     13.2
## 1274   121.7       48          32.0      8.3
## 1275   176.4       62          48.0     11.2
## 1276    67.4      116          63.8     11.4
## 1277   229.7      129          68.0      9.6
## 1278   176.0      118          93.7     14.7
## 1279   247.7       77          69.5      9.6
## 1280   115.4       90          45.6     13.1
## 1281   112.2       95          37.0     13.9
## 1282   162.6      138          43.7     11.5
## 1283   229.4      107          58.0     10.4
## 1284   139.6       96          35.0     15.0
## 1285   263.8       66          67.0      8.4
## 1286   217.5      123          81.3      9.0
## 1287   114.3      132          57.3      7.5
## 1288   196.3      108          45.0      7.7
## 1289   253.2       95          63.0      4.4
## 1290    98.0       99          41.7     10.5
## 1291   249.4      118          61.0      9.1
## 1292   129.6      107          81.2     14.5
## 1293   221.3      106          61.0      9.3
## 1294   220.7      106          56.9     12.4
## 1295    87.6       76          40.4      9.2
## 1296   203.6       61          49.0      8.4
## 1297   213.6      110          57.0      8.8
## 1298   181.6      112          84.8     12.9
## 1299   215.4      123          86.1      7.8
## 1300   266.3       90          63.0     14.0
## 1301   199.2      111          51.1     10.2
## 1302   115.0      130          33.3      7.3
## 1303   270.5       69          66.0      9.6
## 1304   222.2      127          55.2     12.9
## 1305    61.9       78          33.0      8.8
## 1306   141.1       92          46.0     10.8
## 1307   189.2       81          48.0     10.6
## 1308   196.0      135          50.0      9.8
## 1309   171.6      119          47.0     13.8
## 1310   174.0      123          47.4     11.4
## 1311    78.6      106          30.0      7.4
```

```
## 1312   200.9       92          49.0      8.9
## 1313   141.3      123          46.0      6.4
## 1314   235.8      130          58.1      7.3
## 1315   185.1      100          46.0      6.3
## 1316   254.3      113          50.0     11.8
## 1317   183.0      103          50.0      8.7
## 1318   163.5       80          72.3      7.5
## 1319   207.9       98          57.2      7.7
## 1320   248.6      102          58.0      6.1
## 1321   185.4      105          88.2     14.5
## 1322   197.8       60          53.0      8.9
## 1323   132.1       42          37.7      9.1
## 1324   197.1      117          53.0      9.3
## 1325   154.6      112          42.0     12.6
## 1326   153.1      115          69.0     10.0
## 1327   211.2      119          56.0      6.3
## 1328    96.8       92          31.9     10.9
## 1329   172.0      145          57.0     10.1
## 1330   141.1       91          39.9      8.0
## 1331   151.1      121          84.3     13.8
## 1332   209.6      107          56.0      7.6
## 1333   247.0      109          81.4     10.5
## 1334   221.4      114          81.2     10.8
## 1335   321.3       99          69.0      8.0
## 1336   243.7      124          47.0     11.3
## 1337   251.5       85          61.0     11.1
## 1338   236.9      107          57.8      7.3
## 1339   159.7       79          46.0      9.3
## 1340   148.2       96          44.0      9.2
## 1341   150.9       86          49.0     14.7
## 1342   210.5      101          89.1     11.5
## 1343   170.9       71          58.1      4.1
## 1344   254.7       80          51.0     10.6
## 1345   284.4       89          62.0      8.4
## 1346     0.0        0          14.0      6.8
## 1347   133.7       45          39.0     10.7
## 1348   224.9      117          55.0     10.3
## 1349   151.8       98          46.6     11.9
## 1350   141.4      107          53.1      5.6
## 1351   285.7      124          73.0     14.8
## 1352    58.4      121          33.0     11.9
## 1353    90.4      105          68.4     13.1
## 1354   114.4       91          40.4     11.0
## 1355   147.7      103          47.6     12.8
## 1356   302.7       93         108.7     13.6
## 1357   136.1      120          41.0     11.3
## 1358   169.7       84          43.0     12.8
## 1359   227.2       89          56.0     14.9
## 1360   217.8       91          56.0     10.3
## 1361   124.2      102          35.2     13.1
## 1362   206.2       76          55.0     13.6
## 1363   132.9      122          29.0      9.9
## 1364   104.9      115          59.8      7.7
## 1365   245.0       97          63.0     13.7
```

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## 1366   184.5      118         51.0     11.6
## 1367    89.5       66         31.0     12.3
## 1368   235.6      131         59.8      8.6
## 1369   186.0      127         54.0     11.5
## 1370   223.9       75         52.0      7.3
## 1371   179.5      125         45.0      6.6
## 1372   169.4      102         51.0      8.9
## 1373   118.1       90         33.0      8.2
## 1374   112.0      105         36.0      4.1
## 1375   168.4      129         71.0      8.5
## 1376   214.3      112         83.5     11.3
## 1377   245.7      139         63.0      4.2
## 1378   156.6      134         69.2     13.4
## 1379   142.8       96         72.0      8.9
## 1380   202.4      115         57.9     10.2
## 1381   116.8      119         31.0     12.0
## 1382   155.7      110         52.7     11.0
## 1383   236.1      107         89.6      9.1
## 1384   138.1      113         68.1      8.2
## 1385    51.9      108         25.6     10.1
## 1386    81.3      116         33.0      8.9
## 1387   171.5       98         62.2      7.1
## 1388   126.0       96         34.0      7.6
## 1389   197.2      127         47.0      9.9
## 1390   194.1       62         53.0     15.3
## 1391   115.7      105         31.0      9.3
## 1392   157.2      118         66.7      8.4
## 1393   269.7       85         64.0      4.5
## 1394   246.4      107         64.1      9.1
## 1395   227.4      121         62.0     13.0
## 1396   189.8      110         46.3     12.2
## 1397   188.9      124         77.1     11.5
## 1398     0.0        0         20.0      7.2
## 1399   110.5       87         68.7     11.0
## 1400   167.6      116         51.3     11.7
## 1401   132.0       90         40.0      0.0
## 1402   167.8       88         50.0     11.9
## 1403   213.4       86         54.0      5.7
## 1404   175.4      120         39.0     10.6
## 1405    82.6      113         59.7      9.5
## 1406   143.2       80         32.0      8.8
## 1407   125.5      139         45.0      8.9
## 1408    82.3      105         67.9     11.8
## 1409   165.6      104         46.4     11.8
## 1410   183.1       95         73.7      8.4
## 1411   162.1       91         46.0     12.2
## 1412   166.6       84         45.0      7.7
## 1413   135.9       60         68.4      9.4
## 1414   165.7       78         73.5      9.8
## 1415   176.1       90         48.5      9.7
## 1416   142.3       89         42.0      9.1
## 1417   177.6      121         56.0      7.6
## 1418    83.2       74         34.2     10.7
## 1419   235.0      101         71.4      5.7
```

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## 1420   105.7       95          31.0      6.6
## 1421   149.4       68          41.0     17.9
## 1422   264.7       81          92.1     10.4
## 1423   160.3       45          62.1      5.6
## 1424    95.9      117          58.1     10.4
## 1425   140.7       77          44.4     11.7
## 1426   119.7      148          41.0      4.6
## 1427    99.9       84          66.5      9.8
## 1428   250.9      108          58.0      9.6
## 1429   200.6      117          59.0     11.2
## 1430   209.8      130          71.9      7.0
## 1431   198.0       70          77.5      7.6
## 1432   239.8      107          52.0     11.3
## 1433   164.5       75          43.7     11.2
## 1434   220.9      107          54.0     12.2
## 1435   112.8      150          75.6     13.2
## 1436   112.6      114          72.0     11.1
## 1437   226.4      117          88.2     10.8
## 1438   244.9      118          87.2      9.7
## 1439   203.2       99          57.7     15.1
## 1440   136.7      115          44.0      8.6
## 1441   152.6       97          44.0      5.0
## 1442   274.9      102          86.8      8.8
## 1443   195.7      116          52.0      8.3
## 1444   204.3       82          54.1      9.2
## 1445   222.3       99          51.0      8.9
## 1446   222.5      104          79.2      9.7
## 1447   128.8      104          63.8     10.3
## 1448   174.3      105          48.1      8.3
## 1449   242.5      110          56.0      7.8
## 1450   221.6      101          62.0     12.7
## 1451   114.3      100          39.0     10.9
## 1452   219.7      137          79.7      9.5
## 1453   144.9      136          38.0     12.3
## 1454   236.5      111          72.9      8.1
## 1455   174.0       80          86.1     14.1
## 1456   109.5       95          47.0      6.6
## 1457    81.6      120          60.7      9.9
## 1458   133.4      113          33.0      5.9
## 1459   137.1       94          42.0      8.6
## 1460   197.0       88          50.0     16.1
## 1461   198.1      160          47.0      9.3
## 1462    39.5       78          33.2     10.0
## 1463   199.5      107          52.0      8.1
## 1464   156.8       93          45.0      7.6
## 1465   183.4       85          52.0      9.0
## 1466   132.4      120          33.0      8.6
## 1467    63.2      108          30.0      5.1
## 1468   181.1       59          95.6     16.9
## 1469   117.5      102          49.3      4.2
## 1470   218.7       79          92.5     15.0
## 1471   207.3       95          62.9      5.9
## 1472   150.6       99          52.0      8.1
## 1473   273.3       66          72.0     12.0
```

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## 1474   266.1      120          61.0     10.3
## 1475   112.8       89          36.8     16.3
## 1476   104.7      112          25.0     15.8
## 1477   193.8       62          65.9      5.9
## 1478   168.6      102          54.0      9.8
## 1479   253.2      122          61.0      9.7
## 1480   174.7       92          74.0      8.9
## 1481    87.0      102          35.5     11.0
## 1482   204.5       79          87.0     14.8
## 1483   226.5       93          52.0      9.4
## 1484   234.1       91          56.9     10.0
## 1485   133.3      106          39.0     12.9
## 1486   133.9       87          39.7     15.4
## 1487   160.2      104          40.0      9.7
## 1488   230.6       94          89.0     11.1
## 1489   227.4       84          54.0      6.3
## 1490    72.8      120          36.0     11.8
## 1491   196.1      107          61.5      7.0
## 1492   197.1      110          48.0     12.8
## 1493   219.6      126          64.0      9.7
## 1494   153.4       90          73.6     12.8
## 1495   216.0       85          53.0      4.9
## 1496   222.9      136          90.2     10.8
## 1497   115.9      120          71.6     11.7
## 1498   189.8      101          45.0     10.6
## 1499   154.7      102          52.0     11.1
## 1500   136.4      104          41.0     11.5
## 1501   170.5       86          53.0     12.2
## 1502   272.4       88          58.7     12.7
## 1503   210.0      116          71.9      5.9
## 1504   236.5       94          87.9     12.2
## 1505   153.9      117          45.0      8.5
## 1506   223.0      120          58.0      8.8
## 1507   252.4       74          61.6     10.7
## 1508   197.9       84          48.0     12.0
## 1509   152.4       74          51.7      6.6
## 1510   237.4      105          80.8      9.2
## 1511   265.6       82          61.0      8.6
## 1512   197.3       91          60.0      6.7
## 1513   199.1      100          64.3      4.2
## 1514   233.7      114          58.0     12.0
## 1515   183.1       99          45.0      7.0
## 1516   139.4       96          38.2     10.0
## 1517   213.9      112          61.1      8.4
## 1518   207.1       70          53.0     12.4
## 1519   139.7       78          41.0     11.3
## 1520   177.2       91          53.5      8.9
## 1521   169.8      136          69.7      9.5
## 1522   173.5       83          51.0      9.7
## 1523   159.9      100          44.9      5.6
## 1524   115.1       89          39.8     11.4
## 1525   136.8      113          72.8     12.5
## 1526    92.2      108          34.0     13.1
## 1527   243.9      112          89.2     13.4
```

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## 1528   117.1       94          40.0      9.0
## 1529   223.3       99          53.0      4.5
## 1530   154.8      111          43.4     10.6
## 1531   261.4      141          63.0      8.0
## 1532    46.5      104          24.0      9.6
## 1533   149.9       84          72.1     11.5
## 1534   242.2      102          61.0     13.9
## 1535   259.4       99          62.1     10.7
## 1536   222.4      102          57.3     12.0
## 1537    69.4       79          29.0      8.9
## 1538   156.5      122          75.0     11.1
## 1539    61.2      111          19.0     13.7
## 1540   245.2      112          51.0     10.7
## 1541   102.3      100          29.0     15.7
## 1542   230.9       92          74.5      7.6
## 1543   227.4      105          59.5     11.9
## 1544   192.8       68          48.9     12.7
## 1545   162.6       98          48.6      8.2
## 1546   219.4       92          82.7     11.0
## 1547   137.2      111          38.0     14.3
## 1548    87.7      103          39.0     10.5
## 1549   271.1       80          64.3     10.3
## 1550   103.4       94          34.0     14.4
## 1551    52.2      106          30.4     11.4
## 1552   165.4      106          55.0      8.7
## 1553   147.5      110          42.0     16.4
## 1554   217.8       93          56.0     11.3
## 1555   235.7       79          52.0     13.3
## 1556   204.5       92          70.2      8.6
## 1557   178.4      143          52.0      9.6
## 1558   130.1       68          80.5     13.5
## 1559   103.7      100          78.0     14.8
## 1560   239.9       91          57.7      5.9
## 1561   148.4      110          48.0      8.9
## 1562   148.6      106          44.0     10.0
## 1563   191.1       69          44.0     12.9
## 1564   218.5       76          66.7      7.3
## 1565    97.5       95          37.6      0.0
## 1566   128.7      126          32.0     10.8
## 1567   236.6       69          83.7      9.5
## 1568    85.9      113          34.0     15.6
## 1569   141.2       96          69.8     11.4
## 1570   194.4      104          80.1     11.5
## 1571   167.6      100          42.0     17.3
## 1572   234.5      134          57.2      6.1
## 1573   154.2       78          46.1     10.1
## 1574   143.2       99          70.3     11.6
## 1575   216.4       80          93.3     12.7
## 1576   161.9       85          64.0      8.5
## 1577   118.7       90          38.0     10.4
## 1578   179.1      123          48.0     10.2
## 1579   147.9       97          43.0      8.8
## 1580   209.2      110          90.6     16.5
## 1581   244.3      140          97.6     10.6
```

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## 1582   175.3       96          68.1      5.6
## 1583   150.5       92          36.0      9.0
## 1584   197.4       73          94.6     13.2
## 1585   163.5      136          41.0     12.6
## 1586   236.9       93          58.0     11.4
## 1587    82.3       77          29.0      7.2
## 1588   216.0      111          50.0     12.7
## 1589   180.0      119          48.0     12.4
## 1590   143.7       55          40.0      5.8
## 1591   198.2      107          88.5     11.3
## 1592   185.6      106          81.0     11.1
## 1593   137.6      108          38.0      5.8
## 1594   273.9      119          71.0     10.9
## 1595   125.3       92          51.0      6.3
## 1596   178.8      102          45.0      8.6
## 1597   214.9       86          76.1      8.2
## 1598   163.0       93          46.0     15.1
## 1599   163.8       77          63.8      8.8
## 1600   189.5      113          50.0     13.4
## 1601   155.2      110          59.2      4.5
## 1602   242.3      102          72.0     11.3
## 1603   254.1      127          82.5      8.7
## 1604   112.0       90          67.5     11.3
## 1605   115.5       73          45.4     13.3
## 1606   137.1      102          45.4     11.1
## 1607   198.4      113          54.0     10.1
## 1608   132.7       94          74.8     12.9
## 1609   219.6       99          93.3     13.8
## 1610   169.6       96          49.0     11.2
## 1611   160.4       73          53.0     12.6
## 1612    95.0       89          61.2     11.2
## 1613   160.1       87          52.4      7.0
## 1614   194.6      114          53.0      3.8
## 1615   236.4       73          65.0     13.8
## 1616   157.1       95          45.0      7.6
## 1617   179.8      125          46.0     10.9
## 1618   148.2      108          39.0     11.0
## 1619   183.2      103          81.1     11.9
## 1620   119.2       88          35.0     12.2
## 1621   224.0      102          80.9      9.6
## 1622    19.5      149          37.3      7.9
## 1623   184.8       83          53.0      9.6
## 1624   176.3      140          48.0     11.3
## 1625   241.7      115          56.0     11.1
## 1626   224.7      121          90.5      9.8
## 1627   207.3      115          56.7      8.6
## 1628   196.8       81          48.0     12.7
## 1629   110.9       74          29.0     15.8
## 1630   122.5      145          45.0      8.0
## 1631   226.9      144          57.4     13.2
## 1632   187.0       65          44.0     10.0
## 1633   170.5      113          46.0     11.2
## 1634   204.8      101          49.0      9.5
## 1635   165.9      114          49.0     12.0
```

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## 1636   154.0      133          44.0      9.5
## 1637   158.1      104          79.0      8.9
## 1638   225.2       93          61.5      9.1
## 1639   159.4       79          43.0      9.7
## 1640   172.7       95          44.0     11.7
## 1641   222.8       99          54.1     11.0
## 1642   214.1       77          57.0     10.1
## 1643    54.8       92          25.0      7.5
## 1644   134.0      104          38.0      7.3
## 1645   184.8       74          47.0     10.5
## 1646   283.1      112         103.5     11.3
## 1647   291.8      143          68.0      9.9
## 1648   222.7       94          50.0     13.5
## 1649   174.5       79          50.0      8.5
## 1650    68.4       86          29.0     10.4
## 1651   273.0       78          90.9      9.6
## 1652   225.3      134          48.0     17.3
## 1653   283.2      130          81.4      7.2
## 1654   131.4       78          42.0     11.1
## 1655    89.7       87          56.9     10.7
## 1656   127.1      102          43.0      5.0
## 1657   105.9      132          66.9     10.7
## 1658   142.3       79          41.0      6.0
## 1659   191.3       80          47.5      6.4
## 1660   201.9       93          85.0     13.7
## 1661   247.3       91          61.6     14.7
## 1662   242.2       96          79.0      8.9
## 1663   127.3       80          42.2     13.7
## 1664   162.0      104          49.0     10.9
## 1665   179.1       93          79.6     10.6
## 1666   197.4      125          78.2     12.3
## 1667   148.2       82          54.9      6.4
## 1668   193.1       85          48.0     10.2
## 1669   171.7       99          46.6      7.8
## 1670   198.5      123          78.9      8.1
## 1671   121.7       87          71.3     12.7
## 1672   130.2      105          47.6     14.0
## 1673   203.4       96          49.0     13.7
## 1674   174.7       83          54.0     10.5
## 1675   241.0      120          64.4      9.9
## 1676   141.7       95          45.1     10.2
## 1677   134.8       96          38.0      7.7
## 1678   163.1      119          49.0      9.0
## 1679   145.5      116          48.1      8.9
## 1680   329.8       73          74.0     10.6
## 1681   194.5       97          49.0     12.7
## 1682   131.9       93          46.0      7.1
## 1683   150.0       91          63.0      8.5
## 1684   196.6       93          88.8     12.9
## 1685    99.7      107          30.0     14.1
## 1686   143.6       88          39.7     10.8
## 1687   231.9       56          91.2     12.3
## 1688    37.8       80          20.0     14.2
## 1689    72.8      107          29.0     10.5
```

```
## 1690   94.8       89         65.8     11.4
## 1691  221.8      143         89.5     12.4
## 1692  269.0      120         66.0      7.3
## 1693  268.3      114         65.1      6.3
## 1694  198.7      127         88.8     12.5
## 1695  115.5       75         39.0     11.5
## 1696  202.1      100         51.0     13.3
## 1697  215.6      113         54.0     12.4
## 1698  169.9      107         47.0     11.5
## 1699  201.7       85         49.0      6.0
## 1700  221.1      133         52.0      8.4
## 1701  218.7      117         72.4      9.4
## 1702  293.7       89         76.9     11.0
## 1703  120.3      108         41.0      7.7
## 1704  175.8       96         78.0     11.1
## 1705  278.5       95         68.0     11.6
## 1706  236.3      105         76.4      7.2
## 1707  273.8      113         57.0     11.7
## 1708  131.1      129         36.0      5.6
## 1709  167.4       83         81.2     11.2
## 1710  197.7       68         55.0     10.5
## 1711  169.5       93         49.0      9.0
## 1712  225.2      116         85.6     11.7
## 1713  174.5       73         48.0     10.3
## 1714  129.7       84         41.6      7.5
## 1715  200.0       66         44.0     11.4
## 1716   95.9       87         74.9     13.3
## 1717  152.8      110         71.6      9.1
## 1718  129.9      102         40.0     14.3
## 1719  268.4       85         59.0      9.7
## 1720  188.5      152         45.0     15.2
## 1721  170.6       97         45.4      6.1
## 1722  191.4      124         50.0      8.2
## 1723   75.3       96         29.0     12.3
## 1724  149.8      123         53.0     10.9
## 1725  115.9       87         30.0      7.1
## 1726  128.8       86         40.0     14.1
## 1727  131.7      108         41.0     11.0
## 1728  101.4       48         31.0     12.2
## 1729  149.0      104         71.7      9.5
## 1730   96.8      123         67.2     13.4
## 1731  107.5      121         41.0     12.6
## 1732  232.8       95         66.0     12.9
## 1733  121.1      105         65.4      8.3
## 1734  124.3       70         45.0      3.5
## 1735  157.7      101         53.0     13.8
## 1736  124.3       68         39.0     14.8
## 1737  286.4      125         67.0      6.9
## 1738  141.7       95         42.0      8.8
## 1739  173.0       91         64.0      4.8
## 1740  268.7      120         72.0      5.8
## 1741  218.5      130         74.4      9.4
## 1742  255.3      114         60.0      3.7
## 1743   41.9      124         26.0     11.4
```

```
## 1744   260.8       87          67.0      5.8
## 1745   239.4       94          83.8      7.7
## 1746   226.7       94          56.3     10.2
## 1747   179.3      147          49.0     13.5
## 1748   158.0      110          44.0     10.0
## 1749   175.7       82          90.1     14.1
## 1750   157.4      107          42.0      8.8
## 1751   113.1       74          34.0      6.9
## 1752   182.7      142          53.0      8.8
## 1753   161.3       83          40.1     14.1
## 1754   142.5       92          42.0      7.5
## 1755   190.5      108          58.8      9.7
## 1756   159.3      110          74.1     11.9
## 1757   153.8      106          61.8      9.2
## 1758   180.7      127          46.0     12.0
## 1759   202.7      105          54.0     12.1
## 1760   190.8      100          79.0      8.9
## 1761   205.1      102          58.1      9.2
## 1762   235.6      124          81.8      7.7
## 1763   189.3       77          46.0      7.4
## 1764   166.9      101          83.1     11.5
## 1765   245.2       87          64.0      7.5
## 1766   132.6      125          42.0     12.7
## 1767   182.3       64          43.0     11.6
## 1768   192.3       86          69.4     10.5
## 1769   122.0      110          40.0     10.8
## 1770   193.0      101          55.0      9.6
## 1771   158.6      112          46.0      9.1
## 1772    91.5      125          69.3     12.7
## 1773   153.6       92          45.9     12.5
## 1774   221.6       79          83.1     11.5
## 1775   244.7       81          59.0      6.6
## 1776   239.8      103          91.7      9.5
## 1777   172.4      132          49.0     11.0
## 1778   242.5       83          63.0     10.0
## 1779   117.6       82          64.5     11.3
## 1780   174.5      127          52.0     11.3
## 1781   157.3       83          46.0     12.0
## 1782   192.0       97          93.8     15.1
## 1783   218.2       76          52.0      8.0
## 1784   144.6       97          66.4     10.9
## 1785   153.6      108          46.0     14.1
## 1786   135.8      104          63.3      7.9
## 1787   160.7       69          40.0      8.2
## 1788   202.5       91          76.1      7.8
## 1789   152.2      119          79.2     12.3
## 1790   227.4       90          45.0      4.7
## 1791   191.6      115          51.0      9.2
## 1792   138.9      111          42.0     10.8
## 1793   127.0      102          41.8      6.1
## 1794   168.6       87          51.0      7.3
## 1795   286.6       73          68.0     11.5
## 1796   164.6      121          92.0     15.2
## 1797   144.0       90          39.4     13.0
```

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## 1798   141.6       95          69.5     10.2
## 1799   204.3       65          56.0     12.0
## 1800   163.2       80          45.2      6.2
## 1801   225.0      110          60.0     10.7
## 1802   176.1      103          49.3      8.5
## 1803   254.2       78         100.3     13.8
## 1804   174.9      105          52.0      8.5
## 1805   187.3      118          46.0      9.6
## 1806   211.8       84          58.7     10.7
## 1807   241.9      102          52.0     11.7
## 1808   196.1      103          51.0     12.9
## 1809   231.3      100          58.0     12.4
## 1810   161.6      104          49.2     13.8
## 1811   194.0      103          54.0     11.9
## 1812   109.7      148          38.0     15.4
## 1813   277.0      119          70.0      8.3
## 1814   192.1       83          48.5      6.1
## 1815   198.4      147          53.0     13.1
## 1816   209.2       82          75.7      9.5
## 1817   184.8       98          50.0     18.4
## 1818   167.8      119          41.0      7.3
## 1819   139.2      140          40.0     11.8
## 1820   221.3       82          63.9      4.4
## 1821   121.6       84          35.0      8.9
## 1822   270.4       99         108.6     15.4
## 1823   139.6       94          45.0      8.8
## 1824   253.0       78          86.9     11.8
## 1825   183.9       83          92.5     15.0
## 1826   203.3      108          57.0      7.8
## 1827   200.6      106          48.0      7.7
## 1828   167.6       96          44.0     13.4
## 1829   156.5       67          44.0      9.9
## 1830   215.1      140          82.6     10.6
## 1831   301.7       82          68.1     10.5
## 1832   152.3       90          79.5     11.3
## 1833   195.4      116          52.0     15.1
## 1834   208.7       97          59.0      8.0
## 1835   190.1       87          90.3     14.2
## 1836   185.4       87          68.6      8.0
## 1837   183.2       95          79.2      9.7
## 1838    54.2      100          35.0      8.6
## 1839   208.0      115          73.9      8.1
## 1840   230.3      110          46.0     13.2
## 1841   240.8      102          67.2      7.1
## 1842   195.7      119          57.3      5.3
## 1843   276.1       82          69.0      8.9
## 1844   166.1       93          44.0     16.2
## 1845   135.9      117          75.1     11.5
## 1846   189.1      122          52.0     13.9
## 1847   177.9      117          77.1     11.5
## 1848   143.9       73          76.8     12.5
## 1849   148.2      138          39.0      8.6
## 1850   287.1      115          63.0     13.9
## 1851   179.7      144          75.1      9.3
```

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## 1852   165.8       96          45.0     10.9
## 1853   144.1      144          78.2     14.5
## 1854   172.5       85          51.0      5.9
## 1855   199.8      138          49.0      5.5
## 1856   109.1      134          31.0     10.9
## 1857   171.8      106          55.0      9.7
## 1858   222.3      101          63.0     12.1
## 1859   245.8      102          65.0     11.2
## 1860   164.6      110          51.0      8.0
## 1861   211.7      107          63.6      7.4
## 1862   147.2      103          59.8      7.7
## 1863   254.7      103          65.0      8.0
## 1864   170.1      113          53.0      8.7
## 1865   195.1       91          60.1     11.4
## 1866   149.3       83          42.0      7.9
## 1867    81.9       75          36.0      8.9
## 1868   191.1      109          72.5      9.8
## 1869   206.9      115          55.0      8.3
## 1870   239.0      156          64.0     13.5
## 1871   179.3       97          55.5      8.0
## 1872   185.3       91          51.0      5.5
## 1873   141.4       80          35.0      8.1
## 1874   248.6       91          85.4     12.0
## 1875   152.5      131          48.0      4.9
## 1876   145.6      102          47.8     11.4
## 1877   164.2      116          45.0      8.1
## 1878   221.0      115          52.0      9.7
## 1879   295.4      126          70.0     11.5
## 1880   139.8       98          39.0      9.4
## 1881   162.3       99          42.6     14.8
## 1882   272.7       97          67.0      7.7
## 1883   200.3       75          88.8     12.9
## 1884   157.1       77          72.0     11.1
## 1885   135.8       60          74.2     12.3
## 1886   236.7      110          61.6     12.7
## 1887   111.4      133          36.1      5.5
## 1888   156.1       89          75.7     14.7
## 1889   191.1       93          57.0     12.0
## 1890   153.0      123          38.0     10.3
## 1891   218.8      123          58.0     10.3
## 1892   205.4      101          47.0     10.3
## 1893   225.2      111          54.0      9.9
## 1894   249.9      127          65.0      8.9
## 1895   131.6       89          39.1     10.2
## 1896   197.9       99          75.3     10.1
## 1897   166.5      129          47.0      9.9
## 1898   225.4       79          89.8     12.9
## 1899   275.8      103          63.0      7.4
## 1900   142.9      105          61.2     10.8
## 1901   207.2      113          57.0      9.9
## 1902   206.2      100          53.0     10.2
## 1903   210.3       66          53.0     11.2
## 1904   225.7      117          86.8     14.0
## 1905   167.8       91          85.2     14.5
```

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## 1906   197.7      118          47.0      7.0
## 1907   169.8      105          64.4     10.9
## 1908   190.6      104          79.5      9.8
## 1909    80.3      140          61.6     12.8
## 1910   231.7      110          91.7     12.1
## 1911    69.1      114          32.0      6.5
## 1912   188.8       60          51.0      8.2
## 1913   150.6      125          40.0     10.4
## 1914   192.0       89          47.8      5.5
## 1915   163.7       78          64.7      9.9
## 1916   211.7      100          53.0      6.5
## 1917   175.5      103          42.0     11.8
## 1918   150.1      120          43.0     11.0
## 1919   189.5       99          48.0     14.2
## 1920    70.8       94          31.0      9.5
## 1921   215.5      102          56.5      8.6
## 1922   101.7      105          35.0      9.4
## 1923   258.4      132          57.3      9.7
## 1924   242.4      126          55.0     11.8
## 1925   131.8       82          47.0     11.3
## 1926   190.2      102          52.6      9.8
## 1927   154.1      104          44.0      9.8
## 1928   188.0      127          40.0     15.3
## 1929   103.1       70          41.0     11.2
## 1930   175.4      130          44.0     11.6
## 1931   145.4       93          43.0     10.9
## 1932   250.6       85          59.0      7.8
## 1933   161.5      123          46.0      8.6
## 1934   260.1      101          67.0     10.0
## 1935   281.3      124          74.0      8.7
## 1936   130.1       90          73.7     13.6
## 1937   102.0      118          27.0     11.4
## 1938   218.7      104          83.7     12.1
## 1939   128.5       86          56.4      6.8
## 1940   128.7      100          42.0      9.2
## 1941   172.2       92          47.6      8.7
## 1942   199.2      124          45.0      7.6
## 1943   184.5       98          49.0      8.8
## 1944   168.6       99          44.0     10.9
## 1945   174.0      118          66.1      6.7
## 1946   230.4       65          62.0      8.5
## 1947   198.2       73          51.0      5.1
## 1948   186.1       96          50.0      8.0
## 1949   148.5      105          46.0      6.8
## 1950   157.1      109          50.0     10.0
## 1951   155.0      110          38.0      7.0
## 1952   129.3      123          62.9      9.6
## 1953   188.5       77          48.0      6.1
## 1954   208.8      120          55.0     11.1
## 1955   238.0       82          65.0     11.8
## 1956   211.1      103          54.0      5.6
## 1957   198.9       87          86.0     12.6
## 1958   212.8       79          57.3     10.2
## 1959   137.4      126          34.0     12.4
```

```
## 1960   191.8       75          90.6     12.8
## 1961   149.0       92          30.0     13.9
## 1962   117.1      118          42.0     11.1
## 1963   108.0       79          39.0     10.4
## 1964   112.8      133          37.0     10.1
## 1965   175.9      105          49.3     11.0
## 1966   236.6      109          55.0     11.1
## 1967   169.4      102          45.0      2.0
## 1968   129.6       79          45.8      9.4
## 1969   177.1       97          46.0      8.0
## 1970   133.3       63          75.5     13.5
## 1971   167.8      121          49.4     13.0
## 1972   174.6      107          81.3      9.0
## 1973   150.3      101          48.0     12.5
## 1974   283.2      110          86.0      6.3
## 1975   157.8       83          64.5      8.7
## 1976   141.2      132          37.0      7.0
## 1977   230.2      106          84.1     10.4
## 1978   237.8       92          61.6     15.6
## 1979   204.0       84          49.0     13.3
## 1980   221.1      106          53.0      7.4
## 1981   177.2       93          43.0     12.7
## 1982   118.0      133          42.0      5.3
## 1983   163.8       73          50.0     15.7
## 1984   141.3       96          69.4      9.4
## 1985   272.5      119          66.0     16.4
## 1986   118.9      112          62.1      8.2
## 1987     7.9      100          15.7     12.1
## 1988   159.5       96          43.9     10.2
## 1989   150.2       70          46.2     12.1
## 1990   144.5       35          79.4     12.0
## 1991   140.7       88          42.0     12.4
## 1992   169.2      123          48.0     12.6
## 1993   220.8       77          53.8      7.6
## 1994   216.3       96          63.5      4.5
## 1995   169.5       96          43.0     10.6
## 1996   256.3      119          97.6     11.7
## 1997   179.7      128          57.0      7.6
## 1998   266.0      120          57.0     13.1
## 1999    96.7       97          33.0      9.7
## 2000    82.7      116          31.0     10.9
## 2001   168.2       87          43.0     10.1
## 2002   286.4      109          64.0     10.7
## 2003   174.3       95          46.0     12.9
## 2004   190.6      100          47.0     13.0
## 2005   175.5       86          50.1     17.8
## 2006   133.4      102          41.0     11.1
## 2007   204.6       96          64.8      6.6
## 2008   242.2       88          61.0      6.2
## 2009   253.1      112          93.1     11.9
## 2010   130.0      110          38.0      8.3
## 2011   105.9      151          35.0     12.7
## 2012   194.2       98          50.0      9.3
## 2013   183.8      111          42.0      6.1
```

```
## 2014   196.5       82          52.5     10.8
## 2015   184.5       81          46.0     13.7
## 2016   261.9      113          58.0     13.8
## 2017   202.4      118          59.3      9.2
## 2018   167.4      113          69.7      9.5
## 2019   167.7      104          70.3      7.5
## 2020   191.7      109          79.0     11.1
## 2021   240.2       78          61.0      5.2
## 2022   189.1      112          78.0     11.1
## 2023   127.7       67          38.0     10.6
## 2024   205.2      106          44.0     13.4
## 2025   153.6       93          79.0     12.6
## 2026   154.5      129          45.3     13.4
## 2027   153.7      109          43.0     14.1
## 2028   171.2      138          74.2     10.8
## 2029   328.1      106          71.9      8.7
## 2030   145.9       69          46.6     14.4
## 2031   201.2       76          90.9     11.8
## 2032   139.1       72          45.0     11.4
## 2033   118.9      128          44.0     13.2
## 2034   217.6       87          64.3     10.4
## 2035   145.0      133          43.0     14.6
## 2036   203.5       89          60.0      8.7
## 2037   240.1      115          57.0      8.0
## 2038    83.8      121          35.0      6.7
## 2039   269.8      106          70.5     10.1
## 2040   126.3       84          68.6     10.6
## 2041    88.1      125          56.2      9.7
## 2042   218.5       61          80.7      9.9
## 2043   236.8       61          93.2     11.2
## 2044   124.1      117          40.6      6.4
## 2045   184.2      132          73.0     10.0
## 2046   222.7      133          62.0     13.6
## 2047   149.2       98          42.0     11.1
## 2048   206.5      125          51.0     12.2
## 2049   159.7      102          67.9      9.6
## 2050   204.7      118          71.9      7.0
## 2051   213.2       79          50.2      7.5
## 2052   269.6      121          61.0      8.2
## 2053   116.7       92          39.0      9.7
## 2054   263.4      101          65.0     13.0
## 2055   140.2       97          43.0      7.1
## 2056   197.7      101          45.0     13.5
## 2057   136.2       92          45.1     13.3
## 2058    88.5       87          62.1     11.5
## 2059   215.3       58          58.0     12.1
## 2060   269.2      104          65.8      8.9
## 2061   203.8      118          77.7      7.3
## 2062   268.4      112          92.8     10.3
## 2063   159.1      104          50.0     10.3
## 2064   114.4      122          33.8     10.1
## 2065   138.9       65          42.0      9.2
## 2066   186.0       55          52.0     12.2
## 2067   170.4       91          91.8     15.1
```

```
## 2068   164.5       95          48.0      9.9
## 2069   168.6      121          43.0     12.3
## 2070   261.2      119          69.1      9.8
## 2071   190.5       91          48.0     13.1
## 2072   181.1      121          58.0      4.2
## 2073   177.1      131          40.0      6.5
## 2074   160.5      114          48.0     11.3
## 2075   134.7      116          48.0      6.6
## 2076   198.2      107          69.8      8.8
## 2077   228.9      134          61.0     10.1
## 2078   241.7      137          53.0     13.1
## 2079   131.1      108          38.0      4.3
## 2080   234.1      101          57.0     13.1
## 2081   200.1       72          60.0     11.9
## 2082   154.0      107          35.0     10.1
## 2083   224.2      106          81.5      9.8
## 2084   148.3       83          41.0      8.3
## 2085   174.6       76          68.8      8.8
## 2086   138.5      110          37.0     11.1
## 2087   109.0       69          42.0     12.6
## 2088   162.3       99          46.0     11.1
## 2089   210.8       84          52.0     16.4
## 2090   142.4      107          52.0     11.1
## 2091   223.5      104          86.6     10.6
## 2092   182.5       65          51.0      7.5
## 2093   219.6       97          50.0     10.8
## 2094   193.6       66          54.0     12.9
## 2095   192.4      111          47.0     11.0
## 2096   236.2      122          60.3     13.3
## 2097   233.2       88          93.5     16.1
## 2098   158.8       53          44.0      9.8
## 2099   126.1      112          45.0      9.8
## 2100   290.4      108          71.0     10.1
## 2101    60.6      113          60.9     13.3
## 2102   148.4       95          42.0      6.9
## 2103   246.5      108          61.0     12.7
## 2104   298.1      112          71.2      9.7
## 2105   119.3       82          37.0     10.9
## 2106   242.5       82          64.8      9.6
## 2107   222.1       89          88.7     13.6
## 2108   236.2      135          64.0     10.1
## 2109   144.2       87          43.0      9.5
## 2110   154.6      100          81.0     12.6
## 2111   137.4      100          66.5     10.2
## 2112   103.7       93          29.0     14.4
## 2113   136.6      112          42.0     12.2
## 2114   289.8      101          71.0     11.7
## 2115   260.9       85          59.0     13.3
## 2116   196.2      129          49.0     15.2
## 2117   195.6       71          44.0     14.2
## 2118   222.2       96          52.0     11.9
## 2119   172.9      119          45.0      9.8
## 2120   249.8      109          64.0     11.6
## 2121   154.5       84          45.0     13.7
```

```
## 2122   90.4      108         39.0     12.7
## 2123  268.8       78        111.3     16.4
## 2124  106.1       95         32.0      8.1
## 2125   27.0      117         22.8     10.7
## 2126  140.1       59         53.3      3.8
## 2127  245.0      112         57.0      9.7
## 2128  196.7       85         51.0     11.2
## 2129  131.2       98         59.5     10.2
## 2130  149.6       96         66.0      7.4
## 2131  239.8       70         65.4     10.9
## 2132  142.1       77         70.7     11.0
## 2133  115.4      137         35.0      6.0
## 2134  193.0       99         79.8     10.3
## 2135  206.1       49         55.0     13.0
## 2136  160.3      138         49.1     11.2
## 2137  199.9      108         59.0     11.3
## 2138  213.1      105         56.8      8.9
## 2139  178.3      102         51.0     10.9
## 2140  252.3      120         61.0     12.0
## 2141  197.7       64         46.0     13.2
## 2142  111.1      105         55.8      6.6
## 2143   96.5       86         35.0     12.5
## 2144  156.9      109         41.1     11.3
## 2145  123.3       78         36.0     12.7
## 2146  193.7      108         52.3     10.8
## 2147  206.9      134         50.0     10.9
## 2148  249.8       96         65.0     12.7
## 2149  144.0      102         47.0     10.0
## 2150  299.5       83         96.3     11.6
## 2151  226.0      127         67.3     12.6
## 2152  137.6      106         36.0      9.6
## 2153  211.7      121         78.0     11.1
## 2154   89.7       80         34.8      9.5
## 2155  197.6      126         55.0     12.5
## 2156  270.0      102         68.0     12.0
## 2157  224.7      116         55.0     11.3
## 2158  194.3       99         44.0     10.2
## 2159   47.7       89         31.0     13.2
## 2160  190.1      105         48.0     13.0
## 2161   89.5       94         45.0      7.9
## 2162  182.6       83         45.0     12.1
## 2163  205.5       86         79.6      6.9
## 2164  231.5       82         63.0      7.4
## 2165  251.3       69         65.0      9.9
## 2166  171.2      103         50.0     13.0
## 2167  197.9       89         57.6     11.2
## 2168  134.8       94         41.0      6.7
## 2169  191.4      114         47.0     10.3
## 2170  174.5       65         47.0     10.6
## 2171  177.4      125         53.1     10.9
## 2172  182.1       89         52.1      6.8
## 2173  222.4       85         52.0     11.2
## 2174   47.8      120         24.0     13.3
## 2175  121.8       97         31.8     10.3
```

```
## 2176   143.5      121          41.0      8.8
## 2177   164.9       68          46.0      7.8
## 2178   193.6       58          49.6     13.1
## 2179   101.1      121          40.0      7.3
## 2180    92.3       88          64.3     11.6
## 2181   168.9      128          40.0      2.9
## 2182   219.2      102          95.5     15.0
## 2183   178.1      130          86.1     13.0
## 2184   146.5      101          50.0     14.0
## 2185   172.3      116          83.9     11.8
## 2186   190.9      143          46.0     13.0
## 2187   232.1       74          68.0     10.9
## 2188   169.2      124          44.0     12.4
## 2189   123.8      107          49.0      7.3
## 2190    96.0      117          34.6      9.7
## 2191    93.4      106          67.4     10.9
## 2192    90.6      130          30.0      5.4
## 2193   152.9       81          48.0      5.3
## 2194   257.9       92          64.6      9.4
## 2195    85.2       98          59.3      9.0
## 2196   160.0       72          59.5      6.1
## 2197   182.9       54          87.1     11.5
## 2198   216.2       67          56.0      3.1
## 2199   261.7      105          60.0      3.3
## 2200   241.2      105          56.0      8.5
## 2201   177.2      142          41.0      8.4
## 2202    89.5      128          31.0     14.0
## 2203   200.3       72          79.1     10.4
## 2204   145.0      103          50.0     11.0
## 2205   159.5       99          40.6      6.8
## 2206   151.8      106          38.0     11.2
## 2207   176.2      120          51.0     10.6
## 2208   152.1       95          39.3      9.8
## 2209   161.3      122          47.0      9.6
## 2210   171.7       78          42.0      6.8
## 2211   278.9      110          64.0     11.7
## 2212   213.0      121          86.0     11.1
## 2213   242.9       67          69.0      4.8
## 2214   217.2      121          65.0     12.4
## 2215   175.9      111          55.0     13.0
## 2216   303.2      133          67.0     11.5
## 2217   238.9      107          57.0     11.8
## 2218   189.6       42          78.8     11.4
## 2219   133.3       94          47.3     11.3
## 2220    92.7      107          53.7      9.9
## 2221   177.2       72          52.0      8.6
## 2222   184.5      103          50.0     10.2
## 2223   176.1      109          76.7     12.1
## 2224   204.7      108          50.5     11.0
## 2225   143.6       80          36.0     15.5
## 2226   179.3       93          47.0     12.1
## 2227   137.3      100          42.0     10.5
## 2228   237.8       92          60.0     10.2
## 2229   203.7       92          56.4      7.6
```

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## 2230   191.3       95         101.5     17.6
## 2231   209.1      141          55.5      7.8
## 2232    88.8      104          44.2      7.1
## 2233    97.2       88          30.0     12.4
## 2234   137.9       96          40.0     11.0
## 2235   224.3      112          57.2     10.0
## 2236   207.6       65          75.2      9.7
## 2237   268.1       95          56.0     14.4
## 2238   166.7       61          44.0      6.8
## 2239   267.1      104          61.0     17.3
## 2240   181.8      108          48.0      9.3
## 2241   147.1       80          42.0     13.7
## 2242    37.7      115          32.2      4.9
## 2243   185.0       88          54.4     11.4
## 2244   156.4      108          45.0      8.6
## 2245   239.3       84          58.0     10.9
## 2246   215.5      129          74.8      8.8
## 2247   134.9       70          41.0     11.3
## 2248   194.8      116          51.0     12.8
## 2249   239.1      105          94.9     13.3
## 2250    92.6       85          31.0     14.4
## 2251   209.4      133          56.6      7.2
## 2252   197.6       83          48.0      6.4
## 2253    17.6      121          17.0     10.6
## 2254    62.9      112          28.0      8.9
## 2255   202.3       97          59.1      6.7
## 2256   136.1      116          39.0     11.3
## 2257   207.0      109          50.0      2.6
## 2258   207.9       95          92.5     13.5
## 2259   276.5      122          64.0      7.2
## 2260   313.8       87          93.3     10.1
## 2261   288.5      114         102.1     13.0
## 2262   210.9       85          67.3      9.4
## 2263    64.9       76          66.4     14.6
## 2264   243.5      137          86.3      9.0
## 2265   197.0       97          53.7      8.7
## 2266   278.0       88          92.5      8.7
## 2267   219.9      102          84.0     10.0
## 2268   313.2      103          72.0     12.8
## 2269   145.7       88          72.5     11.3
## 2270    75.8      102          50.1      8.2
## 2271   195.9       86          53.0     12.2
## 2272   132.0       95          43.0      8.7
## 2273   124.0      102          44.0     11.7
## 2274   171.9       98          43.0      7.6
## 2275   249.4       70          87.7      9.9
## 2276   228.4      100          52.0      7.7
## 2277   168.6       71          50.9      5.9
## 2278   123.7      138          45.9     13.3
## 2279   178.7       61          54.8      8.4
## 2280   113.2       86          36.0      9.5
## 2281   142.4      106          87.2     13.4
## 2282   204.2       57          75.4      8.3
## 2283   149.7       71          44.0     12.6
```

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## 2284   227.1      116          52.8      4.7
## 2285   155.3       75          41.0     12.6
## 2286   156.4      105          43.0     11.8
## 2287   148.7      105          68.1     10.4
## 2288   271.7      112          60.0      6.6
## 2289   193.7       74          47.1      8.8
## 2290   245.5       54          96.2     10.8
## 2291   245.3      108          64.0     10.7
## 2292   196.1       87          54.0     11.9
## 2293   134.1      112          40.0     10.5
## 2294   225.0       78          79.6      9.1
## 2295   189.7      100          43.0      7.4
## 2296   142.9       96          42.6      6.6
## 2297   175.6       80          51.0     10.2
## 2298    92.4      109          35.0     12.9
## 2299    92.8       92          30.0      8.8
## 2300   221.7      100          79.6      8.0
## 2301   159.6       94          51.0      8.8
## 2302   144.5      107          40.0     17.0
## 2303   159.1      100          49.1     11.5
## 2304    49.9      123          25.2     10.1
## 2305   116.9      120          69.7     11.0
## 2306   150.0       98          34.0     11.1
## 2307   254.4      120          57.0      6.0
## 2308   270.7       53          93.4     10.9
## 2309   207.0      112          50.0     12.1
## 2310   145.3       89          51.0      8.9
## 2311   230.7      102          96.5     13.5
## 2312   151.5      104          47.0     10.8
## 2313   146.1       57          45.7      9.2
## 2314   256.0      111          60.0     11.5
## 2315   200.2      105          86.3     11.6
## 2316   150.7       52          50.3      7.0
## 2317   186.0      107          38.0     12.9
## 2318   212.9      110          53.0      6.3
## 2319   194.8      133          52.0     11.5
## 2320   272.5      105          91.5      8.7
## 2321   135.1      109          41.0     11.7
## 2322   154.6       56          51.9     15.5
## 2323   230.5      116          90.6     10.6
## 2324   165.4       84          46.0      8.2
## 2325   143.3      120          44.0      7.8
## 2326   271.1      108          67.0      9.8
## 2327   253.5      104          54.0     14.0
## 2328   167.1       77          43.1      9.4
## 2329   168.3       96          37.0      8.4
## 2330   104.7      115          42.1      8.9
## 2331   135.4      101          44.0     10.6
## 2332   191.4      102          83.4      7.2
## 2333   158.7       90          44.0     10.5
## 2334   144.8       84          41.1      8.2
## 2335    98.8       97          30.0     10.0
## 2336   157.8       71          45.0     10.0
## 2337   163.0      107          86.3     11.6
```

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## 2338   181.6      119          60.0      8.3
## 2339   129.0       78          41.1     11.2
## 2340    86.0       83          39.7      8.9
## 2341   193.9       71          84.0     12.6
## 2342   109.4      107          42.5      7.1
## 2343   188.9      105          46.0     10.2
## 2344   179.9       72          46.0     13.8
## 2345   183.4       98          56.0      8.2
## 2346   288.1      101          61.0      0.0
## 2347   169.2       96          42.0      4.6
## 2348   195.5      113          84.5     13.5
## 2349   264.4      102          94.5     11.3
## 2350   207.7      116          54.0      9.6
## 2351   169.5      151          42.4      8.7
## 2352   141.5      102          47.0      3.4
## 2353   154.8       71          48.0     12.8
## 2354   133.5       51          43.7     11.7
## 2355   273.2       85          65.0     13.1
## 2356   224.6       94          58.0     12.5
## 2357   273.8       97          72.0      5.8
## 2358   159.5      103          51.0     10.1
## 2359   104.0       92          35.0     14.6
## 2360   115.4       90          74.4     13.1
## 2361   222.1      107          55.0      9.4
## 2362   116.4       98          31.3     10.5
## 2363   217.7      118          59.5      0.0
## 2364   129.4       84          36.0     13.3
## 2365   161.8       73          88.0     13.7
## 2366   198.8      122          86.1     11.5
## 2367   147.8       85          75.8     14.0
## 2368   262.3      114          62.0      6.6
## 2369   246.4       83          56.0      7.6
## 2370   174.3      123          42.0      9.0
## 2371   183.4      111          46.0      9.9
## 2372   191.9       95          50.0     18.2
## 2373   187.8      109          46.0     10.1
## 2374   259.7      106          60.4     10.2
## 2375   180.4      123          48.0      8.4
## 2376    51.8      107          32.1     10.4
## 2377   303.9      106          72.0      5.8
## 2378   123.7      125          59.8      8.8
## 2379   206.2      122          50.0     12.6
## 2380   164.3       92          48.0     11.8
## 2381   228.6      117          51.0     10.1
## 2382   200.4       80          66.5      7.6
## 2383   154.3      107          42.0     10.9
## 2384   122.9       93          66.9      9.6
## 2385   220.8      100          63.3      6.4
## 2386   214.6       78          58.0     13.9
## 2387   202.0      123          51.0      7.4
## 2388   209.5      108          69.6      9.1
## 2389   297.9      141          71.0      8.9
## 2390   212.8      102          55.4     10.6
## 2391   145.6      102          49.0     12.2
```

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## 2392   152.9       87          74.2     10.8
## 2393   125.4      158          45.0     11.0
## 2394   138.3       96          53.4      8.3
## 2395   189.3      157          51.1     11.2
## 2396   199.3       86          51.0     14.3
## 2397   247.5       99          55.2     10.6
## 2398   294.9       71          67.0     13.2
## 2399   175.4       99          44.0     11.5
## 2400   179.4       70          43.0     11.2
## 2401   126.8       94          69.7      8.4
## 2402   239.7       87          65.0     11.4
## 2403   143.0      101          84.3     15.3
## 2404    91.9      109          33.0     13.0
## 2405   210.4       80          54.3     15.5
## 2406   201.3      130          69.3      6.4
## 2407   145.6       59          50.0      9.2
## 2408   203.5       82          88.2     13.4
## 2409   232.4       76          56.4     10.5
## 2410    86.5      119          62.5      8.7
## 2411   109.9      102          38.0     10.9
## 2412   156.0       88          51.3      9.3
## 2413   326.3      112          70.0      7.5
## 2414   195.0       58          51.0     14.8
## 2415   110.0       91          32.0      6.4
## 2416   147.1      119          39.0      9.0
## 2417   156.0      141          49.0     11.9
## 2418    98.2       99          36.6      9.3
## 2419   210.6      120          51.6     11.0
## 2420   239.9      120          64.0      8.9
## 2421   159.9       94          43.0     11.6
## 2422   197.8       66          46.0     10.9
## 2423   115.4       98          75.0     15.2
## 2424   123.8      113          42.0      3.7
## 2425   117.6       97          54.3      6.4
## 2426   105.3       82          58.2      8.6
## 2427   111.7      121          40.0     13.1
## 2428   159.3      104          45.0      9.5
## 2429    81.7      123          32.0     11.3
## 2430   238.0       88          86.0     10.0
## 2431   128.1       99          85.1     15.6
## 2432   171.2      104          73.5     10.2
## 2433   109.0       88          41.0     13.3
## 2434   220.0      114          56.0     12.1
## 2435    55.6       65          31.0     11.3
## 2436   286.6       79         103.8     10.3
## 2437   207.6       96          55.0     13.3
## 2438   109.6      108          62.4      8.3
## 2439   197.2      113          58.3     11.0
## 2440   175.7      120          45.0     14.6
## 2441   205.2      115          55.3      7.0
## 2442   193.1      104          75.7     12.1
## 2443   232.6      121          65.7      4.7
## 2444   102.7       89          33.2     11.0
## 2445   263.1       70          95.2      9.7
```

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## 2446   197.0       79          54.1     11.6
## 2447   169.3       90          46.0     11.6
## 2448   201.5      123          49.1     12.9
## 2449   251.0      119          51.0     13.8
## 2450   230.4      117          59.0      7.6
## 2451   109.8      120          39.0     11.9
## 2452   279.5      118          65.0     10.7
## 2453   173.4      107          49.0     13.7
## 2454   214.4       93          82.0     10.0
## 2455    96.1      103          38.0      9.7
## 2456   101.4      145          39.0      7.1
## 2457   232.5       74          57.0     10.4
## 2458   174.5      120          81.9     12.2
## 2459   224.0      126          81.8      8.8
## 2460   211.1       99          55.0     14.7
## 2461   109.2       96          32.0      9.8
## 2462   220.0       95          53.0     11.5
## 2463   181.4       98          47.7     10.9
## 2464   180.7       82          73.3     10.1
## 2465    96.5      109          54.4      9.4
## 2466   183.5       93          46.0      8.3
## 2467   107.9       90          59.4     10.5
## 2468   161.0       96          51.6      7.7
## 2469   146.8      128          61.6      4.3
## 2470   149.2      146          40.0      8.3
## 2471   227.8      124          56.5      5.6
## 2472   160.3       87          65.0      7.4
## 2473   137.8      120          45.3     10.2
## 2474   141.7       87          70.0      8.5
## 2475   196.4      115          72.1      9.3
## 2476   175.2       74          43.0      5.3
## 2477   146.8      133          40.0      9.9
## 2478   173.9      111          54.0      9.1
## 2479   305.2       80         101.6     13.2
## 2480   162.3       91          83.6     11.7
## 2481   150.0      106          54.1     10.3
## 2482   197.5      114          54.4     11.3
## 2483   240.2       67          54.0     10.2
## 2484   186.2      117          91.8     12.9
## 2485   116.9      127          77.2     12.3
## 2486   236.7       95          95.4     12.0
## 2487   173.2       93          41.0      5.4
## 2488   152.2      114          40.5      9.8
## 2489   181.3      135          47.0      6.7
## 2490   167.8       72          47.0     10.5
## 2491   175.4      125          52.0      9.8
## 2492    87.6      112          40.8      9.8
## 2493   203.3       45          47.0      8.5
## 2494    92.6       95          30.0     11.3
## 2495   262.9      135          79.9      8.1
## 2496   160.8       91          41.0      8.5
## 2497   141.8      116          60.1      7.8
## 2498    50.6       62          37.3      4.2
## 2499   134.9       59          37.0     10.2
```

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## 2500   252.1      110          63.0     13.8
## 2501   215.5       95          83.9      9.6
## 2502   124.8       66          44.0     13.4
## 2503   178.7      114          54.0     16.4
## 2504   183.2      131          50.7      9.9
## 2505   167.5       96          41.0     13.0
## 2506   147.1      105          46.0     12.5
## 2507   230.1      107          59.8     13.2
## 2508   135.8      125          37.0     12.6
## 2509   205.7       98          70.5      8.7
## 2510    73.8      105          25.0     10.9
## 2511   189.3      119          53.0     10.0
## 2512   147.2      115          39.0      7.2
## 2513   137.3       95          66.5     10.2
## 2514    70.7      125          31.7      0.0
## 2515   204.6      117          56.5     10.7
## 2516   123.1       88          40.0     12.0
## 2517   129.7      115          68.9     12.2
## 2518   198.7       70          54.6     12.4
## 2519   145.1      116          45.0      7.9
## 2520   135.2      101          36.0      8.4
## 2521   124.7      105          64.1      7.8
## 2522   215.9       76          50.0     12.1
## 2523   119.2      142          40.0      8.4
## 2524   144.3      116          40.6      7.8
## 2525   235.2      121          59.0     11.8
## 2526   174.0       57          55.3      9.7
## 2527   115.0       65          30.0      6.4
## 2528   151.7       93          43.1     13.1
## 2529   153.1      102          49.7      9.9
## 2530   218.6       93          52.7      9.2
## 2531   265.2      122          64.8     10.7
## 2532   143.3      134          44.0     10.1
## 2533   190.3       98          56.1      7.2
## 2534   184.7       60          54.0     12.3
## 2535   115.3       99          39.0     18.0
## 2536   113.0      108          37.2      9.2
## 2537   294.2      100          70.0      9.0
## 2538   215.6       86          51.0      6.4
## 2539   128.8       80          40.0     14.0
## 2540   211.2      117          91.9     10.7
## 2541    71.2       82          62.8     12.9
## 2542    94.9      121          40.2     14.2
## 2543   259.4      116          68.0      9.5
## 2544   215.8      123          79.6      6.9
## 2545    97.5      113          40.0     13.2
## 2546   146.5      121          40.0      8.2
## 2547   157.9       72          50.2     12.2
## 2548   139.9      117          46.1     12.7
## 2549   153.2      112          81.1     11.9
## 2550   103.5      134          48.1      8.4
## 2551   185.8      119          52.3      6.6
## 2552   129.5       56          53.0     10.9
## 2553   236.6       91          60.5      8.9
```

```
## 2554   260.4      107          65.4     10.0
## 2555   167.3      100          43.0      6.7
## 2556   182.2      101          51.7      9.3
## 2557   113.0       80          32.0     10.8
## 2558   185.7      133          54.1     16.9
## 2559   136.2      114          38.0      9.6
## 2560   222.6       81          86.1     11.5
## 2561   197.3       67          57.0      9.0
## 2562   141.4      130          60.8      7.7
## 2563   208.0       69          47.3      8.0
## 2564   118.5       92          38.4     12.1
## 2565   153.2       65          46.0     10.7
## 2566   108.3       87          35.0     13.5
## 2567   168.6       92          47.5     14.4
## 2568   247.2      116          68.0      9.3
## 2569   224.2       81          59.0     12.0
## 2570   166.9       98          48.0     12.8
## 2571   118.4      100          56.0      8.5
## 2572   190.9       62          52.0      7.8
## 2573   317.8       60          68.0     10.4
## 2574   312.0      112          69.0     12.8
## 2575   146.0      121          43.0     13.3
## 2576   131.6       95          38.0     15.5
## 2577   193.4      105          83.0     11.1
## 2578   185.1       92          50.0      8.5
## 2579   193.3      106          48.0     11.8
## 2580   146.4      107          42.0      7.8
## 2581    71.2       90          38.0      8.6
## 2582   123.2      104          38.0     12.9
## 2583   205.0       90          50.5      7.5
## 2584   128.7       78          43.0     12.8
## 2585   216.9       78          55.0     11.4
## 2586   150.0      122          45.0      9.8
## 2587   164.1      106          46.0     11.4
## 2588   212.0      113          57.7      8.9
## 2589   167.3       99          77.4     12.0
## 2590   154.4      130          45.0     13.9
## 2591   177.3       95          74.1      9.3
## 2592   231.2      141          63.0      8.8
## 2593   202.9      100          50.0     12.8
## 2594   149.6      120          43.0     14.3
## 2595   345.3       81          76.0     11.8
## 2596   264.9       80          69.0      8.4
## 2597   122.0       92          33.0      5.8
## 2598   177.2       88          54.0     14.0
## 2599   133.1       80          44.6     10.3
## 2600   225.1       90          63.0      8.8
## 2601   208.4      120          51.0     11.2
## 2602   173.1      107          82.1     11.5
## 2603   162.4      131          42.0     11.4
## 2604   281.2       93          80.3      6.4
## 2605   208.3       89          50.0     15.9
## 2606   243.4      126         103.1     14.1
## 2607   224.2       89          65.0     16.1
```

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## 2608   189.3      100          53.0      9.9
## 2609   168.3      124          70.1      6.7
## 2610   232.9       90          81.9     10.7
## 2611   155.0       98          54.9      5.9
## 2612   154.4      130          44.0     11.8
## 2613   234.7      102          57.0      8.4
## 2614   240.0       88          53.0      7.1
## 2615   298.4       78          77.0     12.2
## 2616   166.0      102          49.0     10.9
## 2617   111.6      140          81.2     16.0
## 2618   174.5       98          45.0     10.7
## 2619   175.5      137          66.6      6.9
## 2620   157.5      109          73.0     11.1
## 2621   206.2      113          51.0     11.0
## 2622   207.5      138          73.3      7.5
## 2623   144.8      105          74.3     11.6
## 2624   258.8       85          56.0     10.9
## 2625   226.9      106          55.0     11.6
## 2626   152.9      119          41.0     12.0
## 2627   156.7       51          81.0     12.6
## 2628   150.8       85          51.0     12.5
## 2629   221.0      126          58.0      6.8
## 2630   322.4       92          97.1      6.7
## 2631   153.6      148          49.0      9.8
## 2632   215.1       91          82.5     12.4
## 2633   174.4      108          78.9     11.8
## 2634   180.5      126          52.9     10.6
## 2635   123.1      106          37.0     12.6
## 2636   165.7       94          53.1     10.0
## 2637   200.2       92          45.0      6.0
## 2638   154.8       82          51.0      5.9
## 2639   125.4      116          46.8     11.4
## 2640   184.2      111          90.9     12.2
## 2641   274.7       99          93.2     10.8
## 2642   142.0      140          75.5     11.3
## 2643   151.5       99          66.0     10.0
## 2644   124.8      114          33.0     10.6
## 2645   179.2       85          53.5     12.4
## 2646   246.4      110          58.0     12.1
## 2647   232.7      114          56.0     11.5
## 2648   288.0      120          71.0     13.4
## 2649   170.8      145          84.3     12.7
## 2650   216.1      114          54.0      9.8
## 2651   138.7      100          42.0      4.9
## 2652   210.7      112          59.1      9.2
## 2653   181.8      117          48.3      9.7
## 2654    61.6      103          66.5     12.4
## 2655   207.7       85          53.0      6.8
## 2656   219.2       73          56.0     10.0
## 2657   227.0      122          64.0      8.9
## 2658   245.9       73          63.0      8.9
## 2659   257.3       84          60.0     13.5
## 2660   121.1      130          39.0     16.1
## 2661   301.5      136          77.9     13.4
```

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## 2662   233.9       96          59.0      9.5
## 2663    99.6      108          47.4     13.7
## 2664   169.8      123          45.0     12.7
## 2665   198.8      115          86.9     14.4
## 2666   116.2       86          40.0     10.1
## 2667   255.9      128          56.0     12.1
## 2668   187.7       84          78.0     10.0
## 2669   195.9       91          75.2      8.6
## 2670   129.4       97          38.0      1.1
## 2671   221.0      108          75.3      9.0
## 2672   140.5       92          40.0      9.5
## 2673   277.9      123          64.1      9.2
## 2674   224.9      105          60.0      6.7
## 2675   109.1      117          38.0     12.8
## 2676   207.8      109          46.0      5.7
## 2677   205.9       96          57.0     12.1
## 2678   308.6      139          69.4      7.3
## 2679   242.6       69          63.3     14.4
## 2680   229.6       82          51.0      3.3
## 2681   166.0       62          69.8      7.7
## 2682   144.8      126          44.1     13.3
## 2683   106.1       77          29.0     12.9
## 2684   221.8       84          52.0     13.2
## 2685   204.6       98          53.0      9.8
## 2686   213.5       93          54.1     14.1
## 2687   152.0       95          77.0     10.0
## 2688   260.8       81         104.9     17.0
## 2689   166.4      117          56.0     10.0
## 2690   177.9       83          45.0     15.2
## 2691   235.1       97          57.0      7.0
## 2692   186.8       92          47.0      9.7
## 2693   268.4       81          61.0     11.6
## 2694   192.1       95          54.0      7.3
## 2695   240.7       82          64.0     10.1
## 2696   179.9      113          46.8      9.8
## 2697   314.1       86          73.0     12.3
## 2698   162.0       82          88.1     11.9
## 2699   175.8       89          54.0     12.4
## 2700   109.4       91          37.0     11.6
## 2701   255.1      124          63.0      8.5
## 2702   208.7       84          53.8      8.3
## 2703   214.6      108          66.3      7.9
## 2704    49.2      121          21.0     12.1
## 2705   141.3      133          38.0     11.2
## 2706   253.2       89          67.7      9.7
## 2707   206.0      128          52.0     13.2
## 2708    40.4      105          22.0      9.0
## 2709   291.2      104          70.0      8.9
## 2710    71.2       58          54.6     11.7
## 2711   261.8       69          66.0     14.7
## 2712   191.3      134          55.0     10.0
## 2713   133.3      101          45.0     11.6
## 2714   183.6      138          65.2      6.0
## 2715   155.2      116          84.6     15.4
```

```
## 2716   283.1       93          80.5      6.1
## 2717   186.5       94          79.7     12.1
## 2718   163.3      104          51.6      4.3
## 2719   203.4      125          51.0     13.8
## 2720   178.1      110          76.0     10.0
## 2721   195.9      103          41.0     10.3
## 2722   295.3      127          64.9      9.6
## 2723   136.1       82          40.9     10.1
## 2724   114.1       95          69.1     13.0
## 2725   279.1      124          63.0      9.5
## 2726   169.3      111          41.0     12.0
## 2727   214.4       94          51.6      9.9
## 2728   255.8      125          56.0     11.7
## 2729   148.2       71          53.0      6.2
## 2730   119.3       93          40.0      8.7
## 2731   192.3      137          90.0     14.8
## 2732   245.2       91          61.0     13.9
## 2733   216.2      106          68.0     16.9
## 2734   172.4      114          52.0      0.0
## 2735   175.3      107          73.0     11.1
## 2736   169.0      104          80.9     13.3
## 2737     2.6      113          47.8      9.2
## 2738   184.1      143          50.0      9.9
## 2739   181.9       90          46.7      7.5
## 2740   160.1      116          75.2     10.8
## 2741   189.8      122          50.5     10.3
## 2742   223.2      142          57.0     12.4
## 2743   216.0       94          84.9     10.7
## 2744   198.5      124          59.8      8.0
## 2745   159.5      115          46.1      7.1
## 2746   105.0       78          61.5     10.2
## 2747   204.5      108          52.2     13.4
## 2748   274.0       92          67.0      6.2
## 2749   158.7       84          43.0      7.7
## 2750   229.9      116          57.0     14.2
## 2751   137.8       97          40.0      8.7
## 2752   179.4       94          54.0      7.9
## 2753   139.3      101          60.9      8.1
## 2754     7.8       86          16.0     12.9
## 2755   183.1       88          74.5     11.3
## 2756   206.9       79          61.5     10.7
## 2757   140.0      106          37.0     12.5
## 2758   179.2       59          55.0      5.8
## 2759   177.4      136          51.0     12.0
## 2760   115.6      129          36.3     12.6
## 2761   237.3      103          56.0     14.2
## 2762   181.5      116          50.1     10.5
## 2763    51.5       90          23.0      9.5
## 2764   155.7      104          65.1      8.2
## 2765   245.0       88         105.2     14.9
## 2766   131.7       99          37.0     10.7
## 2767   111.1      126          46.0     10.5
## 2768    88.5      100          65.1      8.2
## 2769   116.0       85          65.4     12.0
```

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## 2770   155.5       81          40.3      9.1
## 2771   106.5       65          53.4      5.7
## 2772   175.2       68          82.6     13.2
## 2773   154.7       84          42.0      5.9
## 2774   247.2      105          78.5      6.1
## 2775   218.4       93          93.6     13.2
## 2776   227.5       81          83.3      9.0
## 2777   185.0      117          73.0      7.4
## 2778   186.8       89          54.0     12.3
## 2779   158.8      119          45.0     10.3
## 2780   208.7      150          54.0      8.5
## 2781   185.9       95          50.0     11.3
## 2782   222.5       74          53.0      9.0
## 2783   201.1      101          49.0     11.6
## 2784   167.9      114          74.6      9.1
## 2785   239.1       88          64.1     10.9
## 2786   175.7      109          52.2      9.2
## 2787   111.2       90          66.3      9.0
## 2788    87.7       74          34.0     10.8
## 2789   244.1       99          63.0      7.2
## 2790   165.0       89          59.8      7.7
## 2791   127.4      110          55.6      9.1
## 2792   194.8      106          58.0      5.5
## 2793    54.7      131          32.0     11.1
## 2794   283.4      104         106.9     14.4
## 2795   258.0      112          67.1     10.9
## 2796    90.5      142          37.8      9.3
## 2797   235.6      132          50.0     16.2
## 2798   142.5       82          44.0     10.0
## 2799    54.0       68          25.0     10.2
## 2800   214.8       87          48.0      9.4
## 2801   251.4      118          60.0     11.0
## 2802   139.0       99          45.0      6.1
## 2803   117.3      114          38.0     14.4
## 2804   264.0      108          57.0     10.6
## 2805    82.6      105          32.0      9.1
## 2806   175.8      126          82.8     11.4
## 2807   220.4      100          56.0     13.6
## 2808   217.0      104          50.0     11.8
## 2809   129.0       77          78.3     11.6
## 2810   150.5      106          43.2      3.5
## 2811   193.3       66          86.0     11.1
## 2812   189.5      122          42.0     10.8
## 2813   137.8       95          73.7     11.0
## 2814   129.3       80          35.0     12.3
## 2815   115.6       77          38.0     10.7
## 2816   221.9      114          79.4      7.2
## 2817   263.7      113          61.0     18.3
## 2818    61.3       91          29.4     11.4
## 2819   183.8      113          46.0     10.1
## 2820   167.4       68          41.0     10.3
## 2821   154.1      122          78.6     13.2
## 2822   252.0      101          61.2      5.7
## 2823   163.1       94          53.0     11.2
```

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## 2824   198.3       80          50.0     16.6
## 2825   324.7       48          76.0     13.1
## 2826   128.3       78          41.0     14.3
## 2827   187.9      110          49.0     10.2
## 2828   129.2       71          41.0     10.3
## 2829   125.5      106          33.0      6.3
## 2830   257.2      108          97.0     12.6
## 2831   124.6       90          34.0     10.5
## 2832   175.1      144          49.0      9.9
## 2833   124.3       91          36.0      7.5
## 2834   271.6      130          60.0     11.6
## 2835   219.9       80          50.0     11.7
## 2836   183.3      115          77.1     10.4
## 2837   101.1      119          36.0     10.3
## 2838   203.3       70          55.0     14.3
## 2839   175.4       88          74.4     10.5
## 2840   266.0       97          66.8     14.2
## 2841   171.6      110          70.2     10.8
## 2842    78.7       98          33.0     14.0
## 2843   211.9      110          80.4      9.4
## 2844    63.7      101          29.6     10.0
## 2845   173.4      100          48.0     11.5
## 2846   237.7       98          59.0      4.5
## 2847   225.9      123          53.0     10.1
## 2848   173.0      101          80.9     12.2
## 2849   224.9      102          51.0      8.0
## 2850   237.7      122          56.0      7.7
## 2851   137.0      128          42.0     10.0
## 2852   142.5      109          40.0      8.2
## 2853   142.4      126          35.0      4.6
## 2854   147.0      112          65.5      8.7
## 2855   220.3      124          54.0     10.6
## 2856   149.2       96          48.0      8.1
## 2857   204.4       88          49.4     10.0
## 2858   216.8       77          56.7      5.6
## 2859   308.0      123          94.0      7.4
## 2860    58.0      125          16.0     11.5
## 2861   173.2       80          50.0     11.8
## 2862   210.3       90          92.4     13.1
## 2863    58.9      125          68.7     12.1
## 2864   236.8      102          55.0      9.7
## 2865   228.9      102          56.3     12.5
## 2866    90.0       87          62.2      8.6
## 2867   146.7      128          34.0     11.1
## 2868   237.3       83          54.0     11.2
## 2869   162.8      118          51.6     13.6
## 2870   186.9      114          78.0      8.9
## 2871    86.1      100          37.0      9.1
## 2872   212.3       89          55.0     11.3
## 2873   151.0       98          36.0      9.2
## 2874   158.6       67          39.0      6.9
## 2875   296.0       93          70.0     12.3
## 2876   212.3       77          75.8      6.6
## 2877   234.4       61          56.0     10.4
```

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## 2878   176.8       92          46.0      6.5
## 2879   157.3      123          74.9      9.6
## 2880   146.6       68          67.0     10.0
## 2881   260.5      108          53.0      9.8
## 2882   146.1       98          65.7      6.2
## 2883   124.5      134          34.0     11.4
## 2884   209.4       49          58.0      9.8
## 2885   285.7       44          63.0      8.7
## 2886   190.9       44          47.0      8.4
## 2887   144.4       88          48.0      9.9
## 2888   208.8      130          77.0     11.1
## 2889    77.6      141          60.4     10.9
## 2890   271.1      101          69.4      8.4
## 2891   240.8      104          54.0     11.6
## 2892   114.8       98          36.0     12.2
## 2893   138.8       80          67.9     11.8
## 2894   209.8      112          68.4      7.2
## 2895   134.9       98          48.2     14.7
## 2896   164.0       99          41.0      6.4
## 2897   245.5      130          59.0      9.1
## 2898    80.3       94          75.8     16.6
## 2899    90.7       90          34.0      5.6
## 2900   190.3      115          65.3      3.8
## 2901   108.6      108          37.0      7.9
## 2902    89.8       88          61.1      9.3
## 2903   252.4      106          86.0     10.0
## 2904   183.4       94          73.1      6.7
## 2905   183.4      103          44.0     10.4
## 2906   155.2      100          41.2      3.8
## 2907   165.8      122          45.0      0.0
## 2908   209.4       67          59.0     12.8
## 2909   279.3      104          65.0      7.9
## 2910   174.1      102          39.0      7.7
## 2911   175.7       78          46.0      9.1
## 2912   256.5       87          66.0     13.0
## 2913   170.2       89          45.0      4.3
## 2914   139.6       92          46.9     10.8
## 2915   208.8      119          81.8     12.5
## 2916   210.1      126          57.0     14.4
## 2917   113.6       87          36.0     10.5
## 2918   202.6       89          49.0      8.3
## 2919   174.4      112          53.0      0.0
## 2920   210.6      117          50.0      9.4
## 2921   121.5       88          43.0     10.7
## 2922   127.8       67          41.5     15.9
## 2923   135.2       98          44.0     10.2
## 2924    99.4       62          41.0     16.7
## 2925   276.9      105          69.0     10.3
## 2926   163.4      134          49.0     11.6
## 2927   287.4      116          69.0      5.0
## 2928   120.5      104          67.5     10.2
## 2929   184.1      106          49.0      9.8
## 2930   185.0       84          55.2     14.9
## 2931   160.9      109          40.0     12.9
```

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## 2932   207.6       68          57.0     10.9
## 2933   209.2      134          36.0     11.8
## 2934   158.4       71          53.0      2.1
## 2935   149.0       73          37.0      8.6
## 2936   204.5       63          54.6      9.8
## 2937   288.8       86          65.0      9.5
## 2938   108.6       90          72.2     13.4
## 2939    97.5      129          40.9      7.0
## 2940   166.5      102          51.0     13.3
## 2941   156.2      104          35.0      7.3
## 2942   225.2       89          92.1     11.5
## 2943   287.4      118          71.0     10.0
## 2944   175.3       96          72.1      7.8
## 2945   102.1       75          37.0      9.8
## 2946   157.9      103          49.0     14.0
## 2947   146.5       73          57.1      4.1
## 2948   245.8      116          67.0      9.0
## 2949   177.7      114          49.0     10.5
## 2950   250.8      146          56.0     10.0
## 2951   117.8      100          37.0     11.8
## 2952   119.7      113          37.0     12.9
## 2953   242.2       87          61.0      8.2
## 2954   163.4       83          49.0      9.8
## 2955   161.0      113          46.0      8.4
## 2956   128.7      111          37.0     10.3
## 2957    81.6       94          37.0      8.6
## 2958   207.7       91          72.7      7.3
## 2959   128.6      115          41.0      6.3
## 2960   233.3       65          58.0      9.1
## 2961   182.1      106          43.0     10.0
## 2962   168.0       81          64.6      8.0
## 2963   251.6       88          58.0      5.4
## 2964   183.8      102          78.3     11.6
## 2965   256.4       44          62.0      7.9
## 2966   180.2      134          39.0      8.4
## 2967   227.8       81          53.0      8.0
## 2968   147.8      132          76.5     10.2
## 2969   234.9      136          63.0     13.9
## 2970   110.9       54          37.0      7.9
## 2971   124.5       94          58.3      6.4
## 2972   233.5       81          58.1      9.6
## 2973   197.3      134          73.3     10.1
## 2974    58.2       96          28.0     10.4
## 2975   212.7       72          58.4      7.0
## 2976   151.5       89          37.0     11.8
## 2977   146.3      117          44.0     11.5
## 2978   195.1      100          46.0      6.7
## 2979   208.9       71          54.0     13.0
## 2980   135.7      107          42.2      8.8
## 2981   225.9       86          62.0     14.3
## 2982   122.2       67          38.0      9.7
## 2983   153.3      106          46.0      8.9
## 2984   214.0      117          53.0      7.9
## 2985   194.8      112          52.3     10.8
```

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## 2986   206.7       87          60.0     11.0
## 2987   188.0      105          73.4     10.5
## 2988   122.3       83          34.4     13.7
## 2989   259.3       96          59.0     12.0
## 2990   115.1      114          41.8     13.8
## 2991   172.9      109          64.4      8.3
## 2992   156.4      116          38.0      7.3
## 2993   128.1      104          65.3     11.6
## 2994   196.6       73          48.0     12.5
## 2995   227.9      130          65.0      5.5
## 2996   194.9       63          85.6     13.2
## 2997    44.9       63          55.9     13.3
## 2998   262.8      114          85.1      7.8
## 2999   211.2       70          60.1     12.3
## 3000   204.0       69          54.0      9.6
## 3001   223.2      109          53.2     14.5
## 3002   119.0       82          40.9     11.5
## 3003   266.1       91          65.0      8.9
## 3004   134.4      104          36.0      9.4
## 3005   171.1       78          51.0     16.2
## 3006   170.5      103          51.0     10.5
## 3007   178.5      124          45.3      9.9
## 3008   205.2      145          49.0     14.1
## 3009   232.8       97          91.1     13.0
## 3010   239.9      107          81.1      6.7
## 3011    55.6       97          34.0     12.1
## 3012   153.5       78          75.6     10.6
## 3013   109.8      100          35.0     11.1
## 3014   196.1       89          50.0      5.2
## 3015   166.8      127          41.0     11.8
## 3016   113.2       96          62.2      7.1
## 3017   203.0       92          49.5     14.6
## 3018   242.8       90          62.0      6.0
## 3019   156.5      102          39.0     12.2
## 3020   266.7      105          61.5     13.8
## 3021   182.0       80          76.5      9.8
## 3022    85.9       92          32.0     10.1
## 3023   146.6       87          42.8      2.9
## 3024   110.5      101          74.5     13.9
## 3025   118.6       89          38.0     11.5
## 3026   197.6      105          83.1     15.6
## 3027   210.3      116          82.2     10.8
## 3028   220.3       96          87.4      9.4
## 3029   150.0       98          46.0     12.5
## 3030   161.7      114          70.8      9.2
## 3031   191.4      116          47.0     14.0
## 3032   146.7       83          40.6     12.5
## 3033   109.4      103          28.0      7.8
## 3034   144.1      115          49.3     13.6
## 3035   248.9       93          87.2     11.2
## 3036    85.7      112          34.0     11.6
## 3037   214.8      112          55.0      9.4
## 3038   158.9      137          48.0      6.5
## 3039   110.0       94          48.3      6.4
```

```
## 3040   152.8      145          42.0     10.5
## 3041   145.6      103          44.2     10.5
## 3042    93.3       83          33.0      6.5
## 3043   216.8      134          57.2      8.3
## 3044   201.9      101          51.2      9.0
## 3045   146.4       81          48.0      8.5
## 3046   272.7       74          66.0     10.5
## 3047    18.9       92          28.4     14.8
## 3048   172.8       81          46.0     12.8
## 3049   190.2      119          46.0     14.0
## 3050   130.6       83          40.0     15.6
## 3051   158.4       92          43.0     13.5
## 3052   166.5      111          49.0     15.6
## 3053   129.3      103          40.0     12.9
## 3054   199.3      112          51.0      7.0
## 3055   185.1      126          52.0      9.1
## 3056   175.4       80          47.0      9.7
## 3057   263.4      123          58.0     10.7
## 3058    94.2      108          39.0      7.3
## 3059   189.4       83          53.6      7.1
## 3060   118.0      103          66.9     11.8
## 3061   212.1       98          53.0      8.4
## 3062   222.0       93          56.2     12.4
## 3063   222.8       98          89.1     13.0
## 3064   190.0      137          75.9     12.2
## 3065   271.8      129          70.3      8.7
## 3066   195.4       83          79.7      8.4
## 3067   199.6       93          53.0      7.2
## 3068   100.0       98          32.0     10.1
## 3069   160.6       85          72.7      9.5
## 3070   158.7       91          67.7      9.9
## 3071   154.5      122          45.0     12.0
## 3072   192.3      114          61.0      6.3
## 3073   305.1      106          68.0      8.5
## 3074   193.0      106          66.0      7.4
## 3075    72.5       88          32.7      6.6
## 3076   105.2       61          64.0      6.3
## 3077   180.5       88          43.0     10.0
## 3078   214.7       86         102.6     14.3
## 3079    86.8       95          24.0     13.2
## 3080   131.5       99          38.0      7.9
## 3081   135.4      102          46.1     17.5
## 3082   174.3       85          52.0      5.9
## 3083   203.9       63          51.0     12.1
## 3084   235.5      108          53.0     12.5
## 3085   157.0      113          49.0     12.1
## 3086   111.9       55          38.0     10.0
## 3087   236.3       91          54.0     11.2
## 3088   163.6       88          52.0      8.6
## 3089   213.6      127          76.0      8.9
## 3090   143.4       72          64.4      9.4
## 3091    78.3      119          34.5     12.1
## 3092    97.1       98          36.0     10.6
## 3093    94.1       93          29.0     10.1
```

```
## 3094   226.3       95          65.6      8.2
## 3095   133.8       61          37.0     10.5
## 3096   190.3       93          82.6     10.6
## 3097   294.9      106          91.5      9.8
## 3098   185.4      114          48.0     10.0
## 3099   179.5      121          47.0     12.0
## 3100   158.0       94          45.0     10.1
## 3101   173.0      131          46.0     10.4
## 3102   134.2      101          63.1      8.2
## 3103   125.2      123          75.0     12.6
## 3104   195.9      111          53.0     13.2
## 3105   214.2       61          79.8     10.3
## 3106   221.1      101          58.0      9.5
## 3107   132.0      100          69.3     11.6
## 3108   157.6       92          48.1      9.1
## 3109   110.3       71          64.7     11.0
## 3110   161.5      121          44.0     11.2
## 3111   171.8      116          78.6     10.6
## 3112   211.0       99          80.8     11.4
## 3113   139.3       89          41.0      9.3
## 3114   291.6       99          71.7     14.0
## 3115   139.0      110          38.5     12.1
## 3116   234.8      125          57.0     10.0
## 3117   187.6       83          50.0      8.8
## 3118   159.8      143          46.0     13.1
## 3119   177.1      100          61.0      5.2
## 3120   117.9      101          34.0     11.4
## 3121   247.6       95          93.2     10.8
## 3122   169.9       77          41.0      8.5
## 3123   185.0      120          49.0     14.1
## 3124   204.9       84          82.5     11.3
## 3125   225.5      119          79.4      9.4
## 3126   169.7      115          41.0     10.5
## 3127   239.3      102          60.0     10.6
## 3128   113.3       96          37.0     11.7
## 3129   161.9      100          51.3     10.2
## 3130   133.3      110          54.1      5.6
## 3131   170.7       88          62.5      8.7
## 3132   189.7       76          48.1      8.3
## 3133   322.3      100          75.0      7.8
## 3134   124.4       74          51.6     10.4
## 3135   146.9       94          35.0     11.4
## 3136   192.6      123          53.6     10.8
## 3137    96.3       83          59.8     10.3
## 3138   131.9       96          37.0     14.7
## 3139   147.2      121          40.0     13.3
## 3140   143.1      139          45.0      7.1
## 3141   280.4      127          65.7     15.2
## 3142   237.2       85          87.9     10.7
## 3143   184.2       95          49.2     12.8
## 3144   109.1      141          38.4     10.0
## 3145   138.1      115          37.0     10.3
## 3146   186.8       94          50.0      8.8
## 3147   155.4      112          52.0     13.9
```

```
## 3148   245.3       91          53.0      8.5
## 3149   205.9       97          59.0     11.0
## 3150   207.2      138          54.0     11.9
## 3151   151.5      100          75.9     10.7
## 3152   221.9      112          64.5      7.1
## 3153   190.0      100          56.8      9.5
## 3154   220.8      111          51.0     10.5
## 3155   173.7      117          64.0      6.3
## 3156   114.8       94          33.0      9.6
## 3157   113.8       97          38.9     10.4
## 3158   143.2       60          40.0      6.2
## 3159   184.4      111          49.0      9.3
## 3160   227.4       67          60.0      7.8
## 3161   224.0       99          56.0      2.1
## 3162   216.2       95          53.0     10.0
## 3163   129.9      121          42.0     13.3
## 3164   230.1      108          82.6      6.9
## 3165   204.4       97          58.0     11.0
## 3166   216.6      101          76.6      9.1
## 3167   247.5       85          64.1     10.2
## 3168   228.1       93          51.0      9.0
## 3169   225.9      110          64.0     11.2
## 3170   103.5      115          32.0     12.0
## 3171   115.5       70          43.4      7.5
## 3172   218.8      125          50.0      9.7
## 3173   223.8       67          59.0     12.3
## 3174   143.8       71          41.0     12.9
## 3175    29.9      123          40.2      8.6
## 3176   276.7      121          87.4      8.3
## 3177   141.4      128          37.0      8.1
## 3178   153.9      102          73.6     12.8
## 3179   190.5      128          50.0     13.8
## 3180   192.6      102          51.4      9.4
## 3181   151.8      115          35.0     12.2
## 3182   215.6       74          54.0     10.1
## 3183   180.0      100          54.1      7.8
## 3184   157.3      116          44.0      8.4
## 3185   196.5       88          49.8      6.8
## 3186   240.3      130          58.1     11.9
## 3187   193.3      126          50.3      9.4
## 3188   211.9       40          74.6      5.4
## 3189   218.7      111          51.0      8.2
## 3190   246.8      110          60.0     13.2
## 3191   174.7      151          43.0     15.8
## 3192   240.0       83          53.0      9.3
## 3193   181.2       76          59.5      5.0
## 3194   113.7       67          34.0     10.8
## 3195   174.7       86          80.2     13.4
## 3196   211.1       89          81.2      9.7
## 3197   169.3      108          44.0     12.2
## 3198   247.4      107          58.0     11.3
## 3199   131.2       63          76.6     12.8
## 3200   161.4       84          44.3     11.8
## 3201   107.2       98          26.0      9.7
```

```
## 3202   211.9      120          77.8      8.8
## 3203   160.4      120          52.0      6.9
## 3204   230.7      101          79.3      6.4
## 3205   232.6       96          64.3     10.5
## 3206   294.7       90          76.0     10.8
## 3207   133.4      107          42.0     10.2
## 3208   306.2      123         100.6     11.7
## 3209   236.8      135          57.0     10.4
## 3210   125.7       92          83.3     14.2
## 3211   168.4      114          56.2     11.4
## 3212    70.9      134          27.8     12.0
## 3213   105.0       86          39.0      3.7
## 3214   152.1      141          46.9     12.0
## 3215   180.9       79          50.7      8.8
## 3216   156.6       84          66.4      9.4
## 3217   180.5       85          56.5      2.4
## 3218   238.8      100          96.6     13.2
## 3219   182.1       66          86.2     13.4
## 3220   139.6       72          76.8      8.8
## 3221   200.3       76          83.5     10.2
## 3222   153.5       94          51.1      8.5
## 3223   128.2      119          68.6     11.7
## 3224   159.5      145          45.0     16.7
## 3225   226.4      101          63.0     12.3
## 3226   251.9       81          60.0      8.4
## 3227   264.5      117          64.0      7.5
## 3228   153.7      105          43.0     10.7
## 3229   232.1       81          58.0     15.0
## 3230   201.9       86          55.2      7.8
## 3231   186.9       79          48.0      4.2
## 3232   196.6       89          66.8      6.6
## 3233   232.1      102          54.0      9.9
## 3234   166.0       79          35.0      6.3
## 3235   200.6       96          55.8      2.5
## 3236   141.0      101          55.2      4.9
## 3237   245.0       95          81.3      7.5
## 3238   140.8      140          44.0     10.9
## 3239   255.1       93          67.0      8.8
## 3240   125.0       99          69.5     10.2
## 3241   180.6       65          55.0      5.0
## 3242   248.7      118          57.0     11.3
## 3243   178.1      111          73.7      8.4
## 3244   122.2      112          32.0     10.3
## 3245   231.3       87          59.0      7.2
## 3246   111.2      101          30.0     12.6
## 3247   103.2      117          70.1     11.9
## 3248   138.4      104          38.0      3.9
## 3249   146.3       85          44.0     11.5
## 3250   206.3       66          56.0     11.7
## 3251   132.0      103          47.0     13.5
## 3252   274.6      105          61.0      9.2
## 3253   185.3       87          51.0     11.7
## 3254   154.8       69          66.3      9.0
## 3255   179.2      105          94.7     14.7
```

```
## 3256   286.2       61          65.0     11.0
## 3257   268.0      115          61.3     17.0
## 3258   137.5      110          44.1     13.3
## 3259   243.0      115          60.9     13.4
## 3260   134.9       79          45.5     15.0
## 3261   234.2       76          61.0     13.9
## 3262   175.1       73          45.0      7.3
## 3263   142.2      107          47.0     10.1
## 3264   132.4       81          42.6      6.0
## 3265    97.8       98          50.9      5.9
## 3266   266.9       83          65.0     11.0
## 3267   155.2      139          76.2      9.7
## 3268   200.2       92          55.0      8.8
## 3269   289.1      100          70.0     12.7
## 3270   198.4      121          55.0     10.5
## 3271   180.3       67          49.0     12.8
## 3272    86.3       84          35.0     12.5
## 3273   295.0      141          70.0     12.9
## 3274   240.9      108          58.8     14.7
## 3275   207.7      109          54.0      8.0
## 3276   128.5      115          36.0      0.0
## 3277   224.4      114          74.8      8.8
## 3278   164.9      115          39.0     10.0
## 3279   238.0       97          55.0     10.6
## 3280   231.0       85          81.4      8.3
## 3281   107.3      140          39.0     10.0
## 3282   185.0      122          47.0      5.1
## 3283   244.1       71          79.8      7.7
## 3284   238.4       96          62.0     12.4
## 3285   141.1      109          79.6     13.2
## 3286   158.1      117          37.0     11.8
## 3287   220.1      105          92.4     13.1
## 3288   199.5      119          75.4     10.9
## 3289   109.5      105          44.7      4.9
## 3290   187.2      110          42.0     13.2
## 3291   107.9      128          35.0      0.0
## 3292   172.1      119          86.5     13.9
## 3293   203.8       85          44.2     11.7
## 3294   160.0      133          46.0      9.1
## 3295    51.1      106          27.0     12.3
## 3296   227.7       88          54.0     11.7
## 3297   203.8       77          53.0      9.0
## 3298   241.7       84          86.5     11.3
## 3299    78.1       70          34.0     12.3
## 3300   187.8       95          45.0     11.0
## 3301   127.1       94          61.2      7.1
## 3302   280.0      113          65.0     10.4
## 3303   153.2       78          46.9      7.8
## 3304   137.1       88          68.1     11.5
## 3305   186.1      114          49.0     13.8
## 3306   224.1      127          90.1     11.5
## 3307    83.6      131          53.9      8.1
## 3308   203.9      109          55.0     17.8
## 3309   211.3       87          50.0     13.3
```

```
## 3310   219.4      112          57.0     12.0
## 3311   190.4       91          43.1     13.6
## 3312   147.7       94          50.0      6.9
## 3313   229.9      130          54.6     14.2
## 3314   102.8      128          30.0     10.0
## 3315   178.7       81          53.9      9.1
## 3316   148.5      106          52.6      6.5
## 3317   164.1      111          80.2     12.3
## 3318   197.2       90          50.0      7.8
## 3319   124.9      131          50.4     11.6
## 3320   115.4       99          40.5     15.9
## 3321   140.0      101          44.0      9.7
## 3322   193.9      118          41.0     13.2
## 3323   321.1      105          78.0     11.5
## 3324   118.4      126          45.9     13.6
## 3325   169.8      114          46.0     11.6
## 3326   193.4       99          45.3      9.3
## 3327   106.6      128          46.6     14.9
## 3328   134.7       98          40.0     11.8
## 3329   156.2       77          71.7      9.9
## 3330   231.1       57          56.4      9.6
## 3331   180.8      109          56.0     14.1
## 3332   213.8      105          50.0      5.0
## 3333   234.4      113         100.0     13.7
```

```
str(churn_data)
```

```
## 'data.frame':    3333 obs. of  10 variables:
##  $ Churn          : int  0 0 0 0 0 0 0 0 0 0 ...
##  $ AccountWeeks   : int  128 107 137 84 75 118 121 147 117 141 ...
##  $ ContractRenewal: int  1 1 1 0 0 0 1 0 1 0 ...
##  $ DataPlan       : int  1 1 0 0 0 0 1 0 0 1 ...
##  $ DataUsage      : num  2.7 3.7 0 0 0 0 2.03 0 0.19 3.02 ...
##  $ CustServCalls  : int  1 1 0 2 3 0 3 0 1 0 ...
##  $ DayMins        : num  265 162 243 299 167 ...
##  $ DayCalls       : int  110 123 114 71 113 98 88 79 97 84 ...
##  $ MonthlyCharge  : num  89 82 52 57 41 57 87.3 36 63.9 93.2 ...
##  $ RoamMins       : num  10 13.7 12.2 6.6 10.1 6.3 7.5 7.1 8.7 11.2 ...
```

#step 1 : Split

```
library(caTools)
set.seed(100)
split <- sample.split(churn_data, SplitRatio = 0.75)
split
```

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

```
train <- subset(churn_data,split = "TRUE" )
test <- subset(churn_data,split = "FALSE" )
str(train)
```

```
## 'data.frame':    3333 obs. of  10 variables:
##  $ Churn          : int  0 0 0 0 0 0 0 0 0 0 ...
##  $ AccountWeeks   : int  128 107 137 84 75 118 121 147 117 141 ...
##  $ ContractRenewal: int  1 1 1 0 0 0 1 0 1 0 ...
##  $ DataPlan       : int  1 1 0 0 0 0 1 0 0 1 ...
##  $ DataUsage      : num  2.7 3.7 0 0 0 0 2.03 0 0.19 3.02 ...
##  $ CustServCalls  : int  1 1 0 2 3 0 3 0 1 0 ...
##  $ DayMins        : num  265 162 243 299 167 ...
##  $ DayCalls       : int  110 123 114 71 113 98 88 79 97 84 ...
##  $ MonthlyCharge  : num  89 82 52 57 41 57 87.3 36 63.9 93.2 ...
##  $ RoamMins       : num  10 13.7 12.2 6.6 10.1 6.3 7.5 7.1 8.7 11.2 ...
```

```
str(test)
```

```
## 'data.frame':    3333 obs. of  10 variables:
##  $ Churn          : int  0 0 0 0 0 0 0 0 0 0 ...
##  $ AccountWeeks   : int  128 107 137 84 75 118 121 147 117 141 ...
##  $ ContractRenewal: int  1 1 1 0 0 0 1 0 1 0 ...
##  $ DataPlan       : int  1 1 0 0 0 0 1 0 0 1 ...
##  $ DataUsage      : num  2.7 3.7 0 0 0 0 2.03 0 0.19 3.02 ...
##  $ CustServCalls  : int  1 1 0 2 3 0 3 0 1 0 ...
##  $ DayMins        : num  265 162 243 299 167 ...
##  $ DayCalls       : int  110 123 114 71 113 98 88 79 97 84 ...
##  $ MonthlyCharge  : num  89 82 52 57 41 57 87.3 36 63.9 93.2 ...
##  $ RoamMins       : num  10 13.7 12.2 6.6 10.1 6.3 7.5 7.1 8.7 11.2 ...
```

#step 2 : train model

```
decision_tree_model_new <- rpart(Churn~.,data=train, method = "class")
decision_tree_model_new
```

```
## n= 3333
##
## node), split, n, loss, yval, (yprob)
##       * denotes terminal node
##
##   1) root 3333 483 0 (0.85508551 0.14491449)
##     2) DayMins< 264.45 3122 356 0 (0.88597053 0.11402947)
##       4) CustServCalls< 3.5 2871 229 0 (0.92023685 0.07976315)
##         8) ContractRenewal>=0.5 2604 128 0 (0.95084485 0.04915515)
##          16) DayMins< 223.25 2221  60 0 (0.97298514 0.02701486) *
##          17) DayMins>=223.25 383  68 0 (0.82245431 0.17754569)
##            34) MonthlyCharge< 60.95 175   8 0 (0.95428571 0.04571429) *
##            35) MonthlyCharge>=60.95 208  60 0 (0.71153846 0.28846154)
##              70) DataUsage>=0.405 105   3 0 (0.97142857 0.02857143) *
##              71) DataUsage< 0.405 103  46 1 (0.44660194 0.55339806)
##               142) MonthlyCharge< 62.05 32   7 0 (0.78125000 0.21875000) *
##               143) MonthlyCharge>=62.05 71  21 1 (0.29577465 0.70422535)
##                 286) RoamMins< 7.9 13   4 0 (0.69230769 0.30769231) *
##                 287) RoamMins>=7.9 58  12 1 (0.20689655 0.79310345) *
##         9) ContractRenewal< 0.5 267 101 0 (0.62172285 0.37827715)
##          18) RoamMins< 13.1 219  53 0 (0.75799087 0.24200913) *
##          19) RoamMins>=13.1 48   0 1 (0.00000000 1.00000000) *
```

```
##       5) CustServCalls>=3.5 251 124 1 (0.49402390 0.50597610)
##        10) MonthlyCharge>=45.95 163  44 0 (0.73006135 0.26993865)
##          20) DayMins>=160.2 130  22 0 (0.83076923 0.16923077) *
##          21) DayMins< 160.2 33  11 1 (0.33333333 0.66666667) *
##        11) MonthlyCharge< 45.95 88   5 1 (0.05681818 0.94318182) *
##     3) DayMins>=264.45 211  84 1 (0.39810427 0.60189573)
##       6) DataPlan>=0.5 53   6 0 (0.88679245 0.11320755) *
##       7) DataPlan< 0.5 158  37 1 (0.23417722 0.76582278)
##        14) MonthlyCharge< 62.5 26   4 0 (0.84615385 0.15384615) *
##        15) MonthlyCharge>=62.5 132  15 1 (0.11363636 0.88636364) *
```

```
summary(decision_tree_model_new)
```

```
## Call:
## rpart(formula = Churn ~ ., data = train, method = "class")
##   n= 3333
##
##           CP nsplit rel error    xerror       xstd
## 1 0.08902692      0 1.0000000 1.0000000 0.04207569
## 2 0.08488613      1 0.9109731 0.9792961 0.04171083
## 3 0.08074534      2 0.8260870 0.8426501 0.03913538
## 4 0.04968944      4 0.6645963 0.6811594 0.03565194
## 5 0.03726708      6 0.5652174 0.5817805 0.03321090
## 6 0.02277433      7 0.5279503 0.5569358 0.03255785
## 7 0.01501035      8 0.5051760 0.5465839 0.03228016
## 8 0.01035197     12 0.4451346 0.5196687 0.03154194
## 9 0.01000000     13 0.4347826 0.5093168 0.03125152
##
## Variable importance
##   MonthlyCharge         DayMins       DataUsage   CustServCalls        DataPlan
##              24              23              13              12              10
##        RoamMins ContractRenewal    AccountWeeks        DayCalls
##               8               8               1               1
##
## Node number 1: 3333 observations,    complexity param=0.08902692
##   predicted class=0  expected loss=0.1449145  P(node) =1
##     class counts:  2850   483
##    probabilities: 0.855 0.145
##   left son=2 (3122 obs) right son=3 (211 obs)
##   Primary splits:
##       DayMins         < 264.45 to the left,  improve=94.083100, (0 missing)
##       CustServCalls   < 3.5    to the left,  improve=80.306170, (0 missing)
##       ContractRenewal < 0.5    to the right, improve=55.774830, (0 missing)
##       MonthlyCharge   < 60.55  to the left,  improve=34.847350, (0 missing)
##       DataUsage       < 0.215  to the right, improve= 9.730673, (0 missing)
##   Surrogate splits:
##       MonthlyCharge < 101.55 to the left,  agree=0.939, adj=0.033, (0 split)
##
## Node number 2: 3122 observations,    complexity param=0.08074534
##   predicted class=0  expected loss=0.1140295  P(node) =0.9366937
##     class counts:  2766   356
##    probabilities: 0.886 0.114
##   left son=4 (2871 obs) right son=5 (251 obs)
##   Primary splits:
```

```
##       CustServCalls   < 3.5    to the left,  improve=83.860470, (0 missing)
##       ContractRenewal < 0.5    to the right, improve=54.867830, (0 missing)
##       DayMins         < 223.25 to the left,  improve=12.026250, (0 missing)
##       RoamMins        < 13.15  to the left,  improve= 8.063614, (0 missing)
##       MonthlyCharge   < 59.25  to the left,  improve= 6.422183, (0 missing)
##
## Node number 3: 211 observations,    complexity param=0.08488613
##   predicted class=1  expected loss=0.3981043  P(node) =0.06330633
##     class counts:    84   127
##    probabilities: 0.398 0.602
##   left son=6 (53 obs) right son=7 (158 obs)
##   Primary splits:
##       DataPlan      < 0.5    to the right, improve=33.806090, (0 missing)
##       DataUsage     < 1.05   to the right, improve=33.806090, (0 missing)
##       MonthlyCharge < 79.65  to the right, improve=30.997040, (0 missing)
##       DayMins       < 316.7  to the left,  improve= 7.003300, (0 missing)
##       DayCalls      < 96.5   to the left,  improve= 1.736051, (0 missing)
##   Surrogate splits:
##       DataUsage     < 1.05   to the right, agree=1.000, adj=1.000, (0 split)
##       MonthlyCharge < 79.65  to the right, agree=0.991, adj=0.962, (0 split)
##       AccountWeeks  < 15.5   to the left,  agree=0.754, adj=0.019, (0 split)
##
## Node number 4: 2871 observations,    complexity param=0.04968944
##   predicted class=0  expected loss=0.07976315  P(node) =0.8613861
##     class counts:  2642   229
##    probabilities: 0.920 0.080
##   left son=8 (2604 obs) right son=9 (267 obs)
##   Primary splits:
##       ContractRenewal < 0.5    to the right, improve=52.464180, (0 missing)
##       DayMins         < 221.85 to the left,  improve=19.883390, (0 missing)
##       MonthlyCharge   < 59.75  to the left,  improve= 8.872400, (0 missing)
##       RoamMins        < 13.15  to the left,  improve= 8.200801, (0 missing)
##       DataUsage       < 3.55   to the left,  improve= 2.223976, (0 missing)
##
## Node number 5: 251 observations,    complexity param=0.08074534
##   predicted class=1  expected loss=0.4940239  P(node) =0.07530753
##     class counts:   124   127
##    probabilities: 0.494 0.506
##   left son=10 (163 obs) right son=11 (88 obs)
##   Primary splits:
##       MonthlyCharge < 45.95  to the right, improve=51.804850, (0 missing)
##       DayMins       < 160.2  to the right, improve=46.178350, (0 missing)
##       CustServCalls < 4.5    to the left,  improve= 4.362024, (0 missing)
##       DayCalls      < 133.5  to the left,  improve= 2.737352, (0 missing)
##       DataUsage     < 0.18   to the right, improve= 2.184225, (0 missing)
##   Surrogate splits:
##       DayMins      < 151.65 to the right, agree=0.805, adj=0.443, (0 split)
##       DataUsage    < 0.18   to the right, agree=0.665, adj=0.045, (0 split)
##       AccountWeeks < 8      to the right, agree=0.657, adj=0.023, (0 split)
##       DayCalls     < 139.5  to the left,  agree=0.657, adj=0.023, (0 split)
##       RoamMins     < 4.15   to the right, agree=0.653, adj=0.011, (0 split)
##
## Node number 6: 53 observations
##   predicted class=0  expected loss=0.1132075  P(node) =0.01590159
```

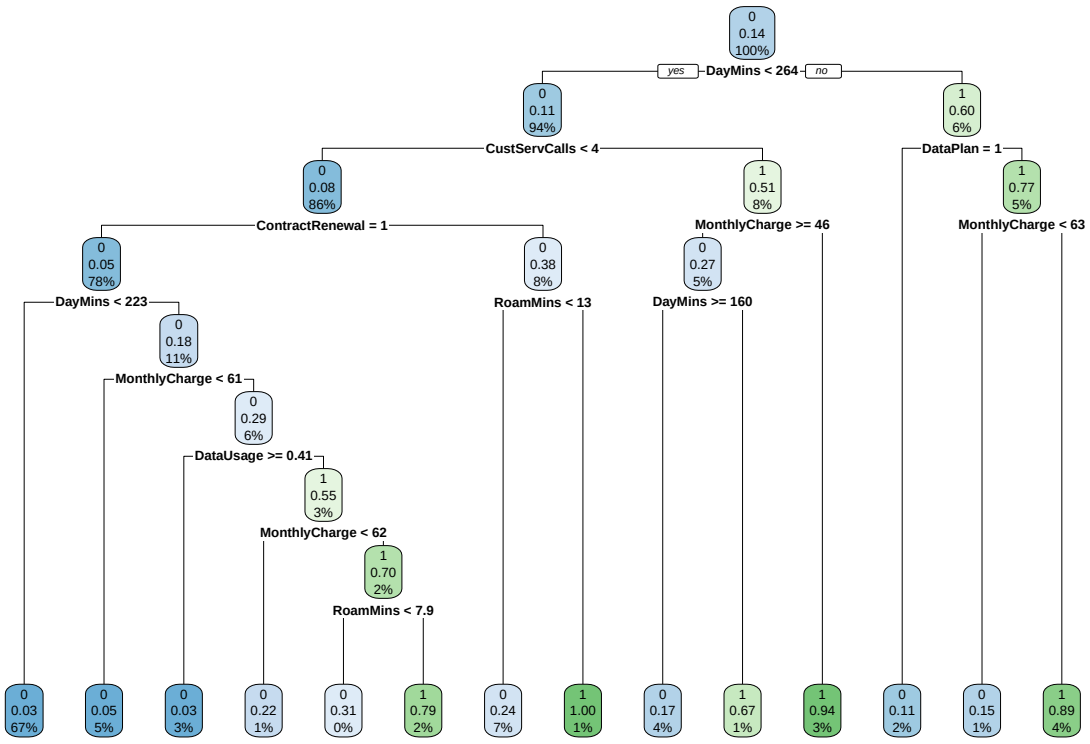
```
##     class counts:    47     6
##    probabilities: 0.887 0.113
##
## Node number 7: 158 observations,    complexity param=0.03726708
##   predicted class=1  expected loss=0.2341772  P(node) =0.04740474
##     class counts:    37   121
##    probabilities: 0.234 0.766
##   left son=14 (26 obs) right son=15 (132 obs)
##   Primary splits:
##       MonthlyCharge < 62.5   to the left,  improve=23.310750, (0 missing)
##       DayMins       < 278.45 to the left,  improve= 4.754541, (0 missing)
##       RoamMins      < 8.35   to the left,  improve= 1.803342, (0 missing)
##       CustServCalls < 0.5    to the right, improve= 1.582592, (0 missing)
##       AccountWeeks  < 108.5  to the left,  improve= 1.255033, (0 missing)
##   Surrogate splits:
##       RoamMins < 3.35   to the left,  agree=0.854, adj=0.115, (0 split)
##
## Node number 8: 2604 observations,    complexity param=0.01501035
##   predicted class=0  expected loss=0.04915515  P(node) =0.7812781
##     class counts:  2476   128
##    probabilities: 0.951 0.049
##   left son=16 (2221 obs) right son=17 (383 obs)
##   Primary splits:
##       DayMins       < 223.25 to the left,  improve=14.804280, (0 missing)
##       MonthlyCharge < 60.55  to the left,  improve= 6.613117, (0 missing)
##       DataUsage     < 0.255  to the right, improve= 1.759110, (0 missing)
##       DataPlan      < 0.5    to the right, improve= 1.063595, (0 missing)
##       DayCalls      < 119.5  to the left,  improve= 0.977995, (0 missing)
##   Surrogate splits:
##       MonthlyCharge < 96.2   to the left,  agree=0.855, adj=0.013, (0 split)
##
## Node number 9: 267 observations,    complexity param=0.04968944
##   predicted class=0  expected loss=0.3782772  P(node) =0.08010801
##     class counts:   166   101
##    probabilities: 0.622 0.378
##   left son=18 (219 obs) right son=19 (48 obs)
##   Primary splits:
##       RoamMins      < 13.1   to the left,  improve=45.240980, (0 missing)
##       DataUsage     < 3.52   to the left,  improve=14.036010, (0 missing)
##       MonthlyCharge < 83.2   to the left,  improve= 3.238829, (0 missing)
##       DayMins       < 220.05 to the left,  improve= 2.335478, (0 missing)
##       DayCalls      < 137.5  to the right, improve= 1.894833, (0 missing)
##   Surrogate splits:
##       DataUsage     < 3.52   to the left,  agree=0.884, adj=0.354, (0 split)
##       MonthlyCharge < 84.4   to the left,  agree=0.835, adj=0.083, (0 split)
##       DayMins       < 51     to the right, agree=0.824, adj=0.021, (0 split)
##
## Node number 10: 163 observations,    complexity param=0.02277433
##   predicted class=0  expected loss=0.2699387  P(node) =0.04890489
##     class counts:   119    44
##    probabilities: 0.730 0.270
##   left son=20 (130 obs) right son=21 (33 obs)
##   Primary splits:
##       DayMins         < 160.2  to the right, improve=13.024890, (0 missing)
```

```
##       MonthlyCharge   < 58.7   to the left,  improve= 8.123448, (0 missing)
##       DataUsage       < 2.095  to the left,  improve= 6.888092, (0 missing)
##       DataPlan        < 0.5    to the left,  improve= 5.717535, (0 missing)
##       ContractRenewal < 0.5    to the right, improve= 2.827270, (0 missing)
##
## Node number 11: 88 observations
##   predicted class=1  expected loss=0.05681818  P(node) =0.02640264
##     class counts:     5    83
##    probabilities: 0.057 0.943
##
## Node number 14: 26 observations
##   predicted class=0  expected loss=0.1538462  P(node) =0.00780078
##     class counts:    22     4
##    probabilities: 0.846 0.154
##
## Node number 15: 132 observations
##   predicted class=1  expected loss=0.1136364  P(node) =0.03960396
##     class counts:    15   117
##    probabilities: 0.114 0.886
##
## Node number 16: 2221 observations
##   predicted class=0  expected loss=0.02701486  P(node) =0.6663666
##     class counts:  2161    60
##    probabilities: 0.973 0.027
##
## Node number 17: 383 observations,    complexity param=0.01501035
##   predicted class=0  expected loss=0.1775457  P(node) =0.1149115
##     class counts:   315    68
##    probabilities: 0.822 0.178
##   left son=34 (175 obs) right son=35 (208 obs)
##   Primary splits:
##       MonthlyCharge < 60.95  to the left,  improve=11.200600, (0 missing)
##       DataUsage     < 1.69   to the right, improve= 6.610650, (0 missing)
##       DataPlan      < 0.5    to the right, improve= 6.313601, (0 missing)
##       DayCalls      < 140.5  to the left,  improve= 1.699119, (0 missing)
##       DayMins       < 244.95 to the left,  improve= 1.695631, (0 missing)
##   Surrogate splits:
##       DataUsage    < 0.345  to the left,  agree=0.736, adj=0.423, (0 split)
##       DataPlan     < 0.5    to the left,  agree=0.728, adj=0.406, (0 split)
##       DayMins      < 242.15 to the left,  agree=0.601, adj=0.126, (0 split)
##       RoamMins     < 7.25   to the left,  agree=0.567, adj=0.051, (0 split)
##       AccountWeeks < 31     to the left,  agree=0.556, adj=0.029, (0 split)
##
## Node number 18: 219 observations
##   predicted class=0  expected loss=0.2420091  P(node) =0.06570657
##     class counts:   166    53
##    probabilities: 0.758 0.242
##
## Node number 19: 48 observations
##   predicted class=1  expected loss=0  P(node) =0.01440144
##     class counts:     0    48
##    probabilities: 0.000 1.000
##
## Node number 20: 130 observations
```

```
##   predicted class=0  expected loss=0.1692308  P(node) =0.0390039
##     class counts:   108    22
##    probabilities: 0.831 0.169
##
## Node number 21: 33 observations
##   predicted class=1  expected loss=0.3333333  P(node) =0.00990099
##     class counts:    11    22
##    probabilities: 0.333 0.667
##
## Node number 34: 175 observations
##   predicted class=0  expected loss=0.04571429  P(node) =0.05250525
##     class counts:   167     8
##    probabilities: 0.954 0.046
##
## Node number 35: 208 observations,    complexity param=0.01501035
##   predicted class=0  expected loss=0.2884615  P(node) =0.06240624
##     class counts:   148    60
##    probabilities: 0.712 0.288
##   left son=70 (105 obs) right son=71 (103 obs)
##   Primary splits:
##       DataUsage     < 0.405  to the right, improve=28.643420, (0 missing)
##       DataPlan      < 0.5    to the right, improve=28.038460, (0 missing)
##       MonthlyCharge < 70.9   to the right, improve=27.760910, (0 missing)
##       DayCalls      < 115    to the left,  improve= 3.569204, (0 missing)
##       RoamMins      < 13.1   to the left,  improve= 2.311974, (0 missing)
##   Surrogate splits:
##       DataPlan      < 0.5    to the right, agree=0.995, adj=0.990, (0 split)
##       MonthlyCharge < 69.9   to the right, agree=0.981, adj=0.961, (0 split)
##       DayMins       < 245.1  to the left,  agree=0.611, adj=0.214, (0 split)
##       AccountWeeks  < 137.5  to the right, agree=0.572, adj=0.136, (0 split)
##       DayCalls      < 86.5   to the right, agree=0.562, adj=0.117, (0 split)
##
## Node number 70: 105 observations
##   predicted class=0  expected loss=0.02857143  P(node) =0.03150315
##     class counts:   102     3
##    probabilities: 0.971 0.029
##
## Node number 71: 103 observations,    complexity param=0.01501035
##   predicted class=1  expected loss=0.4466019  P(node) =0.03090309
##     class counts:    46    57
##    probabilities: 0.447 0.553
##   left son=142 (32 obs) right son=143 (71 obs)
##   Primary splits:
##       MonthlyCharge < 62.05  to the left,  improve=10.397660, (0 missing)
##       RoamMins      < 7.85   to the left,  improve= 4.784517, (0 missing)
##       DayCalls      < 122.5  to the left,  improve= 4.406465, (0 missing)
##       DayMins       < 226.7  to the right, improve= 2.995955, (0 missing)
##       DataUsage     < 0.19   to the right, improve= 2.502839, (0 missing)
##   Surrogate splits:
##       DayCalls  < 66     to the left,  agree=0.709, adj=0.062, (0 split)
##       RoamMins  < 13.85  to the right, agree=0.709, adj=0.062, (0 split)
##       DataUsage < 0.355  to the right, agree=0.699, adj=0.031, (0 split)
##       DayMins   < 262.05 to the right, agree=0.699, adj=0.031, (0 split)
##
```

```
## Node number 142: 32 observations
##   predicted class=0  expected loss=0.21875  P(node) =0.00960096
##     class counts:    25     7
##    probabilities: 0.781 0.219
##
## Node number 143: 71 observations,    complexity param=0.01035197
##   predicted class=1  expected loss=0.2957746  P(node) =0.02130213
##     class counts:    21    50
##    probabilities: 0.296 0.704
##   left son=286 (13 obs) right son=287 (58 obs)
##   Primary splits:
##       RoamMins      < 7.9    to the left,  improve=5.004520, (0 missing)
##       DataUsage     < 0.19   to the right, improve=3.254614, (0 missing)
##       DayCalls      < 107.5  to the left,  improve=2.442818, (0 missing)
##       MonthlyCharge < 65.5   to the left,  improve=2.134328, (0 missing)
##       AccountWeeks  < 135    to the left,  improve=1.303453, (0 missing)
##
## Node number 286: 13 observations
##   predicted class=0  expected loss=0.3076923  P(node) =0.00390039
##     class counts:     9     4
##    probabilities: 0.692 0.308
##
## Node number 287: 58 observations
##   predicted class=1  expected loss=0.2068966  P(node) =0.01740174
##     class counts:    12    46
##    probabilities: 0.207 0.793
```

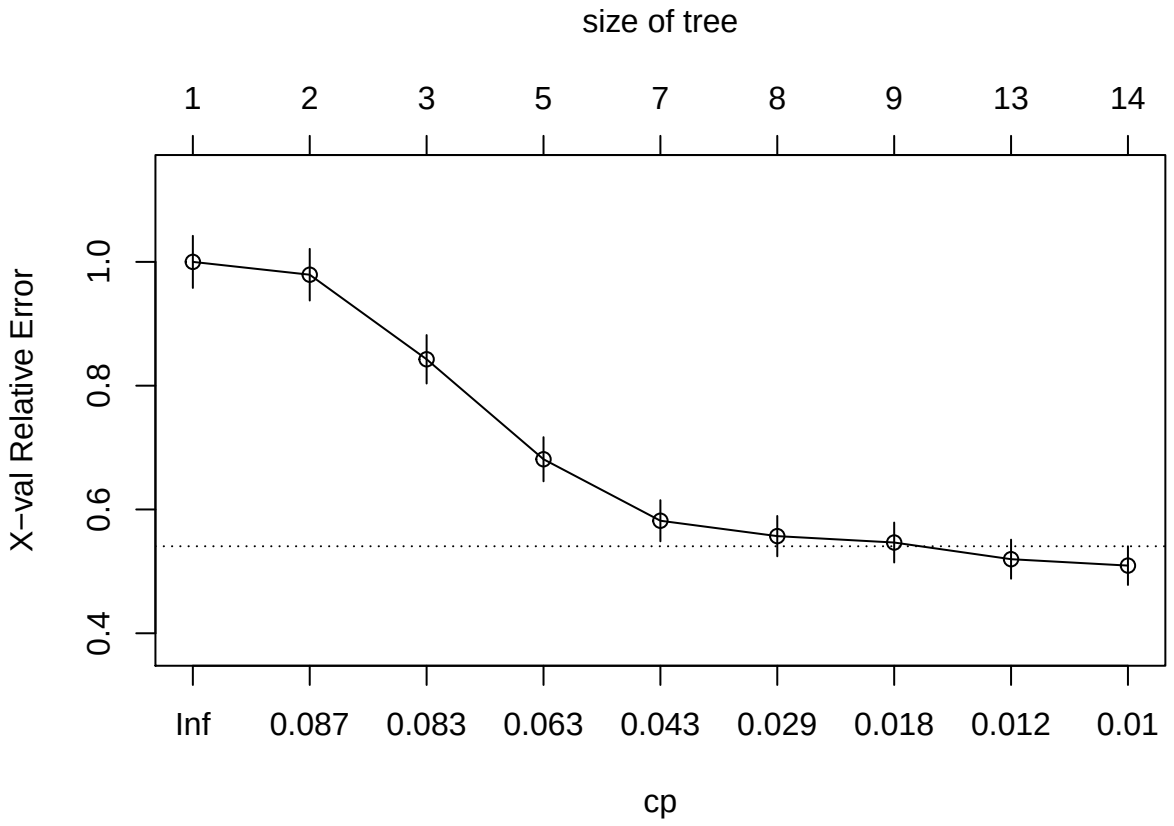
```
rpart.plot(decision_tree_model_new)
```




```
printcp(decision_tree_model_new)
```

```
##
## Classification tree:
## rpart(formula = Churn ~ ., data = train, method = "class")
##
## Variables actually used in tree construction:
## [1] ContractRenewal CustServCalls   DataPlan        DataUsage
## [5] DayMins         MonthlyCharge   RoamMins
##
## Root node error: 483/3333 = 0.14491
##
## n= 3333
##
##         CP nsplit rel error  xerror     xstd
## 1 0.089027      0   1.00000 1.00000 0.042076
## 2 0.084886      1   0.91097 0.97930 0.041711
## 3 0.080745      2   0.82609 0.84265 0.039135
## 4 0.049689      4   0.66460 0.68116 0.035652
## 5 0.037267      6   0.56522 0.58178 0.033211
## 6 0.022774      7   0.52795 0.55694 0.032558
## 7 0.015010      8   0.50518 0.54658 0.032280
## 8 0.010352     12   0.44513 0.51967 0.031542
## 9 0.010000     13   0.43478 0.50932 0.031252
```

```
plotcp(decision_tree_model_new)
```



#Step 3: predict

```
test$Churn_predicted <- predict(decision_tree_model_new, newdata = test, type ="class")
```

#step 4 : evaluate

```
table(test$Churn, test$Churn_predicted)
```

```
##
##        0    1
##   0 2807   43
##   1  167  316
```

```
library(caret)
confusionMatrix(table(test$Churn, test$Churn_predicted))
```

```
## Confusion Matrix and Statistics
##
##
##        0    1
##   0 2807   43
##   1  167  316
```

```
##
##                Accuracy : 0.937
##                  95% CI : (0.9282, 0.945)
##     No Information Rate : 0.8923
##     P-Value [Acc > NIR] : < 2.2e-16
##
##                   Kappa : 0.7154
##
##  Mcnemar's Test P-Value : < 2.2e-16
##
##             Sensitivity : 0.9438
##             Specificity : 0.8802
##          Pos Pred Value : 0.9849
##          Neg Pred Value : 0.6542
##              Prevalence : 0.8923
##          Detection Rate : 0.8422
##    Detection Prevalence : 0.8551
##       Balanced Accuracy : 0.9120
##
##        'Positive' Class : 0
##
```

#tree pruning

#lets find the cp for which cv error would be minimum

```
min(decision_tree_model_new$cptable[,"xerror"])
```

```
## [1] 0.5093168
```

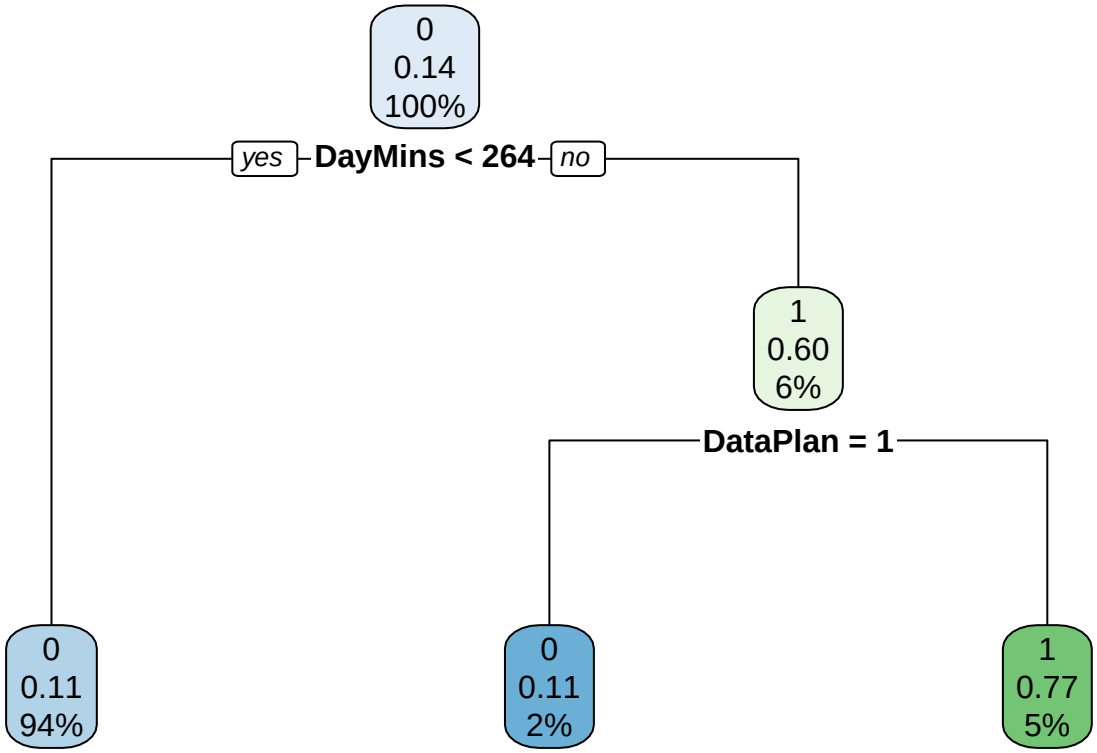
```
which.min(min(decision_tree_model_new$cptable[,"xerror"]))
```

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

```
cpmin <- decision_tree_model_new$cptable[3,"CP"]
```

#Prune with cpmin

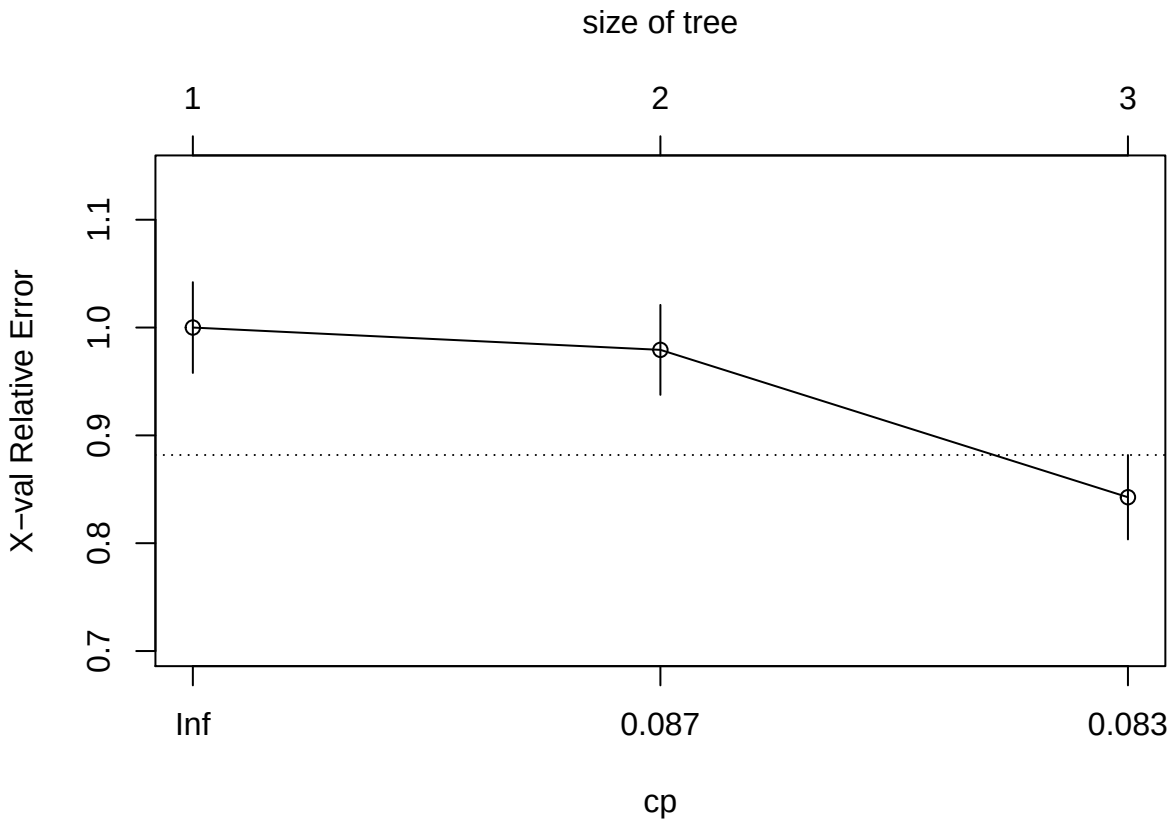
```
dec_tree_pruned <- prune(decision_tree_model_new, cp = cpmin)
rpart.plot(dec_tree_pruned)
```




```
printcp(dec_tree_pruned)
```

```
##
## Classification tree:
## rpart(formula = Churn ~ ., data = train, method = "class")
##
## Variables actually used in tree construction:
## [1] DataPlan DayMins
##
## Root node error: 483/3333 = 0.14491
##
## n= 3333
##
##         CP nsplit rel error  xerror     xstd
## 1 0.089027      0   1.00000 1.00000 0.042076
## 2 0.084886      1   0.91097 0.97930 0.041711
## 3 0.080745      2   0.82609 0.84265 0.039135
```

```
plotcp(dec_tree_pruned)
```



#new prediction

```
test$Churn_predicted <- predict(dec_tree_pruned, newdata = test, type = "class")
table(test$Churn, test$Churn_predicted)
```

```
##
##        0    1
##   0 2813   37
##   1  362  121
```

```
library(caret)
confusionMatrix(table(test$Churn, test$Churn_predicted))
```

```
## Confusion Matrix and Statistics
##
##
##        0    1
##   0 2813   37
##   1  362  121
##
##                Accuracy : 0.8803
##                  95% CI : (0.8688, 0.8911)
##     No Information Rate : 0.9526
##     P-Value [Acc > NIR] : 1
##
```

```
##                  Kappa : 0.3296
##
##  Mcnemar's Test P-Value : <2e-16
##
##             Sensitivity : 0.8860
##             Specificity : 0.7658
##          Pos Pred Value : 0.9870
##          Neg Pred Value : 0.2505
##              Prevalence : 0.9526
##          Detection Rate : 0.8440
##    Detection Prevalence : 0.8551
##       Balanced Accuracy : 0.8259
##
##        'Positive' Class : 0
##
```