Untitled

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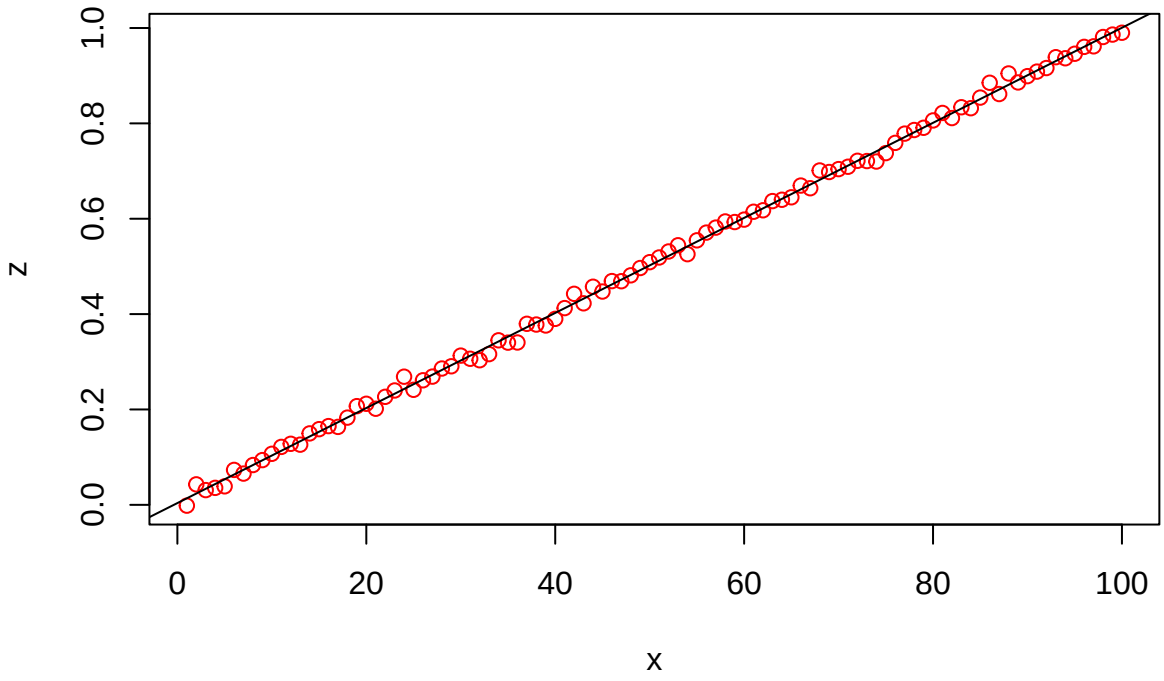
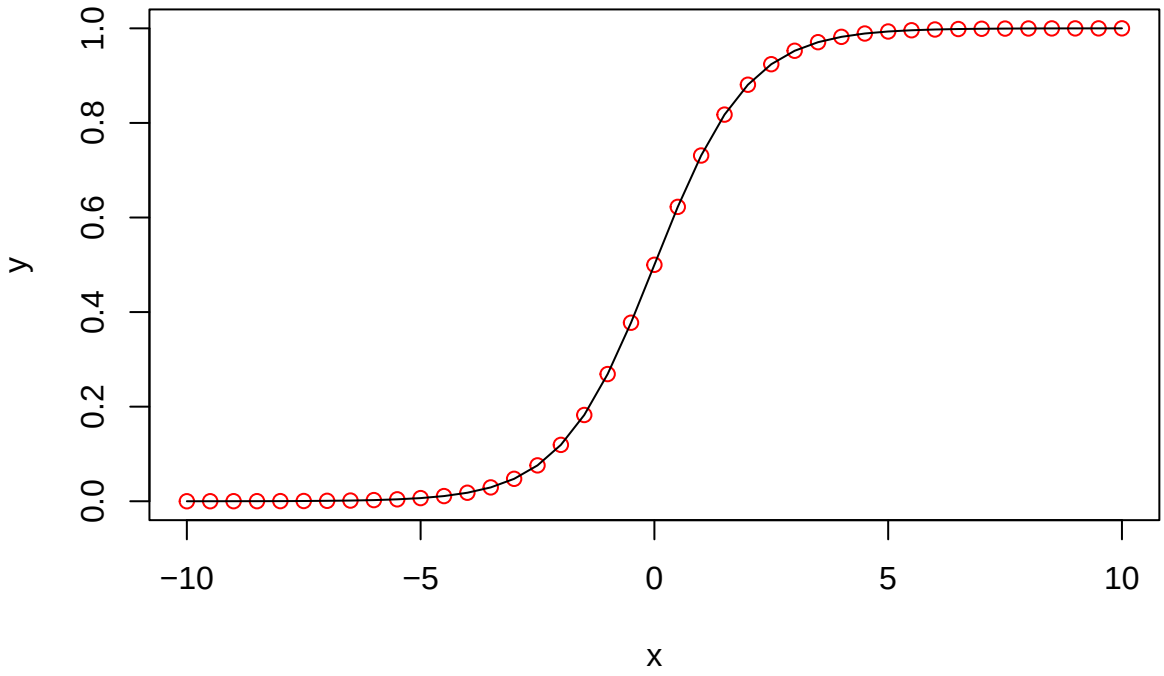
#Modéliser une probabilité

```
x <- 1:100
y <- x/100
z<-rnorm(rep(1,le=100),y,rep(0.01,le=100))
plot(x,z,col="red")
abline(lm(z~x))
```




```
plot(seq(-10,10,0.5),1/(1 + exp(-seq(-10,10,0.5))),xlab="x",ylab="y",col="red")
lines(seq(-10,10,0.5),1/(1 + exp(-seq(-10,10,0.5))))
```



Logit / Probit

```
library(AER)
```

```
## Warning: le package 'AER' a été compilé avec la version R 4.1.3
```

```
## Le chargement a nécessité le package : car
```

```
## Warning: le package 'car' a été compilé avec la version R 4.1.3
```

```
## Le chargement a nécessité le package : carData
```

```
## Warning: le package 'carData' a été compilé avec la version R 4.1.3
```

```
## Le chargement a nécessité le package : lmtest
```

```
## Warning: le package 'lmtest' a été compilé avec la version R 4.1.3
```

```
## Le chargement a nécessité le package : zoo
```

```
## Warning: le package 'zoo' a été compilé avec la version R 4.1.3
```

```
##
## Attachement du package : 'zoo'

## Les objets suivants sont masqués depuis 'package:base':
##
##     as.Date, as.Date.numeric

## Le chargement a nécessité le package : sandwich

## Warning: le package 'sandwich' a été compilé avec la version R 4.1.3

## Le chargement a nécessité le package : survival
```

```
data(HMDA)
HMDA
```

```
##      deny   pirat   hirat      lvrat chist mhist phist unemp selfemp insurance
## 1      no 0.22100 0.22100 0.80000000     5     2    no   3.9      no         no
## 2      no 0.26500 0.26500 0.92187500     2     2    no   3.2      no         no
## 3      no 0.37200 0.24800 0.92039801     1     2    no   3.2      no         no
## 4      no 0.32000 0.25000 0.86046512     1     2    no   4.3      no         no
## 5      no 0.36000 0.35000 0.60000000     1     1    no   3.2      no         no
## 6      no 0.24000 0.17000 0.51052632     1     1    no   3.9      no         no
## 7      no 0.35000 0.29000 0.74666667     1     2    no   3.9      no         no
## 8      no 0.28000 0.22000 0.85000000     2     2    no   1.8      no         no
## 9     yes 0.31000 0.24000 0.89726027     2     2    no   3.1      no        yes
## 10     no 0.18000 0.17000 0.35874439     2     1    no   3.9      no         no
## 11     no 0.28000 0.27000 0.22388060     1     2    no   3.1      no         no
## 12     no 0.31000 0.30000 0.68888889     1     2    no   4.3      no         no
## 13    yes 0.28000 0.27000 0.53763441     1     2    no   4.3      no        yes
## 14     no 0.36000 0.34000 0.64943820     1     1    no  10.6      no         no
## 15     no 0.18000 0.15000 0.36250000     1     1    no   3.2      no         no
## 16     no 0.36000 0.27000 0.83333333     2     1    no   3.2      no         no
## 17     no 0.23000 0.22000 0.64285714     1     1    no   3.2      no         no
## 18     no 0.32000 0.27000 0.43750000     2     1    no   3.2      no         no
## 19     no 0.31000 0.29000 0.79444444     2     2    no   4.3      no         no
## 20     no 0.37000 0.28000 0.80000000     2     2    no   3.1      no         no
## 21    yes 0.37000 0.22000 0.89634146     6     1   yes   3.1      no        yes
## 22     no 0.39000 0.31000 0.87857143     3     2    no   5.3      no         no
## 23     no 0.32000 0.32000 0.77205882     1     2    no  10.6      no         no
## 24     no 0.39000 0.33000 0.90102389     1     2    no   3.2      no         no
## 25     no 0.33000 0.31000 0.65437788     1     2    no   3.9      no         no
## 26     no 0.28000 0.13000 0.62962963     1     2    no   3.2      no         no
## 27     no 0.37000 0.28000 0.89473684     1     2    no   1.8      no         no
## 28     no 0.30000 0.25000 0.48543689     1     2    no   3.2      no         no
## 29     no 0.31000 0.29000 0.94936709     1     2    no   3.9      no         no
## 30     no 0.26000 0.21000 0.89108911     1     2    no   1.8      no         no
## 31     no 0.36000 0.29000 0.86330935     1     2    no   4.3      no         no
## 32     no 0.37000 0.20000 0.71428571     5     1    no   4.3      no         no
## 33     no 0.35000 0.26000 0.75121951     3     2    no   3.6      no         no
## 34     no 0.37000 0.26000 0.90212766     1     2    no   2.0      no         no
## 35     no 0.34000 0.28000 0.84705882     1     2    no   4.3      no         no
```

```
## 36     no 0.38000 0.28000 0.47368421     1     2    no   3.9      no        no
## 37     no 0.44000 0.31000 0.68796992     1     1    no   3.1      no        no
## 38     no 0.35000 0.22000 0.89781022     2     1    no   4.3      no        no
## 39     no 0.38000 0.28000 0.88085106     1     2    no   3.1      no        no
## 40     no 0.37000 0.34000 0.91975309     1     2    no   3.1      no        no
## 41     no 0.37000 0.28000 0.93636364     1     2    no   3.9      no        no
## 42     no 0.41000 0.10000 0.64285714     1     1    no   2.0      no        no
## 43    yes 0.35000 0.34000 1.47826087     1     2    no   3.2      no       yes
## 44    yes 0.41000 0.30000 0.72000000     3     4    no   3.2      no        no
## 45     no 0.34000 0.28000 0.67796610     6     2   yes   3.1      no        no
## 46     no 0.29000 0.19000 0.90000000     2     2    no   3.2      no        no
## 47    yes 0.27000 0.26000 0.80000000     6     2   yes   3.2      no        no
## 48     no 0.37000 0.27000 0.85384615     1     2    no   3.2      no        no
## 49    yes 0.34000 0.30000 0.74193548     1     2    no   3.9     yes        no
## 50     no 0.36000 0.15000 0.67567568     2     1    no   3.1      no        no
## 51     no 0.34000 0.32000 0.64367816     5     3    no   3.2      no        no
## 52     no 0.27000 0.21000 0.94117647     1     2    no   2.0      no        no
## 53     no 0.16000 0.08000 0.73248408     1     1    no   3.2      no        no
## 54     no 0.39000 0.28000 0.91358025     1     2    no   3.1      no        no
## 55     no 0.36000 0.26000 0.20714286     5     2    no   3.2      no        no
## 56     no 0.31400 0.26500 0.93442623     1     2   yes   3.2      no        no
## 57     no 0.34000 0.28000 0.90344828     1     2   yes   3.9      no        no
## 58     no 0.33200 0.28100 0.90243902     2     2    no  10.6      no        no
## 59     no 0.33000 0.33000 0.63694268     1     1    no   4.3     yes        no
## 60     no 0.39900 0.27200 0.76923077     1     2    no  10.6      no        no
## 61     no 0.34200 0.32200 0.75000000     1     2    no   3.2      no        no
## 62     no 0.37600 0.27800 0.80000000     2     1    no   3.2      no        no
## 63     no 0.32100 0.25100 0.88888889     1     2    no   4.3      no        no
## 64     no 0.27900 0.20800 0.75187970     1     2    no   5.3      no        no
## 65     no 0.31700 0.24600 0.89403974     2     2    no   3.2      no        no
## 66     no 0.28500 0.26000 0.65000000     1     2    no   3.9     yes        no
## 67     no 0.36500 0.24000 0.94039735     2     2    no   3.1      no        no
## 68     no 0.33700 0.31400 0.42553191     4     1    no   3.2      no        no
## 69     no 0.35000 0.27000 0.67857143     1     1    no   3.2      no        no
## 70     no 0.35200 0.28900 0.88461538     2     2    no   3.2      no        no
## 71     no 0.35000 0.28000 0.93918919     1     1    no   3.2      no        no
## 72     no 0.34400 0.25100 0.90243902     1     2    no   3.1      no        no
## 73     no 0.28000 0.28000 0.73825503     1     2    no   3.2      no        no
## 74     no 0.37800 0.22500 0.89947090     2     2    no   4.3      no        no
## 75     no 0.25800 0.19400 0.67796610     2     2    no   5.3      no        no
## 76     no 0.21800 0.08200 0.80219780     2     1    no  10.6     yes        no
## 77     no 0.23000 0.17000 0.55307263     1     1    no   3.1      no        no
## 78     no 0.28500 0.28500 0.65156794     1     2    no   3.2      no        no
## 79    yes 0.26500 0.26500 0.83516484     2     2   yes   4.3      no       yes
## 80     no 0.36000 0.24000 0.78431373     1     4    no   5.3      no        no
## 81     no 0.27200 0.27000 0.66666667     1     1    no   2.0      no        no
## 82     no 0.36000 0.22000 0.80113636     2     1    no   3.2     yes        no
## 83    yes 0.31000 0.31000 0.88235294     4     2    no   3.2      no        no
## 84    yes 0.35900 0.28900 0.90298507     2     2    no   4.3      no        no
## 85     no 0.39700 0.24400 0.66037736     2     1    no   3.2      no        no
## 86     no 0.34000 0.26000 0.74675325     2     1    no  10.6     yes        no
## 87    yes 0.21900 0.21300 0.76767677     2     2    no   4.3      no        no
## 88     no 0.32000 0.32000 0.85000000     1     2    no   4.3      no        no
## 89     no 0.32000 0.24000 0.94814815     1     2    no   4.3      no        no
```

```
## 90     no 0.28000 0.28000 0.43478261     1     2    no   2.0      no        no
## 91    yes 0.38800 0.32000 0.88811189     3     2    no   2.0      no        no
## 92     no 0.25000 0.18000 0.78260870     1     2    no   3.2      no        no
## 93     no 0.34000 0.25000 0.80000000     1     1    no  10.6      no        no
## 94     no 0.32000 0.22000 0.73059361     2     2    no   3.2      no        no
## 95     no 0.31200 0.25600 0.79220779     1     2    no   1.8     yes        no
## 96     no 0.33000 0.31000 0.58024691     1     2    no   4.3      no        no
## 97     no 0.32000 0.31000 0.63636364     2     2    no   3.2      no        no
## 98     no 0.38000 0.30000 0.87647059     2     1    no  10.6      no        no
## 99     no 0.32000 0.20000 0.79699248     1     2    no   2.0      no        no
## 100    no 0.23000 0.22000 0.92222222     1     2    no   4.3      no        no
## 101    no 0.27000 0.27000 0.75126904     2     2    no   4.3      no        no
## 102    no 0.31400 0.31400 0.66666667     5     1    no   1.8      no        no
## 103    no 0.35000 0.23000 0.85185185     3     2    no   3.9      no        no
## 104    no 0.32000 0.27000 0.74336283     2     2    no   3.2     yes        no
## 105    no 0.35800 0.10200 0.80000000     1     1    no   3.9      no        no
## 106   yes 0.35000 0.33000 0.92968750     1     2    no   3.9      no       yes
## 107    no 0.34000 0.24000 0.92253521     3     2    no   3.1      no        no
## 108    no 0.31000 0.22000 0.80000000     2     2    no  10.6     yes        no
## 109    no 0.29000 0.21000 0.70322581     3     3    no   3.1      no        no
## 110   yes 0.61000 0.39000 0.55555556     1     2    no  10.6      no        no
## 111    no 0.26300 0.22600 0.62540717     1     1    no   3.2      no        no
## 112    no 0.26200 0.25800 0.68702290     2     2    no   4.3      no        no
## 113    no 0.36000 0.28900 0.78750000     1     2    no   3.2      no        no
## 114   yes 0.46000 0.31000 1.10555556     2     1    no   4.3     yes        no
## 115    no 0.30500 0.21800 0.66666667     1     2    no   3.2      no        no
## 116    no 0.38400 0.28000 0.50666667     2     2    no   3.9      no        no
## 117    no 0.26400 0.21500 0.78817734     1     2    no  10.6     yes        no
## 118    no 0.33000 0.30900 0.30232558     1     1    no   3.2      no        no
## 119   yes 0.47000 0.31000 0.89261745     3     2    no   3.2     yes        no
## 120    no 0.19000 0.18000 0.73888889     1     2    no   1.8      no        no
## 121    no 0.30000 0.30000 0.89473684     4     2    no   4.3      no        no
## 122    no 0.36000 0.26000 0.73863636     1     1    no   3.9      no        no
## 123    no 0.33000 0.26000 0.70000000     1     2    no   3.9      no        no
## 124    no 0.23000 0.23000 0.73684211     1     2    no   3.1      no        no
## 125    no 0.41000 0.34000 0.80000000     3     1    no   3.2      no        no
## 126    no 0.36000 0.30000 0.95061728     2     2    no   1.8      no        no
## 127   yes 0.41000 0.33000 0.69459459     1     2    no   1.8      no        no
## 128    no 0.33000 0.33000 0.68181818     1     2    no   5.3      no        no
## 129   yes 0.29000 0.29000 0.57142857     6     2   yes   1.8      no        no
## 130    no 0.41000 0.28000 0.78678679     1     1    no   3.1      no        no
## 131    no 0.33000 0.28000 0.89787234     1     2    no   3.6      no        no
## 132    no 0.23000 0.19000 0.88917526     1     1    no   3.2      no        no
## 133    no 0.39000 0.34000 0.71703704     1     1    no   3.2     yes        no
## 134    no 0.39000 0.15000 0.79846939     5     1    no   3.2     yes        no
## 135    no 0.27000 0.24000 0.80000000     1     1    no   3.2      no        no
## 136    no 0.38400 0.14200 0.80000000     1     1    no   4.3     yes        no
## 137    no 0.38200 0.27700 0.80412371     6     2    no   3.9      no        no
## 138    no 0.37000 0.26100 0.58130081     1     2    no   3.2      no        no
## 139    no 0.32500 0.32300 0.78191489     4     2    no   3.2      no        no
## 140    no 0.39800 0.35800 0.64285714     1     1    no   3.2      no        no
## 141    no 0.39500 0.30600 0.80000000     2     2    no   3.2      no        no
## 142    no 0.40700 0.33700 0.74893617     1     2    no   3.2      no        no
## 143    no 0.30100 0.19900 0.77906977     1     2    no   1.8      no        no
```

```
## 144    no 0.36500 0.31800 0.90000000     1     2    no   3.2      no        no
## 145    no 0.26600 0.25700 0.79775281     1     2    no   3.2      no        no
## 146    no 0.26800 0.24200 0.89473684     1     2    no   3.2      no        no
## 147    no 0.26900 0.22600 0.79878049     1     2    no   3.9      no        no
## 148    no 0.40900 0.31500 0.88785047     6     2    no   3.2      no        no
## 149    no 0.30800 0.28000 0.58139535     6     2    no   3.2      no        no
## 150    no 0.31100 0.31100 0.66666667     5     2    no   3.2      no        no
## 151    no 0.36000 0.30000 0.86274510     1     2    no   1.8      no        no
## 152    no 0.39000 0.31000 0.81333333     2     2    no   3.2      no        no
## 153    no 0.32000 0.32000 0.73230769     1     2    no   3.2      no        no
## 154    no 0.18000 0.16000 0.31481481     1     2    no   5.3      no        no
## 155    no 0.34000 0.27000 0.37980769     6     2    no   1.8      no        no
## 156    no 0.32800 0.32800 0.86896552     1     2    no   3.1      no        no
## 157   yes 0.38380 0.28940 0.98795181     6     2    no   3.2      no        no
## 158    no 0.33800 0.25300 0.90000000     6     2    no   3.2      no        no
## 159    no 0.28100 0.27100 0.46750000     1     2    no   3.2      no        no
## 160   yes 0.39230 0.33380 0.90225564     6     2   yes   4.3      no        no
## 161    no 0.36300 0.20900 0.47138047     1     1    no   3.2      no        no
## 162    no 0.24580 0.23080 0.31111111     1     1    no   2.0      no        no
## 163    no 0.38210 0.33090 0.79729730     1     2    no   3.2      no        no
## 164    no 0.32000 0.28000 0.65000000     1     1    no   2.0      no        no
## 165    no 0.28600 0.25500 0.65000000     5     2    no   2.0      no        no
## 166    no 0.26600 0.21000 0.55555556     2     1    no   1.8      no        no
## 167    no 0.31500 0.28700 0.90131579     1     1    no   3.2      no        no
## 168    no 0.30470 0.23900 0.47826087     1     2    no   3.6      no        no
## 169    no 0.33800 0.29200 0.90285714     1     2    no   3.2      no        no
## 170    no 0.36600 0.27300 0.65178571     1     2    no   3.2      no        no
## 171    no 0.37100 0.24500 0.59322034     1     2    no   3.2     yes        no
## 172    no 0.38100 0.31900 0.31558185     1     2    no   3.6      no        no
## 173    no 0.35000 0.31000 0.89855072     1     2    no   3.9      no        no
## 174    no 0.34000 0.29000 0.95238095     2     2    no   5.3      no        no
## 175    no 0.26520 0.21250 0.89108911     6     2    no   3.6      no        no
## 176    no 0.35000 0.26000 0.90000000     2     2    no   3.2      no        no
## 177   yes 0.39000 0.26000 0.90225564     6     2    no   3.2      no        no
## 178   yes 0.39000 0.24000 0.77966102     2     2    no   4.3     yes        no
## 179    no 0.30000 0.17000 0.40217391     1     1    no   3.1      no        no
## 180    no 0.29000 0.29000 0.70909091     1     1    no   1.8      no        no
## 181    no 0.35000 0.34000 0.80148423     1     2    no   3.6      no        no
## 182    no 0.39000 0.27000 0.83333333     1     1    no   2.0      no        no
## 183    no 0.36000 0.28000 0.90370370     6     2    no   3.9      no        no
## 184    no 0.26000 0.26000 0.73611111     1     1    no   1.8      no        no
## 185    no 0.36000 0.23000 0.74218750     1     1    no   3.2      no        no
## 186    no 0.27000 0.22000 0.77401130     1     2    no   3.9      no        no
## 187    no 0.35700 0.20000 0.80000000     5     2    no   3.1      no        no
## 188    no 0.30000 0.19700 0.88349515     1     2    no   3.1      no        no
## 189    no 0.39000 0.29000 0.90566038     1     2    no   2.0      no        no
## 190    no 0.31000 0.30000 0.89795918     1     2    no   1.8      no        no
## 191   yes 0.43000 0.21000 0.56250000     2     1    no   3.2     yes        no
## 192   yes 0.40000 0.26000 0.53146853     6     2   yes   3.2      no       yes
## 193    no 0.34000 0.23000 0.88392857     6     2    no   3.1      no        no
## 194   yes 0.40600 0.40600 0.89830508     4     2    no   3.6     yes        no
## 195   yes 0.23000 0.13000 0.33816425     1     2    no   3.6      no        no
## 196   yes 0.73000 0.37000 0.45627376     1     1    no   3.2     yes        no
## 197    no 0.38000 0.35000 0.57723577     1     2    no   2.0      no        no
```

```
## 198    no 0.38300 0.36090 0.60800000     1     2    no   3.1      no        no
## 199    no 0.32000 0.22100 0.89719626     1     2    no  10.6      no        no
## 200    no 0.29300 0.25000 0.85217391     1     2    no   3.9      no        no
## 201    no 0.24030 0.23500 0.25641026     1     2    no   1.8      no        no
## 202    no 0.19400 0.11500 0.72777778     2     2    no   3.2      no        no
## 203    no 0.29400 0.25900 0.57377049     6     2    no   1.8      no        no
## 204    no 0.38200 0.26900 0.60800000     2     2    no   3.2      no        no
## 205    no 0.37980 0.27960 0.60800000     6     2    no   3.2     yes        no
## 206    no 0.33590 0.21940 0.80985915     1     2    no   3.2      no        no
## 207    no 0.39030 0.27720 0.60800000     6     2    no   3.9      no        no
## 208    no 0.39280 0.30380 0.80000000     6     2    no   3.9      no        no
## 209    no 0.28000 0.28000 0.82608696     5     2    no   3.6      no        no
## 210    no 0.31000 0.26000 0.89682540     1     2    no   3.6      no        no
## 211    no 0.38410 0.20910 0.80000000     1     2    no   3.6     yes        no
## 212    no 0.33400 0.28600 0.88965517     1     2    no   3.9      no        no
## 213    no 0.29000 0.26000 0.89247312     1     2    no   3.9      no        no
## 214    no 0.33090 0.30050 0.74576271     1     2    no   1.8      no        no
## 215    no 0.33690 0.32140 0.93333333     1     2    no   2.0      no        no
## 216    no 0.34230 0.31400 0.86124402     1     2    no  10.6      no        no
## 217   yes 0.30270 0.25770 0.95454545     5     2    no   3.9      no        no
## 218    no 0.31910 0.26520 0.79245283     1     2    no   3.1      no        no
## 219    no 0.24630 0.21100 0.68807339     1     2    no   4.3      no        no
## 220    no 0.28600 0.25270 0.75348837     2     2    no  10.6     yes        no
## 221    no 0.27000 0.27000 0.79787234     6     2    no   3.2      no        no
## 222    no 0.28200 0.25120 0.90000000     2     2    no   4.3     yes        no
## 223    no 0.32440 0.29180 0.56479691     1     1    no   1.8     yes        no
## 224    no 0.34800 0.18890 0.73796791     2     2    no   3.9     yes        no
## 225    no 0.29600 0.29600 0.47923323     4     2    no   1.8      no        no
## 226    no 0.31980 0.26270 0.53225806     5     1    no   3.2      no        no
## 227    no 0.40010 0.27880 0.40784314     1     2    no   3.2     yes        no
## 228    no 0.27630 0.25440 0.74850299     2     2    no   2.0      no        no
## 229    no 0.35240 0.28990 0.74809160     2     2    no   3.9      no        no
## 230    no 0.12380 0.12180 0.69306931     1     2    no   1.8      no        no
## 231    no 0.34000 0.27000 1.90833333     1     2    no   3.1      no        no
## 232    no 0.21160 0.18180 0.51612903     1     2    no  10.6     yes        no
## 233    no 0.28260 0.27520 0.47117794     1     1    no   1.8      no        no
## 234    no 0.28900 0.28460 0.74074074     1     1    no   3.2      no        no
## 235    no 0.30000 0.25000 0.77127660     5     1    no  10.6      no        no
## 236    no 0.36000 0.28000 0.73593074     3     2    no   3.1      no        no
## 237    no 0.32000 0.27000 0.56410256     1     1    no   3.9      no        no
## 238   yes 0.32000 0.32000 0.68750000     1     1    no   3.2      no        no
## 239    no 0.26000 0.20000 0.73571429     5     1    no   3.2      no        no
## 240    no 0.26000 0.21000 0.70754717     2     1    no   3.6      no        no
## 241   yes 0.32000 0.26000 0.79444444     2     1    no   1.8     yes        no
## 242    no 0.42000 0.33000 0.80000000     3     3   yes   3.2      no        no
## 243    no 0.34000 0.33000 0.64341085     5     2    no   1.8      no        no
## 244    no 0.37000 0.34000 0.87755102     1     2    no   3.1      no        no
## 245    no 0.29000 0.28000 0.59259259     1     2    no   2.0      no        no
## 246    no 0.35000 0.31000 0.72000000     1     2    no   1.8      no        no
## 247    no 0.40000 0.27000 0.80000000     1     2    no   4.3      no        no
## 248    no 0.36000 0.30000 0.92631579     1     2    no   3.2      no        no
## 249    no 0.38000 0.27000 0.70454545     1     1    no   3.9      no        no
## 250    no 0.37000 0.26000 0.57777778     1     1    no   2.0      no        no
## 251    no 0.41000 0.23000 0.70566038     1     1    no   1.8      no        no
```

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## 252    no 0.32000 0.31000 0.27777778     1     2    no   3.2      no         no
## 253    no 0.33000 0.26000 0.94623656     1     2    no   4.3      no         no
## 254    no 0.33000 0.26000 0.81764706     1     2    no  10.6      no         no
## 255    no 0.29000 0.21000 0.31250000     1     2    no   3.2      no         no
## 256    no 0.37000 0.11000 0.34090909     6     1    no   3.2     yes         no
## 257    no 0.36000 0.20000 0.89880952     6     2   yes   5.3      no         no
## 258    no 0.37000 0.30000 0.76470588     1     2    no   3.6      no         no
## 259    no 0.30000 0.30000 0.52941176     1     1    no   5.3      no         no
## 260    no 0.34000 0.34000 0.81176471     1     2    no   3.6      no         no
## 261    no 0.42000 0.26000 0.75000000     2     2    no   3.2     yes         no
## 262    no 0.20000 0.08000 0.11111111     1     1    no   3.2      no         no
## 263    no 0.30000 0.29000 0.53333333     2     1    no   3.1      no         no
## 264    no 0.38000 0.27000 0.93437500     2     1    no   3.2      no         no
## 265    no 0.34000 0.31000 0.92121212     6     2    no   5.3      no         no
## 266    no 0.29000 0.26000 0.66785714     1     1    no   4.3     yes         no
## 267    no 0.32000 0.29000 0.91666667     1     2    no   3.1      no         no
## 268    no 0.36000 0.30000 0.94375000     2     2    no   3.2      no         no
## 269    no 0.41000 0.30000 0.65217391     1     1    no   3.2      no         no
## 270    no 0.32000 0.28000 0.47445255     1     2    no   1.8      no         no
## 271    no 0.38000 0.31000 0.82400000     1     2    no  10.6      no         no
## 272    no 0.20000 0.04000 0.48507463     3     1    no   3.6      no         no
## 273    no 0.28000 0.22000 0.92307692     4     2    no   3.1      no         no
## 274    no 0.25000 0.25000 0.55555556     4     2    no   3.1      no         no
## 275    no 0.29000 0.28000 0.57538462     1     2    no   3.2      no         no
## 276   yes 0.49000 0.37000 0.91558442     2     1    no   3.2      no         no
## 277    no 0.33000 0.24000 0.88947368     1     2    no   3.1      no         no
## 278    no 0.45000 0.21000 0.80158730     2     1    no   3.1      no         no
## 279   yes 0.41000 0.35000 0.92258065     1     2    no   4.3      no        yes
## 280    no 0.35000 0.28000 0.83870968     1     2    no   3.1      no         no
## 281    no 0.35000 0.30000 0.35087719     2     3    no   3.9      no         no
## 282    no 0.08000 0.07000 0.73298429     1     2    no   3.9     yes         no
## 283    no 0.25000 0.25000 0.50370370     1     2    no   4.3      no         no
## 284    no 0.48000 0.15000 0.72666667     1     2    no   4.3      no         no
## 285    no 0.36000 0.01000 1.46511628     1     2    no   1.8     yes         no
## 286    no 0.32000 0.31000 0.84057971     1     2    no  10.6      no         no
## 287    no 0.27000 0.20000 0.84388186     1     2    no  10.6      no         no
## 288    no 0.34000 0.27000 0.79310345     1     1    no   3.2      no         no
## 289    no 0.33000 0.30000 0.78467153     6     2   yes   3.2      no         no
## 290    no 0.28000 0.33000 0.62857143     1     2   yes   3.2      no         no
## 291    no 0.34000 0.26000 0.89887640     2     1    no   3.2      no         no
## 292    no 0.37000 0.36000 0.75616438     1     2    no   3.2      no         no
## 293    no 0.30000 0.26000 0.73456790     4     2    no   3.2      no         no
## 294    no 0.36000 0.33000 0.68877551     1     2    no   1.8      no         no
## 295    no 0.35510 0.19980 0.50143266     3     4    no   3.6     yes         no
## 296    no 0.25000 0.19000 0.73142857     2     2    no   3.2     yes         no
## 297    no 0.14000 0.13000 0.34965035     4     1    no   1.8      no         no
## 298    no 0.44000 0.20000 0.41666667     1     1    no  10.6     yes         no
## 299    no 0.45000 0.30000 1.14814815     1     2    no   3.2      no         no
## 300    no 0.37000 0.26000 0.80246914     1     2    no  10.6     yes         no
## 301    no 0.34000 0.30000 0.79740260     1     1    no   4.3      no         no
## 302    no 0.27040 0.16750 0.78698225     3     3    no   3.1      no         no
## 303    no 0.23000 0.23000 0.63535912     2     2    no   5.3      no         no
## 304    no 0.34000 0.29000 0.94656489     1     2    no   3.2      no         no
## 305    no 0.33000 0.26000 0.72789116     2     2    no   5.3      no         no
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## 306    no 0.37500 0.26970 0.78571429     1     2    no   3.2      no        no
## 307    no 0.33570 0.32460 0.77368421     1     1    no   2.0      no        no
## 308    no 0.27790 0.00085 0.62857143     1     2    no   3.2      no        no
## 309    no 0.41000 0.12000 0.48888889     1     1    no   3.6      no        no
## 310    no 0.36290 0.30150 0.51666667     1     1    no   3.2      no        no
## 311    no 0.30880 0.22560 0.78235294     1     2    no   3.1      no        no
## 312    no 0.36600 0.28200 0.71851852     1     2    no   4.3      no        no
## 313    no 0.31490 0.25790 0.87591241     1     2    no   4.3      no        no
## 314    no 0.27520 0.20330 0.80952381     1     1    no   3.6      no        no
## 315    no 0.35000 0.20000 0.50387597     3     1    no   5.3      no        no
## 316    no 0.33270 0.26770 0.71428571     1     2    no   3.6      no        no
## 317    no 0.32000 0.26000 0.46948357     3     3    no  10.6      no        no
## 318   yes 0.26420 0.25850 0.78333333     1     1    no   3.2      no       yes
## 319   yes 0.33970 0.17820 0.50000000     2     1    no  10.6      no        no
## 320   yes 0.33970 0.17820 0.50000000     2     1    no  10.6      no        no
## 321    no 0.36060 0.28020 0.71851852     1     2    no   3.6      no        no
## 322    no 0.37680 0.20200 0.88405797     1     1    no   1.8     yes        no
## 323    no 0.30100 0.27800 0.86153846     2     2    no   3.2      no        no
## 324    no 0.54000 0.54000 0.75000000     4     2    no   3.2      no        no
## 325    no 0.35100 0.33700 0.62349398     4     2    no   3.1      no        no
## 326    no 0.38900 0.27100 0.91923077     6     2    no   3.1      no        no
## 327   yes 0.43000 0.32000 0.79404467     6     3    no   3.2     yes        no
## 328   yes 0.43000 0.43000 0.79800499     2     2   yes   3.9     yes        no
## 329    no 0.15000 0.05000 0.65806452     6     1    no  10.6      no        no
## 330    no 0.34000 0.28000 0.89583333     1     2    no   4.3      no        no
## 331    no 0.31000 0.21000 0.70000000     2     1    no   1.8      no        no
## 332    no 0.37000 0.28000 0.91139241     2     2    no   3.2      no        no
## 333    no 0.31000 0.27000 0.88321168     1     2    no   5.3      no        no
## 334    no 0.30000 0.20000 0.89473684     1     2    no   3.2      no        no
## 335    no 0.16000 0.16000 0.20304569     1     1    no  10.6      no        no
## 336    no 0.36000 0.23000 0.84328358     1     2    no   3.1      no        no
## 337    no 0.36000 0.28000 0.73421053     1     2    no   2.0      no        no
## 338    no 0.40000 0.30000 0.69536424     1     2    no   3.9      no        no
## 339    no 0.37000 0.30000 0.84158416     1     2    no   3.2      no        no
## 340    no 0.28000 0.22000 0.47368421     1     1    no   3.2     yes        no
## 341    no 0.43000 0.35000 0.51470588     5     2   yes   3.2      no        no
## 342    no 0.36000 0.27000 0.86338798     1     1   yes   3.2      no        no
## 343    no 0.24000 0.24000 0.63106796     1     2    no   4.3     yes        no
## 344    no 0.47000 0.47000 0.65107914     1     1    no   4.3     yes        no
## 345    no 0.08000 0.08000 0.64383562     4     2    no   3.2      no        no
## 346    no 0.24000 0.23000 0.56666667     1     1    no   5.3      no        no
## 347    no 0.22000 0.21000 0.65317919     1     2    no   3.2      no        no
## 348    no 0.14000 0.12000 0.32000000     1     1    no   3.2      no        no
## 349    no 0.21000 0.16000 0.28925620     1     1    no   3.1      no        no
## 350    no 0.00000 0.29000 0.62949640     1     1    no   3.1      no        no
## 351   yes 0.21020 0.20700 0.78333333     1     2    no   3.1      no        no
## 352    no 0.39450 0.33230 0.14769231     1     1    no   3.9      no        no
## 353    no 0.30000 0.26000 0.62500000     1     2    no   3.2      no        no
## 354    no 0.36000 0.29000 0.80000000     2     2    no   3.2      no        no
## 355    no 0.28000 0.27000 0.55102041     2     1    no   4.3      no        no
## 356    no 0.26000 0.24000 0.79687500     1     2    no   3.9      no        no
## 357    no 0.28000 0.21000 0.68888889     2     2    no   3.9      no        no
## 358    no 0.30440 0.19800 0.32894737     2     1    no   3.2     yes        no
## 359    no 0.31360 0.28760 0.30674847     2     1    no   4.3      no        no
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## 360    no 0.30230 0.26340 0.76190476     5     2    no   3.1      no        no
## 361    no 0.19950 0.17620 0.45333333     2     1    no   3.2      no        no
## 362    no 0.27450 0.17220 0.71428571     6     2    no   3.2      no        no
## 363   yes 0.31800 0.31200 0.80291971     3     2    no   2.0      no        no
## 364    no 0.45000 0.23800 0.60000000     6     1    no   1.8      no        no
## 365    no 0.35690 0.18090 0.70000000     1     1    no   3.1      no        no
## 366    no 0.25400 0.24300 0.66350711     1     1    no   4.3      no        no
## 367    no 0.24060 0.22850 0.40000000     1     2    no   3.6      no        no
## 368    no 0.28000 0.27000 0.33870968     1     1    no   1.8      no        no
## 369   yes 0.41680 0.32600 1.18243243     5     1    no   3.2     yes        no
## 370   yes 0.38860 0.38860 0.62727273     2     3    no  10.6      no        no
## 371   yes 0.34080 0.22540 0.73142857     2     2    no   3.2      no        no
## 372    no 0.27000 0.21000 0.83193277     1     2    no   2.0      no        no
## 373   yes 0.35000 0.27000 0.88439306     1     2    no   3.9      no        no
## 374    no 0.35000 0.29000 0.55038760     1     2    no   2.0      no        no
## 375    no 0.32000 0.23000 0.80000000     3     2    no   3.1      no        no
## 376   yes 0.32000 0.28000 0.80000000     1     2    no   3.2      no        no
## 377    no 0.37000 0.30000 0.90400000     1     2    no   3.9      no        no
## 378    no 0.35000 0.26000 0.90229885     6     2   yes   3.2      no        no
## 379    no 0.44000 0.32000 0.90434783     6     2   yes   3.2      no        no
## 380    no 0.40000 0.29000 0.89256198     6     2   yes   1.8      no        no
## 381    no 0.29000 0.27000 0.71428571     1     2    no   1.8      no        no
## 382    no 0.41000 0.27000 0.95200000     5     2   yes   3.2      no        no
## 383    no 0.25000 0.22000 0.83333333     3     2    no  10.6      no        no
## 384    no 0.40000 0.23000 0.80000000     5     1    no   3.2      no        no
## 385    no 0.43000 0.26000 0.91044776     5     2   yes   1.8     yes        no
## 386    no 0.41000 0.26000 0.89944134     6     2   yes   2.0      no        no
## 387    no 0.49000 0.28000 0.88188976     5     2    no   3.2      no        no
## 388    no 0.41000 0.28000 0.79389313     1     2    no   1.8      no        no
## 389    no 0.26000 0.26000 0.63716814     2     4    no   3.2     yes        no
## 390   yes 0.36700 0.23000 0.80468750     6     2   yes   1.8      no        no
## 391    no 0.39000 0.39000 0.21505376     1     2    no   3.2      no        no
## 392    no 0.37000 0.30000 0.62500000     1     2    no   3.6      no        no
## 393    no 0.33000 0.28000 0.02000000     1     2    no   3.9      no        no
## 394    no 0.28000 0.26000 0.78125000     3     2    no   3.2      no        no
## 395    no 0.36000 0.31000 0.78125000     1     2    no   4.3      no        no
## 396    no 0.35000 0.32000 0.65631068     2     1    no  10.6      no        no
## 397    no 0.32000 0.25000 0.78014184     1     2    no   4.3      no        no
## 398    no 0.38000 0.23000 0.20000000     1     2    no   3.2      no        no
## 399    no 0.35000 0.29000 0.84722222     1     2    no   4.3      no        no
## 400    no 0.36000 0.27000 0.54726368     1     1    no   3.2      no        no
## 401    no 0.25000 0.25000 0.64041096     1     2    no   3.1      no        no
## 402    no 0.47000 0.34000 0.88188976     2     2    no   4.3      no        no
## 403   yes 0.18000 0.13000 0.78571429     6     2    no   2.0      no        no
## 404    no 0.29000 0.28000 0.73863636     1     2    no   3.2      no        no
## 405    no 0.25000 0.24000 0.65697674     1     2    no   3.9      no        no
## 406    no 0.26000 0.20000 0.60714286     2     2    no   5.3      no        no
## 407    no 0.29000 0.23000 0.39501779     2     2    no   3.2      no        no
## 408    no 0.29000 0.22000 0.71724138     1     2    no  10.6     yes        no
## 409    no 0.27000 0.27000 0.74033149     2     2    no   3.2      no        no
## 410    no 0.29000 0.24000 0.63451777     1     1    no  10.6      no        no
## 411   yes 0.21000 0.21000 0.61290323     2     2   yes  10.6      no        no
## 412    no 0.95000 0.44000 0.54705882     6     3    no  10.6     yes        no
## 413    no 0.25000 0.20000 0.93023256     1     2    no   4.3      no        no
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## 414    no 0.22000 0.22000 0.61744966     2     2    no   4.3      no        no
## 415    no 0.37000 0.29000 0.70229008     1     1    no   3.2      no        no
## 416    no 0.40000 0.27000 0.91851852     2     2    no   4.3      no        no
## 417    no 0.29000 0.28000 0.69696970     1     2    no   4.3      no        no
## 418   yes 0.36000 0.24000 1.00000000     1     2    no   3.2      no        no
## 419    no 0.32000 0.21000 0.73033708     1     2    no   4.3      no        no
## 420    no 0.38000 0.24000 0.43478261     2     2    no   3.2     yes        no
## 421   yes 0.37000 0.37000 0.65326633     2     1    no   4.3     yes        no
## 422    no 0.40000 0.28000 0.64016736     1     2    no   3.1      no        no
## 423    no 0.24000 0.10000 0.57142857     2     2    no   1.8      no        no
## 424    no 0.37000 0.27000 0.40145985     2     1    no   3.1     yes        no
## 425    no 0.35000 0.18000 0.80291971     2     2    no  10.6      no        no
## 426    no 0.41000 0.07000 0.78688525     2     1    no   3.6      no        no
## 427    no 0.41000 0.33000 0.66666667     2     2    no   3.1      no        no
## 428    no 0.32000 0.32000 0.75409836     4     2    no   4.3      no        no
## 429    no 0.34000 0.31000 0.90400000     1     2    no   3.2      no        no
## 430    no 0.39000 0.30000 0.83941606     2     2    no  10.6      no        no
## 431    no 0.23900 0.21800 0.16279070     5     2    no   3.2      no        no
## 432    no 0.33100 0.26200 0.40625000     1     2    no   8.9     yes        no
## 433    no 0.35500 0.33100 0.55555556     6     1    no   3.1      no        no
## 434    no 0.40890 0.27290 0.89600000     5     2    no   3.9      no        no
## 435    no 0.16500 0.05400 0.10256410     1     1    no   3.1      no        no
## 436    no 0.30700 0.23100 0.49122807     1     2    no   3.2      no        no
## 437    no 0.23500 0.22600 0.67982456     1     1    no   3.2      no        no
## 438    no 0.31300 0.28800 0.55309735     1     2    no   3.2      no        no
## 439    no 0.26600 0.18300 0.66935484     2     2    no   5.3      no        no
## 440    no 0.23100 0.23100 0.74766355     4     2    no   3.1     yes        no
## 441    no 0.30400 0.20300 0.57870370     1     2    no   1.8      no        no
## 442    no 0.34700 0.28900 0.52282158     1     1    no   1.8      no        no
## 443    no 0.35100 0.34600 0.48476454     1     2    no   3.6     yes        no
## 444    no 0.32100 0.24400 0.94520548     1     2   yes   3.9      no        no
## 445    no 0.38100 0.22800 0.55364807     1     1    no   4.3      no        no
## 446   yes 0.47200 0.30400 0.86956522     2     2    no   2.0      no        no
## 447   yes 0.42500 0.34500 0.95135135     6     4    no   1.8      no        no
## 448    no 0.31900 0.31500 0.79838710     1     1    no   3.1      no        no
## 449    no 0.06990 0.06990 0.48076923     5     2    no   3.2     yes        no
## 450    no 0.34100 0.34100 0.93877551     4     2    no   3.9      no        no
## 451    no 0.34900 0.28700 0.20408163     1     2    no   4.3      no        no
## 452    no 0.33800 0.27000 0.86400000     1     2    no   3.2      no        no
## 453    no 0.39600 0.27300 0.79812207     1     2    no   3.2      no        no
## 454    no 0.39000 0.27900 0.80000000     1     1    no   3.2     yes        no
## 455    no 0.27500 0.23800 0.71065990     1     2    no   3.6      no        no
## 456    no 0.31050 0.23820 0.80263158     5     2    no   3.2      no        no
## 457    no 0.46800 0.36200 0.78378378     5     2    no   4.3      no        no
## 458    no 0.38860 0.26130 0.74316940     1     1    no   3.2     yes        no
## 459    no 0.24200 0.17700 0.18918919     1     1    no   3.6      no        no
## 460    no 0.69200 0.53600 0.78947368     1     1    no   3.2     yes        no
## 461   yes 0.57600 0.32900 0.89928058     6     2    no   3.2      no        no
## 462    no 0.35410 0.19470 0.75000000     1     2    no  10.6      no        no
## 463   yes 0.47900 0.47500 0.95192308     6     2    no   2.0      no        no
## 464    no 0.35600 0.31100 0.75087719     1     1    no   1.8      no        no
## 465   yes 0.36300 0.16900 0.86111111     1     2    no   4.3      no       yes
## 466    no 0.26400 0.17500 0.35483871     1     1    no   1.8      no        no
## 467    no 0.17300 0.09700 0.34883721     1     1    no   4.3      no        no
```

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## 468    no 0.36500 0.27400 0.85937500     1     2    no   3.2      no        no
## 469    no 0.40500 0.27600 0.79356568     1     1    no   3.1      no        no
## 470    no 0.25200 0.08800 0.78205128     1     1    no   3.2      no        no
## 471    no 0.24800 0.23800 0.68000000     4     2    no   3.2      no        no
## 472    no 0.39100 0.37000 0.27906977     1     2    no   4.3      no        no
## 473    no 0.28300 0.28300 0.59595960     4     2    no   3.9      no        no
## 474    no 0.30400 0.27700 0.65217391     1     2    no   1.8      no        no
## 475    no 0.05600 0.05300 0.80000000     6     4    no   3.2      no        no
## 476    no 0.38400 0.37500 0.80000000     1     2    no   1.8      no        no
## 477   yes 0.58400 0.44700 0.75460123     6     2    no   3.2      no        no
## 478    no 0.26300 0.26100 0.79077430     1     2    no   4.3      no        no
## 479    no 0.25270 0.25060 0.66666667     1     2    no   3.6      no        no
## 480    no 0.31600 0.28400 0.80152672     1     2    no   1.8      no        no
## 481    no 0.35800 0.31600 0.87500000     1     2    no   3.2      no        no
## 482    no 0.36900 0.29900 0.79452055     1     2    no   3.9      no        no
## 483    no 0.22200 0.20700 0.75000000     1     2    no   1.8      no        no
## 484    no 0.25300 0.16800 0.66451613     6     1    no   3.2      no        no
## 485    no 0.18400 0.16600 0.57647059     6     2    no   3.2      no        no
## 486    no 0.40000 0.33000 0.88709677     1     2    no   3.2      no        no
## 487    no 0.34000 0.24000 0.79310345     1     1    no   3.2      no        no
## 488   yes 0.30370 0.09040 0.80000000     6     2   yes   3.2      no        no
## 489    no 0.41000 0.19000 0.70188679     1     2    no  10.6     yes        no
## 490   yes 0.18000 0.18000 1.00000000     6     2   yes  10.6      no        no
## 491    no 0.40000 0.27000 0.71111111     2     2    no   4.3     yes        no
## 492    no 0.31000 0.31000 0.77697842     2     2    no   3.2      no        no
## 493    no 0.53000 0.34000 0.46323529     1     2    no   3.9      no        no
## 494    no 0.32580 0.26580 0.78980892     2     2    no   3.1      no        no
## 495    no 0.39240 0.24790 0.61333333     1     1    no   2.0      no        no
## 496    no 0.22510 0.19340 0.35874439     1     2    no   3.2      no        no
## 497    no 0.38170 0.23850 0.77542373     1     1   yes   4.3      no        no
## 498    no 0.33750 0.22750 0.90243902     1     2    no   3.9      no        no
## 499    no 0.16000 0.16000 0.91176471     2     1    no   3.2      no        no
## 500   yes 0.30000 0.30000 1.11111111     4     2    no   4.3      no        no
## 501    no 0.10000 0.08000 0.54794521     1     1    no   1.8     yes        no
## 502    no 0.20000 0.12000 0.93918919     3     1    no   3.2      no        no
## 503    no 0.08000 0.06000 0.72864322     1     1    no   3.2      no        no
## 504    no 0.10000 0.06000 0.78328982     2     1    no   3.6     yes        no
## 505    no 0.17000 0.07000 1.22463768     2     1    no   2.0      no        no
## 506    no 0.29000 0.21000 0.79775281     1     2    no   5.3      no        no
## 507    no 0.37000 0.33000 0.92207792     2     2    no   3.2      no        no
## 508    no 0.36000 0.32000 0.68148148     1     2    no   1.8      no        no
## 509    no 0.25000 0.17000 0.89285714     2     2    no   3.2      no        no
## 510   yes 0.36000 0.32000 0.80000000     6     2   yes   2.0      no        no
## 511    no 0.39000 0.36000 0.89090909     1     2    no   3.1      no        no
## 512    no 0.38000 0.31000 0.77536232     2     2    no   3.2      no        no
## 513    no 0.40000 0.34000 0.80000000     2     2    no   3.2     yes        no
## 514    no 0.36000 0.25000 0.80000000     1     1    no   3.2      no        no
## 515    no 0.38000 0.34000 0.91923077     2     2    no   5.3     yes        no
## 516    no 0.33000 0.31000 0.65921788     1     2    no   3.2      no        no
## 517    no 0.37000 0.26000 0.78378378     2     1    no   2.0      no        no
## 518    no 0.22000 0.13000 0.79861111     3     1   yes   3.2     yes        no
## 519    no 0.30000 0.24000 0.42372881     1     1   yes   3.2      no        no
## 520    no 0.36000 0.35000 0.91447368     1     2    no   3.2      no        no
## 521    no 0.41000 0.28000 0.89617486     6     2    no   3.2      no        no
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## 522    no 0.35000 0.30000 0.68376068     1     2    no   3.1      no        no
## 523    no 0.32000 0.32000 0.80000000     1     2    no   3.2      no        no
## 524   yes 0.41000 0.28000 0.92592593     6     2   yes   3.2      no       yes
## 525    no 0.32000 0.28000 0.89696970     1     2    no   3.2      no        no
## 526    no 0.40000 0.18000 0.87692308     3     1    no   1.8      no        no
## 527   yes 0.33000 0.27000 0.80000000     1     2    no   3.1      no        no
## 528    no 0.28000 0.25000 0.90217391     1     2    no   1.8      no        no
## 529    no 0.35000 0.35000 0.44000000     2     1    no  10.6      no        no
## 530   yes 0.40000 0.35000 0.78260870     1     2    no   3.2      no        no
## 531   yes 0.30000 0.18000 0.90080429     6     2   yes   1.8     yes        no
## 532    no 0.35000 0.23000 0.87441860     4     2    no   1.8      no        no
## 533    no 0.20000 0.19000 0.70080863     1     1    no   3.2      no        no
## 534    no 0.29000 0.28000 0.37500000     1     4    no   3.2      no        no
## 535    no 0.36000 0.27000 0.82000000     2     2    no   3.2      no        no
## 536    no 0.34000 0.20000 0.35042735     1     2    no   3.2      no        no
## 537    no 0.26000 0.04000 0.39682540     2     2    no   2.0      no        no
## 538    no 0.28000 0.21000 0.63887937     2     1    no   3.2      no        no
## 539    no 0.43000 0.24000 0.40178571     2     1    no   4.3      no        no
## 540    no 0.27000 0.20000 0.79729730     1     1    no   3.2     yes        no
## 541    no 0.28000 0.22000 0.74557823     2     2    no   3.2      no        no
## 542    no 0.27000 0.25000 0.85153645     1     2    no   3.2      no        no
## 543    no 0.36000 0.30000 0.63971343     1     1    no   3.2      no        no
## 544    no 0.35000 0.35000 0.62500000     2     3    no   3.6      no        no
## 545    no 0.33000 0.31000 0.85892203     1     2    no   3.2      no        no
## 546    no 0.32000 0.24000 0.74324324     3     1    no   3.1      no        no
## 547    no 0.23000 0.04000 0.50000000     1     1    no   3.2      no        no
## 548    no 0.37000 0.28000 0.48715677     2     2    no   2.0      no        no
## 549    no 0.33120 0.17250 0.68000000     2     2    no  10.6      no        no
## 550   yes 0.35130 0.25690 0.54285714     5     2    no   3.2      no        no
## 551    no 0.45700 0.28200 0.75263158     1     1    no   3.2      no        no
## 552    no 0.35240 0.29330 0.90298507     1     2    no   3.1      no        no
## 553   yes 0.41690 0.21090 0.92307692     2     2    no  10.6      no       yes
## 554    no 0.21910 0.20950 0.79487179     1     2    no   3.9      no        no
## 555   yes 0.20520 0.15900 0.60256410     1     2    no   1.8     yes       yes
## 556    no 0.46110 0.37150 0.78448276     2     2    no   5.3      no        no
## 557    no 0.34660 0.31580 0.57603687     2     2    no   2.0      no        no
## 558    no 0.31670 0.20890 0.72164948     1     1    no   3.1      no        no
## 559    no 0.37280 0.26490 0.89843750     1     2    no  10.6      no        no
## 560    no 0.66100 0.66100 0.43356643     1     2    no   2.0      no        no
## 561    no 0.35620 0.26430 0.84722222     1     2    no   4.3      no        no
## 562    no 0.37450 0.26300 0.89583333     2     2    no   3.1      no        no
## 563   yes 0.31400 0.22850 0.75396825     1     2    no  10.6      no       yes
## 564   yes 0.38390 0.25560 0.95000000     1     2    no   1.8      no       yes
## 565    no 0.36140 0.23430 0.78448276     2     2    no   4.3      no        no
## 566    no 0.26640 0.24180 0.25316456     1     2    no   3.2     yes        no
## 567    no 0.32210 0.27550 0.74838710     2     2    no   5.3      no        no
## 568    no 0.23110 0.20720 0.83823529     1     2    no   3.9      no        no
## 569    no 0.36450 0.32880 0.76296296     2     2    no   3.9      no        no
## 570    no 0.42660 0.29670 0.81818182     1     1    no   3.1      no        no
## 571    no 0.28980 0.28200 0.77272727     1     2    no  10.6     yes        no
## 572    no 0.81420 0.39330 0.51652893     3     2   yes   3.2      no        no
## 573    no 0.37140 0.31890 0.86486486     2     2    no   1.8     yes        no
## 574    no 0.29640 0.23450 0.89634146     1     2    no   2.0      no       yes
## 575    no 0.35350 0.25200 0.80446927     1     2    no   2.0      no        no
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## 576    no 0.34750 0.22090 0.78911565     2     2    no   3.1      no         no
## 577    no 0.49970 0.35530 0.93854749     1     2    no   3.9      no         no
## 578    no 0.37430 0.28200 0.55555556     1     1    no   3.1      no         no
## 579    no 0.46770 0.36800 0.87431694     3     1    no   4.3      no         no
## 580   yes 0.10430 0.09640 0.66666667     4     2    no  10.6     yes         no
## 581    no 0.32280 0.32280 0.86400000     1     2    no   3.6      no         no
## 582    no 0.29320 0.28050 0.89915966     1     2    no   3.2      no         no
## 583    no 0.33560 0.32080 0.87804878     1     2    no   1.8      no         no
## 584   yes 0.41670 0.26510 0.75000000     5     1    no   3.2      no         no
## 585    no 0.25750 0.21450 0.62500000     1     2    no   3.2      no         no
## 586    no 0.35770 0.14120 0.65550239     1     1    no   3.2      no         no
## 587   yes 0.46680 0.46320 0.59171598     4     2    no   3.6      no         no
## 588    no 0.21600 0.12400 0.32374101     3     1    no   3.1      no         no
## 589    no 0.27700 0.20500 0.58593750     2     1    no   1.8     yes         no
## 590    no 0.27000 0.27000 0.65116279     1     1    no   3.6      no         no
## 591    no 0.32000 0.29000 0.70769231     2     1    no   5.3      no         no
## 592    no 0.25000 0.14500 0.68181818     1     1    no   1.8      no         no
## 593   yes 0.50500 0.20700 0.64135021     6     2    no   1.8      no         no
## 594    no 0.32000 0.13000 0.40123457     2     2    no   3.9      no         no
## 595   yes 0.35500 0.34500 0.68750000     5     2   yes   3.2     yes         no
## 596    no 0.31000 0.29000 0.89655172     1     2    no   1.8      no         no
## 597    no 0.30000 0.11000 0.47945205     2     1    no   4.3      no         no
## 598    no 0.19000 0.15000 0.18479409     1     1    no   3.2      no         no
## 599    no 0.18000 0.15000 0.80281690     1     1    no   3.9      no         no
## 600    no 0.08000 0.08000 0.11111111     1     1    no   3.6      no         no
## 601    no 0.36000 0.35000 0.73684211     1     1    no   3.6      no         no
## 602    no 0.14000 0.09000 0.80000000     1     2    no   3.1      no         no
## 603    no 0.34000 0.27000 0.79393939     1     2    no   3.9      no         no
## 604    no 0.34000 0.27000 0.55000000     1     1    no   3.9      no         no
## 605    no 0.32000 0.12000 0.80000000     1     1    no   3.9      no         no
## 606    no 0.19000 0.08000 0.15428571     1     1    no  10.6      no         no
## 607    no 0.32000 0.11000 0.48275862     2     1    no   3.2      no         no
## 608    no 0.73000 0.71000 0.60606061     1     1    no   3.9      no         no
## 609    no 0.58000 0.52000 0.80000000     1     1    no   3.9      no         no
## 610    no 0.30000 0.30000 0.79577465     1     2    no   3.9      no         no
## 611    no 0.14000 0.09000 0.86989412     1     2    no   3.6      no         no
## 612    no 0.26000 0.16000 0.13513514     1     1    no   3.6     yes         no
## 613    no 0.43000 0.33000 0.35000000     2     1    no   3.9      no         no
## 614    no 0.47000 0.18000 1.00000000     1     1    no  10.6      no         no
## 615    no 0.25000 0.13000 0.80000000     2     1    no   3.9      no         no
## 616    no 0.30000 0.30000 0.78125000     1     1    no   3.9      no         no
## 617    no 0.27000 0.25000 0.69565217     6     2    no   3.6      no         no
## 618    no 0.36000 0.20000 0.38888889     1     1    no   3.9      no         no
## 619    no 0.24900 0.15500 0.23648649     2     4    no   1.8      no         no
## 620    no 0.21600 0.13300 0.51851852     3     1    no   3.1      no         no
## 621   yes 1.16000 0.74000 0.75268817     1     2    no   4.3      no         no
## 622    no 0.36000 0.22000 0.61538462     3     1    no   3.2     yes         no
## 623    no 0.27800 0.16200 0.40000000     5     2    no   1.8      no         no
## 624    no 0.32000 0.23000 0.74482759     2     2    no   4.3      no         no
## 625    no 0.28800 0.20600 0.74782609     2     2    no   3.2      no         no
## 626    no 0.48300 0.34100 0.74666667     2     1    no   4.3     yes         no
## 627    no 0.31200 0.22700 0.63157895     2     2    no  10.6      no         no
## 628    no 0.29700 0.22200 0.57446809     1     1    no   3.2      no         no
## 629    no 0.34400 0.34400 0.70000000     1     2    no   3.2      no         no
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## 630    no 0.36200 0.26200 0.49019608     2     2    no   3.1      no        no
## 631    no 0.28500 0.28500 0.58679707     2     2    no   4.3      no        no
## 632    no 0.32300 0.26400 0.75000000     2     1    no   3.2      no        no
## 633    no 0.40400 0.17900 0.79914530     1     1    no   3.2     yes        no
## 634    no 0.31600 0.21500 0.89622642     1     2    no   3.1      no        no
## 635    no 0.28800 0.28800 0.74074074     4     2    no   3.2      no        no
## 636    no 0.35800 0.31600 0.68750000     1     2    no   3.2      no        no
## 637    no 0.29000 0.29000 0.74000000     1     1    no   3.9      no        no
## 638    no 0.35000 0.31000 0.90090090     2     2    no   3.9      no        no
## 639    no 0.34000 0.23000 0.77575758     2     1   yes   3.9      no        no
## 640    no 0.36000 0.30000 0.74545455     1     2    no   3.1      no        no
## 641   yes 0.27000 0.22000 0.72560976     6     2   yes  10.6      no        no
## 642   yes 0.45000 0.29000 0.88780488     6     2   yes   2.0      no        no
## 643    no 0.32000 0.22000 0.85000000     6     4    no   1.8      no        no
## 644    no 0.33000 0.31000 0.78571429     1     2    no   3.1      no        no
## 645    no 0.46000 0.30000 0.85161290     6     2   yes   3.2      no        no
## 646    no 0.35000 0.35000 0.80219780     1     2    no   1.8      no        no
## 647    no 0.35000 0.31000 0.77419355     6     2    no   3.2      no        no
## 648    no 0.39000 0.28000 0.69841270     1     2    no   4.3     yes        no
## 649    no 0.46000 0.31000 0.61538462     2     2    no   3.9      no        no
## 650    no 0.38000 0.26000 0.79069767     1     2    no   1.8      no        no
## 651    no 0.27000 0.27000 0.80000000     2     2    no   3.9      no        no
## 652    no 0.38000 0.31000 0.78805970     2     1    no   1.8      no        no
## 653    no 0.22000 0.21000 0.45161290     1     1    no   2.0      no        no
## 654    no 0.38000 0.29000 0.84516129     2     2    no   3.2      no        no
## 655    no 0.37000 0.28000 0.68421053     1     2    no   3.1      no        no
## 656    no 0.37000 0.32000 0.85384615     1     2    no   3.9      no        no
## 657    no 0.28000 0.28000 0.76000000     2     1    no   1.8      no        no
## 658    no 0.25000 0.21000 0.69230769     1     2    no   3.1      no        no
## 659    no 0.26000 0.23000 0.20833333     1     1    no   3.2      no        no
## 660    no 0.27000 0.22000 0.93750000     1     2    no   4.3      no        no
## 661    no 0.38000 0.31000 0.71538462     1     1    no   3.2      no        no
## 662    no 0.35000 0.32000 0.75151515     1     2    no   2.0      no        no
## 663    no 0.25000 0.23000 0.79824561     5     1    no   3.2      no        no
## 664    no 0.38000 0.32000 0.79626168     2     1    no   3.9      no        no
## 665    no 0.37000 0.22000 0.87500000     1     1    no   1.8      no        no
## 666    no 0.27000 0.26000 0.62068966     2     1    no   3.9      no        no
## 667    no 0.24000 0.22000 0.78756477     2     2    no   3.2      no        no
## 668    no 0.36000 0.27000 0.67500000     1     4    no  10.6      no        no
## 669    no 0.23000 0.23000 0.61946903     1     1    no   1.8      no        no
## 670    no 0.33000 0.31000 0.71333333     1     2    no  10.6      no        no
## 671    no 0.28000 0.28000 0.60000000     1     1    no   3.2     yes        no
## 672    no 0.33000 0.18000 0.75757576     3     1    no   3.1      no        no
## 673   yes 0.37000 0.29000 0.95333333     3     2    no   4.3     yes       yes
## 674    no 0.32000 0.24000 0.91851852     2     2    no   3.2      no        no
## 675    no 0.27000 0.27000 0.69672131     1     2    no   3.9      no        no
## 676    no 0.28000 0.28000 0.95138889     1     2    no   4.3      no        no
## 677    no 0.39000 0.30000 0.95238095     1     2    no   3.1      no        no
## 678    no 0.38000 0.31000 0.93893130     5     2    no   3.2      no        no
## 679    no 0.38000 0.34000 0.80000000     1     1    no  10.6      no        no
## 680   yes 0.38000 0.31000 0.94782609     1     2    no   3.2      no       yes
## 681   yes 0.30000 0.25000 0.90400000     6     2    no   2.0      no        no
## 682    no 0.39000 0.25000 0.85714286     6     2    no   2.0      no        no
## 683    no 0.34000 0.22000 0.63197026     1     2    no   3.1      no        no
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## 684    no 0.19000 0.17000 0.34042553     1     2    no   3.2     yes        no
## 685    no 0.34000 0.26000 0.57538462     6     3   yes   3.1      no        no
## 686    no 0.33000 0.32000 0.51813472     1     2    no   3.2      no        no
## 687    no 0.31000 0.19000 0.75000000     5     2    no   4.3     yes        no
## 688    no 0.29000 0.28000 0.80000000     1     2    no   3.9      no        no
## 689    no 0.20000 0.20000 0.40935673     4     2    no   3.2      no        no
## 690    no 0.45000 0.34000 0.54545455     5     2    no   3.2      no        no
## 691    no 0.32000 0.27000 0.78888889     1     2    no   3.2      no        no
## 692    no 0.20000 0.09000 0.77777778     1     1    no   3.2     yes        no
## 693    no 0.27000 0.19000 0.79651163     1     1    no   3.2     yes        no
## 694    no 0.13000 0.11000 0.35416667     1     2    no   1.8      no        no
## 695    no 0.15000 0.07000 0.85714286     1     1    no   1.8     yes        no
## 696    no 0.10000 0.02000 0.80000000     1     1    no   3.2     yes        no
## 697    no 0.38000 0.24000 0.56291391     1     2    no  10.6      no        no
## 698    no 0.22000 0.13000 0.79381443     1     1    no   3.9      no        no
## 699    no 0.22000 0.21000 0.60335196     1     1    no   4.3     yes        no
## 700    no 0.13000 0.12000 0.80000000     1     2    no   3.2     yes        no
## 701    no 0.07000 0.04000 0.51219512     1     1    no   3.9      no        no
## 702   yes 0.36000 0.30000 0.59105431     1     1    no   3.1      no        no
## 703   yes 0.36000 0.30000 0.59105431     1     1    no   3.1      no        no
## 704    no 0.24650 0.24470 0.79565217     1     1    no   3.2      no        no
## 705    no 0.21900 0.16900 0.58181818     1     1    no   3.9      no        no
## 706   yes 0.31300 0.21400 0.94285714     5     2    no   3.9      no       yes
## 707    no 0.37700 0.28900 0.75301205     1     1    no  10.6     yes        no
## 708    no 0.12100 0.07400 0.76712329     1     1    no   1.8     yes        no
## 709    no 0.31900 0.28000 0.75409836     1     1    no   3.2      no        no
## 710    no 0.35700 0.27900 0.69776119     1     2    no   4.3      no        no
## 711    no 0.37800 0.21400 0.76146789     1     1    no   3.2     yes        no
## 712    no 0.29300 0.20300 0.89772727     1     2    no   4.3      no        no
## 713    no 0.38100 0.29700 0.77181208     1     2    no   4.3      no        no
## 714    no 0.23300 0.20000 0.68597561     1     1    no   3.2      no        no
## 715    no 0.28700 0.27100 0.55555556     1     1    no   2.0      no        no
## 716    no 0.24500 0.21300 0.70422535     1     3    no   3.2     yes        no
## 717    no 0.29500 0.21400 0.89743590     2     2    no  10.6      no        no
## 718    no 0.39300 0.18800 0.76642336     1     2    no   3.2      no        no
## 719    no 0.33000 0.29000 0.64935065     5     2    no   3.1      no        no
## 720    no 0.29800 0.25900 0.17857143     1     2    no   3.2      no        no
## 721    no 0.40300 0.34400 0.79810726     1     1    no   3.2      no        no
## 722    no 0.38600 0.30100 0.86206897     1     2    no   3.2      no        no
## 723   yes 0.38200 0.22300 0.95000000     6     2    no   3.2      no        no
## 724    no 0.35200 0.26700 0.62761506     1     1    no   3.2      no        no
## 725    no 0.30600 0.20600 0.57142857     1     2    no   3.2      no        no
## 726    no 0.40010 0.31130 0.76704545     1     2    no   2.0      no        no
## 727    no 0.27000 0.23200 0.94488189     1     2    no   3.1      no        no
## 728    no 0.38500 0.23000 0.80053908     1     2    no   3.2      no        no
## 729    no 0.21200 0.17700 0.87548638     1     2    no   3.2      no        no
## 730    no 0.17500 0.11000 0.79054054     2     1    no   3.1      no        no
## 731    no 0.29960 0.27640 0.42962963     1     2    no   4.3      no        no
## 732    no 0.25800 0.25200 0.75000000     1     1    no   3.9      no        no
## 733    no 0.26600 0.26100 0.41152263     1     1    no   2.0      no        no
## 734    no 0.24300 0.15500 0.58436214     1     1    no   3.2      no        no
## 735    no 0.15500 0.13300 0.80000000     5     1    no   3.2      no        no
## 736    no 0.30000 0.12500 0.80000000     2     1    no   5.3      no        no
## 737    no 0.39900 0.31200 0.57471264     1     3    no   3.9      no        no
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## 738    no 0.24740 0.22780 0.79735683     1     2    no   3.9      no        no
## 739    no 0.39500 0.00000 0.78431373     5     1    no   1.8     yes        no
## 740    no 0.36000 0.20000 0.80000000     1     2    no   2.0      no        no
## 741   yes 0.43000 0.43000 0.64231738     1     1    no   3.1     yes        no
## 742    no 0.39000 0.19000 0.80000000     1     1    no   5.3      no        no
## 743    no 0.33000 0.27000 0.75862069     1     2    no   3.2      no        no
## 744    no 0.35000 0.20000 0.62068966     1     1    no  10.6     yes        no
## 745    no 0.33000 0.26000 0.80000000     2     2    no   2.0      no        no
## 746    no 0.43000 0.32000 0.31609195     1     2    no   4.3      no        no
## 747    no 0.29000 0.28000 0.62500000     1     2    no   3.1      no        no
## 748    no 0.28000 0.24000 0.78358209     1     2    no   3.2      no        no
## 749    no 0.40000 0.18000 0.60416667     1     2    no   3.1      no        no
## 750    no 0.37000 0.22000 0.78688525     3     2    no   3.9      no        no
## 751    no 0.33000 0.33000 0.51282051     3     2    no   3.2      no        no
## 752    no 0.28000 0.24000 0.79687500     1     1    no   1.8      no        no
## 753    no 0.36000 0.31000 0.63106796     1     1    no  10.6      no        no
## 754    no 0.45000 0.18000 0.87000000     1     1   yes   8.9     yes        no
## 755    no 0.30000 0.13000 0.50000000     1     1    no   3.1      no        no
## 756    no 0.38000 0.21000 0.35398230     1     1    no   3.9     yes        no
## 757    no 0.29000 0.29000 0.33333333     1     1    no   3.1      no        no
## 758    no 0.33000 0.31000 0.57692308     1     1    no   3.9     yes        no
## 759    no 0.21000 0.21000 0.46296296     1     1   yes   3.2      no        no
## 760    no 0.31000 0.22000 0.71232877     1     2    no   1.8      no        no
## 761    no 0.19000 0.19000 0.66336634     1     2    no   3.2      no        no
## 762    no 0.36000 0.36000 0.61111111     2     2    no   3.2      no        no
## 763    no 0.35000 0.28000 0.68837209     1     2    no   1.8      no        no
## 764    no 0.37000 0.28000 0.88732394     5     2    no   3.9      no        no
## 765    no 0.34000 0.28000 0.79230769     2     2    no   3.2      no        no
## 766    no 0.33000 0.27000 0.80000000     2     2    no   3.2      no        no
## 767    no 0.31000 0.30000 0.47023810     1     2    no   3.2      no        no
## 768    no 0.34580 0.34580 0.56521739     1     1    no   3.2      no        no
## 769    no 0.42000 0.32000 0.94090909     2     2    no   4.3     yes        no
## 770    no 0.38000 0.28000 1.00000000     5     2    no   3.2      no        no
## 771    no 0.35000 0.26000 0.61538462     2     2    no   3.1      no        no
## 772    no 0.33000 0.27000 0.60576923     3     2    no   3.2      no        no
## 773    no 0.24000 0.24000 0.88461538     3     2    no   3.9      no        no
## 774    no 0.28090 0.23970 0.87619048     1     2    no   1.8      no        no
## 775    no 0.32000 0.32000 0.73228346     1     2    no   2.0      no        no
## 776    no 0.16000 0.10000 0.72000000     2     1    no   3.2      no        no
## 777    no 0.25000 0.13000 0.80000000     1     1    no   1.8     yes        no
## 778    no 0.35000 0.32000 0.80000000     1     2    no   3.2     yes        no
## 779    no 0.38000 0.30000 0.52352941     1     2    no   3.2      no        no
## 780    no 0.32000 0.31000 0.80952381     1     2    no   3.2      no        no
## 781    no 0.35000 0.23000 0.77272727     2     2    no   3.2      no        no
## 782    no 0.27000 0.20000 0.72146119     1     2    no   3.2      no        no
## 783    no 0.25000 0.22000 0.90476190     1     2    no   3.9      no        no
## 784    no 0.29000 0.22000 1.01398601     3     2    no   3.1      no        no
## 785    no 0.27120 0.27120 0.64761905     4     2    no   3.2      no        no
## 786    no 0.32000 0.27000 0.84761905     1     2    no   2.0      no        no
## 787    no 0.31000 0.19000 0.77142857     2     2    no   3.2      no        no
## 788    no 0.37000 0.23000 0.81904762     2     2    no   3.9      no        no
## 789    no 0.58000 0.58000 0.81904762     4     2    no   3.2      no        no
## 790    no 0.33000 0.27000 0.85981308     2     2    no   3.6      no        no
## 791    no 0.16000 0.12000 0.84062500     2     1    no   3.2      no        no
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## 792    no 0.38000 0.31000 0.80000000     3     2    no   3.2      no        no
## 793    no 0.34000 0.31000 0.72727273     3     2    no   1.8      no        no
## 794   yes 0.39000 0.26000 0.93437151     2     2    no   3.2      no        no
## 795   yes 0.45000 0.20000 0.94845361     1     2    no   3.2      no        no
## 796   yes 0.51000 0.41000 0.94117647     1     2    no   5.3      no        no
## 797   yes 0.43000 0.33000 0.79439252     6     2   yes   3.2      no        no
## 798   yes 0.31000 0.27000 0.80952381     6     2    no   3.2      no       yes
## 799   yes 0.46000 0.33000 0.31578947     4     2    no   1.8      no        no
## 800   yes 0.24000 0.24000 0.97826087     5     2   yes  10.6      no        no
## 801    no 0.22000 0.19000 1.95000000     2     1    no   3.2      no       yes
## 802   yes 0.22000 0.19000 0.95000000     2     1    no   4.3      no       yes
## 803   yes 0.18000 0.05000 0.18750000     1     2    no   2.0      no        no
## 804   yes 0.66000 0.31000 0.90256410     2     2    no   3.2      no        no
## 805   yes 0.59000 0.24000 0.94117647     3     2    no  10.6      no       yes
## 806   yes 0.35000 0.32000 0.94059406     3     2   yes   3.9      no       yes
## 807   yes 0.52000 0.51000 0.94964029     4     2    no   3.2      no       yes
## 808   yes 0.42000 0.27000 0.87857143     3     2    no   3.2      no       yes
## 809   yes 0.41000 0.34000 0.99387342     3     2   yes   3.2      no       yes
## 810   yes 0.49000 0.33000 0.62376238     1     2    no   3.2      no       yes
## 811   yes 0.46000 0.36000 0.71428571     2     2    no   3.2      no        no
## 812   yes 0.25000 0.19000 0.44800000     1     2    no   1.8      no        no
## 813   yes 0.39000 0.28000 0.75268817     5     2   yes   2.0      no       yes
## 814   yes 0.41000 0.34000 0.85937500     5     2    no   2.0      no       yes
## 815   yes 0.26000 0.26000 0.75000000     4     2    no   3.2      no        no
## 816   yes 0.36000 0.25000 0.85000000     5     2    no   3.2      no        no
## 817   yes 0.39000 0.34000 0.89709763     5     2    no   3.2      no        no
## 818   yes 0.36000 0.26000 0.85714286     5     2   yes   3.9      no        no
## 819   yes 0.25300 0.23700 0.81730769     6     2   yes   3.9      no       yes
## 820   yes 0.83000 0.49000 0.94557823     5     2    no   3.9      no        no
## 821   yes 0.34000 0.23000 0.97647059     1     2    no   2.0      no       yes
## 822    no 0.26000 0.26000 0.55214724     1     2    no   3.2      no        no
## 823   yes 0.28000 0.23000 0.83076923     2     2    no   3.2     yes       yes
## 824   yes 0.34000 0.28000 0.80357143     1     2    no   5.3      no        no
## 825    no 0.37000 0.23000 0.69672131     1     1    no   3.2      no        no
## 826   yes 0.23000 0.18000 0.60839161     2     1    no  10.6     yes        no
## 827    no 0.31000 0.26000 0.81818182     1     2    no   3.2      no        no
## 828    no 0.36000 0.27000 0.64601770     1     1    no   3.2      no        no
## 829    no 0.41000 0.40000 0.73469388     1     2    no  10.6      no        no
## 830    no 0.31000 0.30000 0.79838710     1     2    no   3.2      no        no
## 831    no 0.44000 0.40000 0.67357513     2     1    no   5.3      no        no
## 832    no 0.37000 0.28000 0.22471910     2     1    no   1.8      no        no
## 833    no 0.39000 0.31000 0.50000000     1     1    no   3.2      no        no
## 834    no 0.38000 0.28000 0.66666667     3     1    no  10.6      no        no
## 835    no 0.45000 0.21000 0.30769231     3     1    no   4.3      no        no
## 836    no 0.34000 0.31000 0.63694268     1     2    no   2.0      no        no
## 837    no 0.34000 0.22000 0.80000000     3     1    no   3.1      no        no
## 838    no 0.36000 0.32000 0.66996700     1     2    no   3.2      no        no
## 839   yes 0.54000 0.47000 0.95614035     6     2   yes   3.2      no        no
## 840    no 0.35000 0.22000 0.80000000     1     1    no   3.2      no        no
## 841    no 0.33000 0.22000 0.79534884     5     2    no   3.2      no        no
## 842    no 0.35000 0.30000 0.79534884     1     1    no   5.3      no        no
## 843    no 0.31000 0.28000 0.65284974     1     3    no   3.9      no        no
## 844   yes 0.25000 0.22000 0.79754601     3     2    no   3.2      no        no
## 845    no 0.37000 0.27000 0.81159420     6     2    no   3.9      no       yes
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## 846    no 0.27000 0.26000 0.89393939     1     2    no  10.6      no        no
## 847    no 0.27000 0.20000 0.42647059     1     1    no   3.9      no        no
## 848    no 0.36000 0.28000 0.79310345     1     2    no   5.3      no        no
## 849    no 0.21000 0.18000 0.60000000     1     1    no   3.2      no        no
## 850    no 0.30000 0.23000 0.90000000     1     2    no   3.2      no        no
## 851    no 0.34000 0.26000 0.87857143     6     2    no   3.2      no        no
## 852    no 0.29000 0.24000 0.79500000     1     2    no   3.2     yes        no
## 853    no 0.40000 0.22000 0.94400000     6     2    no   3.1      no        no
## 854    no 0.30000 0.23000 0.73125000     1     2    no   3.2      no        no
## 855    no 0.26000 0.26000 0.18852459     1     2    no   4.3      no        no
## 856    no 0.28000 0.28000 0.90285714     1     1    no   3.1      no        no
## 857    no 0.39000 0.23000 0.65573770     5     1    no   3.2      no        no
## 858    no 0.22000 0.15700 0.88741722     1     1    no   3.2      no        no
## 859    no 0.28100 0.22100 0.58928571     1     2    no   3.1      no        no
## 860    no 0.35000 0.30300 0.88387097     5     2    no   5.3      no        no
## 861    no 0.36200 0.27600 0.94736842     1     1    no  10.6      no        no
## 862    no 0.34480 0.21250 0.90000000     1     1    no   1.8      no        no
## 863    no 0.36400 0.27600 0.92574257     1     1    no   3.2     yes        no
## 864    no 0.17600 0.17300 0.76444444     1     2    no   3.9      no        no
## 865    no 0.37400 0.31720 0.93333333     1     2    no   1.8      no        no
## 866    no 0.35900 0.34200 0.84210526     2     1    no   3.1      no        no
## 867    no 0.28400 0.25400 0.35751295     1     2    no   3.2      no        no
## 868    no 0.33610 0.31750 0.79245283     1     2    no   3.9      no        no
## 869    no 0.25500 0.17100 0.79148936     5     1   yes   3.9      no        no
## 870    no 0.31110 0.30080 0.90000000     2     2    no   3.2      no        no
## 871    no 0.32600 0.26900 0.93023256     1     2    no   2.0      no        no
## 872    no 0.32810 0.30750 0.79710145     1     2    no   3.2      no        no
## 873    no 0.38000 0.30000 0.73825503     1     1    no   3.9      no        no
## 874    no 0.32200 0.31300 0.80000000     1     2    no   3.2      no        no
## 875   yes 0.31600 0.21200 0.66176471     5     2    no   3.2      no        no
## 876    no 0.22500 0.22100 0.96629213     1     2    no   3.1      no        no
## 877    no 0.22360 0.21690 0.94318182     1     2    no   2.0      no        no
## 878    no 0.22300 0.22300 0.68750000     1     2    no   2.0      no        no
## 879    no 0.16900 0.11000 0.94318182     2     2    no   3.2      no        no
## 880    no 0.42200 0.37100 0.70520231     2     2    no   3.2     yes        no
## 881    no 0.32620 0.19890 0.38461538     1     1    no   5.3      no        no
## 882    no 0.31900 0.28200 0.50000000     1     1    no   3.1      no        no
## 883    no 0.44000 0.32000 0.65034965     1     2    no   4.3     yes        no
## 884    no 0.38200 0.26600 0.80000000     6     2    no   3.2      no        no
## 885    no 0.30400 0.24500 0.87951807     1     2    no   3.2      no        no
## 886    no 0.34000 0.18000 0.29411765     2     1   yes  10.6     yes        no
## 887    no 0.32200 0.21500 0.78723404     2     2    no   3.1      no        no
## 888    no 0.37900 0.31900 0.79487179     1     2    no   3.1      no        no
## 889    no 0.65000 0.44000 0.57142857     1     1   yes   3.2     yes        no
## 890    no 0.31900 0.31160 0.58333333     6     2    no   3.2      no        no
## 891    no 0.40750 0.29900 0.70434783     1     2    no   3.9      no        no
## 892    no 0.35920 0.29500 0.87301587     1     2    no   3.1      no        no
## 893    no 0.19560 0.14510 0.56250000     1     1    no   3.2      no        no
## 894    no 0.29600 0.27000 0.69948187     6     2    no   3.2      no        no
## 895    no 0.35700 0.29900 0.92156863     1     1    no   3.1      no        no
## 896    no 0.36200 0.21700 0.94782609     1     2    no   3.2      no        no
## 897    no 0.30600 0.27800 0.71186441     5     2    no   3.2      no        no
## 898    no 0.27500 0.25600 0.90000000     1     2    no   3.2      no        no
## 899    no 0.30740 0.30230 0.57538462     1     1    no   3.1      no        no
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## 900    no 0.32400 0.26300 0.75438596     1     1    no   3.2     yes        no
## 901    no 0.22800 0.22800 0.29069767     1     1    no   4.3      no        no
## 902    no 0.37490 0.30710 0.87843137     1     1    no   3.1      no        no
## 903    no 0.40300 0.24100 0.52444444     1     1    no   3.2      no        no
## 904    no 0.45400 0.16600 0.66666667     2     1    no  10.6      no        no
## 905    no 0.27800 0.16700 0.51162791     1     1    no   3.1      no        no
## 906    no 0.28730 0.25140 0.76190476     1     1    no   3.2      no        no
## 907    no 0.26600 0.21200 0.89000000     1     2    no   2.0      no        no
## 908    no 0.33400 0.26900 0.89047619     1     2    no   1.8      no        no
## 909    no 0.17400 0.17000 0.42988506     2     2    no   3.2      no        no
## 910    no 0.33300 0.26800 0.77500000     1     2    no   5.3      no        no
## 911    no 0.33300 0.33000 0.46428571     1     1    no   3.1      no        no
## 912    no 0.38200 0.28200 0.83703704     1     2    no   3.2      no        no
## 913    no 0.16400 0.14500 0.32409012     1     1    no   5.3      no        no
## 914    no 0.24100 0.23600 0.69767442     1     2    no   2.0      no        no
## 915    no 0.29700 0.28500 0.61855670     1     2    no   1.8      no        no
## 916    no 0.32300 0.29700 0.61538462     1     2    no   3.2      no        no
## 917    no 0.29000 0.15000 0.77419355     2     1    no   1.8      no        no
## 918    no 0.34100 0.26900 0.86875000     1     2    no   3.1      no        no
## 919    no 0.41400 0.40200 0.76774194     2     1    no   3.2      no        no
## 920    no 0.26600 0.18900 0.89440994     2     2    no   3.1      no        no
## 921    no 0.25940 0.24860 0.66511628     4     2    no   3.9      no        no
## 922    no 0.48990 0.26510 0.63270142     1     1    no   3.1     yes        no
## 923    no 0.26600 0.13100 0.54794521     1     1    no   4.3      no        no
## 924    no 0.22100 0.21800 0.75819672     1     2    no   3.9      no        no
## 925    no 0.40370 0.31550 0.80000000     1     2    no   3.9      no        no
## 926    no 0.21000 0.21000 0.47619048     1     1    no   3.2      no        no
## 927    no 0.30400 0.27500 0.80000000     2     2    no   3.6      no        no
## 928    no 0.38900 0.30400 0.78378378     2     2    no   3.2      no        no
## 929    no 0.37500 0.27600 0.77987421     1     2    no   3.1      no        no
## 930    no 0.32300 0.28300 0.70886076     1     2    no   1.8      no        no
## 931    no 0.31900 0.27800 0.46666667     2     2    no  10.6      no        no
## 932    no 0.30200 0.28500 0.77446809     6     1    no   3.2      no        no
## 933    no 0.36140 0.33700 0.82000000     1     2    no   2.0      no        no
## 934    no 0.30000 0.28900 0.88387097     1     2    no   2.0      no        no
## 935    no 0.20900 0.13300 0.72727273     1     1    no   3.2      no        no
## 936    no 0.40100 0.27600 0.88095238     6     1   yes   3.2      no        no
## 937    no 0.33000 0.06200 0.79861111     6     2   yes   3.2      no        no
## 938    no 0.30400 0.28800 0.66666667     1     1    no   3.2      no        no
## 939    no 0.14600 0.13100 0.76821192     1     2    no   4.3      no        no
## 940    no 0.37000 0.26000 0.89041096     1     2    no   1.8      no        no
## 941    no 0.24000 0.24000 0.63043478     1     1    no   3.2      no        no
## 942    no 0.21000 0.15000 0.21052632     1     1    no  10.6      no        no
## 943    no 0.26000 0.22000 0.79720280     2     2    no   3.9      no        no
## 944    no 0.38000 0.31000 0.75555556     2     1    no   3.2      no        no
## 945    no 0.26000 0.26000 0.78481013     2     2    no   3.2      no        no
## 946    no 0.18000 0.14000 0.55434783     3     1   yes   4.3     yes        no
## 947    no 0.24000 0.22000 0.56818182     1     2    no   3.1      no        no
## 948    no 0.28000 0.27000 0.90909091     4     2    no   3.9      no        no
## 949    no 0.25000 0.09000 0.82954545     1     2   yes   1.8      no        no
## 950    no 0.45000 0.45000 0.50370370     1     2    no   3.6      no        no
## 951    no 0.30000 0.29000 0.72000000     1     2    no   3.2      no        no
## 952    no 0.34000 0.27000 0.84246575     5     2    no   5.3      no        no
## 953    no 0.30000 0.28000 0.75000000     6     2    no   8.9      no        no
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## 954    no 0.28000 0.25000 0.73600000     1     1    no   3.2      no        no
## 955    no 0.38000 0.27000 0.63348416     1     1    no   3.9      no        no
## 956   yes 0.34000 0.31000 0.80000000     6     2    no   3.2      no        no
## 957    no 0.35000 0.28000 0.90797546     3     2    no   3.2      no        no
## 958    no 0.33000 0.30000 0.80000000     1     2    no   3.2      no        no
## 959    no 0.32000 0.31000 0.86178862     1     2    no   1.8      no        no
## 960    no 0.22000 0.20000 0.77702703     1     2    no   3.1      no        no
## 961    no 0.30000 0.23000 0.80000000     5     2    no   3.9      no        no
## 962    no 0.26000 0.25000 0.53703704     1     1    no   3.1      no        no
## 963    no 0.34000 0.29000 0.73170732     3     1    no   3.2      no        no
## 964    no 0.28000 0.25000 0.78651685     1     2    no   3.2      no        no
## 965    no 0.33000 0.31000 0.90000000     2     2    no   3.2     yes        no
## 966    no 0.40000 0.35000 0.91250000     1     2    no   2.0      no        no
## 967    no 0.26000 0.26000 0.85185185     1     2    no   5.3      no        no
## 968    no 0.20000 0.20000 0.46370968     1     1    no   3.2      no        no
## 969    no 0.34000 0.28000 0.86842105     1     2    no   3.2      no        no
## 970    no 0.33000 0.25000 0.37735849     5     2    no   3.9      no        no
## 971    no 0.35000 0.25000 0.94776119     1     2    no   5.3      no        no
## 972    no 0.36000 0.25000 0.94736842     2     2    no   3.1      no        no
## 973    no 0.32000 0.28000 0.57368421     1     2    no   3.9      no        no
## 974    no 0.32000 0.25000 0.49000000     2     2    no   2.0      no        no
## 975    no 0.22000 0.21000 0.89130435     1     2    no   4.3     yes        no
## 976    no 0.28000 0.27000 0.48085106     2     1    no  10.6      no        no
## 977    no 0.28000 0.26000 0.94927536     1     2    no   3.9      no        no
## 978    no 0.31000 0.30000 0.74358974     1     2    no   3.6      no        no
## 979    no 0.37000 0.23000 0.78571429     3     1    no   3.1      no        no
## 980    no 0.32000 0.29000 0.90983607     5     2    no   3.2      no        no
## 981    no 0.39000 0.23000 0.50543478     1     2    no   3.2      no        no
## 982    no 0.39000 0.25000 0.89880952     2     1    no   2.0      no        no
## 983    no 0.18000 0.12000 0.55793991     1     2    no   3.1      no        no
## 984   yes 0.38000 0.18000 0.87313433     1     1    no   4.3      no       yes
## 985    no 0.38000 0.33000 0.79699248     2     2    no   3.2      no        no
## 986    no 0.26000 0.26000 0.73958333     2     2    no   4.3      no        no
## 987    no 0.36000 0.31000 0.92276423     3     1   yes   4.3     yes        no
## 988    no 0.27000 0.24000 0.22000000     1     2    no  10.6      no        no
## 989    no 0.24000 0.24000 0.69259259     1     2    no   3.2     yes        no
## 990    no 0.25000 0.17000 0.64482759     1     1    no   3.2      no        no
## 991    no 0.28000 0.24000 0.79629630     1     2    no   3.2      no        no
## 992    no 0.39000 0.28000 0.47619048     1     2    no   3.2      no        no
## 993    no 0.38000 0.30000 0.69333333     2     2    no   2.0      no        no
## 994    no 0.15000 0.13000 0.21428571     1     2    no   3.2      no        no
## 995    no 0.23000 0.14000 0.84615385     1     2    no   3.2      no        no
## 996    no 0.20000 0.19000 0.83928571     6     2    no   3.2     yes        no
## 997    no 0.32000 0.26000 0.90202703     5     3    no   3.2     yes        no
## 998    no 0.35000 0.20000 0.80000000     3     2    no   2.0      no        no
## 999    no 0.46000 0.46000 0.77142857     1     2    no  10.6      no        no
## 1000   no 0.21000 0.16000 0.89247312     2     2    no   3.2      no        no
## 1001   no 0.31000 0.25000 0.90270270     1     2    no   3.2      no        no
## 1002   no 0.29000 0.26000 0.80000000     1     2    no  10.6     yes        no
## 1003   no 0.31000 0.26000 0.90476190     1     2    no   2.0      no        no
## 1004   no 0.33000 0.20000 0.80000000     1     2    no   8.9     yes        no
## 1005   no 0.33000 0.20000 0.80000000     1     2    no   3.2      no        no
## 1006   no 0.43000 0.27000 0.50000000     1     1    no   3.2      no        no
## 1007   no 0.37000 0.32000 0.77500000     2     2    no   3.2      no        no
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## 1008   no 0.34000 0.31000 0.77464789     2     1    no   2.0      no        no
## 1009  yes 0.43000 0.42000 0.88815789     1     2    no   3.9      no       yes
## 1010  yes 0.36000 0.35000 0.83552632     1     2    no   3.9      no        no
## 1011  yes 0.78000 0.72000 0.90000000     1     2    no   3.6      no        no
## 1012   no 0.38000 0.17000 0.68750000     1     1    no   2.0      no        no
## 1013   no 0.37000 0.31000 0.64930556     1     1    no   3.1      no        no
## 1014   no 0.37000 0.31000 0.14930556     1     1    no   3.1      no        no
## 1015   no 0.42000 0.23000 0.65454545     2     1    no   2.0      no        no
## 1016   no 0.33000 0.25000 0.79503106     2     1    no   3.2      no        no
## 1017   no 0.41000 0.29000 0.85256410     3     2    no   3.2      no        no
## 1018   no 0.38000 0.32000 0.79720280     1     2    no   5.3      no        no
## 1019   no 0.33000 0.33000 0.77419355     1     2    no   2.0      no        no
## 1020   no 0.39000 0.38000 0.80000000     4     2    no  10.6     yes        no
## 1021  yes 0.27000 0.23000 0.80000000     4     2    no   3.2      no        no
## 1022  yes 0.63000 0.24000 0.78888889     5     2   yes   3.2      no        no
## 1023  yes 0.43000 0.38000 0.80378250     5     2    no   8.9      no        no
## 1024   no 0.33000 0.23000 0.80000000     3     2   yes   3.2      no        no
## 1025  yes 0.38000 0.33000 0.79844961     2     2    no   2.0      no        no
## 1026  yes 0.37000 0.18000 0.80575540     5     2    no   3.9      no        no
## 1027  yes 0.21000 0.13000 0.80412371     6     2   yes   3.2     yes        no
## 1028   no 0.21000 0.21000 0.80000000     3     2    no   3.2      no        no
## 1029   no 0.23000 0.18000 1.00000000     2     2   yes   3.9      no        no
## 1030  yes 0.57000 0.36000 1.02857143     1     2    no   4.3     yes        no
## 1031   no 0.27000 0.23000 0.80000000     1     2    no   3.6      no        no
## 1032   no 0.33000 0.23000 1.00000000     1     2    no   3.9      no        no
## 1033   no 0.47000 0.30000 0.70155902     1     1    no   5.3     yes        no
## 1034   no 0.32000 0.29000 0.73598131     1     1    no   3.2      no        no
## 1035   no 0.29000 0.23000 0.91006711     6     1    no   3.2      no        no
## 1036   no 0.47000 0.15000 0.39398281     2     1    no   3.2     yes        no
## 1037   no 0.53000 0.30000 0.66532258     2     1    no   4.3      no        no
## 1038   no 0.31000 0.31000 0.80373832     1     2    no  10.6      no        no
## 1039   no 0.39000 0.28000 0.74842767     2     2    no   3.2      no        no
## 1040   no 0.36000 0.26000 0.84000000     4     1    no   3.9      no        no
## 1041   no 0.42000 0.21000 0.79574468     1     2    no   3.2      no        no
## 1042   no 0.36000 0.27000 0.89937107     3     2    no   2.0      no        no
## 1043   no 0.35000 0.29000 0.72972973     1     2    no   1.8      no        no
## 1044   no 0.26000 0.22000 0.84234234     5     2    no   3.2      no        no
## 1045   no 0.22000 0.21000 0.46315789     2     2    no   3.2      no        no
## 1046   no 0.14000 0.14000 0.26153846     1     2    no   3.2      no        no
## 1047   no 0.32000 0.23000 0.79702970     5     2    no   3.1      no        no
## 1048   no 0.28000 0.27000 0.74299065     4     2    no   1.8      no        no
## 1049   no 0.37000 0.30000 0.77142857     2     2    no  10.6      no        no
## 1050   no 0.28000 0.26000 0.74800000     2     2    no   3.2     yes        no
## 1051   no 0.29000 0.25000 0.47967480     2     2    no   4.3      no        no
## 1052   no 0.27000 0.25000 0.80357143     5     2    no   3.2      no        no
## 1053   no 0.25000 0.24000 0.80303030     2     2    no   3.1      no        no
## 1054   no 0.26000 0.18000 0.80000000     2     2    no   3.1      no        no
## 1055   no 0.30000 0.29000 0.37037037     1     1    no   3.2      no        no
## 1056  yes 0.50000 0.29000 0.79876161     2     1    no   3.6      no        no
## 1057   no 0.38000 0.19000 0.78846154     6     2    no   8.9      no        no
## 1058   no 0.40000 0.25000 0.83818770     2     2    no   3.2      no        no
## 1059   no 0.34000 0.28000 0.79213483     6     2    no   3.2      no        no
## 1060   no 0.32000 0.31000 0.79245283     1     2    no   3.2      no        no
## 1061   no 0.26000 0.21000 0.70588235     2     2    no   3.2      no        no
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## 1062   no 0.20000 0.20000 0.50847458     1     2    no  10.6     yes        no
## 1063   no 0.29000 0.23000 0.84403670     1     1    no   3.2      no        no
## 1064   no 0.32000 0.27000 0.89928058     3     2    no  10.6      no        no
## 1065  yes 0.39000 0.34000 0.79948586     1     1    no   3.2      no        no
## 1066   no 0.19000 0.18000 0.74375000     1     2    no   3.1      no        no
## 1067   no 0.37000 0.32000 0.89855072     1     2    no   3.2      no        no
## 1068   no 0.41000 0.30000 0.55555556     1     1    no   3.9      no        no
## 1069  yes 0.38000 0.23000 0.79464286     2     2    no   3.1      no        no
## 1070   no 0.33000 0.28000 0.88000000     1     2    no  10.6      no        no
## 1071   no 0.34900 0.20200 0.90924833     5     1    no   3.2      no        no
## 1072   no 0.38400 0.30300 0.43137255     2     1    no   3.2      no        no
## 1073   no 0.31000 0.20000 0.49504950     1     1    no   2.0      no        no
## 1074   no 0.27000 0.27000 0.18404908     1     2    no   3.2     yes        no
## 1075   no 0.39600 0.14800 0.28169014     1     2    no   3.9      no        no
## 1076   no 0.26000 0.20000 0.46808511     1     1    no   1.8      no        no
## 1077   no 0.36900 0.33600 0.91851852     2     2    no   2.0      no        no
## 1078  yes 0.31000 0.19600 1.00000000     6     4    no  10.6      no        no
## 1079   no 0.35300 0.31000 0.42857143     3     2    no   2.0      no        no
## 1080   no 0.27600 0.20900 0.46448087     1     1    no   3.2      no        no
## 1081   no 0.31000 0.31000 0.29761905     1     1    no   3.2      no        no
## 1082   no 0.38000 0.33000 0.88095238     1     3    no   3.2      no        no
## 1083   no 0.37000 0.16000 0.76923077     1     3    no   4.3     yes        no
## 1084   no 0.36000 0.22000 0.90476190     2     2    no   3.9      no        no
## 1085   no 0.35000 0.23000 0.91379310     1     2    no   2.0      no        no
## 1086   no 0.36000 0.34000 0.89795918     1     2    no   3.2      no        no
## 1087   no 0.39600 0.16000 0.78947368     1     1    no   3.1      no        no
## 1088   no 0.36000 0.28000 0.88888889     2     2    no   3.2      no        no
## 1089   no 0.36000 0.31000 0.83108108     1     2    no   3.1      no        no
## 1090   no 0.27000 0.27000 0.50000000     1     1    no   4.3      no        no
## 1091   no 0.31000 0.28000 0.80263158     1     1    no   3.2      no        no
## 1092   no 0.34000 0.28000 0.80000000     1     2    no   1.8      no        no
## 1093   no 0.29000 0.24000 0.90000000     6     2    no   3.2      no        no
## 1094   no 0.42000 0.42000 0.77586207     1     1    no   3.2      no        no
## 1095  yes 3.00000 3.00000 0.57142857     1     3    no  10.6     yes        no
## 1096   no 0.33000 0.29000 0.80714286     1     2    no  10.6     yes        no
## 1097   no 0.32000 0.21000 0.90000000     1     2    no   3.9      no        no
## 1098  yes 0.30000 0.20000 0.80000000     6     2   yes   4.3      no        no
## 1099   no 0.29000 0.24000 0.94444444     1     2    no   4.3      no        no
## 1100   no 0.28000 0.17000 0.62962963     2     2    no   4.3      no        no
## 1101   no 0.37000 0.30000 0.92857143     2     2    no   3.2      no        no
## 1102   no 0.37000 0.35000 0.84302326     1     2    no   1.8      no        no
## 1103   no 0.19000 0.16000 0.42857143     2     2    no  10.6      no        no
## 1104   no 0.36000 0.29000 0.54945055     1     2    no   3.6      no        no
## 1105   no 0.83000 0.72000 0.71629213     3     2    no   3.6      no        no
## 1106   no 0.29000 0.16000 0.40625000     1     2    no   3.6      no        no
## 1107   no 0.37000 0.31000 0.90000000     3     2    no   3.6      no        no
## 1108   no 0.21000 0.21000 0.55555556     2     2   yes   3.6      no        no
## 1109   no 0.21000 0.19000 0.55147059     1     2    no   3.6      no        no
## 1110   no 0.29000 0.28000 0.33333333     2     2    no   3.6      no        no
## 1111   no 0.21000 0.14000 0.95294118     5     2    no   3.6      no        no
## 1112   no 0.42000 0.32000 0.80000000     2     2    no   3.6      no        no
## 1113   no 0.22000 0.21000 0.68750000     1     2    no   3.6      no        no
## 1114   no 0.27000 0.23000 0.69822485     2     2    no   3.6      no        no
## 1115   no 0.43000 0.34000 0.95238095     1     2    no   3.6      no        no
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## 1116  yes 0.37000 0.20000 0.89677419     6     2   yes   3.6      no       yes
## 1117   no 0.29000 0.29000 0.95000000     4     2    no   3.6      no        no
## 1118   no 0.17000 0.13000 0.03151066     1     2    no   3.6      no        no
## 1119   no 0.34000 0.24000 0.90131579     5     2    no   3.6      no        no
## 1120   no 0.16000 0.16000 0.36000000     1     2    no   3.6      no        no
## 1121   no 0.13000 0.12000 0.52631579     2     2    no   3.6      no        no
## 1122   no 0.31000 0.24000 0.60941828     2     1    no   3.6      no        no
## 1123   no 0.23000 0.23000 0.72147651     5     2    no   3.6     yes        no
## 1124   no 0.20000 0.18000 0.80000000     2     1    no   3.6      no        no
## 1125   no 0.21000 0.19000 0.29850746     2     2    no   3.6      no        no
## 1126   no 0.24000 0.22000 0.77348066     2     1    no   3.6      no        no
## 1127   no 0.22000 0.22000 0.50000000     1     2    no   3.6      no        no
## 1128   no 0.25000 0.17000 0.58823529     3     2    no   3.6      no        no
## 1129   no 0.34000 0.29000 0.83200000     3     2    no   3.6      no        no
## 1130   no 0.40000 0.31000 0.43668122     2     1    no   3.6      no        no
## 1131   no 0.29000 0.25000 0.66666667     2     1    no   3.6      no        no
## 1132   no 0.29000 0.22000 0.69930070     2     2    no   3.6      no        no
## 1133   no 0.14000 0.14000 0.27906977     1     2    no   3.6      no        no
## 1134   no 0.41000 0.31000 1.00000000     1     2    no   3.6      no        no
## 1135   no 0.37000 0.28000 0.86956522     1     2    no   3.6      no        no
## 1136   no 0.43000 0.43000 0.95238095     5     2    no   3.6      no        no
## 1137   no 0.26000 0.26000 0.90285714     1     2    no   3.6      no        no
## 1138   no 0.23000 0.23000 0.95294118     5     2    no   3.6      no        no
## 1139   no 0.21700 0.21300 0.63888889     1     1    no   3.2      no        no
## 1140   no 0.37000 0.32200 0.73170732     1     2    no   3.1      no        no
## 1141   no 0.33200 0.29400 0.90000000     6     2    no   1.8      no        no
## 1142   no 0.30000 0.23200 0.78688525     2     1    no   3.2     yes        no
## 1143   no 0.37100 0.26100 0.68840580     6     2    no   3.2      no        no
## 1144   no 0.35000 0.23700 0.83937824     1     2    no   4.3      no        no
## 1145   no 0.17000 0.13700 0.22875817     1     2    no   4.3      no        no
## 1146   no 0.26180 0.12330 0.73750000     6     2    no   3.1      no        no
## 1147   no 0.21900 0.21000 0.74324324     5     2    no   8.9      no        no
## 1148   no 0.34800 0.32700 0.80000000     4     2    no   3.1      no        no
## 1149   no 0.36000 0.36000 0.67829457     6     2    no   3.2      no        no
## 1150   no 0.43000 0.11000 0.53741497     1     1    no   3.2      no        no
## 1151   no 0.27000 0.22000 0.19759450     3     1    no   3.6      no        no
## 1152   no 0.36000 0.28000 0.95172414     5     1    no   3.2      no        no
## 1153   no 0.27000 0.23000 0.67625899     5     2   yes   1.8      no        no
## 1154   no 0.31000 0.29000 0.94339623     2     1    no   3.6      no        no
## 1155   no 0.35000 0.30000 0.87969925     1     2    no   3.2      no        no
## 1156   no 0.36000 0.28000 0.89361702     6     2    no   3.1      no        no
## 1157   no 0.26000 0.25000 0.42857143     6     2   yes  10.6     yes        no
## 1158   no 0.36000 0.31000 1.03361345     1     2    no   3.2      no        no
## 1159   no 0.32000 0.30000 0.86440678     1     2    no   3.2      no        no
## 1160   no 0.28000 0.23000 0.91719745     1     2    no   3.2      no        no
## 1161   no 0.34000 0.23000 0.80165289     1     1    no   2.0      no        no
## 1162   no 0.25000 0.24000 0.61363636     1     2    no   3.2      no        no
## 1163  yes 0.35000 0.26000 1.12711864     1     2    no   3.2      no        no
## 1164   no 0.12000 0.07000 0.69620253     1     1    no   3.2     yes        no
## 1165   no 0.33000 0.32000 0.58441558     1     1    no   3.9      no        no
## 1166   no 0.26000 0.17000 0.78709677     1     2    no   3.1      no        no
## 1167   no 0.20000 0.20000 0.71518987     1     2    no   1.8      no        no
## 1168   no 0.31000 0.21000 0.95327103     1     2    no   1.8      no        no
## 1169  yes 0.20000 0.20000 0.92000000     6     2    no  10.6      no        no
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## 1170   no 0.37000 0.29000 1.14084507     1     2    no   3.6      no         no
## 1171   no 0.31000 0.19000 0.28184282     1     1    no   3.6      no         no
## 1172   no 0.38000 0.28000 0.62500000     1     2    no   3.6      no         no
## 1173   no 0.29000 0.09000 0.49333333     1     1    no   3.6     yes         no
## 1174   no 0.35000 0.26000 0.91803279     1     1    no   3.6      no         no
## 1175   no 0.40000 0.26000 0.89930556     1     1    no   3.6      no         no
## 1176   no 0.34000 0.23000 0.92024540     1     2    no   3.2      no         no
## 1177   no 0.33000 0.24000 0.42258065     1     1    no  10.6     yes         no
## 1178   no 0.31000 0.21000 0.76326531     1     1    no   1.8      no         no
## 1179   no 0.41000 0.29000 1.20155039     1     2    no   3.2      no         no
## 1180  yes 0.24000 0.26000 0.49597855     3     1    no   3.6      no         no
## 1181   no 0.24000 0.11000 0.74838710     1     2    no   1.8      no         no
## 1182   no 0.38000 0.20000 0.79729730     6     1    no   3.2      no         no
## 1183   no 0.33000 0.31000 0.87244898     2     2    no   3.2      no         no
## 1184   no 0.32000 0.17000 0.65408805     1     1    no   3.2      no         no
## 1185   no 0.37000 0.28000 0.90532544     1     2    no   1.8      no         no
## 1186   no 0.38000 0.23000 0.47000000     2     1    no   3.2      no         no
## 1187   no 0.31000 0.28000 0.78750000     2     2    no  10.6      no         no
## 1188  yes 0.31000 0.31000 0.59668508     6     2    no   3.6      no         no
## 1189   no 0.35000 0.26000 0.92948718     1     2    no   3.2      no         no
## 1190   no 0.31000 0.29000 0.78378378     1     1    no   3.6      no         no
## 1191   no 0.24000 0.23000 0.27397260     1     2    no   3.6      no         no
## 1192   no 0.35000 0.16000 0.64516129     1     2    no   3.6      no         no
## 1193   no 0.37000 0.30000 0.78481013     1     2    no   3.2      no         no
## 1194   no 0.30000 0.28000 0.92361111     1     2    no  10.6      no         no
## 1195   no 0.31000 0.31000 0.92857143     1     2    no   3.2      no         no
## 1196   no 0.17000 0.17000 0.24935065     1     1    no   3.2      no         no
## 1197   no 0.37000 0.29000 0.74736842     1     2    no   3.2      no         no
## 1198  yes 0.24000 0.15000 0.75342466     1     2    no   3.2      no         no
## 1199  yes 0.35000 0.28000 0.14516129     1     1    no   3.2      no         no
## 1200  yes 0.35000 0.28000 0.74193548     2     1    no   3.2      no         no
## 1201   no 0.32000 0.23000 0.79746835     5     2    no   4.3      no         no
## 1202   no 0.33000 0.28000 0.84705882     1     2    no   1.8      no         no
## 1203   no 0.35000 0.26000 0.78823529     1     1    no   3.2      no         no
## 1204  yes 0.39000 0.18000 0.94736842     6     1    no   5.3      no         no
## 1205   no 0.28000 0.27000 0.66546763     6     2    no   3.2      no         no
## 1206  yes 0.40000 0.31000 0.89444444     6     2    no   3.2      no         no
## 1207   no 0.47000 0.22000 0.31592689     1     1    no   3.2     yes         no
## 1208   no 0.38000 0.28000 0.57142857     1     2    no   3.1      no         no
## 1209   no 0.39000 0.23000 0.88888889     6     3    no   4.3      no         no
## 1210   no 0.32000 0.23000 0.87394958     6     2    no  10.6      no         no
## 1211   no 0.37000 0.30000 0.45693780     6     1    no   3.1     yes         no
## 1212   no 0.49000 0.27000 0.19948187     1     1    no   3.2      no         no
## 1213   no 0.17000 0.09000 0.75690608     1     1    no   4.3     yes         no
## 1214   no 0.33000 0.29000 0.58441558     1     2    no   3.1      no         no
## 1215   no 0.33000 0.27000 0.33962264     5     2    no   4.3     yes         no
## 1216   no 0.27000 0.26000 0.79569892     1     2    no   3.9      no         no
## 1217   no 0.32000 0.29000 1.09565217     5     1    no   3.2      no         no
## 1218   no 0.35000 0.27000 0.92830189     1     1    no   3.6      no         no
## 1219   no 0.33000 0.31000 0.74444444     1     2    no   3.2      no         no
## 1220   no 0.29000 0.29000 0.79470199     1     2    no   3.6     yes         no
## 1221   no 0.32000 0.22000 0.79518072     1     2    no   2.0      no         no
## 1222   no 0.37000 0.26000 0.89534884     1     2    no   2.0      no         no
## 1223   no 0.26000 0.25000 0.89230769     1     2    no   3.2      no         no
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## 1224   no 0.35000 0.27000 0.88513514     1     2    no   4.3      no        no
## 1225   no 0.26000 0.25000 0.91612903     1     2    no   3.1      no        no
## 1226   no 0.31000 0.20000 0.77058824     1     2    no   1.8      no        no
## 1227   no 0.35000 0.30000 0.80000000     1     2    no   3.2      no        no
## 1228  yes 0.55000 0.32000 0.90303030     2     2    no   4.3      no        no
## 1229   no 0.31000 0.28000 0.77397260     1     2    no   2.0      no        no
## 1230   no 0.24000 0.14000 0.54545455     2     1    no   3.6      no        no
## 1231   no 0.34000 0.31000 0.80128205     1     2    no   3.2     yes        no
## 1232  yes 0.30000 0.23000 0.90285714     6     2   yes   3.2      no        no
## 1233   no 0.33000 0.32000 0.74576271     1     1    no   3.2     yes        no
## 1234  yes 0.37000 0.31000 0.89922481     3     2   yes   3.2      no        no
## 1235   no 0.25000 0.20000 0.80272109     1     2    no   3.2      no        no
## 1236   no 0.29000 0.21000 0.78350515     1     1    no   3.2     yes        no
## 1237   no 0.32000 0.20000 0.88815789     2     1    no   3.2      no        no
## 1238   no 0.36000 0.15000 0.76923077     2     1    no   3.1      no        no
## 1239   no 0.24000 0.23000 0.79041916     1     1    no   3.2      no        no
## 1240   no 0.10000 0.04000 0.80000000     1     1    no   3.2      no        no
## 1241   no 0.34000 0.28000 0.89655172     1     2    no   3.1      no        no
## 1242   no 0.43000 0.30000 0.66666667     2     3   yes  10.6      no        no
## 1243   no 0.39000 0.30000 0.71301248     1     2    no   4.3     yes        no
## 1244   no 0.31000 0.28000 0.77622378     2     2    no   4.3      no        no
## 1245   no 0.37000 0.26000 0.67692308     2     2    no   5.3      no        no
## 1246   no 0.31000 0.25000 0.59970015     1     1    no   1.8      no        no
## 1247   no 0.37000 0.26000 0.49857550     2     1    no   5.3      no        no
## 1248   no 0.24000 0.20000 0.64833006     1     2    no   1.8     yes        no
## 1249   no 0.37000 0.24000 0.65597668     1     1    no   1.8      no        no
## 1250   no 0.35000 0.27000 1.00000000     1     2    no   3.2      no        no
## 1251   no 0.29000 0.26000 0.70000000     2     1    no  10.6     yes        no
## 1252   no 0.29000 0.28000 0.36441586     2     1    no   3.9      no        no
## 1253   no 0.07000 0.07000 0.75223881     1     1    no  10.6     yes        no
## 1254   no 0.36000 0.33000 0.80000000     1     2    no   2.0      no        no
## 1255   no 0.25000 0.22000 0.52830189     1     1    no  10.6      no        no
## 1256   no 0.21000 0.18000 0.70370370     1     2    no  10.6     yes        no
## 1257   no 0.13000 0.10000 0.45454545     2     1    no   4.3      no        no
## 1258   no 0.34000 0.23000 1.00000000     2     4   yes   4.3      no        no
## 1259   no 0.39000 0.33000 0.72413793     2     1    no   3.2      no        no
## 1260   no 0.30000 0.29000 0.68259386     2     2    no   2.0      no        no
## 1261   no 0.29000 0.17000 1.00000000     1     2    no   3.1      no        no
## 1262   no 0.17000 0.12000 0.49848943     1     1    no   3.2      no        no
## 1263   no 0.37000 0.27000 0.47709924     1     2    no   3.2      no        no
## 1264  yes 0.44000 0.37000 0.82123894     2     2    no   3.2     yes        no
## 1265   no 0.37000 0.28000 0.65934063     5     1    no   3.2      no        no
## 1266   no 0.25000 0.23000 0.76511096     1     1    no   3.1      no        no
## 1267   no 0.26000 0.25000 0.99518460     2     2    no   1.8      no        no
## 1268  yes 0.75000 0.29000 0.44871795     1     2    no   8.9      no        no
## 1269   no 0.17500 0.12000 0.50847458     1     2    no   4.3      no        no
## 1270   no 0.18000 0.18000 0.74509804     1     2    no   1.8      no        no
## 1271   no 0.35000 0.30000 0.44635193     1     1    no   3.2     yes        no
## 1272   no 0.27600 0.26000 1.00000000     1     2    no   3.2      no        no
## 1273  yes 0.28000 0.28000 0.94623656     1     2    no   3.9      no        no
## 1274   no 0.33000 0.22000 0.85833333     5     2    no   3.2      no        no
## 1275   no 0.18000 0.18000 0.60439560     4     2    no   4.3      no        no
## 1276   no 0.48000 0.34000 0.60439560     2     2    no   3.2     yes        no
## 1277   no 0.19000 0.19000 0.83333333     4     2    no   3.2      no        no
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## 1278   no 0.40000 0.30000 0.92727273     5     2    no   3.2      no         no
## 1279   no 0.55000 0.23000 0.57471264     3     2    no   3.2      no         no
## 1280   no 0.39000 0.28000 0.80373832     4     2    no   3.9      no         no
## 1281  yes 0.69200 0.37800 0.80000000     5     2    no   3.2     yes         no
## 1282   no 0.40600 0.29000 1.14000000     1     1    no   3.2      no         no
## 1283  yes 0.41200 0.30800 1.00067617     1     2    no   2.0      no         no
## 1284  yes 0.30000 0.26500 0.94814815     2     2    no   3.2      no         no
## 1285   no 0.34800 0.16400 0.77916667     1     2    no   3.2      no         no
## 1286   no 0.32500 0.27200 0.90344828     1     1    no   4.3      no         no
## 1287   no 0.35900 0.28000 0.80000000     3     1    no   4.3      no         no
## 1288   no 0.30000 0.26500 0.90370370     2     2    no   3.2      no         no
## 1289   no 0.26700 0.18500 0.79444444     1     2    no   3.2      no         no
## 1290   no 0.33000 0.31000 0.78095238     1     2    no   2.0      no         no
## 1291   no 0.30500 0.22500 0.68421053     5     1    no   2.0      no         no
## 1292   no 0.32000 0.28000 0.87333333     1     2    no   3.2     yes         no
## 1293   no 0.37000 0.25000 0.94267516     1     2    no  10.6      no         no
## 1294   no 0.24400 0.20400 0.69230769     1     2    no   4.3     yes         no
## 1295   no 0.32400 0.30000 0.74626866     1     1    no   4.3      no         no
## 1296  yes 0.35000 0.29200 0.88484848     6     2   yes   3.2      no         no
## 1297   no 0.38000 0.14000 0.77746479     2     2    no   4.3      no         no
## 1298   no 0.24000 0.19700 0.86885246     1     2    no   1.8      no         no
## 1299   no 0.31200 0.25700 0.80116959     1     2    no   4.3      no         no
## 1300   no 0.32000 0.25900 0.67647059     1     2    no   3.1      no         no
## 1301   no 0.36000 0.18300 0.79464286     2     2    no   3.1      no         no
## 1302   no 0.17600 0.12000 0.67187500     2     2    no   3.2     yes         no
## 1303   no 0.31000 0.24000 0.80303030     1     2    no  10.6     yes         no
## 1304   no 0.27000 0.23000 0.77500000     1     2    no   3.2      no         no
## 1305  yes 0.30000 0.30000 0.50000000     6     2   yes   3.1      no         no
## 1306  yes 0.41000 0.21000 0.90052356     2     1    no   1.8      no         no
## 1307   no 0.19000 0.12000 0.41176471     1     2    no   3.9      no         no
## 1308   no 0.20000 0.19000 0.53428571     6     1    no   3.2      no         no
## 1309   no 0.40000 0.14600 0.66666667     1     1    no   3.9      no         no
## 1310   no 0.32000 0.25800 0.77358491     2     2    no   3.2      no         no
## 1311   no 0.35000 0.33000 0.74022989     5     1    no   3.2     yes         no
## 1312   no 0.37000 0.27000 0.66666667     2     2    no   3.2      no         no
## 1313   no 0.35000 0.29000 0.94430380     1     1    no   3.2      no         no
## 1314   no 0.33000 0.18000 0.78239609     1     1    no   8.9      no         no
## 1315   no 0.15000 0.15000 0.72202166     1     2    no   5.3     yes         no
## 1316   no 0.34000 0.23000 0.46448087     1     1    no   3.9      no         no
## 1317   no 0.27000 0.17000 0.71337580     1     1    no   3.1     yes         no
## 1318   no 0.34000 0.18000 0.80000000     5     1    no   3.2      no         no
## 1319   no 0.30000 0.22000 0.64233577     2     1    no   3.2      no         no
## 1320   no 0.32000 0.32000 0.59574468     1     2    no   3.1      no         no
## 1321   no 1.28000 0.73000 0.70754717     1     1    no   4.3     yes         no
## 1322   no 0.28000 0.15000 0.79646018     2     1    no   3.9      no         no
## 1323   no 0.24000 0.22000 0.70370370     1     1    no  10.6     yes         no
## 1324   no 0.24000 0.24000 0.80000000     1     2    no   4.3      no         no
## 1325   no 0.38000 0.36000 1.03157895     1     1    no   3.2      no         no
## 1326   no 0.32000 0.26000 0.90000000     1     2    no   3.9      no         no
## 1327   no 0.35000 0.24000 0.86363636     2     2    no   3.2      no         no
## 1328   no 0.25000 0.17000 1.18750000     1     2    no   4.3      no         no
## 1329   no 0.44000 0.11000 0.50000000     1     1    no   2.0      no         no
## 1330   no 0.12000 0.12000 0.33333333     2     2    no   3.2      no         no
## 1331   no 0.21000 0.21000 0.63829787     1     1    no   3.2      no         no
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## 1332   no 0.24000 0.24000 0.73333333     1     1    no  10.6     yes        no
## 1333   no 0.36000 0.36000 0.59183673     1     1    no   3.2      no        no
## 1334   no 0.32000 0.19000 0.80341880     2     2    no   4.3      no        no
## 1335   no 0.42000 0.35000 0.80000000     2     3    no   3.2     yes        no
## 1336   no 0.37000 0.24000 0.59649123     1     1   yes   3.2     yes        no
## 1337   no 0.33000 0.32000 0.67025090     3     4    no  10.6     yes        no
## 1338   no 0.27000 0.22000 0.49107143     1     1    no   3.2      no        no
## 1339   no 0.30000 0.26000 0.58252427     1     1    no   2.0      no        no
## 1340   no 0.48000 0.48000 0.72820513     3     1    no  10.6     yes        no
## 1341   no 0.19000 0.17000 0.78666667     1     2    no   3.1      no        no
## 1342   no 0.19000 0.17000 0.63291139     1     2    no   3.2      no        no
## 1343   no 0.31000 0.31000 0.72368421     1     1    no   3.2      no        no
## 1344   no 0.36000 0.28000 0.79870130     6     2    no   3.9      no        no
## 1345   no 0.21000 0.13000 0.42682927     5     1    no   2.0      no        no
## 1346   no 0.33000 0.24000 0.54761905     1     1    no   3.9      no        no
## 1347   no 0.36000 0.35000 0.73170732     1     2    no   2.0      no        no
## 1348   no 0.37000 0.30000 0.78260870     6     2   yes   1.8      no        no
## 1349   no 0.35000 0.25000 0.77380952     2     1    no   3.2      no        no
## 1350   no 0.42000 0.14000 0.79844961     1     2    no   3.6      no        no
## 1351   no 0.34000 0.26000 0.86764706     6     2    no   3.9      no        no
## 1352   no 0.24000 0.17000 0.79870130     1     1    no   4.3      no        no
## 1353   no 0.38000 0.24000 0.89795918     1     2    no   2.0      no        no
## 1354   no 0.38000 0.28000 0.27397260     1     2    no   8.9      no        no
## 1355   no 0.18000 0.01000 0.79629630     2     2    no   1.8     yes        no
## 1356   no 0.34000 0.20000 0.59259259     5     1    no   8.9     yes        no
## 1357   no 0.33000 0.28000 0.92307692     1     2    no   3.9      no        no
## 1358   no 0.25000 0.20000 0.88148148     6     2    no   3.2      no        no
## 1359   no 0.38000 0.31000 0.91549296     6     2    no  10.6      no        no
## 1360   no 0.35000 0.26000 0.79310345     1     1    no   5.3     yes        no
## 1361   no 0.38000 0.23000 0.80000000     1     2    no   1.8      no        no
## 1362   no 0.37000 0.24000 0.60000000     6     2   yes   3.1     yes        no
## 1363   no 0.38000 0.35000 0.72580645     6     2   yes   2.0      no        no
## 1364   no 0.36000 0.26000 0.65686275     2     1    no   3.1      no        no
## 1365   no 0.34000 0.30000 0.92253521     1     2    no   3.9      no        no
## 1366   no 0.36000 0.29000 0.47814208     1     2    no   3.2      no        no
## 1367   no 0.23000 0.20000 0.61068702     1     1    no   1.8      no        no
## 1368   no 0.30000 0.29000 0.87142857     1     2    no   4.3      no        no
## 1369   no 0.29000 0.27000 0.69259259     1     1    no   1.8      no        no
## 1370   no 0.39000 0.36000 0.64625850     5     1    no   3.9      no        no
## 1371  yes 0.36000 0.26000 0.94827586     6     2   yes   4.3      no        no
## 1372   no 0.28000 0.16000 0.80000000     1     1    no   3.2      no        no
## 1373   no 0.38000 0.18000 0.87596899     1     2    no   1.8      no        no
## 1374   no 0.26000 0.26000 0.50251256     5     1    no   3.2     yes        no
## 1375   no 0.44000 0.30000 0.91538462     5     1    no   3.9      no        no
## 1376   no 0.34000 0.32000 0.72413793     6     2   yes   3.2      no        no
## 1377   no 0.34000 0.21000 0.87692308     5     2    no   3.2      no        no
## 1378   no 0.38000 0.29000 0.78431373     6     2    no   3.1      no        no
## 1379   no 0.38000 0.29000 0.52995392     6     4   yes  10.6      no        no
## 1380   no 0.35000 0.21000 0.91538462     1     1    no   3.1      no        no
## 1381  yes 0.16000 0.14000 0.80000000     6     2    no   3.6      no        no
## 1382   no 0.31000 0.20000 0.74380165     6     2    no   1.8      no        no
## 1383   no 0.36000 0.27000 0.46153846     5     2    no   3.9      no        no
## 1384   no 0.31000 0.31000 0.86206897     5     2    no   2.0     yes        no
## 1385  yes 0.45000 0.21000 0.65789474     1     2    no   3.2      no        no
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## 1386   no 0.39000 0.38000 0.57471264     1     2    no   3.2      no         no
## 1387  yes 0.20000 0.07000 0.80000000     6     3    no   3.6      no         no
## 1388   no 0.24000 0.23000 0.67164179     4     2    no   3.2      no         no
## 1389   no 0.45000 0.45000 0.72222222     2     2    no   3.2      no         no
## 1390   no 0.61000 0.26000 0.88888889     1     1    no   3.1      no         no
## 1391   no 0.27000 0.18000 0.88500000     1     2    no   3.2      no         no
## 1392   no 0.55000 0.24000 0.51063830     3     4    no   1.8      no         no
## 1393   no 0.32000 0.29000 0.92913386     3     2    no   3.2      no         no
## 1394   no 0.17000 0.09000 0.88888889     1     1    no   3.2      no         no
## 1395  yes 0.47000 0.35000 0.80357143     3     1    no   4.3      no         no
## 1396   no 0.14000 0.14000 0.59259259     1     1    no   3.2     yes         no
## 1397   no 0.38000 0.28000 0.85000000     1     2    no   3.2      no         no
## 1398   no 0.31000 0.23000 0.76219512     1     2    no   3.9     yes         no
## 1399   no 0.53000 0.29000 0.59259259     1     1    no   3.2      no         no
## 1400   no 0.26000 0.17000 0.70769231     1     1    no   3.1      no         no
## 1401   no 0.20000 0.20000 0.76595745     3     1    no   3.2      no         no
## 1402   no 0.33000 0.16000 0.80000000     1     2    no   3.2     yes         no
## 1403   no 0.20000 0.13000 0.54744526     1     2    no   3.2     yes         no
## 1404   no 0.52000 0.28000 0.68965517     3     1   yes   4.3      no         no
## 1405   no 0.33000 0.15000 0.41791045     1     2    no   1.8      no         no
## 1406   no 0.19000 0.10000 0.38805970     2     2    no   3.2      no         no
## 1407   no 0.29400 0.25300 0.90196078     1     2    no   3.2      no         no
## 1408  yes 0.29300 0.29300 0.84848485     1     2    no   3.6      no         no
## 1409   no 0.33700 0.33100 0.35211268     2     1    no   3.9      no         no
## 1410   no 0.20100 0.13100 0.30769231     2     1    no   2.0      no         no
## 1411   no 0.26400 0.18800 0.33898305     2     1    no  10.6      no         no
## 1412   no 0.27970 0.25220 0.88524590     2     2    no   3.2      no         no
## 1413   no 0.44000 0.31000 0.80090498     1     1    no   3.2      no         no
## 1414   no 0.26730 0.18910 0.80000000     1     1    no   3.2      no         no
## 1415   no 0.41000 0.38000 0.72368421     1     2    no   3.9      no         no
## 1416   no 0.28440 0.21430 0.33812950     1     1    no   3.1      no         no
## 1417   no 0.30000 0.29000 0.20000000     2     2    no   3.2      no         no
## 1418   no 0.27000 0.15000 0.33333333     6     2    no   1.8      no         no
## 1419   no 0.33270 0.32190 0.76875000     6     2   yes   3.9      no         no
## 1420   no 0.30730 0.29140 0.80000000     1     2    no   3.2      no         no
## 1421   no 0.36610 0.24900 0.90000000     6     2    no   1.8      no         no
## 1422   no 0.43910 0.42610 0.79824561     6     1    no   3.6      no         no
## 1423  yes 0.12000 0.12000 0.79545455     3     2   yes   1.8      no         no
## 1424   no 0.36000 0.32000 0.75675676     2     1    no   3.2      no         no
## 1425  yes 0.41000 0.13000 0.80000000     5     1   yes   8.9      no         no
## 1426   no 0.33000 0.27000 0.40000000     1     1    no   3.2      no         no
## 1427   no 0.38000 0.34000 0.48780488     1     2    no  10.6     yes         no
## 1428   no 0.32000 0.32000 0.60000000     1     2    no   3.2      no         no
## 1429  yes 0.32000 0.24000 0.90285714     6     2   yes   3.2     yes         no
## 1430   no 0.36500 0.26200 0.61818182     2     2    no   3.9      no         no
## 1431   no 0.28000 0.25000 0.67118644     2     1    no   3.2      no         no
## 1432   no 0.35000 0.19000 0.51948052     2     1    no   2.0      no         no
## 1433   no 0.23100 0.08300 0.17910448     1     1    no   5.3      no         no
## 1434   no 0.31000 0.29000 0.53636364     1     2    no   3.2      no         no
## 1435   no 0.11400 0.07400 0.54495913     1     1    no   4.3      no         no
## 1436   no 0.30000 0.29800 0.48958333     2     1    no   3.1      no         no
## 1437   no 0.28700 0.27600 0.68965517     1     2    no  10.6     yes         no
## 1438   no 0.43000 0.32000 0.85714286     1     2    no   3.2      no         no
## 1439   no 0.35000 0.25000 0.89010989     1     2    no   3.9      no         no
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## 1440   no 0.33000 0.32000 0.80864198     1     2    no   3.2      no        no
## 1441   no 0.42000 0.34000 0.86400000     2     2    no   4.3      no        no
## 1442   no 0.50000 0.32000 1.00000000     1     2    no   3.9      no        no
## 1443   no 0.40000 0.24000 1.00000000     1     1    no   2.0      no        no
## 1444   no 0.38000 0.37000 0.73255814     2     2    no   2.0      no        no
## 1445   no 0.33000 0.32000 0.80141844     1     2    no   3.2      no        no
## 1446   no 0.22000 0.21000 0.90151515     1     2    no   3.2      no        no
## 1447   no 0.38000 0.33000 0.65000000     2     1   yes   2.0      no        no
## 1448   no 0.38000 0.33000 0.59183673     1     2    no   3.2      no        no
## 1449   no 0.38000 0.33000 0.80000000     1     1    no   3.1      no        no
## 1450   no 0.38000 0.33000 0.78918919     5     4    no   4.3      no        no
## 1451   no 0.38000 0.28000 0.80000000     1     2    no   4.3      no        no
## 1452   no 0.38000 0.33000 0.37500000     2     1    no   4.3     yes        no
## 1453  yes 0.38000 0.33000 0.41666667     3     1    no   4.3      no        no
## 1454   no 0.38000 0.33000 0.76000000     3     2    no   3.2      no        no
## 1455   no 0.38000 0.33000 0.77333333     2     1    no   4.3      no        no
## 1456   no 0.23000 0.20000 0.76923077     1     2    no   3.2      no        no
## 1457   no 0.26000 0.26000 0.36666667     1     2    no   4.3      no        no
## 1458   no 0.15000 0.15000 0.63157895     1     2    no   3.2      no        no
## 1459   no 0.17000 0.14000 0.48936170     1     1    no   3.2      no        no
## 1460   no 0.28000 0.28000 0.43681319     1     1    no   3.2      no        no
## 1461  yes 0.30000 0.30000 0.86857143     1     2    no   3.9      no        no
## 1462   no 0.30000 0.22000 0.63380282     1     1    no   3.2      no        no
## 1463   no 0.17000 0.16000 0.76923077     1     1    no   2.0      no        no
## 1464   no 0.38000 0.21000 0.80000000     1     2    no   3.9      no        no
## 1465  yes 0.37000 0.31000 0.81967213     6     2    no   3.2      no        no
## 1466   no 0.35000 0.28000 0.76551724     1     2    no   3.2      no        no
## 1467   no 0.57700 0.23000 0.79166667     1     1    no   1.8      no        no
## 1468   no 0.37000 0.25000 0.87484812     1     1    no   3.1      no        no
## 1469   no 0.36700 0.28000 0.80000000     6     1    no   3.2     yes        no
## 1470   no 0.48700 0.26000 0.74183976     1     1    no   1.8      no        no
## 1471   no 0.39900 0.22000 0.36153846     1     1   yes   3.1      no        no
## 1472   no 0.36200 0.27000 0.86778399     1     2    no   3.2      no        no
## 1473   no 0.42000 0.19600 0.74054054     1     1    no   3.2      no        no
## 1474   no 0.43100 0.18500 0.66666667     1     2    no   3.1      no        no
## 1475   no 0.36000 0.33000 0.49142857     1     1    no   3.9      no        no
## 1476   no 0.37000 0.26000 0.92857143     5     2    no   1.8      no        no
## 1477   no 0.34000 0.32000 0.76521739     1     2    no   2.0      no        no
## 1478   no 0.30000 0.33000 0.92356688     1     2    no   3.1      no        no
## 1479   no 0.38000 0.33000 0.54054054     3     1    no   1.8      no        no
## 1480   no 0.38000 0.30000 0.73714286     5     2    no   3.2      no        no
## 1481   no 0.32000 0.31000 0.78947368     5     2    no   3.2      no        no
## 1482   no 0.25000 0.25000 0.73170732     1     2    no   3.9      no        no
## 1483   no 0.27000 0.27000 0.75155280     1     2    no   3.9      no        no
## 1484   no 0.40000 0.12000 0.57894737     6     2    no   3.1      no        no
## 1485   no 0.36000 0.24000 0.79850746     5     2    no   5.3      no        no
## 1486   no 0.32000 0.22000 0.89268293     5     2    no   3.2      no        no
## 1487   no 0.38000 0.31000 0.74814815     1     2    no   3.9      no        no
## 1488   no 0.27000 0.27000 0.84705882     6     2    no   3.2      no        no
## 1489   no 0.30000 0.30000 0.60077519     2     1    no   3.1      no        no
## 1490   no 0.33000 0.31000 0.77300613     1     2    no   3.2      no        no
## 1491   no 0.28000 0.25000 0.80000000     1     2    no   3.2      no        no
## 1492   no 0.29000 0.28000 0.90000000     5     2    no   3.2      no        no
## 1493   no 0.32000 0.29000 0.48969072     1     1    no   5.3      no        no
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## 1494   no 0.31000 0.21000 0.78873239     5     2    no   3.2      no        no
## 1495   no 0.39000 0.23000 0.74683544     1     1    no   3.6      no        no
## 1496   no 0.32040 0.26990 0.75102041     5     2   yes   3.2     yes        no
## 1497   no 0.36690 0.25830 0.70289855     2     2    no   4.3     yes        no
## 1498   no 0.40990 0.20390 0.74342105     1     2    no   4.3     yes        no
## 1499   no 0.26000 0.22000 0.94594595     6     2    no   3.9      no        no
## 1500   no 0.39000 0.27000 0.79200000     1     2    no   3.2      no        no
## 1501   no 0.10620 0.02800 0.59701493     2     2    no   2.0      no        no
## 1502   no 0.32000 0.31000 0.80314961     2     2    no   5.3      no        no
## 1503   no 0.36000 0.36000 0.47619048     1     1    no   4.3      no        no
## 1504   no 0.38000 0.29000 0.90000000     6     2    no   3.2      no        no
## 1505   no 0.28000 0.24000 0.77746479     5     2    no   3.2     yes        no
## 1506   no 0.38000 0.28000 0.80000000     5     2    no   3.1      no        no
## 1507  yes 0.31000 0.26000 0.70566038     5     2    no   3.2     yes        no
## 1508   no 0.35000 0.30000 0.89743590     1     2    no   4.3      no        no
## 1509   no 0.16000 0.14000 0.41666667     4     3    no   3.2     yes        no
## 1510   no 0.33000 0.32000 0.65333333     1     2    no   3.1      no        no
## 1511  yes 0.39000 0.27000 0.89622642     6     2   yes   3.1      no        no
## 1512   no 0.26000 0.21000 0.48571429     1     1    no   3.2      no        no
## 1513   no 0.36000 0.28000 0.74193548     2     2    no   8.9      no        no
## 1514   no 0.34000 0.29000 0.76956522     1     2    no   3.9      no        no
## 1515   no 0.36000 0.28000 0.67889908     1     1   yes   2.0      no        no
## 1516   no 0.33000 0.25000 0.50400000     1     2    no   3.2      no        no
## 1517   no 0.36000 0.28000 0.74725275     3     1   yes   3.2      no        no
## 1518   no 0.37000 0.36000 0.73553719     1     2    no   3.1      no        no
## 1519   no 0.22000 0.15000 0.79310345     1     2    no   1.8      no        no
## 1520   no 0.34000 0.26000 0.78527607     2     1    no   2.0      no        no
## 1521   no 0.34000 0.25000 0.72289157     1     1    no   5.3      no        no
## 1522   no 0.40000 0.31000 0.92063492     5     2    no   3.2      no        no
## 1523   no 0.10000 0.06000 0.51232877     1     1    no   3.2     yes        no
## 1524   no 0.40000 0.29000 0.91525424     1     2    no   3.2      no        no
## 1525   no 0.28000 0.28000 0.52830189     1     1    no   3.2      no        no
## 1526   no 0.36000 0.29000 0.88617886     1     2   yes   1.8      no        no
## 1527   no 0.39000 0.34000 0.91443850     1     2    no   3.2      no        no
## 1528   no 0.22000 0.17000 0.67906977     3     1    no   3.2      no        no
## 1529   no 0.36000 0.22000 0.81176471     1     2    no   4.3      no        no
## 1530   no 0.34000 0.23000 0.91612903     1     1    no   3.2      no        no
## 1531   no 0.32000 0.24000 0.80000000     1     2    no   3.2      no        no
## 1532   no 0.39000 0.36000 0.80000000     2     1   yes   3.1      no        no
## 1533  yes 0.31000 0.29000 0.29585799     1     2    no   3.2      no        no
## 1534   no 0.37000 0.30000 0.77828054     1     1    no   3.2      no        no
## 1535   no 0.42000 0.34000 0.86341463     1     1    no   5.3      no        no
## 1536   no 0.27000 0.21000 0.90225564     6     2   yes   3.2      no        no
## 1537   no 0.37000 0.29000 0.93006993     1     1    no   3.1      no        no
## 1538   no 0.32000 0.23000 0.77142857     1     2    no   1.8      no        no
## 1539   no 0.29000 0.27000 0.90270270     1     2    no   3.2     yes        no
## 1540   no 0.37000 0.24000 0.89010989     2     2    no  10.6      no        no
## 1541   no 0.36000 0.33000 0.60169492     6     2    no   1.8      no        no
## 1542   no 0.36000 0.24000 0.76595745     1     1   yes   4.3      no        no
## 1543   no 0.33000 0.16000 0.80219780     6     2    no   1.8      no        no
## 1544  yes 0.29000 0.29000 0.68877551     1     1    no   8.9     yes        no
## 1545  yes 0.26000 0.26000 0.69226297     4     2    no  10.6      no        no
## 1546   no 0.29000 0.21000 0.86666667     2     2    no   2.0      no        no
## 1547   no 0.32000 0.14000 0.54666667     1     1    no   1.8      no        no
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## 1548   no 0.21000 0.17000 0.60109290     1     1    no   3.1      no        no
## 1549   no 0.32000 0.19000 0.77611940     1     1    no   3.6      no        no
## 1550   no 0.29000 0.24000 0.75609756     1     1    no   1.8      no        no
## 1551   no 0.36000 0.32000 0.87037037     1     2    no   3.2      no        no
## 1552   no 0.36000 0.31000 0.78571429     1     1    no   3.1      no        no
## 1553   no 0.22000 0.22000 0.67701863     1     2    no   3.2      no        no
## 1554   no 0.25000 0.25000 0.71328671     1     1    no   3.2      no        no
## 1555   no 0.35000 0.24000 0.76666667     1     2    no   2.0      no        no
## 1556   no 0.26000 0.21000 0.80000000     2     2    no   3.2      no        no
## 1557   no 0.33000 0.25000 0.69259259     2     2    no   3.2     yes        no
## 1558   no 0.31000 0.26000 0.93918919     5     2   yes   3.2      no        no
## 1559   no 0.34000 0.24000 0.51546392     2     1    no  10.6      no        no
## 1560   no 0.30000 0.22000 0.47826087     5     1    no   3.1      no        no
## 1561   no 0.33000 0.28000 0.54000000     1     1    no   3.9      no        no
## 1562   no 0.39000 0.34000 0.88524590     1     1    no   2.0      no        no
## 1563   no 0.36000 0.25000 0.86896552     5     2   yes  10.6      no        no
## 1564   no 0.28000 0.27000 0.72727273     1     1    no   3.9      no        no
## 1565   no 0.26000 0.22000 0.89743590     1     2    no   3.2      no        no
## 1566   no 0.35000 0.29000 0.92086331     1     2   yes   2.0      no        no
## 1567   no 0.29000 0.29000 0.62427746     5     2    no   3.6      no        no
## 1568   no 0.34000 0.33000 0.77777778     2     2    no   3.2      no        no
## 1569   no 0.30000 0.29000 0.76836158     5     2    no   3.9      no        no
## 1570   no 0.25000 0.24000 0.26666667     2     2    no   3.1      no        no
## 1571   no 0.28000 0.28000 0.76271186     1     1    no   3.2      no        no
## 1572   no 0.36000 0.28000 0.94949495     2     2    no   5.3      no        no
## 1573   no 0.35000 0.30000 0.89915966     2     2   yes   3.1      no        no
## 1574   no 0.31000 0.29000 0.73267327     1     1    no   5.3      no        no
## 1575   no 0.26000 0.24000 0.65891473     3     1   yes   3.9      no        no
## 1576   no 0.27000 0.24000 0.95098039     1     2    no   3.2      no        no
## 1577   no 0.32000 0.18000 0.64356436     1     1    no   3.9      no        no
## 1578   no 0.31000 0.28000 0.74712644     2     2    no   3.1      no        no
## 1579   no 0.38000 0.31000 0.88165680     1     1    no   3.2      no        no
## 1580   no 0.27000 0.27000 0.74285714     1     2    no   3.2      no        no
## 1581   no 0.27000 0.22000 0.89436620     3     2    no   3.1      no        no
## 1582   no 0.23000 0.16000 0.86486486     2     1    no   3.2     yes        no
## 1583   no 0.33000 0.30000 0.87804878     1     1    no   3.1      no        no
## 1584   no 0.30000 0.27000 0.73949580     1     2    no   3.2      no        no
## 1585   no 0.37000 0.33000 0.68965517     1     2    no   3.2      no        no
## 1586   no 0.35000 0.29000 0.89189189     1     2   yes   3.9      no        no
## 1587   no 0.30000 0.29000 0.77777778     1     2    no   3.2      no        no
## 1588  yes 0.69000 0.26000 0.60747664     1     3    no  10.6      no        no
## 1589   no 0.24000 0.20000 0.51775148     1     2    no   3.2     yes        no
## 1590   no 0.25000 0.24000 0.68000000     1     2    no   3.2      no        no
## 1591   no 0.27000 0.26000 0.72448980     1     2    no   3.2      no        no
## 1592   no 0.29000 0.24000 0.77941176     1     2    no   1.8      no        no
## 1593   no 0.34000 0.22000 0.85909091     1     2    no   3.2      no        no
## 1594   no 0.33000 0.21000 0.90909091     1     2    no   3.2      no        no
## 1595   no 0.50000 0.41000 0.77205882     1     2    no   3.2      no        no
## 1596   no 0.42000 0.36000 0.86776860     1     2    no   1.8      no        no
## 1597   no 0.32000 0.25000 0.89256198     1     2    no   4.3      no        no
## 1598   no 0.44000 0.44000 0.44776119     1     1    no   3.6      no        no
## 1599   no 0.38000 0.18000 0.46000000     1     1    no   3.9      no        no
## 1600   no 0.34000 0.16000 0.51914894     2     2    no   3.2      no        no
## 1601   no 0.30000 0.06000 0.61421320     1     2    no   3.2      no        no
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## 1602   no 0.39000 0.24000 0.74757282     6     2    no   3.2      no         no
## 1603   no 0.28000 0.22000 0.80000000     2     2    no   3.9     yes         no
## 1604   no 0.32000 0.31000 0.79831933     1     2    no   3.9      no         no
## 1605   no 0.41000 0.32000 0.73362445     2     2    no   3.2      no         no
## 1606   no 0.47000 0.35000 0.65217391     2     2    no  10.6      no         no
## 1607   no 0.35000 0.31000 0.74757282     6     2    no   3.2      no         no
## 1608   no 0.32000 0.21000 0.80257511     6     2    no   1.8      no         no
## 1609   no 0.29000 0.23000 0.63636364     1     2    no  10.6      no         no
## 1610   no 0.32000 0.27000 0.77000000     1     2    no   3.2      no         no
## 1611   no 0.25000 0.25000 0.80165289     1     2    no   1.8      no         no
## 1612   no 0.34000 0.26000 0.77157360     1     1    no   3.2     yes         no
## 1613   no 0.36000 0.27000 0.76000000     2     2    no   3.2      no         no
## 1614   no 0.33000 0.21000 0.77083333     6     2    no   3.2      no         no
## 1615   no 0.25000 0.20000 0.78947368     1     2    no   3.2      no         no
## 1616   no 0.25000 0.24000 0.59398496     1     2    no   3.6      no         no
## 1617   no 0.27000 0.18000 0.79298246     5     2    no   3.2      no         no
## 1618   no 0.25000 0.23000 0.79365079     5     2    no   5.3      no         no
## 1619   no 0.23000 0.19000 0.42105263     1     2    no  10.6     yes         no
## 1620   no 0.19000 0.16000 0.62500000     1     2    no   3.6      no         no
## 1621   no 0.25000 0.22000 1.60000000     1     3    no  10.6     yes         no
## 1622   no 0.26000 0.24000 0.73953488     1     2    no   3.1      no         no
## 1623   no 0.18000 0.10000 0.81159420     1     1    no   3.6      no         no
## 1624   no 0.34000 0.25000 0.83571429     1     1    no   3.6      no         no
## 1625   no 0.36000 0.15000 0.67647059     1     2    no   3.6      no         no
## 1626   no 0.26000 0.24000 0.87272727     2     2    no   3.6      no         no
## 1627   no 0.38000 0.00000 0.49714286     1     2    no   3.6      no         no
## 1628   no 0.40000 0.26000 0.64000000     1     1    no  10.6      no         no
## 1629   no 0.30000 0.28000 0.81481481     1     2    no   3.6      no         no
## 1630   no 0.22000 0.13000 0.74074074     1     1    no   3.6     yes         no
## 1631   no 0.19000 0.10000 0.69620253     2     1    no   3.6      no         no
## 1632   no 0.39000 0.32000 0.82142857     4     2    no   3.6      no         no
## 1633   no 0.27000 0.21000 0.22988506     1     2    no   3.2      no         no
## 1634   no 0.36000 0.25000 0.87610619     1     2    no   3.6      no         no
## 1635   no 0.27000 0.20000 0.73548387     1     1    no   3.6      no         no
## 1636   no 0.33000 0.25000 0.92857143     1     2    no   1.8      no         no
## 1637   no 0.32000 0.32000 0.75000000     4     2    no   3.9      no         no
## 1638   no 0.40000 0.26000 0.65000000     1     1   yes  10.6      no         no
## 1639   no 0.36000 0.28000 0.59322034     1     1    no   4.3      no         no
## 1640   no 0.31000 0.27000 0.69776119     1     1    no   1.8      no         no
## 1641   no 0.10000 0.04000 0.71428571     1     2    no   1.8      no         no
## 1642   no 0.27000 0.08000 0.72916667     3     1    no   1.8      no         no
## 1643   no 0.27000 0.26000 0.75151515     1     1    no   1.8      no         no
## 1644   no 0.37000 0.27000 0.74358974     1     2    no   3.1      no         no
## 1645   no 0.39000 0.31000 0.94615385     2     2    no  10.6      no         no
## 1646   no 0.32000 0.25000 0.64516129     1     1    no   4.3     yes         no
## 1647   no 0.38000 0.25000 0.78658537     1     1    no   3.6      no         no
## 1648   no 0.37000 0.29000 0.71428571     1     1    no   3.1      no         no
## 1649   no 0.34000 0.27000 0.80000000     1     2    no   3.2      no         no
## 1650   no 0.39000 0.33000 0.75200000     1     1    no   3.2      no         no
## 1651   no 0.31000 0.30000 0.73109244     1     2    no   3.2      no         no
## 1652   no 0.35000 0.26000 0.86554622     1     2    no   4.3      no         no
## 1653   no 0.30000 0.30000 0.64705882     3     2    no   3.1      no         no
## 1654   no 0.27000 0.26000 0.88235294     1     2    no   3.2      no         no
## 1655   no 0.25000 0.25000 0.79041916     1     2    no   3.6      no         no
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## 1656   no 0.37000 0.23000 0.88549618     2     1    no   3.2      no        no
## 1657   no 0.34000 0.24000 0.52447552     1     1   yes   3.2     yes        no
## 1658   no 0.36000 0.30000 0.89215686     2     2    no   4.3      no        no
## 1659   no 0.33000 0.29000 0.83333333     6     2    no   3.2      no        no
## 1660   no 0.38000 0.29000 0.88405797     2     2    no   2.0      no        no
## 1661   no 0.31000 0.31000 0.68888889     1     2    no   3.2      no        no
## 1662   no 0.30000 0.14000 0.72173913     5     2    no   1.8      no        no
## 1663   no 0.28000 0.28000 0.60810811     1     2    no   3.2     yes        no
## 1664   no 0.31000 0.27000 0.79113924     2     1    no   3.9     yes        no
## 1665   no 0.31000 0.19000 0.88372093     1     2    no   3.2      no        no
## 1666   no 0.38000 0.32000 0.91860465     5     2    no   2.0      no        no
## 1667   no 0.34000 0.30000 0.84210526     5     2    no   3.1      no        no
## 1668   no 0.27000 0.20000 0.50724638     1     2    no   3.9      no        no
## 1669   no 0.28000 0.24000 0.74489796     1     2    no   3.2      no        no
## 1670   no 0.24000 0.21000 0.10964912     1     2    no   3.2     yes        no
## 1671   no 0.28000 0.20000 0.77837838     6     2    no   3.2      no        no
## 1672   no 0.31000 0.29000 0.79687500     5     2    no   2.0      no        no
## 1673   no 0.21000 0.17000 0.14388489     2     2    no   3.9      no        no
## 1674   no 0.34000 0.18000 0.61111111     1     2    no  10.6     yes        no
## 1675   no 0.20000 0.20000 0.66666667     1     2    no   3.6      no        no
## 1676   no 0.32000 0.28000 0.71962617     3     1    no   1.8      no        no
## 1677   no 0.40000 0.35000 0.86428571     1     2    no   3.2      no        no
## 1678   no 0.28000 0.27000 0.49624060     4     2    no   3.1      no        no
## 1679   no 0.31000 0.25000 0.67407407     1     2    no   1.8      no        no
## 1680   no 0.31000 0.30000 0.49504950     1     2    no   3.2      no        no
## 1681   no 0.35000 0.00000 0.66929134     2     2    no   3.2      no        no
## 1682   no 0.37000 0.28000 0.89919355     1     2    no   3.1      no        no
## 1683   no 0.32000 0.26000 0.70370370     1     2    no   3.2     yes        no
## 1684   no 0.34000 0.30000 0.67441860     1     1    no   3.1      no        no
## 1685   no 0.34000 0.32000 0.86117647     1     1    no   3.2      no        no
## 1686   no 0.33000 0.21000 0.37692308     6     2   yes   3.2      no        no
## 1687   no 0.22000 0.20000 0.64583333     2     2    no   4.3      no        no
## 1688   no 0.37000 0.27000 0.59504132     1     2    no  10.6      no        no
## 1689   no 0.49000 0.34000 0.79383430     1     2    no   3.2      no        no
## 1690   no 0.36000 0.24000 0.75200000     1     2    no   3.1      no        no
## 1691   no 0.36000 0.22000 0.56250000     2     2    no   3.1      no        no
## 1692   no 0.34000 0.29000 0.29126214     1     2    no   3.1      no        no
## 1693   no 0.33000 0.30000 0.87500000     1     2    no   3.2      no        no
## 1694   no 0.28000 0.24000 0.43846154     1     2    no   3.2      no        no
## 1695   no 0.33000 0.30000 0.73134328     2     2    no   3.2      no        no
## 1696   no 0.33000 0.31000 0.68000000     6     2    no   4.3      no        no
## 1697   no 0.36000 0.23000 0.54807692     1     2    no   3.2      no        no
## 1698   no 0.35000 0.31000 0.66929134     1     2    no   3.9      no        no
## 1699   no 0.37000 0.27000 0.44166667     4     2    no   3.2      no        no
## 1700   no 0.32000 0.25000 0.75200000     1     1    no   3.2      no        no
## 1701   no 0.29000 0.27000 0.63855422     1     2    no   2.0      no        no
## 1702   no 0.27000 0.20000 0.73939394     1     2    no   3.2      no        no
## 1703   no 0.39000 0.27000 0.76666667     1     2    no   3.2      no        no
## 1704   no 0.42000 0.32000 0.87755102     1     2    no   1.8      no        no
## 1705   no 0.31000 0.20000 0.80701754     1     2    no   3.2      no        no
## 1706   no 0.35000 0.26000 0.87755102     1     2    no   3.2      no        no
## 1707   no 0.29000 0.27000 0.75000000     4     2    no   3.2      no        no
## 1708   no 0.29000 0.29000 0.60606061     1     2    no   3.1      no        no
## 1709   no 0.28000 0.25000 0.74603175     2     2    no   3.9      no        no
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## 1710   no 0.33000 0.25000 0.79338843     1     2    no   5.3      no        no
## 1711   no 0.43000 0.30000 0.94915254     1     2    no   2.0      no        no
## 1712   no 0.31000 0.29000 0.89763780     1     2    no   3.2      no        no
## 1713   no 0.26000 0.26000 0.55555556     6     1    no   3.2      no        no
## 1714   no 0.34000 0.23000 0.47500000     2     2    no   3.2      no        no
## 1715   no 0.49000 0.12000 0.55410691     5     1    no   1.8      no        no
## 1716   no 0.30000 0.15000 0.64327485     5     2    no   3.2      no        no
## 1717   no 0.33000 0.33000 0.64516129     1     2    no   4.3      no        no
## 1718   no 0.31000 0.31000 0.57894737     4     2    no   3.6      no        no
## 1719   no 0.45000 0.28000 0.43846154     1     2    no   3.2      no        no
## 1720   no 0.23000 0.23000 0.79166667     4     2    no   3.2      no        no
## 1721   no 0.11000 0.06000 0.21935484     1     2    no   8.9     yes        no
## 1722   no 0.37000 0.28000 0.70731707     1     2    no   4.3      no        no
## 1723   no 0.24000 0.19000 0.78787879     5     2    no   1.8     yes        no
## 1724   no 0.19000 0.13000 0.48342541     1     2    no   4.3      no        no
## 1725   no 0.26000 0.15000 0.79699248     1     1    no   3.2      no        no
## 1726   no 0.33000 0.32000 0.54545455     2     1    no   1.8      no        no
## 1727   no 0.27000 0.19000 0.37931034     1     1    no   3.1      no        no
## 1728   no 0.28000 0.28000 0.58823529     1     1    no   3.2     yes        no
## 1729   no 0.37000 0.18000 0.70212766     2     2    no   3.2      no        no
## 1730   no 0.28000 0.18000 0.46666667     6     1    no   3.2     yes        no
## 1731   no 0.42000 0.29000 0.73983740     1     2    no   3.2      no        no
## 1732   no 0.39000 0.28000 0.78904992     1     1    no   3.2      no        no
## 1733   no 0.26000 0.20000 0.69938650     1     1    no  10.6      no        no
## 1734   no 0.33000 0.32000 0.74785592     1     1    no   3.2      no        no
## 1735   no 0.36000 0.22000 0.89696970     2     2   yes   3.2      no        no
## 1736   no 0.33000 0.31000 0.77777778     1     2    no   3.2      no        no
## 1737   no 0.47000 0.27000 0.73846154     1     2    no   3.2     yes        no
## 1738   no 0.57000 0.38000 0.78222222     1     1    no   3.2     yes        no
## 1739   no 0.36000 0.29000 0.73053892     5     2    no   4.3      no        no
## 1740   no 0.35000 0.31000 0.72380952     6     2    no   3.2      no        no
## 1741   no 0.20000 0.18000 0.63945578     1     2    no   1.8     yes        no
## 1742   no 0.11000 0.10000 0.60606061     1     1    no   3.2     yes        no
## 1743   no 0.37000 0.25000 0.88571429     5     2    no   3.1      no        no
## 1744   no 0.16000 0.11000 0.72727273     1     2    no  10.6      no        no
## 1745   no 0.30000 0.24000 0.47500000     1     2    no   3.9      no        no
## 1746   no 0.35000 0.26000 0.70000000     1     2    no   3.6     yes        no
## 1747   no 0.32000 0.29000 0.74285714     6     2    no   3.2      no        no
## 1748   no 0.33000 0.27000 0.74015748     5     2    no   3.2      no        no
## 1749   no 0.13000 0.10000 0.70312500     2     2    no   1.8      no        no
## 1750   no 0.31000 0.19000 0.88484848     6     2    no   1.8      no        no
## 1751   no 0.27000 0.24000 0.84302326     1     2    no   1.8      no        no
## 1752   no 0.56000 0.30000 0.79400749     1     1    no   3.2     yes        no
## 1753   no 0.31000 0.28000 0.71818182     1     2    no   3.2      no        no
## 1754   no 0.31000 0.30000 0.67741935     1     1    no   3.2      no        no
## 1755   no 0.34000 0.30000 0.90000000     1     2    no   1.8      no        no
## 1756   no 0.28000 0.23000 0.71559633     2     2   yes   3.2      no        no
## 1757   no 0.37000 0.29000 0.79389313     1     2    no   3.9      no        no
## 1758   no 0.31000 0.29000 0.36627907     5     2    no   3.2      no        no
## 1759   no 0.32000 0.32000 0.19310345     4     2    no   3.2      no        no
## 1760   no 0.33000 0.26000 0.86363636     4     2    no   4.3      no        no
## 1761   no 0.25000 0.02000 0.80468750     1     2    no   3.1      no        no
## 1762   no 0.47000 0.26000 0.79772727     1     2    no   3.2      no        no
## 1763   no 0.26000 0.14000 0.88596491     1     2    no   3.2      no        no
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## 1764   no 0.32000 0.31000 0.79525223     1     2    no   1.8      no        no
## 1765   no 0.39000 0.32000 0.89051095     1     2    no   3.2      no        no
## 1766   no 0.32000 0.28000 0.93814433     1     2    no   1.8      no        no
## 1767   no 0.25000 0.18000 0.31007752     5     1    no   1.8      no        no
## 1768   no 0.11000 0.09000 0.28089888     1     2    no   1.8      no        no
## 1769   no 0.27000 0.25000 0.79906542     1     2    no   3.2      no        no
## 1770   no 0.31000 0.30000 0.71538462     1     2    no   3.2      no        no
## 1771   no 0.36000 0.31000 0.87012987     1     2    no  10.6      no        no
## 1772   no 0.24000 0.08000 0.63333333     3     2    no   3.1      no        no
## 1773   no 0.36000 0.33000 0.77777778     2     2    no   3.2      no        no
## 1774   no 0.39000 0.30000 0.75135135     1     1    no   3.1      no        no
## 1775   no 0.35000 0.25000 0.90434783     2     2    no   3.9      no        no
## 1776   no 0.33000 0.30000 0.65454545     1     2    no   3.2      no        no
## 1777   no 0.34000 0.28000 0.68000000     1     2    no   3.2      no        no
## 1778   no 0.51000 0.50000 0.79470199     2     1    no   3.2      no        no
## 1779   no 0.30000 0.30000 0.79389313     1     2    no   3.9      no        no
## 1780   no 0.24000 0.22000 0.72405063     1     2    no   3.1      no        no
## 1781   no 0.30000 0.28000 0.95789474     1     2    no   3.2      no        no
## 1782   no 0.35000 0.18000 0.79687500     1     1   yes   4.3      no        no
## 1783   no 0.23000 0.23000 0.62135922     1     2    no   3.2      no        no
## 1784   no 0.23000 0.21000 0.64615385     1     2    no   3.1      no        no
## 1785   no 0.36000 0.24000 0.80000000     1     2    no   2.0      no        no
## 1786   no 0.28000 0.28000 0.68376068     1     2    no   3.2      no        no
## 1787   no 0.33000 0.17000 0.77142857     6     1    no  10.6      no        no
## 1788   no 0.31000 0.26000 0.73913043     6     2    no   3.1      no        no
## 1789   no 0.04000 0.04000 0.48913043     2     1    no  10.6      no        no
## 1790   no 0.35000 0.34000 0.60000000     1     1    no   3.2      no        no
## 1791   no 0.22000 0.17000 0.39743590     2     1    no   3.2     yes        no
## 1792   no 0.26000 0.25000 0.71428571     4     2    no   3.2      no        no
## 1793   no 0.29000 0.23000 0.80000000     2     3    no   3.9     yes        no
## 1794   no 0.31000 0.26000 0.68152866     1     2    no   1.8      no        no
## 1795   no 0.32000 0.17000 0.78064516     3     1   yes   4.3      no        no
## 1796   no 0.38000 0.12000 0.78888889     4     3    no   3.2      no        no
## 1797   no 0.34000 0.25000 0.86266094     2     1    no   3.1      no        no
## 1798   no 0.34000 0.31000 0.68363636     1     1    no   1.8      no        no
## 1799   no 0.29000 0.29000 0.45517241     1     1    no   3.2      no        no
## 1800   no 0.31000 0.27000 0.85655738     1     2    no   3.2      no        no
## 1801   no 0.22000 0.21000 0.74468085     2     1    no   1.8      no        no
## 1802   no 0.34000 0.28000 0.66666667     1     2    no   1.8      no        no
## 1803   no 0.31000 0.15000 0.73636364     1     1    no   4.3      no        no
## 1804   no 0.31000 0.24000 0.66666667     2     1    no   3.1      no        no
## 1805   no 0.23000 0.23000 0.54347826     1     2    no   3.6      no        no
## 1806  yes 0.47000 0.11000 0.90188679     1     1    no   3.2     yes       yes
## 1807  yes 0.42000 0.30000 0.90441176     2     2   yes   3.9      no        no
## 1808  yes 0.39000 0.33000 0.93877551     4     2    no   4.3      no        no
## 1809  yes 0.42000 0.28000 0.90243902     1     2    no   3.2      no       yes
## 1810  yes 0.39000 0.28000 0.75151515     1     2    no   3.2      no        no
## 1811  yes 0.33000 0.20000 0.84615385     1     1    no   4.3      no        no
## 1812  yes 0.28000 0.23000 0.69536424     3     1    no   3.2     yes        no
## 1813  yes 0.52000 0.31000 0.73548387     1     2    no   2.0      no        no
## 1814  yes 0.07000 0.02000 0.77272727     1     2    no   3.6      no        no
## 1815  yes 0.44000 0.27000 0.90434783     2     2   yes   3.2      no        no
## 1816  yes 0.36000 0.27000 0.88541667     2     2    no   4.3      no        no
## 1817  yes 0.42000 0.28000 0.62068966     2     2    no   3.6      no       yes
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## 1818  yes 0.44000 0.28000 0.79090909     3     2    no   3.9      no        no
## 1819  yes 0.46000 0.43000 0.80000000     5     2    no  10.6     yes        no
## 1820  yes 0.47000 0.33000 0.95419847     5     2   yes   1.8      no        no
## 1821  yes 0.38000 0.28000 0.90000000     6     2   yes   2.0      no        no
## 1822  yes 0.48000 0.34000 0.88333333     1     2    no   3.9      no        no
## 1823  yes 0.28000 0.27000 0.70000000     1     2    no   3.1      no        no
## 1824  yes 0.37000 0.34000 0.77000000     5     2    no   3.2      no        no
## 1825  yes 0.35000 0.27000 0.93442623     5     2   yes   3.9      no       yes
## 1826  yes 0.40000 0.37000 0.94202899     2     2   yes   3.9      no        no
## 1827  yes 0.36000 0.16000 0.80536913     2     2    no   1.8     yes        no
## 1828  yes 0.34000 0.27000 0.81690141     4     2    no   3.2      no        no
## 1829  yes 0.45000 0.27000 0.90909091     6     2   yes   4.3      no        no
## 1830  yes 0.40000 0.31000 0.92485549     2     2    no   3.2     yes        no
## 1831  yes 0.38000 0.27000 1.02752294     1     2    no   3.2      no        no
## 1832  yes 0.18000 0.06000 0.80000000     6     4   yes   3.2      no        no
## 1833  yes 0.38000 0.26000 0.88262911     6     1   yes   3.2      no        no
## 1834  yes 0.37000 0.27000 0.84375000     1     1    no   4.3      no        no
## 1835  yes 0.16000 0.13000 1.41600000     5     2   yes   3.2     yes        no
## 1836  yes 0.37000 0.31000 0.81196581     2     2    no  10.6      no       yes
## 1837  yes 0.20000 0.15000 0.61224490     6     2    no   1.8      no        no
## 1838  yes 0.32000 0.24000 0.95180723     1     2    no   3.2      no       yes
## 1839   no 0.32000 0.26000 0.79687500     2     2    no   4.3      no        no
## 1840   no 0.36000 0.26000 0.92810458     2     2    no   3.9      no        no
## 1841   no 0.34000 0.27000 0.83593750     1     2    no   3.9      no        no
## 1842   no 0.34000 0.21000 0.91812865     1     2    no   3.2      no        no
## 1843   no 0.36000 0.26000 0.81761006     1     1    no   3.9      no        no
## 1844   no 0.19000 0.19000 0.62975779     1     2    no   1.8     yes        no
## 1845   no 0.34000 0.25000 0.86250000     1     2    no   3.1      no        no
## 1846   no 0.23000 0.21000 0.71005917     1     2    no   1.8      no        no
## 1847   no 0.14000 0.14000 0.56144068     1     1    no   3.1      no        no
## 1848   no 0.35000 0.21000 0.78947368     2     2    no   2.0      no        no
## 1849  yes 0.33000 0.27000 0.89895470     2     2    no   3.2      no       yes
## 1850   no 0.18000 0.17000 0.69182390     1     2    no   3.2      no        no
## 1851   no 0.26000 0.26000 0.86092715     1     2    no   3.2      no        no
## 1852  yes 0.34000 0.34000 0.89090909     5     2    no   3.9      no        no
## 1853   no 0.26000 0.24000 0.56390977     1     2    no  10.6      no        no
## 1854   no 0.26000 0.26000 0.78625954     1     2    no   4.3      no        no
## 1855   no 0.22000 0.21000 0.61576355     1     1    no   3.1      no        no
## 1856   no 0.29000 0.23000 0.58823529     1     1    no   3.2      no        no
## 1857   no 0.29000 0.16000 0.68141593     1     2    no   3.1      no        no
## 1858   no 0.28000 0.21000 0.66666667     1     2    no   3.2     yes        no
## 1859   no 0.25000 0.22000 0.77777778     1     2    no   3.2     yes        no
## 1860   no 0.31000 0.27000 0.78378378     1     2    no   3.1      no        no
## 1861   no 0.36000 0.27000 0.75238095     1     2    no   3.2      no        no
## 1862   no 0.24000 0.22000 0.85658915     1     2    no   3.2      no        no
## 1863   no 0.34000 0.25000 0.78918919     1     2    no   3.2     yes        no
## 1864   no 0.37000 0.21000 0.77094972     3     1    no   3.1      no        no
## 1865  yes 0.34000 0.29000 0.84390244     5     2    no   3.9      no       yes
## 1866   no 0.28000 0.28000 0.72432432     2     1    no   3.9      no        no
## 1867   no 0.36000 0.25000 0.75373134     1     2    no   3.2      no        no
## 1868   no 0.36000 0.22000 0.91836735     5     2    no   3.9      no        no
## 1869   no 0.35000 0.23000 0.87647059     3     2    no   3.2      no        no
## 1870   no 0.24000 0.12000 0.46562500     1     2    no   3.2      no        no
## 1871   no 0.38000 0.28000 0.64690027     2     1    no   3.2     yes        no
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## 1872   no 0.35000 0.26000 0.74766355     4     2    no   3.2      no        no
## 1873   no 0.40000 0.26000 0.79090909     2     2    no   5.3      no        no
## 1874   no 0.40000 0.27000 0.87769784     2     2    no   2.0      no        no
## 1875   no 0.36000 0.22000 0.79518072     5     2   yes  10.6      no        no
## 1876   no 0.38000 0.33000 0.86976744     1     1    no   3.2      no        no
## 1877   no 0.40000 0.28000 0.88235294     6     2   yes   4.3      no        no
## 1878  yes 0.44000 0.37000 0.90000000     6     1   yes   3.2      no        no
## 1879   no 0.41000 0.23000 0.88079470     6     2    no   3.2      no        no
## 1880  yes 0.37000 0.24000 0.80000000     5     2   yes   3.9      no        no
## 1881  yes 0.33000 0.33000 0.90000000     5     2    no   2.0      no        no
## 1882  yes 0.39000 0.16000 0.79807692     4     2    no   1.8     yes        no
## 1883   no 0.32000 0.23000 0.83236994     3     2    no   3.2      no        no
## 1884  yes 0.38000 0.17000 0.86842105     6     2   yes   3.1      no        no
## 1885   no 0.21000 0.06000 0.75000000     2     3    no   3.2     yes        no
## 1886  yes 0.44000 0.23000 0.58407080     1     2    no   4.3      no        no
## 1887  yes 0.19000 0.12000 0.82901554     1     1   yes   4.3     yes        no
## 1888   no 0.39000 0.19000 0.71681416     1     2    no  10.6      no        no
## 1889   no 0.40000 0.34000 0.90400000     1     2    no   3.1      no        no
## 1890   no 0.44000 0.37000 0.83673469     1     1    no   3.1      no        no
## 1891  yes 0.34000 0.19000 0.90000000     5     2   yes   3.2      no        no
## 1892   no 0.36000 0.31000 0.77777778     1     2   yes   3.1      no        no
## 1893   no 0.27000 0.25000 0.72254335     1     1    no   2.0      no        no
## 1894   no 0.39000 0.26000 0.76646707     3     2    no   3.1      no        no
## 1895   no 0.36000 0.34000 0.89729730     1     2    no   3.2      no        no
## 1896   no 0.37000 0.26000 0.79452055     2     2    no   3.9      no        no
## 1897   no 0.36000 0.21000 0.76100629     4     2    no   2.0      no        no
## 1898   no 0.43000 0.09000 0.51807229     5     1    no   3.2      no        no
## 1899  yes 0.39000 0.23000 0.80000000     1     2    no   3.2      no        no
## 1900   no 0.33000 0.32000 0.90000000     1     2    no  10.6      no        no
## 1901   no 0.43000 0.27000 0.90000000     2     1    no   3.6      no        no
## 1902   no 0.34000 0.19000 0.80000000     2     1    no   3.1      no        no
## 1903   no 0.20000 0.11000 0.86046512     1     2    no   3.2      no        no
## 1904   no 0.28000 0.20000 0.90000000     1     2    no   3.6      no        no
## 1905  yes 0.42000 0.26000 0.89516129     5     2    no   3.2      no        no
## 1906   no 0.39000 0.22000 0.90000000     1     2    no   3.2      no        no
## 1907  yes 0.74000 0.66000 0.80000000     6     2   yes   3.2      no        no
## 1908   no 0.27000 0.22000 0.56410256     1     1    no   3.6      no        no
## 1909   no 0.24000 0.24000 0.90000000     5     2   yes   3.1      no        no
## 1910   no 0.37000 0.17000 0.65740741     1     1    no   3.1      no        no
## 1911  yes 0.43000 0.34000 0.75151515     6     3    no   3.2      no        no
## 1912   no 0.34000 0.17000 0.84353741     6     1    no   3.6      no        no
## 1913  yes 0.58000 0.51000 0.89823009     1     2   yes   3.2      no        no
## 1914   no 0.40000 0.32000 0.79378531     1     2    no   3.1      no        no
## 1915   no 0.42000 0.15000 0.89542484     6     2    no   3.2      no        no
## 1916   no 0.42000 0.15000 0.89542484     6     2    no   3.2      no        no
## 1917  yes 0.37000 0.32000 0.86976744     1     2    no   4.3     yes        no
## 1918   no 0.39000 0.34000 0.86394558     1     2    no   3.2      no        no
## 1919   no 0.39000 0.26000 0.88607595     1     2    no   3.2      no        no
## 1920   no 0.28000 0.08000 0.89075630     1     1   yes   3.6      no        no
## 1921   no 0.34000 0.27000 0.68000000     1     2    no  10.6      no        no
## 1922  yes 0.25000 0.22000 1.05000000     4     2    no   3.6      no        no
## 1923   no 0.35000 0.31000 0.80000000     2     1    no   3.6     yes        no
## 1924   no 0.33000 0.14000 0.80000000     5     1    no   3.6     yes        no
## 1925  yes 0.37000 0.32000 0.83756345     5     2    no   4.3     yes        no
```

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## 1926  yes 0.26000 0.26000 0.90000000     1     2    no   3.9      no         no
## 1927   no 0.24000 0.29000 0.81000000     1     2    no   3.9      no         no
## 1928  yes 1.42000 1.10000 1.03750000     1     1   yes   3.2     yes         no
## 1929  yes 1.42000 1.10000 1.03750000     1     1   yes   3.2     yes         no
## 1930   no 0.39000 0.20000 0.85897436     1     2    no   4.3      no         no
## 1931   no 0.42000 0.35000 0.74436090     2     2    no   1.8      no         no
## 1932  yes 0.41000 0.31000 0.88513514     1     2   yes  10.6      no         no
## 1933   no 0.37000 0.26000 0.89411765     2     2    no   4.3      no         no
## 1934   no 0.26000 0.19000 0.88275862     2     2    no   3.9      no         no
## 1935  yes 0.37000 0.16000 0.79629630     6     1    no   3.1      no         no
## 1936  yes 0.43000 0.36000 0.88750000     4     2    no   3.9     yes         no
## 1937  yes 0.40000 0.39000 0.79411765     6     2   yes   3.6      no         no
## 1938   no 0.47000 0.32000 0.74647887     5     2    no   4.3      no         no
## 1939   no 0.36000 0.20000 0.69230769     5     2    no   4.3      no         no
## 1940   no 0.34000 0.27000 0.78571429     1     2    no   4.3     yes         no
## 1941   no 0.29000 0.29000 0.90000000     4     2    no   3.6      no         no
## 1942   no 0.39000 0.33000 0.89922481     1     2    no   3.1      no         no
## 1943   no 0.31000 0.31000 0.90140845     5     1    no   3.2      no         no
## 1944   no 0.40000 0.32000 0.88281250     1     2    no   3.2      no         no
## 1945   no 0.39000 0.18000 0.87500000     1     2    no   3.9      no         no
## 1946  yes 0.41000 0.34000 0.76470588     5     1    no   3.6      no         no
## 1947   no 0.38000 0.36000 0.71296296     1     2    no   3.6      no         no
## 1948   no 0.33000 0.16000 0.70000000     5     2    no   3.2      no         no
## 1949  yes 0.39000 0.39000 0.86896552     5     2    no   3.6      no         no
## 1950   no 0.29000 0.10000 0.64473684     2     2    no   3.1      no         no
## 1951   no 0.36000 0.14000 0.64035088     1     1    no   3.6      no         no
## 1952   no 0.36000 0.24000 0.89427313     5     3    no   3.6      no         no
## 1953   no 0.47000 0.36000 0.71428571     5     1    no   3.6      no         no
## 1954   no 0.34000 0.29000 0.80000000     1     2    no   3.2      no         no
## 1955   no 0.36000 0.27000 0.72972973     1     1    no   2.0      no         no
## 1956   no 0.34000 0.29000 0.80000000     1     2    no   3.6      no         no
## 1957  yes 0.38000 0.37000 0.87209302     3     2    no  10.6      no         no
## 1958   no 0.38000 0.30000 0.78549849     6     1    no   3.2      no         no
## 1959   no 0.40000 0.32000 0.85128205     1     2    no   3.2      no         no
## 1960  yes 0.47000 0.13000 0.80000000     3     3   yes   3.1      no         no
## 1961   no 0.35000 0.31000 0.88888889     1     2    no   3.2      no         no
## 1962   no 0.41000 0.24000 0.89516129     1     2    no   3.6      no         no
## 1963   no 0.38000 0.24000 0.76086957     1     2    no   3.2      no         no
## 1964   no 0.38000 0.29000 0.78523490     1     2    no   3.2      no         no
## 1965  yes 0.29000 0.25000 0.86086957     1     2    no   3.1      no         no
## 1966   no 0.36000 0.22000 0.70526316     6     4    no   2.0      no         no
## 1967   no 0.39000 0.27000 0.83333333     1     2    no   3.2      no         no
## 1968   no 0.41000 0.34000 0.88524590     1     2    no   3.2      no         no
## 1969  yes 0.63000 0.59000 0.81360947     5     2    no   4.3      no         no
## 1970   no 0.26000 0.22000 0.89473684     1     2    no   2.0      no         no
## 1971   no 0.28000 0.23000 0.87719298     6     2    no   3.2      no         no
## 1972   no 0.31000 0.26000 0.89743590     1     2   yes   4.3      no         no
## 1973   no 0.23000 0.18000 0.89361702     1     2    no   3.9      no         no
## 1974   no 0.42000 0.32000 0.89820359     1     2    no   3.1      no         no
## 1975  yes 0.29000 0.25000 0.69724771     4     2    no   4.3      no         no
## 1976   no 0.32000 0.27000 0.80000000     1     1    no   3.2      no         no
## 1977   no 0.35000 0.21000 0.87719298     2     1    no   3.2      no         no
## 1978   no 0.43000 0.24000 0.76585366     2     1    no   4.3      no         no
## 1979   no 0.41000 0.33000 0.90285714     5     2    no   3.1      no         no
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## 1980   no 0.37000 0.09000 0.70312500     1     2    no   2.0      no         no
## 1981   no 0.39000 0.30000 0.80038023     1     1   yes   3.2     yes         no
## 1982  yes 0.46000 0.27000 0.84000000     5     2    no   5.3      no         no
## 1983   no 0.38000 0.27000 0.87050360     1     2    no   2.0      no         no
## 1984   no 0.33000 0.30000 0.46875000     1     2    no   3.1      no         no
## 1985   no 0.34000 0.24000 0.65727700     2     3   yes   3.2      no         no
## 1986  yes 0.27000 0.23000 0.75757576     1     2    no   2.0      no         no
## 1987   no 0.36000 0.25000 0.64516129     5     1    no  10.6     yes         no
## 1988   no 0.37000 0.23000 0.75480769     1     2    no  10.6      no         no
## 1989   no 0.25000 0.18000 0.71844660     1     2    no   1.8      no         no
## 1990   no 0.35000 0.25000 0.70476190     1     1    no   3.2      no         no
## 1991   no 0.26000 0.23000 0.51428571     1     2    no  10.6      no         no
## 1992   no 0.34000 0.23000 0.94117647     1     1    no   1.8      no         no
## 1993   no 0.33100 0.25400 0.84821429     3     2    no   3.9      no         no
## 1994   no 0.37500 0.29200 0.91666667     1     1    no   4.3      no         no
## 1995   no 0.23430 0.22930 0.77500000     1     2    no   3.2      no         no
## 1996   no 0.39200 0.26800 0.80838323     1     2    no   3.2      no         no
## 1997   no 0.34850 0.28700 0.49456522     1     2    no   3.2      no         no
## 1998   no 0.26100 0.23400 0.51820728     2     1    no   3.1      no         no
## 1999  yes 0.32200 0.23100 0.94186047     6     2    no   3.1      no         no
## 2000   no 0.21700 0.09000 0.75301205     1     2    no   3.9      no         no
## 2001   no 0.12600 0.12400 0.27272727     1     1    no   4.3      no         no
## 2002   no 0.31300 0.24900 0.73122530     3     1    no   3.1      no         no
## 2003   no 0.32400 0.26700 0.88732394     1     1    no   3.2      no         no
## 2004   no 0.38100 0.29600 0.89743590     1     1    no   3.1      no         no
## 2005   no 0.35000 0.24400 0.80000000     1     2    no   3.1      no         no
## 2006   no 0.09900 0.05800 0.65156794     2     1    no   3.2      no         no
## 2007   no 0.21900 0.21400 0.55932203     1     2    no   3.9      no         no
## 2008   no 0.38600 0.28000 0.78111588     1     1    no   3.1      no        yes
## 2009   no 0.36200 0.25700 0.87222222     2     3    no   3.1      no         no
## 2010   no 0.29700 0.25020 0.69776119     2     1    no   3.2      no         no
## 2011   no 0.39900 0.28300 0.44680851     1     3    no   2.0      no         no
## 2012   no 0.28700 0.26900 0.93125000     1     2    no   3.2      no         no
## 2013   no 0.35600 0.30700 0.76444444     2     2    no   4.3      no         no
## 2014   no 0.34700 0.20200 0.70000000     1     2    no   4.3      no         no
## 2015   no 0.30500 0.28500 0.93750000     2     2    no   3.9      no         no
## 2016   no 0.29600 0.23400 0.50815217     1     1    no   3.2      no         no
## 2017   no 0.37300 0.31500 0.76543210     1     2    no   3.2      no         no
## 2018   no 0.23600 0.21100 0.77916667     1     1    no   3.2      no         no
## 2019   no 0.33400 0.29600 0.89552239     3     1    no   3.2      no         no
## 2020   no 0.31100 0.27000 0.77460317     2     1    no   3.1      no         no
## 2021   no 0.14300 0.11900 0.08695652     1     1    no  10.6      no         no
## 2022   no 0.29300 0.28200 0.77887789     1     1    no   1.8      no         no
## 2023   no 0.19300 0.16400 0.55855856     1     2    no   3.2      no         no
## 2024   no 0.35480 0.31200 0.68965517     6     2    no   3.9      no         no
## 2025   no 0.34100 0.26600 0.89843750     1     2    no  10.6      no         no
## 2026   no 0.37100 0.24300 0.89655172     1     2    no   3.1      no         no
## 2027   no 0.34000 0.29200 0.89361702     3     2    no  10.6     yes         no
## 2028   no 0.32880 0.30240 0.89974290     1     2    no   3.2      no         no
## 2029   no 0.35200 0.23700 0.80000000     1     2    no  10.6      no         no
## 2030   no 0.31510 0.31510 0.62068966     1     2    no   3.1      no         no
## 2031   no 0.34960 0.26790 0.80088496     1     2    no   1.8      no         no
## 2032   no 0.34500 0.23800 0.90350877     2     2    no   3.2      no         no
## 2033   no 0.30100 0.22300 0.90000000     6     2    no   3.9      no         no
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## 2034   no 0.33700 0.26800 0.86013986     1     2    no   5.3      no         no
## 2035   no 0.31100 0.30500 0.71895425     1     2    no  10.6      no         no
## 2036   no 0.37770 0.26490 0.79865772     6     2    no  10.6      no         no
## 2037   no 0.32100 0.24700 0.80000000     5     2    no   5.3      no         no
## 2038   no 0.35810 0.27140 0.89655172     2     2    no   2.0      no         no
## 2039   no 0.32700 0.28400 0.73142857     2     1    no   4.3      no         no
## 2040   no 0.36400 0.20300 0.88613861     1     1    no   3.1      no         no
## 2041   no 0.31490 0.21930 0.80246914     6     2    no   3.9      no         no
## 2042  yes 0.44200 0.27130 0.89808917     6     1    no   3.1      no         no
## 2043   no 0.35800 0.23800 0.82481752     5     2    no   3.2      no         no
## 2044   no 0.32400 0.26500 0.71462603     5     1    no   2.0      no         no
## 2045   no 0.38400 0.26400 0.81428571     1     2    no   3.2      no         no
## 2046   no 0.38700 0.21400 0.68965517     3     2    no   3.1      no         no
## 2047   no 0.36140 0.28830 0.69284068     1     2   yes   3.2      no         no
## 2048   no 0.33600 0.33400 0.80000000     1     2    no   2.0      no         no
## 2049   no 0.34720 0.30720 0.76000000     2     1    no   3.2      no         no
## 2050   no 0.22000 0.09010 0.69291339     1     2    no   4.3     yes         no
## 2051   no 0.31720 0.30190 0.50000000     1     1    no  10.6      no         no
## 2052  yes 0.51800 0.37700 0.76744186     1     2    no   3.1      no        yes
## 2053   no 0.30880 0.30650 0.84056041     1     2    no   4.3      no         no
## 2054   no 0.32950 0.27420 0.46808511     6     1    no   3.1      no         no
## 2055   no 0.32800 0.28450 0.90000000     1     2    no   3.2     yes         no
## 2056   no 0.36000 0.32200 0.64864865     5     1    no   3.1      no         no
## 2057   no 0.31400 0.27600 0.94078947     6     2    no   3.2      no         no
## 2058   no 0.38800 0.27400 0.70967742     1     1    no   3.2      no         no
## 2059   no 0.37100 0.19200 0.90209790     2     2    no   3.2      no         no
## 2060   no 0.34500 0.25800 0.89719626     1     2    no   3.1      no         no
## 2061   no 0.37000 0.33000 0.74452555     1     2    no   2.0      no         no
## 2062   no 0.32290 0.31100 0.86896552     1     2    no   3.2      no         no
## 2063  yes 0.36700 0.15100 0.78082192     6     3    no   3.9      no         no
## 2064   no 0.29800 0.19900 0.81147541     5     2    no  10.6      no         no
## 2065   no 0.36600 0.26100 0.77720207     5     1    no   5.3      no         no
## 2066   no 0.28900 0.23000 0.80190931     1     1    no   3.1      no         no
## 2067   no 0.37100 0.22000 0.70072993     3     1    no  10.6     yes         no
## 2068   no 0.32000 0.24600 0.94666667     4     2    no   2.0      no         no
## 2069   no 0.30900 0.29900 0.87096774     1     2    no   4.3      no         no
## 2070   no 0.35400 0.27600 0.83510638     6     1    no   4.3      no         no
## 2071   no 0.38900 0.27100 0.94202899     5     1    no   1.8      no         no
## 2072   no 0.30800 0.24330 0.80412371     6     2    no   3.9      no         no
## 2073   no 0.35600 0.26400 0.57297297     6     1    no   2.0      no         no
## 2074   no 0.31700 0.22200 0.60800000     3     1    no   3.2      no         no
## 2075   no 0.28200 0.21300 0.50000000     5     1    no   4.3      no         no
## 2076   no 0.29600 0.20900 0.90169492     1     2    no   3.1      no         no
## 2077   no 0.36800 0.26600 0.89779004     1     2    no   2.0      no         no
## 2078   no 0.36000 0.26600 0.89898990     1     2    no   3.2      no         no
## 2079   no 0.29500 0.29100 0.75294118     1     2    no   3.2      no         no
## 2080   no 0.29560 0.27540 0.59259259     4     3    no   1.8      no         no
## 2081   no 0.36100 0.27900 0.74782609     1     2    no   1.8      no         no
## 2082   no 0.27900 0.27900 0.73611111     5     2    no  10.6      no         no
## 2083   no 0.29300 0.28800 0.80000000     1     2    no   3.2      no         no
## 2084   no 0.37260 0.27570 0.75000000     5     2    no   2.0      no         no
## 2085   no 0.27750 0.27750 0.74556213     4     2    no   3.2      no         no
## 2086   no 0.37310 0.28380 0.95319149     6     2   yes   3.9      no         no
## 2087  yes 0.18400 0.16400 0.89912281     2     2   yes   3.6      no         no
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## 2088   no 0.32060 0.27970 0.88652482     1     1    no   3.1      no        no
## 2089   no 0.36500 0.28000 0.80303030     1     2   yes   3.2      no        no
## 2090   no 0.37000 0.23200 0.79841897     3     1    no   3.2      no        no
## 2091   no 0.31900 0.29300 0.65587045     6     1    no   2.0      no        no
## 2092   no 0.30650 0.19310 0.95238095     1     2    no   1.8      no        no
## 2093   no 0.33600 0.18600 0.79057592     6     2    no   3.2      no        no
## 2094   no 0.36400 0.12800 0.95238095     5     2    no   3.9      no        no
## 2095   no 0.30200 0.15900 0.90000000     5     2    no   3.2      no        no
## 2096   no 0.35270 0.26840 0.89795918     6     2    no   1.8      no        no
## 2097   no 0.41470 0.30880 0.89830508     5     2    no   3.1      no        no
## 2098   no 0.15600 0.15300 0.49808429     1     1    no   5.3      no        no
## 2099   no 0.27900 0.27500 0.94782609     1     2    no   3.2      no        no
## 2100   no 0.39600 0.38100 0.86111111     1     1    no   3.2      no        no
## 2101   no 0.37670 0.31240 0.80327869     1     2    no   3.2      no        no
## 2102   no 0.34100 0.25100 0.90243902     1     2    no   4.3      no        no
## 2103   no 0.15530 0.13330 0.59459459     2     2    no   3.2      no        no
## 2104   no 0.36600 0.27500 0.89932886     6     2    no   3.9      no        no
## 2105   no 0.37000 0.24600 0.89567965     1     1    no  10.6      no        no
## 2106   no 0.35700 0.29900 0.75308642     1     2    no   2.0      no        no
## 2107   no 0.27800 0.21900 0.60000000     1     1    no   3.2      no        no
## 2108  yes 0.33830 0.26900 0.92000000     6     4   yes   3.9      no       yes
## 2109   no 0.29900 0.26700 0.48913043     1     1    no   3.9      no        no
## 2110   no 0.31100 0.30600 0.90000000     1     2    no   3.1      no        no
## 2111  yes 0.38500 0.24200 0.90400000     5     2    no   3.2      no        no
## 2112   no 0.35900 0.26700 0.55776892     1     2    no   3.9      no        no
## 2113   no 0.32500 0.27790 0.77083333     5     2    no   3.9      no        no
## 2114   no 0.34700 0.20500 0.90070922     1     2    no   3.9      no        no
## 2115   no 0.32400 0.22310 0.36875000     1     2    no   4.3      no        no
## 2116   no 0.29700 0.26300 0.90140845     2     2    no   3.2      no        no
## 2117   no 0.17510 0.17120 0.75309818     6     2    no   4.3      no        no
## 2118   no 0.36870 0.26800 0.80000000     2     2    no   3.2      no        no
## 2119   no 0.32380 0.28730 0.80000000     1     1    no   1.8      no        no
## 2120   no 0.31060 0.30150 0.90344828     1     1    no   3.2      no        no
## 2121   no 0.35540 0.27570 0.95057034     1     2    no  10.6      no        no
## 2122   no 0.31100 0.29900 0.80327869     1     2    no   3.2      no        no
## 2123   no 0.36400 0.24900 0.80000000     1     2    no   3.2      no        no
## 2124   no 0.33800 0.28900 0.90540541     1     2    no  10.6      no        no
## 2125   no 0.33650 0.25380 0.89830508     3     2    no  10.6      no        no
## 2126   no 0.22500 0.21000 0.85714286     2     1    no   3.9      no        no
## 2127   no 0.32400 0.15600 0.72115385     1     2    no   3.2      no        no
## 2128   no 0.32370 0.30020 0.88000000     1     2    no   3.9      no        no
## 2129   no 0.25000 0.18000 0.88043478     2     1    no  10.6      no        no
## 2130  yes 0.36000 0.23000 0.75454545     1     2    no   4.3      no        no
## 2131  yes 0.35000 0.23000 0.75000000     2     1    no   3.2     yes        no
## 2132   no 0.35000 0.27000 0.40000000     1     1    no   3.9      no        no
## 2133   no 0.35000 0.28000 0.80000000     1     2    no   1.8      no        no
## 2134   no 0.33389 0.25482 0.60000000     1     1    no   5.3      no        no
## 2135   no 0.30080 0.28640 0.86206897     1     2    no   3.2      no        no
## 2136  yes 0.30300 0.23130 0.67796610     3     2    no  10.6      no        no
## 2137   no 0.34580 0.26840 0.79754601     2     1    no   3.2      no        no
## 2138  yes 0.39800 0.31200 0.70388350     2     1    no   3.2      no        no
## 2139  yes 0.16930 0.09530 0.80000000     1     1    no   3.1      no        no
## 2140   no 0.34080 0.30880 0.88307692     1     1    no   3.1      no        no
## 2141   no 0.36380 0.28940 0.89940828     2     2    no   3.1      no        no
```

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## 2142  yes 0.19270 0.18824 0.69090909     2     1    no   3.2      no         no
## 2143   no 0.17770 0.12540 0.67500000     3     1    no   4.3     yes         no
## 2144   no 0.36000 0.25000 0.80000000     3     2    no   3.1     yes         no
## 2145   no 0.32050 0.31700 0.56521739     1     2    no   3.2     yes         no
## 2146   no 0.44000 0.36000 0.80341880     1     1   yes   3.2      no         no
## 2147   no 0.29210 0.27490 0.90196078     1     2    no  10.6      no         no
## 2148   no 0.39500 0.24140 0.80000000     2     2    no   3.2      no         no
## 2149  yes 0.37000 0.28420 0.83333333     2     1    no   3.9      no         no
## 2150  yes 0.44000 0.39000 0.89873418     6     2   yes   3.9      no         no
## 2151  yes 0.37000 0.29000 0.50400000     6     2   yes   1.8      no         no
## 2152   no 0.29390 0.24590 0.95333333     5     2    no   3.2      no         no
## 2153   no 0.44470 0.36070 0.86538462     2     1    no   3.9      no         no
## 2154   no 0.35000 0.30000 0.79775281     1     2   yes   3.1      no         no
## 2155   no 0.35900 0.17270 0.80000000     6     2    no   3.2     yes         no
## 2156   no 0.39000 0.26000 0.79384615     1     1    no   3.1      no         no
## 2157   no 0.34000 0.33000 0.90000000     1     2   yes   5.3     yes         no
## 2158   no 0.39360 0.25750 0.79874214     1     2   yes   3.2      no         no
## 2159   no 0.31000 0.31000 0.89759036     4     2   yes   3.9      no         no
## 2160   no 0.30160 0.18090 0.79518072     1     2    no   1.8      no         no
## 2161   no 0.42740 0.35300 0.79715302     5     2   yes   1.8      no         no
## 2162   no 0.35140 0.35140 0.90175439     2     1   yes   3.2      no         no
## 2163   no 0.39000 0.33000 0.80000000     2     1    no   8.9      no         no
## 2164  yes 0.34930 0.19480 1.20000000     1     1    no   3.1      no         no
## 2165   no 0.37230 0.29580 0.90204082     1     1    no   3.1      no         no
## 2166   no 0.33530 0.24580 0.87647059     1     1    no   3.1      no         no
## 2167   no 0.38850 0.26530 0.80000000     1     1    no   3.1      no         no
## 2168   no 0.42090 0.30150 0.77165354     1     1    no   5.3      no         no
## 2169   no 0.28400 0.28140 0.89855072     1     2    no   3.2      no         no
## 2170   no 0.35400 0.25570 0.90000000     1     2    no   5.3      no         no
## 2171  yes 0.47780 0.36620 0.75064935     6     2   yes   3.1      no         no
## 2172   no 0.40980 0.31470 0.82300885     1     2    no   3.9      no         no
## 2173   no 0.19440 0.19260 0.79344262     1     1    no   3.2      no         no
## 2174   no 0.46450 0.34700 0.73118280     1     2    no   3.6      no         no
## 2175   no 0.34170 0.25330 0.75333333     1     1    no   2.0      no         no
## 2176   no 0.31770 0.29710 0.90277778     1     1    no   3.1      no         no
## 2177   no 0.30830 0.18850 0.80000000     2     3    no  10.6     yes         no
## 2178   no 0.35370 0.28250 0.89375000     1     2    no   3.2      no         no
## 2179   no 0.39380 0.39380 0.73846154     1     2    no   3.2      no         no
## 2180   no 0.39220 0.23110 0.80086580     1     2    no   3.6      no         no
## 2181   no 0.20050 0.14600 0.82677165     1     2    no   3.6     yes         no
## 2182   no 0.47940 0.46850 0.66666667     4     2    no   4.3      no         no
## 2183   no 0.31150 0.22310 0.79738562     1     2    no   1.8      no         no
## 2184   no 0.11350 0.09780 0.79894180     1     1    no   3.6     yes         no
## 2185  yes 0.31890 0.18410 0.90000000     5     1   yes   3.2      no         no
## 2186   no 0.35170 0.25610 0.89781022     1     2    no  10.6      no         no
## 2187   no 0.24420 0.19510 0.80263158     1     1    no   1.8      no         no
## 2188   no 0.31840 0.23560 0.30769231     1     2    no   3.6      no         no
## 2189   no 0.19220 0.17770 0.89705882     1     2    no   3.2      no         no
## 2190   no 0.42150 0.38240 0.87647059     1     1    no   4.3      no         no
## 2191   no 0.33930 0.21180 0.85987261     2     2    no   3.6      no         no
## 2192   no 0.10790 0.08820 0.68571429     1     1    no   3.6     yes         no
## 2193  yes 0.26790 0.10380 0.90540541     1     2    no   3.2      no         no
## 2194  yes 0.35820 0.28060 0.89830508     5     2   yes   3.6      no         no
## 2195   no 0.36800 0.28280 0.90000000     1     2    no   5.3      no         no
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## 2196   no 0.25380 0.25380 0.90000000     4     2    no   2.0      no        no
## 2197   no 0.29520 0.27160 0.80257511     3     2   yes   3.2      no        no
## 2198   no 0.29310 0.12540 0.82644628     1     1    no   3.2      no        no
## 2199   no 0.29880 0.29880 0.79012346     4     2    no   3.1      no        no
## 2200   no 0.33780 0.22600 0.80000000     1     2    no   3.2      no        no
## 2201   no 0.36870 0.29890 0.90285714     1     2    no   3.6      no        no
## 2202   no 0.40090 0.36670 0.75539568     4     1    no   1.8      no        no
## 2203   no 0.35000 0.35000 0.86896552     1     2    no   3.6      no        no
## 2204   no 0.39050 0.30610 0.80000000     1     2    no   3.2     yes        no
## 2205   no 0.40020 0.27980 0.90196078     2     2    no   3.1      no        no
## 2206   no 0.39530 0.31270 0.88811189     1     2    no   3.6      no        no
## 2207   no 0.36300 0.31820 0.79729730     1     2    no   3.6      no        no
## 2208  yes 0.36700 0.32800 0.89763780     3     2   yes   3.6      no        no
## 2209   no 0.33590 0.33110 0.90285714     1     2   yes   3.6      no        no
## 2210  yes 0.24230 0.23150 0.90265487     5     2    no  10.6      no        no
## 2211   no 0.24760 0.20450 0.89908257     2     2    no   3.6      no        no
## 2212   no 0.39050 0.36520 0.90212766     1     1    no   1.8      no        no
## 2213   no 0.32220 0.24220 0.75757576     4     1    no   3.1      no        no
## 2214   no 0.32170 0.31530 0.90322581     1     2    no   3.6      no        no
## 2215   no 0.42660 0.29920 0.78048780     1     2    no   3.2      no        no
## 2216   no 0.30940 0.28310 0.70588235     1     2    no   3.2      no        no
## 2217   no 0.33720 0.28910 1.00000000     4     2    no   3.1      no        no
## 2218   no 0.26000 0.19000 0.87058824     4     1    no   3.6      no        no
## 2219   no 0.35830 0.29560 0.90344828     1     2    no   3.2      no        no
## 2220   no 0.35250 0.26340 0.38709677     2     2    no   3.6     yes        no
## 2221   no 0.28310 0.15100 0.72000000     2     1    no   3.6     yes        no
## 2222   no 0.32070 0.29620 0.80000000     2     2    no   4.3      no        no
## 2223  yes 0.43150 0.34390 0.86419753     2     2    no   2.0      no        no
## 2224  yes 0.32070 0.25220 0.90000000     1     2    no   5.3      no        no
## 2225   no 0.31960 0.30990 0.68484848     1     1    no   3.9      no        no
## 2226  yes 0.39960 0.26580 0.90000000     2     3   yes   3.6      no        no
## 2227   no 0.32110 0.20180 0.89843750     1     2    no   3.6      no        no
## 2228   no 0.38400 0.23350 0.75333333     4     1    no   3.6      no        no
## 2229  yes 0.19000 0.08000 0.75454545     1     2    no   1.8     yes        no
## 2230  yes 0.04000 0.03000 0.66666667     1     2    no   4.3      no        no
## 2231  yes 0.34660 0.26580 1.04800000     1     2    no   3.6      no        no
## 2232  yes 0.48400 0.47200 1.00000000     5     2   yes   3.2     yes        no
## 2233   no 0.32870 0.28890 0.90769231     1     2    no   3.6      no        no
## 2234  yes 0.28660 0.19920 0.79661017     6     1   yes   1.8      no        no
## 2235   no 0.31580 0.16910 0.64974619     1     2    no   1.8      no        no
## 2236   no 0.41910 0.35990 0.79452055     1     2    no   3.2      no        no
## 2237   no 0.37790 0.22860 0.89880952     1     2    no   2.0      no        no
## 2238  yes 0.44000 0.36000 0.74820144     1     2    no   3.6      no        no
## 2239  yes 0.32210 0.32210 0.90277778     4     2   yes   3.2      no        no
## 2240   no 0.37330 0.27320 0.75000000     5     1    no   3.1     yes        no
## 2241  yes 0.29200 0.20740 0.89285714     5     2    no   2.0      no        no
## 2242   no 0.30310 0.29040 0.90322581     1     2    no   3.2      no        no
## 2243   no 0.30710 0.24000 0.66666667     5     3    no   3.2      no        no
## 2244   no 0.32000 0.25000 0.74576271     5     2    no   4.3      no        no
## 2245   no 0.33180 0.31180 0.79797980     2     1    no   3.6      no        no
## 2246   no 0.33870 0.29360 0.53793103     2     1    no   3.2      no        no
## 2247   no 0.31940 0.29360 0.60377358     1     2    no   3.2      no        no
## 2248   no 0.29170 0.25060 0.69444444     1     1    no   4.3     yes        no
## 2249   no 0.32950 0.26810 0.82481752     1     2    no   3.9      no        no
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## 2250   no 0.38300 0.28440 0.79723502     3     1    no   3.2      no        no
## 2251  yes 0.25420 0.20300 0.95348837     6     2    no   3.2      no        no
## 2252   no 0.31600 0.28890 0.63125000     1     2    no   3.2      no        no
## 2253   no 0.37260 0.27956 0.80000000     1     2    no   4.3      no        no
## 2254   no 0.35830 0.23390 0.72419105     2     2    no   3.2      no        no
## 2255   no 0.33000 0.29000 0.79941003     2     1   yes   4.3      no        no
## 2256   no 0.38010 0.21310 0.75384615     1     1    no   3.2      no        no
## 2257   no 0.31680 0.23880 0.74860335     1     2    no   3.2      no        no
## 2258   no 0.38520 0.21920 0.92903226     1     2    no   3.1      no        no
## 2259   no 0.34530 0.17630 0.75423729     1     2    no   3.2      no        no
## 2260   no 0.29670 0.28260 0.89189189     2     2    no   4.3      no        no
## 2261   no 0.27580 0.21100 0.75555556     1     2    no   4.3      no        no
## 2262   no 0.40090 0.25130 0.74708171     3     2    no   3.1      no        no
## 2263   no 0.35560 0.25040 0.64743969     1     2    no   3.2      no        no
## 2264   no 0.30220 0.17720 0.73469388     2     1    no   1.8      no        no
## 2265   no 0.21850 0.19700 0.79601990     1     2    no   3.1      no        no
## 2266   no 0.26300 0.24800 0.80000000     1     2    no   3.2      no        no
## 2267   no 0.32300 0.26620 0.74774775     1     1    no   3.2      no        no
## 2268   no 0.35560 0.29620 0.79874214     4     2    no   3.1      no        no
## 2269   no 0.30800 0.30800 0.79713035     1     2    no   2.0      no        no
## 2270   no 0.27600 0.26410 0.80000000     1     1    no   1.8      no        no
## 2271   no 0.36560 0.30240 0.80000000     1     2    no   3.1      no        no
## 2272   no 0.33230 0.33010 0.53636364     1     1    no   3.2      no        no
## 2273   no 0.28750 0.22280 0.67619048     1     2    no   3.2      no        no
## 2274   no 0.26220 0.25580 0.63921569     1     1    no   3.1      no        no
## 2275   no 0.35290 0.27670 0.84166667     1     2    no   3.1      no        no
## 2276   no 0.35340 0.27440 0.79655172     3     1   yes   1.8      no        no
## 2277   no 0.30100 0.27830 0.31609195     1     2    no   1.8      no        no
## 2278   no 0.37270 0.26780 0.80000000     1     2    no   3.9      no        no
## 2279   no 0.35000 0.15000 0.53428571     3     1    no   3.2      no        no
## 2280   no 0.35000 0.34000 0.74482759     1     2    no   3.2      no        no
## 2281   no 0.17000 0.13000 0.46153846     3     1    no   3.6      no        no
## 2282   no 0.17000 0.16000 0.54444444     1     1    no   3.2     yes        no
## 2283   no 0.30000 0.23000 0.59565217     2     1    no   3.1      no        no
## 2284   no 0.34000 0.30000 0.74800000     1     1    no   1.8      no        no
## 2285  yes 0.50000 0.23000 0.50793651     3     1   yes   3.2      no        no
## 2286   no 0.21000 0.09000 0.74666667     1     2    no  10.6      no        no
## 2287   no 0.36000 0.35000 0.79000000     1     1    no   3.2      no        no
## 2288   no 0.19000 0.19000 0.34883721     3     2    no   1.8      no        no
## 2289   no 0.32000 0.22000 0.78787879     3     1    no   1.8      no        no
## 2290   no 0.35000 0.29000 0.67452830     3     3    no   4.3      no        no
## 2291  yes 0.21000 0.19000 0.70566038     2     2    no   4.3     yes        no
## 2292   no 0.28000 0.26000 0.72590738     1     1   yes   3.2      no        no
## 2293   no 0.30000 0.24000 0.58630952     3     4    no   3.9      no        no
## 2294   no 0.36000 0.24000 0.77777778     1     2    no   3.2      no        no
## 2295   no 0.27000 0.27000 0.80263158     2     2    no   2.0      no        no
## 2296   no 0.38000 0.30000 0.57812500     2     1    no   3.2      no        no
## 2297   no 0.34000 0.30000 0.71428571     3     4   yes   3.2     yes        no
## 2298   no 0.27000 0.23000 0.75454545     3     1   yes   3.2      no        no
## 2299   no 0.37000 0.22000 0.86486486     3     1    no   2.0      no        no
## 2300   no 0.30330 0.23800 0.48048048     2     1    no   4.3      no        no
## 2301   no 0.29860 0.29130 0.67500000     1     1    no   3.2      no        no
## 2302   no 0.37020 0.36090 0.76190476     1     1    no   3.1      no        no
## 2303   no 0.36500 0.22500 0.90476190     6     2    no   3.2      no        no
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## 2304   no 0.36600 0.27500 0.47948718     1     1    no   3.2      no         no
## 2305   no 0.33000 0.32000 0.72656250     1     2    no   1.8      no         no
## 2306   no 0.40000 0.32000 0.54347826     1     2    no   3.2      no         no
## 2307   no 0.27000 0.26000 0.84671533     1     2    no   3.2      no         no
## 2308   no 0.29000 0.29000 0.77519380     1     2    no   3.1      no         no
## 2309   no 0.31000 0.30000 0.63953488     1     1    no   2.0      no         no
## 2310   no 0.38000 0.21000 0.76000000     6     2    no   3.2      no         no
## 2311   no 0.37000 0.31000 0.86666667     1     2    no   4.3      no         no
## 2312   no 0.38000 0.28000 0.84705882     1     2    no   3.9      no         no
## 2313   no 0.34000 0.33000 0.50000000     1     2    no   3.2      no         no
## 2314   no 0.42000 0.33000 0.79670330     1     2    no   2.0      no         no
## 2315   no 0.32000 0.28000 0.78767123     1     2    no   1.8      no         no
## 2316   no 0.38600 0.14200 0.32692308     1     1    no   3.2      no         no
## 2317   no 0.34700 0.27900 0.72413793     1     2    no   3.2      no         no
## 2318   no 0.24400 0.23600 0.65714286     1     2    no   4.3     yes         no
## 2319   no 0.23000 0.23000 0.44871795     1     2    no   1.8      no         no
## 2320   no 0.34000 0.34000 0.88888889     1     2    no   3.2      no         no
## 2321   no 0.35000 0.17000 0.71304348     1     2    no   1.8      no         no
## 2322   no 0.37900 0.24700 0.80341880     6     2   yes   3.2      no         no
## 2323   no 0.39000 0.27000 0.87500000     1     2    no   1.8      no         no
## 2324   no 0.42000 0.28000 0.68965517     1     2    no   3.2      no         no
## 2325   no 0.26000 0.18000 0.88207547     1     1    no   1.8      no         no
## 2326   no 0.43000 0.11000 0.75144509     2     1    no   3.2      no         no
## 2327   no 0.34000 0.26000 0.94067797     2     2    no   3.2      no         no
## 2328   no 0.20000 0.09000 0.90000000     2     1    no   3.6     yes         no
## 2329   no 0.36000 0.29000 0.90789474     1     2   yes   4.3      no         no
## 2330   no 0.32000 0.25000 0.94927536     2     2    no   1.8      no         no
## 2331   no 0.35000 0.35000 0.63207547     1     2    no   3.2      no         no
## 2332   no 0.47000 0.06000 0.89312977     1     1    no   1.8     yes         no
## 2333   no 0.39000 0.29000 0.77685950     6     2   yes   2.0      no         no
## 2334   no 0.34000 0.29000 0.89473684     1     2    no   3.2      no         no
## 2335   no 0.38000 0.27000 0.85517241     1     2    no  10.6      no         no
## 2336  yes 0.36800 0.28100 1.23913043     2     2    no   2.0      no         no
## 2337   no 0.30000 0.28000 0.80000000     1     2    no   3.1      no         no
## 2338   no 0.39100 0.32500 0.92857143     1     2    no   1.8      no         no
## 2339   no 0.30000 0.09000 0.90076336     2     2    no   3.6      no         no
## 2340   no 0.41000 0.24000 0.85714286     1     2    no   3.2      no         no
## 2341   no 0.34000 0.27000 0.41666667     2     1    no   3.2      no         no
## 2342   no 0.26000 0.26000 0.44642857     1     2    no   3.2      no         no
## 2343   no 0.35000 0.34000 0.37634409     1     1    no   3.2      no         no
## 2344   no 0.09000 0.04000 0.40000000     1     2    no   3.2      no         no
## 2345   no 0.26000 0.21000 0.90104167     1     2    no   1.8      no         no
## 2346   no 0.44000 0.30000 0.75949367     1     1    no   3.2      no         no
## 2347   no 0.35000 0.23000 0.78321678     2     2   yes   3.2      no         no
## 2348   no 0.39000 0.25000 0.59615385     2     1    no   4.3      no         no
## 2349   no 0.31000 0.22000 0.73000000     5     2    no   1.8      no         no
## 2350   no 0.40000 0.12000 0.76612903     1     1    no   3.1      no         no
## 2351   no 0.41000 0.33000 0.68041237     2     1    no   1.8     yes         no
## 2352   no 0.24000 0.19000 0.79532164     2     1    no   1.8      no         no
## 2353   no 0.33000 0.30000 0.80000000     2     1    no   3.2      no         no
## 2354   no 0.37000 0.27000 0.73043478     1     2    no   4.3      no         no
## 2355   no 0.35000 0.34000 0.52173913     1     1    no   3.9      no         no
## 2356  yes 0.42000 0.29000 0.66666667     6     2   yes  10.6      no         no
## 2357   no 0.33000 0.28000 0.80000000     6     2    no   1.8      no         no
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## 2358   no 0.34000 0.23000 0.80000000     1     1    no   3.9      no        no
## 2359   no 0.36000 0.34000 0.83478261     1     3    no   4.3      no        no
## 2360  yes 0.32000 0.12000 0.80000000     3     1   yes   3.2     yes        no
## 2361   no 0.32000 0.29000 0.78750000     3     2    no   4.3      no        no
## 2362   no 0.27000 0.21000 0.80600462     2     1    no   3.9      no        no
## 2363   no 0.33000 0.21000 0.47425474     1     1    no   3.6     yes        no
## 2364   no 0.38000 0.31000 0.71428571     5     1    no   3.2      no        no
## 2365   no 0.36000 0.28000 0.71568627     2     1    no   3.2      no        no
## 2366   no 0.24000 0.23000 0.79844961     1     2    no   3.1      no        no
## 2367   no 0.32000 0.25000 0.75531915     1     2    no   3.1      no        no
## 2368   no 0.38000 0.11000 0.31250000     1     2    no   3.1      no        no
## 2369   no 0.38000 0.25000 0.44843049     2     2    no   3.2      no        no
## 2370   no 0.25000 0.24000 0.80000000     2     2    no   3.2      no        no
## 2371   no 0.32000 0.31000 0.80000000     1     2    no   3.1      no        no
## 2372   no 0.31000 0.28000 0.86585366     6     2    no   4.3      no        no
## 2373   no 0.33000 0.24000 0.62500000     3     2    no   3.2      no        no
## 2374   no 0.35000 0.22000 0.89393939     3     2    no   3.9      no        no
## 2375   no 0.33000 0.16000 0.80303030     5     1    no   3.2      no        no
## 2376   no 0.31000 0.25000 0.80000000     1     1    no   3.2     yes        no
## 2377   no 0.30000 0.30000 0.77704918     1     2    no   3.2      no        no
## 2378   no 0.26000 0.20000 0.52676056     2     1    no   3.1      no        no
## 2379  yes 0.32000 0.26000 0.75384615     6     1   yes   3.1      no        no
## 2380  yes 0.35000 0.26000 0.81355932     2     2    no   4.3      no        no
##      condomin afam single hschool
## 1          no   no     no     yes
## 2          no   no    yes     yes
## 3          no   no     no     yes
## 4          no   no     no     yes
## 5          no   no     no     yes
## 6          no   no     no     yes
## 7         yes   no    yes     yes
## 8          no   no     no     yes
## 9          no   no     no     yes
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## 12         no   no    yes     yes
## 13         no   no     no     yes
## 14         no   no     no     yes
## 15         no   no     no     yes
## 16         no   no     no     yes
## 17         no   no     no     yes
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## 19         no   no     no     yes
## 20         no   no    yes     yes
## 21         no   no     no     yes
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## 23         no   no    yes     yes
## 24         no   no     no     yes
## 25         no   no    yes     yes
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## 28         no   no    yes     yes
## 29         no   no     no     yes
## 30         no  yes    yes     yes
```

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## 32         no   no     no     yes
## 33         no   no    yes     yes
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## 43         no   no     no     yes
## 44         no   no     no     yes
## 45         no   no    yes     yes
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## 47         no   no     no     yes
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## 70        yes   no    yes     yes
## 71         no   no     no     yes
## 72         no   no     no     yes
## 73         no   no    yes     yes
## 74         no   no     no     yes
## 75         no   no     no     yes
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## 77         no   no     no     yes
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## 83         no  yes     no     yes
## 84         no   no    yes     yes
```

```
## 85         no   no     no     yes
## 86         no   no     no     yes
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## 93         no   no     no     yes
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## 109        no   no     no     yes
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## 112        no   no    yes     yes
## 113        no   no     no     yes
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## 115        no   no     no     yes
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## 118        no   no     no     yes
## 119        no  yes    yes     yes
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## 122        no   no     no     yes
## 123        no   no    yes     yes
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## 132        no   no     no     yes
## 133        no   no     no     yes
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## 135        no   no     no     yes
## 136       yes   no    yes     yes
## 137       yes  yes    yes     yes
## 138        no   no     no     yes
```

```
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## 140        no   no    yes     yes
## 141       yes   no    yes     yes
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## 162        no   no     no     yes
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## 172        no   no     no     yes
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## 175        no   no     no     yes
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## 177       yes  yes    yes     yes
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## 185       yes   no    yes     yes
## 186        no   no     no     yes
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## 189       yes  yes     no     yes
## 190        no   no     no     yes
## 191       yes   no     no     yes
## 192        no  yes     no     yes
```

```
## 193        no  yes    yes     yes
## 194        no   no     no     yes
## 195        no   no     no     yes
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## 197       yes  yes    yes     yes
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## 199       yes   no     no      no
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## 205       yes  yes    yes     yes
## 206        no  yes     no     yes
## 207       yes  yes    yes     yes
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```

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## 248       yes   no    yes     yes
## 249        no   no     no     yes
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## 260        no   no     no     yes
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## 270       yes   no    yes     yes
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```

```
## 301        no   no     no     yes
## 302       yes   no     no     yes
## 303        no   no     no     yes
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## 315        no   no     no     yes
## 316        no   no    yes     yes
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## 319        no   no     no     yes
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```

```
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```

```
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```

```
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## 608        no   no    yes     yes
## 609        no  yes     no     yes
## 610        no   no    yes     yes
## 611        no   no     no     yes
## 612        no   no     no     yes
## 613        no   no     no     yes
## 614        no   no     no     yes
## 615        no  yes     no     yes
## 616        no   no     no     yes
## 617        no   no     no     yes
## 618        no   no     no     yes
## 619        no   no     no     yes
## 620        no   no     no     yes
## 621        no   no     no     yes
## 622        no   no     no     yes
## 623        no   no     no     yes
## 624        no   no     no     yes
```

```
## 625        no   no     no     yes
## 626        no   no     no     yes
## 627        no   no     no     yes
## 628        no   no    yes     yes
## 629        no   no    yes     yes
## 630        no   no     no     yes
## 631        no   no     no     yes
## 632        no   no     no     yes
## 633        no   no     no     yes
## 634        no  yes     no     yes
## 635        no   no    yes     yes
## 636        no   no     no     yes
## 637        no   no     no     yes
## 638        no   no     no     yes
## 639        no   no     no     yes
## 640        no   no     no     yes
## 641        no   no     no     yes
## 642        no  yes     no     yes
## 643        no   no     no     yes
## 644        no   no    yes     yes
## 645       yes   no     no     yes
## 646       yes   no    yes     yes
## 647        no   no    yes     yes
## 648       yes   no     no     yes
## 649        no   no     no     yes
## 650        no   no     no     yes
## 651        no   no     no     yes
## 652        no   no     no     yes
## 653        no   no     no     yes
## 654       yes   no    yes     yes
## 655        no   no     no     yes
## 656        no   no     no     yes
## 657        no   no     no     yes
## 658        no   no    yes     yes
## 659        no   no     no     yes
## 660        no   no     no     yes
## 661       yes   no    yes     yes
## 662        no   no     no     yes
## 663        no   no     no     yes
## 664        no   no     no     yes
## 665        no   no     no     yes
## 666        no   no    yes     yes
## 667        no   no     no     yes
## 668        no   no     no     yes
## 669        no   no    yes     yes
## 670        no   no     no     yes
## 671        no   no     no     yes
## 672        no   no    yes     yes
## 673        no   no    yes     yes
## 674        no   no     no     yes
## 675        no   no    yes     yes
## 676        no   no     no     yes
## 677        no   no     no     yes
## 678        no   no     no     yes
```

```
## 679        no   no     no     yes
## 680       yes   no    yes     yes
## 681        no  yes     no     yes
## 682        no  yes     no     yes
## 683        no   no     no     yes
## 684        no   no     no     yes
## 685        no   no     no     yes
## 686        no   no    yes     yes
## 687       yes   no     no     yes
## 688       yes  yes     no     yes
## 689        no   no     no     yes
## 690        no   no     no     yes
## 691       yes   no     no     yes
## 692       yes   no     no     yes
## 693        no   no     no     yes
## 694        no   no    yes     yes
## 695       yes   no     no     yes
## 696        no   no     no     yes
## 697        no   no     no     yes
## 698       yes   no     no     yes
## 699        no   no     no     yes
## 700       yes   no     no     yes
## 701       yes   no    yes     yes
## 702        no   no    yes     yes
## 703        no   no    yes     yes
## 704        no   no     no     yes
## 705        no   no     no     yes
## 706        no   no     no     yes
## 707        no   no     no     yes
## 708       yes   no    yes     yes
## 709       yes   no     no     yes
## 710        no   no     no     yes
## 711       yes   no    yes     yes
## 712        no   no     no     yes
## 713       yes   no     no     yes
## 714       yes   no    yes     yes
## 715        no   no    yes     yes
## 716        no   no     no     yes
## 717        no   no     no     yes
## 718        no   no     no     yes
## 719        no   no     no     yes
## 720        no   no     no     yes
## 721        no   no     no     yes
## 722        no   no     no     yes
## 723        no  yes    yes     yes
## 724       yes   no     no     yes
## 725        no   no    yes     yes
## 726        no   no     no     yes
## 727        no   no     no     yes
## 728       yes   no    yes     yes
## 729        no   no     no     yes
## 730       yes   no     no     yes
## 731       yes   no    yes     yes
## 732        no   no     no     yes
```

```
## 733        no   no     no     yes
## 734       yes   no    yes     yes
## 735       yes   no     no     yes
## 736        no   no     no     yes
## 737        no   no     no     yes
## 738        no   no    yes     yes
## 739       yes  yes     no     yes
## 740        no   no    yes     yes
## 741        no   no     no     yes
## 742        no   no     no     yes
## 743        no   no     no     yes
## 744       yes   no     no     yes
## 745        no   no     no     yes
## 746        no   no     no     yes
## 747        no   no    yes     yes
## 748        no   no     no     yes
## 749        no   no    yes     yes
## 750        no   no     no     yes
## 751        no   no     no     yes
## 752        no   no     no     yes
## 753        no   no     no     yes
## 754        no   no    yes     yes
## 755        no   no     no     yes
## 756        no   no    yes     yes
## 757        no   no    yes     yes
## 758        no   no     no     yes
## 759        no   no     no     yes
## 760       yes  yes     no     yes
## 761       yes  yes    yes     yes
## 762       yes  yes    yes     yes
## 763       yes  yes     no     yes
## 764        no  yes    yes     yes
## 765        no   no    yes     yes
## 766       yes   no     no     yes
## 767        no   no    yes     yes
## 768       yes   no    yes     yes
## 769        no  yes     no     yes
## 770       yes  yes    yes     yes
## 771       yes  yes    yes     yes
## 772       yes   no    yes     yes
## 773       yes  yes     no     yes
## 774       yes  yes    yes     yes
## 775       yes   no    yes     yes
## 776        no  yes     no     yes
## 777        no  yes     no     yes
## 778       yes   no    yes     yes
## 779       yes  yes    yes     yes
## 780       yes  yes    yes     yes
## 781        no  yes    yes     yes
## 782        no  yes    yes      no
## 783       yes  yes     no     yes
## 784       yes  yes     no     yes
## 785       yes  yes    yes     yes
## 786       yes  yes    yes     yes
```

```
## 787        no  yes    yes     yes
## 788       yes  yes    yes     yes
## 789       yes  yes    yes     yes
## 790       yes  yes     no     yes
## 791        no  yes    yes     yes
## 792       yes  yes    yes     yes
## 793        no  yes     no     yes
## 794        no  yes     no     yes
## 795        no  yes     no      no
## 796        no  yes    yes     yes
## 797       yes  yes     no      no
## 798       yes  yes    yes     yes
## 799        no  yes    yes     yes
## 800        no  yes    yes     yes
## 801       yes  yes     no     yes
## 802       yes  yes     no     yes
## 803       yes  yes    yes     yes
## 804       yes   no    yes     yes
## 805       yes  yes     no     yes
## 806       yes  yes    yes     yes
## 807        no  yes    yes     yes
## 808        no  yes     no     yes
## 809        no  yes     no     yes
## 810       yes  yes     no     yes
## 811       yes  yes     no     yes
## 812        no  yes    yes     yes
## 813       yes  yes    yes     yes
## 814        no   no     no     yes
## 815       yes  yes    yes     yes
## 816       yes  yes    yes     yes
## 817        no  yes    yes     yes
## 818       yes  yes    yes     yes
## 819       yes  yes    yes     yes
## 820        no  yes    yes     yes
## 821        no  yes     no     yes
## 822        no   no     no     yes
## 823        no   no    yes     yes
## 824        no   no    yes     yes
## 825        no   no    yes     yes
## 826        no   no     no     yes
## 827        no   no     no     yes
## 828        no   no     no     yes
## 829        no   no     no     yes
## 830        no   no    yes     yes
## 831        no   no     no     yes
## 832        no   no     no     yes
## 833        no   no     no     yes
## 834        no   no     no     yes
## 835       yes   no    yes     yes
## 836        no   no     no     yes
## 837       yes   no    yes     yes
## 838        no   no     no     yes
## 839        no   no     no     yes
## 840       yes   no     no     yes
```

```
## 841        no   no     no     yes
## 842        no   no     no     yes
## 843        no   no     no     yes
## 844        no   no     no     yes
## 845        no   no     no     yes
## 846        no   no     no     yes
## 847        no   no     no     yes
## 848        no   no     no     yes
## 849        no   no     no     yes
## 850        no   no    yes     yes
## 851        no   no     no     yes
## 852        no   no     no     yes
## 853        no   no    yes     yes
## 854        no   no     no     yes
## 855        no   no    yes     yes
## 856        no   no     no     yes
## 857        no   no     no     yes
## 858       yes   no     no     yes
## 859        no   no     no     yes
## 860        no   no     no     yes
## 861        no   no     no     yes
## 862       yes   no    yes     yes
## 863        no   no     no     yes
## 864        no   no     no     yes
## 865        no   no     no     yes
## 866        no   no     no     yes
## 867        no   no    yes     yes
## 868        no   no    yes     yes
## 869        no  yes     no      no
## 870        no   no    yes     yes
## 871        no   no     no     yes
## 872       yes   no    yes     yes
## 873        no   no     no     yes
## 874        no   no     no     yes
## 875        no   no     no     yes
## 876       yes   no    yes     yes
## 877       yes   no    yes     yes
## 878        no   no    yes     yes
## 879       yes   no    yes     yes
## 880        no   no    yes     yes
## 881        no   no     no     yes
## 882        no   no     no     yes
## 883        no   no    yes     yes
## 884        no  yes     no     yes
## 885        no   no     no     yes
## 886        no   no    yes     yes
## 887        no   no    yes     yes
## 888        no   no     no     yes
## 889        no   no     no     yes
## 890       yes   no    yes     yes
## 891        no   no     no     yes
## 892        no   no    yes     yes
## 893        no   no     no     yes
## 894        no   no    yes     yes
```

```
## 895        no   no    yes     yes
## 896        no   no    yes     yes
## 897       yes   no    yes     yes
## 898        no   no    yes     yes
## 899        no   no     no     yes
## 900        no   no    yes     yes
## 901        no   no     no     yes
## 902        no  yes     no     yes
## 903        no   no     no     yes
## 904        no   no     no     yes
## 905        no   no     no     yes
## 906        no   no     no     yes
## 907        no   no     no     yes
## 908        no   no    yes     yes
## 909        no   no    yes     yes
## 910        no   no     no     yes
## 911        no   no     no     yes
## 912        no  yes     no     yes
## 913        no   no     no     yes
## 914       yes   no    yes     yes
## 915        no   no    yes     yes
## 916       yes   no    yes     yes
## 917        no   no     no     yes
## 918        no   no     no     yes
## 919        no   no    yes     yes
## 920        no   no     no     yes
## 921        no   no    yes     yes
## 922        no   no     no     yes
## 923        no   no     no     yes
## 924       yes   no     no     yes
## 925        no   no     no     yes
## 926        no   no     no     yes
## 927        no   no    yes     yes
## 928        no  yes    yes     yes
## 929        no   no     no     yes
## 930       yes   no    yes     yes
## 931        no   no     no     yes
## 932        no   no     no     yes
## 933        no   no    yes     yes
## 934        no   no     no     yes
## 935        no   no     no     yes
## 936       yes  yes    yes     yes
## 937        no   no     no     yes
## 938        no   no     no     yes
## 939        no   no     no     yes
## 940        no   no    yes     yes
## 941        no   no     no     yes
## 942        no   no     no     yes
## 943        no   no     no     yes
## 944        no  yes    yes     yes
## 945       yes   no     no     yes
## 946        no   no     no     yes
## 947        no   no     no     yes
## 948       yes   no    yes     yes
```

```
## 949       yes   no     no     yes
## 950       yes   no    yes     yes
## 951       yes   no    yes     yes
## 952        no   no     no     yes
## 953        no   no    yes     yes
## 954        no   no    yes     yes
## 955        no   no     no     yes
## 956        no   no     no     yes
## 957        no   no     no     yes
## 958        no   no    yes     yes
## 959        no   no    yes     yes
## 960        no   no    yes     yes
## 961        no   no    yes     yes
## 962        no   no     no     yes
## 963       yes   no    yes     yes
## 964        no   no    yes     yes
## 965        no   no    yes     yes
## 966        no   no     no     yes
## 967        no   no     no     yes
## 968        no   no     no     yes
## 969        no  yes    yes     yes
## 970        no   no     no     yes
## 971        no   no     no     yes
## 972        no   no    yes     yes
## 973        no   no    yes     yes
## 974        no   no     no     yes
## 975        no   no     no     yes
## 976        no   no     no     yes
## 977        no   no     no     yes
## 978        no   no    yes     yes
## 979        no   no     no     yes
## 980        no  yes     no     yes
## 981        no   no     no     yes
## 982        no   no     no     yes
## 983        no   no    yes     yes
## 984        no   no    yes     yes
## 985        no   no    yes     yes
## 986        no   no    yes     yes
## 987        no   no    yes     yes
## 988        no   no    yes     yes
## 989        no   no     no     yes
## 990        no   no     no     yes
## 991        no   no    yes     yes
## 992        no   no     no     yes
## 993        no   no     no     yes
## 994        no   no     no     yes
## 995        no   no     no     yes
## 996       yes   no     no     yes
## 997       yes   no     no     yes
## 998        no   no     no     yes
## 999        no   no    yes     yes
## 1000       no   no     no     yes
## 1001       no   no     no     yes
## 1002       no   no    yes     yes
```

```
## 1003       no  yes    yes     yes
## 1004       no   no     no     yes
## 1005       no   no     no     yes
## 1006       no   no     no     yes
## 1007       no   no     no     yes
## 1008       no   no    yes     yes
## 1009       no   no    yes     yes
## 1010       no   no    yes     yes
## 1011      yes   no     no     yes
## 1012       no   no    yes     yes
## 1013       no   no     no     yes
## 1014       no   no     no     yes
## 1015       no   no     no     yes
## 1016       no   no     no     yes
## 1017       no  yes    yes     yes
## 1018      yes  yes     no      no
## 1019      yes   no    yes     yes
## 1020      yes   no    yes     yes
## 1021      yes  yes    yes     yes
## 1022       no  yes    yes     yes
## 1023      yes   no     no      no
## 1024      yes  yes    yes     yes
## 1025      yes  yes    yes     yes
## 1026      yes  yes     no     yes
## 1027       no  yes    yes     yes
## 1028      yes  yes    yes     yes
## 1029      yes  yes     no     yes
## 1030      yes   no    yes     yes
## 1031      yes   no    yes     yes
## 1032      yes   no     no     yes
## 1033       no   no     no     yes
## 1034       no   no    yes     yes
## 1035       no   no     no     yes
## 1036       no   no     no     yes
## 1037       no   no     no     yes
## 1038       no   no     no     yes
## 1039       no   no     no     yes
## 1040       no   no     no     yes
## 1041       no   no    yes     yes
## 1042       no   no     no     yes
## 1043       no   no    yes     yes
## 1044       no   no    yes     yes
## 1045      yes   no     no     yes
## 1046       no   no     no     yes
## 1047       no   no     no     yes
## 1048       no   no    yes     yes
## 1049       no  yes    yes     yes
## 1050       no   no     no     yes
## 1051       no   no    yes     yes
## 1052       no  yes     no     yes
## 1053       no   no    yes     yes
## 1054       no   no     no     yes
## 1055       no   no     no     yes
## 1056       no   no     no     yes
```

```
## 1057       no   no     no     yes
## 1058       no   no     no     yes
## 1059       no   no     no     yes
## 1060       no   no     no     yes
## 1061       no   no     no     yes
## 1062       no   no     no     yes
## 1063       no   no     no     yes
## 1064       no   no    yes     yes
## 1065       no  yes    yes     yes
## 1066       no   no    yes     yes
## 1067       no   no     no     yes
## 1068       no   no     no     yes
## 1069       no   no    yes     yes
## 1070      yes   no     no     yes
## 1071      yes   no    yes     yes
## 1072       no   no     no     yes
## 1073       no   no     no     yes
## 1074       no   no    yes     yes
## 1075       no   no     no     yes
## 1076       no   no     no     yes
## 1077       no   no     no     yes
## 1078       no   no     no     yes
## 1079       no   no     no     yes
## 1080       no   no     no     yes
## 1081       no   no     no     yes
## 1082      yes   no    yes     yes
## 1083      yes   no     no     yes
## 1084       no   no     no     yes
## 1085      yes   no     no     yes
## 1086       no   no    yes     yes
## 1087       no   no     no     yes
## 1088       no   no    yes     yes
## 1089       no   no     no     yes
## 1090       no   no    yes     yes
## 1091       no   no     no     yes
## 1092       no   no     no     yes
## 1093      yes   no     no     yes
## 1094       no   no     no     yes
## 1095       no   no     no      no
## 1096       no   no    yes     yes
## 1097       no   no    yes     yes
## 1098       no   no     no     yes
## 1099       no   no     no     yes
## 1100       no   no     no     yes
## 1101       no  yes     no     yes
## 1102      yes   no     no     yes
## 1103      yes   no    yes     yes
## 1104       no   no     no     yes
## 1105       no   no    yes     yes
## 1106       no   no    yes     yes
## 1107      yes  yes    yes     yes
## 1108       no   no     no     yes
## 1109       no   no    yes      no
## 1110       no   no    yes     yes
```

```
## 1111       no   no    yes     yes
## 1112      yes   no    yes     yes
## 1113       no   no     no     yes
## 1114       no   no     no     yes
## 1115      yes  yes    yes     yes
## 1116      yes   no     no     yes
## 1117      yes   no    yes     yes
## 1118       no   no     no     yes
## 1119       no   no    yes     yes
## 1120       no   no     no     yes
## 1121       no   no     no     yes
## 1122       no   no     no     yes
## 1123       no   no     no     yes
## 1124      yes   no    yes     yes
## 1125       no   no     no     yes
## 1126       no   no     no     yes
## 1127       no   no     no     yes
## 1128       no   no    yes     yes
## 1129      yes   no    yes     yes
## 1130       no   no     no     yes
## 1131       no   no     no     yes
## 1132       no   no     no     yes
## 1133      yes  yes     no     yes
## 1134       no   no     no     yes
## 1135      yes  yes    yes     yes
## 1136      yes  yes    yes     yes
## 1137      yes   no     no     yes
## 1138      yes   no    yes     yes
## 1139       no   no     no     yes
## 1140      yes   no    yes     yes
## 1141       no   no     no     yes
## 1142       no   no    yes     yes
## 1143       no   no     no     yes
## 1144       no   no     no     yes
## 1145       no   no    yes     yes
## 1146      yes   no     no     yes
## 1147       no   no     no     yes
## 1148      yes   no     no     yes
## 1149       no   no     no     yes
## 1150       no   no     no     yes
## 1151       no   no     no     yes
## 1152       no   no     no     yes
## 1153       no   no     no     yes
## 1154       no  yes    yes     yes
## 1155       no   no     no     yes
## 1156       no   no    yes     yes
## 1157       no   no     no     yes
## 1158       no   no     no     yes
## 1159       no   no     no     yes
## 1160      yes   no     no     yes
## 1161       no   no    yes     yes
## 1162      yes   no    yes     yes
## 1163       no   no     no     yes
## 1164      yes   no    yes     yes
```

```
## 1165      yes   no     no     yes
## 1166       no   no     no     yes
## 1167      yes   no    yes     yes
## 1168      yes   no    yes     yes
## 1169       no   no    yes     yes
## 1170       no   no     no     yes
## 1171      yes   no    yes     yes
## 1172      yes   no    yes     yes
## 1173      yes   no     no     yes
## 1174       no   no     no     yes
## 1175       no   no    yes     yes
## 1176      yes   no     no     yes
## 1177       no  yes     no     yes
## 1178       no   no     no     yes
## 1179      yes   no    yes     yes
## 1180       no   no     no     yes
## 1181      yes   no    yes     yes
## 1182       no  yes     no     yes
## 1183       no   no    yes     yes
## 1184      yes   no     no     yes
## 1185       no   no     no     yes
## 1186       no   no     no     yes
## 1187       no   no    yes     yes
## 1188       no  yes    yes     yes
## 1189       no   no     no     yes
## 1190      yes   no     no     yes
## 1191       no   no    yes     yes
## 1192       no   no     no     yes
## 1193       no   no    yes     yes
## 1194       no   no     no     yes
## 1195      yes   no    yes     yes
## 1196       no   no     no     yes
## 1197       no  yes     no     yes
## 1198      yes   no     no     yes
## 1199      yes   no    yes     yes
## 1200      yes   no    yes     yes
## 1201       no   no    yes     yes
## 1202       no   no     no     yes
## 1203       no   no     no     yes
## 1204      yes   no    yes     yes
## 1205      yes   no    yes     yes
## 1206       no   no     no     yes
## 1207      yes  yes    yes     yes
## 1208      yes   no    yes     yes
## 1209      yes   no    yes     yes
## 1210       no   no     no     yes
## 1211       no   no     no     yes
## 1212       no   no     no     yes
## 1213      yes   no     no     yes
## 1214       no   no     no     yes
## 1215       no  yes     no     yes
## 1216      yes   no    yes     yes
## 1217      yes   no    yes     yes
## 1218       no   no     no     yes
```

```
## 1219      yes   no     no     yes
## 1220       no   no     no     yes
## 1221       no   no    yes     yes
## 1222       no   no    yes     yes
## 1223       no   no    yes     yes
## 1224       no   no    yes     yes
## 1225       no   no     no     yes
## 1226       no   no     no     yes
## 1227       no   no    yes     yes
## 1228       no  yes    yes      no
## 1229       no   no     no     yes
## 1230       no   no     no     yes
## 1231       no   no    yes     yes
## 1232       no  yes     no     yes
## 1233       no   no     no     yes
## 1234      yes   no    yes     yes
## 1235       no   no     no     yes
## 1236       no   no     no     yes
## 1237       no   no    yes     yes
## 1238      yes   no     no     yes
## 1239       no   no    yes     yes
## 1240       no   no     no     yes
## 1241       no   no     no     yes
## 1242       no   no    yes     yes
## 1243       no   no    yes     yes
## 1244       no   no    yes     yes
## 1245      yes   no    yes     yes
## 1246       no   no     no     yes
## 1247       no   no    yes     yes
## 1248       no   no     no     yes
## 1249       no   no     no     yes
## 1250      yes   no    yes     yes
## 1251       no   no     no     yes
## 1252       no   no     no     yes
## 1253       no   no     no     yes
## 1254       no   no     no     yes
## 1255       no   no     no     yes
## 1256       no   no     no     yes
## 1257       no   no     no     yes
## 1258      yes   no    yes     yes
## 1259       no   no     no     yes
## 1260       no   no    yes     yes
## 1261      yes   no     no     yes
## 1262       no   no     no     yes
## 1263       no   no     no     yes
## 1264       no   no     no     yes
## 1265       no   no     no     yes
## 1266       no   no     no     yes
## 1267      yes   no    yes     yes
## 1268       no   no    yes     yes
## 1269       no   no    yes     yes
## 1270       no   no     no     yes
## 1271       no   no     no     yes
## 1272      yes  yes    yes     yes
```

```
## 1273       no   no    yes     yes
## 1274      yes  yes     no     yes
## 1275      yes   no    yes     yes
## 1276      yes  yes    yes     yes
## 1277      yes   no     no     yes
## 1278      yes  yes    yes     yes
## 1279      yes   no     no      no
## 1280      yes  yes    yes     yes
## 1281       no   no     no     yes
## 1282       no   no     no     yes
## 1283      yes   no    yes     yes
## 1284       no   no     no      no
## 1285       no   no     no     yes
## 1286      yes   no    yes     yes
## 1287       no  yes     no     yes
## 1288       no   no     no      no
## 1289       no   no     no     yes
## 1290      yes   no    yes     yes
## 1291       no   no     no     yes
## 1292      yes   no    yes     yes
## 1293       no   no     no     yes
## 1294       no   no     no     yes
## 1295       no   no     no     yes
## 1296       no  yes     no     yes
## 1297       no   no     no     yes
## 1298      yes   no    yes     yes
## 1299       no   no     no     yes
## 1300       no   no     no     yes
## 1301       no   no    yes     yes
## 1302       no   no     no     yes
## 1303       no   no    yes     yes
## 1304       no   no     no     yes
## 1305       no   no    yes     yes
## 1306       no   no     no     yes
## 1307       no   no     no     yes
## 1308       no   no     no     yes
## 1309      yes   no    yes     yes
## 1310       no   no    yes     yes
## 1311       no   no     no     yes
## 1312       no   no    yes     yes
## 1313       no   no     no     yes
## 1314       no   no     no     yes
## 1315       no   no     no     yes
## 1316       no   no     no     yes
## 1317       no   no    yes     yes
## 1318       no  yes     no     yes
## 1319       no   no     no     yes
## 1320       no   no    yes     yes
## 1321       no   no     no     yes
## 1322       no   no    yes     yes
## 1323       no   no     no     yes
## 1324       no  yes    yes     yes
## 1325       no   no     no     yes
## 1326      yes  yes     no     yes
```

```
## 1327      yes   no    yes     yes
## 1328      yes   no    yes     yes
## 1329       no   no    yes     yes
## 1330       no   no     no     yes
## 1331       no   no    yes     yes
## 1332       no   no     no     yes
## 1333       no   no     no     yes
## 1334      yes   no    yes     yes
## 1335       no   no     no     yes
## 1336       no   no    yes     yes
## 1337       no   no    yes     yes
## 1338       no   no     no     yes
## 1339      yes   no    yes     yes
## 1340       no   no    yes     yes
## 1341       no   no     no     yes
## 1342       no   no     no     yes
## 1343       no   no     no     yes
## 1344       no   no     no     yes
## 1345       no   no     no     yes
## 1346       no   no     no     yes
## 1347       no   no    yes     yes
## 1348       no   no    yes     yes
## 1349       no   no     no     yes
## 1350       no   no    yes     yes
## 1351       no   no     no     yes
## 1352       no   no     no     yes
## 1353      yes   no    yes     yes
## 1354       no   no     no     yes
## 1355       no   no     no     yes
## 1356       no   no     no     yes
## 1357       no   no    yes     yes
## 1358       no   no     no     yes
## 1359       no  yes     no     yes
## 1360       no   no     no     yes
## 1361       no   no    yes     yes
## 1362       no   no    yes     yes
## 1363       no   no     no     yes
## 1364       no   no     no     yes
## 1365       no   no     no     yes
## 1366       no   no     no     yes
## 1367       no   no     no     yes
## 1368       no   no    yes     yes
## 1369       no   no     no     yes
## 1370       no   no     no     yes
## 1371      yes   no     no     yes
## 1372      yes   no    yes     yes
## 1373       no   no     no     yes
## 1374      yes   no     no     yes
## 1375      yes  yes     no     yes
## 1376       no  yes     no     yes
## 1377      yes   no     no     yes
## 1378       no   no     no     yes
## 1379       no   no     no     yes
## 1380      yes   no    yes     yes
```

```
## 1381      yes   no     no     yes
## 1382       no   no     no     yes
## 1383       no   no     no     yes
## 1384       no   no    yes     yes
## 1385       no   no    yes     yes
## 1386       no   no    yes     yes
## 1387       no   no    yes     yes
## 1388      yes   no     no     yes
## 1389      yes   no     no     yes
## 1390      yes   no    yes     yes
## 1391       no   no    yes     yes
## 1392       no   no     no     yes
## 1393      yes   no    yes     yes
## 1394      yes   no    yes     yes
## 1395       no   no     no     yes
## 1396      yes   no     no     yes
## 1397      yes   no    yes     yes
## 1398       no   no     no     yes
## 1399      yes   no     no     yes
## 1400      yes   no    yes     yes
## 1401       no   no     no     yes
## 1402       no   no    yes     yes
## 1403       no   no    yes     yes
## 1404       no   no     no     yes
## 1405      yes   no    yes     yes
## 1406      yes   no    yes     yes
## 1407       no   no     no     yes
## 1408       no   no    yes     yes
## 1409       no   no    yes     yes
## 1410       no   no     no     yes
## 1411       no   no    yes     yes
## 1412       no   no    yes     yes
## 1413      yes   no    yes     yes
## 1414       no   no     no     yes
## 1415       no   no    yes     yes
## 1416       no   no     no     yes
## 1417      yes   no    yes     yes
## 1418      yes   no    yes     yes
## 1419       no   no    yes     yes
## 1420       no   no     no     yes
## 1421       no   no     no     yes
## 1422      yes   no    yes     yes
## 1423       no   no    yes     yes
## 1424       no   no     no     yes
## 1425       no   no     no     yes
## 1426       no   no    yes     yes
## 1427       no   no     no      no
## 1428       no   no    yes     yes
## 1429       no   no    yes     yes
## 1430      yes   no    yes     yes
## 1431       no   no     no     yes
## 1432      yes   no     no     yes
## 1433       no   no     no     yes
## 1434       no   no     no     yes
```

```
## 1435       no   no     no     yes
## 1436       no   no     no     yes
## 1437       no   no    yes     yes
## 1438       no   no     no     yes
## 1439       no   no     no     yes
## 1440       no   no    yes     yes
## 1441       no   no     no     yes
## 1442      yes   no    yes     yes
## 1443      yes   no    yes     yes
## 1444       no   no    yes     yes
## 1445      yes   no    yes     yes
## 1446      yes   no    yes     yes
## 1447       no   no     no     yes
## 1448       no   no     no     yes
## 1449       no   no     no     yes
## 1450       no   no    yes     yes
## 1451       no   no     no     yes
## 1452       no   no     no     yes
## 1453       no   no     no     yes
## 1454       no  yes     no     yes
## 1455       no   no     no     yes
## 1456       no   no     no     yes
## 1457       no   no     no     yes
## 1458      yes   no     no     yes
## 1459       no   no     no     yes
## 1460       no   no     no     yes
## 1461       no   no    yes     yes
## 1462      yes   no    yes     yes
## 1463       no   no    yes     yes
## 1464       no   no    yes     yes
## 1465       no   no     no     yes
## 1466       no   no    yes     yes
## 1467       no   no     no     yes
## 1468       no   no    yes     yes
## 1469       no   no     no     yes
## 1470       no   no     no     yes
## 1471       no   no     no     yes
## 1472       no   no     no     yes
## 1473      yes   no     no     yes
## 1474       no   no     no     yes
## 1475       no   no     no     yes
## 1476       no   no    yes     yes
## 1477      yes   no    yes     yes
## 1478       no   no    yes     yes
## 1479       no   no    yes     yes
## 1480       no   no     no     yes
## 1481      yes   no    yes     yes
## 1482       no   no     no     yes
## 1483      yes  yes    yes     yes
## 1484      yes   no    yes     yes
## 1485       no   no     no     yes
## 1486       no   no     no     yes
## 1487      yes   no    yes     yes
## 1488       no   no     no     yes
```

```
## 1489       no   no     no     yes
## 1490      yes   no    yes     yes
## 1491       no   no     no     yes
## 1492       no   no     no     yes
## 1493       no   no     no     yes
## 1494       no  yes     no     yes
## 1495      yes   no    yes     yes
## 1496      yes   no     no     yes
## 1497       no   no     no     yes
## 1498       no   no     no     yes
## 1499       no   no     no     yes
## 1500      yes  yes    yes     yes
## 1501      yes  yes    yes     yes
## 1502      yes   no     no     yes
## 1503       no   no     no     yes
## 1504       no  yes     no     yes
## 1505       no   no     no     yes
## 1506       no   no     no     yes
## 1507       no   no    yes     yes
## 1508      yes   no    yes     yes
## 1509      yes   no     no     yes
## 1510       no   no    yes     yes
## 1511      yes   no    yes     yes
## 1512       no   no     no     yes
## 1513       no   no     no     yes
## 1514       no   no     no     yes
## 1515       no   no     no     yes
## 1516       no   no    yes     yes
## 1517       no   no     no     yes
## 1518      yes   no     no     yes
## 1519      yes   no     no     yes
## 1520       no   no     no     yes
## 1521       no   no     no     yes
## 1522      yes   no     no     yes
## 1523      yes   no     no     yes
## 1524      yes   no    yes     yes
## 1525       no   no     no     yes
## 1526       no   no     no     yes
## 1527       no  yes    yes     yes
## 1528       no   no    yes     yes
## 1529      yes   no    yes     yes
## 1530       no   no     no     yes
## 1531       no   no    yes     yes
## 1532       no   no     no     yes
## 1533       no   no    yes     yes
## 1534       no   no     no     yes
## 1535       no   no     no     yes
## 1536      yes  yes     no     yes
## 1537       no   no    yes     yes
## 1538       no   no    yes     yes
## 1539       no  yes    yes     yes
## 1540       no   no     no     yes
## 1541      yes   no    yes     yes
## 1542       no   no     no     yes
```

```
## 1543      yes   no     no     yes
## 1544       no   no    yes     yes
## 1545       no   no     no     yes
## 1546       no  yes     no     yes
## 1547      yes   no     no     yes
## 1548       no   no     no     yes
## 1549       no   no    yes     yes
## 1550       no   no     no     yes
## 1551      yes   no    yes     yes
## 1552       no   no     no     yes
## 1553       no   no    yes     yes
## 1554       no   no     no     yes
## 1555      yes   no    yes     yes
## 1556       no   no    yes     yes
## 1557       no   no    yes     yes
## 1558       no   no     no     yes
## 1559       no   no     no     yes
## 1560       no   no     no     yes
## 1561       no   no     no     yes
## 1562       no   no     no     yes
## 1563       no   no    yes     yes
## 1564      yes   no     no     yes
## 1565      yes   no    yes     yes
## 1566       no  yes    yes     yes
## 1567       no   no     no     yes
## 1568       no   no     no     yes
## 1569       no   no     no     yes
## 1570      yes   no    yes     yes
## 1571       no   no     no     yes
## 1572       no   no    yes     yes
## 1573       no   no    yes     yes
## 1574       no   no     no     yes
## 1575       no   no     no     yes
## 1576       no   no     no     yes
## 1577       no  yes     no     yes
## 1578       no   no    yes     yes
## 1579       no   no     no     yes
## 1580      yes   no     no     yes
## 1581       no   no     no     yes
## 1582       no   no    yes     yes
## 1583       no   no     no     yes
## 1584      yes   no    yes     yes
## 1585       no   no     no     yes
## 1586      yes   no    yes     yes
## 1587       no   no     no     yes
## 1588       no   no    yes     yes
## 1589       no   no     no     yes
## 1590       no   no     no     yes
## 1591      yes   no    yes     yes
## 1592      yes   no    yes     yes
## 1593      yes   no     no     yes
## 1594      yes   no     no     yes
## 1595      yes   no    yes     yes
## 1596      yes   no    yes     yes
```

```
## 1597      yes   no     no     yes
## 1598      yes   no     no     yes
## 1599      yes  yes    yes     yes
## 1600      yes   no    yes     yes
## 1601      yes  yes     no     yes
## 1602      yes  yes    yes     yes
## 1603       no   no     no     yes
## 1604      yes   no    yes     yes
## 1605       no   no     no     yes
## 1606      yes   no     no     yes
## 1607      yes  yes    yes     yes
## 1608       no   no     no     yes
## 1609       no   no     no     yes
## 1610      yes  yes    yes     yes
## 1611      yes   no    yes     yes
## 1612       no   no     no     yes
## 1613       no   no    yes     yes
## 1614       no   no    yes     yes
## 1615       no  yes    yes     yes
## 1616      yes   no    yes     yes
## 1617       no   no     no     yes
## 1618       no   no    yes     yes
## 1619       no   no     no     yes
## 1620      yes   no    yes     yes
## 1621       no   no     no     yes
## 1622       no   no    yes     yes
## 1623      yes   no     no     yes
## 1624      yes   no     no     yes
## 1625      yes   no    yes     yes
## 1626      yes   no    yes     yes
## 1627      yes   no    yes     yes
## 1628       no   no     no      no
## 1629      yes   no    yes     yes
## 1630      yes   no     no     yes
## 1631      yes   no     no     yes
## 1632      yes   no    yes     yes
## 1633       no   no    yes     yes
## 1634      yes   no    yes     yes
## 1635      yes   no     no     yes
## 1636       no   no    yes     yes
## 1637       no  yes    yes     yes
## 1638      yes   no     no     yes
## 1639      yes   no     no     yes
## 1640       no   no     no     yes
## 1641       no   no     no     yes
## 1642      yes   no    yes     yes
## 1643      yes   no    yes     yes
## 1644       no   no    yes     yes
## 1645       no   no     no     yes
## 1646       no   no     no     yes
## 1647      yes   no     no     yes
## 1648      yes   no     no     yes
## 1649       no   no    yes     yes
## 1650      yes   no     no     yes
```

```
## 1651       no   no     no     yes
## 1652       no   no     no     yes
## 1653       no   no     no     yes
## 1654      yes   no    yes     yes
## 1655       no  yes     no     yes
## 1656       no   no     no     yes
## 1657       no   no     no     yes
## 1658       no   no     no     yes
## 1659      yes  yes    yes     yes
## 1660      yes  yes     no     yes
## 1661      yes  yes    yes     yes
## 1662       no   no    yes     yes
## 1663       no   no    yes     yes
## 1664       no  yes     no     yes
## 1665       no   no     no     yes
## 1666       no  yes    yes     yes
## 1667       no   no     no     yes
## 1668      yes   no    yes     yes
## 1669      yes  yes    yes     yes
## 1670       no   no    yes     yes
## 1671       no   no    yes     yes
## 1672       no   no    yes     yes
## 1673      yes   no    yes     yes
## 1674       no   no    yes     yes
## 1675       no   no    yes      no
## 1676      yes  yes    yes     yes
## 1677       no   no     no     yes
## 1678      yes   no    yes     yes
## 1679      yes   no     no     yes
## 1680       no   no     no     yes
## 1681       no   no    yes     yes
## 1682       no   no     no     yes
## 1683       no   no     no     yes
## 1684       no   no     no     yes
## 1685       no  yes     no     yes
## 1686      yes   no     no     yes
## 1687      yes  yes     no     yes
## 1688      yes   no    yes     yes
## 1689       no   no     no     yes
## 1690       no  yes    yes     yes
## 1691      yes   no     no     yes
## 1692       no   no    yes     yes
## 1693      yes  yes    yes     yes
## 1694      yes  yes    yes     yes
## 1695       no   no    yes     yes
## 1696      yes   no    yes     yes
## 1697       no   no     no     yes
## 1698       no   no     no     yes
## 1699      yes  yes    yes     yes
## 1700       no   no     no     yes
## 1701      yes   no    yes     yes
## 1702       no   no     no     yes
## 1703       no   no     no     yes
## 1704      yes  yes    yes     yes
```

```
## 1705      yes   no    yes     yes
## 1706      yes  yes    yes      no
## 1707      yes  yes     no      no
## 1708      yes   no     no     yes
## 1709       no   no     no     yes
## 1710      yes   no     no     yes
## 1711       no   no    yes     yes
## 1712       no   no     no     yes
## 1713      yes   no    yes     yes
## 1714      yes  yes     no     yes
## 1715       no   no     no     yes
## 1716      yes   no    yes     yes
## 1717      yes   no    yes     yes
## 1718      yes   no    yes     yes
## 1719      yes  yes    yes     yes
## 1720      yes  yes     no      no
## 1721       no   no     no     yes
## 1722      yes   no    yes     yes
## 1723      yes   no    yes     yes
## 1724       no   no     no     yes
## 1725       no   no    yes     yes
## 1726       no   no     no     yes
## 1727       no   no     no     yes
## 1728       no   no     no     yes
## 1729       no   no     no     yes
## 1730      yes   no     no     yes
## 1731      yes   no    yes     yes
## 1732       no   no     no     yes
## 1733      yes   no     no     yes
## 1734       no   no     no     yes
## 1735       no   no     no     yes
## 1736       no   no    yes     yes
## 1737       no   no     no     yes
## 1738       no   no    yes     yes
## 1739       no   no    yes     yes
## 1740      yes  yes    yes     yes
## 1741      yes   no    yes     yes
## 1742       no   no     no     yes
## 1743       no   no     no     yes
## 1744      yes   no    yes     yes
## 1745      yes  yes    yes     yes
## 1746      yes   no     no     yes
## 1747      yes  yes    yes     yes
## 1748      yes   no     no     yes
## 1749       no   no     no     yes
## 1750       no  yes     no     yes
## 1751       no   no     no     yes
## 1752       no   no    yes     yes
## 1753       no  yes    yes     yes
## 1754       no   no    yes     yes
## 1755      yes  yes    yes     yes
## 1756      yes  yes     no     yes
## 1757      yes   no     no     yes
## 1758      yes  yes    yes     yes
```

```
## 1759      yes   no    yes      no
## 1760       no   no    yes     yes
## 1761      yes   no     no     yes
## 1762       no   no     no     yes
## 1763      yes   no     no     yes
## 1764       no   no     no     yes
## 1765       no   no    yes     yes
## 1766      yes  yes    yes     yes
## 1767       no   no     no     yes
## 1768      yes   no     no     yes
## 1769      yes   no    yes     yes
## 1770      yes   no    yes     yes
## 1771       no   no    yes     yes
## 1772      yes   no     no     yes
## 1773      yes   no    yes     yes
## 1774       no   no     no     yes
## 1775       no   no    yes     yes
## 1776      yes  yes    yes     yes
## 1777       no   no    yes     yes
## 1778       no   no    yes     yes
## 1779       no   no     no     yes
## 1780      yes   no     no     yes
## 1781      yes  yes    yes     yes
## 1782       no   no    yes     yes
## 1783      yes   no    yes     yes
## 1784      yes   no    yes     yes
## 1785       no   no     no     yes
## 1786       no   no     no     yes
## 1787       no   no    yes     yes
## 1788       no   no     no     yes
## 1789      yes   no    yes     yes
## 1790       no   no     no     yes
## 1791      yes   no    yes     yes
## 1792       no   no     no     yes
## 1793      yes   no     no     yes
## 1794      yes   no    yes     yes
## 1795       no   no    yes     yes
## 1796      yes   no    yes     yes
## 1797       no   no     no     yes
## 1798       no   no     no     yes
## 1799       no   no    yes     yes
## 1800       no   no    yes     yes
## 1801       no   no     no     yes
## 1802      yes   no    yes     yes
## 1803      yes   no    yes     yes
## 1804       no   no     no     yes
## 1805      yes   no     no     yes
## 1806       no   no     no     yes
## 1807      yes   no    yes     yes
## 1808      yes  yes     no     yes
## 1809      yes   no    yes     yes
## 1810      yes  yes    yes     yes
## 1811      yes   no    yes     yes
## 1812      yes   no    yes     yes
```

```
## 1813      yes   no     no     yes
## 1814      yes   no     no     yes
## 1815       no  yes    yes     yes
## 1816      yes   no     no     yes
## 1817      yes   no    yes     yes
## 1818      yes  yes    yes     yes
## 1819       no   no     no     yes
## 1820       no  yes     no     yes
## 1821      yes  yes     no     yes
## 1822       no   no     no     yes
## 1823       no   no     no     yes
## 1824      yes  yes     no      no
## 1825       no  yes    yes     yes
## 1826       no  yes     no     yes
## 1827      yes   no    yes     yes
## 1828       no  yes     no     yes
## 1829       no  yes     no     yes
## 1830       no   no     no     yes
## 1831      yes  yes     no     yes
## 1832       no  yes     no     yes
## 1833       no   no     no     yes
## 1834      yes   no    yes     yes
## 1835      yes   no    yes     yes
## 1836       no   no    yes     yes
## 1837       no   no     no     yes
## 1838       no   no    yes     yes
## 1839       no   no    yes     yes
## 1840       no   no    yes     yes
## 1841       no   no     no     yes
## 1842       no   no    yes     yes
## 1843       no   no     no     yes
## 1844       no   no     no     yes
## 1845       no   no    yes     yes
## 1846       no   no    yes     yes
## 1847       no   no     no     yes
## 1848       no   no     no     yes
## 1849       no   no     no     yes
## 1850       no   no    yes     yes
## 1851       no   no    yes     yes
## 1852       no   no     no      no
## 1853      yes   no    yes     yes
## 1854      yes   no    yes     yes
## 1855       no   no     no     yes
## 1856       no   no     no     yes
## 1857       no   no    yes     yes
## 1858       no   no     no     yes
## 1859       no   no     no     yes
## 1860       no   no    yes     yes
## 1861       no   no    yes     yes
## 1862       no   no     no     yes
## 1863       no   no     no     yes
## 1864       no   no     no     yes
## 1865       no   no     no     yes
## 1866       no   no     no     yes
```

```
## 1867       no   no     no     yes
## 1868      yes   no     no     yes
## 1869       no   no     no     yes
## 1870      yes   no     no     yes
## 1871       no   no     no     yes
## 1872       no   no     no     yes
## 1873       no   no     no     yes
## 1874       no   no     no     yes
## 1875       no   no     no     yes
## 1876       no   no     no     yes
## 1877       no  yes     no     yes
## 1878       no   no     no     yes
## 1879      yes  yes     no     yes
## 1880      yes  yes     no     yes
## 1881      yes  yes     no     yes
## 1882       no   no     no     yes
## 1883       no   no    yes     yes
## 1884      yes  yes     no     yes
## 1885       no   no    yes     yes
## 1886       no   no    yes     yes
## 1887       no   no     no     yes
## 1888       no   no     no      no
## 1889      yes  yes     no     yes
## 1890       no   no     no     yes
## 1891       no  yes    yes     yes
## 1892       no  yes    yes     yes
## 1893       no   no     no     yes
## 1894       no   no     no     yes
## 1895      yes   no     no     yes
## 1896      yes   no    yes     yes
## 1897      yes  yes     no     yes
## 1898      yes   no     no     yes
## 1899      yes  yes     no     yes
## 1900       no   no     no     yes
## 1901      yes  yes    yes     yes
## 1902       no   no     no     yes
## 1903      yes  yes    yes     yes
## 1904      yes   no    yes     yes
## 1905       no   no    yes     yes
## 1906       no   no    yes     yes
## 1907      yes  yes    yes     yes
## 1908       no   no     no     yes
## 1909       no   no    yes     yes
## 1910      yes   no     no     yes
## 1911      yes   no    yes     yes
## 1912       no  yes    yes     yes
## 1913       no  yes    yes     yes
## 1914       no   no     no     yes
## 1915      yes  yes     no     yes
## 1916      yes  yes    yes     yes
## 1917       no   no     no     yes
## 1918       no   no     no     yes
## 1919      yes   no    yes     yes
## 1920      yes   no    yes     yes
```

```
## 1921      yes   no    yes     yes
## 1922      yes   no     no     yes
## 1923       no   no     no     yes
## 1924      yes   no     no     yes
## 1925       no   no     no     yes
## 1926       no   no     no      no
## 1927       no   no     no      no
## 1928      yes   no    yes     yes
## 1929      yes   no    yes     yes
## 1930       no   no     no     yes
## 1931       no   no     no     yes
## 1932       no   no     no     yes
## 1933       no   no     no     yes
## 1934       no   no    yes     yes
## 1935      yes   no     no     yes
## 1936      yes  yes    yes     yes
## 1937      yes   no    yes     yes
## 1938       no   no    yes     yes
## 1939       no   no     no     yes
## 1940       no   no    yes     yes
## 1941       no  yes     no     yes
## 1942      yes   no    yes     yes
## 1943       no  yes     no     yes
## 1944       no   no     no     yes
## 1945       no   no     no     yes
## 1946       no   no     no     yes
## 1947      yes   no    yes     yes
## 1948       no   no     no     yes
## 1949       no  yes    yes     yes
## 1950       no   no     no     yes
## 1951      yes   no     no     yes
## 1952       no   no     no     yes
## 1953       no   no     no     yes
## 1954       no   no    yes     yes
## 1955       no   no     no     yes
## 1956       no   no    yes     yes
## 1957       no   no    yes     yes
## 1958       no   no     no     yes
## 1959       no   no     no     yes
## 1960       no   no    yes     yes
## 1961       no  yes     no     yes
## 1962       no   no     no     yes
## 1963       no  yes    yes     yes
## 1964       no  yes     no     yes
## 1965       no   no     no     yes
## 1966      yes   no     no     yes
## 1967      yes   no    yes     yes
## 1968      yes   no    yes     yes
## 1969       no   no    yes     yes
## 1970      yes   no    yes     yes
## 1971      yes   no     no     yes
## 1972      yes  yes    yes     yes
## 1973      yes   no     no     yes
## 1974       no   no     no     yes
```

```
## 1975      yes  yes    yes     yes
## 1976       no   no     no     yes
## 1977       no   no    yes     yes
## 1978       no   no     no     yes
## 1979       no   no     no     yes
## 1980       no   no     no      no
## 1981       no   no     no     yes
## 1982       no   no    yes     yes
## 1983       no   no     no     yes
## 1984       no   no     no     yes
## 1985       no   no     no     yes
## 1986       no   no     no     yes
## 1987       no   no     no     yes
## 1988       no   no     no     yes
## 1989       no   no     no     yes
## 1990       no   no     no     yes
## 1991       no   no     no     yes
## 1992       no   no     no     yes
## 1993      yes   no     no     yes
## 1994       no   no     no     yes
## 1995       no   no    yes     yes
## 1996       no   no    yes     yes
## 1997       no   no     no     yes
## 1998       no   no     no     yes
## 1999       no   no    yes     yes
## 2000      yes   no     no     yes
## 2001       no   no     no     yes
## 2002       no   no     no     yes
## 2003       no   no     no     yes
## 2004       no  yes     no     yes
## 2005       no   no     no     yes
## 2006       no   no    yes     yes
## 2007      yes   no    yes     yes
## 2008       no   no     no     yes
## 2009       no   no     no     yes
## 2010       no   no     no     yes
## 2011       no   no     no     yes
## 2012       no   no     no     yes
## 2013       no   no     no     yes
## 2014       no   no     no     yes
## 2015       no   no    yes     yes
## 2016       no   no     no     yes
## 2017       no   no     no     yes
## 2018       no   no    yes     yes
## 2019       no   no     no     yes
## 2020       no   no    yes     yes
## 2021       no   no     no     yes
## 2022       no   no     no     yes
## 2023       no   no    yes     yes
## 2024       no   no    yes     yes
## 2025       no   no     no     yes
## 2026       no   no     no     yes
## 2027       no   no    yes     yes
## 2028      yes  yes    yes     yes
```

```
## 2029      yes   no     no     yes
## 2030       no   no    yes     yes
## 2031       no   no     no     yes
## 2032       no   no    yes     yes
## 2033       no   no    yes     yes
## 2034       no   no     no     yes
## 2035       no   no    yes     yes
## 2036       no   no    yes     yes
## 2037       no   no     no     yes
## 2038       no   no     no     yes
## 2039       no   no     no     yes
## 2040      yes   no     no     yes
## 2041      yes   no     no     yes
## 2042      yes   no    yes     yes
## 2043       no   no    yes     yes
## 2044       no   no     no     yes
## 2045       no   no    yes     yes
## 2046       no   no    yes     yes
## 2047      yes   no     no     yes
## 2048       no   no     no     yes
## 2049      yes   no    yes     yes
## 2050      yes   no    yes     yes
## 2051       no   no     no     yes
## 2052       no  yes    yes     yes
## 2053      yes   no    yes     yes
## 2054       no   no     no     yes
## 2055       no   no     no     yes
## 2056       no   no    yes     yes
## 2057       no   no     no     yes
## 2058       no   no     no     yes
## 2059      yes   no    yes     yes
## 2060       no   no     no     yes
## 2061       no   no    yes     yes
## 2062       no   no     no     yes
## 2063       no  yes     no     yes
## 2064       no   no     no     yes
## 2065       no   no     no     yes
## 2066       no   no     no     yes
## 2067       no   no     no     yes
## 2068       no   no     no     yes
## 2069       no   no     no     yes
## 2070       no   no     no     yes
## 2071       no   no     no     yes
## 2072      yes   no    yes     yes
## 2073      yes   no    yes     yes
## 2074       no   no     no     yes
## 2075       no   no     no     yes
## 2076       no   no     no     yes
## 2077       no   no     no     yes
## 2078       no   no     no     yes
## 2079      yes   no    yes     yes
## 2080       no   no    yes     yes
## 2081       no   no     no     yes
## 2082       no   no     no     yes
```

```
## 2083       no  yes     no     yes
## 2084       no   no     no     yes
## 2085      yes   no     no     yes
## 2086       no   no     no     yes
## 2087      yes  yes     no     yes
## 2088       no   no     no     yes
## 2089      yes   no     no     yes
## 2090       no   no     no     yes
## 2091       no   no     no     yes
## 2092       no   no     no     yes
## 2093       no   no    yes     yes
## 2094       no   no     no     yes
## 2095       no   no     no     yes
## 2096       no   no    yes     yes
## 2097       no   no     no     yes
## 2098       no   no     no     yes
## 2099       no   no     no     yes
## 2100       no   no    yes     yes
## 2101       no   no     no      no
## 2102       no   no     no     yes
## 2103      yes   no    yes     yes
## 2104       no   no     no     yes
## 2105       no   no    yes     yes
## 2106       no   no    yes     yes
## 2107       no   no    yes     yes
## 2108       no   no     no     yes
## 2109       no   no     no     yes
## 2110       no   no     no     yes
## 2111      yes   no     no     yes
## 2112       no  yes    yes     yes
## 2113       no   no     no     yes
## 2114       no   no     no     yes
## 2115      yes   no    yes     yes
## 2116       no   no     no     yes
## 2117      yes   no     no     yes
## 2118       no   no     no     yes
## 2119       no   no     no     yes
## 2120       no   no     no     yes
## 2121       no   no     no     yes
## 2122       no   no     no     yes
## 2123       no   no     no     yes
## 2124       no   no    yes     yes
## 2125       no   no     no     yes
## 2126      yes   no     no     yes
## 2127      yes   no     no     yes
## 2128       no   no    yes     yes
## 2129       no  yes    yes     yes
## 2130       no   no    yes     yes
## 2131      yes   no     no     yes
## 2132       no  yes     no     yes
## 2133       no   no    yes     yes
## 2134       no   no     no     yes
## 2135       no   no     no     yes
## 2136       no   no    yes     yes
```

```
## 2137       no   no     no     yes
## 2138       no   no     no     yes
## 2139       no   no     no     yes
## 2140       no   no     no     yes
## 2141       no   no     no     yes
## 2142       no   no     no     yes
## 2143       no   no     no     yes
## 2144       no  yes     no     yes
## 2145      yes   no    yes     yes
## 2146       no   no     no     yes
## 2147       no   no    yes     yes
## 2148       no   no     no     yes
## 2149       no   no     no     yes
## 2150       no  yes     no     yes
## 2151      yes  yes    yes     yes
## 2152      yes  yes    yes     yes
## 2153       no   no     no     yes
## 2154      yes   no    yes     yes
## 2155       no   no    yes     yes
## 2156       no   no    yes     yes
## 2157       no   no     no     yes
## 2158       no   no     no     yes
## 2159       no   no     no      no
## 2160      yes   no    yes     yes
## 2161       no  yes     no     yes
## 2162       no   no     no     yes
## 2163       no   no     no     yes
## 2164       no   no     no     yes
## 2165       no   no     no     yes
## 2166      yes   no     no     yes
## 2167       no   no     no     yes
## 2168       no   no     no     yes
## 2169       no   no     no     yes
## 2170       no  yes     no     yes
## 2171       no   no     no     yes
## 2172      yes  yes     no     yes
## 2173       no   no     no     yes
## 2174       no   no     no     yes
## 2175       no   no    yes     yes
## 2176       no  yes    yes     yes
## 2177       no  yes    yes     yes
## 2178      yes   no    yes     yes
## 2179      yes   no    yes     yes
## 2180      yes   no     no     yes
## 2181       no  yes     no     yes
## 2182      yes   no    yes     yes
## 2183       no   no    yes     yes
## 2184       no   no     no     yes
## 2185       no  yes     no     yes
## 2186       no   no     no     yes
## 2187      yes   no     no     yes
## 2188      yes   no     no     yes
## 2189      yes   no    yes     yes
## 2190      yes   no     no     yes
```

```
## 2191       no   no     no     yes
## 2192       no   no     no     yes
## 2193      yes   no    yes     yes
## 2194       no  yes     no     yes
## 2195      yes   no    yes     yes
## 2196      yes   no    yes     yes
## 2197       no   no     no     yes
## 2198       no  yes     no     yes
## 2199      yes   no    yes     yes
## 2200       no   no    yes     yes
## 2201       no   no     no     yes
## 2202       no  yes    yes     yes
## 2203       no   no     no     yes
## 2204      yes  yes    yes     yes
## 2205       no   no    yes     yes
## 2206      yes  yes     no     yes
## 2207      yes  yes     no     yes
## 2208      yes   no     no      no
## 2209      yes   no    yes     yes
## 2210      yes   no    yes      no
## 2211       no   no     no     yes
## 2212      yes   no     no     yes
## 2213       no   no     no     yes
## 2214      yes   no    yes     yes
## 2215      yes  yes    yes     yes
## 2216      yes   no    yes     yes
## 2217      yes   no     no     yes
## 2218      yes   no    yes     yes
## 2219       no  yes     no     yes
## 2220       no   no     no     yes
## 2221       no   no    yes     yes
## 2222       no   no     no     yes
## 2223      yes   no     no     yes
## 2224      yes  yes    yes     yes
## 2225      yes   no    yes     yes
## 2226       no   no     no     yes
## 2227       no   no     no     yes
## 2228      yes   no    yes     yes
## 2229      yes   no    yes     yes
## 2230       no   no    yes     yes
## 2231       no   no    yes     yes
## 2232      yes   no     no     yes
## 2233      yes   no    yes     yes
## 2234       no  yes     no     yes
## 2235      yes   no     no     yes
## 2236       no   no     no     yes
## 2237      yes   no    yes     yes
## 2238      yes  yes    yes     yes
## 2239      yes  yes    yes     yes
## 2240      yes   no     no     yes
## 2241      yes   no     no     yes
## 2242       no   no     no     yes
## 2243       no   no     no     yes
## 2244       no  yes     no     yes
```

```
## 2245       no   no     no     yes
## 2246       no   no     no     yes
## 2247      yes   no     no     yes
## 2248       no   no     no     yes
## 2249      yes   no     no     yes
## 2250       no   no     no     yes
## 2251       no  yes     no     yes
## 2252      yes   no    yes     yes
## 2253       no   no     no     yes
## 2254      yes   no    yes     yes
## 2255       no   no     no     yes
## 2256       no  yes    yes     yes
## 2257      yes   no    yes     yes
## 2258       no   no     no     yes
## 2259      yes   no    yes     yes
## 2260       no   no     no     yes
## 2261      yes   no     no     yes
## 2262      yes  yes     no     yes
## 2263       no   no    yes     yes
## 2264       no   no    yes     yes
## 2265      yes   no     no     yes
## 2266       no   no     no     yes
## 2267       no   no     no     yes
## 2268       no   no     no     yes
## 2269       no   no     no     yes
## 2270      yes   no    yes     yes
## 2271       no   no     no     yes
## 2272       no   no     no     yes
## 2273      yes   no    yes     yes
## 2274      yes   no     no     yes
## 2275      yes   no    yes     yes
## 2276       no   no     no     yes
## 2277       no   no    yes     yes
## 2278       no  yes     no     yes
## 2279      yes   no    yes     yes
## 2280       no   no    yes     yes
## 2281       no   no     no     yes
## 2282      yes   no    yes     yes
## 2283       no   no     no     yes
## 2284       no   no     no     yes
## 2285       no   no    yes     yes
## 2286      yes   no    yes     yes
## 2287       no   no     no     yes
## 2288       no   no     no     yes
## 2289       no   no     no     yes
## 2290       no   no     no     yes
## 2291       no   no    yes     yes
## 2292       no   no     no     yes
## 2293       no   no     no     yes
## 2294       no   no     no     yes
## 2295       no   no     no     yes
## 2296       no   no     no     yes
## 2297       no   no    yes     yes
## 2298      yes   no    yes     yes
```

```
## 2299       no   no     no     yes
## 2300       no   no     no     yes
## 2301      yes   no     no     yes
## 2302       no   no     no     yes
## 2303      yes  yes     no      no
## 2304       no   no     no     yes
## 2305      yes   no    yes     yes
## 2306      yes   no    yes     yes
## 2307      yes  yes     no     yes
## 2308       no   no     no     yes
## 2309       no   no     no     yes
## 2310       no  yes    yes     yes
## 2311      yes  yes    yes     yes
## 2312       no  yes    yes     yes
## 2313       no   no    yes     yes
## 2314       no   no    yes     yes
## 2315      yes   no     no     yes
## 2316       no   no     no     yes
## 2317       no   no    yes     yes
## 2318      yes   no     no     yes
## 2319       no   no     no     yes
## 2320       no  yes     no     yes
## 2321      yes   no     no     yes
## 2322      yes   no    yes     yes
## 2323       no   no    yes     yes
## 2324       no   no    yes     yes
## 2325       no   no     no     yes
## 2326       no   no     no     yes
## 2327       no   no     no      no
## 2328      yes   no     no     yes
## 2329       no   no     no     yes
## 2330      yes  yes     no     yes
## 2331      yes   no    yes     yes
## 2332      yes   no     no     yes
## 2333       no  yes     no     yes
## 2334      yes   no     no     yes
## 2335       no  yes     no     yes
## 2336       no  yes    yes     yes
## 2337       no   no     no     yes
## 2338       no   no     no     yes
## 2339      yes   no     no     yes
## 2340      yes   no    yes     yes
## 2341      yes   no     no     yes
## 2342      yes   no    yes     yes
## 2343      yes   no     no     yes
## 2344      yes   no     no     yes
## 2345       no   no     no     yes
## 2346       no   no     no     yes
## 2347      yes   no    yes     yes
## 2348       no   no     no     yes
## 2349       no   no     no     yes
## 2350      yes   no     no     yes
## 2351       no   no     no     yes
## 2352       no   no     no     yes
```

```
## 2353       no   no     no     yes
## 2354       no   no     no     yes
## 2355       no   no     no     yes
## 2356      yes   no     no     yes
## 2357       no  yes     no     yes
## 2358       no   no     no     yes
## 2359       no   no     no     yes
## 2360       no   no    yes     yes
## 2361       no   no    yes     yes
## 2362       no   no     no     yes
## 2363       no   no     no     yes
## 2364       no   no     no     yes
## 2365       no  yes     no     yes
## 2366       no   no    yes     yes
## 2367       no   no     no     yes
## 2368      yes   no    yes     yes
## 2369       no   no     no     yes
## 2370      yes   no    yes     yes
## 2371      yes   no    yes     yes
## 2372      yes  yes    yes     yes
## 2373      yes   no     no     yes
## 2374      yes  yes    yes     yes
## 2375       no   no     no     yes
## 2376       no   no     no     yes
## 2377      yes   no    yes     yes
## 2378       no   no     no     yes
## 2379      yes  yes    yes     yes
## 2380      yes   no    yes     yes
```

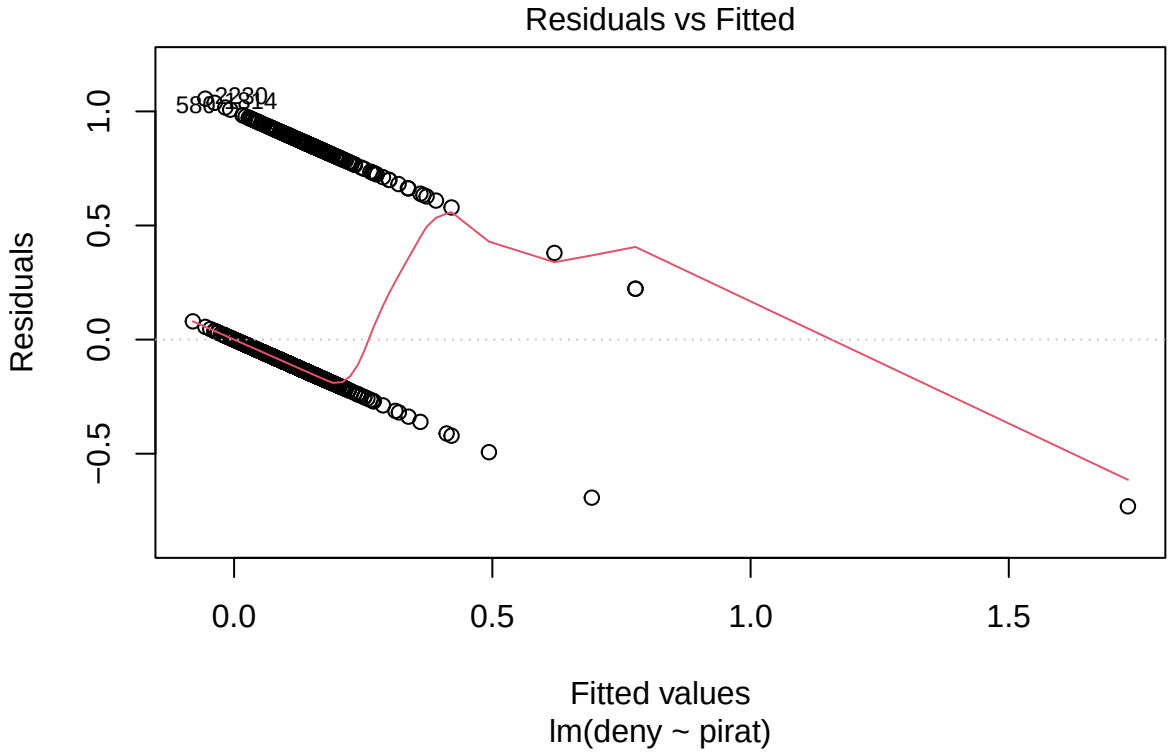
```
summary(HMDA)
```

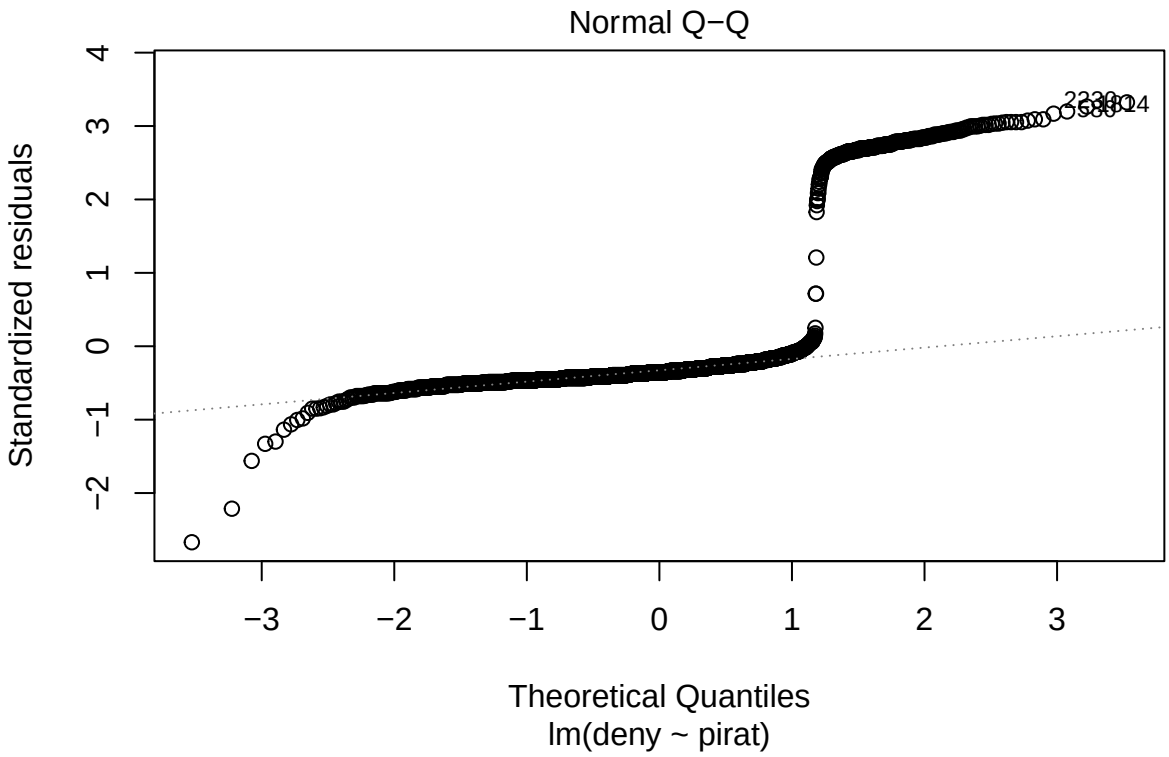
```
##   deny          pirat            hirat            lvrat        chist
##  no :2095   Min.   :0.0000   Min.   :0.0000   Min.   :0.0200   1:1353
##  yes: 285   1st Qu.:0.2800   1st Qu.:0.2140   1st Qu.:0.6527   2: 441
##             Median :0.3300   Median :0.2600   Median :0.7795   3: 126
##             Mean   :0.3308   Mean   :0.2553   Mean   :0.7378   4:  77
##             3rd Qu.:0.3700   3rd Qu.:0.2988   3rd Qu.:0.8685   5: 182
##             Max.   :3.0000   Max.   :3.0000   Max.   :1.9500   6: 201
##  mhist    phist          unemp        selfemp    insurance  condomin
##  1: 747   no :2205   Min.   : 1.800   no :2103   no :2332   no :1694
##  2:1571   yes: 175   1st Qu.: 3.100   yes: 277   yes:  48   yes: 686
##  3:  41              Median : 3.200
##  4:  21              Mean   : 3.774
##                      3rd Qu.: 3.900
##                      Max.   :10.600
##   afam      single     hschool
##  no :2041   no :1444   no :  39
##  yes: 339   yes: 936   yes:2341
##
##
##
##
```

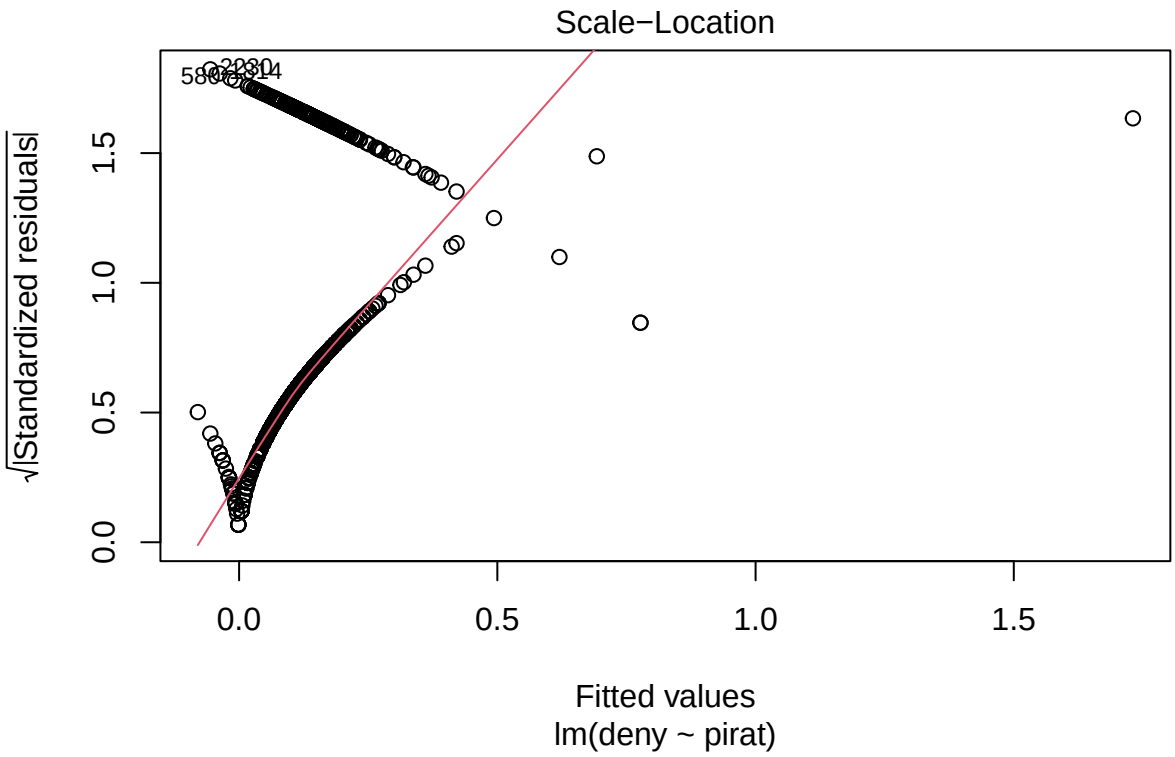
```r
# la variable est qualitative no yes
unique(HMDA$deny)
```

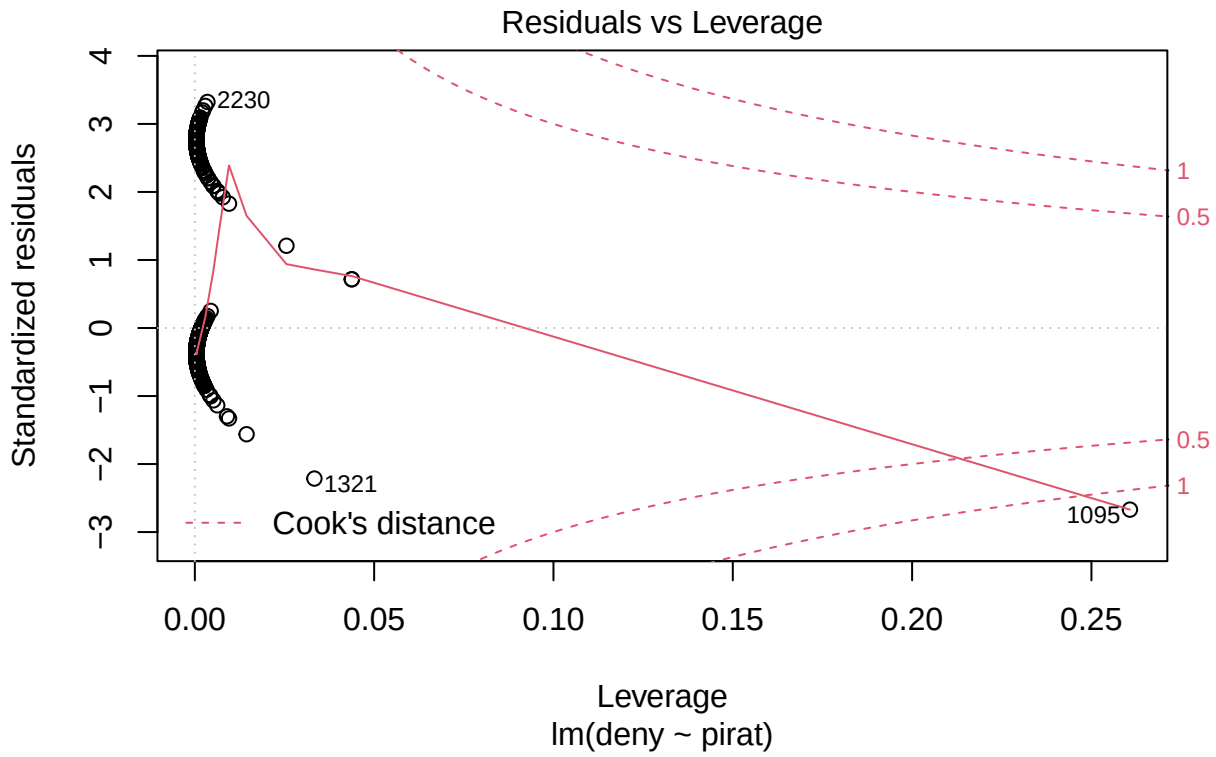
```
## [1] no  yes
## Levels: no yes
```

```r
#on doit convertir la variable de refus en format numérique binaire 0/1
HMDA$deny <-ifelse(HMDA$deny == "yes", 1, 0)
#Estimation de la régression linéaire
denymod1<- lm(deny ~ pirat,data=HMDA)
plot(denymod1)
```




Normal Q−Q
Standardized residuals
Theoretical Quantiles
lm(deny ~ pirat)


Scale−Location
√|Standardized residuals|
0.0
0.5
1.0
1.5
0.0
0.5
1.0
1.5
Fitted values
lm(deny ~ pirat)




```
denymod1
```

```
##
## Call:
## lm(formula = deny ~ pirat, data = HMDA)
##
## Coefficients:
## (Intercept)        pirat
##    -0.07991      0.60353
```

```
coeftest(denymod1)
```

```
##
## t test of coefficients:
##
##              Estimate Std. Error t value  Pr(>|t|)
## (Intercept) -0.079910   0.021158 -3.7768 0.0001627 ***
## pirat        0.603535   0.060840  9.9200 < 2.2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
denymod2<- lm(deny ~ pirat + hirat,data=HMDA)
denymod2
```

```
##
## Call:
## lm(formula = deny ~ pirat + hirat, data = HMDA)
##
## Coefficients:
## (Intercept)        pirat        hirat
##    -0.07552      0.74152     -0.19594
```

```
coeftest(denymod2)
```

```
##
## t test of coefficients:
##
##              Estimate Std. Error t value  Pr(>|t|)
## (Intercept) -0.075525   0.021286 -3.5482 0.0003955 ***
## pirat        0.741524   0.097463  7.6083 3.977e-14 ***
## hirat       -0.195944   0.108153 -1.8117 0.0701549 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
#Estimation d'un modèle Probit simple
denyprobit <- glm(deny ~ pirat , family = binomial(link = "probit"),data=HMDA)
coeftest(denyprobit,vcov. = vcovHC,type = "HC1")
```

```
##
## z test of coefficients:
##
##             Estimate Std. Error  z value  Pr(>|z|)
## (Intercept) -2.19415    0.18901 -11.6087 < 2.2e-16 ***
## pirat        2.96787    0.53698   5.5269 3.259e-08 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
#compute predictions for P/I ration 0.9,1
predictions<- predict(denyprobit,
                      newdata = data.frame("pirat"=c(0.9,1)),
                      type="response")
diff(predictions)
```

```
##          2
## 0.09715651
```

```
#compute predictions for P/I ration 1.5,2
predictions<- predict(denyprobit,
                      newdata = data.frame("pirat"=c(1.5,2)),
                      type="response")
diff(predictions)
```

```
##          2
## 0.01189216
```

```
denyprobit2 <- glm(deny ~ pirat + hirat,
                   family=binomial(link="probit"),
                   data=HMDA)
coeftest(denyprobit2,vcov. = vcovHC,type ="HC1")
```

```
##
## z test of coefficients:
##
##             Estimate Std. Error  z value  Pr(>|z|)
## (Intercept) -2.16272    0.19484 -11.0999 < 2.2e-16 ***
## pirat        3.20887    0.60176   5.3325 9.688e-08 ***
## hirat       -0.43758    0.58448  -0.7487    0.4541
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
#compute predictions for P/I ration 0,3
denylogit <- glm(deny ~ pirat, family=binomial(link = "logit"),data=HMDA)
coeftest(denylogit,vcov. = vcovHC,type="HC1")
```

```
##
## z test of coefficients:
##
##             Estimate Std. Error  z value  Pr(>|z|)
## (Intercept) -4.02843    0.35898 -11.2218 < 2.2e-16 ***
## pirat        5.88450    1.00015   5.8836 4.014e-09 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
# estimation du modèle logit avec plusieurs régresseurs
denylogit2 <- glm(deny ~ pirat + hirat, family=binomial(link = "logit"),data=HMDA)
coeftest(denylogit2,vcov. = vcovHC,type="HC1")
```

```
##
## z test of coefficients:
##
##             Estimate Std. Error  z value  Pr(>|z|)
## (Intercept) -3.97788    0.37203 -10.6923 < 2.2e-16 ***
## pirat        6.21348    1.10728   5.6115 2.006e-08 ***
## hirat       -0.62627    1.06538  -0.5878    0.5566
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
data(mtcars)
tail(mtcars)
```

```
##                 mpg cyl  disp  hp drat    wt qsec vs am gear carb
## Porsche 914-2  26.0   4 120.3  91 4.43 2.140 16.7  0  1    5    2
## Lotus Europa   30.4   4  95.1 113 3.77 1.513 16.9  1  1    5    2
## Ford Pantera L 15.8   8 351.0 264 4.22 3.170 14.5  0  1    5    4
## Ferrari Dino   19.7   6 145.0 175 3.62 2.770 15.5  0  1    5    6
## Maserati Bora  15.0   8 301.0 335 3.54 3.570 14.6  0  1    5    8
## Volvo 142E     21.4   4 121.0 109 4.11 2.780 18.6  1  1    4    2
```

```
regLOGIT <- glm(am ~ hp + disp + mpg +drat ,data =mtcars,family = binomial(link=logit))
```

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

```
summary(regLOGIT)
```

```
##
## Call:
## glm(formula = am ~ hp + disp + mpg + drat, family = binomial(link = logit),
##     data = mtcars)
##
## Deviance Residuals:
##      Min        1Q    Median        3Q       Max
## -1.65510  -0.00170  -0.00001   0.00243   1.30778
##
## Coefficients:
##              Estimate Std. Error z value Pr(>|z|)
## (Intercept) -86.98669   73.11741  -1.190    0.234
## hp            0.15008    0.14239   1.054    0.292
## disp         -0.05933    0.07594  -0.781    0.435
## mpg           1.22975    1.08227   1.136    0.256
## drat         13.80660   14.95907   0.923    0.356
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 43.2297  on 31  degrees of freedom
## Residual deviance:  7.7907  on 27  degrees of freedom
## AIC: 17.791
##
## Number of Fisher Scoring iterations: 10
```

```
confint(regLOGIT)
```

```
## Waiting for profiling to be done...
```

```
##                     2.5 %       97.5 %
## (Intercept) -406.70344922 -11.33202558
## hp             0.03492947   0.77777224
## disp          -0.38169800   0.02178227
## mpg           -0.24599222   4.51998480
## drat          -2.15431602  79.09401245
```

```
residuals(regLOGIT,type="deviance")
```

```
##           Mazda RX4       Mazda RX4 Wag          Datsun 710      Hornet 4 Drive
##        1.307782e+00        1.307782e+00        5.645248e-01       -2.956710e-04
##   Hornet Sportabout             Valiant          Duster 360           Merc 240D
##       -5.803910e-04       -7.806303e-06       -1.121567e-02       -9.333561e-02
##            Merc 230            Merc 280           Merc 280C          Merc 450SE
##       -1.655102e+00       -8.837308e-01       -4.048410e-01       -1.437117e-03
```

```
##          Merc 450SL         Merc 450SLC  Cadillac Fleetwood Lincoln Continental
##       -2.499340e-03       -6.871434e-04       -2.107342e-08       -1.296315e-06
##   Chrysler Imperial            Fiat 128         Honda Civic      Toyota Corolla
##       -4.977778e-04        1.043464e-03        2.641080e-05        1.357875e-04
##       Toyota Corona    Dodge Challenger         AMC Javelin          Camaro Z28
##       -4.964707e-01       -2.926779e-06       -5.443787e-05       -2.923980e-01
##    Pontiac Firebird           Fiat X1-9       Porsche 914-2        Lotus Europa
##       -1.485942e-04        2.422151e-02        2.508820e-03        1.450769e-03
##      Ford Pantera L        Ferrari Dino       Maserati Bora          Volvo 142E
##        1.223060e-02        1.230915e-01        2.408651e-03        1.021135e-01
```

```
logLik(regLOGIT)
```

```
## 'log Lik.' -3.895336 (df=5)
```

```
regPROBIT <- glm(am ~ hp + disp + mpg +drat ,data =mtcars,family = binomial(link=probit))
```

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

```
summary(regPROBIT)
```

```
##
## Call:
## glm(formula = am ~ hp + disp + mpg + drat, family = binomial(link = probit),
##     data = mtcars)
##
## Deviance Residuals:
##    Min      1Q  Median      3Q     Max
## -1.632   0.000   0.000   0.000   1.319
##
## Coefficients:
##              Estimate Std. Error z value Pr(>|z|)
## (Intercept) -51.78695   41.56959  -1.246    0.213
## hp            0.08839    0.08235   1.073    0.283
## disp         -0.03444    0.04463  -0.772    0.440
## mpg           0.74309    0.60249   1.233    0.217
## drat          8.14502    8.57058   0.950    0.342
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 43.2297  on 31  degrees of freedom
## Residual deviance:  7.6502  on 27  degrees of freedom
## AIC: 17.65
##
## Number of Fisher Scoring iterations: 13
```

```
confint(regPROBIT)
```

```
## Waiting for profiling to be done...
```

```
##                     2.5 %      97.5 %
## (Intercept) -238.54160941 -6.84882875
## hp             0.02055563          NA
## disp          -0.23068241  0.01116899
## mpg           -0.15606671  2.47959060
## drat          -1.46376219          NA
```

```
residuals(regPROBIT,type="deviance")
```

```
##           Mazda RX4       Mazda RX4 Wag          Datsun 710      Hornet 4 Drive
##        1.319078e+00        1.319078e+00        5.808887e-01       -2.107342e-08
##   Hornet Sportabout             Valiant          Duster 360           Merc 240D
##       -2.107342e-08       -2.107342e-08       -9.188735e-05       -3.884263e-02
##            Merc 230            Merc 280           Merc 280C          Merc 450SE
##       -1.632290e+00       -8.638000e-01       -3.599568e-01       -2.107342e-08
##          Merc 450SL         Merc 450SLC  Cadillac Fleetwood Lincoln Continental
##       -2.384186e-07       -2.107342e-08       -2.107342e-08       -2.107342e-08
##   Chrysler Imperial            Fiat 128         Honda Civic      Toyota Corolla
##       -2.107342e-08        2.107342e-08        2.107342e-08        2.107342e-08
##       Toyota Corona    Dodge Challenger         AMC Javelin          Camaro Z28
##       -4.782865e-01       -2.107342e-08       -2.107342e-08       -2.351301e-01
##    Pontiac Firebird           Fiat X1-9       Porsche 914-2        Lotus Europa
##       -2.107342e-08        1.128738e-03        2.384186e-07        2.107342e-08
##      Ford Pantera L        Ferrari Dino       Maserati Bora          Volvo 142E
##        1.590908e-04        7.034491e-02        3.223614e-07        4.721541e-02
```

```
library(DAAG)
```

```
##
## Attachement du package : 'DAAG'

## L'objet suivant est masqué depuis 'package:survival':
##
##     lung

## L'objet suivant est masqué depuis 'package:car':
##
##     vif
```

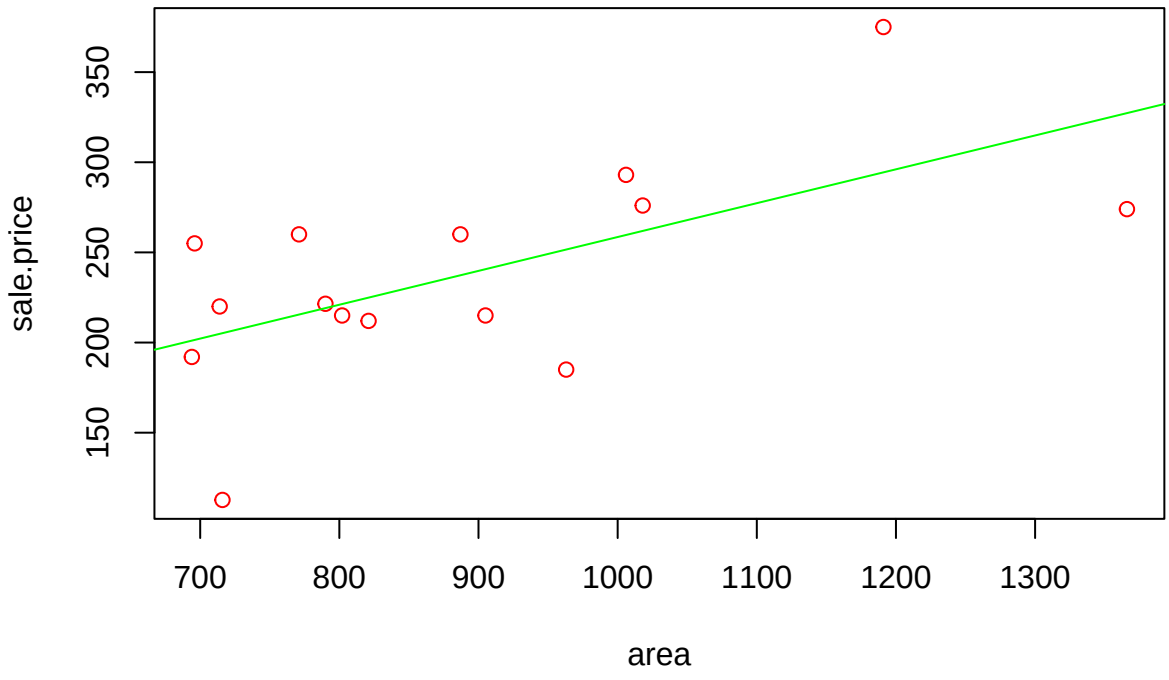
```
data(houseprices)
tail(houseprices)
```

```
##    area bedrooms sale.price
## 18  887        4      260.0
## 19  790        4      221.5
## 20  696        5      255.0
## 21  771        5      260.0
## 22 1006        5      293.0
## 23 1191        6      375.0
```

```r
pricereg <- lm(sale.price ~ area,data=houseprices)
summary(pricereg)
```

```
##
## Call:
## lm(formula = sale.price ~ area, data = houseprices)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -92.499 -19.302   2.406  28.019  80.607
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)  70.7504    60.3477   1.172   0.2621
## area          0.1878     0.0664   2.828   0.0142 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 48.18 on 13 degrees of freedom
## Multiple R-squared:  0.3809, Adjusted R-squared:  0.3333
## F-statistic: 7.997 on 1 and 13 DF,  p-value: 0.01425
```

```r
plot(sale.price ~ area ,data = houseprices,col="red")
abline(pricereg,col="green")
```



```r
pricereg2 <- lm(sale.price ~ area + bedrooms,data=houseprices)
summary(pricereg2)
```

```
##
## Call:
## lm(formula = sale.price ~ area + bedrooms, data = houseprices)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -80.897  -4.247   1.539  13.249  42.027
##
## Coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept) -141.76132   67.87204  -2.089  0.05872 .
## area           0.14255    0.04697   3.035  0.01038 *
## bedrooms      58.32375   14.75962   3.952  0.00192 **
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 33.06 on 12 degrees of freedom
## Multiple R-squared:  0.731,  Adjusted R-squared:  0.6861
## F-statistic:  16.3 on 2 and 12 DF,  p-value: 0.0003792
```

```r
#extraction des coefficients
#model1
print(coef(pricereg2))
```

```
##  (Intercept)         area     bedrooms
## -141.7613221    0.1425469   58.3237508
```

```r
#model2
coef(pricereg)
```

```
## (Intercept)        area
##  70.7504241   0.1877769
```

```r
#intervlle de confiance
print(confint(pricereg))
```

```
##                    2.5 %      97.5 %
## (Intercept) -59.62287805 201.1237262
## area          0.04432896   0.3312248
```

```r
confint(pricereg2)
```

```
##                     2.5 %     97.5 %
## (Intercept) -289.64179643  6.1191523
## area           0.04019939  0.2448945
## bedrooms      26.16530118 90.4822003
```

```r
#fitted les valeurs prédites
#model1
print(fitted(pricereg))
```

```
##        9       10       11       12       13       14       15       16
## 201.0676 240.6885 221.3475 327.2536 205.1987 251.5796 224.9152 204.8231
##       17       18       19       20       21       22       23
## 261.9073 237.3085 219.0942 201.4431 215.5264 259.6540 294.3927
```

```r
#model2
fitted(pricereg2)
```

```
##        9       10       11       12       13       14       15       16
## 190.4612 220.5387 205.8563 286.2528 193.5973 228.8064 208.5647 193.3122
##       17       18       19       20       21       22       23
## 236.6465 217.9728 204.1458 249.0701 259.7611 293.2596 377.9546
```

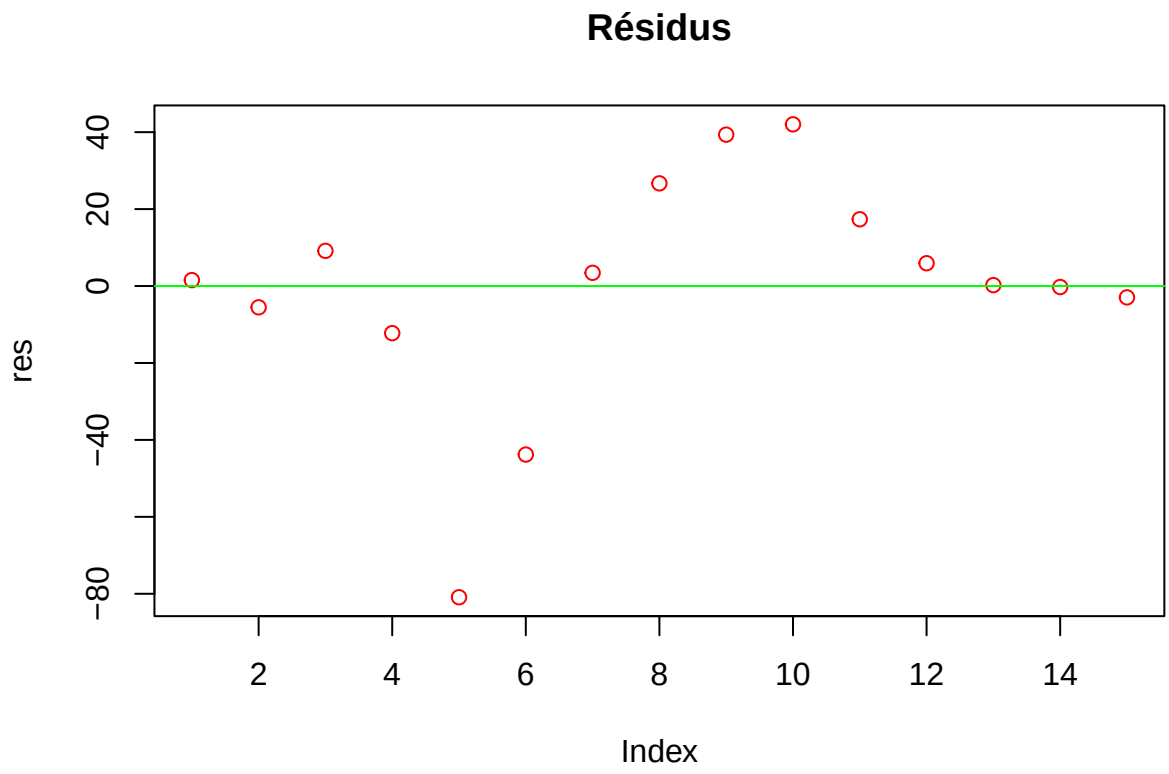
```r
# permet d'extraire les résidus
#model1
print(resid(pricereg))
```

```
##          9         10         11         12         13         14         15
##  -9.067582 -25.688505  -6.347485 -53.253648 -92.498673 -66.579564 -12.915246
##         16         17         18         19         20         21         22
##  15.176880  14.092708  22.691479   2.405837  53.556864  44.473598  33.346030
##         23
##  80.607307
```

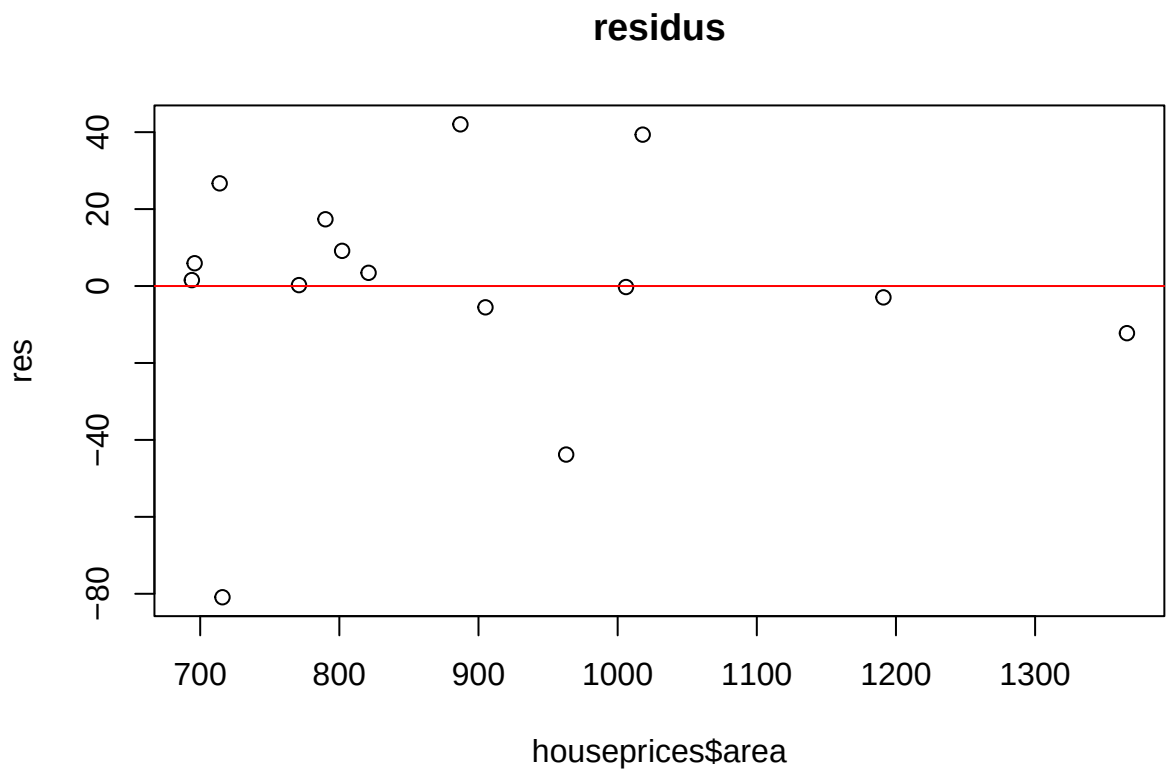
```r
#model2
resid(pricereg2)
```

```
##           9          10          11          12          13          14
##   1.5387504  -5.5386516   9.1436820 -12.2527859 -80.8972821 -43.8063735
##          15          16          17          18          19          20
##   3.4352904  26.6878118  39.3535454  42.0271931  17.3542452   5.9299058
##          21          22          23
##   0.2388861  -0.2596422  -2.9545748
```

```r
res <- resid(pricereg2)
plot(res,col="red",main="Résidus")
abline(h=0,col="green")
```




```
plot(houseprices$area,res,main="residus")
abline(h=0,col="red")
```




```
summary(iris)
```

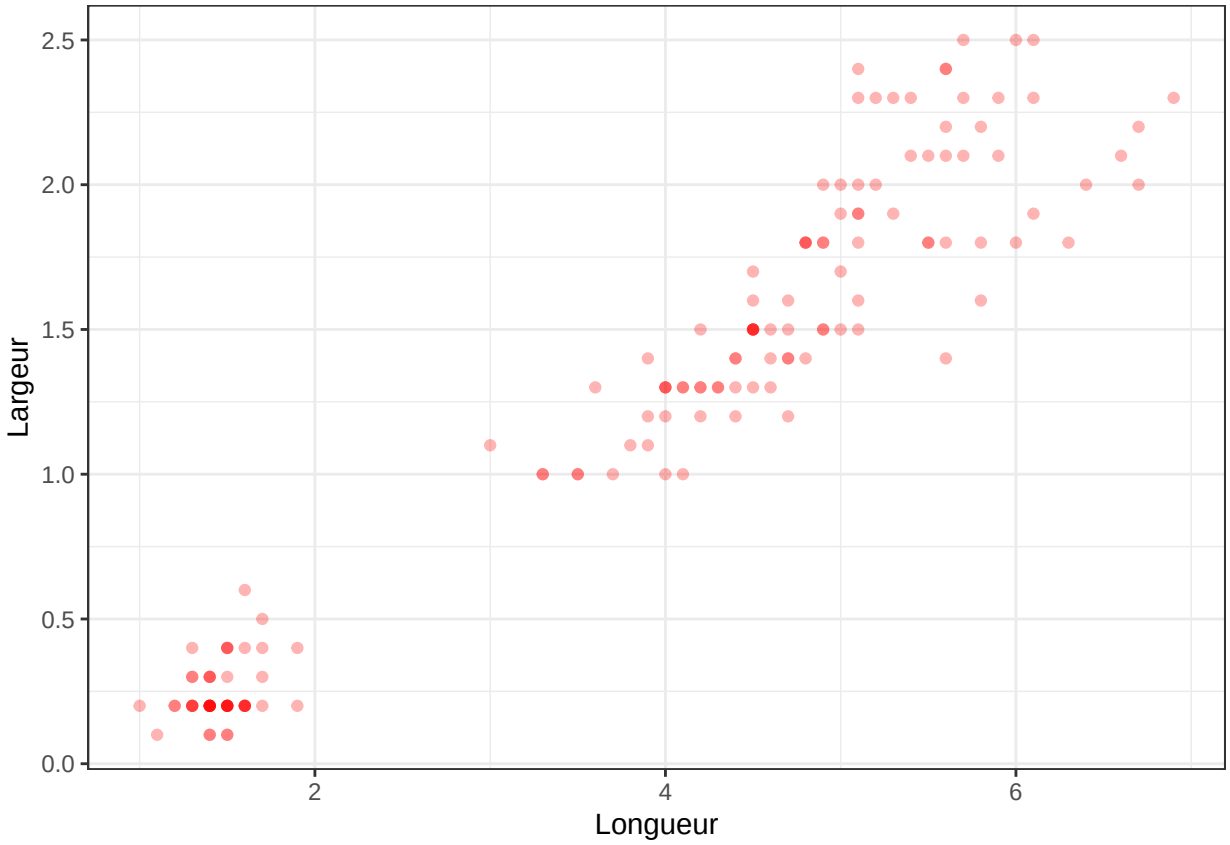
```
##   Sepal.Length    Sepal.Width     Petal.Length    Petal.Width
##  Min.   :4.300   Min.   :2.000   Min.   :1.000   Min.   :0.100
##  1st Qu.:5.100   1st Qu.:2.800   1st Qu.:1.600   1st Qu.:0.300
##  Median :5.800   Median :3.000   Median :4.350   Median :1.300
##  Mean   :5.843   Mean   :3.057   Mean   :3.758   Mean   :1.199
##  3rd Qu.:6.400   3rd Qu.:3.300   3rd Qu.:5.100   3rd Qu.:1.800
##  Max.   :7.900   Max.   :4.400   Max.   :6.900   Max.   :2.500
##        Species
##  setosa    :50
##  versicolor:50
##  virginica :50
##
##
##
```

```
attach(iris)
```

```
library(ggplot2)
```

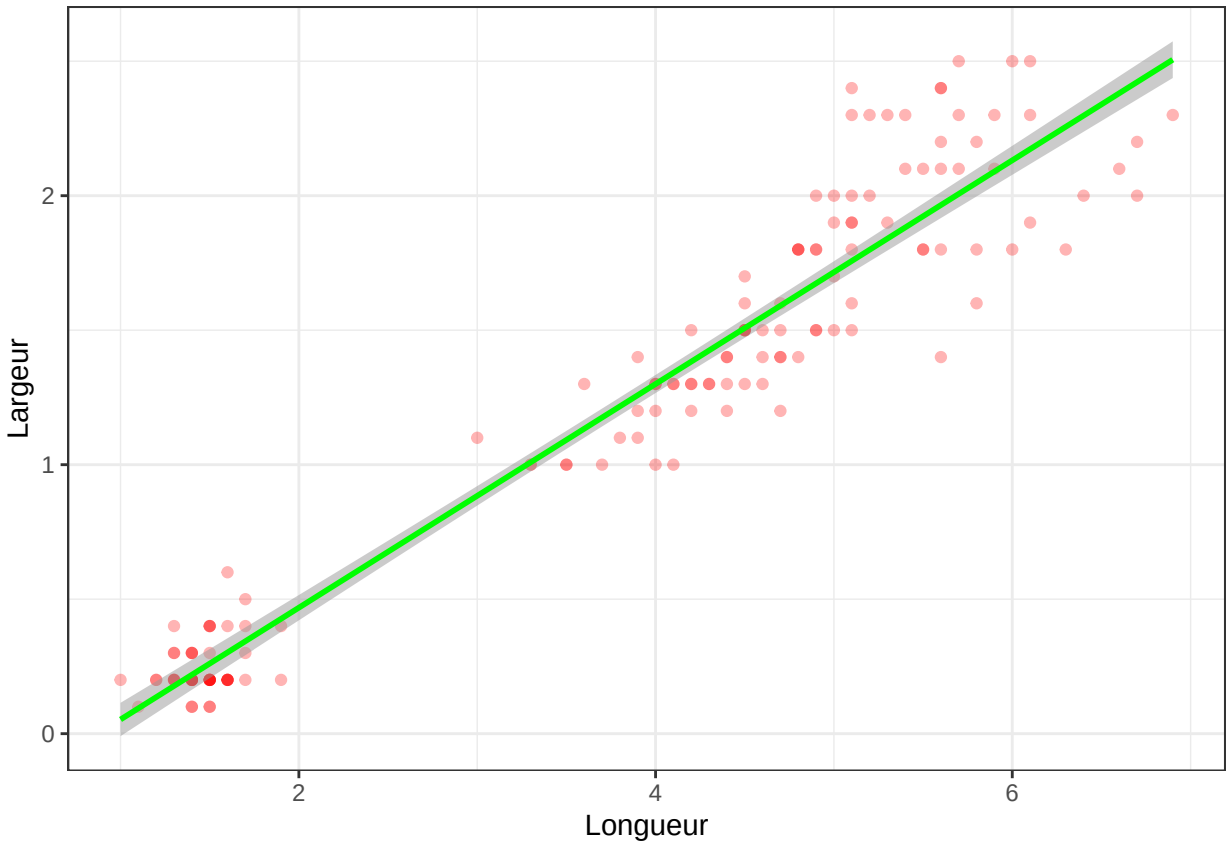
```
## Warning: le package 'ggplot2' a été compilé avec la version R 4.1.3
```

```
ggplot(iris)+
  aes(x = Petal.Length, y=Petal.Width) +
  geom_point(colour="red",alpha = 0.3)+
  labs(x="Longueur",y="Largeur")+
  theme_bw()
```




```
ggplot(iris)+
  aes(x = Petal.Length, y=Petal.Width) +
  geom_point(colour="red",alpha = 0.3)+
  geom_smooth(method = "lm",colour="green",alpha=0.5)+
  labs(x="Longueur",y="Largeur")+
  theme_bw()
```

```
## `geom_smooth()` using formula = 'y ~ x'
```

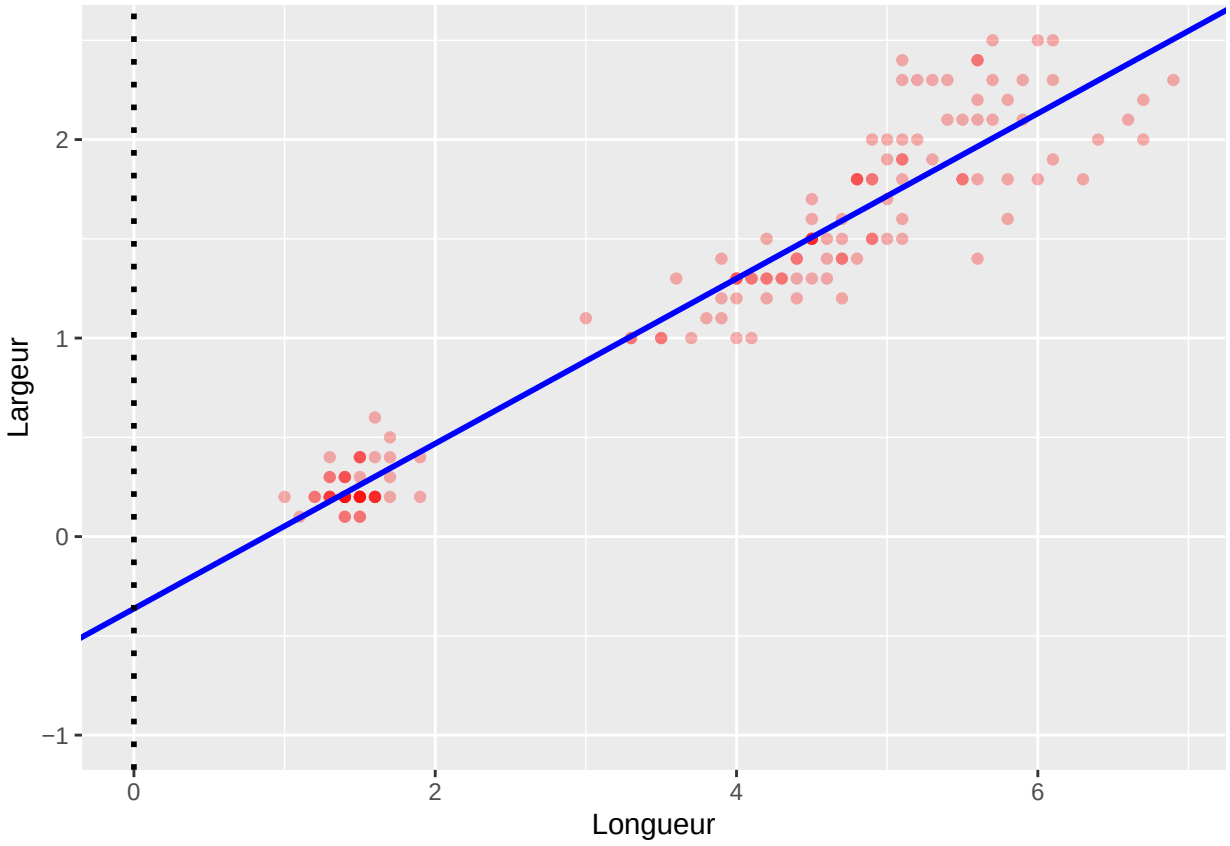



```
mod <- lm(Petal.Width ~ Petal.Length,data=iris)
summary(mod)
```

```
##
## Call:
## lm(formula = Petal.Width ~ Petal.Length, data = iris)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -0.56515 -0.12358 -0.01898  0.13288  0.64272
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -0.363076   0.039762  -9.131  4.7e-16 ***
## Petal.Length  0.415755   0.009582  43.387  < 2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.2065 on 148 degrees of freedom
## Multiple R-squared:  0.9271, Adjusted R-squared:  0.9266
## F-statistic:  1882 on 1 and 148 DF,  p-value: < 2.2e-16
```

```
ggplot(iris)+
  aes(x = Petal.Length, y=Petal.Width) +
  geom_point(colour="red",alpha = 0.3)+
```

```
  geom_abline(
    intercept = mod$coefficients[1],
    slope = mod$coefficients[2],
    linewidth =1,
    colour = "blue"
  )+
  geom_vline(xintercept = 0, linewidth=1,linetype="dotted")+
  labs(x="Longueur",y="Largeur")+
  expand_limits(x=0,y=-1)
```




```
  theme_bw()
```

```
## List of 94
##  $ line                       :List of 6
##   ..$ colour       : chr "black"
##   ..$ linewidth    : num 0.5
##   ..$ linetype     : num 1
##   ..$ lineend      : chr "butt"
##   ..$ arrow        : logi FALSE
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_line" "element"
##  $ rect                       :List of 5
##   ..$ fill         : chr "white"
##   ..$ colour       : chr "black"
##   ..$ linewidth    : num 0.5
```

```
##   ..$ linetype     : num 1
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_rect" "element"
##  $ text                       :List of 11
##   ..$ family       : chr ""
##   ..$ face         : chr "plain"
##   ..$ colour       : chr "black"
##   ..$ size         : num 11
##   ..$ hjust        : num 0.5
##   ..$ vjust        : num 0.5
##   ..$ angle        : num 0
##   ..$ lineheight   : num 0.9
##   ..$ margin       : 'margin' num [1:4] 0points 0points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : logi FALSE
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ title                      : NULL
##  $ aspect.ratio               : NULL
##  $ axis.title                 : NULL
##  $ axis.title.x               :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 1
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 2.75points 0points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.title.x.top           :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 0
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 0points 2.75points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.title.x.bottom        : NULL
##  $ axis.title.y               :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
```

```
##   ..$ hjust        : NULL
##   ..$ vjust        : num 1
##   ..$ angle        : num 90
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 2.75points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.title.y.left         : NULL
##  $ axis.title.y.right        :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 0
##   ..$ angle        : num -90
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 0points 0points 2.75points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.text                 :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : chr "grey30"
##   ..$ size         : 'rel' num 0.8
##   ..$ hjust        : NULL
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : NULL
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.text.x               :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 1
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 2.2points 0points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.text.x.top           :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
```

```
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : num 0
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 0points 2.2points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.text.x.bottom        : NULL
##  $ axis.text.y               :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : num 1
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 2.2points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.text.y.left          : NULL
##  $ axis.text.y.right         :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : num 0
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 0points 0points 2.2points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ axis.ticks                :List of 6
##   ..$ colour       : chr "grey20"
##   ..$ linewidth    : NULL
##   ..$ linetype     : NULL
##   ..$ lineend      : NULL
##   ..$ arrow        : logi FALSE
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_line" "element"
##  $ axis.ticks.x              : NULL
##  $ axis.ticks.x.top          : NULL
##  $ axis.ticks.x.bottom       : NULL
##  $ axis.ticks.y              : NULL
##  $ axis.ticks.y.left         : NULL
```

```
##  $ axis.ticks.y.right        : NULL
##  $ axis.ticks.length         : 'simpleUnit' num 2.75points
##   ..- attr(*, "unit")= int 8
##  $ axis.ticks.length.x       : NULL
##  $ axis.ticks.length.x.top   : NULL
##  $ axis.ticks.length.x.bottom: NULL
##  $ axis.ticks.length.y       : NULL
##  $ axis.ticks.length.y.left  : NULL
##  $ axis.ticks.length.y.right : NULL
##  $ axis.line                 : list()
##   ..- attr(*, "class")= chr [1:2] "element_blank" "element"
##  $ axis.line.x               : NULL
##  $ axis.line.x.top           : NULL
##  $ axis.line.x.bottom        : NULL
##  $ axis.line.y               : NULL
##  $ axis.line.y.left          : NULL
##  $ axis.line.y.right         : NULL
##  $ legend.background         :List of 5
##   ..$ fill         : NULL
##   ..$ colour       : logi NA
##   ..$ linewidth    : NULL
##   ..$ linetype     : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_rect" "element"
##  $ legend.margin             : 'margin' num [1:4] 5.5points 5.5points 5.5points 5.5points
##   ..- attr(*, "unit")= int 8
##  $ legend.spacing            : 'simpleUnit' num 11points
##   ..- attr(*, "unit")= int 8
##  $ legend.spacing.x          : NULL
##  $ legend.spacing.y          : NULL
##  $ legend.key                :List of 5
##   ..$ fill         : chr "white"
##   ..$ colour       : logi NA
##   ..$ linewidth    : NULL
##   ..$ linetype     : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_rect" "element"
##  $ legend.key.size           : 'simpleUnit' num 1.2lines
##   ..- attr(*, "unit")= int 3
##  $ legend.key.height         : NULL
##  $ legend.key.width          : NULL
##  $ legend.text               :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : 'rel' num 0.8
##   ..$ hjust        : NULL
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : NULL
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
```

```
##  $ legend.text.align         : NULL
##  $ legend.title              :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : num 0
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : NULL
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ legend.title.align        : NULL
##  $ legend.position           : chr "right"
##  $ legend.direction          : NULL
##  $ legend.justification      : chr "center"
##  $ legend.box                : NULL
##  $ legend.box.just           : NULL
##  $ legend.box.margin         : 'margin' num [1:4] 0cm 0cm 0cm 0cm
##   ..- attr(*, "unit")= int 1
##  $ legend.box.background     : list()
##   ..- attr(*, "class")= chr [1:2] "element_blank" "element"
##  $ legend.box.spacing        : 'simpleUnit' num 11points
##   ..- attr(*, "unit")= int 8
##  $ panel.background          :List of 5
##   ..$ fill         : chr "white"
##   ..$ colour       : logi NA
##   ..$ linewidth    : NULL
##   ..$ linetype     : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_rect" "element"
##  $ panel.border              :List of 5
##   ..$ fill         : logi NA
##   ..$ colour       : chr "grey20"
##   ..$ linewidth    : NULL
##   ..$ linetype     : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_rect" "element"
##  $ panel.spacing             : 'simpleUnit' num 5.5points
##   ..- attr(*, "unit")= int 8
##  $ panel.spacing.x           : NULL
##  $ panel.spacing.y           : NULL
##  $ panel.grid                :List of 6
##   ..$ colour       : chr "grey92"
##   ..$ linewidth    : NULL
##   ..$ linetype     : NULL
##   ..$ lineend      : NULL
##   ..$ arrow        : logi FALSE
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_line" "element"
##  $ panel.grid.major          : NULL
##  $ panel.grid.minor          :List of 6
```

```
##   ..$ colour       : NULL
##   ..$ linewidth    : 'rel' num 0.5
##   ..$ linetype     : NULL
##   ..$ lineend      : NULL
##   ..$ arrow        : logi FALSE
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_line" "element"
##  $ panel.grid.major.x        : NULL
##  $ panel.grid.major.y        : NULL
##  $ panel.grid.minor.x        : NULL
##  $ panel.grid.minor.y        : NULL
##  $ panel.ontop               : logi FALSE
##  $ plot.background           :List of 5
##   ..$ fill         : NULL
##   ..$ colour       : chr "white"
##   ..$ linewidth    : NULL
##   ..$ linetype     : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_rect" "element"
##  $ plot.title                :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : 'rel' num 1.2
##   ..$ hjust        : num 0
##   ..$ vjust        : num 1
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 0points 5.5points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ plot.title.position       : chr "panel"
##  $ plot.subtitle             :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : num 0
##   ..$ vjust        : num 1
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 0points 0points 5.5points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ plot.caption              :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : 'rel' num 0.8
##   ..$ hjust        : num 1
```

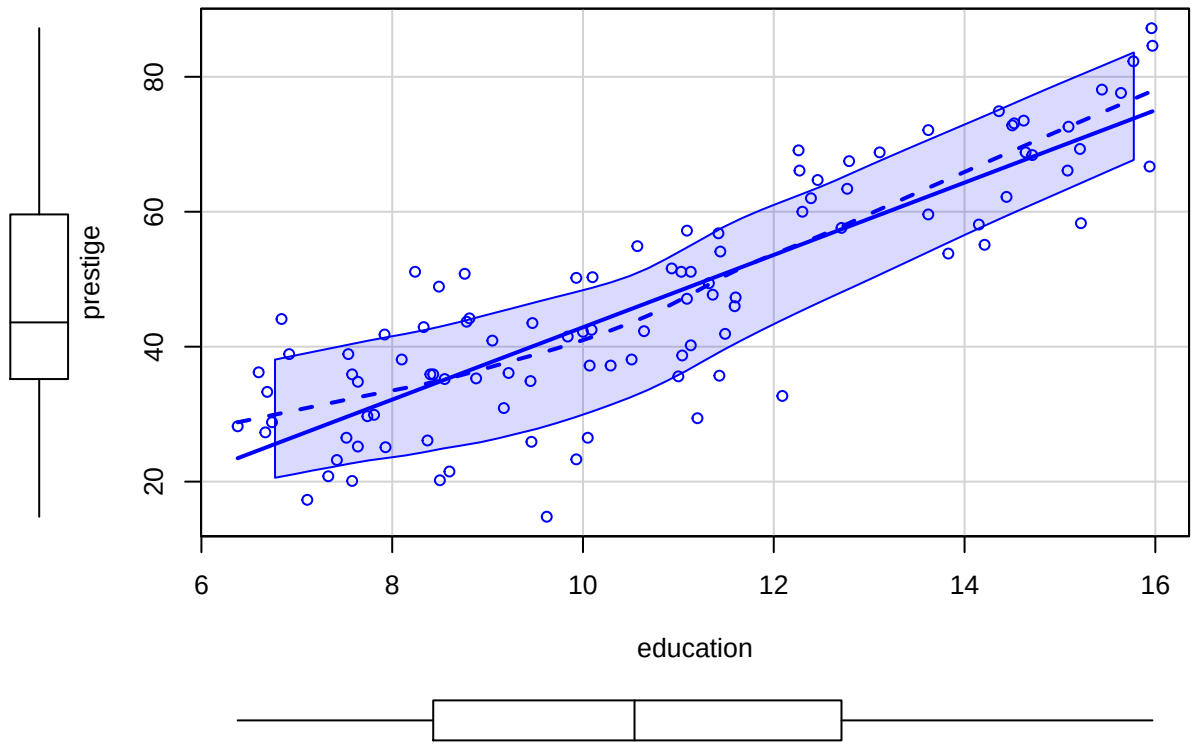
```
##   ..$ vjust        : num 1
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 5.5points 0points 0points 0points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ plot.caption.position     : chr "panel"
##  $ plot.tag                  :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : 'rel' num 1.2
##   ..$ hjust        : num 0.5
##   ..$ vjust        : num 0.5
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : NULL
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ plot.tag.position         : chr "topleft"
##  $ plot.margin               : 'margin' num [1:4] 5.5points 5.5points 5.5points 5.5points
##   ..- attr(*, "unit")= int 8
##  $ strip.background          :List of 5
##   ..$ fill         : chr "grey85"
##   ..$ colour       : chr "grey20"
##   ..$ linewidth    : NULL
##   ..$ linetype     : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_rect" "element"
##  $ strip.background.x        : NULL
##  $ strip.background.y        : NULL
##  $ strip.clip                : chr "inherit"
##  $ strip.placement           : chr "inside"
##  $ strip.text                :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : chr "grey10"
##   ..$ size         : 'rel' num 0.8
##   ..$ hjust        : NULL
##   ..$ vjust        : NULL
##   ..$ angle        : NULL
##   ..$ lineheight   : NULL
##   ..$ margin       : 'margin' num [1:4] 4.4points 4.4points 4.4points 4.4points
##   .. ..- attr(*, "unit")= int 8
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ strip.text.x              : NULL
##  $ strip.text.y              :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
```

```
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : NULL
##   ..$ angle        : num -90
##   ..$ lineheight   : NULL
##   ..$ margin       : NULL
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  $ strip.switch.pad.grid     : 'simpleUnit' num 2.75points
##   ..- attr(*, "unit")= int 8
##  $ strip.switch.pad.wrap     : 'simpleUnit' num 2.75points
##   ..- attr(*, "unit")= int 8
##  $ strip.text.y.left         :List of 11
##   ..$ family       : NULL
##   ..$ face         : NULL
##   ..$ colour       : NULL
##   ..$ size         : NULL
##   ..$ hjust        : NULL
##   ..$ vjust        : NULL
##   ..$ angle        : num 90
##   ..$ lineheight   : NULL
##   ..$ margin       : NULL
##   ..$ debug        : NULL
##   ..$ inherit.blank: logi TRUE
##   ..- attr(*, "class")= chr [1:2] "element_text" "element"
##  - attr(*, "class")= chr [1:2] "theme" "gg"
##  - attr(*, "complete")= logi TRUE
##  - attr(*, "validate")= logi TRUE
```

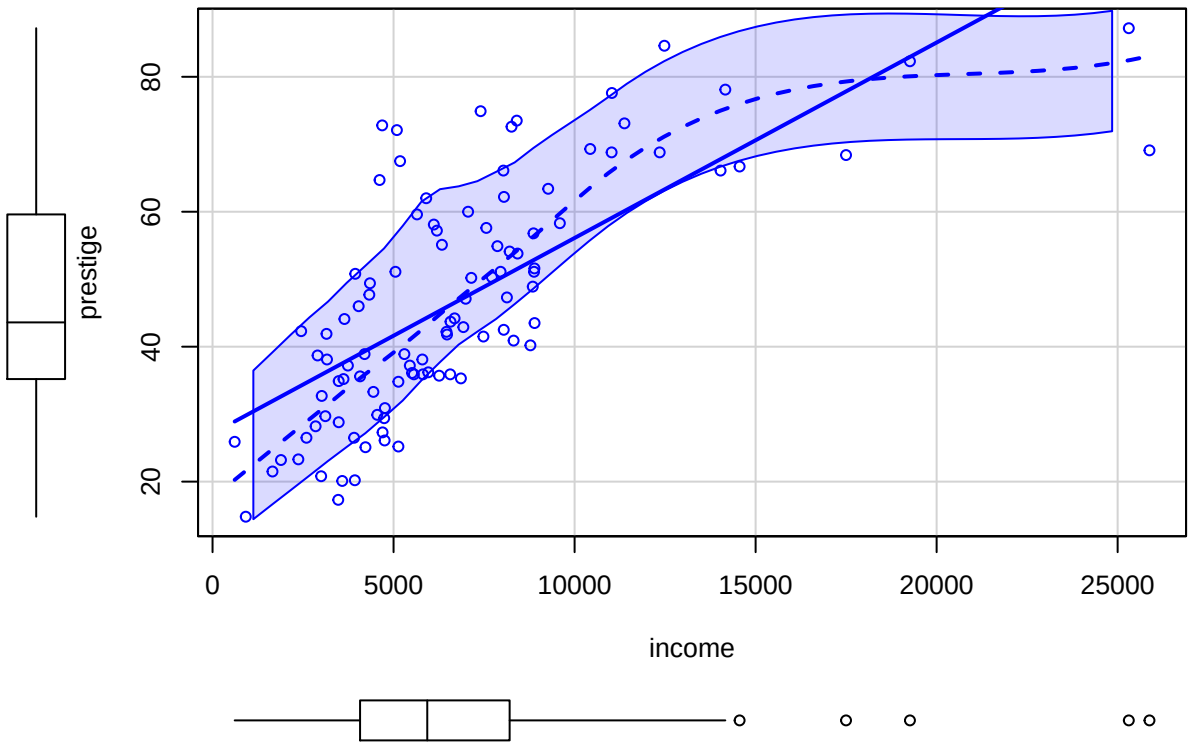
```r
summary(Prestige)
```

```
##    education          income          women           prestige
##  Min.   : 6.380   Min.   :  611   Min.   : 0.000   Min.   :14.80
##  1st Qu.: 8.445   1st Qu.: 4106   1st Qu.: 3.592   1st Qu.:35.23
##  Median :10.540   Median : 5930   Median :13.600   Median :43.60
##  Mean   :10.738   Mean   : 6798   Mean   :28.979   Mean   :46.83
##  3rd Qu.:12.648   3rd Qu.: 8187   3rd Qu.:52.203   3rd Qu.:59.27
##  Max.   :15.970   Max.   :25879   Max.   :97.510   Max.   :87.20
##      census       type
##  Min.   :1113   bc  :44
##  1st Qu.:3120   prof:31
##  Median :5135   wc  :23
##  Mean   :5402   NA's: 4
##  3rd Qu.:8312
##  Max.   :9517
```

```r
scatterplot(prestige~education,data=Prestige)
```



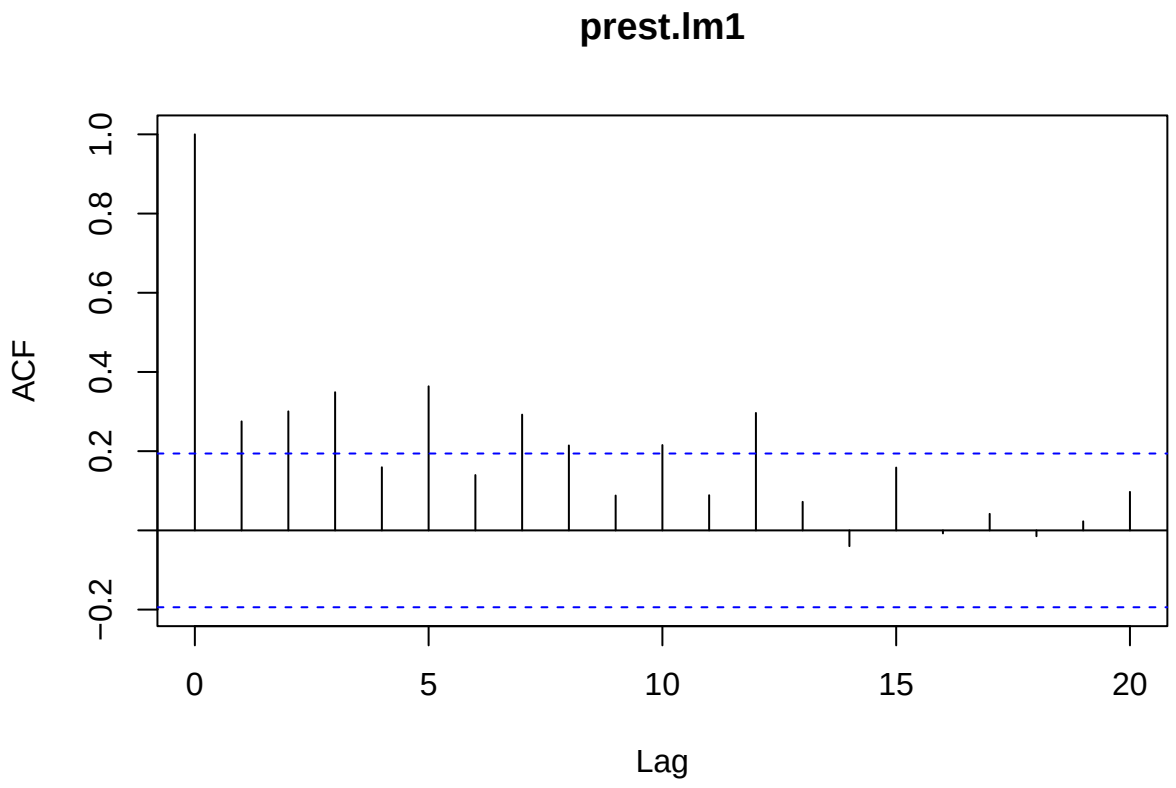

```
scatterplot(prestige~income,data=Prestige)
```



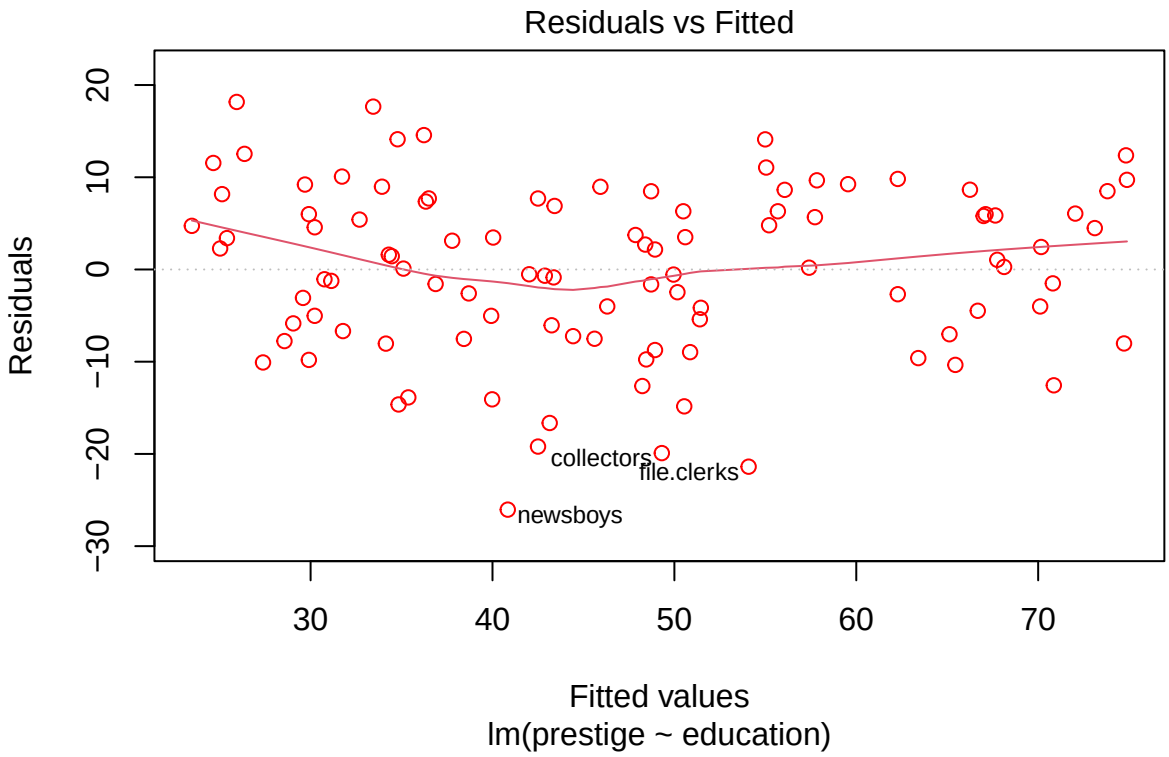

```
prest.lm1 <- lm(prestige ~ education ,data=Prestige)
summary(prest.lm1)
```

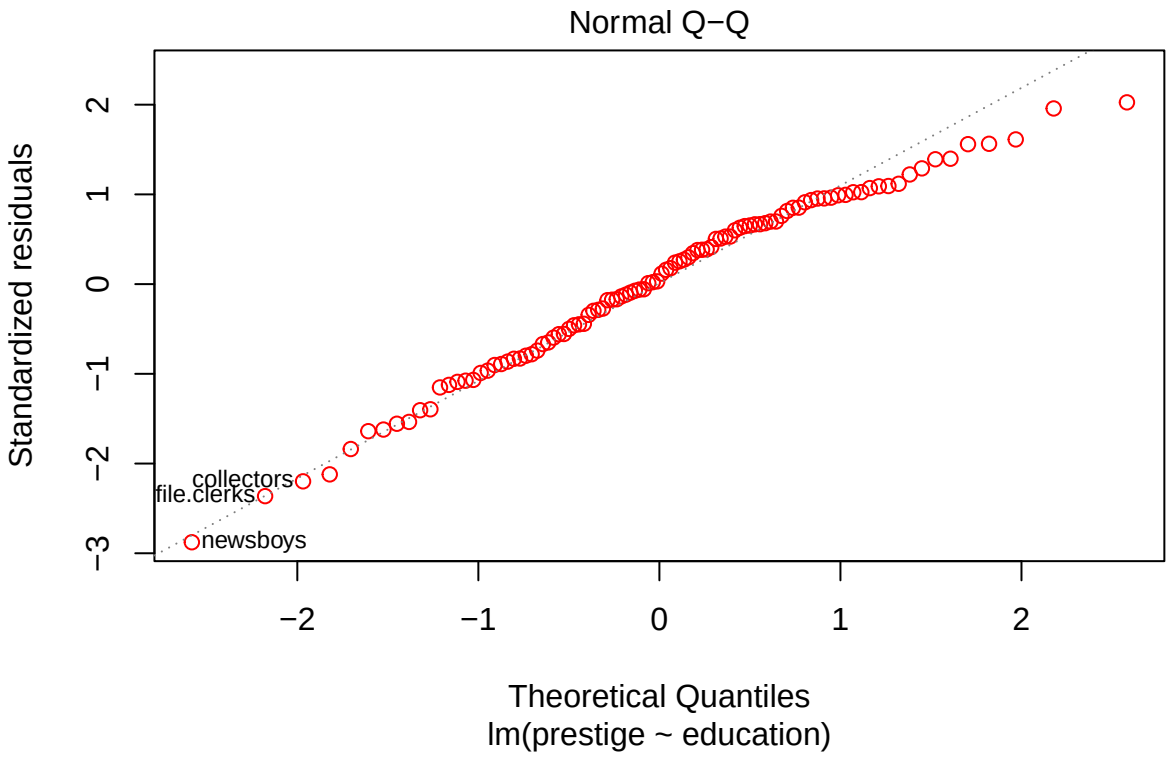
```
##
## Call:
## lm(formula = prestige ~ education, data = Prestige)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -26.0397  -6.5228   0.6611   6.7430  18.1636
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -10.732      3.677  -2.919  0.00434 **
## education      5.361      0.332  16.148  < 2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 9.103 on 100 degrees of freedom
## Multiple R-squared:  0.7228, Adjusted R-squared:   0.72
## F-statistic: 260.8 on 1 and 100 DF,  p-value: < 2.2e-16
```

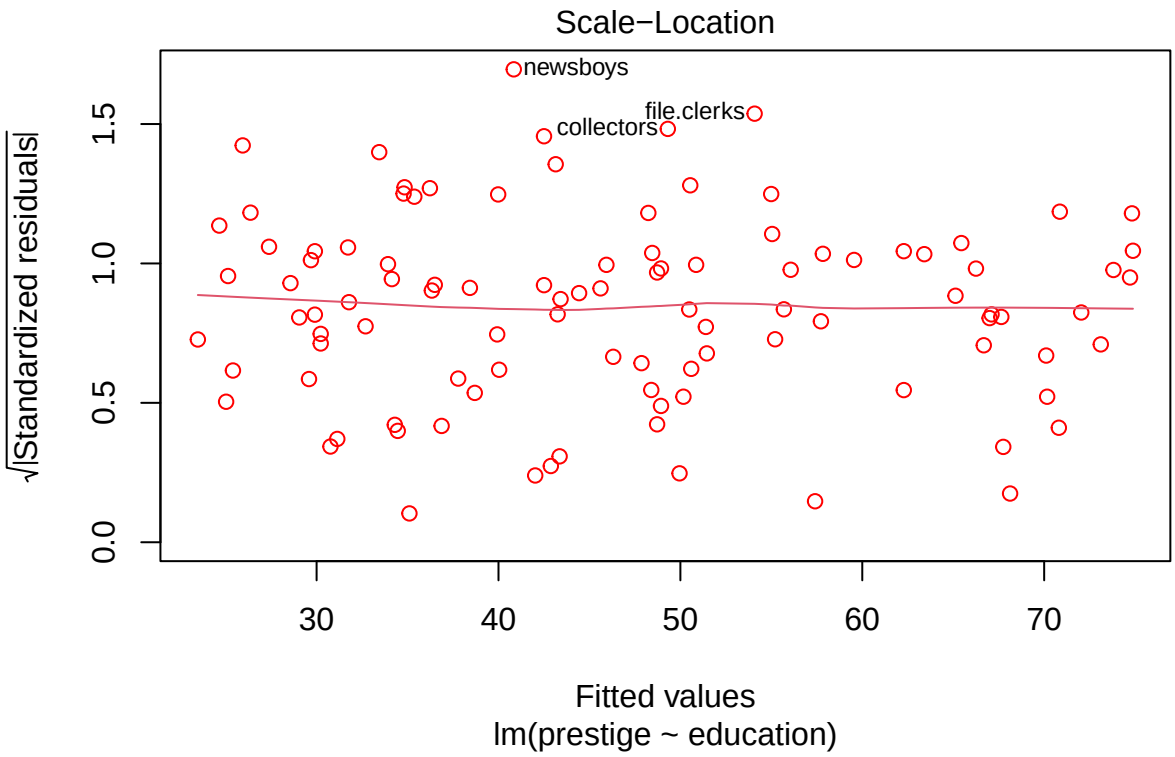
```
acf(residuals(prest.lm1),main="prest.lm1")
```

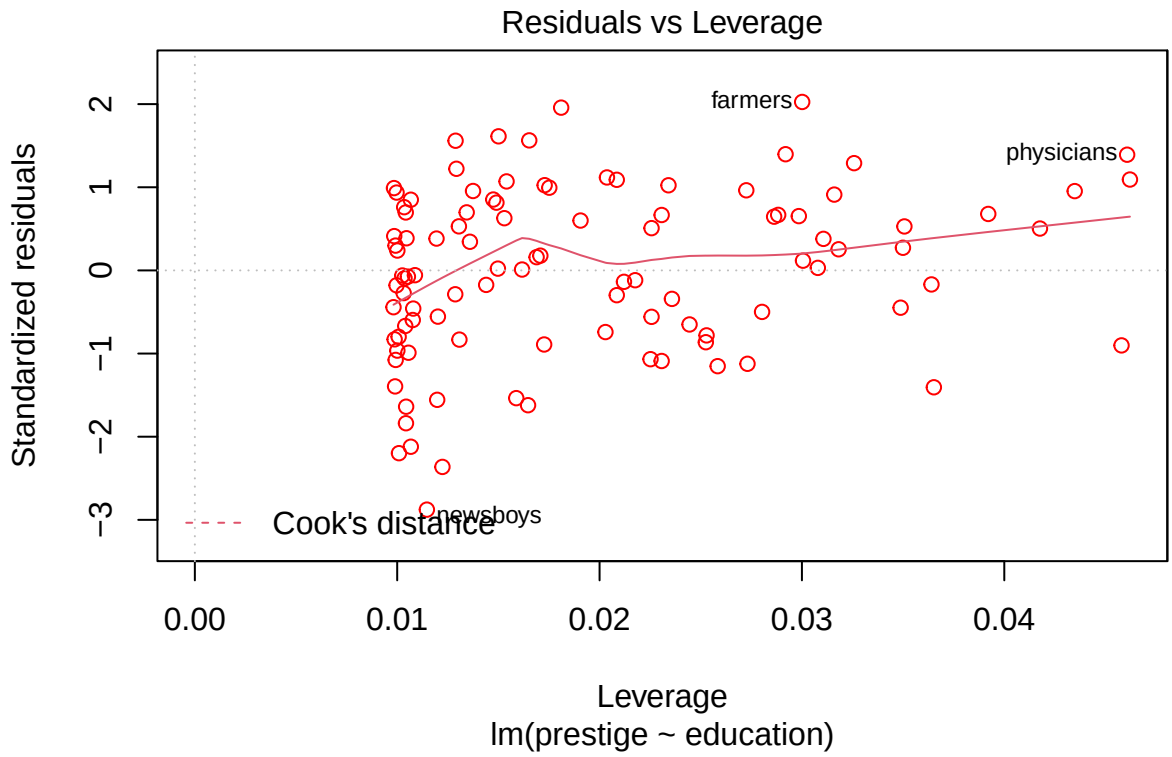



```
plot(prest.lm1,col="red")
```


Residuals vs Fitted
Residuals
20
10
0
−10
−20
−30
30
40
50
60
70
collectors
file.clerks
newsboys
Fitted values
lm(prestige ~ education)


Normal Q−Q
Standardized residuals
Theoretical Quantiles
lm(prestige ~ education)
collectors
file.clerks
newsboys
−3
−2
−1
0
1
2


Scale−Location
newsboys
file.clerks
collectors
√|Standardized residuals|
0.0
0.5
1.0
1.5
30
40
50
60
70
Fitted values
lm(prestige ~ education)




```
residuals(prest.lm1)
```

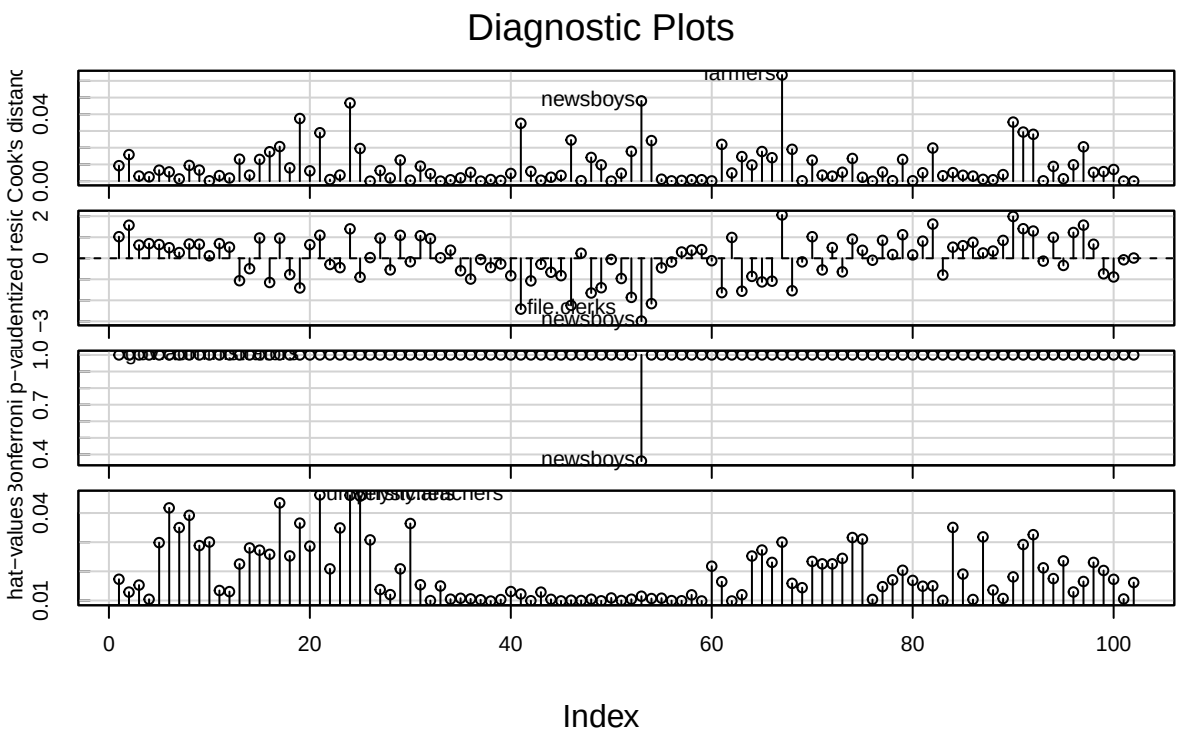
```
##        gov.administrators          general.managers              accountants
##                9.25087492               14.10762099                5.67357335
##      purchasing.officers                  chemists                physicists
##                6.31075828                5.85594955                4.48785426
##                biologists                architects          civil.engineers
##                2.43633701                6.06002981                5.99203732
##         mining.engineers                  surveyors               draughtsmen
##                1.04873199                6.31070689                4.79318588
##      computer.programers                economists             psychologists
##               -9.60895705               -4.47909246                8.64977776
##            social.workers                   lawyers                librarians
##              -10.34609058                8.49094016               -7.02443792
##    vocational.counsellors                  ministers       university.teachers
##              -12.56057709                5.79925487                9.71876461
##   primary.school.teachers secondary.school.teachers                physicians
##               -2.68317272               -4.01005421               12.37237339
##             veterinarians  osteopaths.chiropractors                   nurses
##               -8.02040906                0.27347055                8.63544545
##             nursing.aides          physio.therapsts                pharmacists
##               -5.02831259                9.81682728               -1.50696831
##       medical.technicians        commercial.artists       radio.tv.announcers
##                9.66635579                8.47984794                0.19522601
##                  athletes               secretaries                   typists
```

```
##               3.50354073              -5.40059093              -8.96450316
##             bookkeepers          tellers.cashiers        computer.operators
##              -0.55315394              -4.00775709              -2.46758905
##          shipping.clerks             file.clerks            receptionsts
##              -7.52726682             -21.38102979              -9.75210818
##            mail.carriers            postal.clerks       telephone.operators
##              -2.59531071              -6.05205678              -7.51084298
##              collectors           claim.adjustors             travel.clerks
##             -19.90984861               2.16541283             -14.84285049
##            office.clerks        sales.supervisors     commercial.travellers
##             -12.63767307              -0.51905490              -8.73458717
##             sales.clerks                 newsboys service.station.attendant
##             -16.64483922             -26.03966180             -19.20153390
##         insurance.agents      real.estate.salesmen                   buyers
##              -4.15419971              -1.62015206               2.70150060
##            firefighters                policemen                    cooks
##               3.46446986               3.73758837              -1.06121167
##              bartenders         funeral.directors              babysitters
##             -14.63547874               8.96750436             -14.08192136
##              launderers                 janitors        elevator.operators
##              -7.76325180             -10.08385870              -9.80347123
##                  farmers             farm.workers      rotary.well.drillers
##              18.16357829             -13.87156651              -1.57261228
##                   bakers           slaughterers.1           slaughterers.2
##               9.21096388              -5.02512389               4.57487611
##                  canners           textile.weavers         textile.labourers
##              -5.84573079               8.16770995               3.39966606
##           tool.die.makers                machinists       sheet.metal.workers
##              -0.85927433               7.70264916               1.60060903
##                  welders             auto.workers          aircraft.workers
##              10.07383034               1.43978270               7.36347549
##        electronic.workers        radio.tv.repairmen     sewing.mach.operators
##              14.57069305              -7.23144988               4.72958205
##            auto.repairmen        aircraft.repairmen        railway.sectionmen
##               5.40887235               6.88711689               2.27492751
##        electrical.linemen              electricians      construction.foremen
##               3.11603851               7.69846610              17.65834947
##              carpenters                   masons            house.painters
##              12.53470807              11.55018895              -1.23647311
##                plumbers    construction.labourers                   pilots
##               8.97587047              -3.08181857              11.05401221
##           train.engineers             bus.drivers             taxi.drivers
##              14.11813004               5.99652877              -6.67977844
##             longshoremen             typesetters             bookbinders
##              -8.03856464              -0.67679534               0.09647737
```

```
#intervalle de confiance
confint(prest.lm1)
```

```
##                   2.5 %    97.5 %
## (Intercept) -18.027220 -3.436744
## education     4.702223  6.019533
```

```
influenceIndexPlot(prest.lm1)
```




```
#une seule prediction
my_dif <- data.frame(education=c(10.22))
print(predict(prest.lm1,newdata = my_dif))
```

```
##        1
## 44.05619
```

```
print(predict(prest.lm1,newdata = my_dif,interval = "prediction"))
```

```
##        fit    lwr      upr
## 1 44.05619 25.904 62.20838
```

```
predict(prest.lm1,newdata = my_dif,interval = "confidence")
```

```
##        fit      lwr      upr
## 1 44.05619 42.23565 45.87672
```

```
#plusieurs predictions
#une seule prediction
my_df <- data.frame(education=c(10.22,11.37,12.12,15))
print(predict(prest.lm1,newdata = my_df))
```

```
##        1        2        3        4
## 44.05619 50.22120 54.24186 69.68118
```

```
print(predict(prest.lm1,newdata = my_df,interval = "prediction"))
```

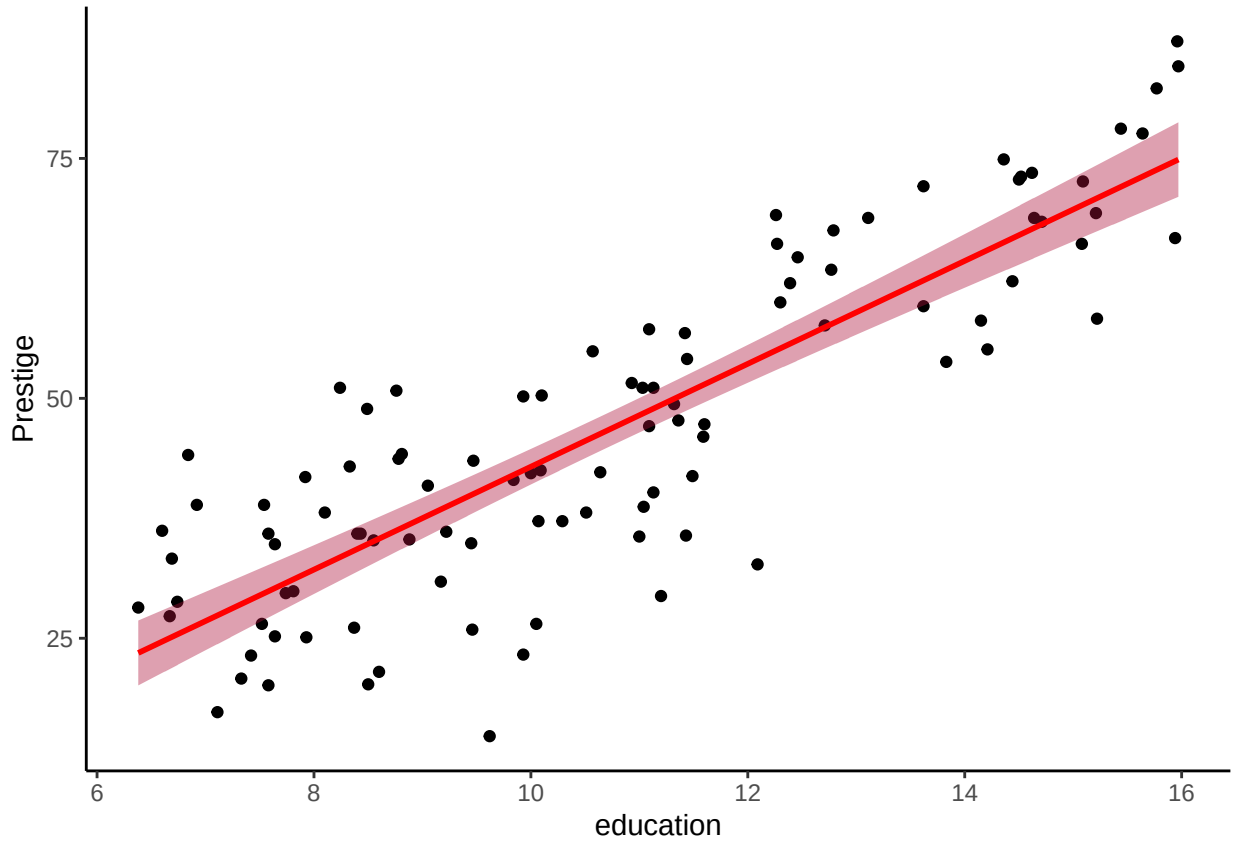
```
##        fit      lwr      upr
## 1 44.05619 25.90400 62.20838
## 2 50.22120 32.06744 68.37496
## 3 54.24186 36.07006 72.41365
## 4 69.68118 51.31638 88.04598
```

```
predict(prest.lm1,newdata = my_df,interval = "confidence")
```

```
##        fit      lwr      upr
## 1 44.05619 42.23565 45.87672
## 2 50.22120 48.38512 52.05727
## 3 54.24186 52.23525 56.24846
## 4 69.68118 66.35281 73.00956
```

```
ggplot(Prestige, aes(y=prestige, x=education))+
      geom_point()+
      geom_smooth(colour="red", method="lm", fill="#AE123A") +
      ylab("Prestige")+
      xlab("education") +
      theme_classic()
```

```
## `geom_smooth()` using formula = 'y ~ x'
```



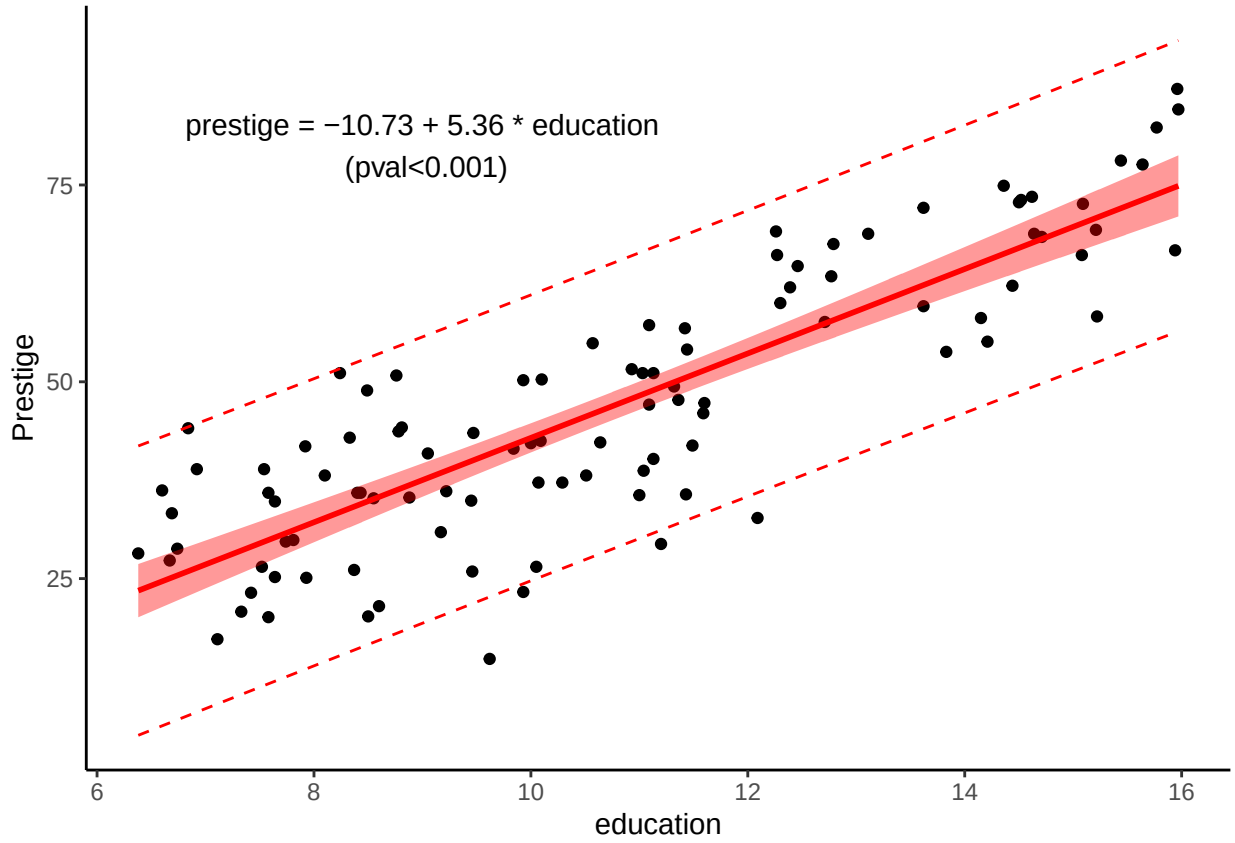

```
int_pred <- predict(prest.lm1, interval="prediction")
my_prest2 <-cbind(Prestige, int_pred)
tail(my_prest2)
```

```
##                 education income women prestige census type      fit      lwr
## train.engineers      8.49   8845  0.00     48.9   9131   bc 34.78187 16.57258
## bus.drivers          7.58   5562  9.47     35.9   9171   bc 29.90347 11.63568
## taxi.drivers         7.93   4224  3.59     25.1   9173   bc 31.77978 13.53679
## longshoremen         8.37   4753  0.00     26.1   9313   bc 34.13856 15.92268
## typesetters         10.00   6462 13.58     42.2   9511   bc 42.87680 24.72130
## bookbinders          8.55   3617 70.87     35.2   9517   bc 35.10352 16.89741
##                      upr
## train.engineers 52.99116
## bus.drivers     48.17127
## taxi.drivers    50.02276
## longshoremen    52.35445
## typesetters     61.03229
## bookbinders     53.30964
```

```
ggplot(my_prest2, aes(y=prestige, x=education))+
      geom_point()+
      geom_smooth(colour="red", method="lm", fill="red") +
      geom_line(aes(y=lwr), color = "red", linetype = "dashed")+
      geom_line(aes(y=upr), color = "red", linetype = "dashed")+
      ylab("Prestige")+
```

```
      xlab("education") +
      theme_classic()+
      annotate("text", x = 9, y = 80, label = "prestige = -10.73 + 5.36 * education\n (pval<0.001)")
```

```
## `geom_smooth()` using formula = 'y ~ x'
```



Zero-inflated Poisson Mixed Effects Model

```
set.seed(123)
n <- 1000
k <- 8
t_max <- 5
#on crée un data fram
DF <- data.frame(id=rep(seq_len(n),each=k),
                 time =c(replicate(n, c(0, sort(runif(k - 1, 0, t_max))))),
                 sex = rep(gl(2, n/2, labels = c("male", "female")), each = k))
tail(DF)
```

```
##        id      time    sex
## 7995 1000 0.9256159 female
## 7996 1000 1.1595572 female
```

```
## 7997 1000 1.9352615 female
## 7998 1000 3.4149424 female
## 7999 1000 3.8927937 female
## 8000 1000 4.8351372 female
```

```
#Design matices for the fixed and random effect  non zero part
X <- model.matrix(~sex*time,data=DF)
Z <- model.matrix(~1,data=DF)
#Design matices for the fixed and random effect zero part
X_zi <- model.matrix(~sex,data=DF)
Z_zi <- model.matrix(~1,data=DF)

betas <- c(1.5, 0.05, 0.05, -0.03) # fixed effects coefficients non-zero part
shape <- 2
gammas <- c(1.5,0.5)
D11 <- 0.5 #variance of random intercepts non-zero part
D22 <- 0.4 #variance of random intercepts zero part
#we simulate radnom effects
b <- cbind(rnorm(n,sd=sqrt(D11)),rnorm(n,sd=sqrt(D22)))
# linear predictor non zero part
eta_y <- as.vector(X %*% betas + rowSums(Z * b[DF$id, 1, drop = FALSE]))
# linear predictor zero part
eta_zi <- as.vector(X_zi %*% gammas + rowSums(Z_zi * b[DF$id, 2, drop = FALSE]))
# we simulate negative binomial longitudinal data
DF$y <- rnbinom(n * k, size = shape, mu = exp(eta_y))
# we set the extra zeros
DF$y[as.logical(rbinom(n * k, size = 1, prob = plogis(eta_zi)))] <- 0

library(GLMMadaptive )
fm1 <- mixed_model(y ~ sex * time, random = ~ 1 | id, data = DF,
                   family = zi.poisson(), zi_fixed = ~ sex)
```

```
fm1
```

```
##
## Call:
## mixed_model(fixed = y ~ sex * time, random = ~1 | id, data = DF,
##     family = zi.poisson(), zi_fixed = ~sex)
##
##
## Model:
##  family: zero-inflated poisson
##  link: log
##
## Random effects covariance matrix:
##                StdDev
## (Intercept) 0.9384577
##
## Fixed effects:
##    (Intercept)      sexfemale           time sexfemale:time
##     1.33146841    -0.13755425     0.08354323    -0.02883697
##
## Zero-part coefficients:
```

```
## (Intercept)   sexfemale
##   1.4059453   0.4588669
##
## log-Lik: -7244.594
```

```
fm2 <- update(fm1,zi_random = ~1 | id)
fm2
```

```
##
## Call:
## mixed_model(fixed = y ~ sex * time, random = ~1 | id, data = DF,
##     family = zi.poisson(), zi_fixed = ~sex, zi_random = ~1 |
##         id)
##
##
## Model:
##  family: zero-inflated poisson
##  link: log
##
## Random effects covariance matrix:
##                 StdDev    Corr
## (Intercept)     0.9003
## zi_(Intercept)  0.6576 -0.1512
##
## Fixed effects:
##    (Intercept)      sexfemale           time sexfemale:time
##     1.34996015    -0.14454874     0.08273516    -0.02856619
##
## Zero-part coefficients:
## (Intercept)   sexfemale
##   1.5508484   0.4862047
##
## log-Lik: -7212.253
```