Metrics of Succesful websites and companies

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```
#we upload the dataset
total_500 <- read.csv("~/GitHub/thesis_msc_business_analytics/Python/total_500_new.csv", sep=";", na.st
#we see how many observations and how many variables we have
dim(total_500)
```

```
## [1] 500 730
```

```
#We create a subset to make some changes to the data
total_500_sub <- total_500
#Change the decimal point for the 4 variables
total_500_sub$Assets.. <- gsub(",", ".", total_500_sub$Assets.. )
total_500_sub$Market.value.. <- gsub(",", ".", total_500_sub$Market.value.. )
total_500_sub$Revenues.. <- gsub(",", ".", total_500_sub$Revenues.. )
total_500_sub$Total.Stockholder.Equity.. <- gsub(",", ".", total_500_sub$Total.Stockholder.Equity.. )
#Make the variables numeric
for(i in 1:18){
 total_500_sub[,i] <- as.numeric(total_500_sub[,i])}
```

```
## Warning: NAs introduced by coercion
```

```
## Warning: NAs introduced by coercion
```

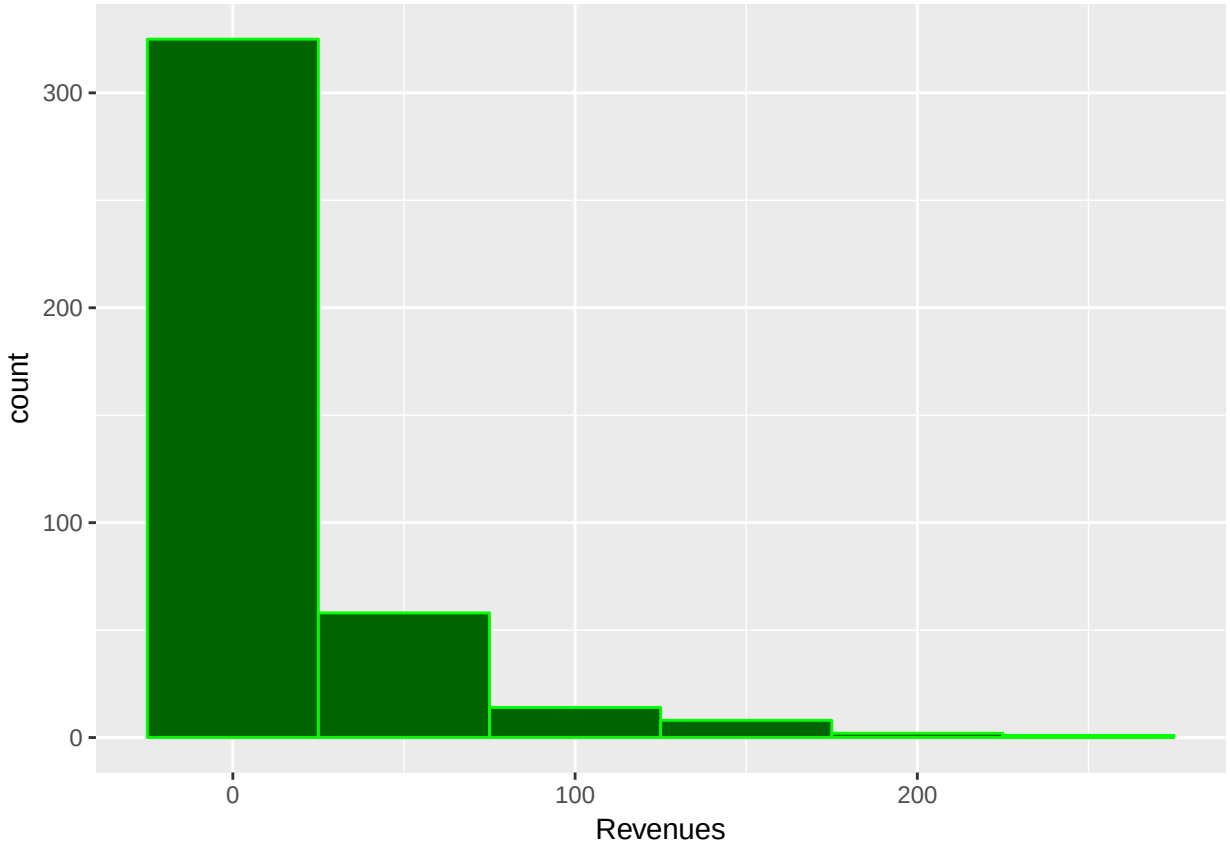
```
for(i in 20:730){
 total_500_sub[,i] <- as.numeric(total_500_sub[,i])}
#We omit the nas from the analysis
total_500_final <- na.omit(total_500_sub)
#We rename variable X as Ranking
colnames(total_500_final)[1] <- "Ranking"
#Change the names of some variables to be more easily readable
colnames(total_500_final)[2] <- "Assets"
colnames(total_500_final)[3] <- "Market_Value"
colnames(total_500_final)[4] <- "Revenues"
colnames(total_500_final)[6] <- "Total_SH_Equity"
#Delete the variables we will not need
total_500_final$Revenues...1 <- NULL #Revenues %
total_500_final$company <- NULL #company name
total_500_final$url<- NULL # company url
#we upload the libraries beneath that we will use in the analysis
library(ggplot2)
library(reshape2)
library(DAAG)
```

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

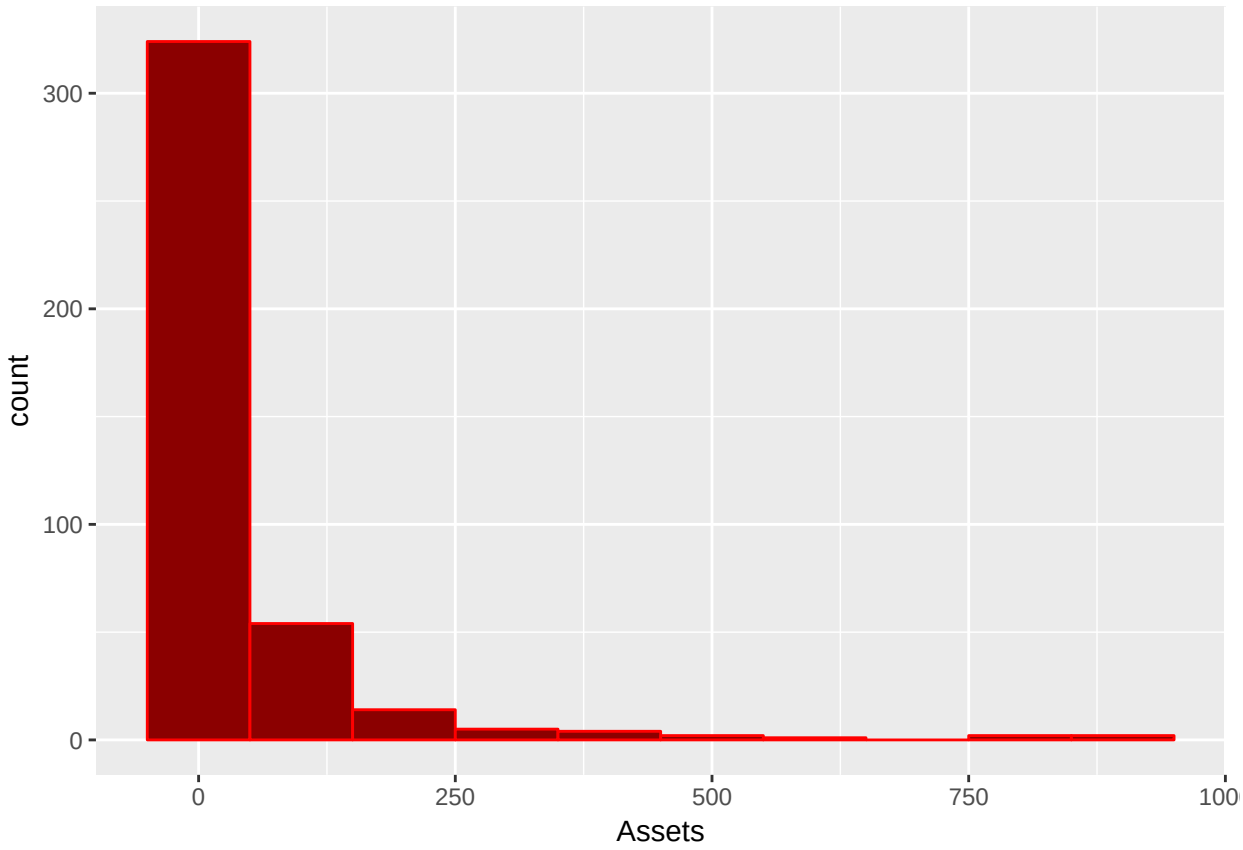
```
#Final number of observation and variables we will use
dim(total_500_final)
```

```
## [1] 408 727
```

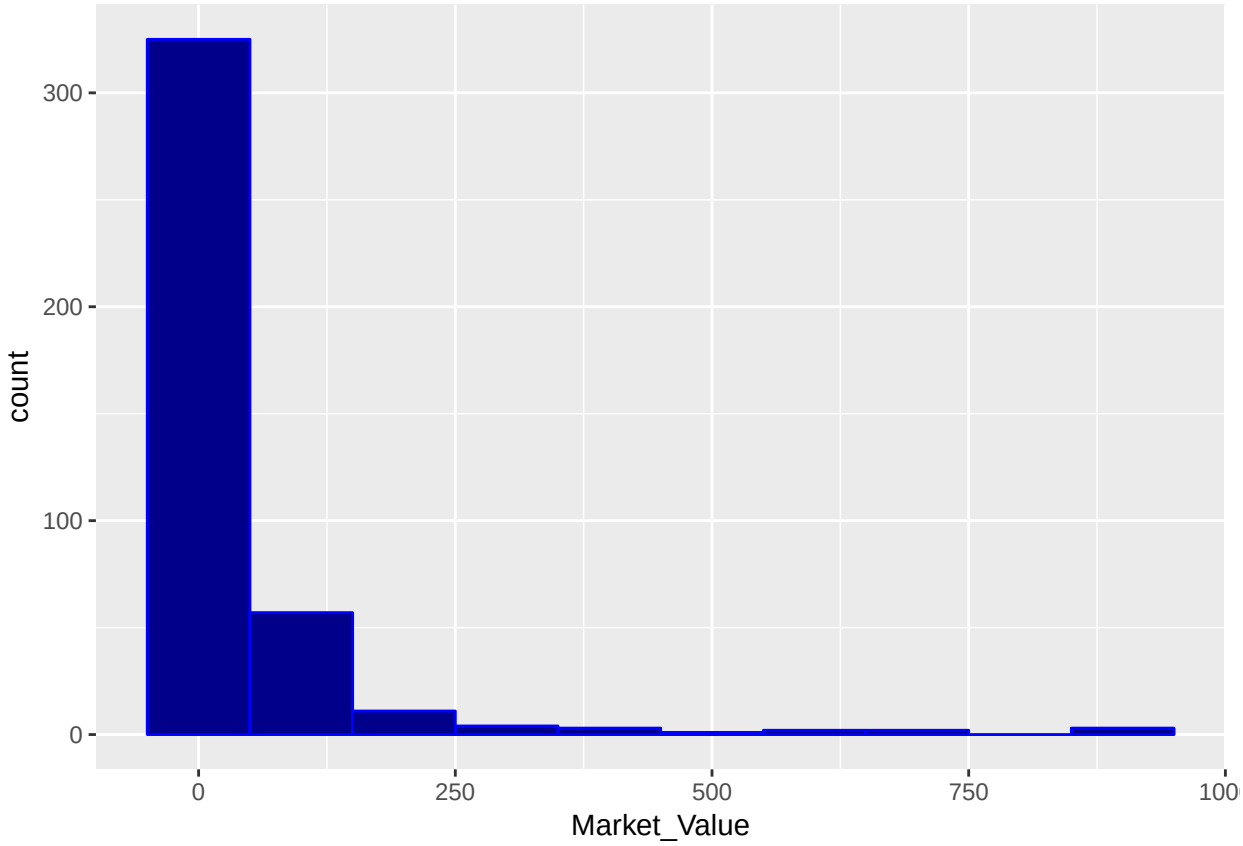
```
#############################################################################################################
#we first see the summary of the Fortune variables and then we create their histogram so as to have a
#good grasp of how they are distributed
ggplot(data=total_500_final,aes(x=Revenues))+geom_histogram(binwidth=50, colour = "green", fill ="darkg
```



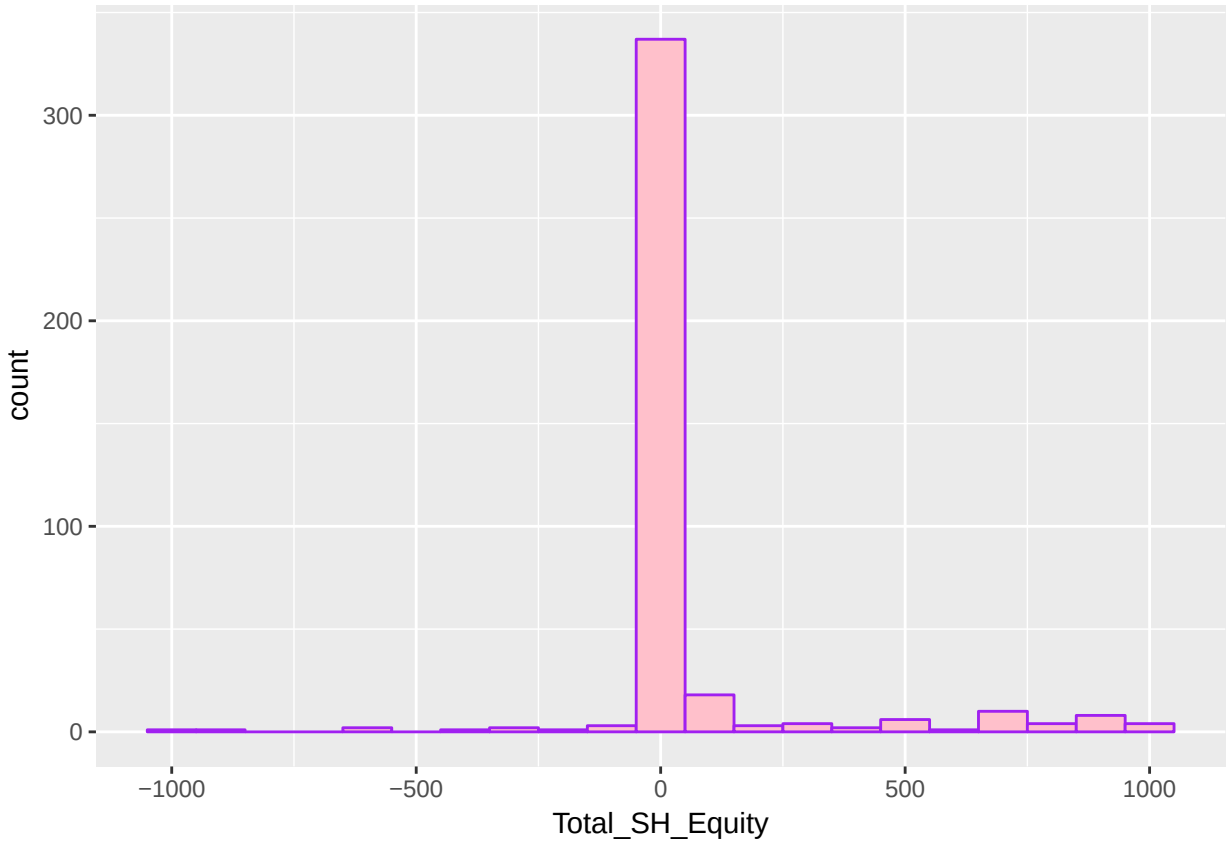

```
ggplot(data=total_500_final,aes(x=Assets))+geom_histogram(binwidth=100, colour = "red", fill ="darkred"
```



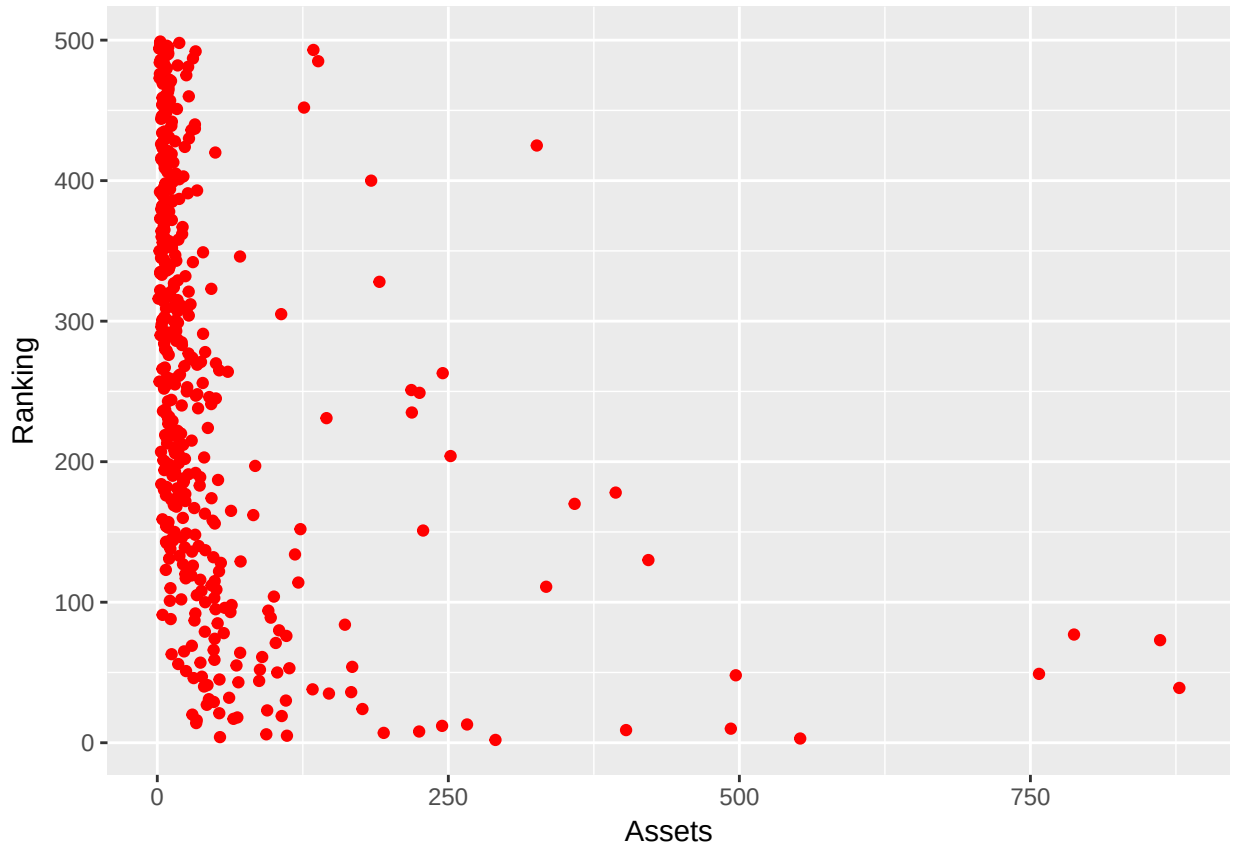

```
ggplot(data=total_500_final,aes(x=Market_Value))+geom_histogram(binwidth=100, colour = "blue", fill ="da
```




```
ggplot(data=total_500_final,aes(x=Total_SH_Equity))+geom_histogram(binwidth=100, colour = "purple", fil
```

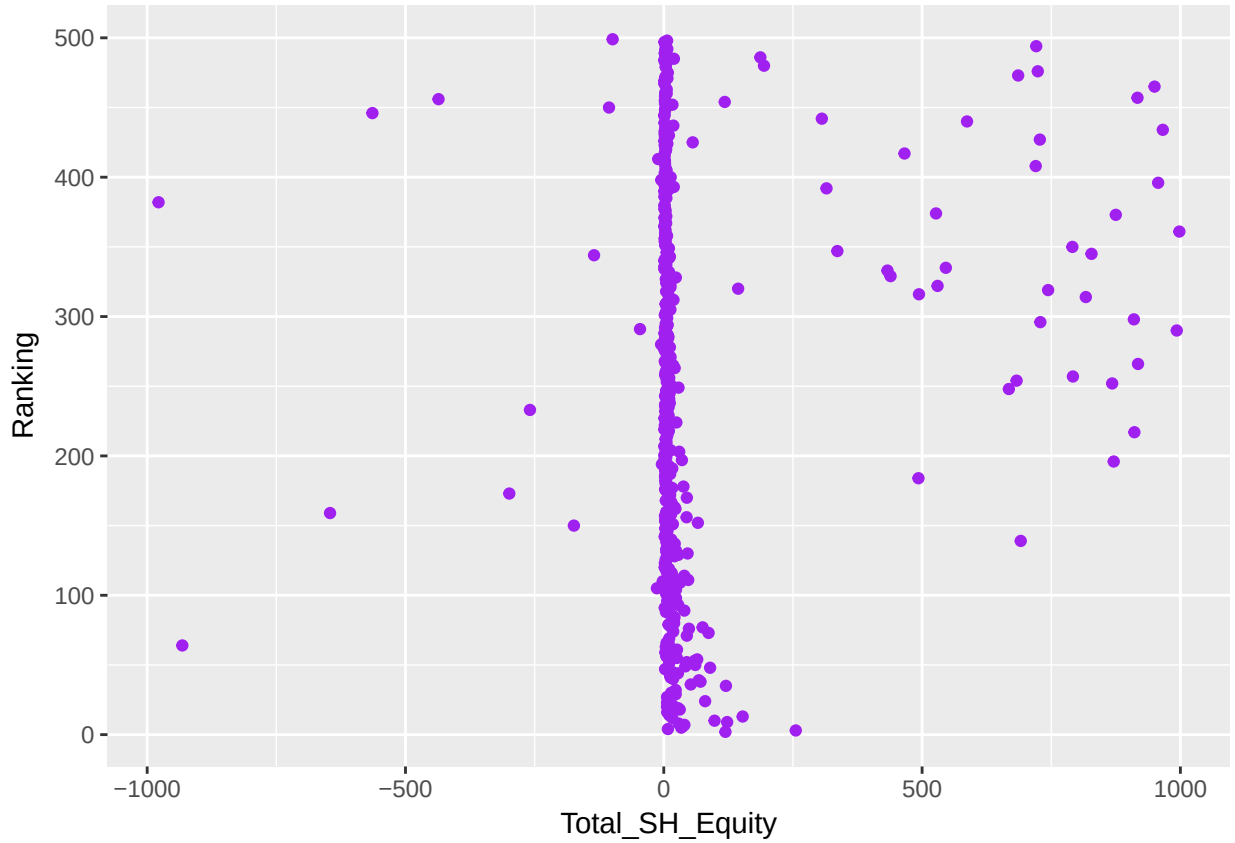



```
#########################################################################################################
#We make plots to see how the variables we got from Fortune 500 are related with the Ranking
ggplot(total_500_final, aes(Assets,Ranking)) + geom_point(colour = "red")
```

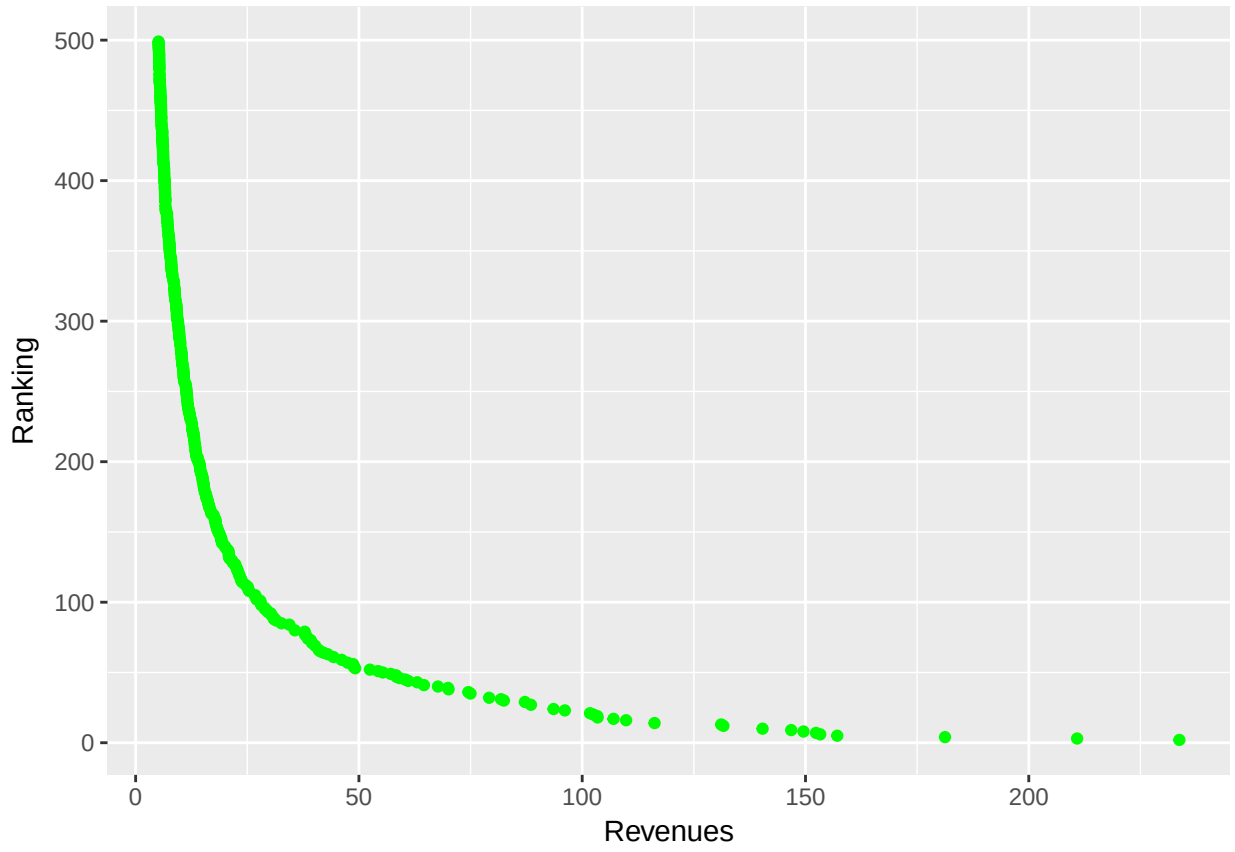



```
ggplot(total_500_final, aes(Market_Value, Ranking)) + geom_point(colour = "blue")
```


```
ggplot(total_500_final, aes(Total_SH_Equity, Ranking)) + geom_point(colour = "purple")
```



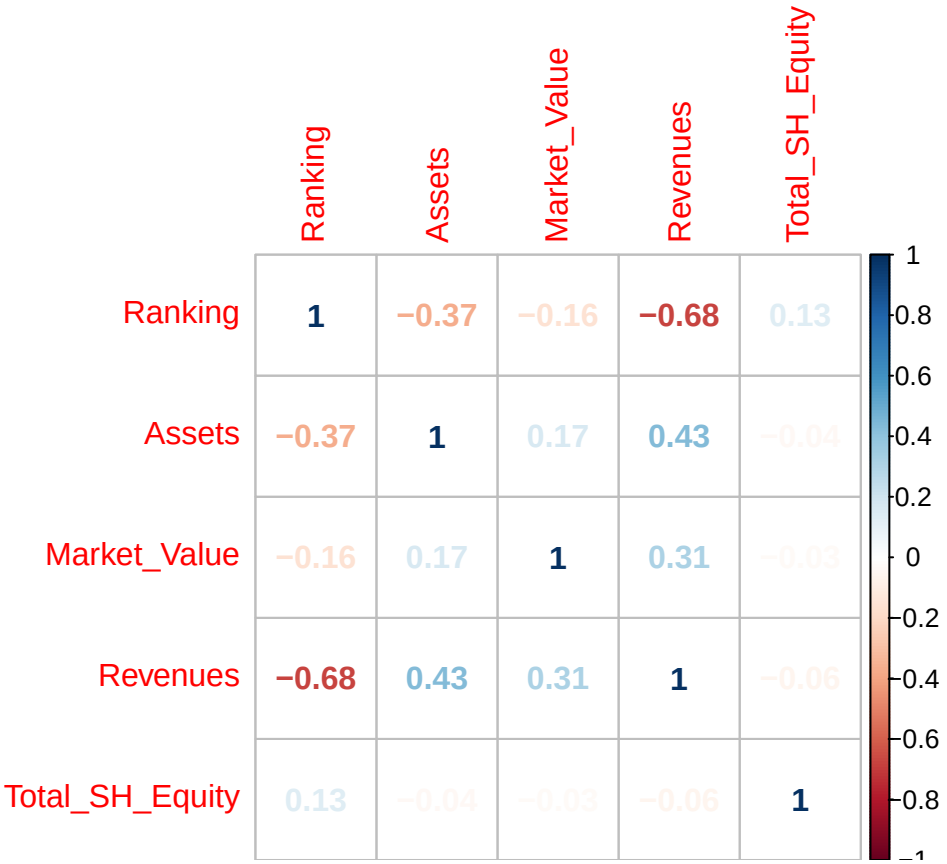

```
ggplot(total_500_final, aes(Revenues, Ranking)) + geom_point(colour = "green")
```




```
#We can see that the Ranking has a linear relationship with the Revenues so we will use one of those 2 
#In order to have a more clear look we also create a correlation diagram
total_500_fortune <- total_500_final[,c(1:5)]
library(corrplot)
library(caret)
sm <- cor(total_500_fortune)
sm
```

```
##                    Ranking      Assets Market_Value    Revenues
## Ranking          1.0000000 -0.36673307  -0.15959008 -0.67511457
## Assets          -0.3667331  1.00000000   0.16787320  0.43479882
## Market_Value    -0.1595901  0.16787320   1.00000000  0.31085660
## Revenues        -0.6751146  0.43479882   0.31085660  1.00000000
## Total_SH_Equity  0.1327272 -0.03638159  -0.02912268 -0.05616772
##                 Total_SH_Equity
## Ranking              0.13272724
## Assets              -0.03638159
## Market_Value        -0.02912268
## Revenues            -0.05616772
## Total_SH_Equity      1.00000000
```

```
corrplot(cor(total_500_fortune),method="number")
```

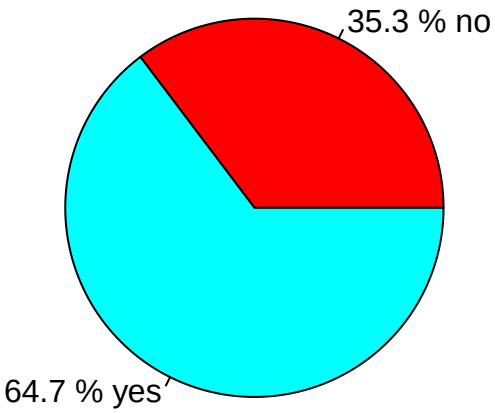



```
#From this plot we understand that the Ranking and the Revenues have very high correlation.
#############################################################################################################
```

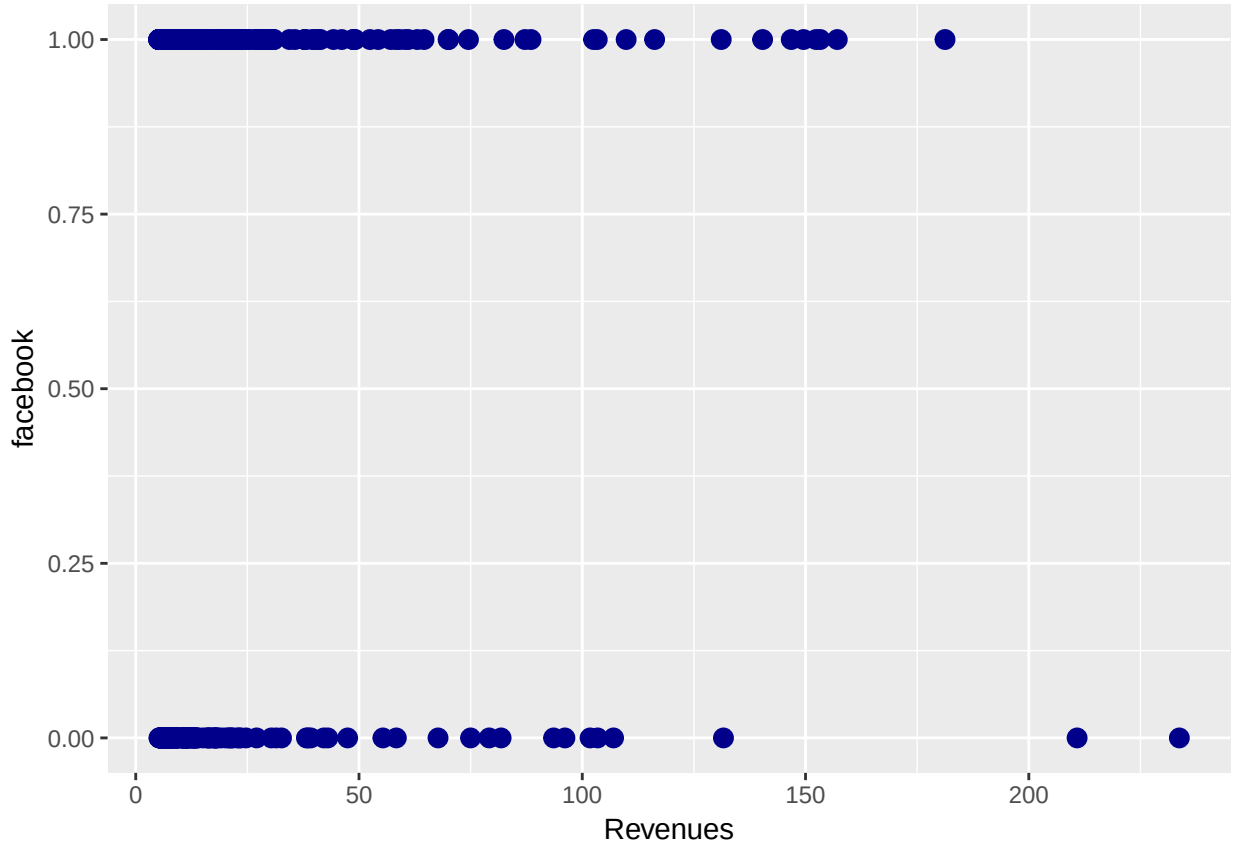
```
#Firstly we will analyze the social media relevance with the sites.
#We will see how many of the sites have social media and what type of social media
#Facebook
social_media_facebook <- round(table(total_500_final$facebook)/408,3)
social_media_facebook
```

```
##
##     0     1
## 0.353 0.647
```

```
slicelable <- c(paste(35.3,"% no"),paste(64.7,"% yes"))
pie(social_media_facebook,label = slicelable,main="Share of companies with Facebook",col=rainbow(length
```



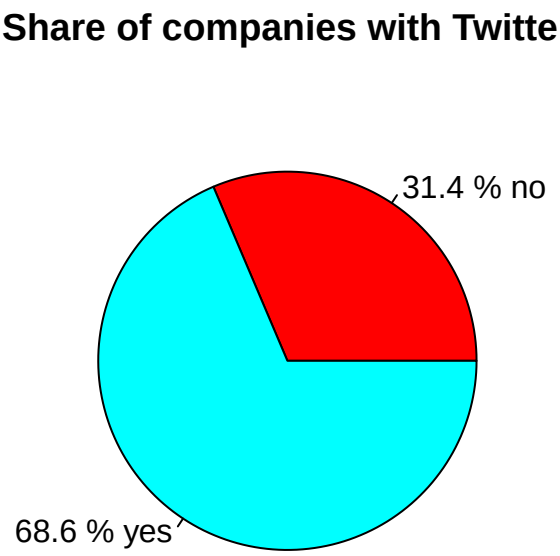

```
ggplot(total_500_final, aes(Revenues, facebook)) + geom_point(size=3, colour = "darkblue")
```



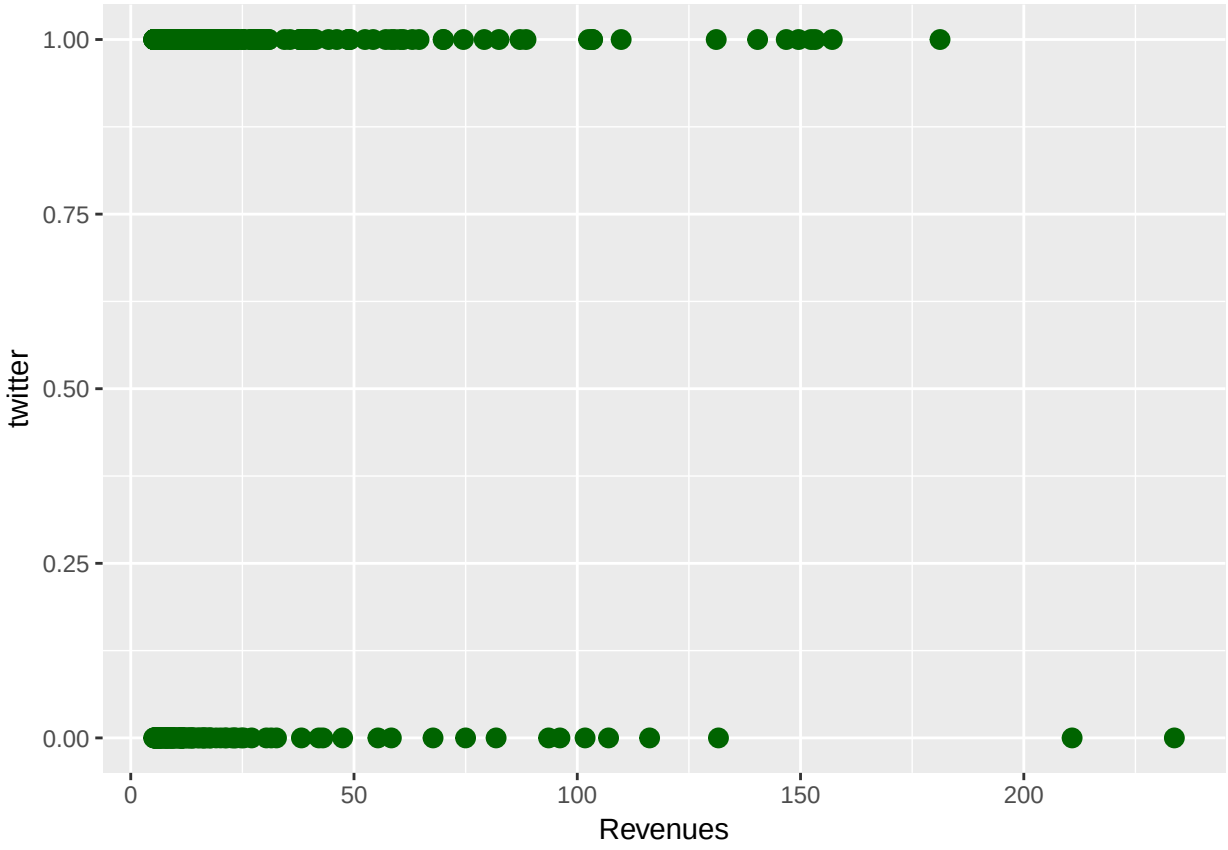

```
#Twitter
social_media_twitter <- round(table(total_500_final$twitter)/408,3)
social_media_twitter
```

```
##
##     0     1
## 0.314 0.686
```

```
slicelable <- c(paste(31.4,"% no"),paste(68.6,"% yes"))
pie(social_media_twitter,label = slicelable,main="Share of companies with Twitter",col=rainbow(length(s
```



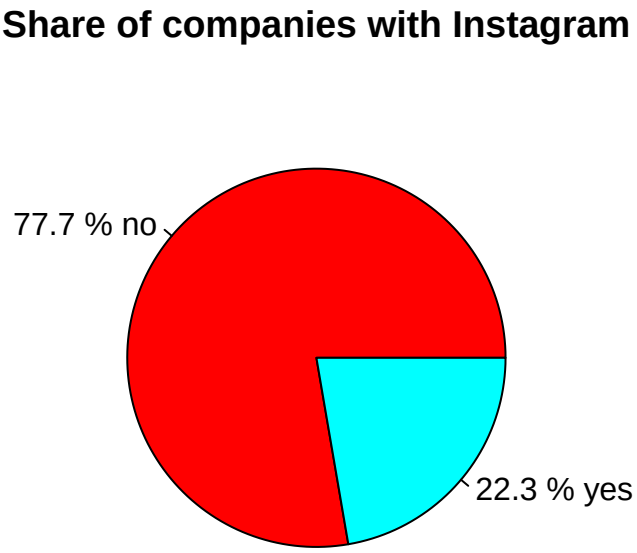

```
ggplot(total_500_final, aes(Revenues, twitter)) + geom_point(size=3, colour = "darkgreen")
```



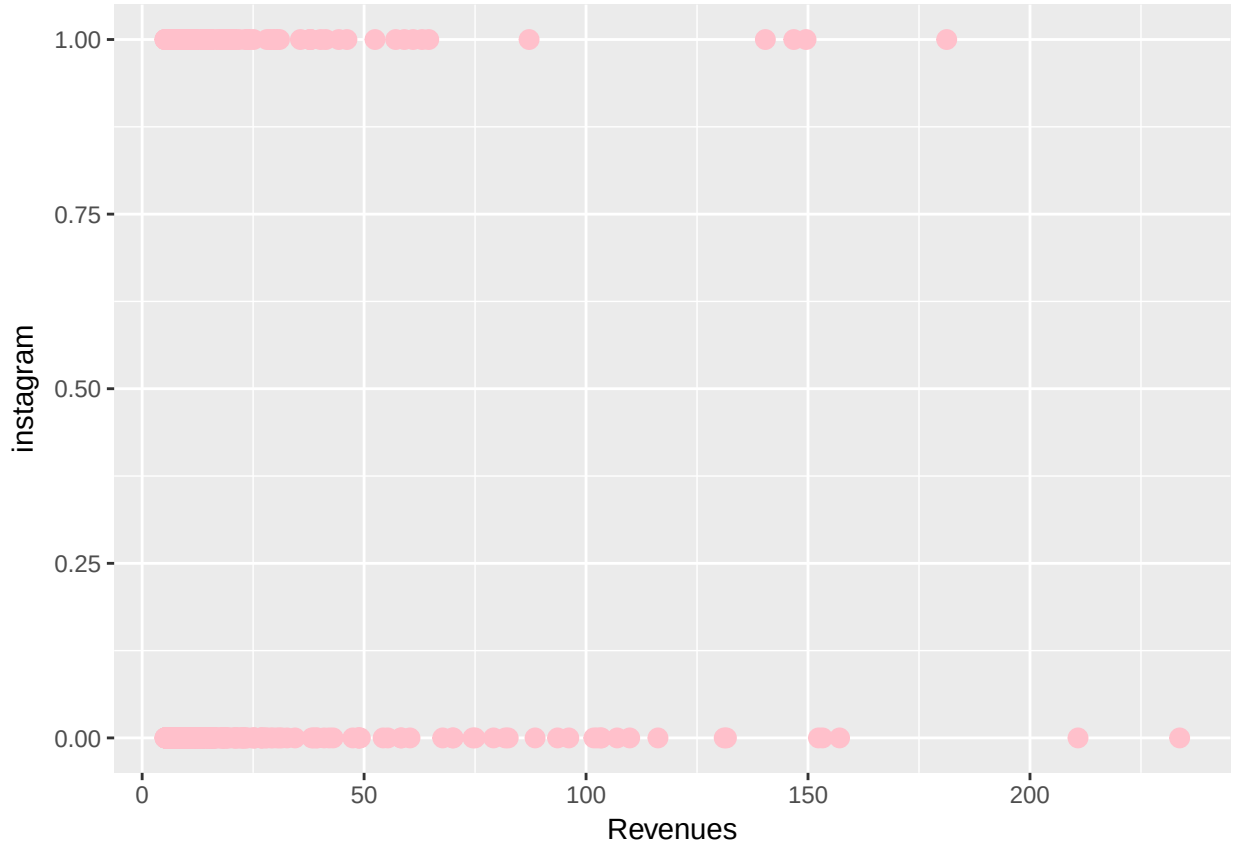

```
#Instagram
social_media_instagram <- round(table(total_500_final$instagram)/408,3)
social_media_instagram
```

```
##
##     0     1
## 0.777 0.223
```

```
slicelable <- c(paste(77.7,"% no"),paste(22.3,"% yes"))
pie(social_media_instagram,label = slicelable,main="Share of companies with Instagram",col=rainbow(leng
```



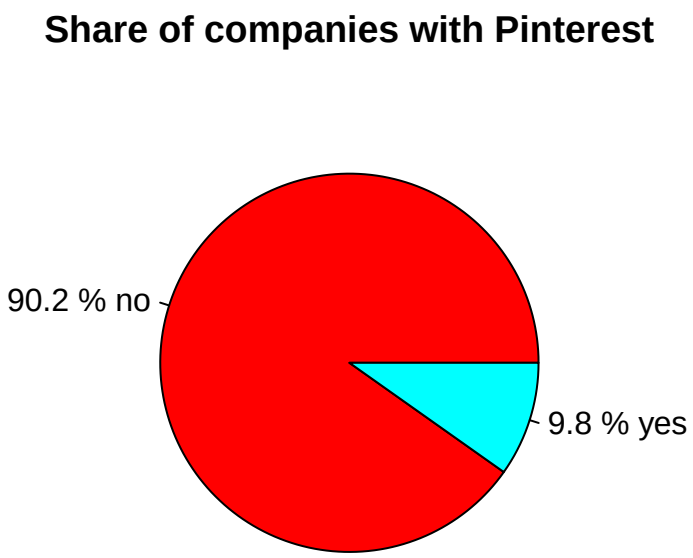

```
ggplot(total_500_final, aes(Revenues, instagram)) + geom_point(size=3, colour = "pink")
```



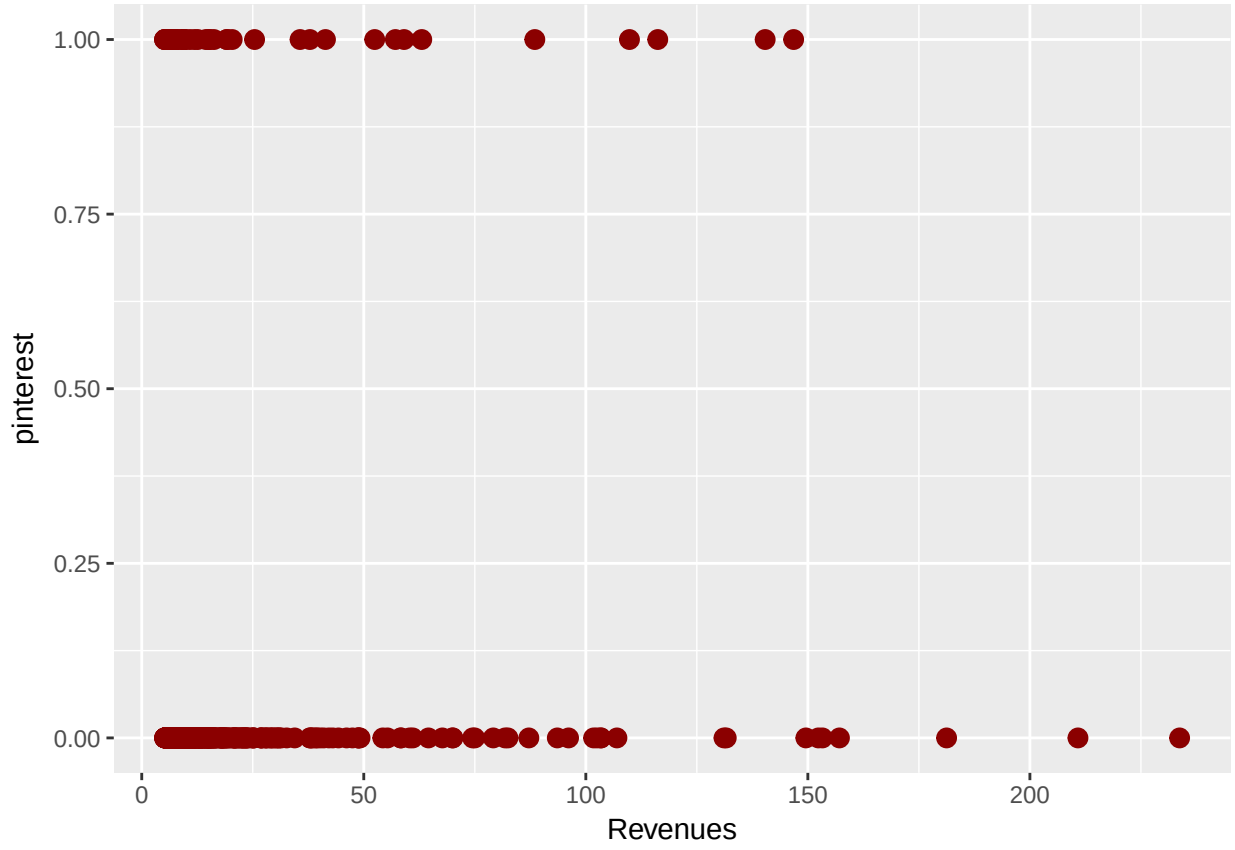

```
#Pinterest
social_media_pinterest <- round(table(total_500_final$pinterest)/408,3)
social_media_pinterest
```

```
##
##     0     1
## 0.902 0.098
```

```
slicelable <- c(paste(90.2,"% no"),paste(9.8,"% yes"))
pie(social_media_pinterest,label = slicelable,main="Share of companies with Pinterest",col=rainbow(leng
```



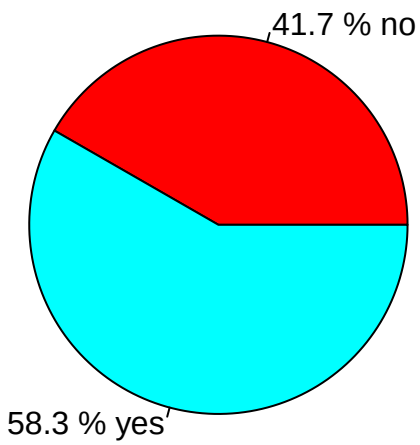

```
ggplot(total_500_final, aes(Revenues, pinterest)) + geom_point(size=3, colour = "darkred")
```



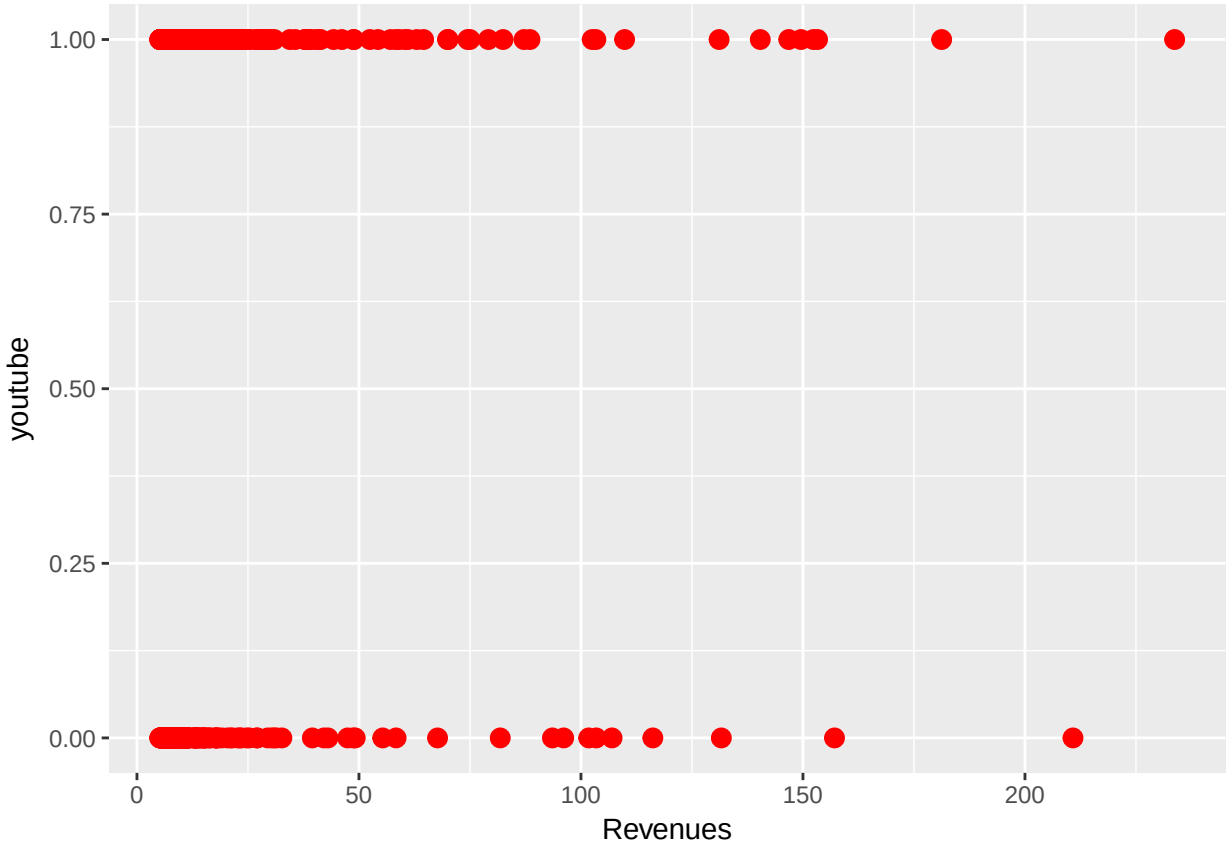

```
#Youtube
social_media_youtube <- round(table(total_500_final$youtube)/408,3)
social_media_youtube
```

```
##
##     0     1
## 0.417 0.583
```

```
slicelable <- c(paste(41.7,"% no"),paste(58.3,"% yes"))
pie(social_media_youtube,label = slicelable,main="Share of companies with Youtube",col=rainbow(length(s
```



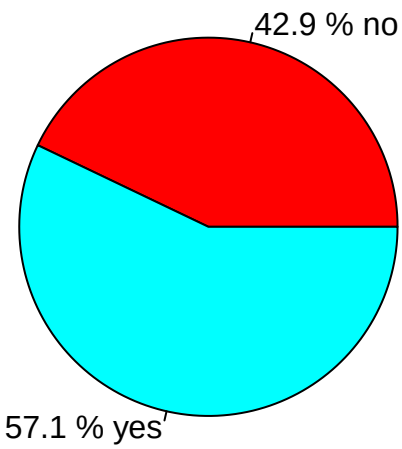

```
ggplot(total_500_final, aes(Revenues, youtube)) + geom_point(size=3, colour = "red")
```



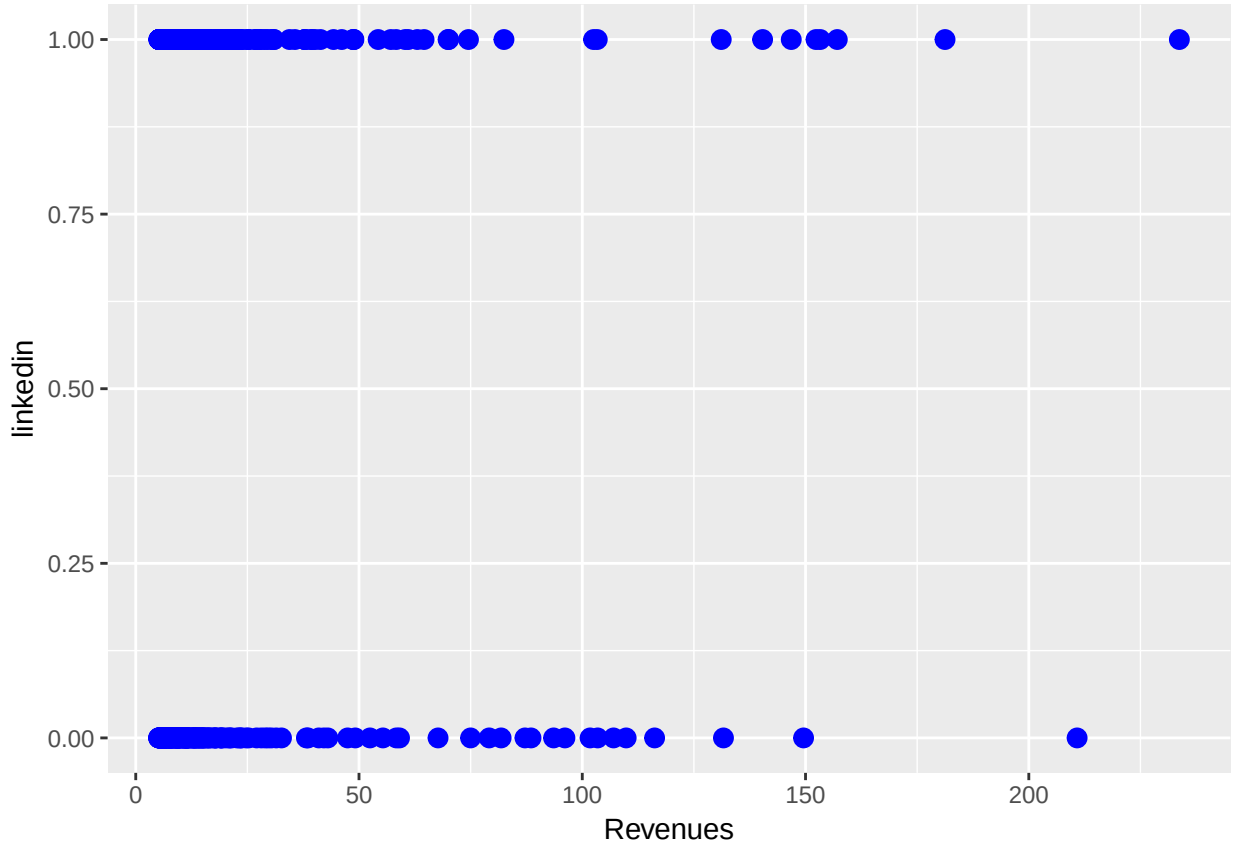

```
#LinkedIn
social_media_linkedin <- round(table(total_500_final$linkedin)/408,3)
social_media_linkedin
```

```
##
##     0     1
## 0.429 0.571
```

```
slicelable <- c(paste(42.9,"% no"),paste(57.1,"% yes"))
pie(social_media_linkedin,label = slicelable,main="Share of companies with Linkedin",col=rainbow(length
```



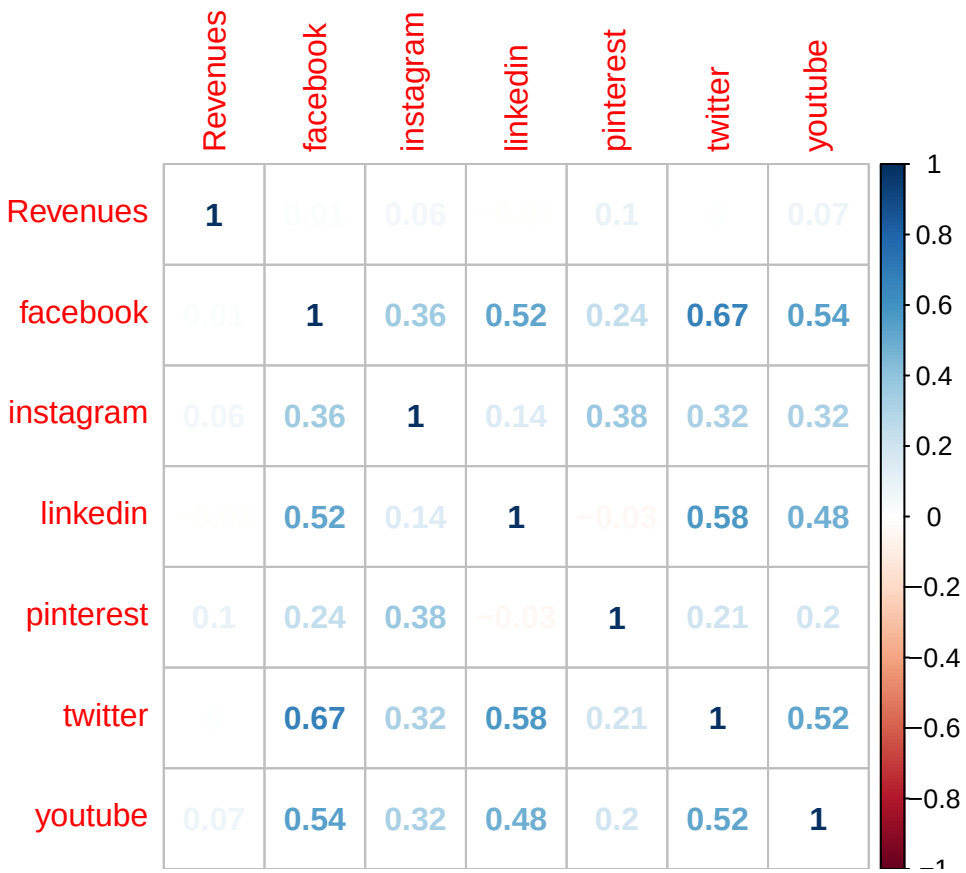

```
ggplot(total_500_final, aes(Revenues, linkedin)) + geom_point(size=3, colour = "blue")
```




```
#And we can also see for correlations
total_500_social_media <- total_500_final[,c(4,10:15)]
library(corrplot)
library(caret)
sm <- cor(total_500_social_media)
sm
```

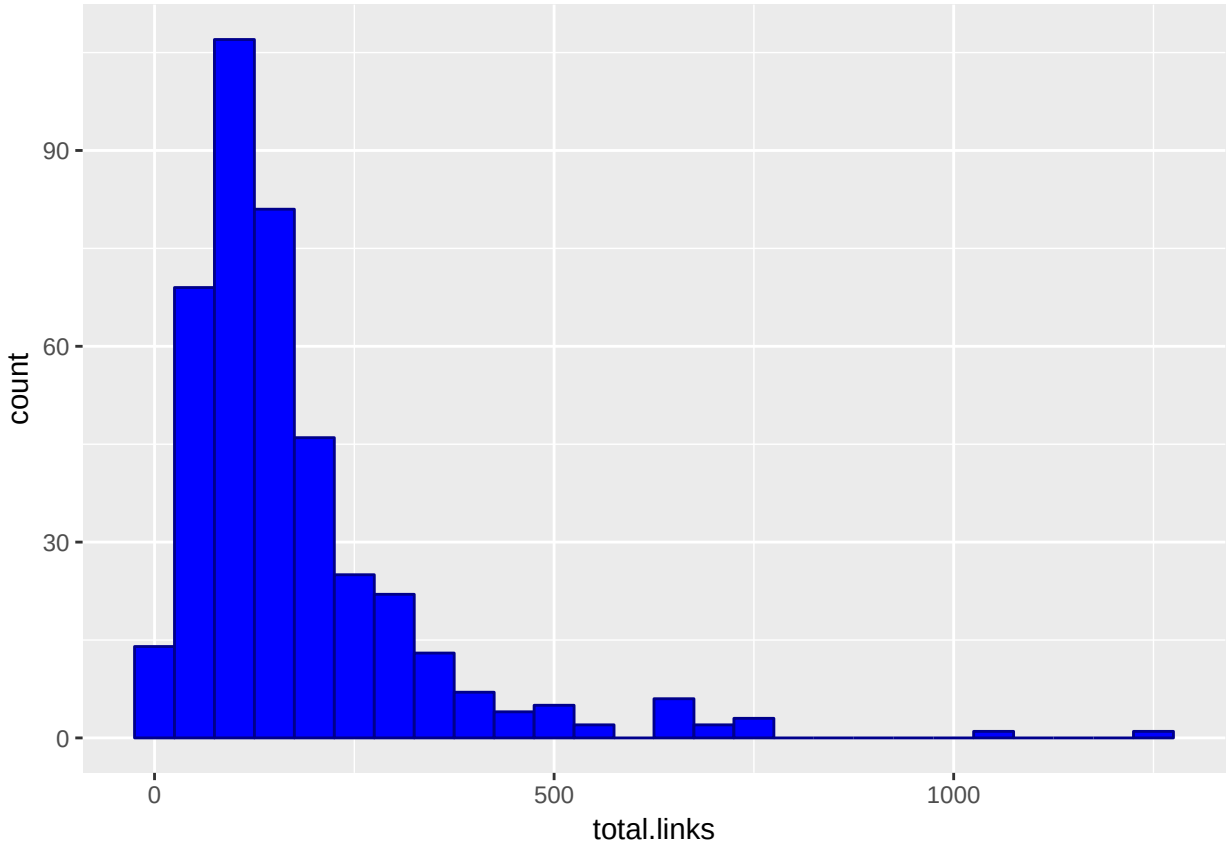
```
##               Revenues   facebook  instagram     linkedin   pinterest
## Revenues   1.000000000 0.01121852 0.05771665 -0.008311532  0.09686843
## facebook   0.011218524 1.00000000 0.35874256  0.520581725  0.24349238
## instagram  0.057716654 0.35874256 1.00000000  0.143134960  0.37774489
## linkedin  -0.008311532 0.52058172 0.14313496  1.000000000 -0.03069495
## pinterest  0.096868426 0.24349238 0.37774489 -0.030694951  1.00000000
## twitter    0.002185367 0.67230226 0.32419034  0.577378625  0.20514804
## youtube    0.074833925 0.54096275 0.32145351  0.482997415  0.19504737
##                twitter    youtube
## Revenues   0.002185367 0.07483393
## facebook   0.672302259 0.54096275
## instagram  0.324190344 0.32145351
## linkedin   0.577378625 0.48299741
## pinterest  0.205148042 0.19504737
## twitter    1.000000000 0.52142857
## youtube    0.521428571 1.00000000
```

```
corrplot(cor(total_500_social_media),method="number")
```

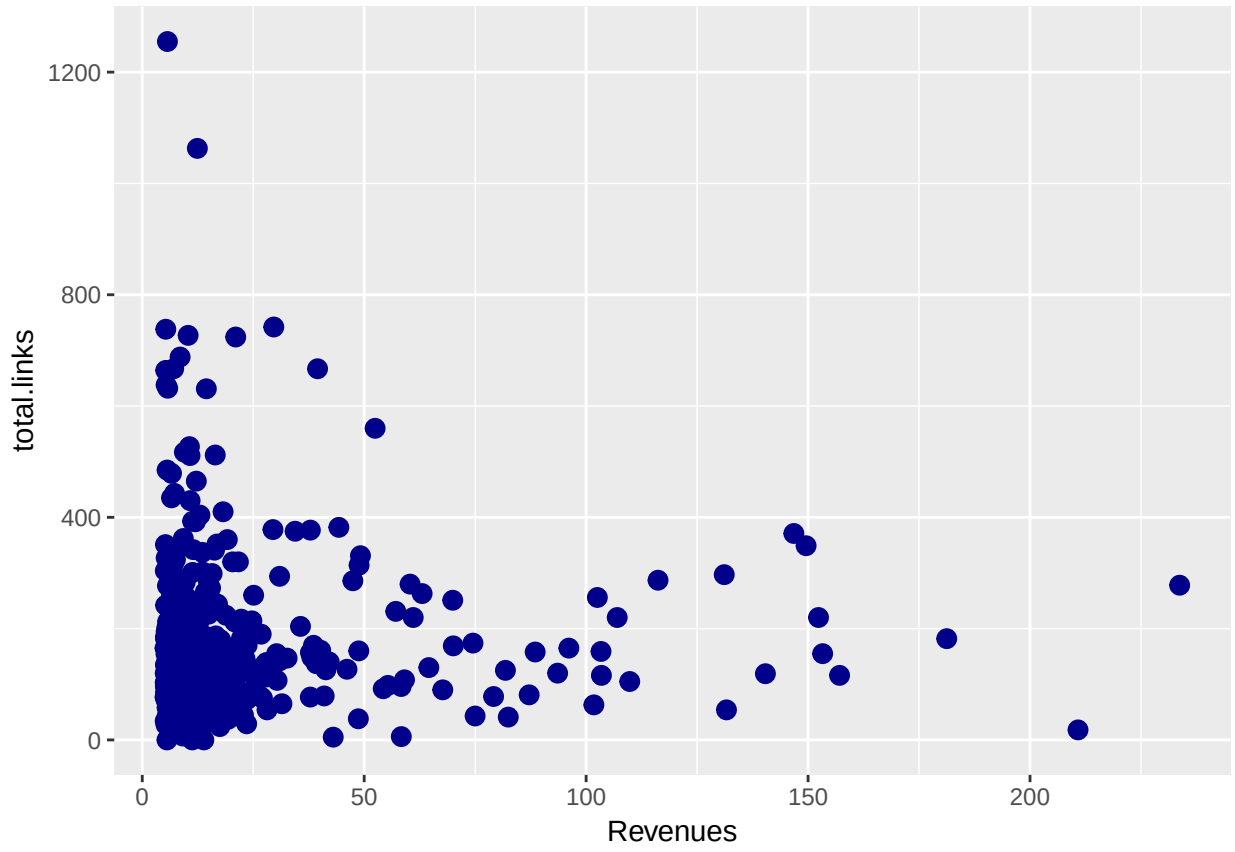



```
#we see that facebook has correlation more than 50% with twitter, youtube and linkedin
#And that the smallest correlations are those of pinterest and instagram
##########################################################################################################################
```

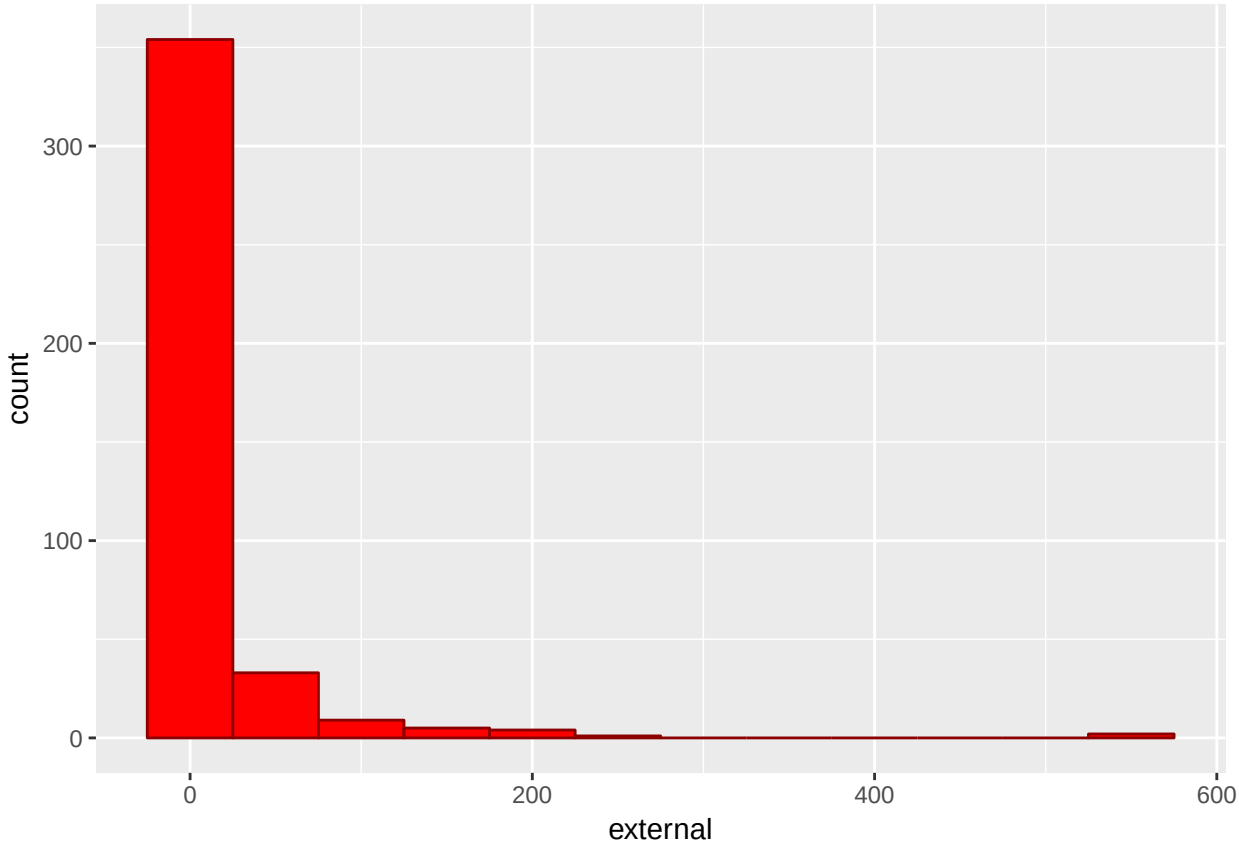
```
#We will now check the links by creating an histogram
#Then we create ggplots in order to see in what frequency the links appear
par(mfrow=c(1,1))
library(ggplot2)
ggplot(data=total_500_final,aes(x=total.links))+geom_histogram(binwidth=50, colour = "darkblue", fill =
```



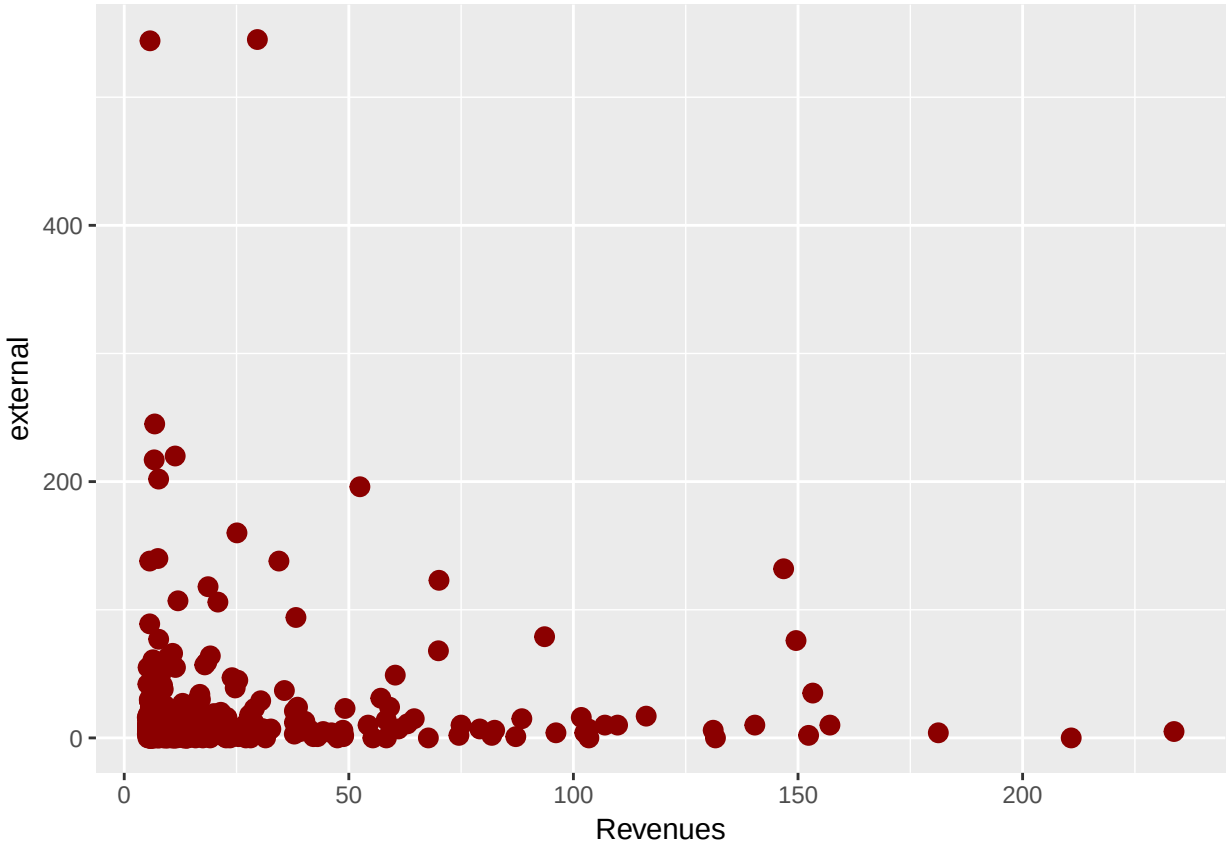

```
ggplot(total_500_final, aes(Revenues, total.links)) + geom_point(size=3, colour = "darkblue")
```



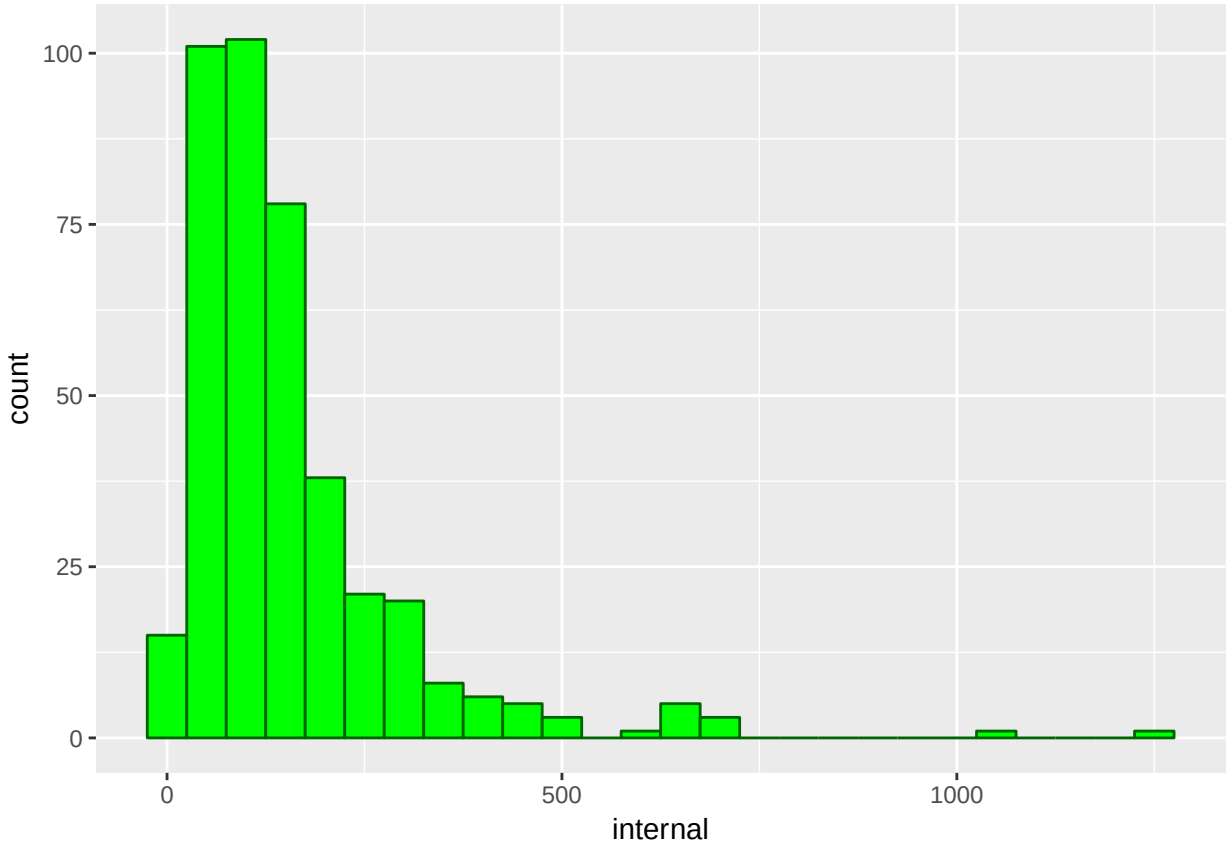

```
ggplot(data=total_500_final,aes(x=external))+geom_histogram(binwidth=50, colour = "darkred", fill ="red
```



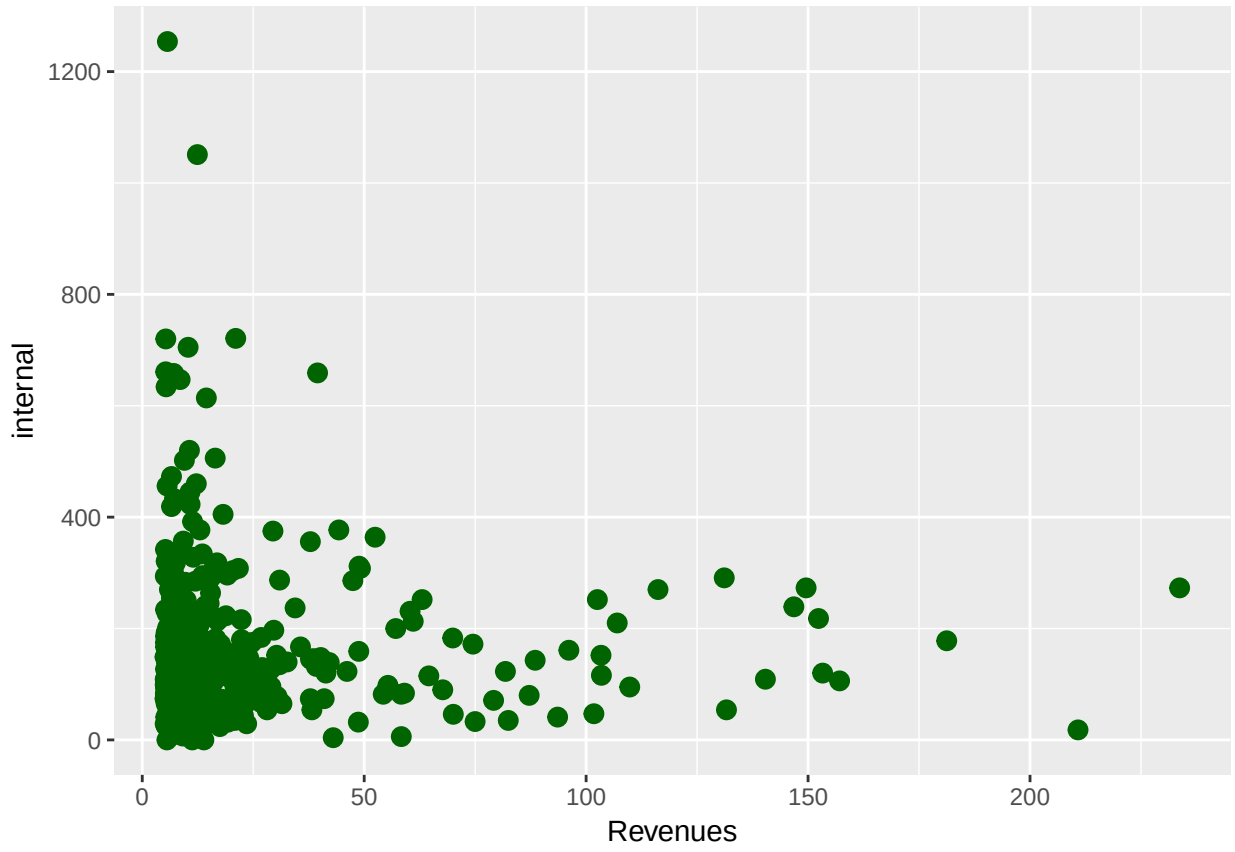

```
ggplot(total_500_final, aes(Revenues, external)) + geom_point(size=3, colour = "darkred")
```




```
ggplot(data=total_500_final,aes(x=internal))+geom_histogram(binwidth=50, colour = "darkgreen", fill ="g
```



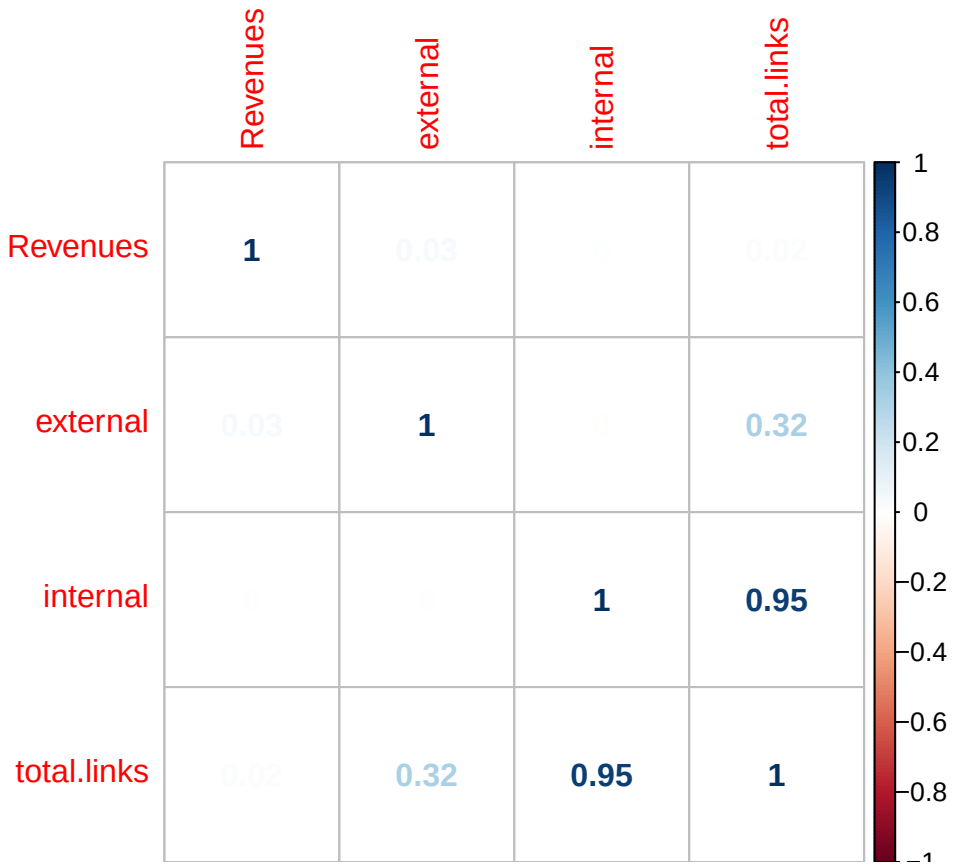

```
ggplot(total_500_final, aes(Revenues, internal)) + geom_point(size=3, colour = "darkgreen")
```




```
#And we can also see for correlations
total_500_links <- total_500_final[,c(4,21:23)]
library(corrplot)
library(caret)
tl <- cor(total_500_links)
tl
```

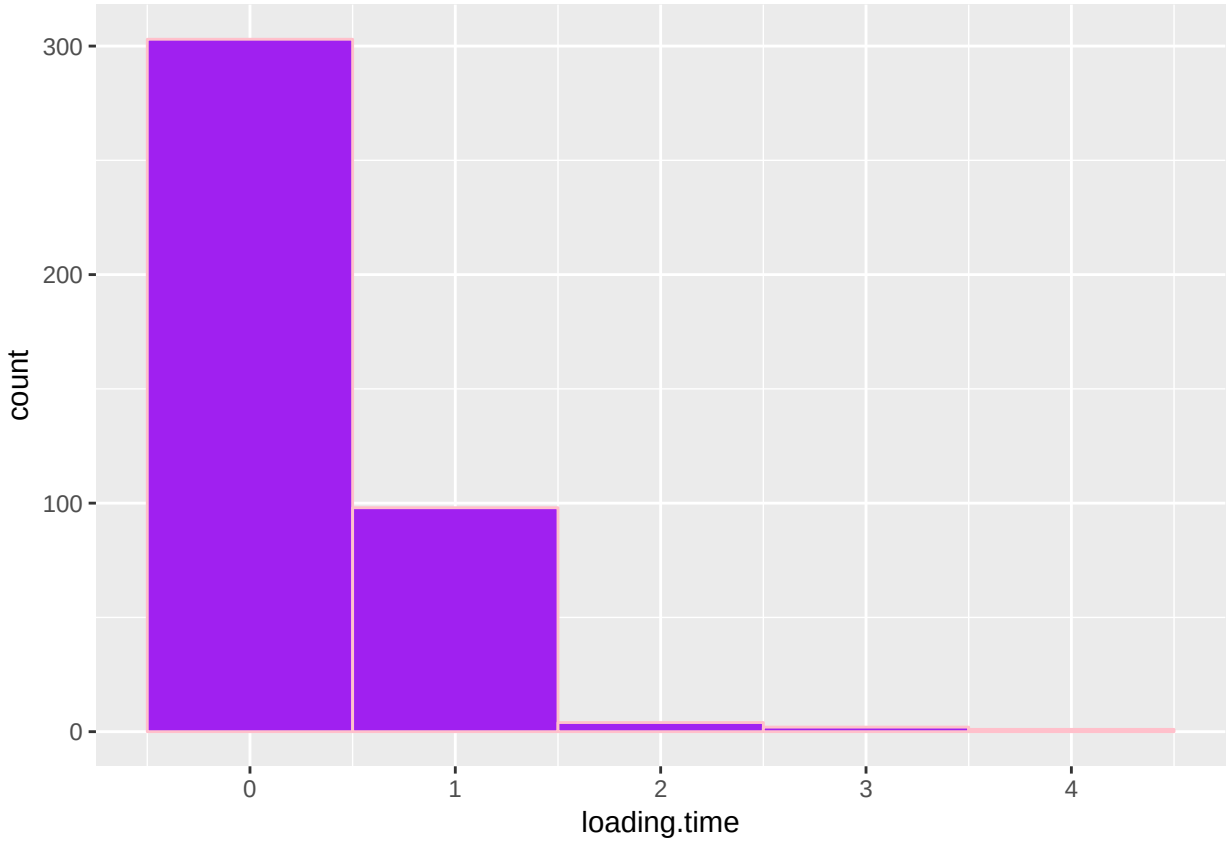
```
##               Revenues     external     internal total.links
## Revenues    1.00000000  0.034100506  0.004559950  0.01538199
## external    0.03410051  1.000000000 -0.002593961  0.32202419
## internal    0.00455995 -0.002593961  1.000000000  0.94589294
## total.links 0.01538199  0.322024191  0.945892937  1.00000000
```

```
corrplot(cor(total_500_links),method="number")
```

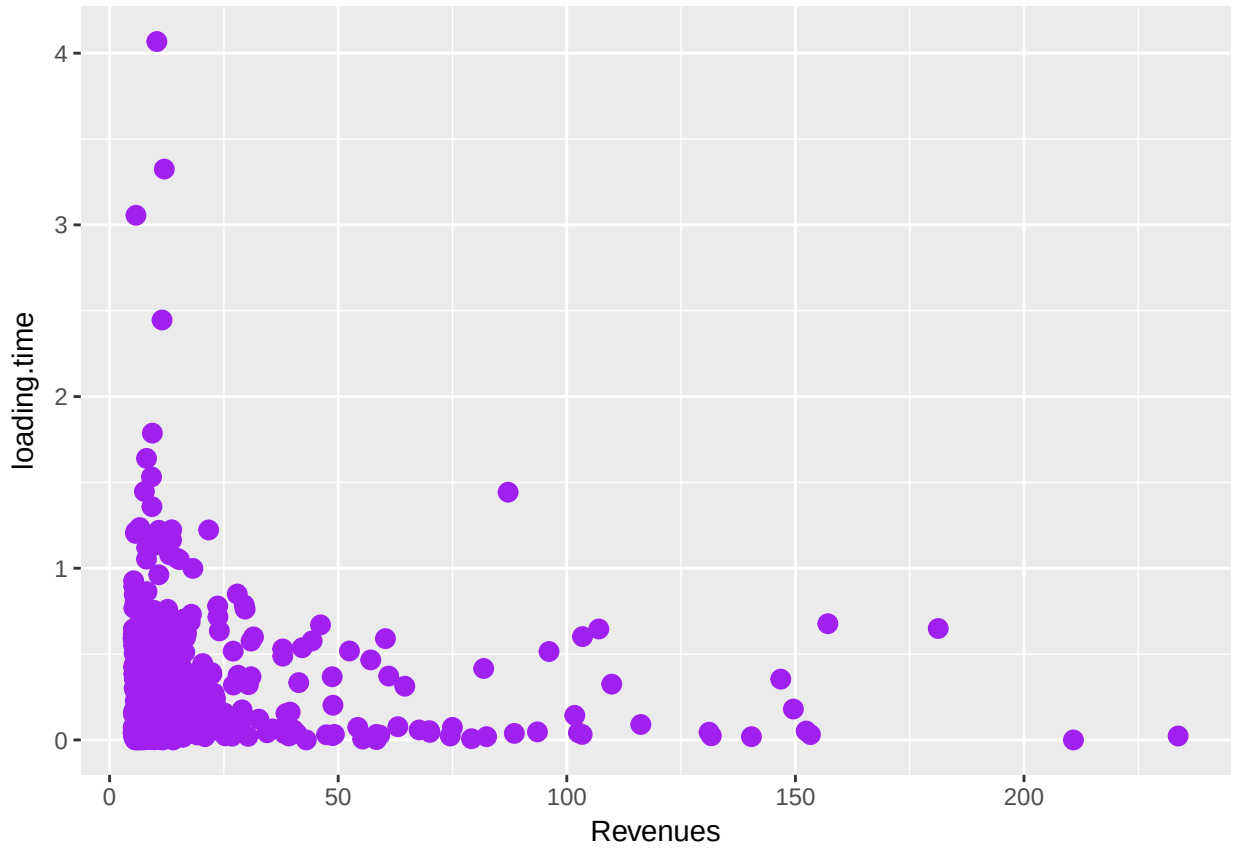



```
#We can see that the total links with the internal links have a correlation almost 95%.
#So we will not include the total links in the regression model
```

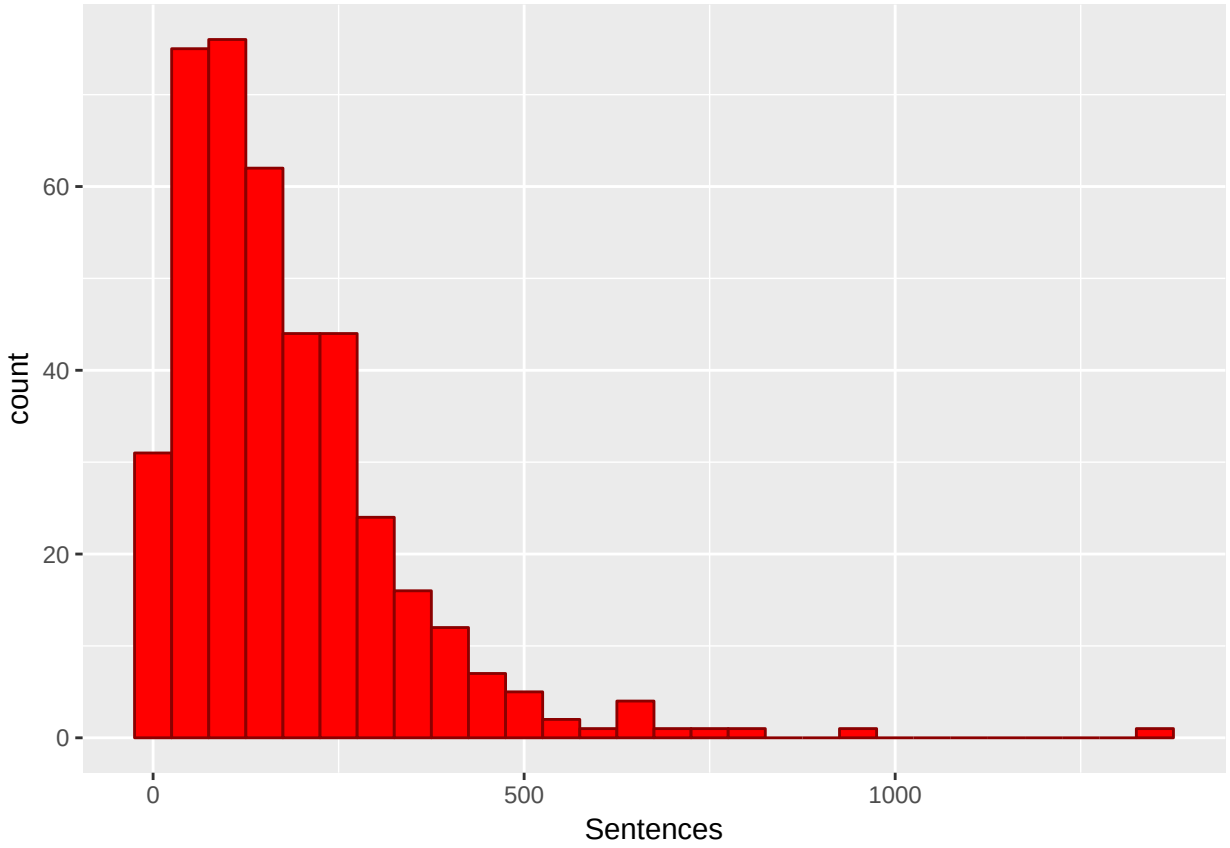
```
#################################################################################################################
#Now we will see the loading time per site
ggplot(data=total_500_final,aes(x=loading.time))+geom_histogram(binwidth=1, colour = "pink", fill ="pur
```



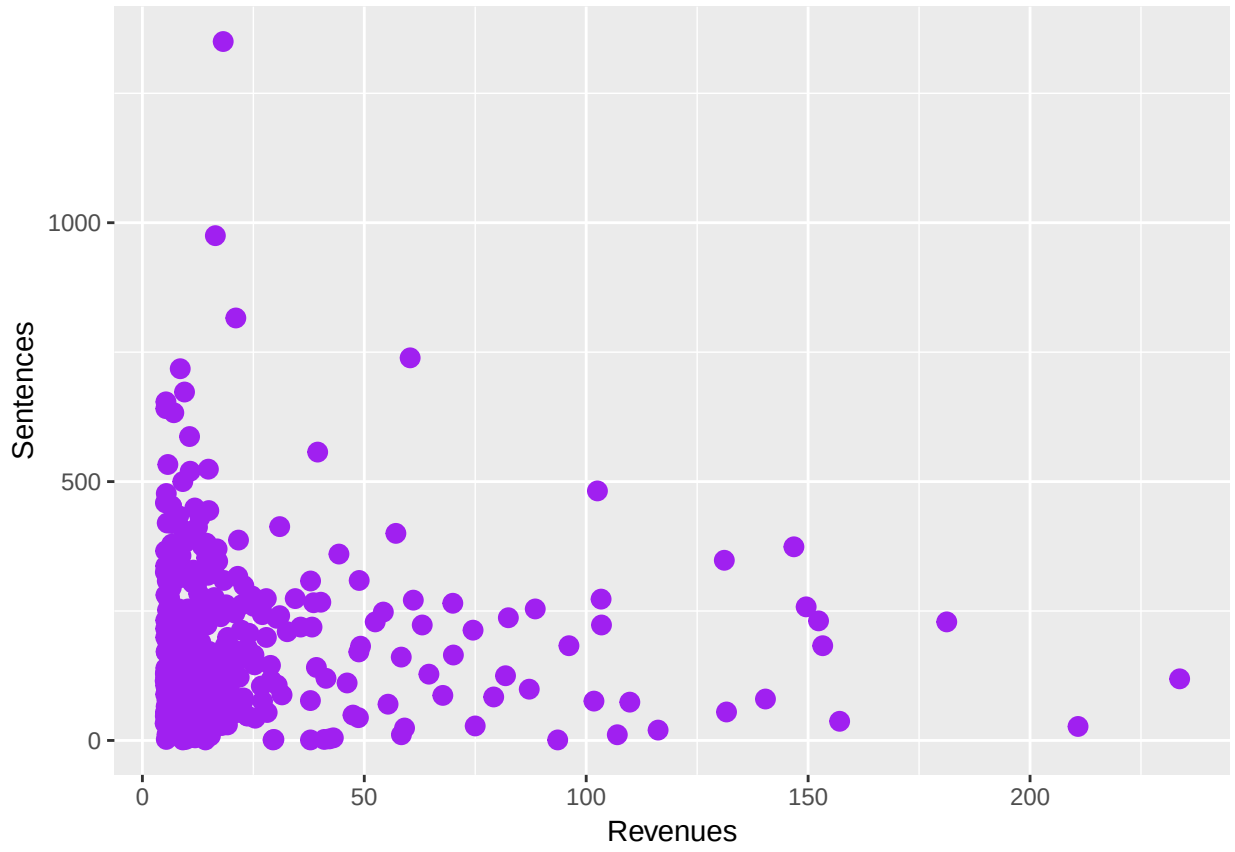

```
ggplot(total_500_final, aes(Revenues, loading.time)) + geom_point(size=3, colour = "purple")
```



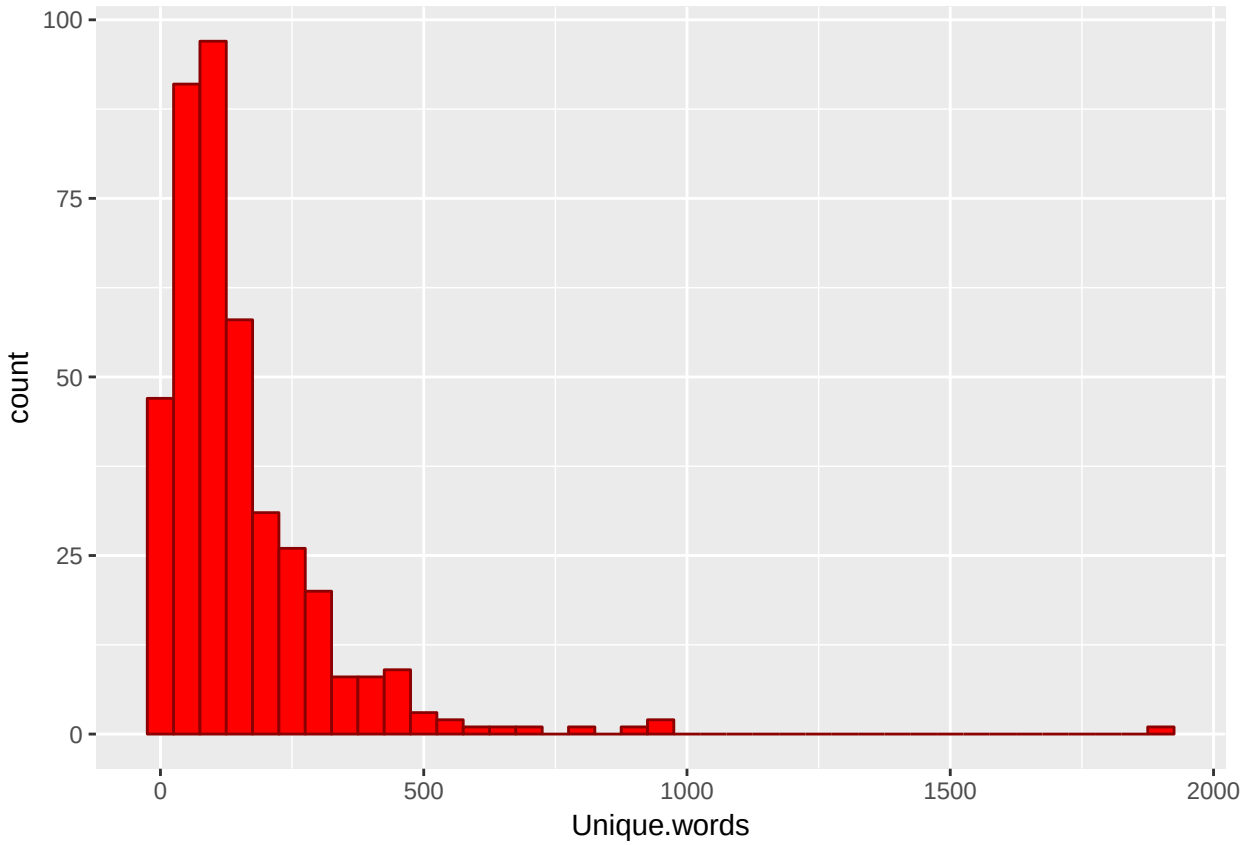

```
##########################################################################################################
#Now we will see the total words, the unique words and the sentences how are distributed alone and in r
ggplot(data=total_500_final,aes(x=Sentences))+geom_histogram(binwidth=50, colour = "darkred", fill ="red
```



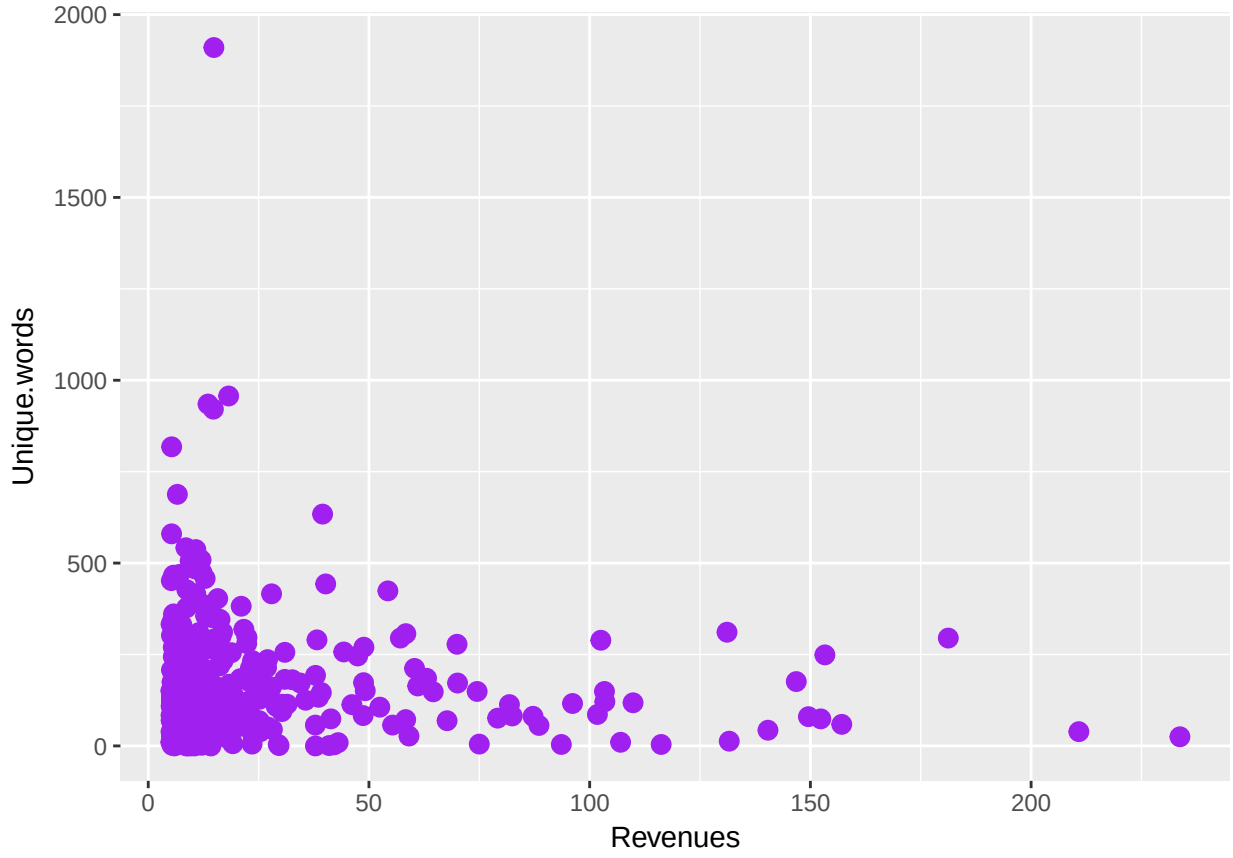

```
ggplot(total_500_final, aes(Revenues, Sentences)) + geom_point(size=3, colour = "purple")
```



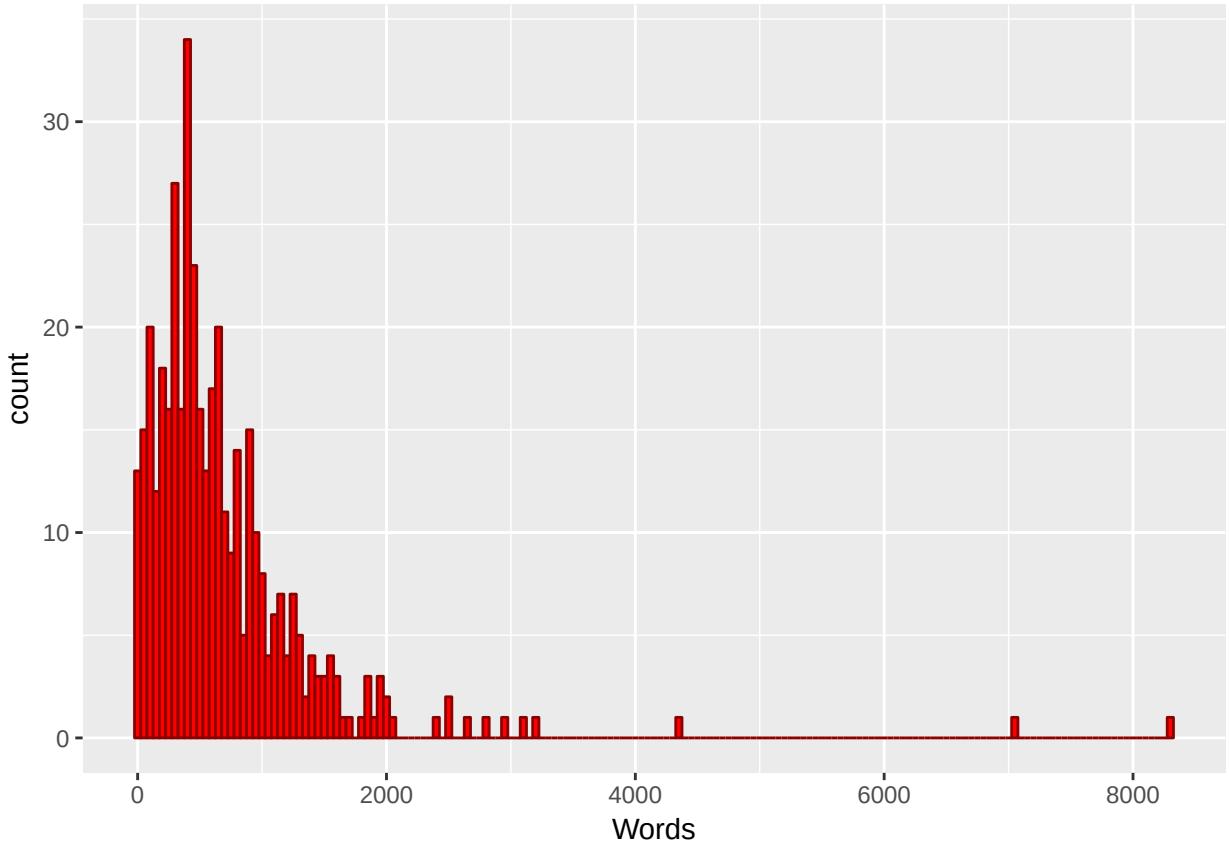

```
#########################
ggplot(data=total_500_final,aes(x=Unique.words))+geom_histogram(binwidth=50, colour = "darkred", fill =
```



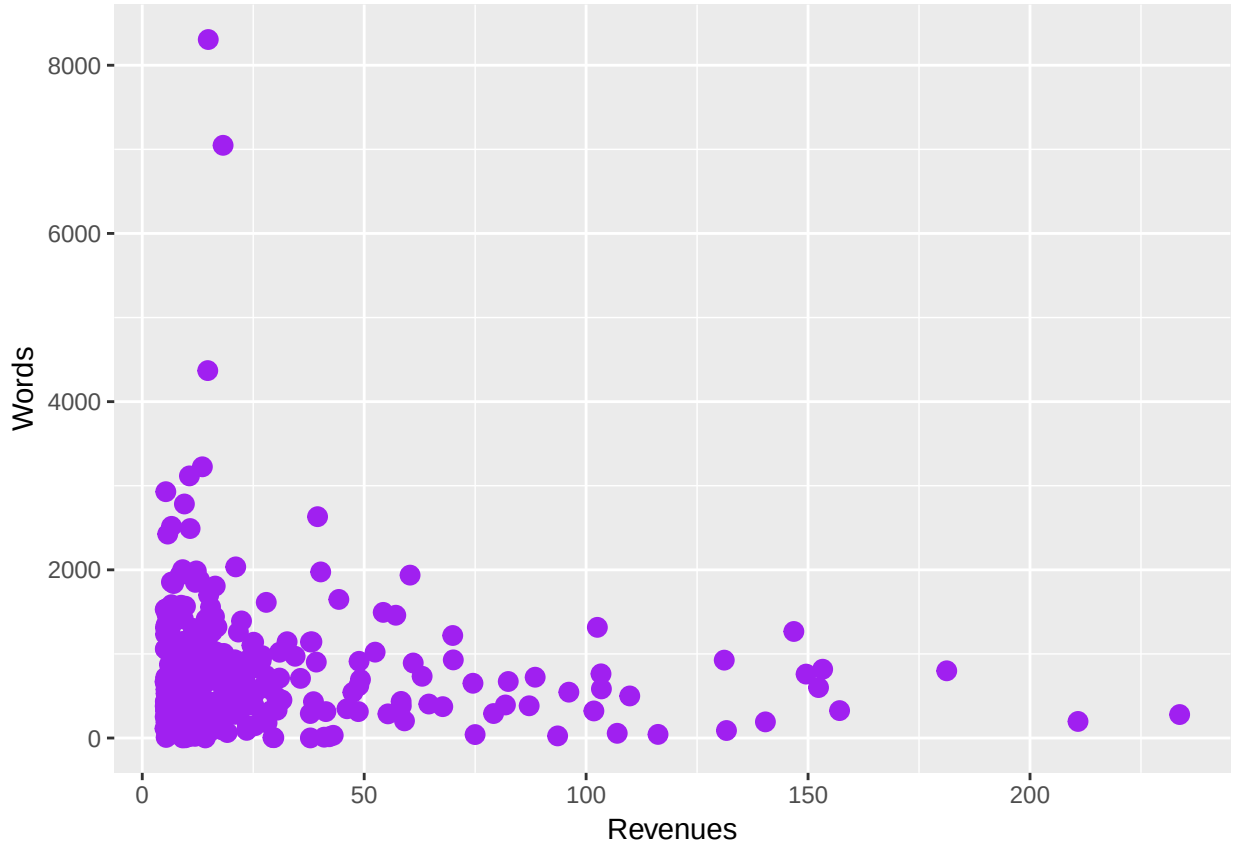

```
ggplot(total_500_final, aes(Revenues, Unique.words)) + geom_point(size=3, colour = "purple")
```




```
#########################
ggplot(data=total_500_final,aes(x=Words))+geom_histogram(binwidth=50, colour = "darkred", fill ="red")
```




```
ggplot(total_500_final, aes(Revenues, Words)) + geom_point(size=3, colour = "purple")
```

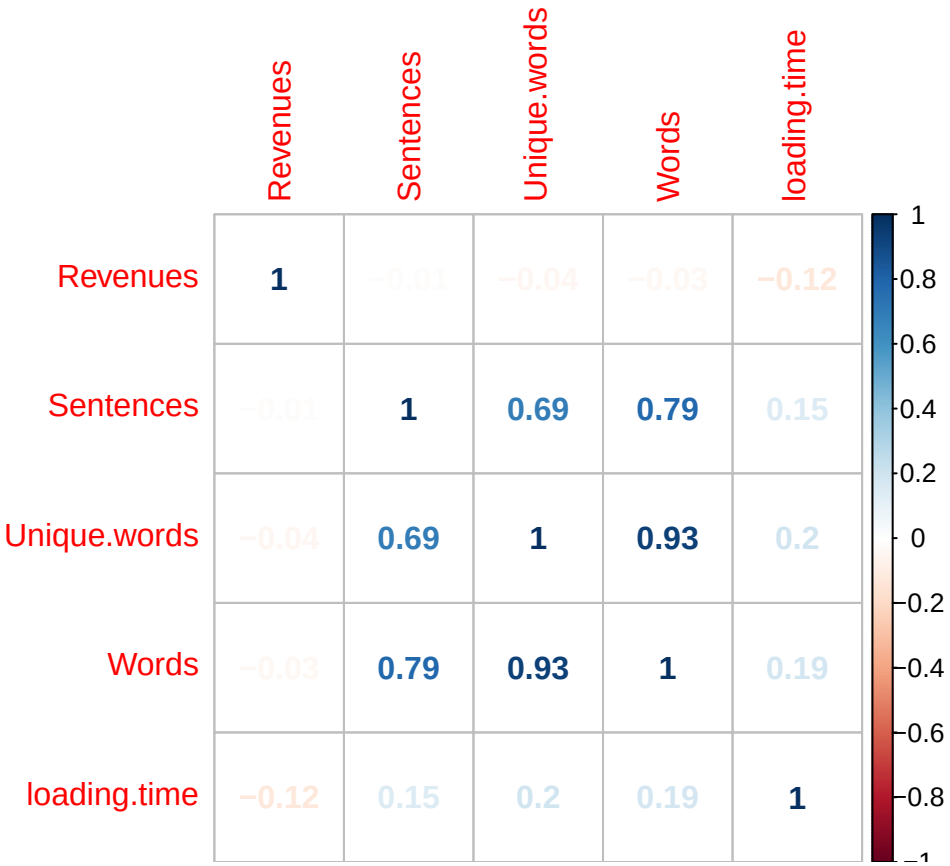



```
##############################
```

```
#And we can also see for correlations
total_500_lt_w <- total_500_final[,c(4,18:20,727)]
library(corrplot)
library(caret)
tl <- cor(total_500_lt_w)
tl
```

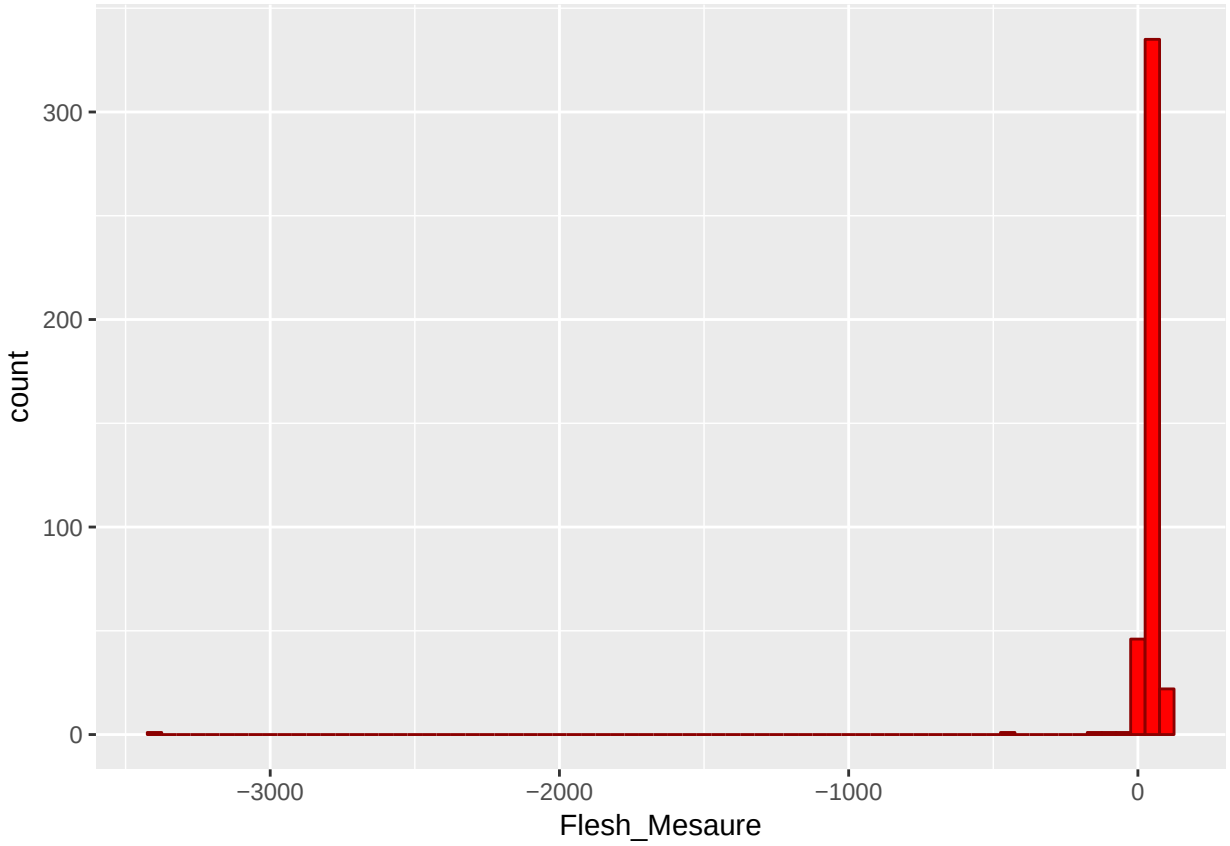
```
##                  Revenues   Sentences Unique.words       Words loading.time
## Revenues       1.00000000 -0.01183819  -0.04362118 -0.03479049   -0.1212650
## Sentences     -0.01183819  1.00000000   0.69454327  0.78851979    0.1497520
## Unique.words -0.04362118  0.69454327   1.00000000  0.93243940    0.1994296
## Words         -0.03479049  0.78851979   0.93243940  1.00000000    0.1857922
## loading.time -0.12126500  0.14975205   0.19942956  0.18579225    1.0000000
```

```
corrplot(cor(total_500_lt_w),method="number")
```

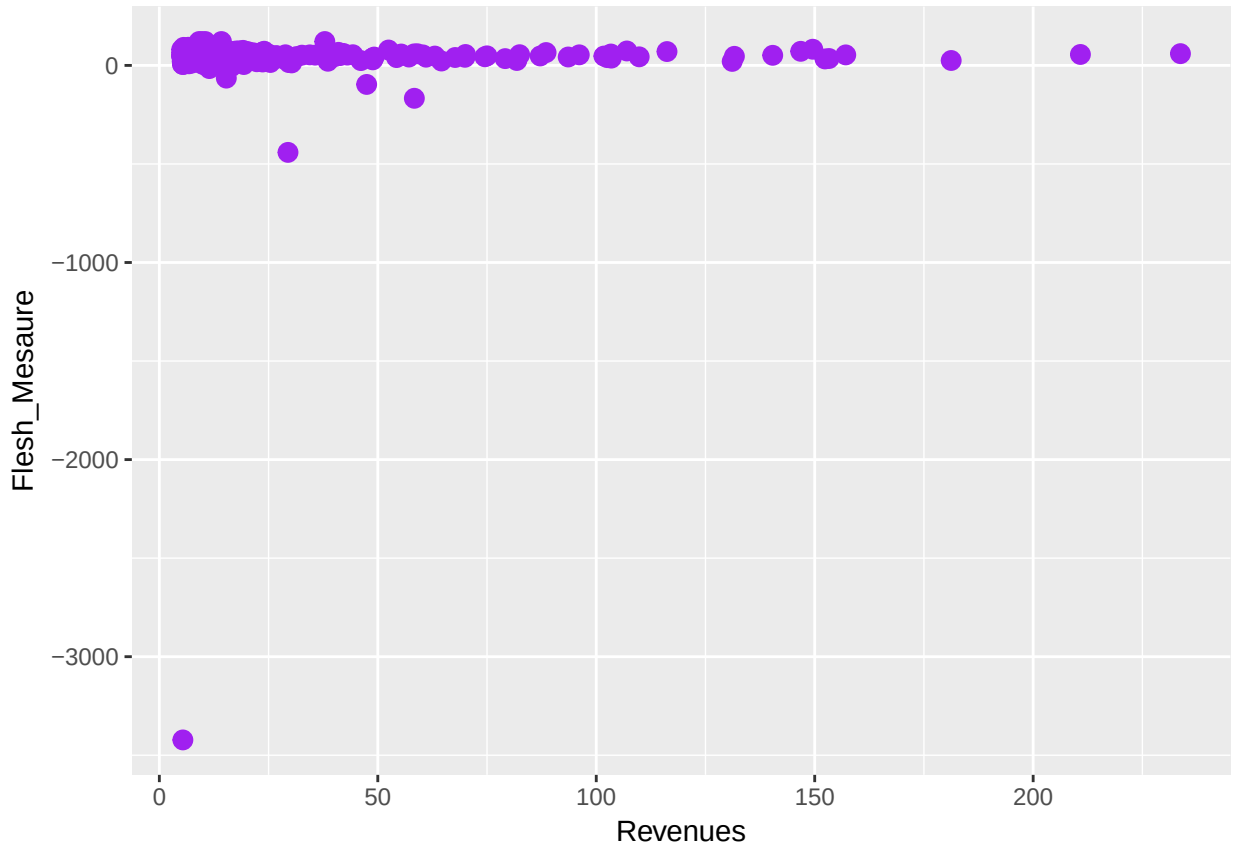



```
################################

#Next we will check the Flesh Measure alone and in relationship with revenues
ggplot(data=total_500_final,aes(x=Flesh_Mesaure))+geom_histogram(binwidth=50, colour = "darkred", fill =
```

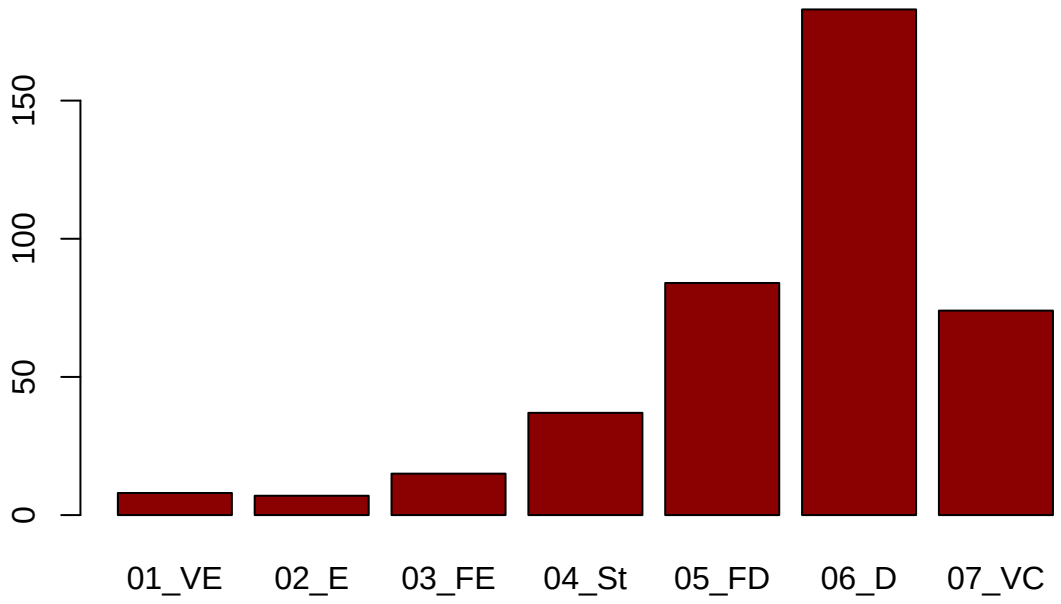



```
ggplot(total_500_final, aes(Revenues, Flesh_Mesaure)) + geom_point(size=3, colour = "purple")
```



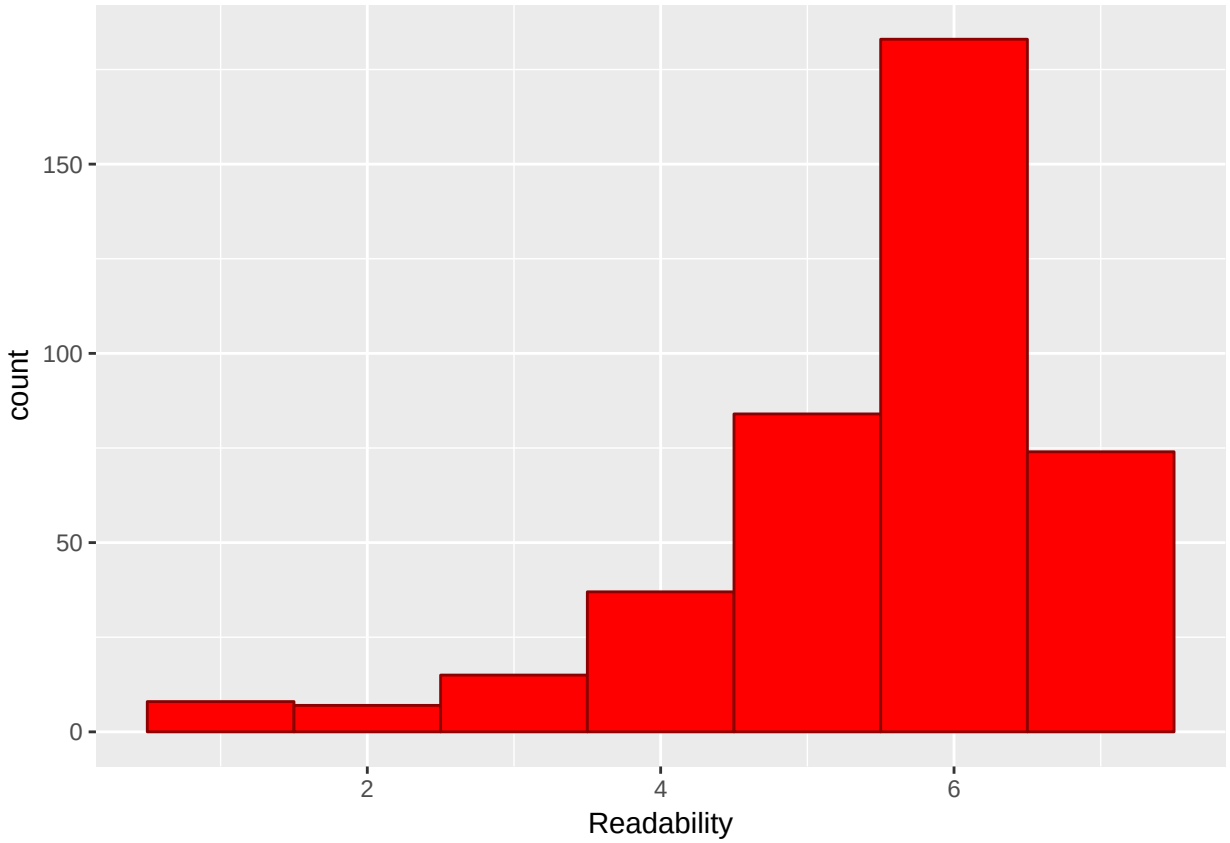

```
############################
```

```
total_500_final$Readability <- gsub("Very easy", "01_VE", total_500_final$Readability )
total_500_final$Readability <- gsub("Easy", "02_E", total_500_final$Readability )
total_500_final$Readability <- gsub("Fairly easy", "03_FE", total_500_final$Readability )
total_500_final$Readability <- gsub("Standard", "04_St", total_500_final$Readability )
total_500_final$Readability <- gsub("Fairly difficult", "05_FD", total_500_final$Readability )
total_500_final$Readability <- gsub("Difficult", "06_D", total_500_final$Readability )
total_500_final$Readability <- gsub("Very Confusing", "07_VC", total_500_final$Readability )
barplot(table(total_500_final$Readability),col ="dark red")
```

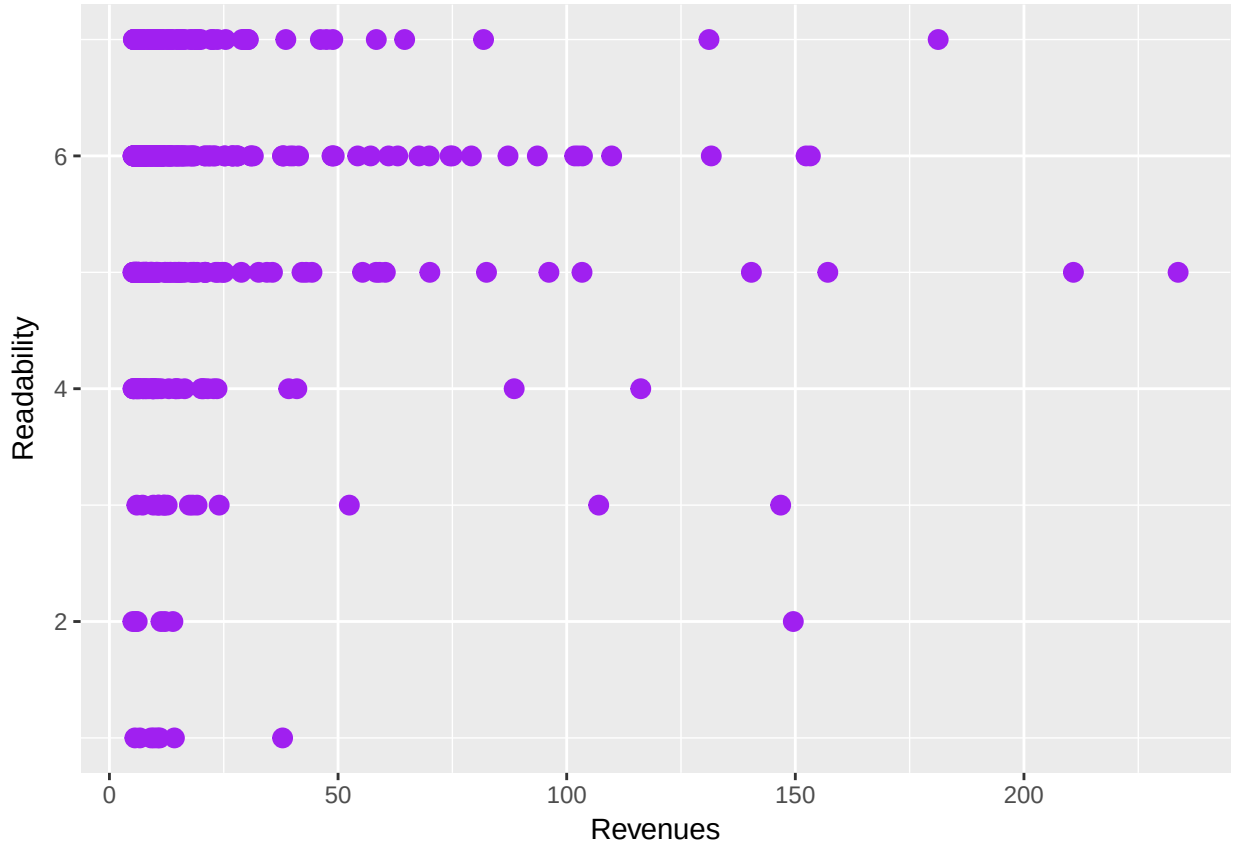



```
total_500_final$Readability <- gsub("01_VE","1", total_500_final$Readability )
total_500_final$Readability <- gsub("02_E", "2", total_500_final$Readability )
total_500_final$Readability <- gsub("03_FE", "3", total_500_final$Readability )
total_500_final$Readability <- gsub("04_St", "4", total_500_final$Readability )
total_500_final$Readability <- gsub("05_FD", "5", total_500_final$Readability )
total_500_final$Readability <- gsub("06_D", "6" ,total_500_final$Readability )
total_500_final$Readability <- gsub("07_VC", "7",total_500_final$Readability )
total_500_final$Readability <- as.numeric(total_500_final$Readability )
ggplot(data=total_500_final,aes(x=Readability))+geom_bar(binwidth=1, colour = "darkred", fill ="red")
```

```
## Warning: `geom_bar()` no longer has a `binwidth` parameter. Please use
## `geom_histogram()` instead.
```



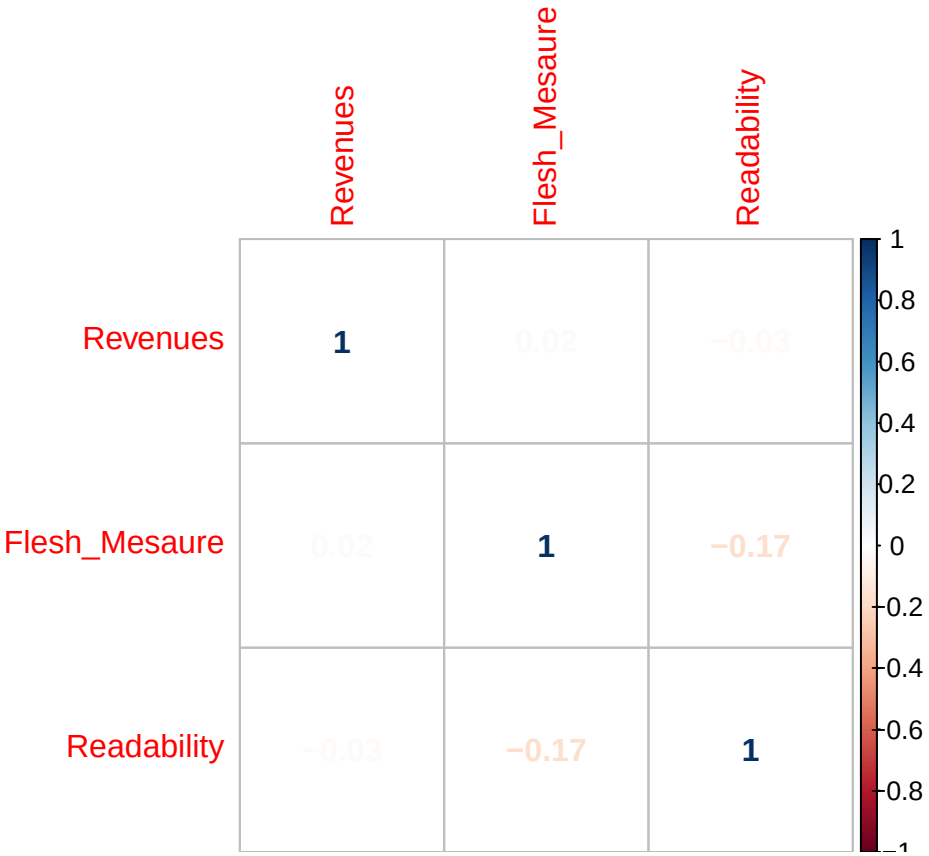

```
ggplot(total_500_final, aes(Revenues, Readability)) + geom_point(size=3, colour = "purple")
```



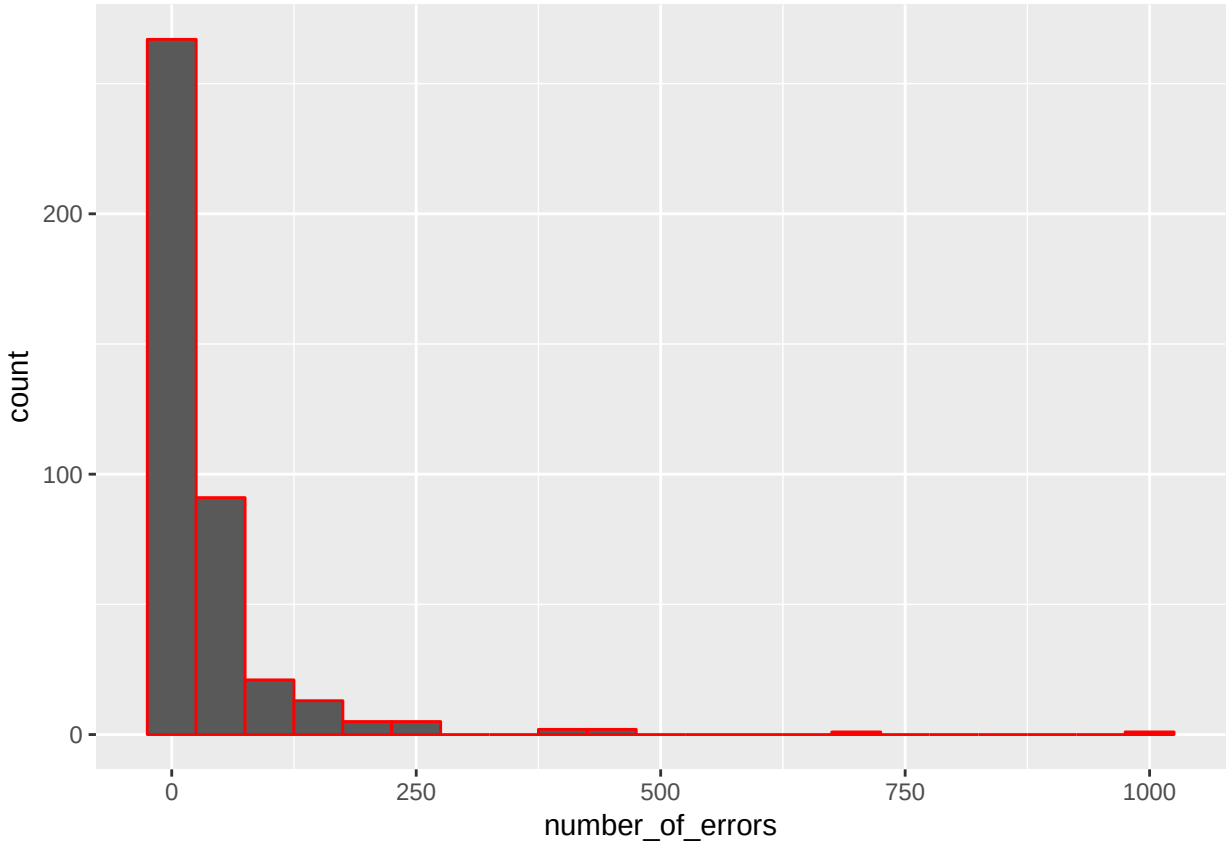

```
#And we can also see for correlations
total_500_r <- total_500_final[,c(4,16,17)]
library(corrplot)
library(caret)
tl <- cor(total_500_r)
tl
```

```
##                  Revenues Flesh_Mesaure Readability
## Revenues       1.00000000    0.02476229 -0.02694931
## Flesh_Mesaure  0.02476229    1.00000000 -0.17094994
## Readability   -0.02694931   -0.17094994  1.00000000
```

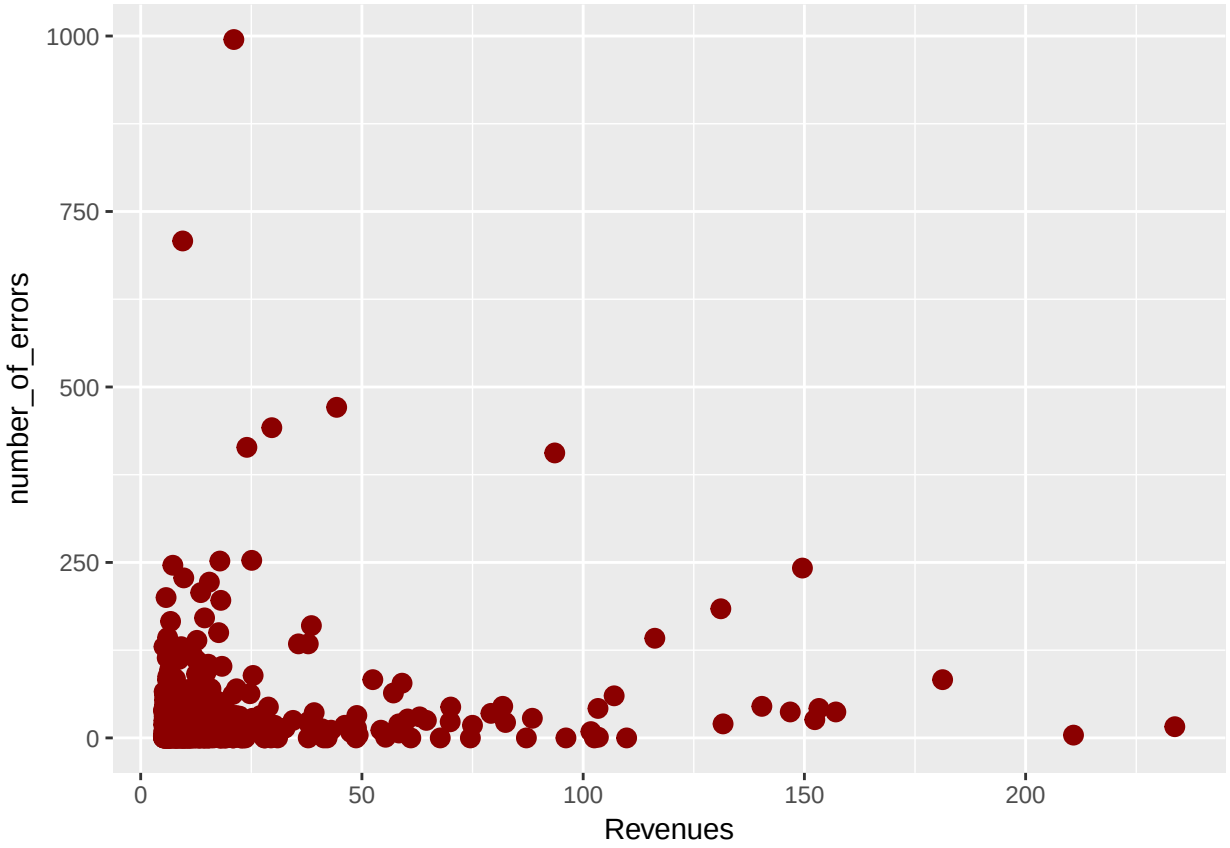
```
corrplot(cor(total_500_r),method="number")
```



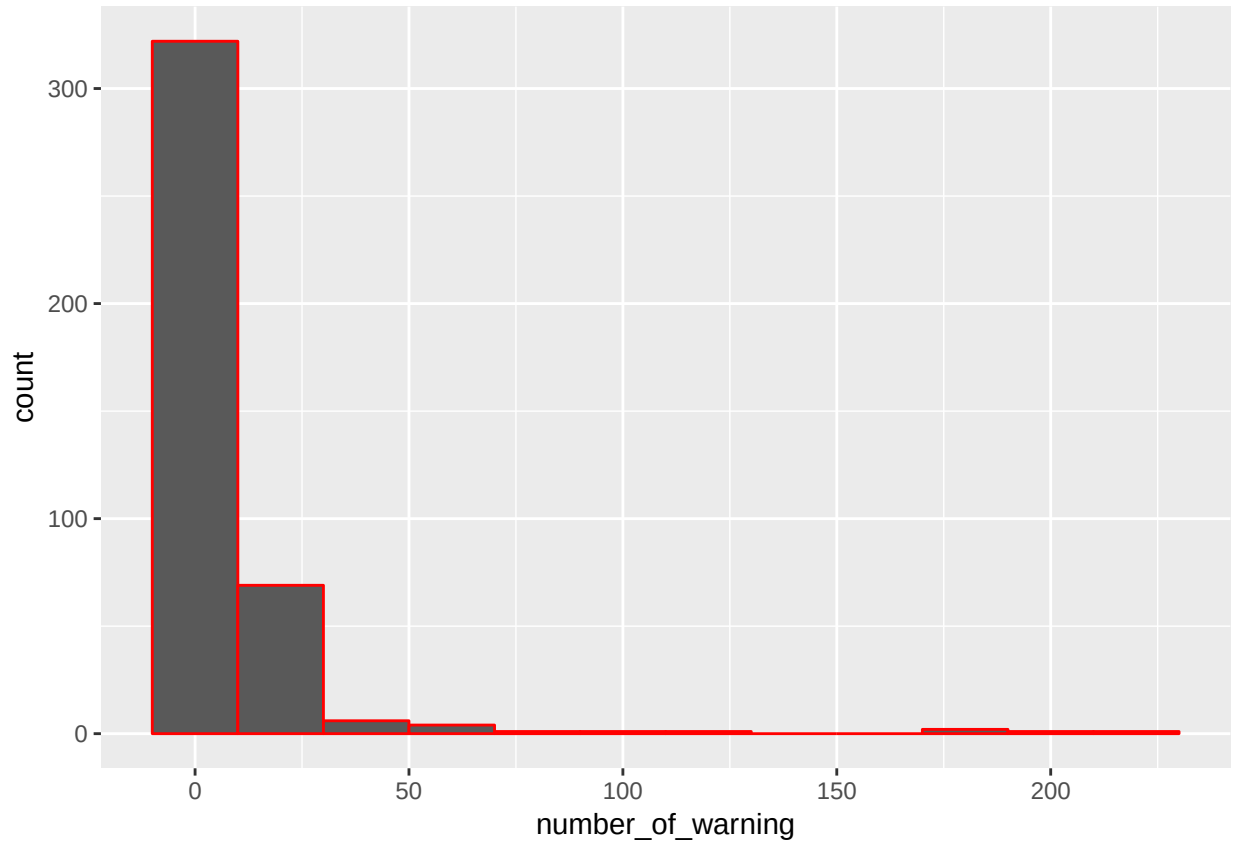

```
#########################################################################################################
#Now we will see the number of errors and warnings alone and in relationship with the Revenues
ggplot(data=total_500_final,aes(x=number_of_errors))+geom_histogram(binwidth=50, colour = "red")
```



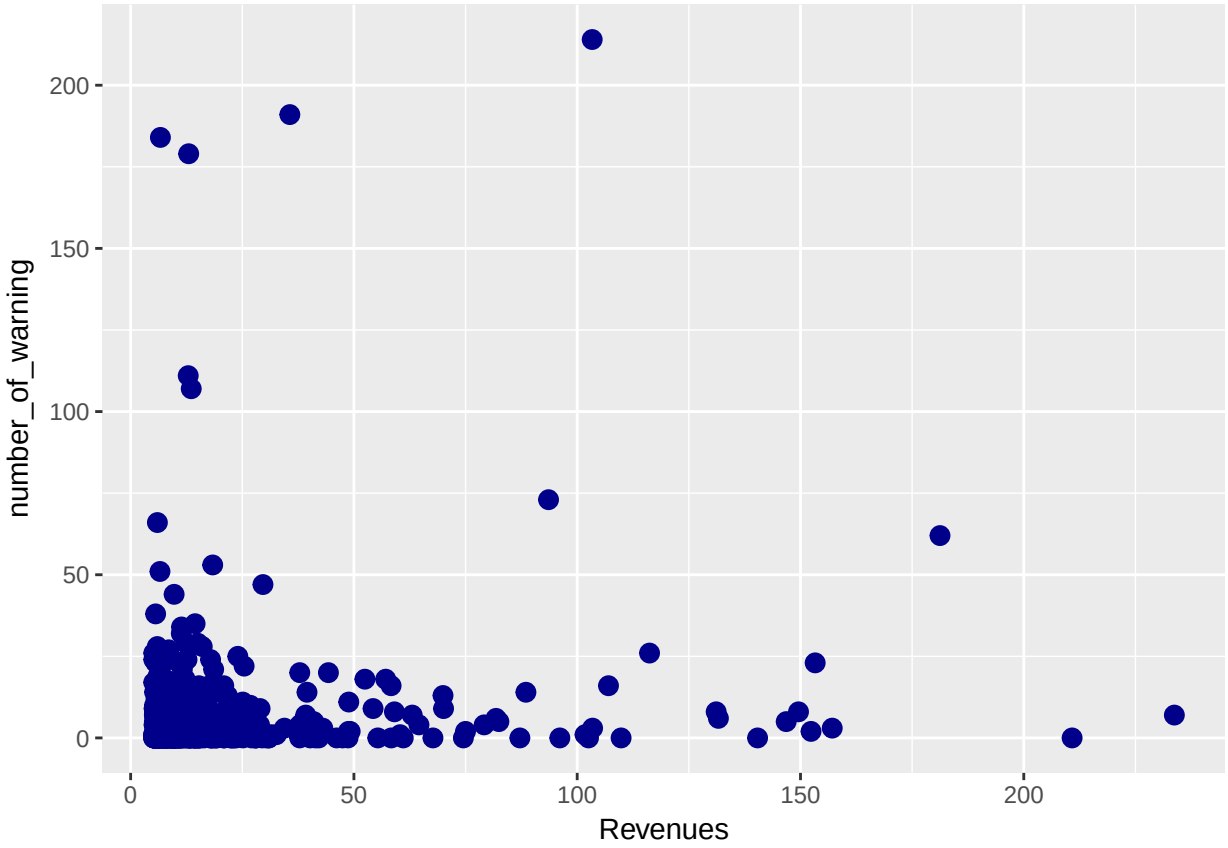

```
ggplot(total_500_final, aes(Revenues, number_of_errors)) + geom_point(size=3, colour = "dark red")
```



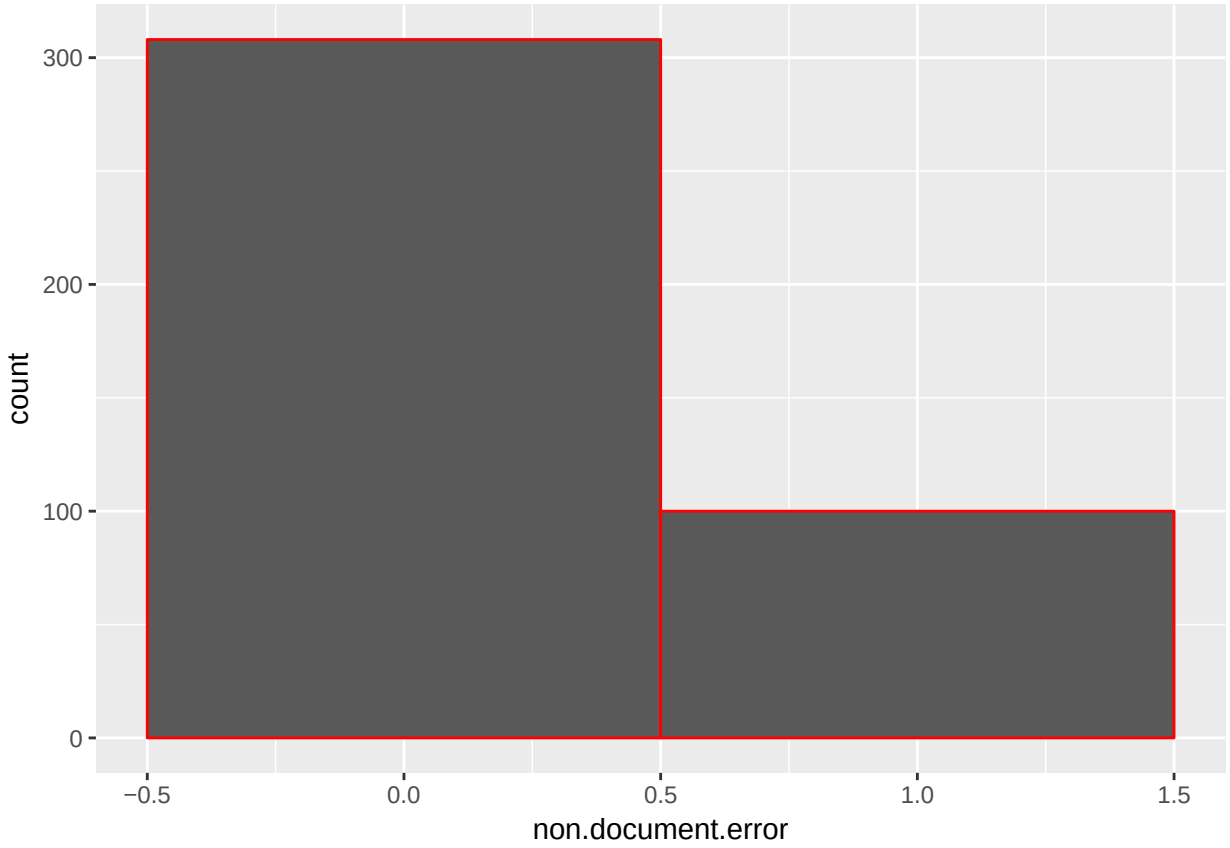

```
ggplot(data=total_500_final,aes(x=number_of_warning))+geom_histogram(binwidth=20, colour = "red")
```



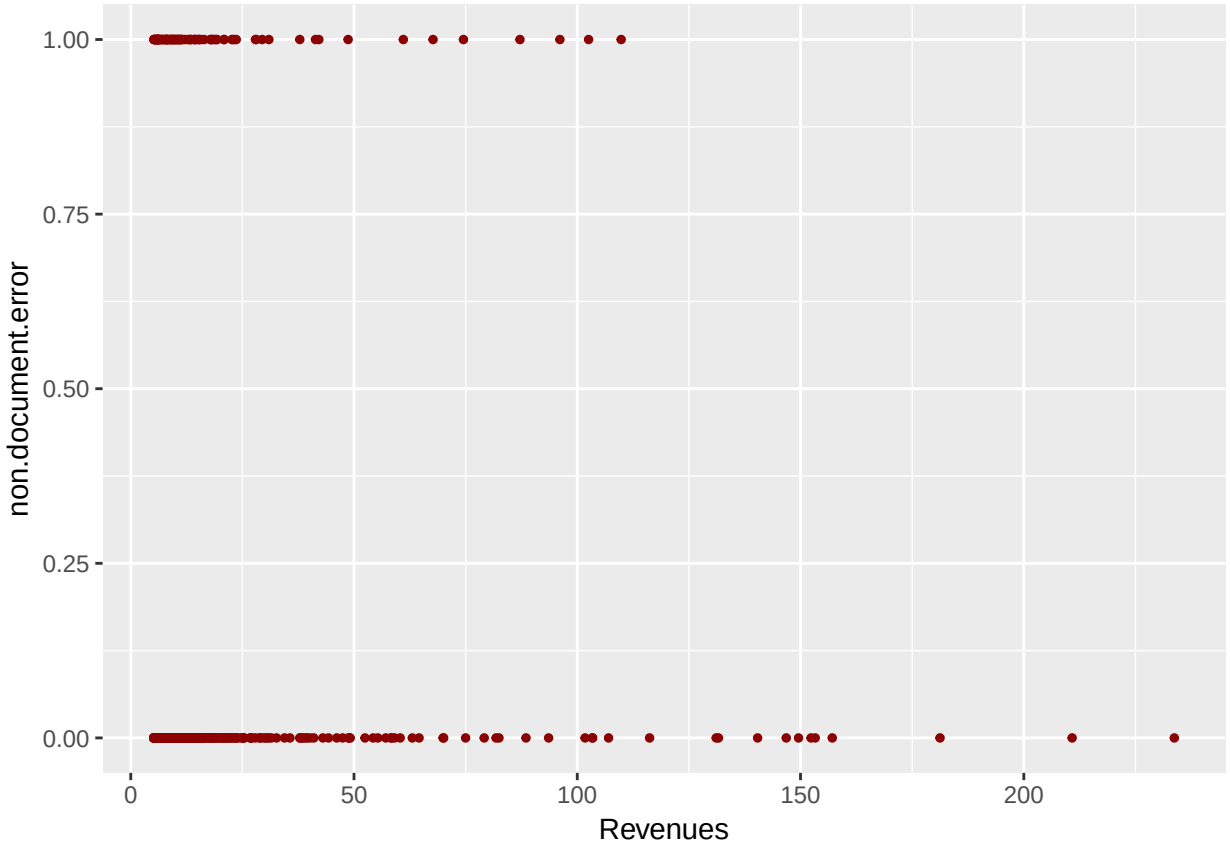

```
ggplot(total_500_final, aes(Revenues, number_of_warning)) + geom_point(size=3, colour = "dark blue")
```



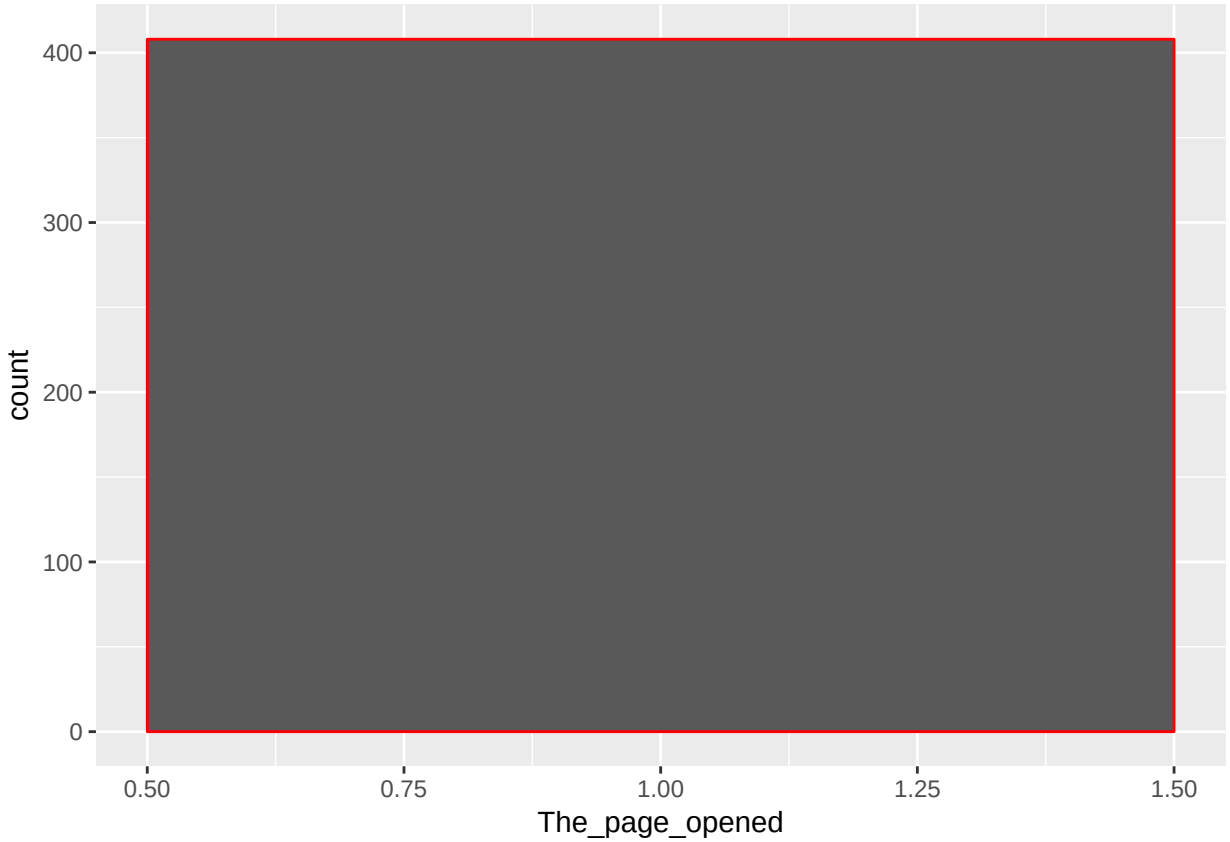

```
##########################################################################################################
##########################################################################################################
#Now we will see the non.document.error and the page not opened variables alone and in relationship wit
ggplot(data=total_500_final,aes(x=non.document.error))+geom_histogram(binwidth=1, colour = "red")
```



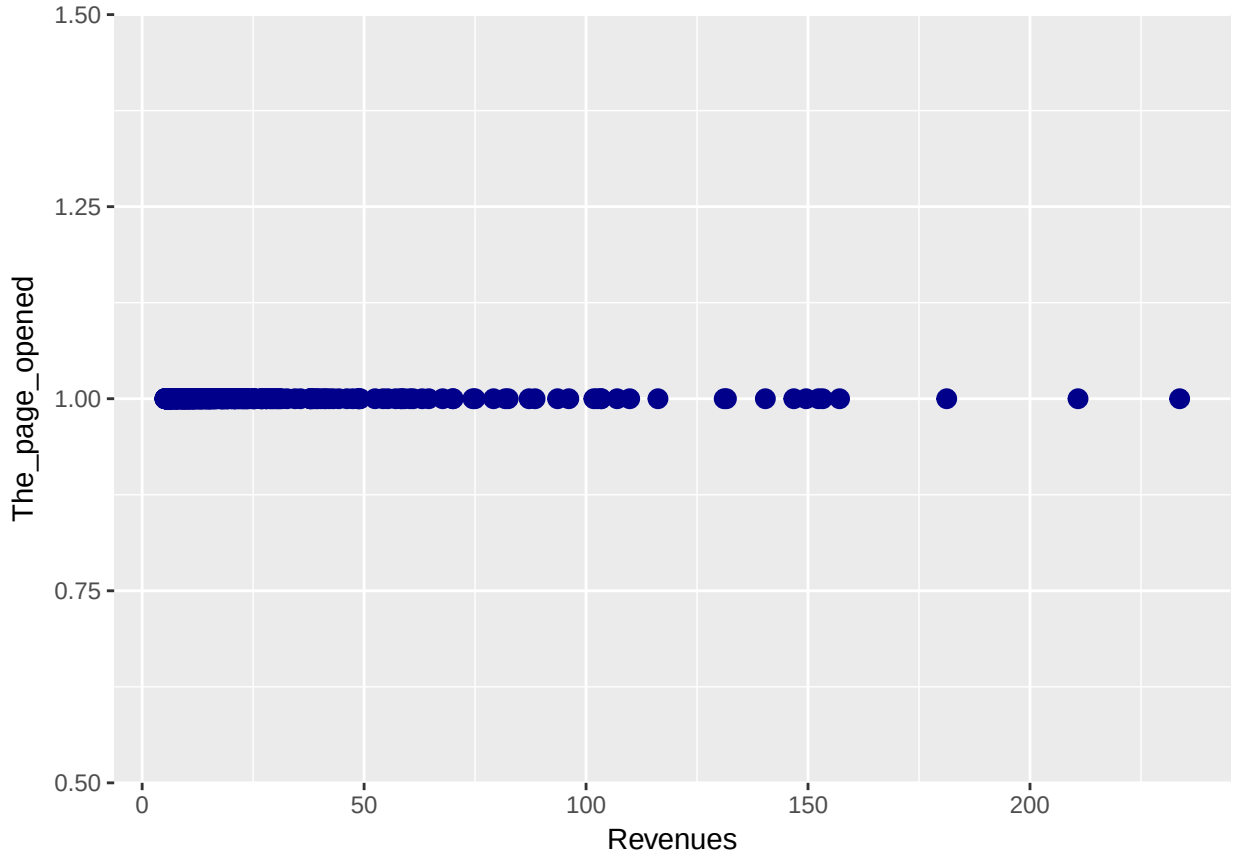

```
ggplot(total_500_final, aes(Revenues, non.document.error)) + geom_point(size=1, colour = "dark red")
```




```
ggplot(data=total_500_final,aes(x=The_page_opened))+geom_histogram(binwidth=1, colour = "red")
```



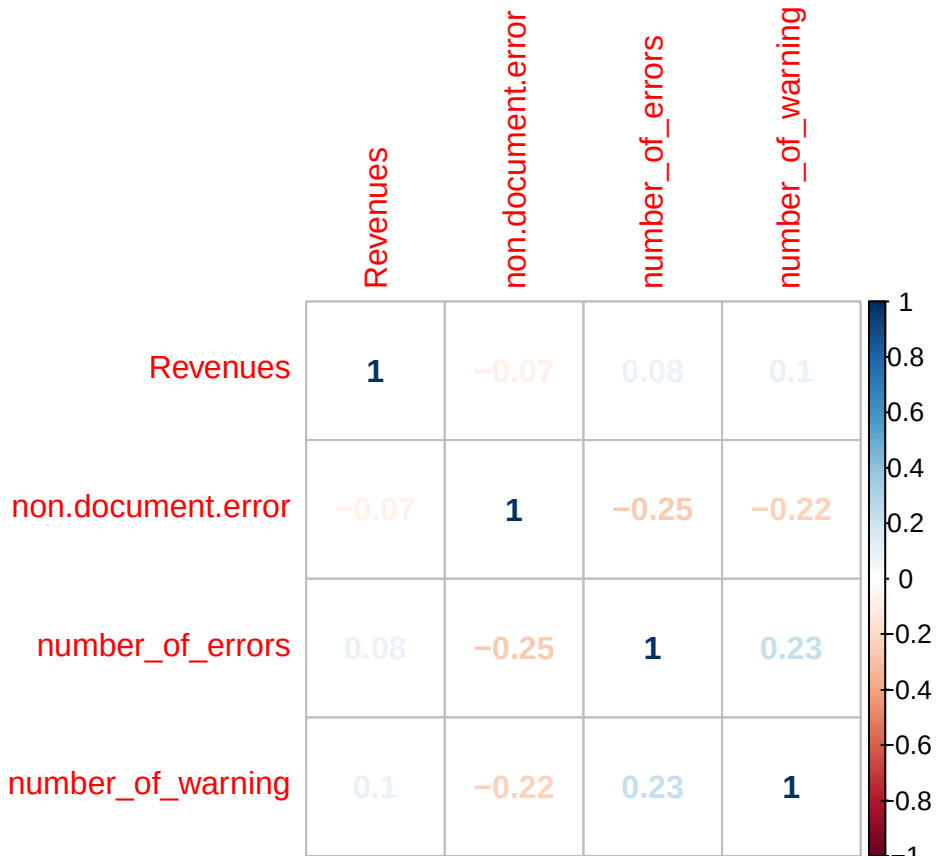

```
ggplot(total_500_final, aes(Revenues, The_page_opened)) + geom_point(size=3, colour = "dark blue")
```



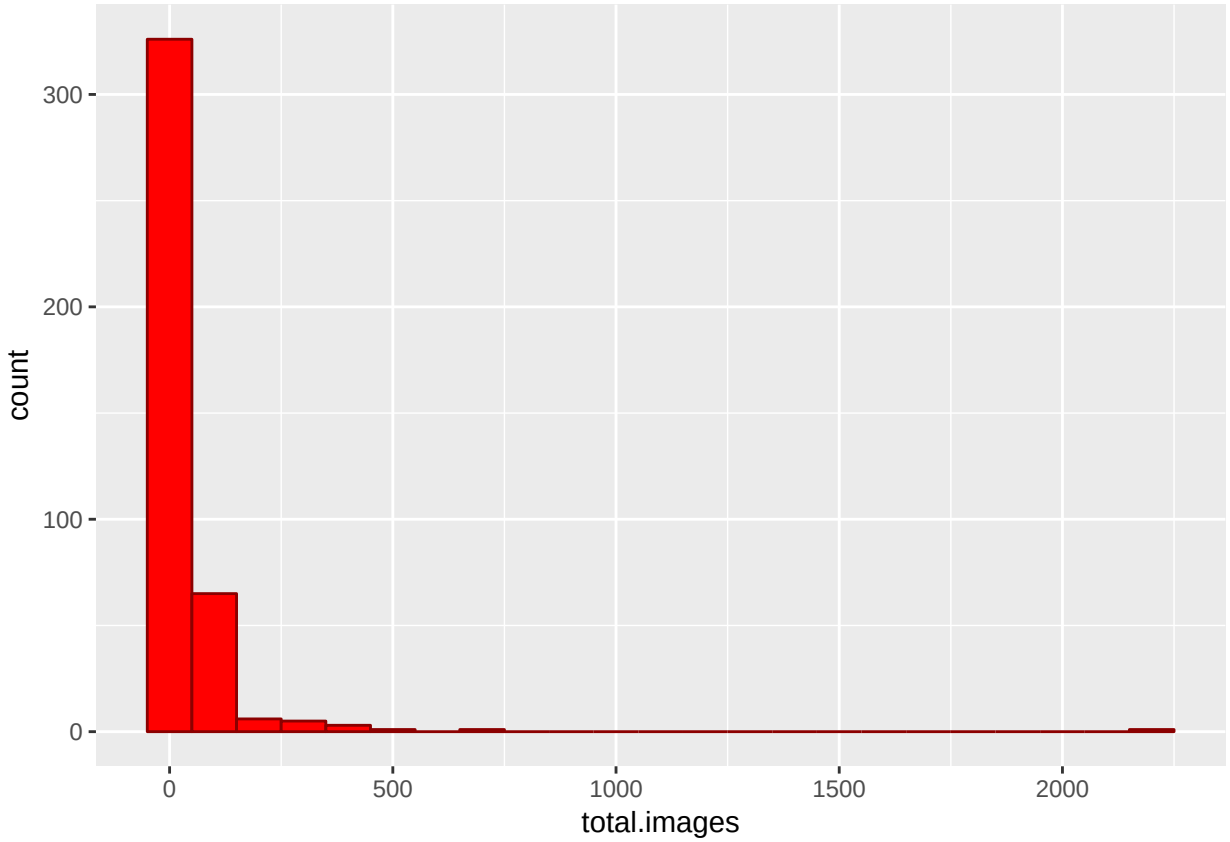

```
#In the page not opened we can see that the variable has only the price 1 that means that the page open
#And we can also see for correlations
total_500_html <- total_500_final[,c(4,7:9)]
library(corrplot)
library(caret)
tl <- cor(total_500_html)
tl
```

```
##                       Revenues non.document.error number_of_errors
## Revenues            1.00000000         -0.0748407        0.0800205
## non.document.error -0.07484070          1.0000000       -0.2545301
## number_of_errors    0.08002050         -0.2545301        1.0000000
## number_of_warning   0.09505013         -0.2242315        0.2309578
##                     number_of_warning
## Revenues                   0.09505013
## non.document.error        -0.22423152
## number_of_errors           0.23095778
## number_of_warning          1.00000000
```

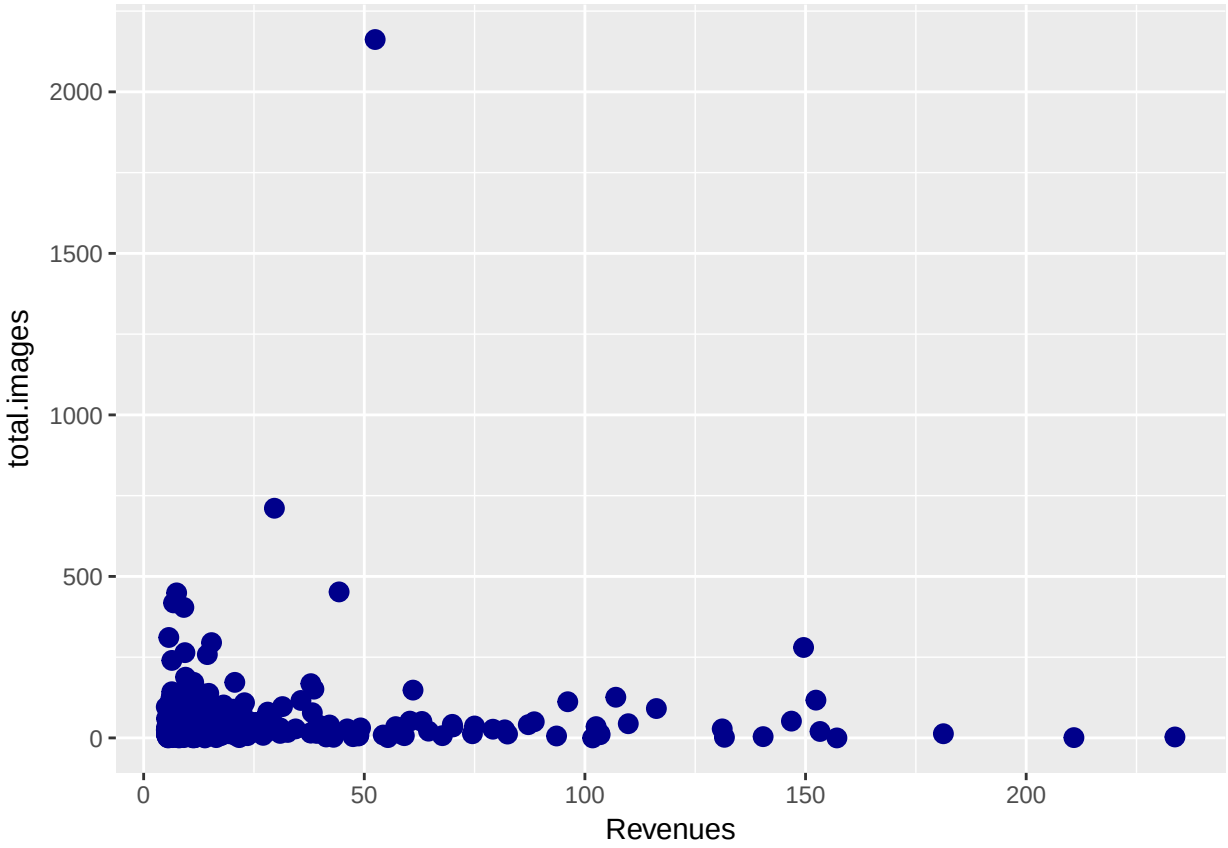
```
corrplot(cor(total_500_html),method="number")
```




```
#Now we will see the total images alone and in relationship with the revenues
ggplot(data=total_500_final,aes(x=total.images))+geom_histogram(binwidth=100, colour = "darkred", fill =
```

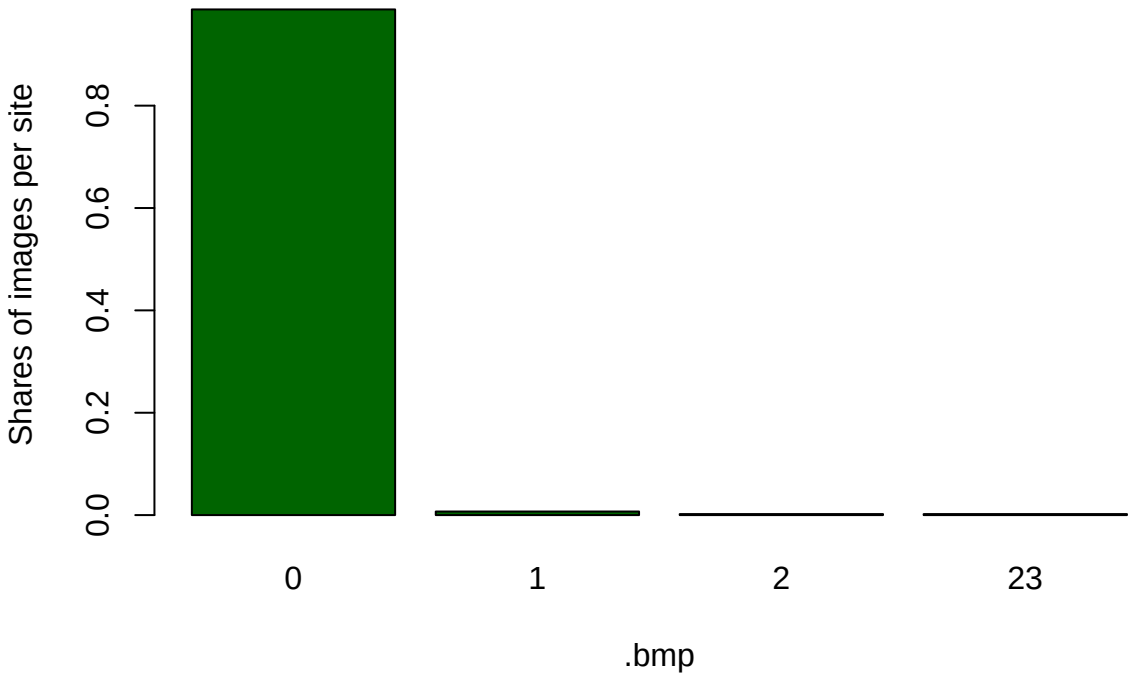


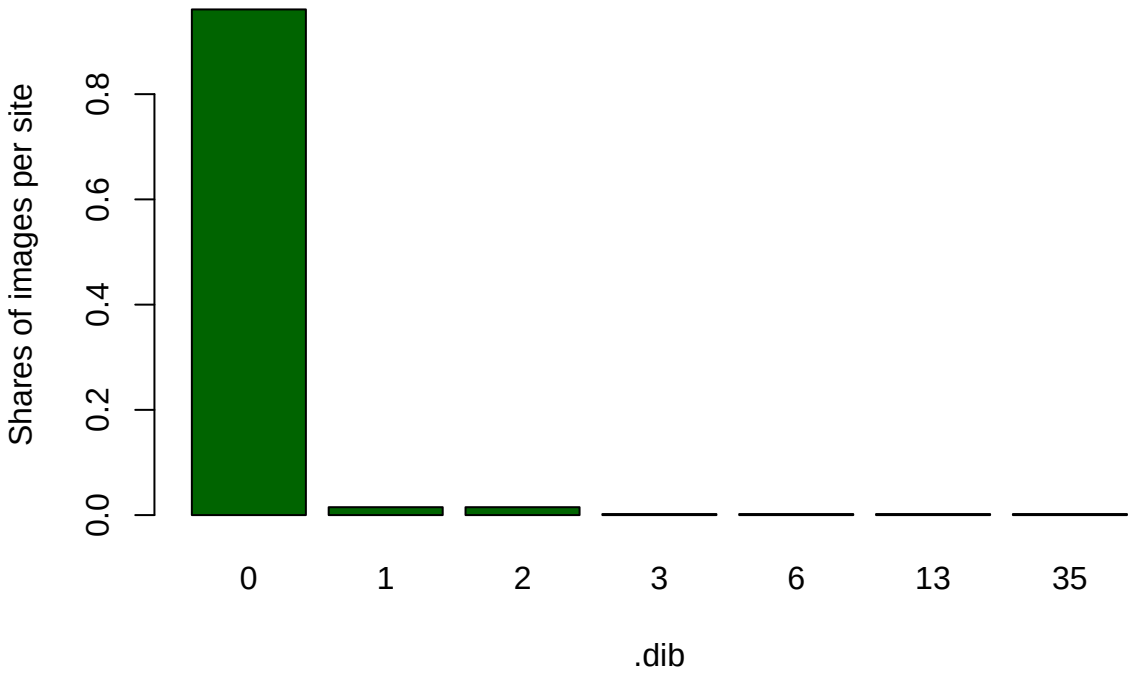

```
ggplot(total_500_final, aes(Revenues, total.images)) + geom_point(size=3, colour = "dark blue")
```

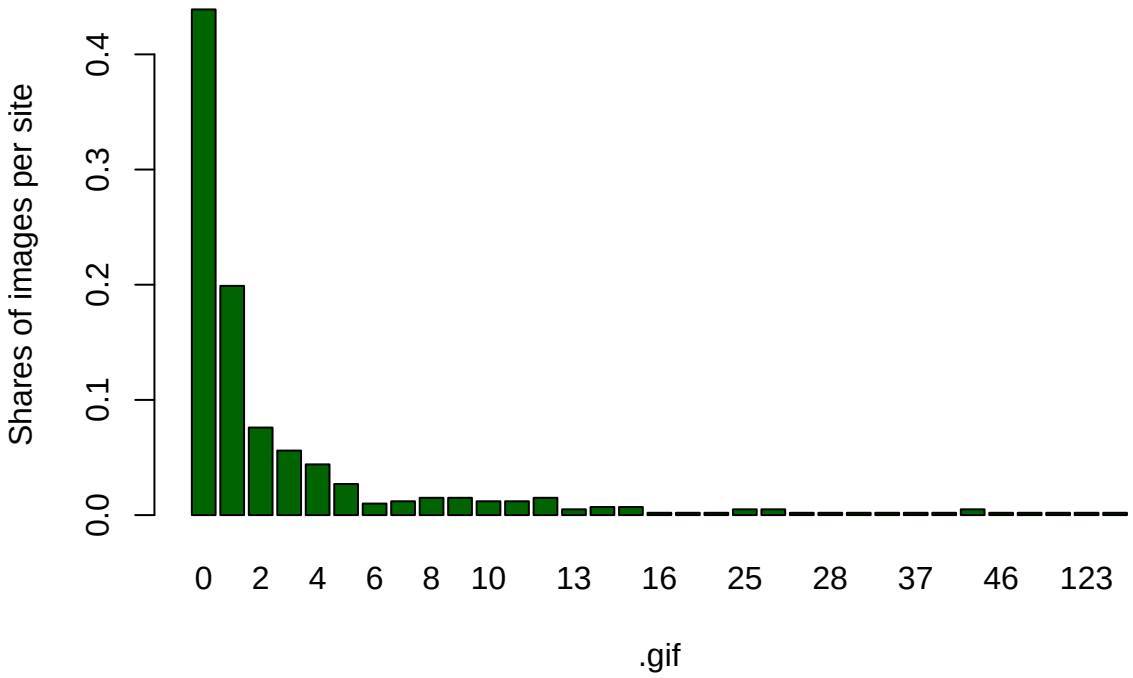


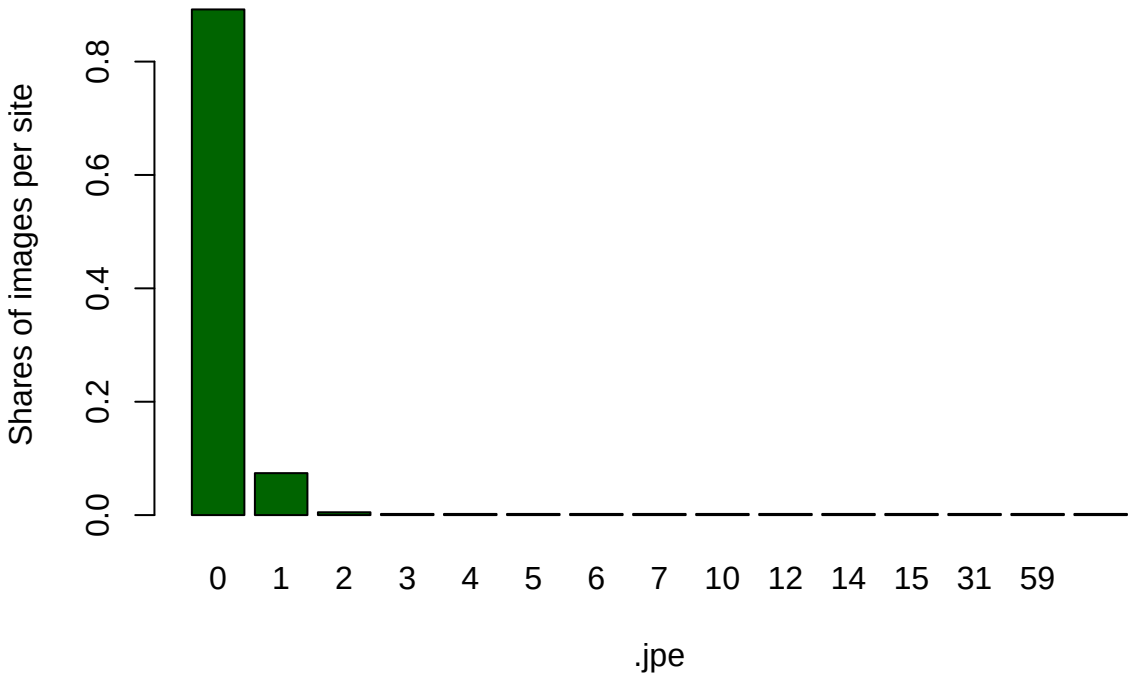

```
#############################################################################################################
#We will see now the frequency of image types that is being used

par(mfrow=c(1,1))
k = c(717:725)
for(i in 1:9){
  a <- k[i]
  image_type<- round(table(total_500_final[,a])/408,3)
  barplot(image_type,xlab=names(total_500_final)[a],ylab = "Shares of images per site", col = "dark gre
```


Shares of images per site
0.0
0.2
0.4
0.6
0.8
0
1
2
23
.bmp


Shares of images per site
0.0
0.2
0.4
0.6
0.8
0
1
2
3
6
13
35
.dib


Shares of images per site
0.0
0.1
0.2
0.3
0.4
0
2
4
6
8
10
13
16
25
28
37
46
123
.gif


Shares of images per site
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0.6
0.8
0
1
2
3
4
5
6
7
10
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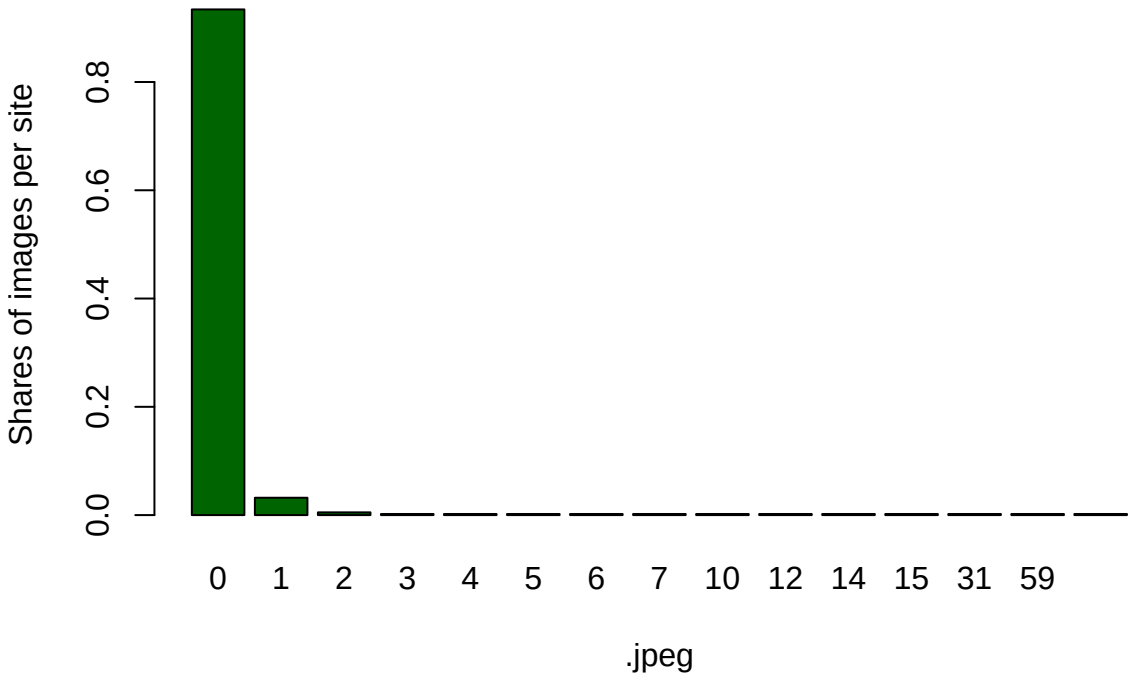
14
15
31
59
.jpe


Shares of images per site
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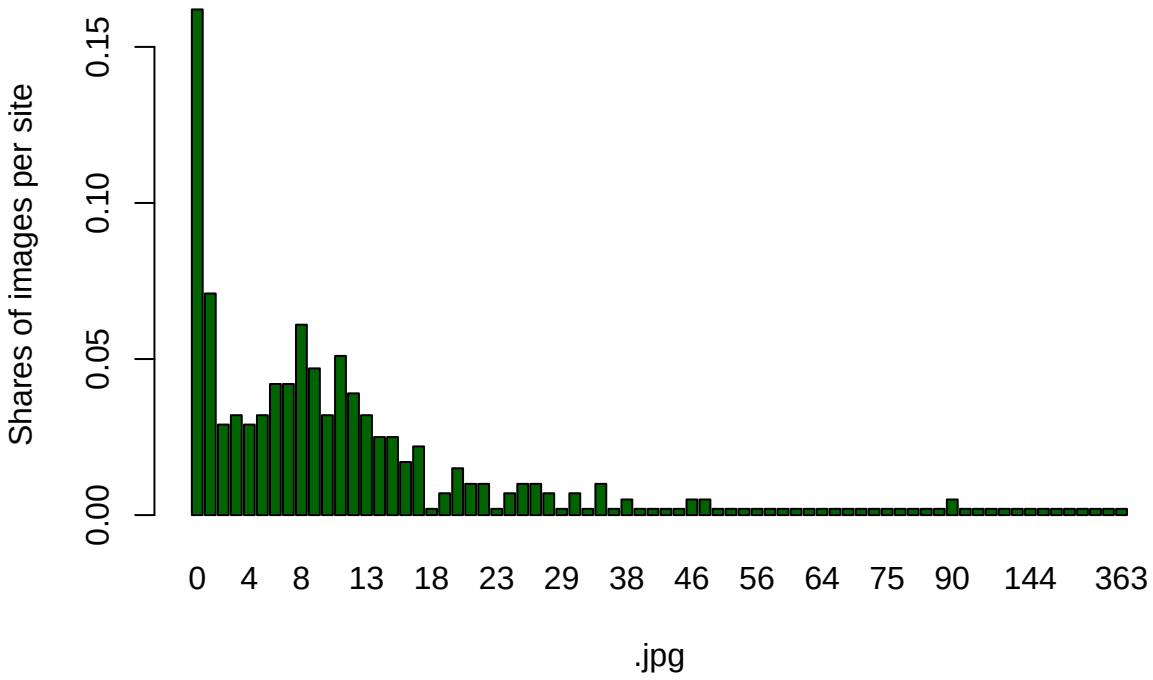
0.2
0.4
0.6
0.8
0
1
2
3
4
5
6
7
10
12
14
15
31
59
.jpeg


Shares of images per site
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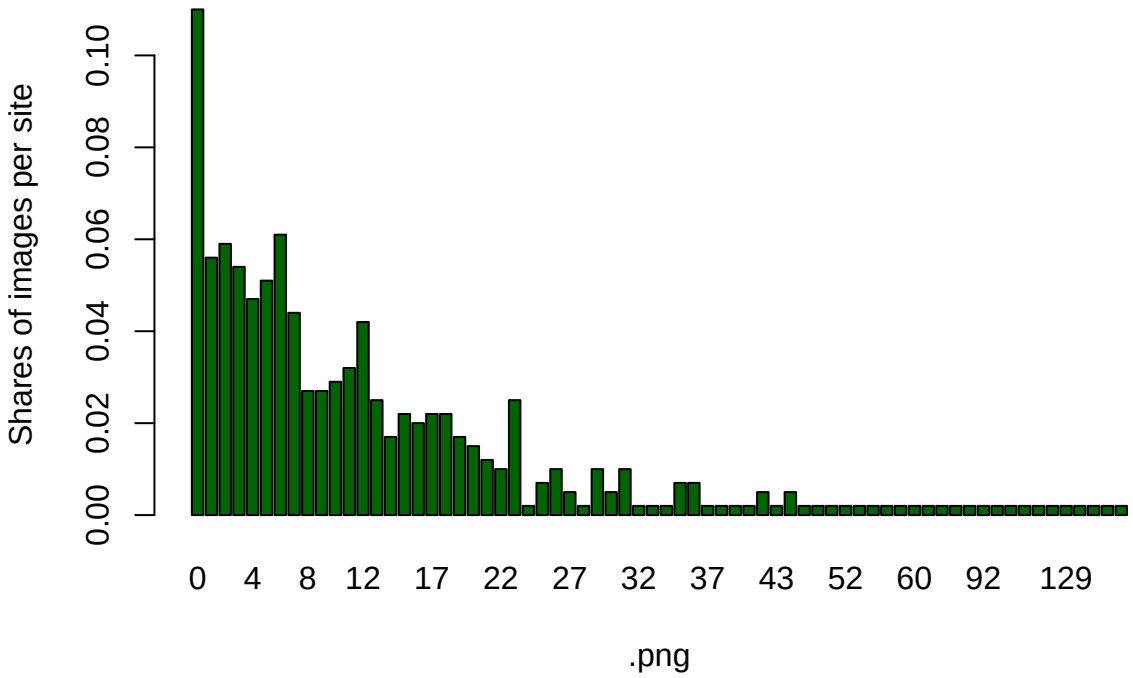
0.05
0.10
0.15
0
4
8
13
18
23
29
38
46
56
64
75
90
144
363
.jpg


Shares of images per site
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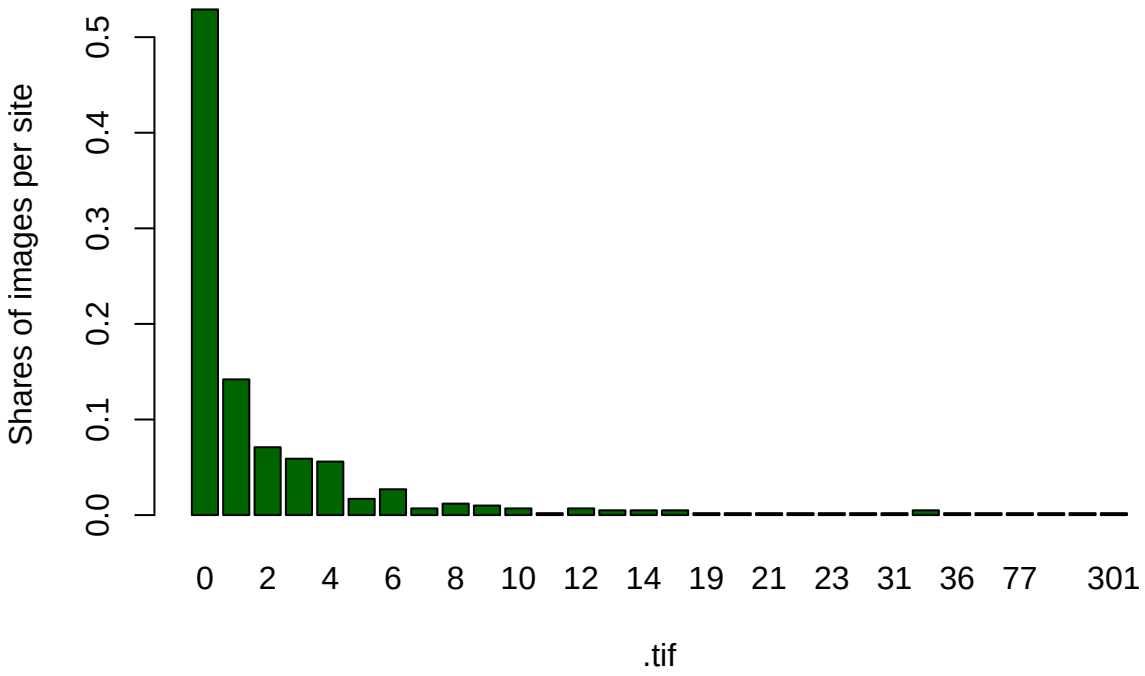
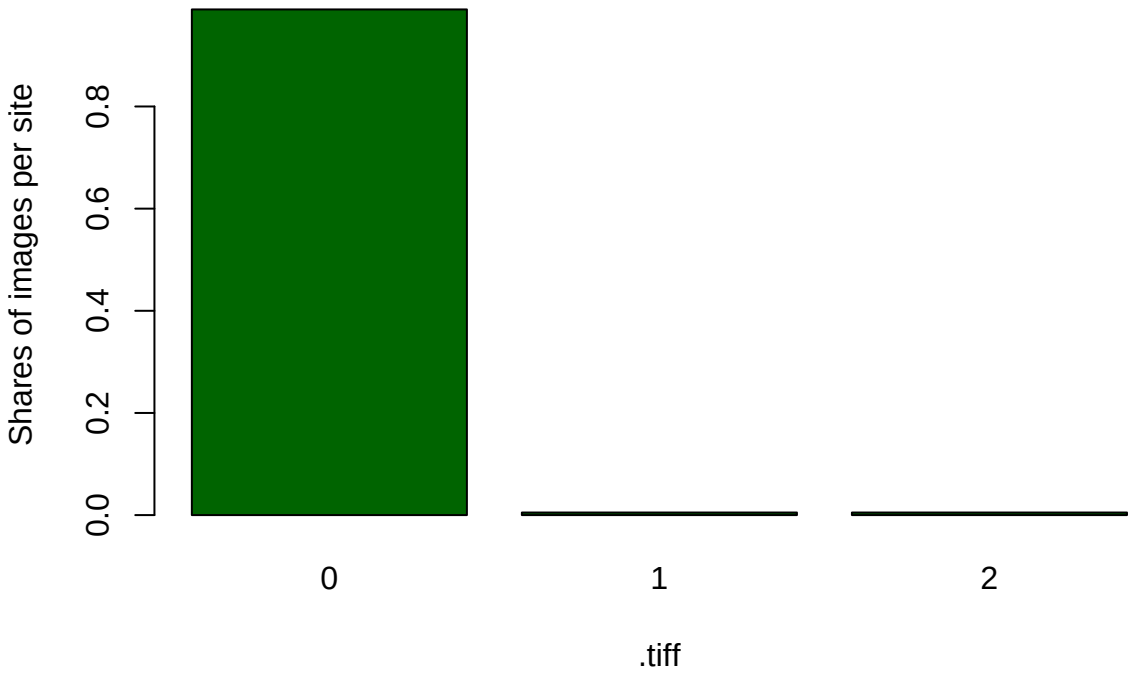
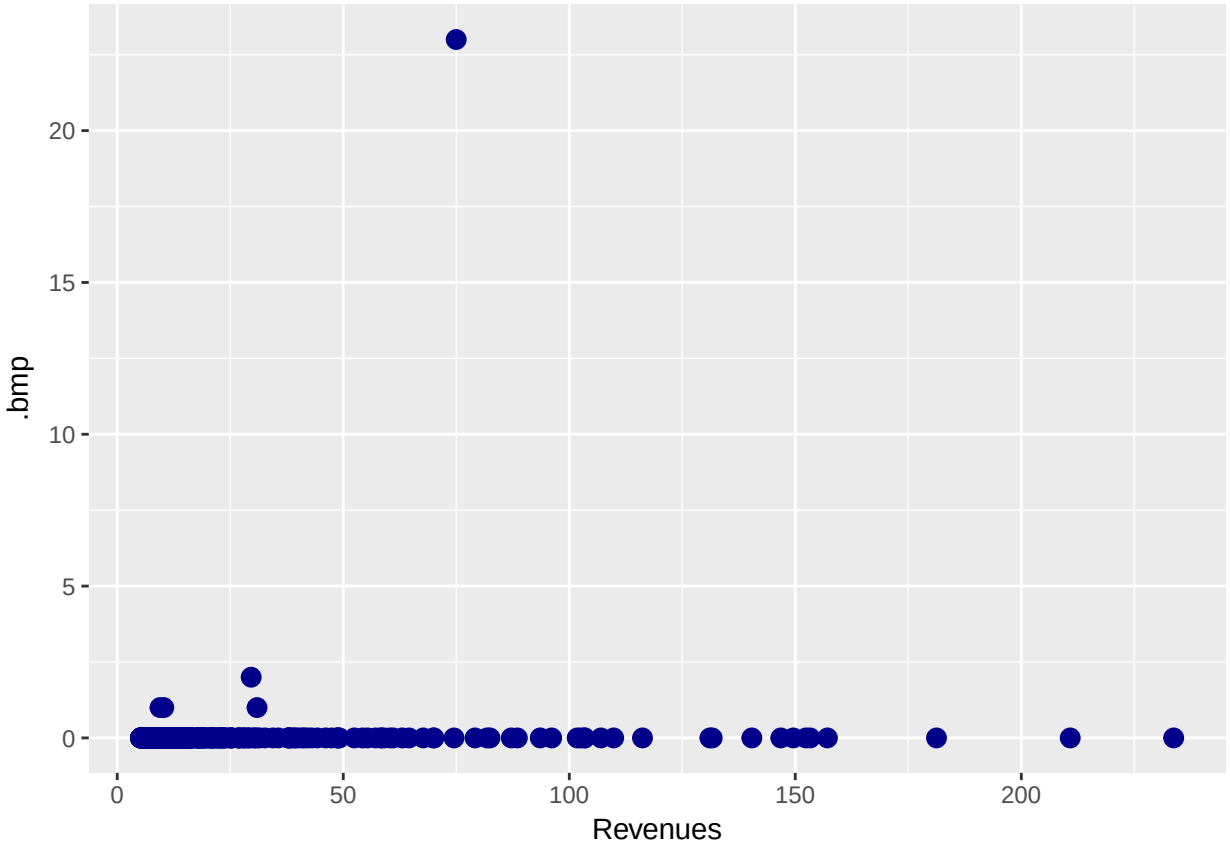
0.04
0.06
0.08
0.10
0
4
8
12
17
22
27
32
37
43
52
60
92
129
.png

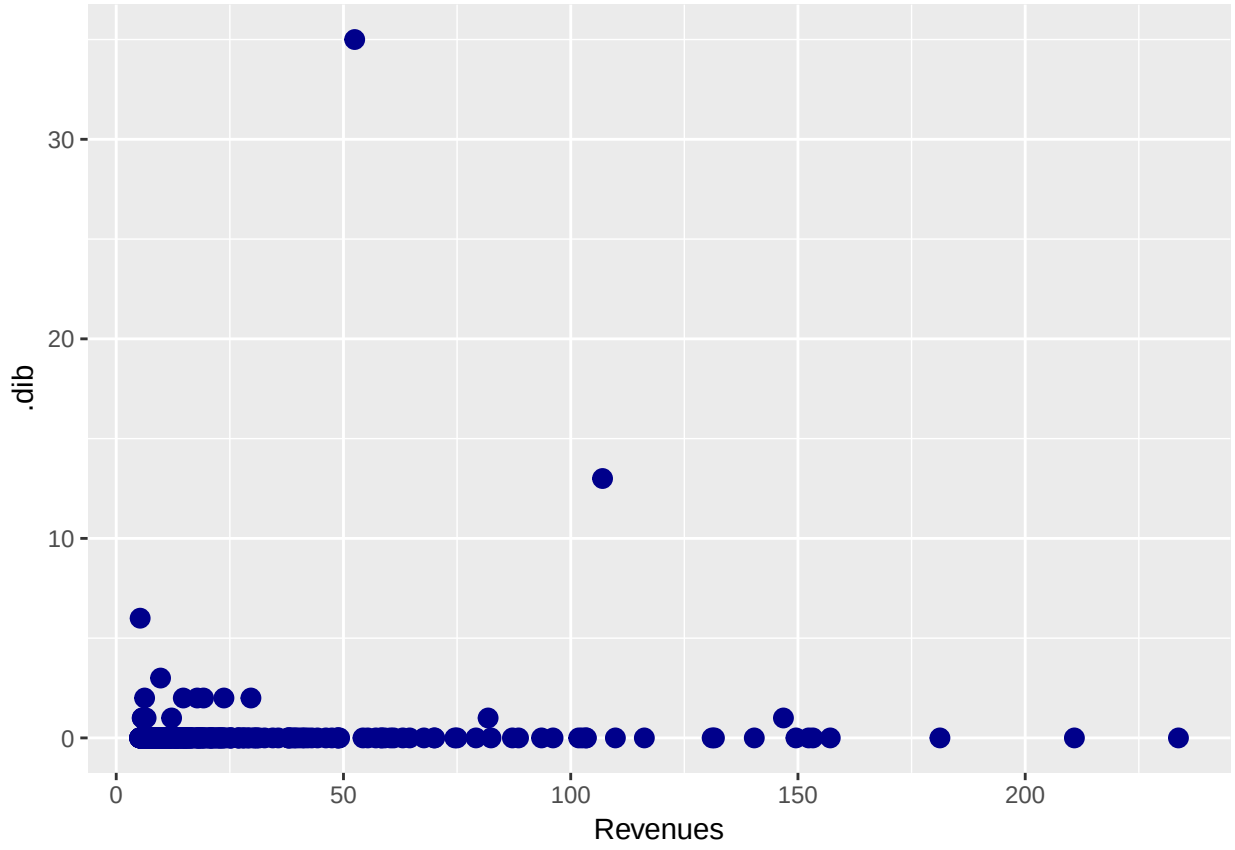

Shares of images per site
0.0
0.1
0.2
0.3
0.4
0.5
0
2
4
6
8
10
12
14
19
21
23
31
36
77
301
.tif



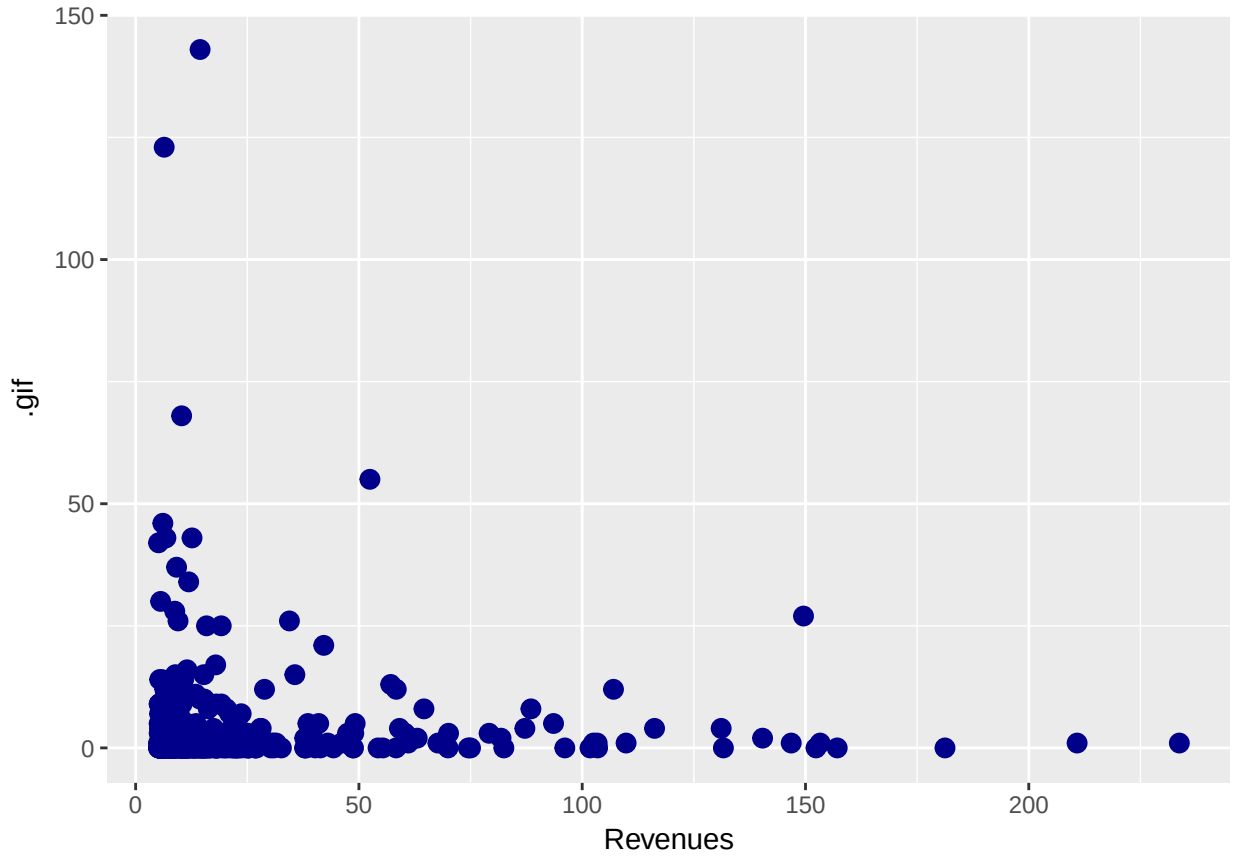

```
#It is obvious that the most common images type are .jpg, gif and .png
#We will check now the types in relationship with the revenues
ggplot(total_500_final, aes(Revenues, .bmp)) + geom_point(size=3, colour = "dark blue")
```



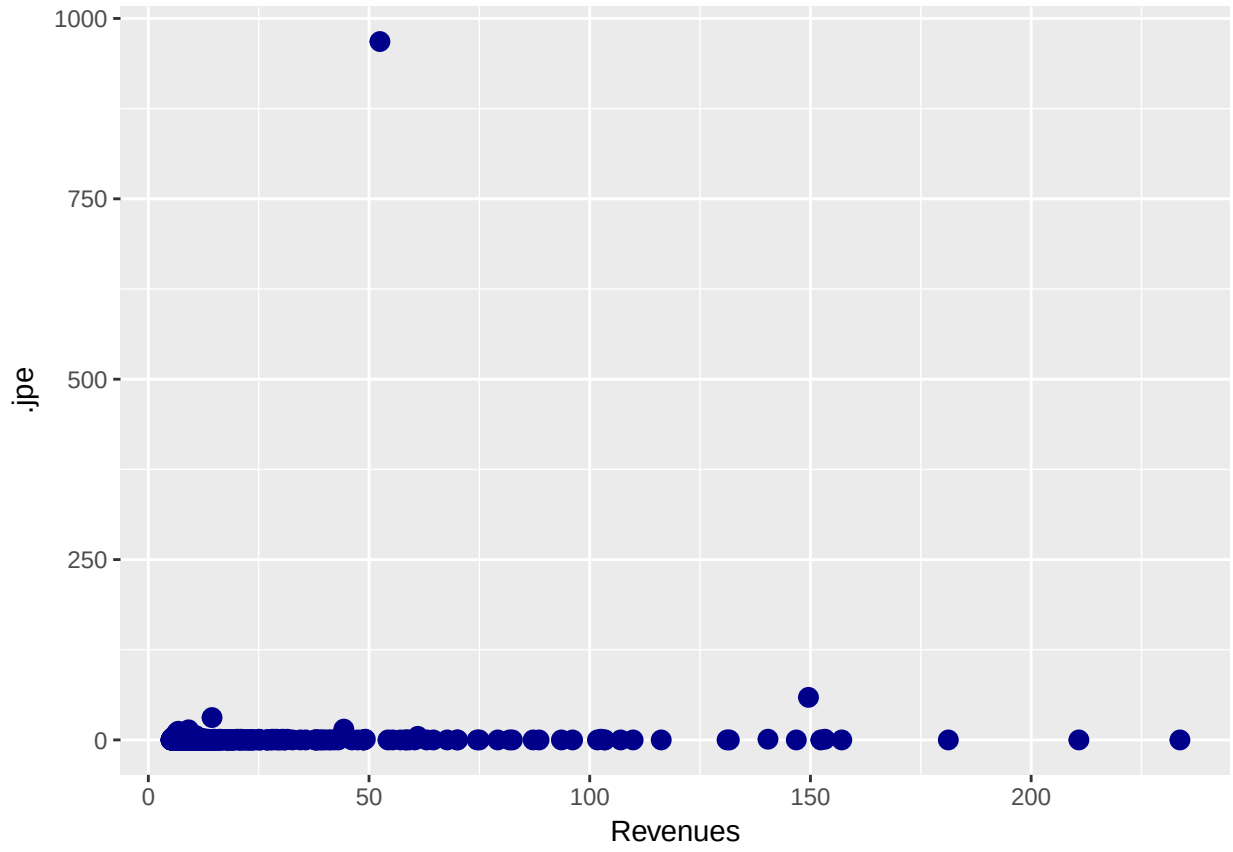

```
ggplot(total_500_final, aes(Revenues, .dib)) + geom_point(size=3, colour = "dark blue")
```



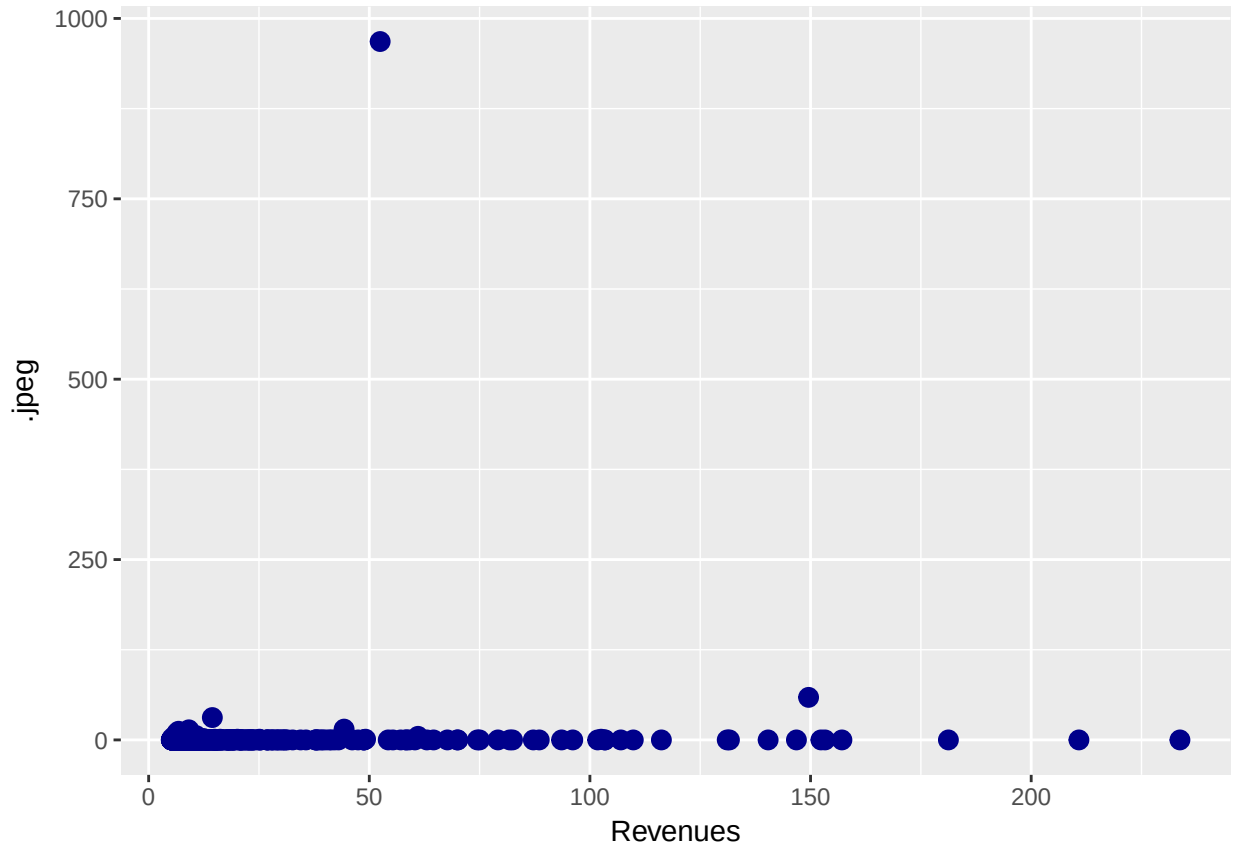

```
ggplot(total_500_final, aes(Revenues, .gif)) + geom_point(size=3, colour = "dark blue")
```



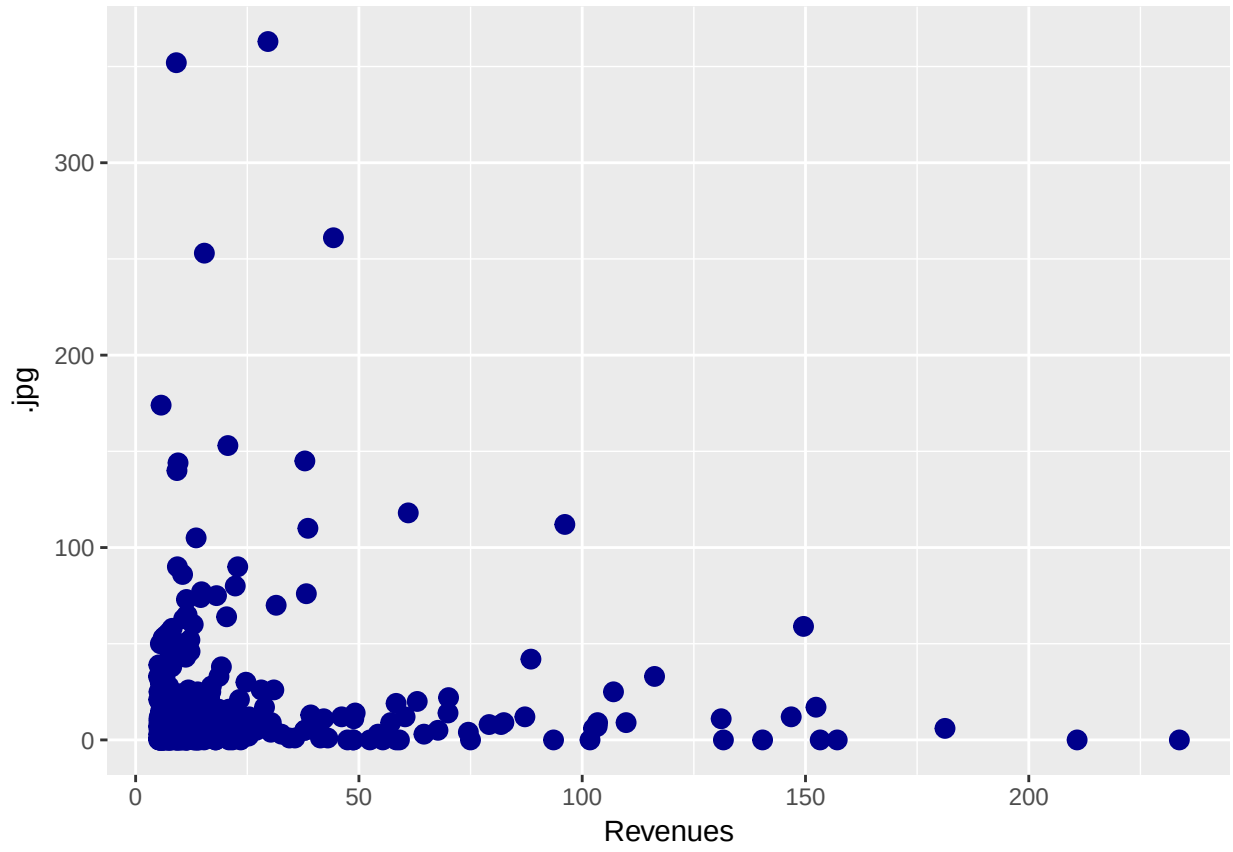

```
ggplot(total_500_final, aes(Revenues, .jpe)) + geom_point(size=3, colour = "dark blue")
```



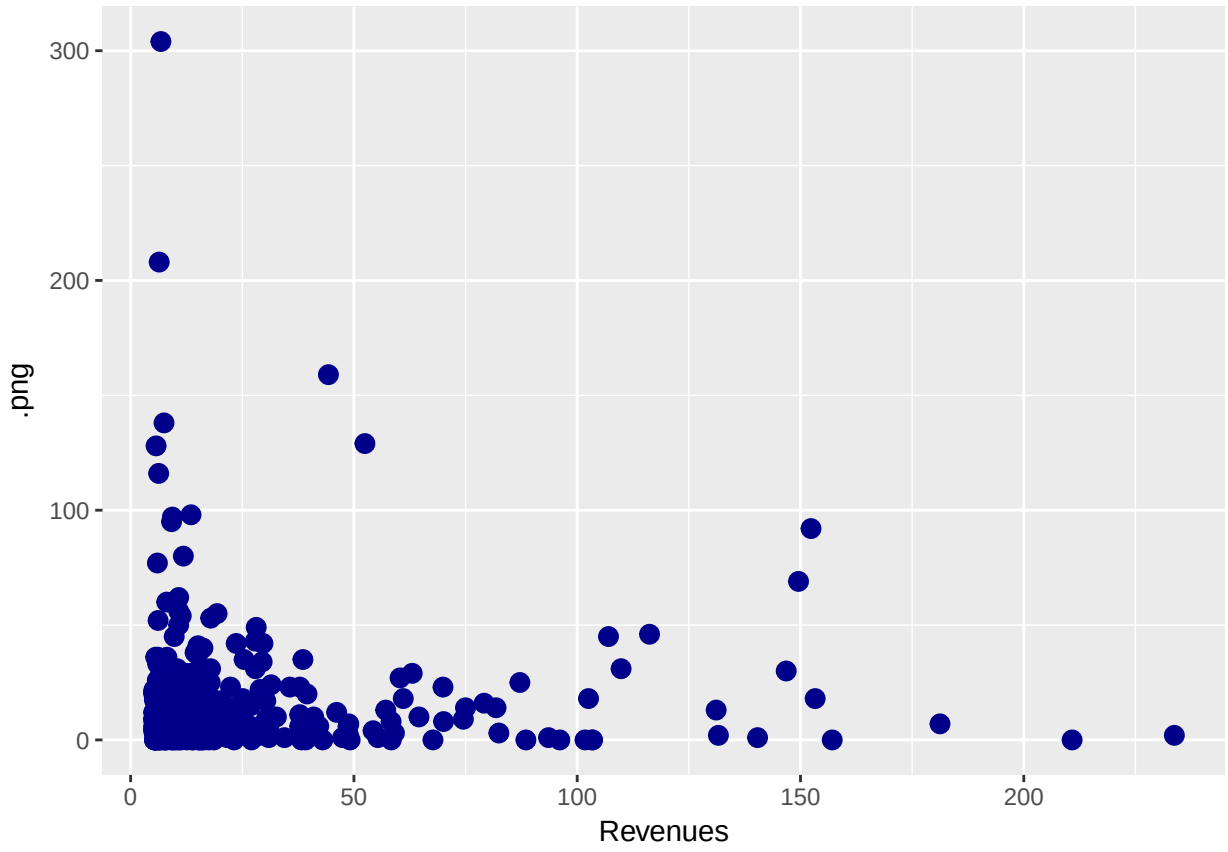

```
ggplot(total_500_final, aes(Revenues, .jpeg)) + geom_point(size=3, colour = "dark blue")
```



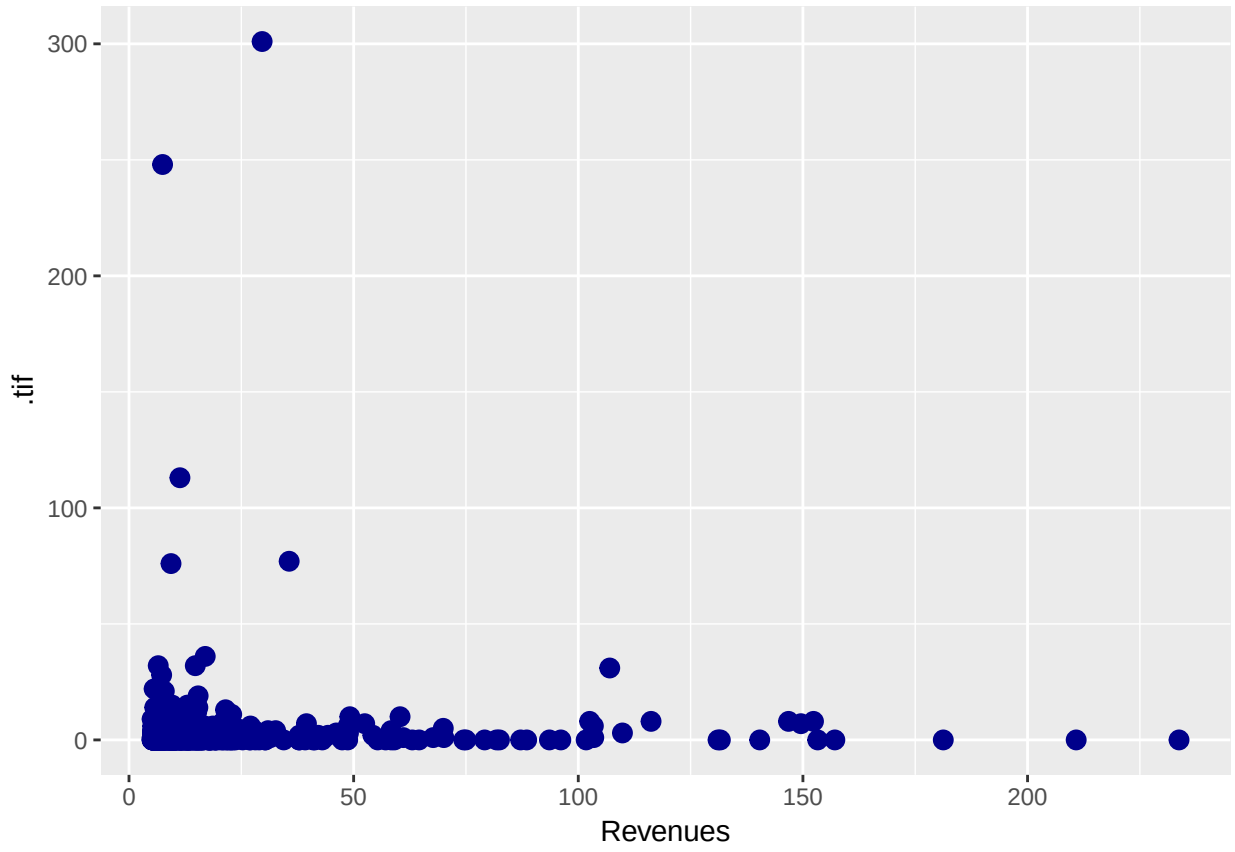

```
ggplot(total_500_final, aes(Revenues, .jpg)) + geom_point(size=3, colour = "dark blue")
```



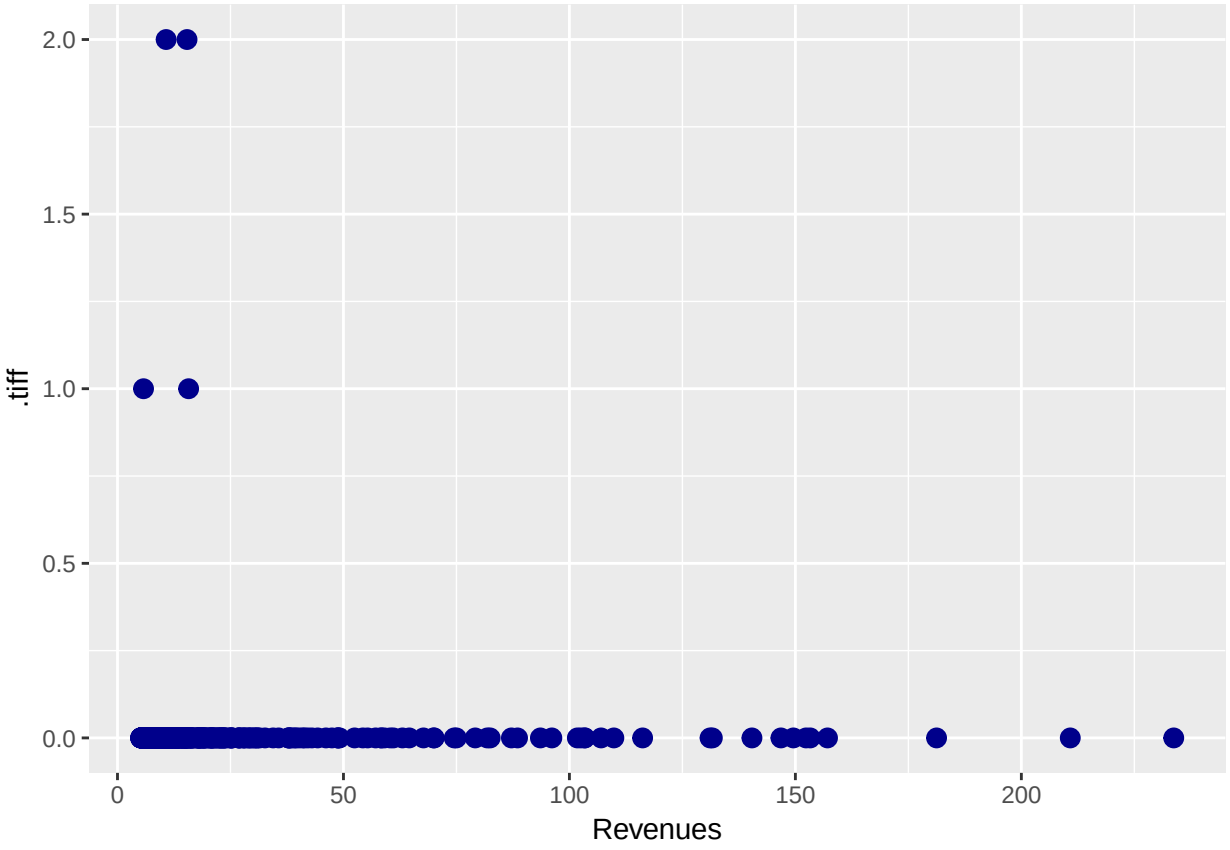

```
ggplot(total_500_final, aes(Revenues, .png)) + geom_point(size=3, colour = "dark blue")
```




```
ggplot(total_500_final, aes(Revenues, .tif)) + geom_point(size=3, colour = "dark blue")
```




```
ggplot(total_500_final, aes(Revenues, .tiff)) + geom_point(size=3, colour = "dark blue")
```

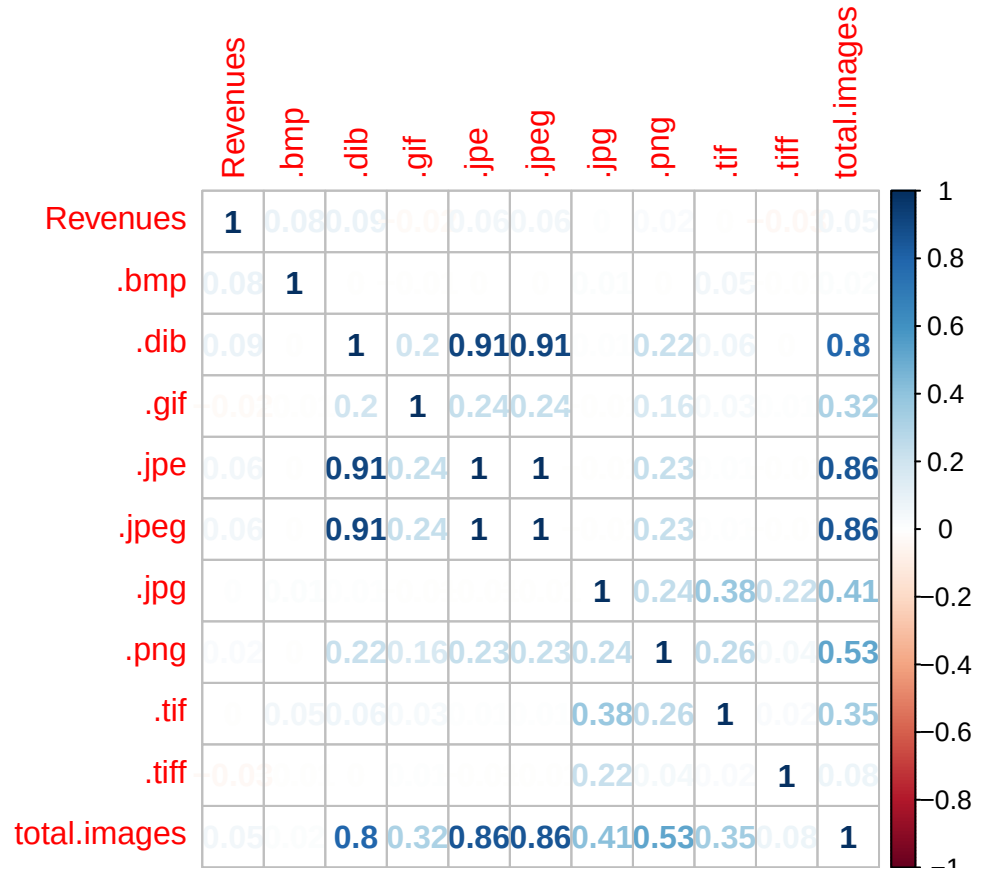



```
#And we can also see for correlations
total_500_im<- total_500_final[,c(4,717:726)]
library(corrplot)
library(caret)
tl <- cor(total_500_im)
tl
```

```
##                  Revenues         .bmp          .dib         .gif
## Revenues      1.000000000  0.083489281  0.0877047067 -0.020930575
## .bmp          0.083489281  1.000000000 -0.0013011275 -0.005780172
## .dib          0.087704707 -0.001301127  1.0000000000  0.196433219
## .gif         -0.020930575 -0.005780172  0.1964332192  1.000000000
## .jpe          0.059660288 -0.003534780  0.9108504455  0.235836802
## .jpeg         0.059427022 -0.003482535  0.9108963639  0.236016392
## .jpg          0.004515870  0.013995542  0.0081915788 -0.006939606
## .png          0.022053238 -0.001301001  0.2204575537  0.164538688
## .tif         -0.002466003  0.050383371  0.0628334455  0.031167772
## .tiff        -0.030165817 -0.005659409 -0.0008571371  0.007252077
## total.images  0.051605339  0.018395189  0.7961253175  0.319131935
##                      .jpe        .jpeg         .jpg         .png
## Revenues      0.059660288  0.059427022  0.004515870  0.022053238
## .bmp         -0.003534780 -0.003482535  0.013995542 -0.001301001
## .dib          0.910850445  0.910896364  0.008191579  0.220457554
## .gif          0.235836802  0.236016392 -0.006939606  0.164538688
## .jpe          1.000000000  0.999991326 -0.008220505  0.231367993
## .jpeg         0.999991326  1.000000000 -0.008242305  0.231422560
## .jpg         -0.008220505 -0.008242305  1.000000000  0.244033499
```

```
## .png           0.231367993  0.231422560  0.244033499  1.000000000
## .tif           0.007431086  0.007587510  0.375321187  0.259001712
## .tiff         -0.005630343 -0.005548159  0.224429140  0.040635288
## total.images   0.855175392  0.855225420  0.413319367  0.529706228
##                        .tif         .tiff total.images
## Revenues      -0.002466003 -0.0301658169   0.05160534
## .bmp           0.050383371 -0.0056594093   0.01839519
## .dib           0.062833445 -0.0008571371   0.79612532
## .gif           0.031167772  0.0072520772   0.31913194
## .jpe           0.007431086 -0.0056303426   0.85517539
## .jpeg          0.007587510 -0.0055481589   0.85522542
## .jpg           0.375321187  0.2244291400   0.41331937
## .png           0.259001712  0.0406352880   0.52970623
## .tif           1.000000000  0.0222123897   0.34887215
## .tiff          0.022212390  1.0000000000   0.07827891
## total.images   0.348872154  0.0782789113   1.00000000
```

```
corrplot(cor(total_500_im),method="number")
```




```
#We will see now the frequency of image sizes that is being used
k = c()
#Check for sizes that are half and half divided in existing and not
for(i in 24:716){
  image_size<- round(table(total_500_final[,i]))
  if ((image_size[[1]]==408)==TRUE){
    k <- union(k, c(i))
  }}
```

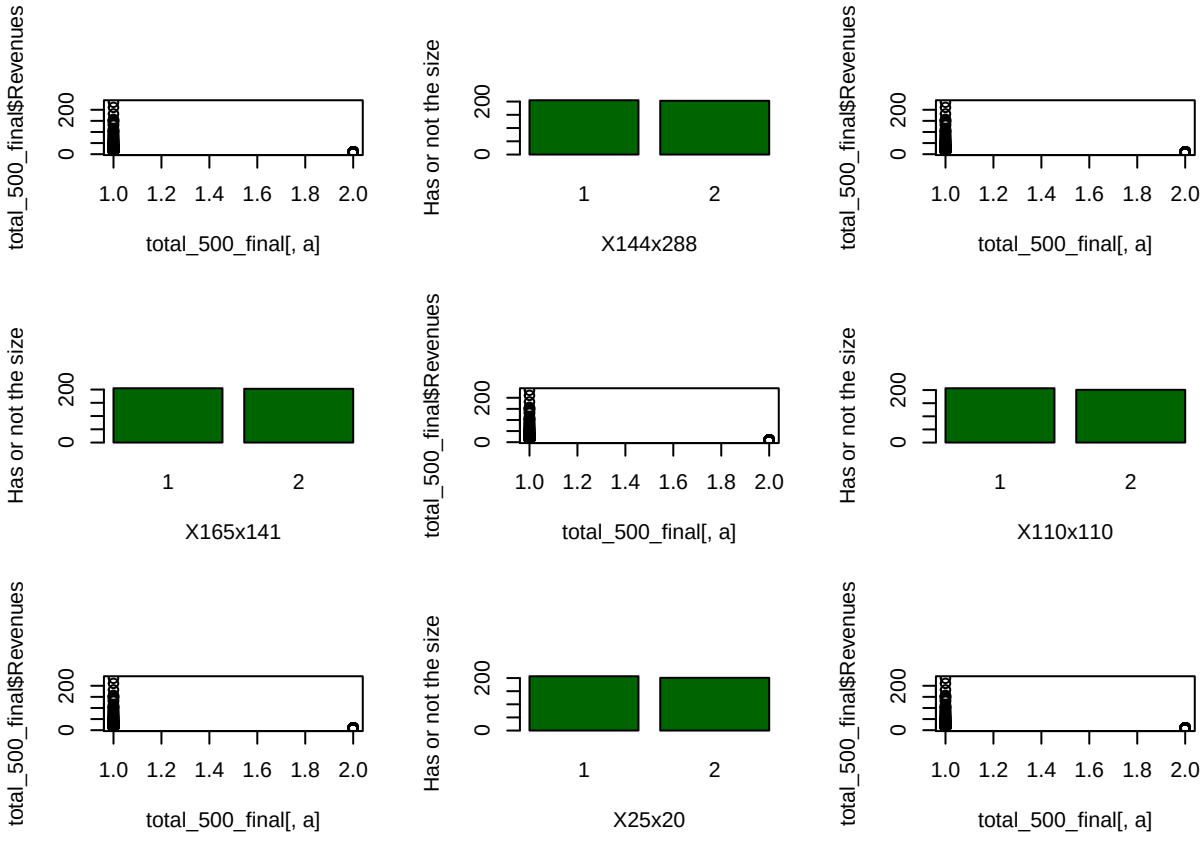
```
#####################
#Number 24 is all onw price so we want use it
names(total_500_final)[24]
```

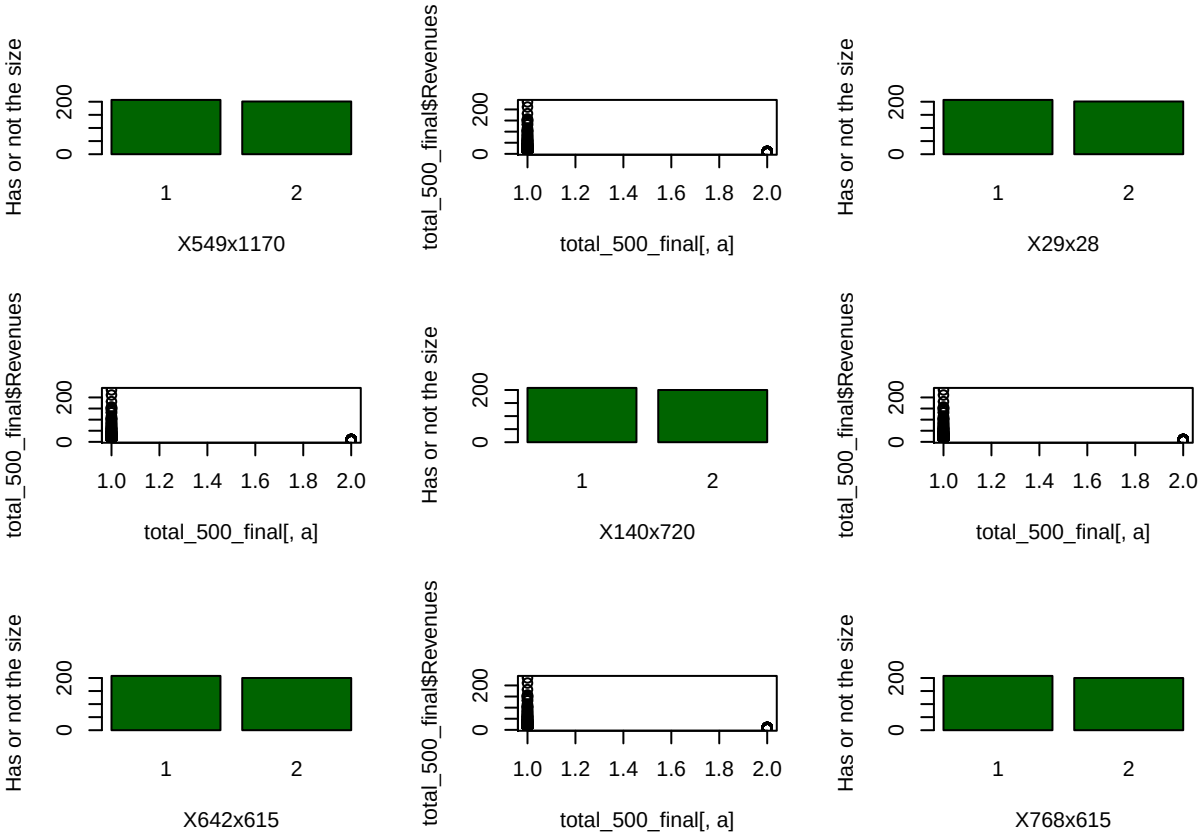
```
## [1] "X144x144"
```

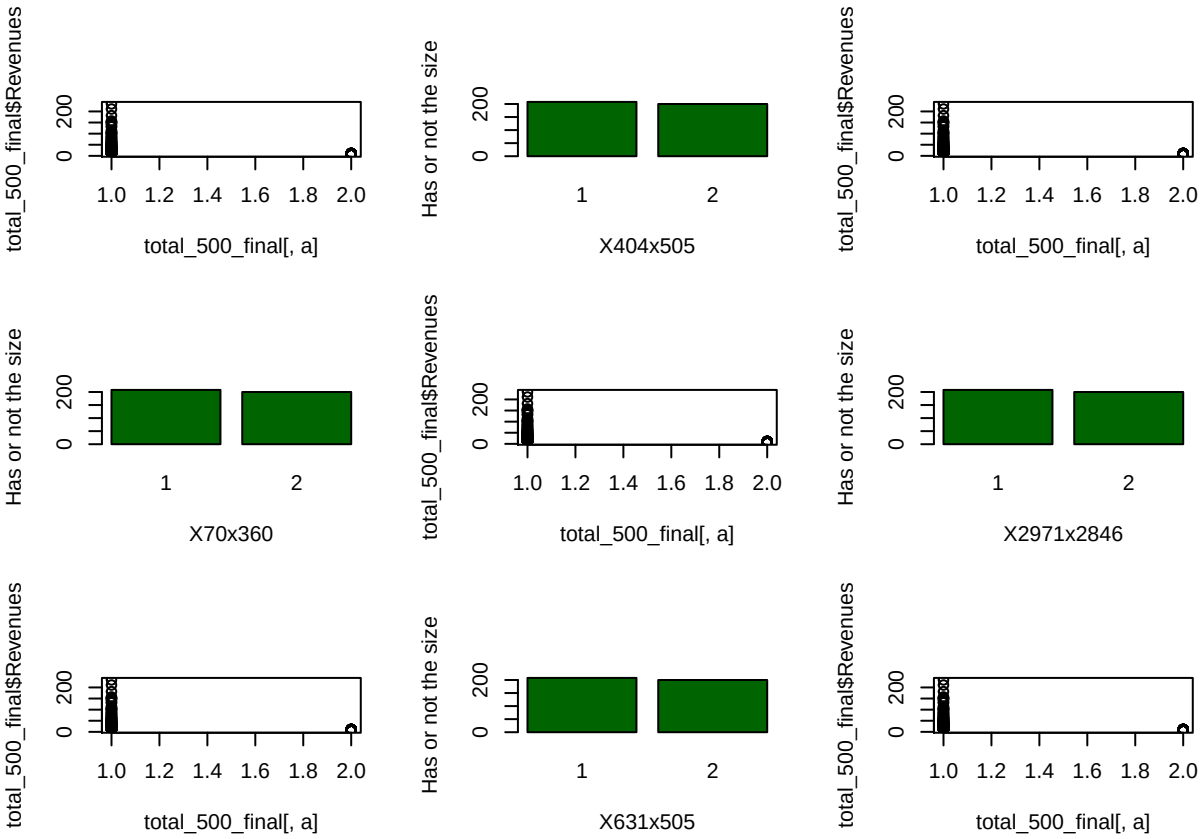
```
total_500_final$X144x144 <- NULL
```

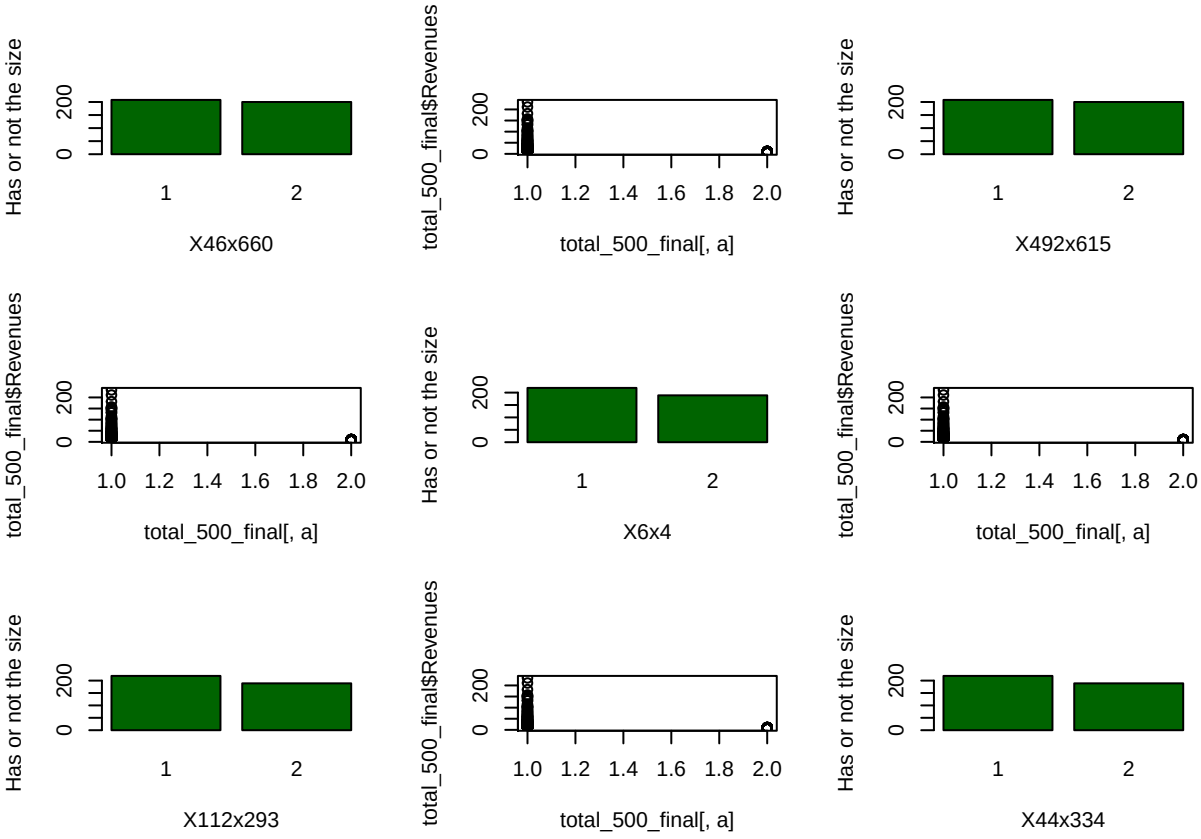
```
false_not_existing = c()
#Check for sizes that are less than half divided in existing and not
for(i in 24:715){
  image_size<- round(table(total_500_final[,i]))
  if ((image_size[[2]]<204)==TRUE){
    false_not_existing <- union(false_not_existing, c(i))
  }}
########################
```

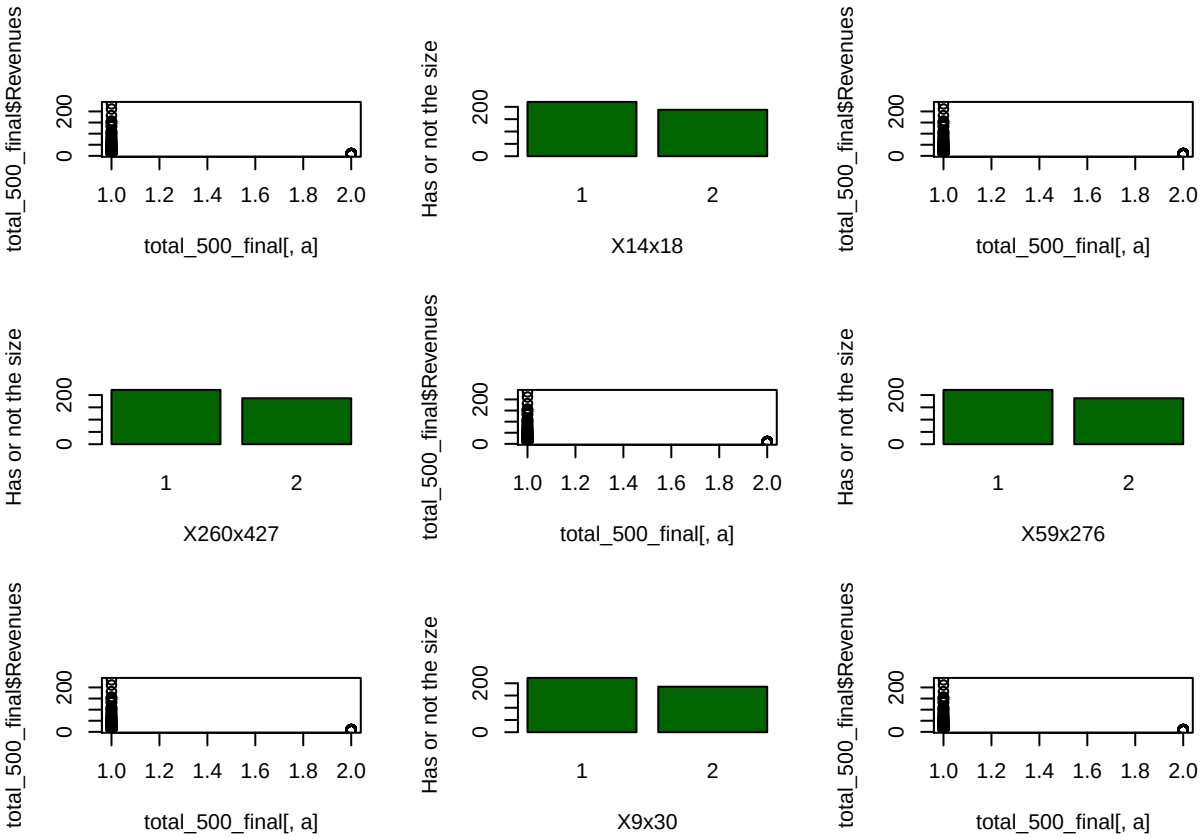
```
#Now we will take the sizes that exist in less than half the instances and check graphically the deviat
par(mfrow=c(3,3))
for(i in 1:416){
  a = false_not_existing[i]
  plot(total_500_final[,a],total_500_final$Revenues)
  image_size<- round(table(total_500_final[,a]))
  barplot(image_size,xlab=names(total_500_final)[a],ylab = "Has or not the size", col = "dark green")}
```

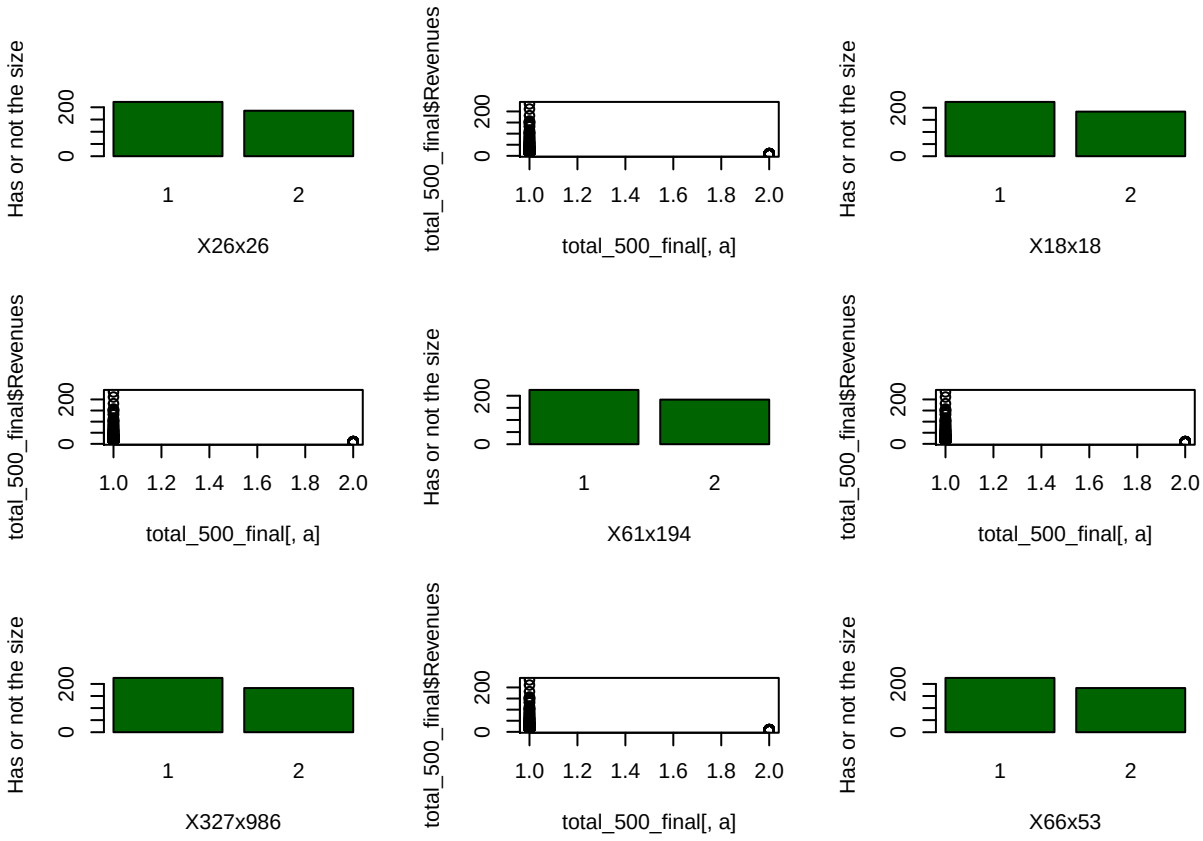


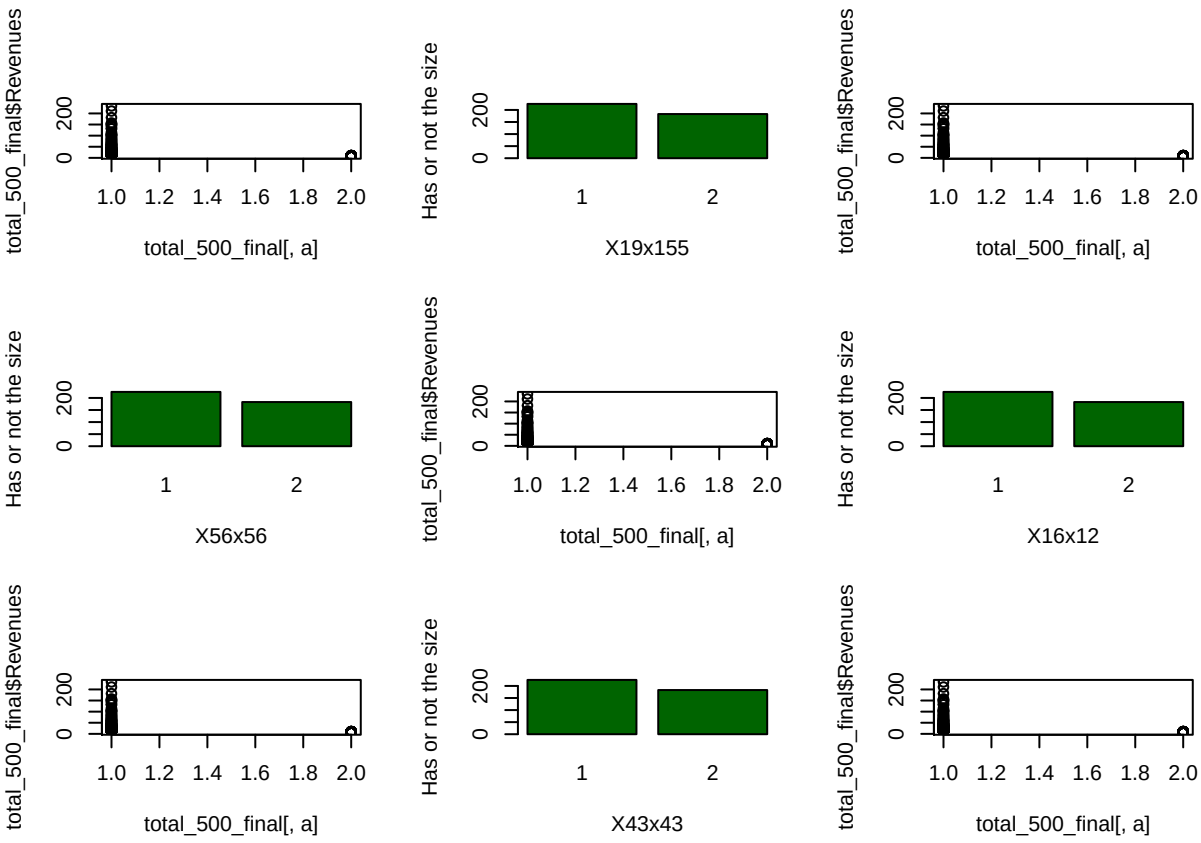

Has or not the size
0
200
1
2
X549x1170
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
200
1
2
X29x28
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
200
1
2
X140x720
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
200
1
2
X642x615
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
200
1
2
X768x615

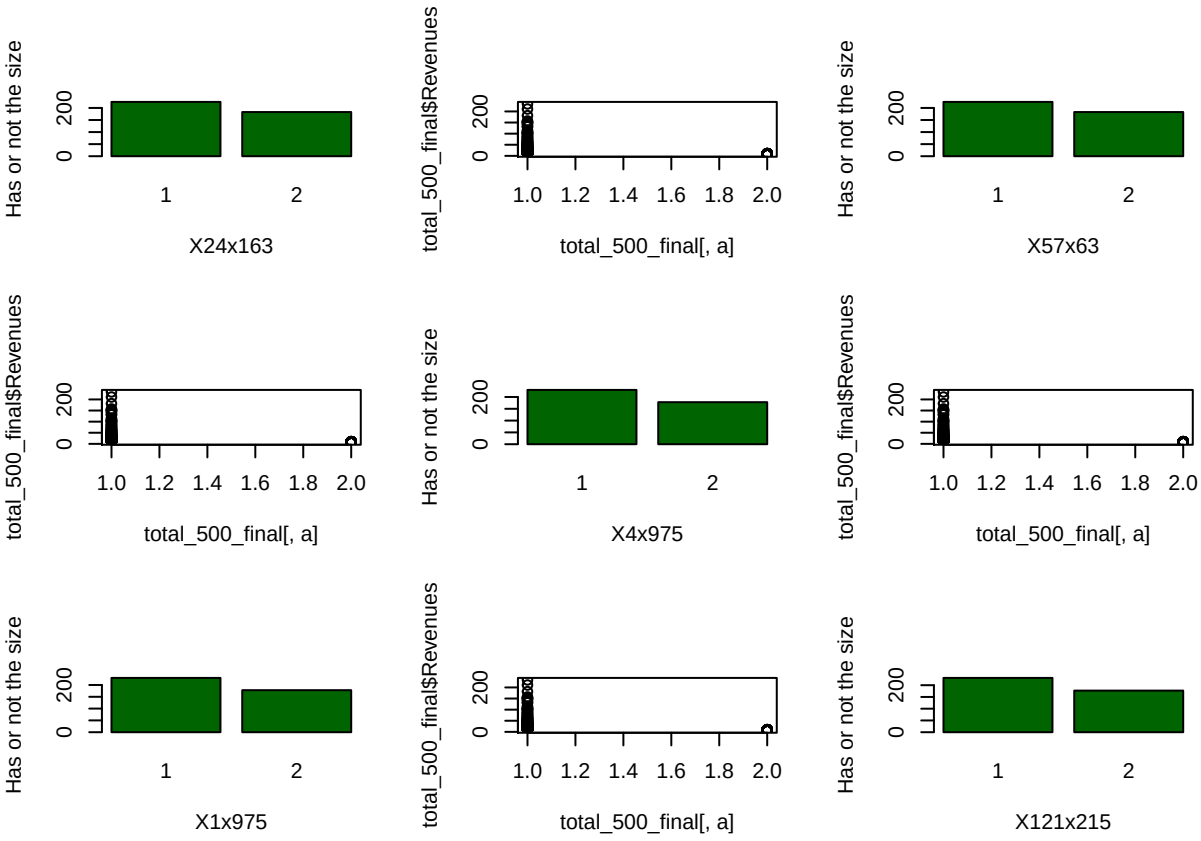

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X404x505
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X70x360
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X2971x2846
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X631x505
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

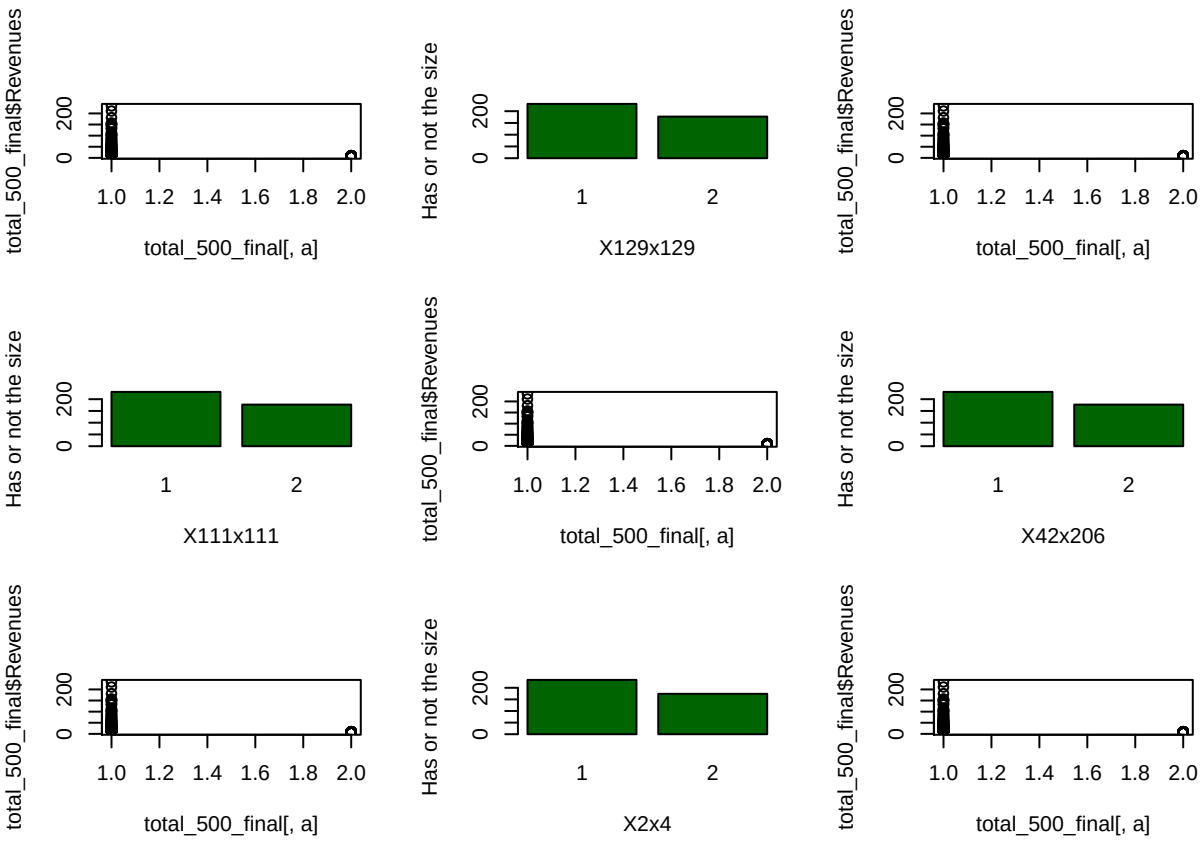

Has or not the size
0 200
1 2
X46x660
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X492x615
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X6x4
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X112x293
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X44x334

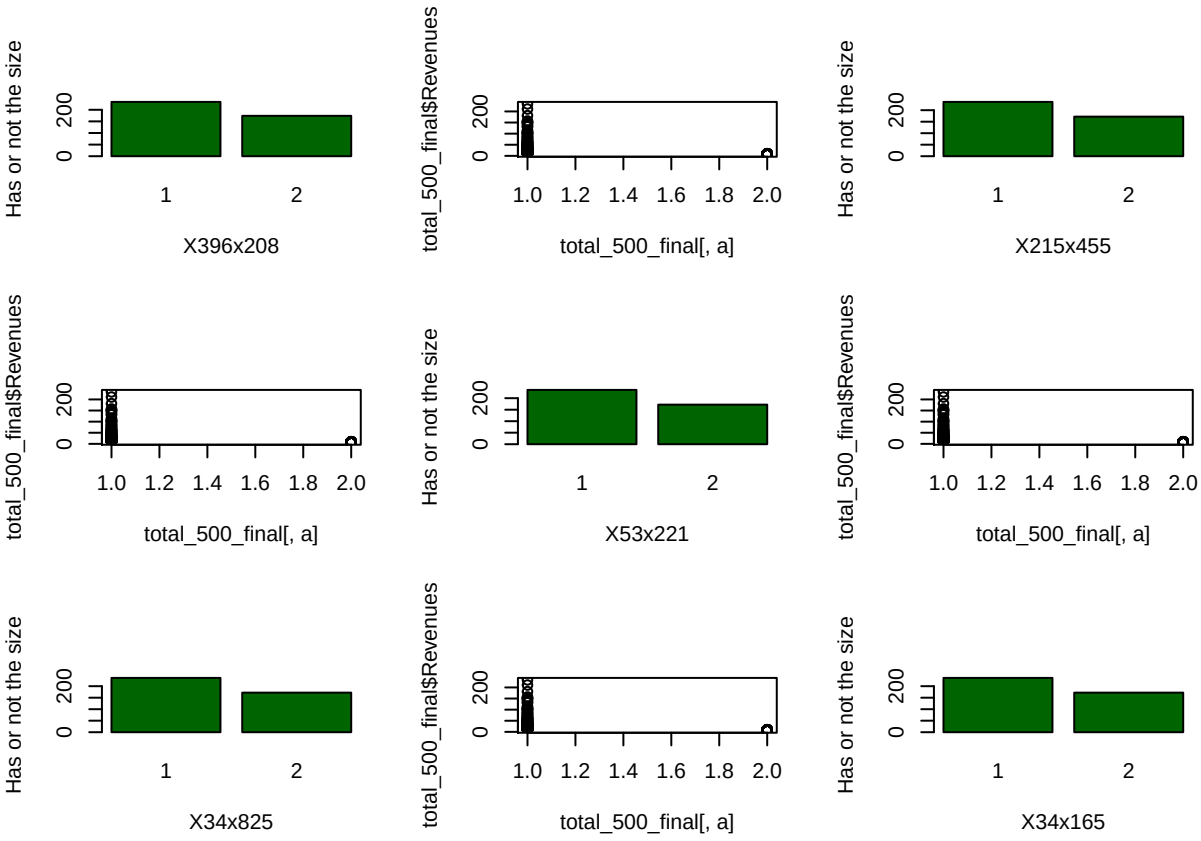

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X14x18
X260x427
X59x276
X9x30

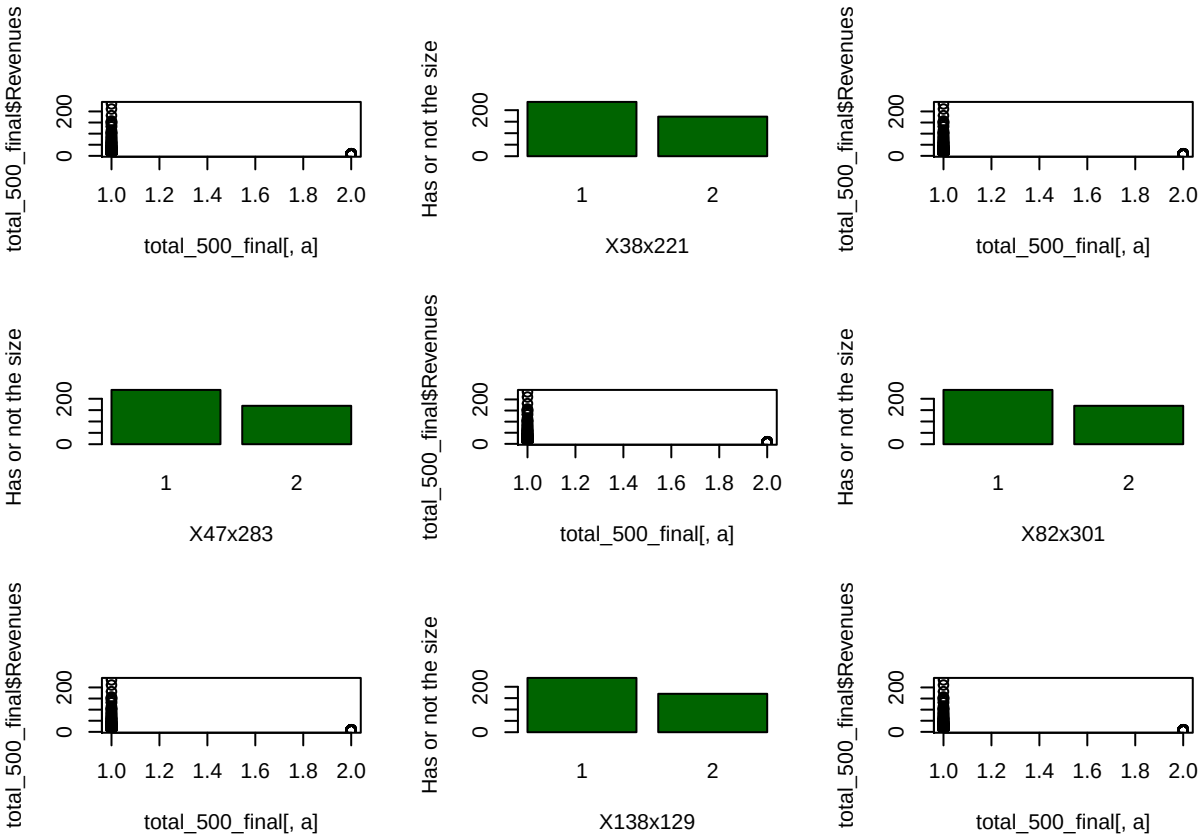

Has or not the size
0 200
1 2
X26x26
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X18x18
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X61x194
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X327x986
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X66x53

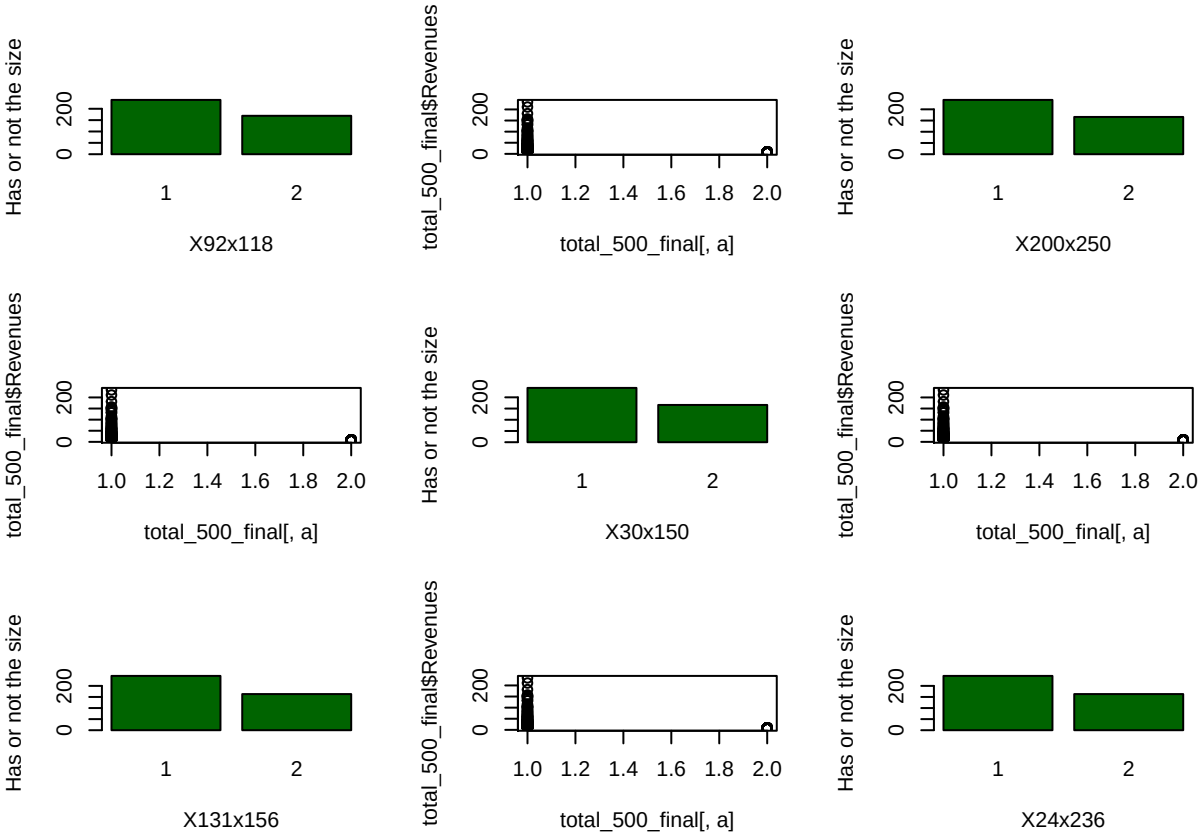

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X19x155
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X56x56
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X16x12
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X43x43
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

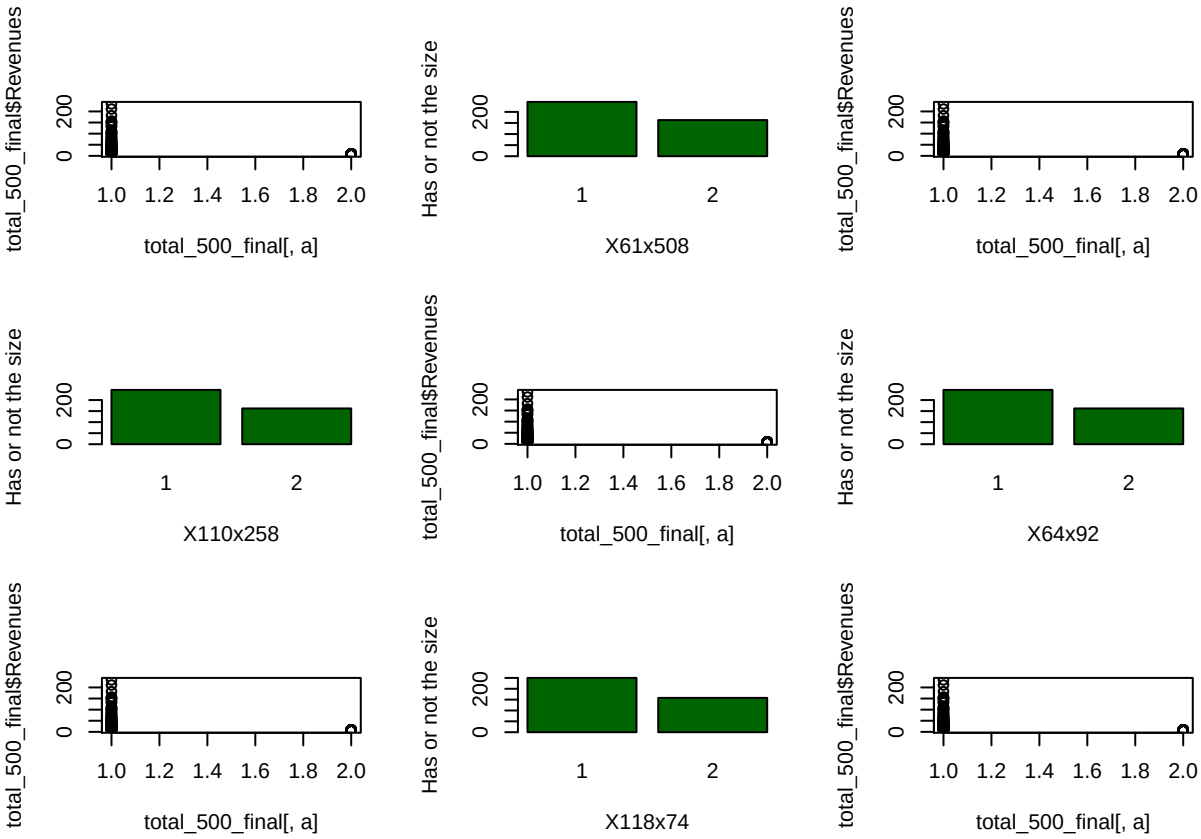

Has or not the size
0 200
1 2
X24x163
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X57x63
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X4x975
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X1x975
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X121x215

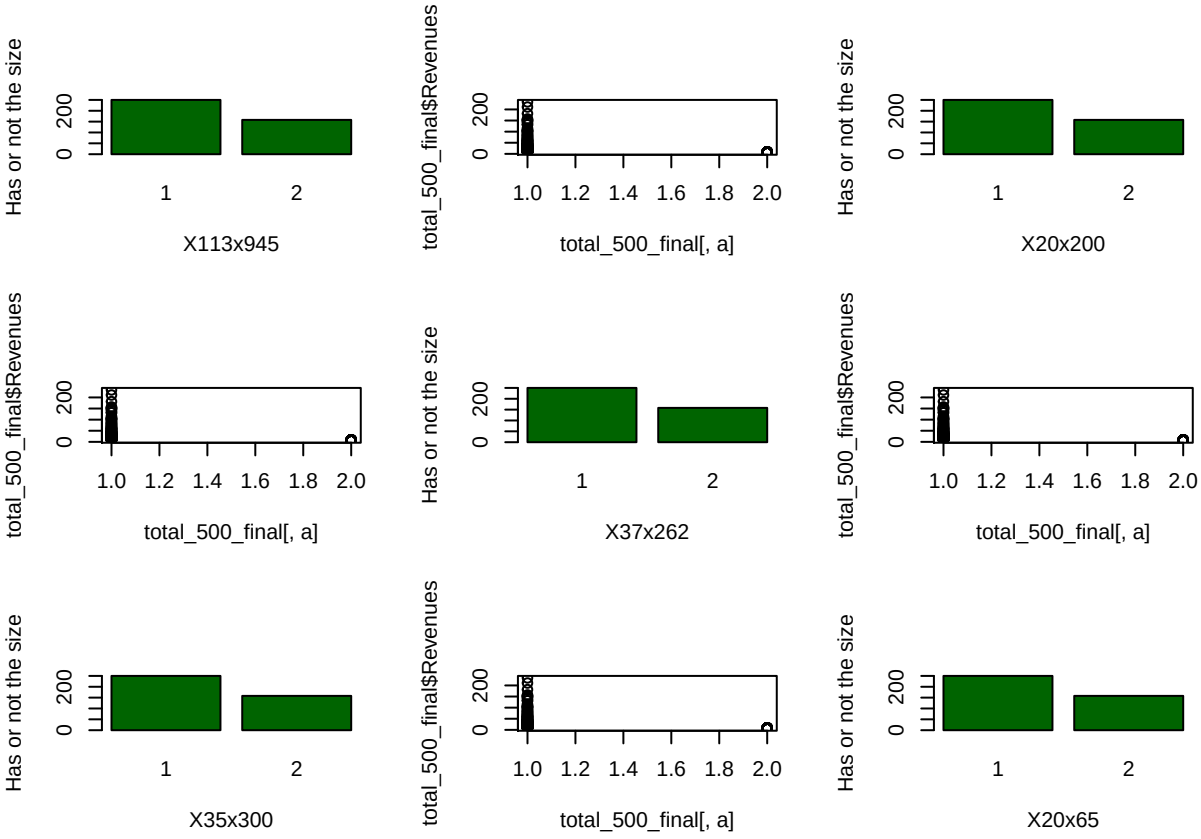

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X129x129
X111x111
X42x206
X2x4

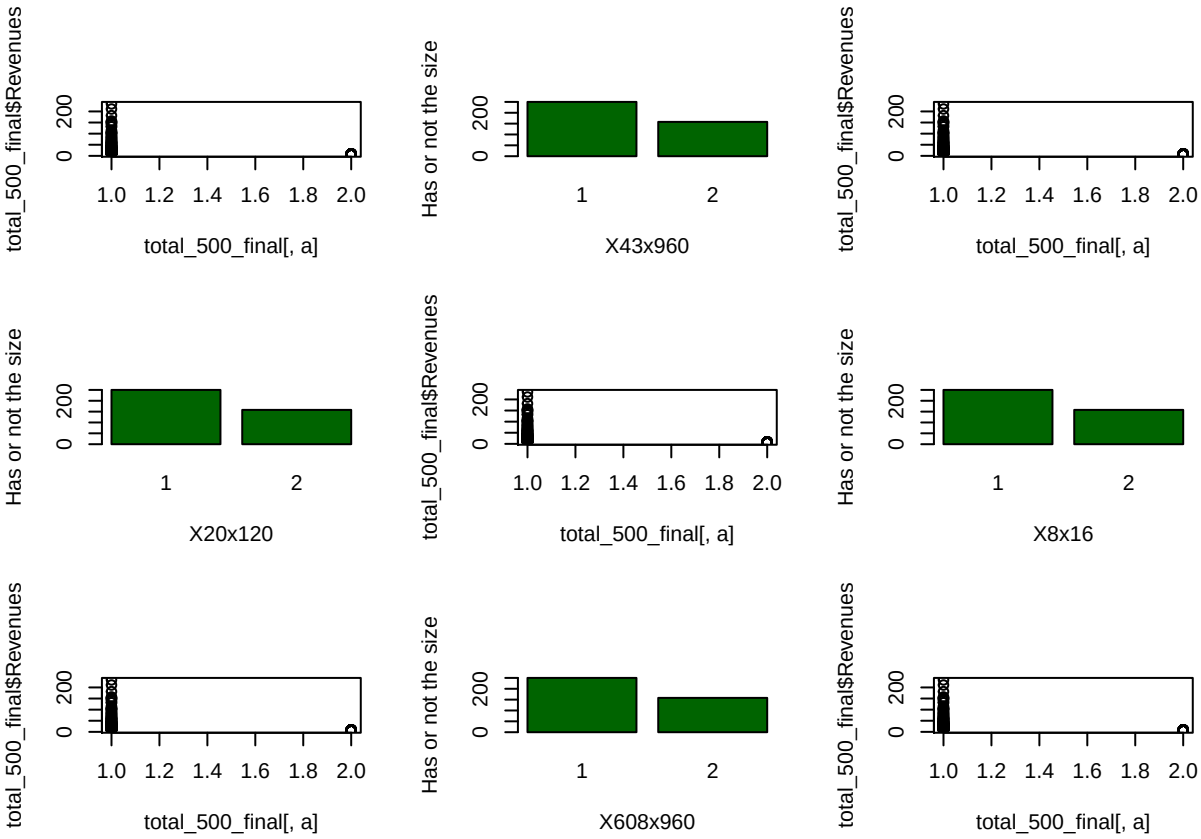

Has or not the size
0 200
1 2
X396x208
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X215x455
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X53x221
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X34x825
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X34x165

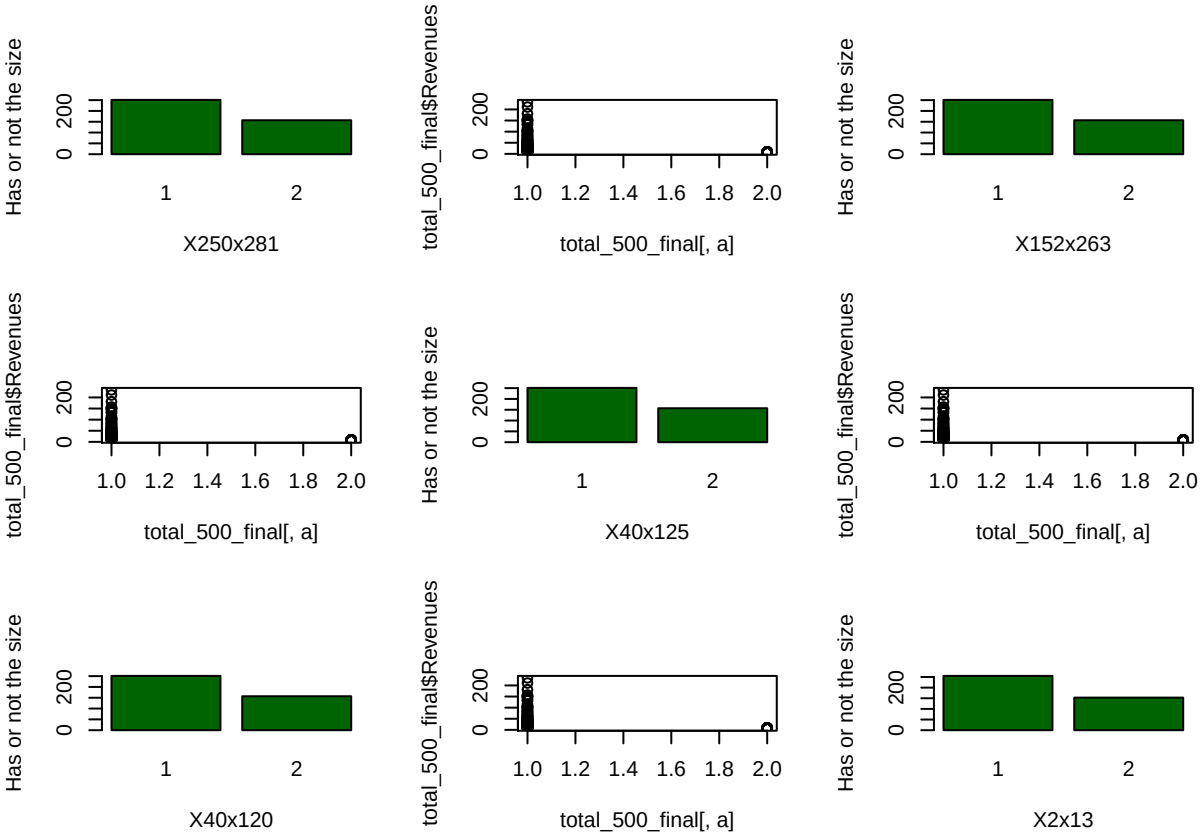

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X38x221
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X47x283
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X82x301
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X138x129
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

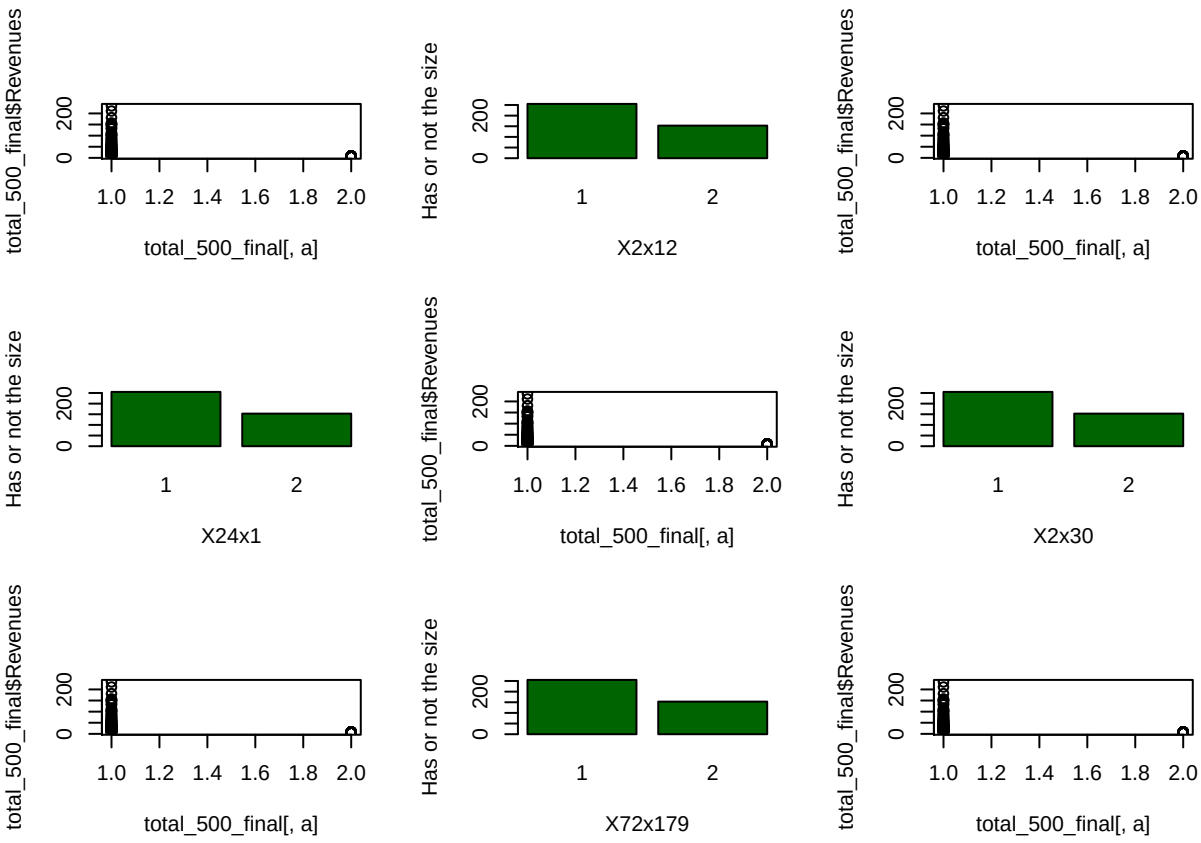

Has or not the size
0 200
1 2
X92x118
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X200x250
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X30x150
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X131x156
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X24x236

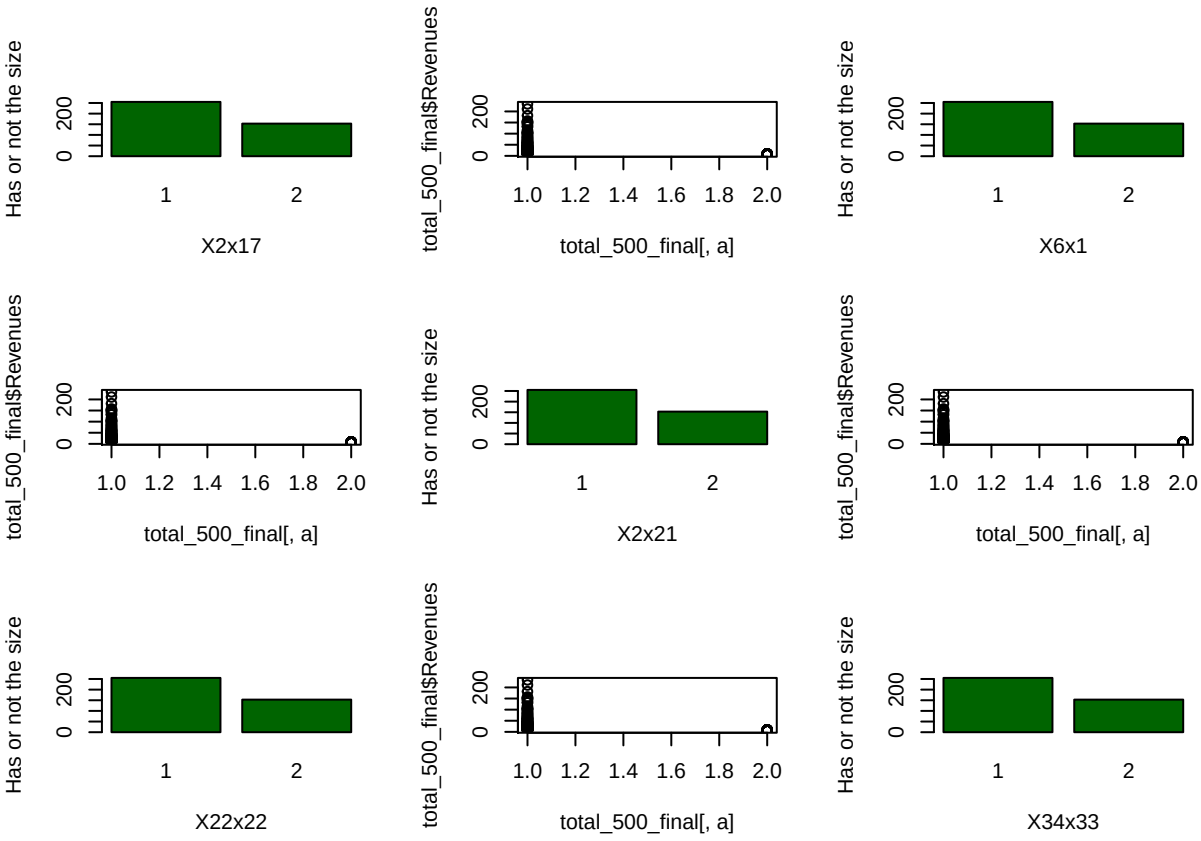

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X61x508
X110x258
X64x92
X118x74

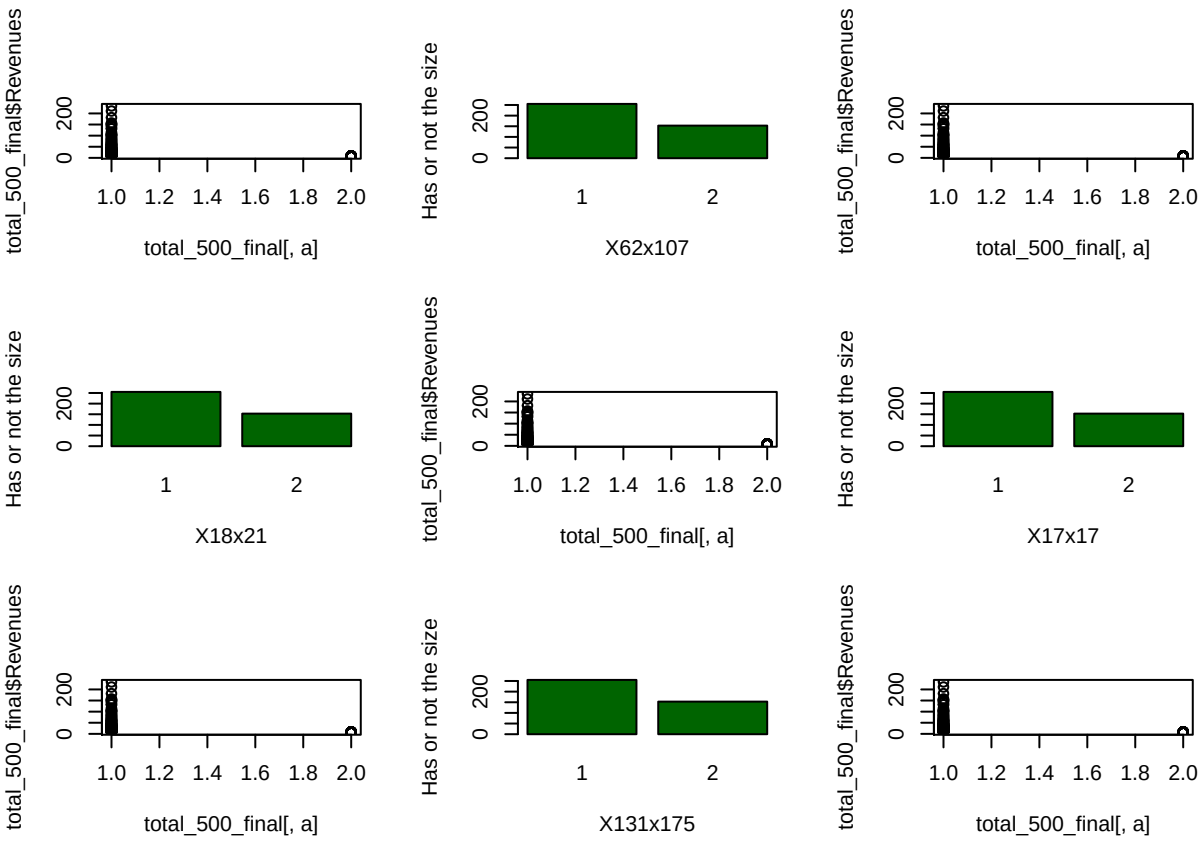

Has or not the size
0 200
1 2
X113x945
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X20x200
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X37x262
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X35x300
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X20x65

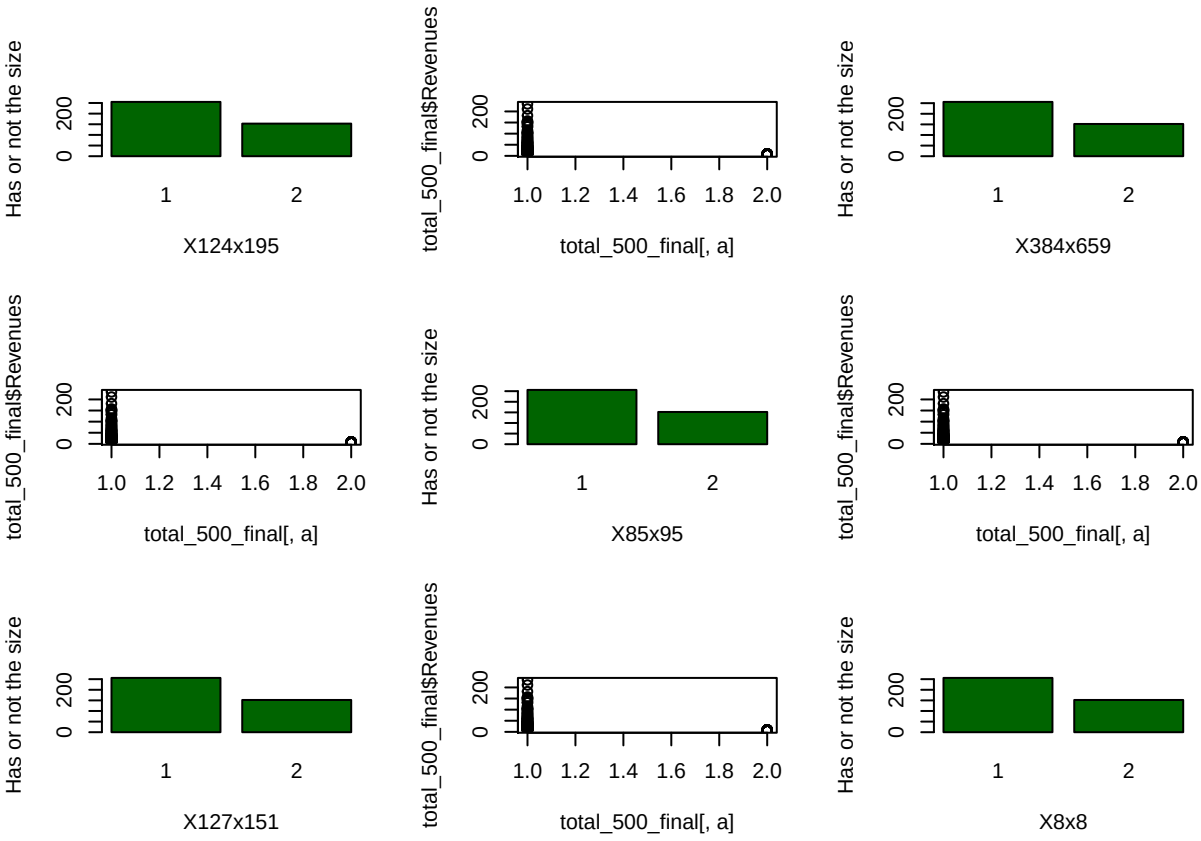

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X43x960
X20x120
X608x960
X8x16

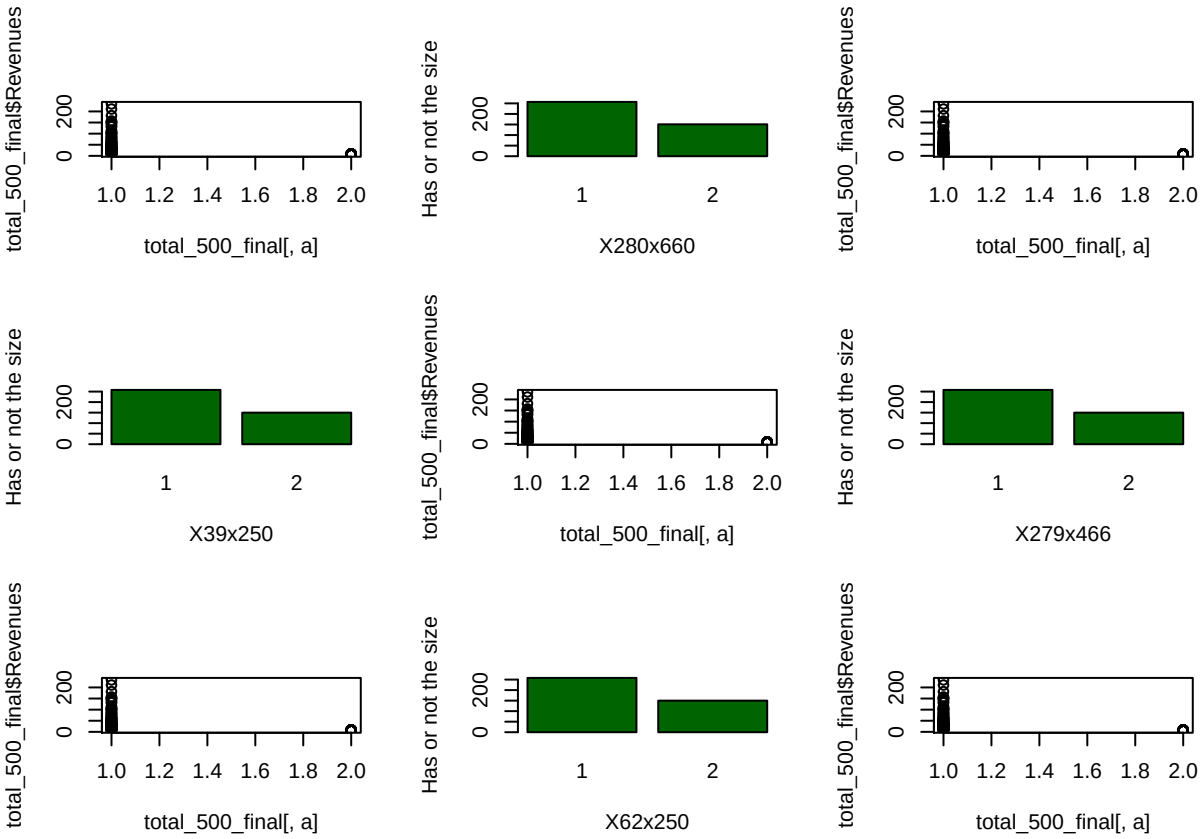

Has or not the size
0 200
1 2
X250x281
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X152x263
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X40x125
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X40x120
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X2x13

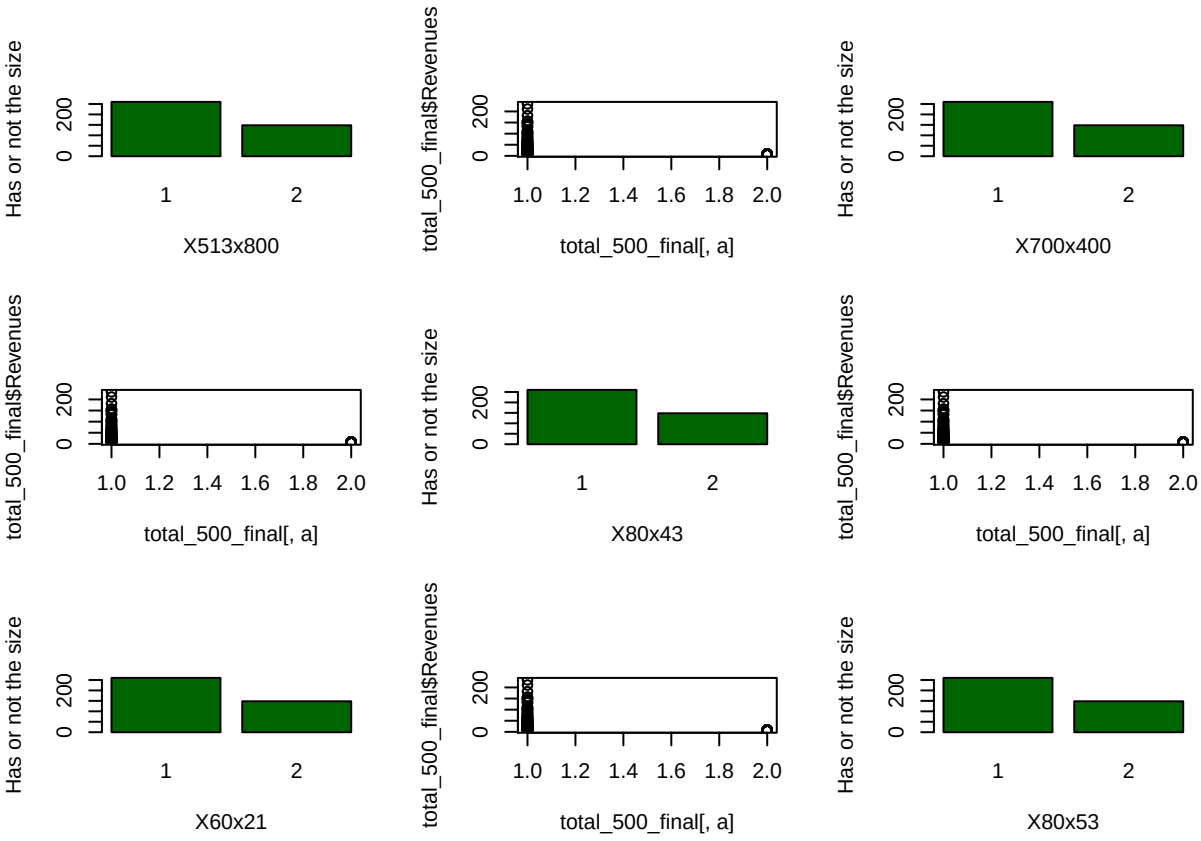

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X2x12
X24x1
X2x30
X72x179

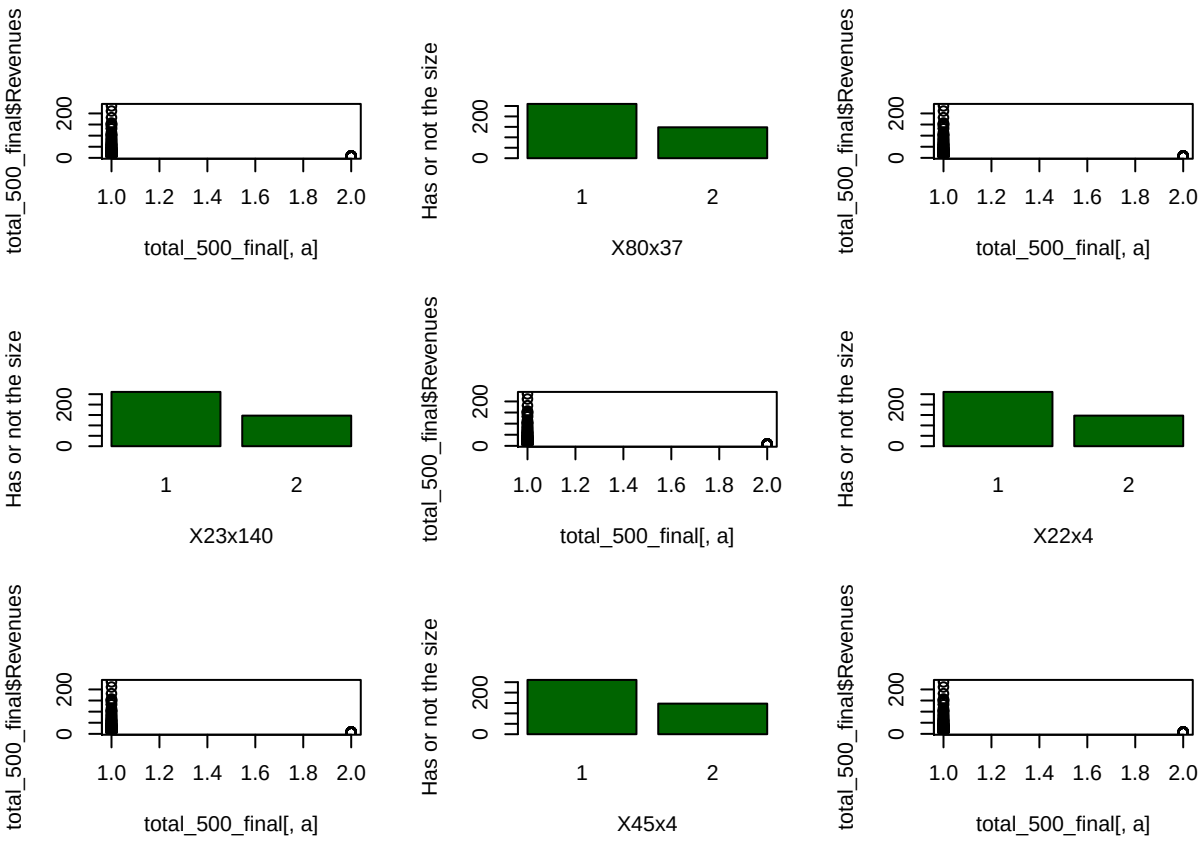

Has or not the size
0 200
1 2
X2x17
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X6x1
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X2x21
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X22x22
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X34x33

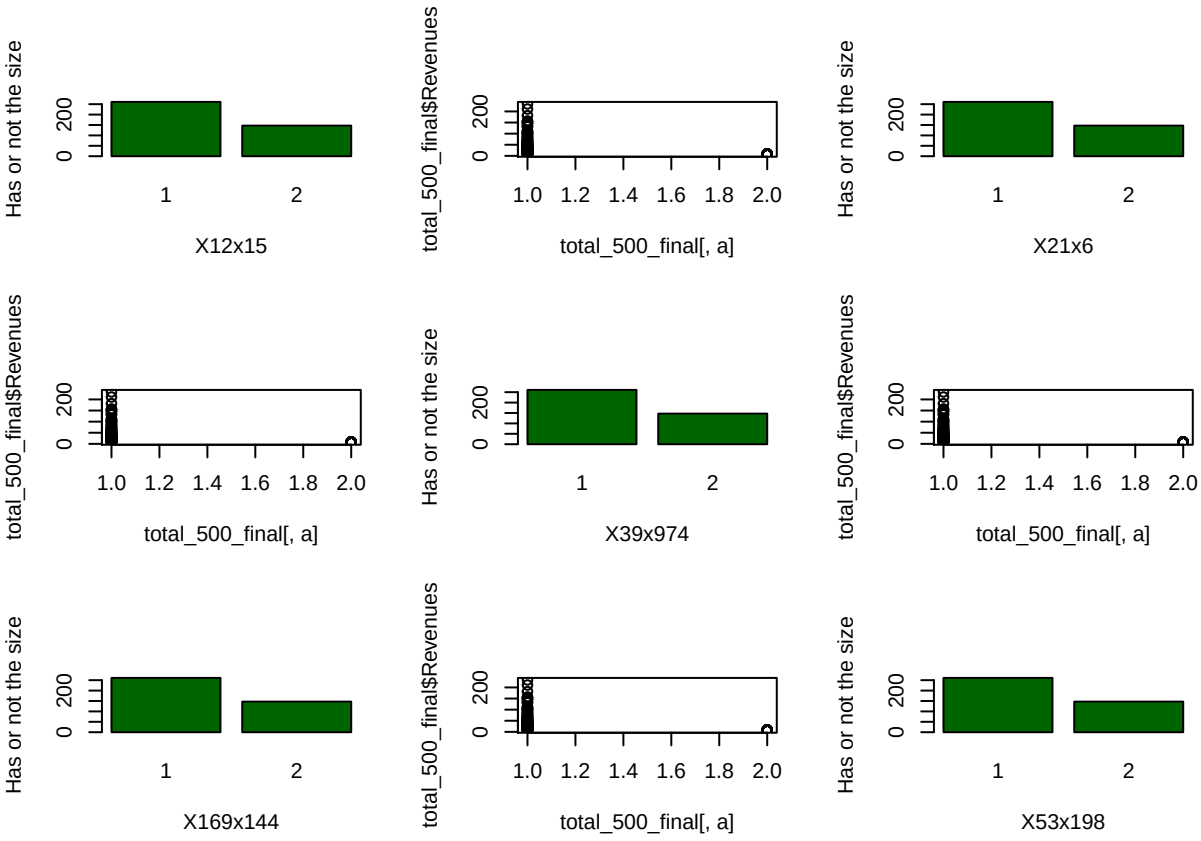

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X62x107
X18x21
X17x17
X131x175

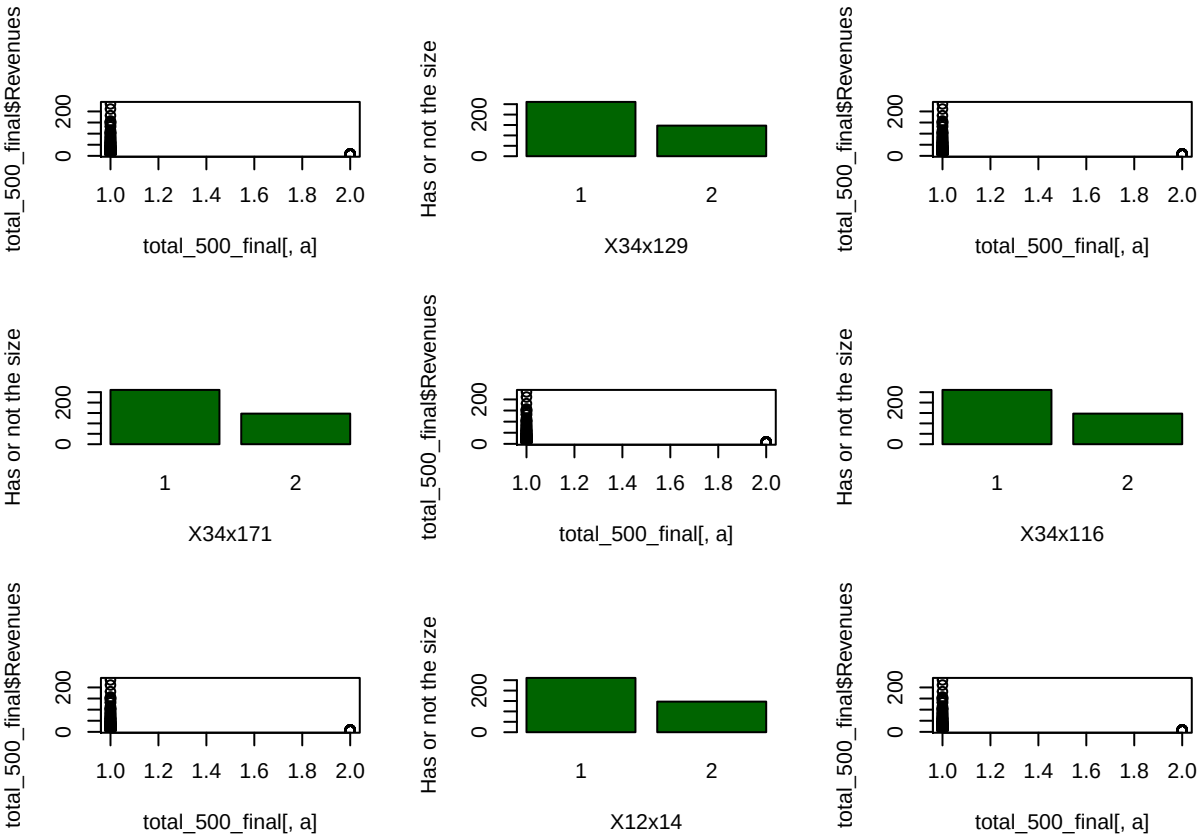

Has or not the size
0 200
1 2
X124x195
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X384x659
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X85x95
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X127x151
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X8x8

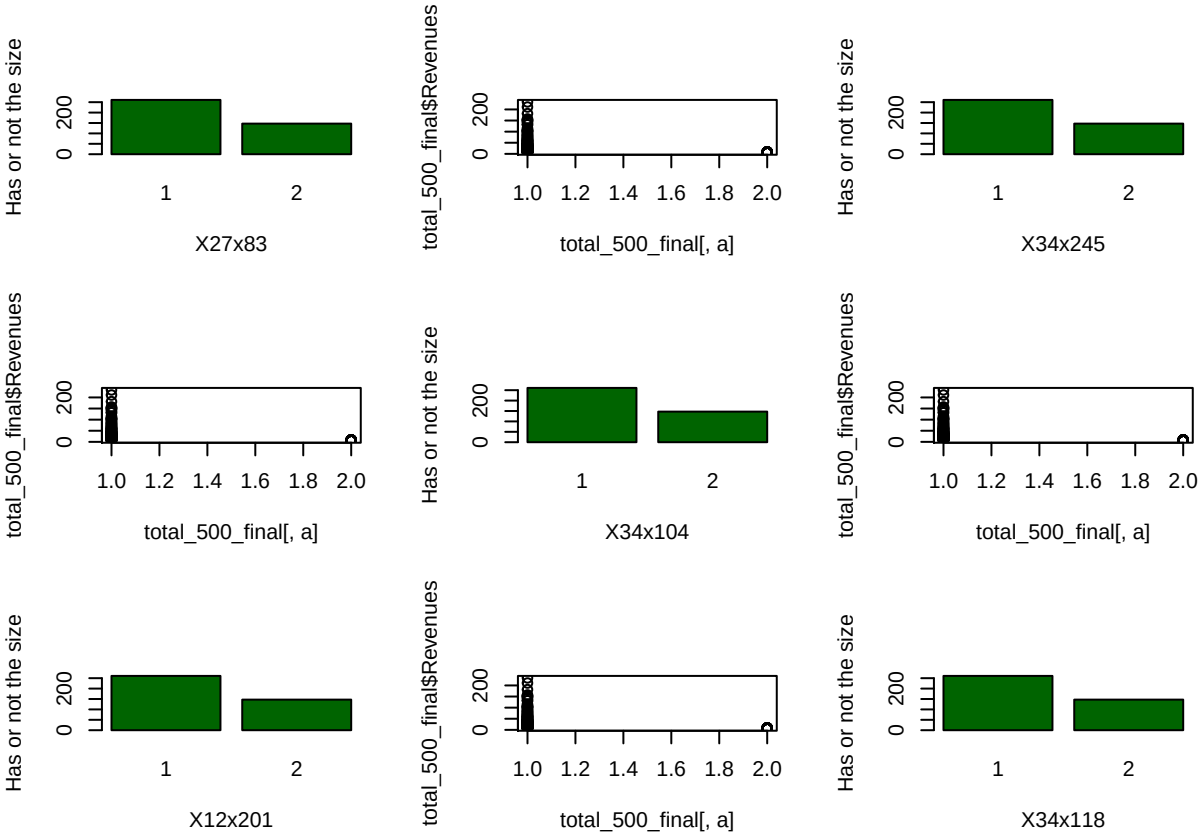

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X280x660
X39x250
X279x466
X62x250

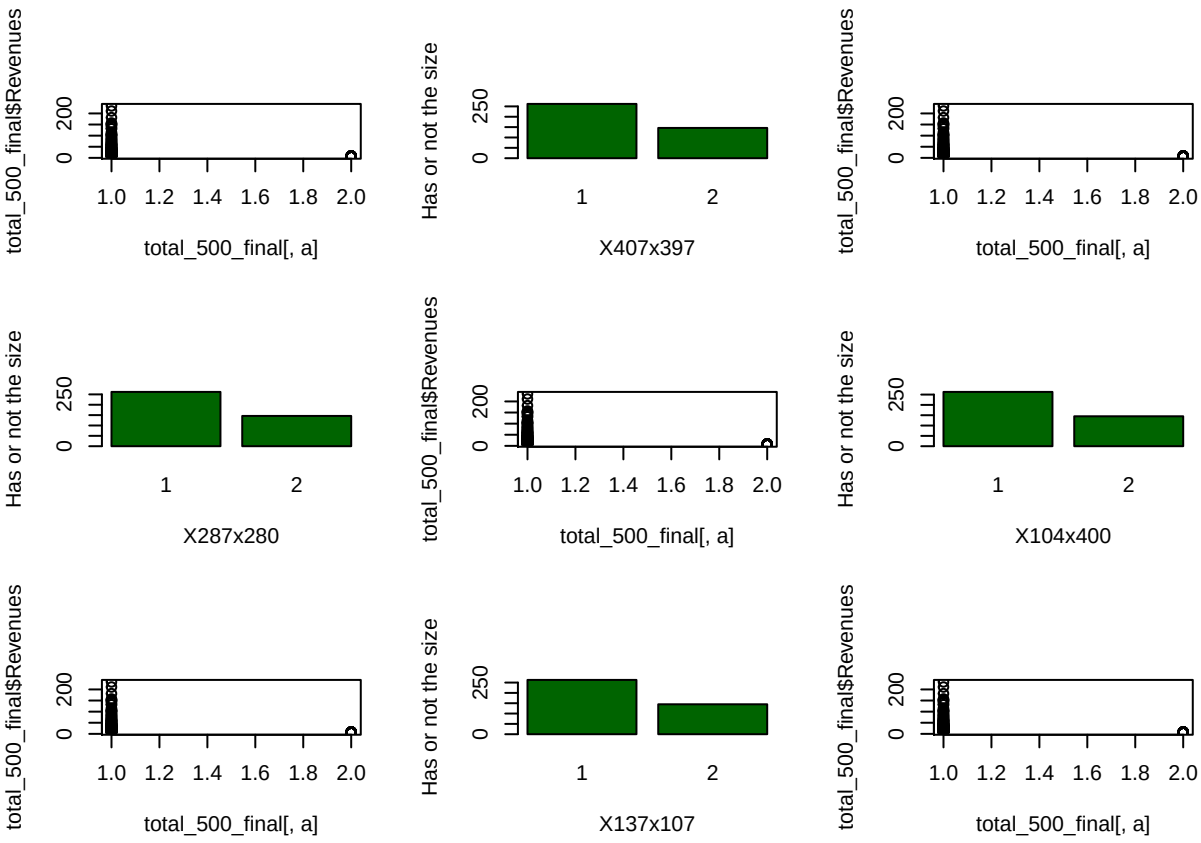

Has or not the size
0 200
1 2
X513x800
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X700x400
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X80x43
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X60x21
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X80x53

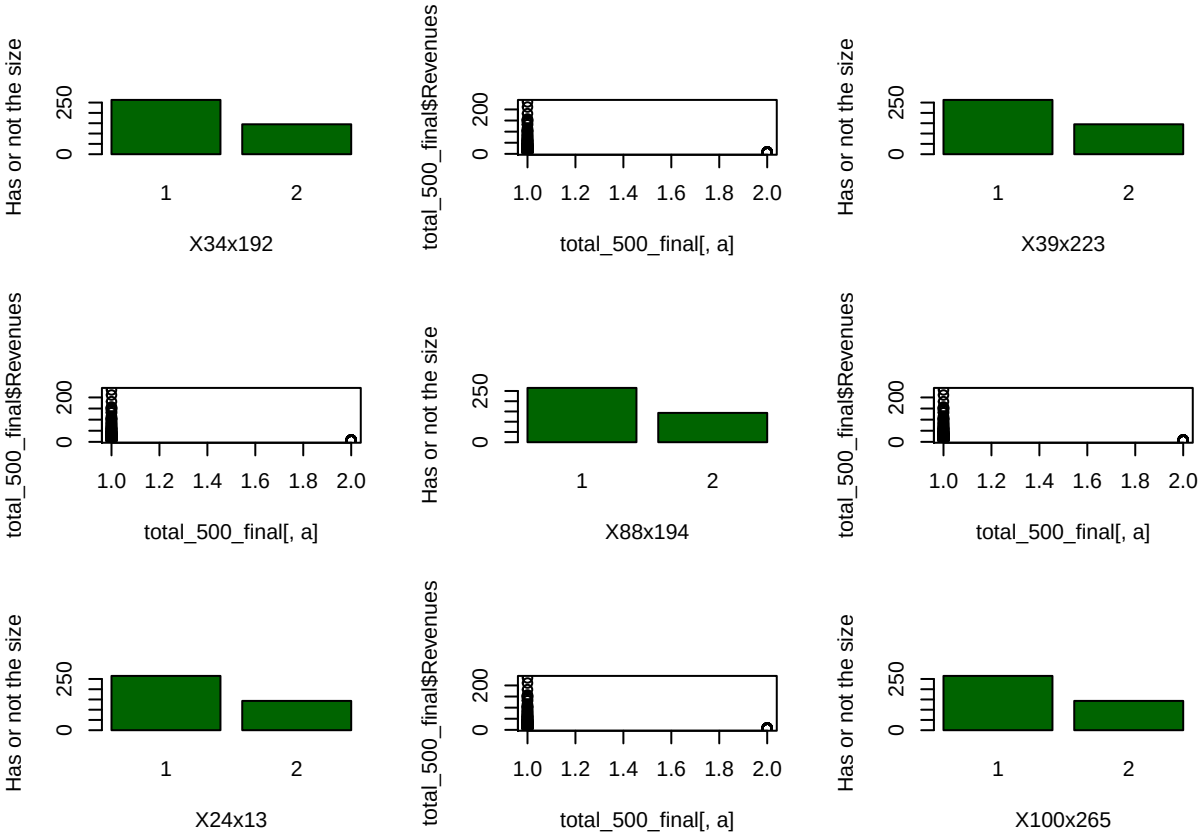

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X80x37
X23x140
X22x4
X45x4

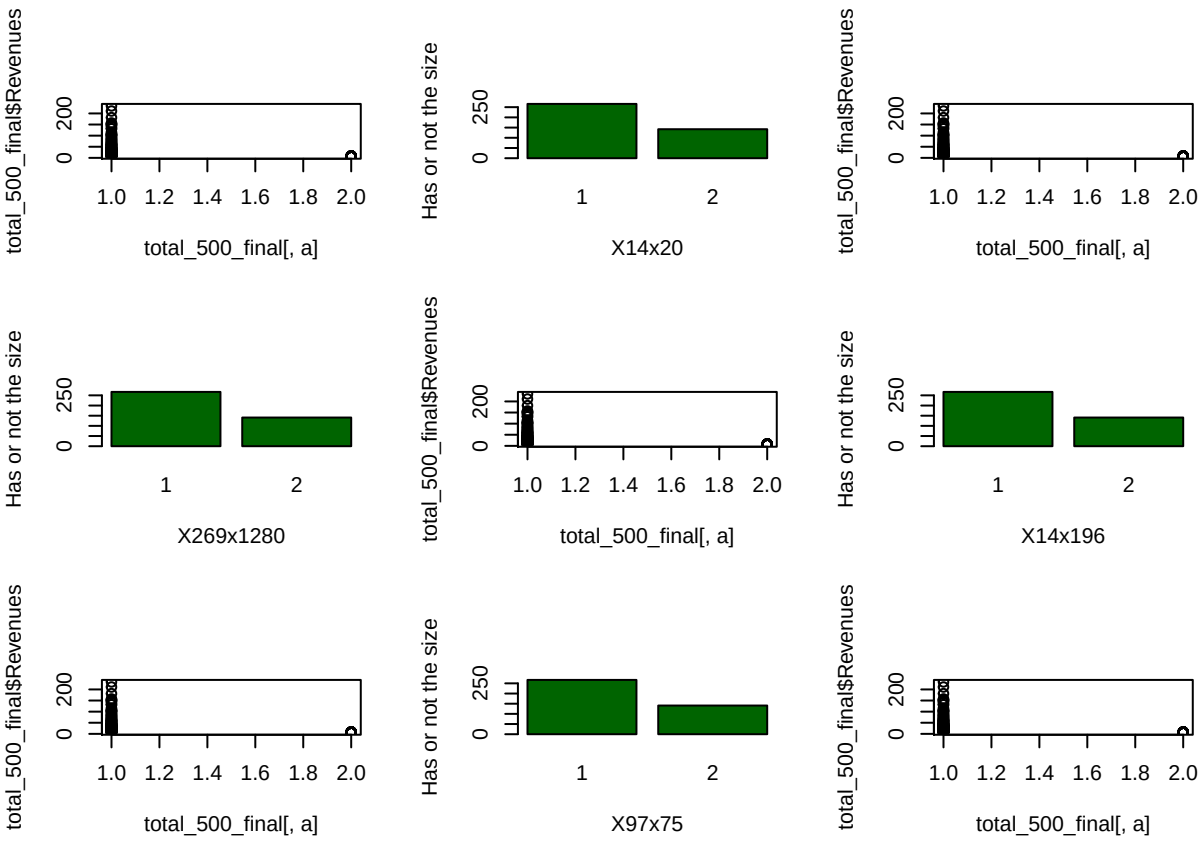

Has or not the size
0 200
1 2
X12x15
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X21x6
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X39x974
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X53x198
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X169x144
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

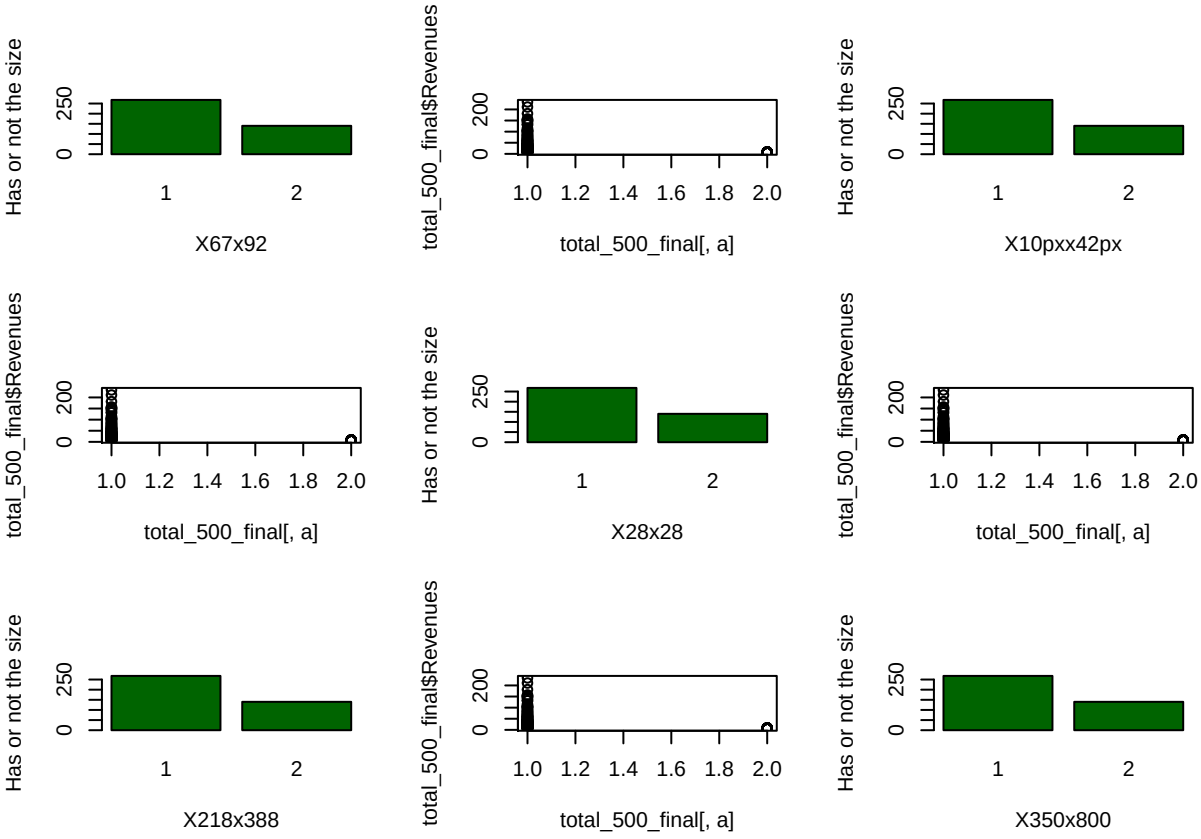

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X34x129
X34x171
X34x116
X12x14

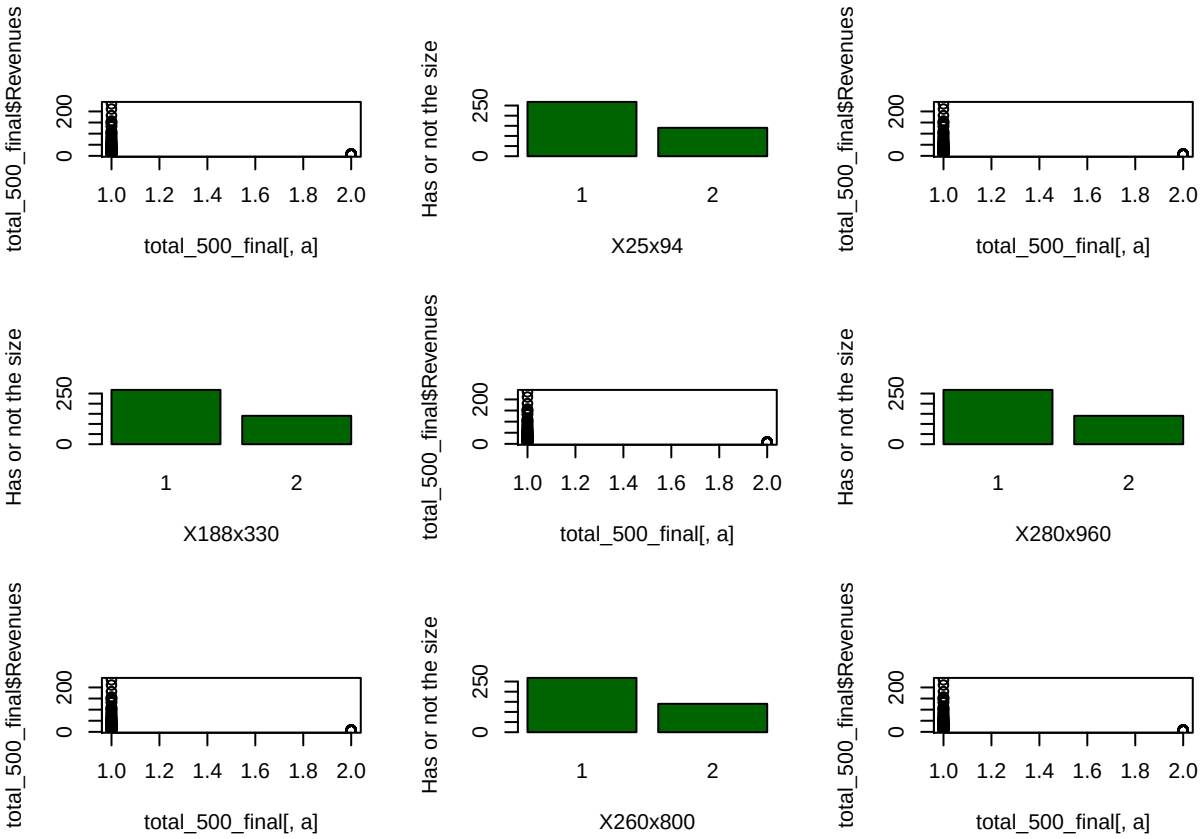

Has or not the size
0 200
1 2
X27x83
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X34x245
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X34x104
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X12x201
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X34x118

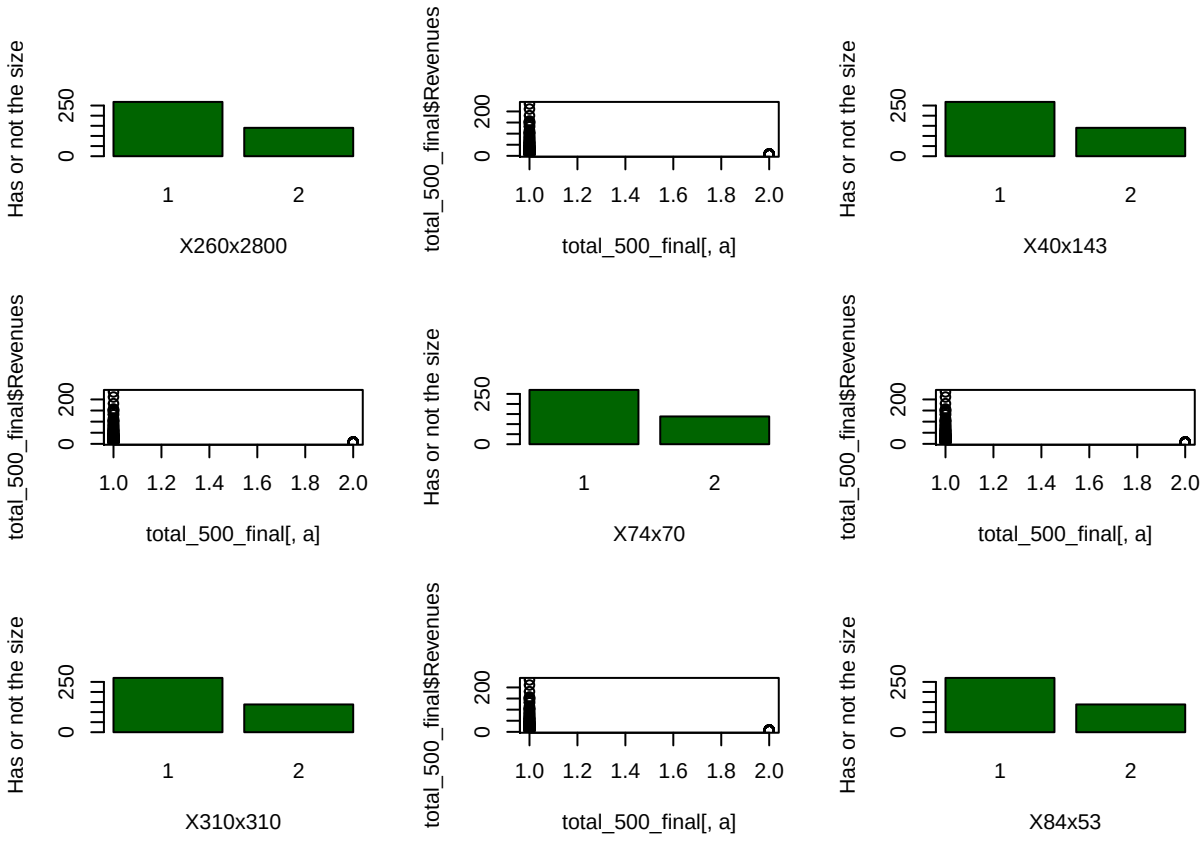

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X407x397
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X287x280
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X104x400
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X137x107

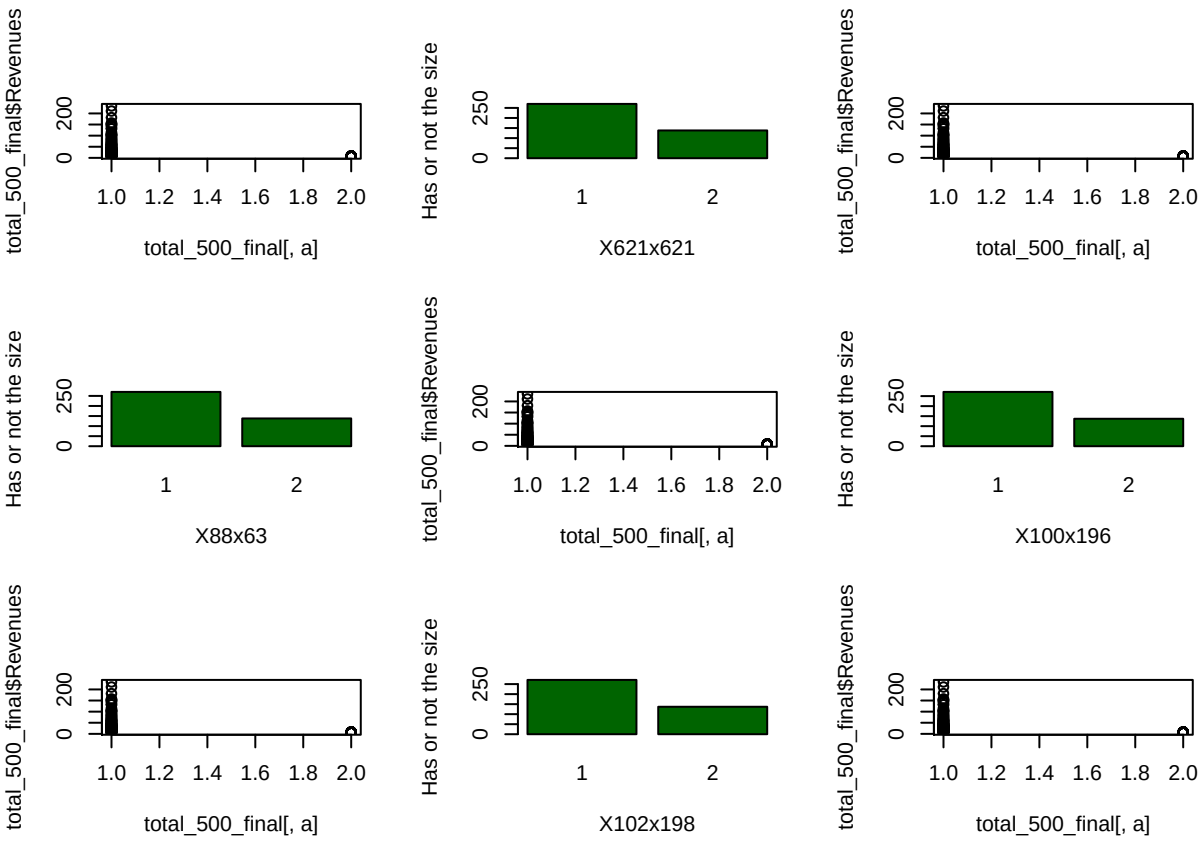

Has or not the size
0 250
1 2
X34x192
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X39x223
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X88x194
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X24x13
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X100x265

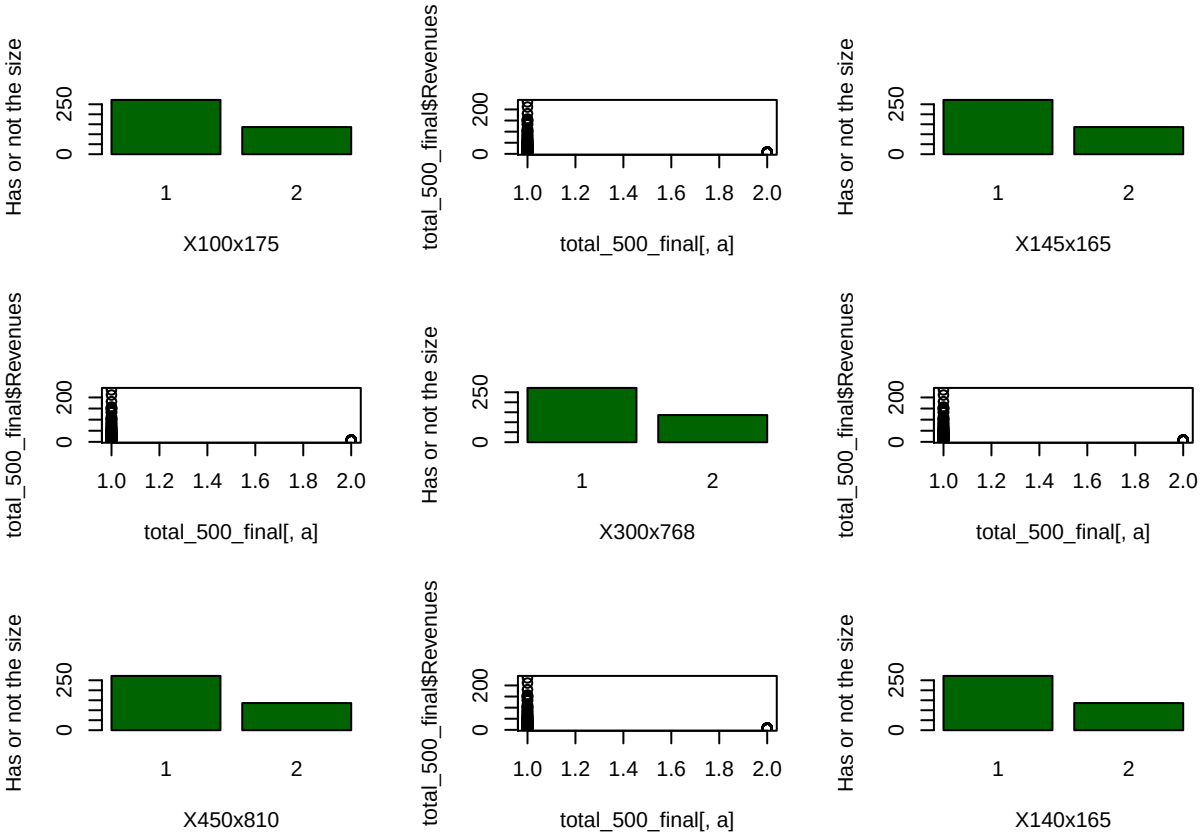

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X14x20
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X269x1280
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X14x196
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X97x75
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

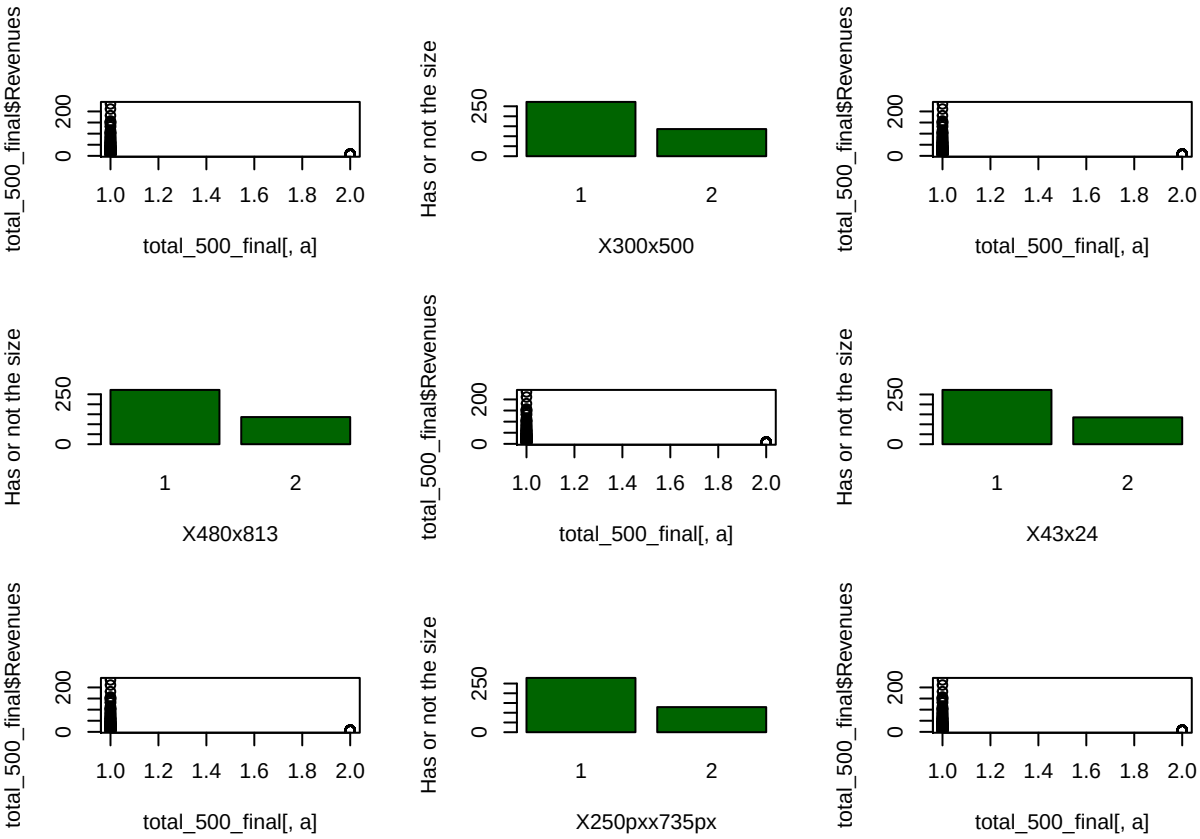

Has or not the size
0 250
1 2
X67x92
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X10pxx42px
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X28x28
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X218x388
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X350x800

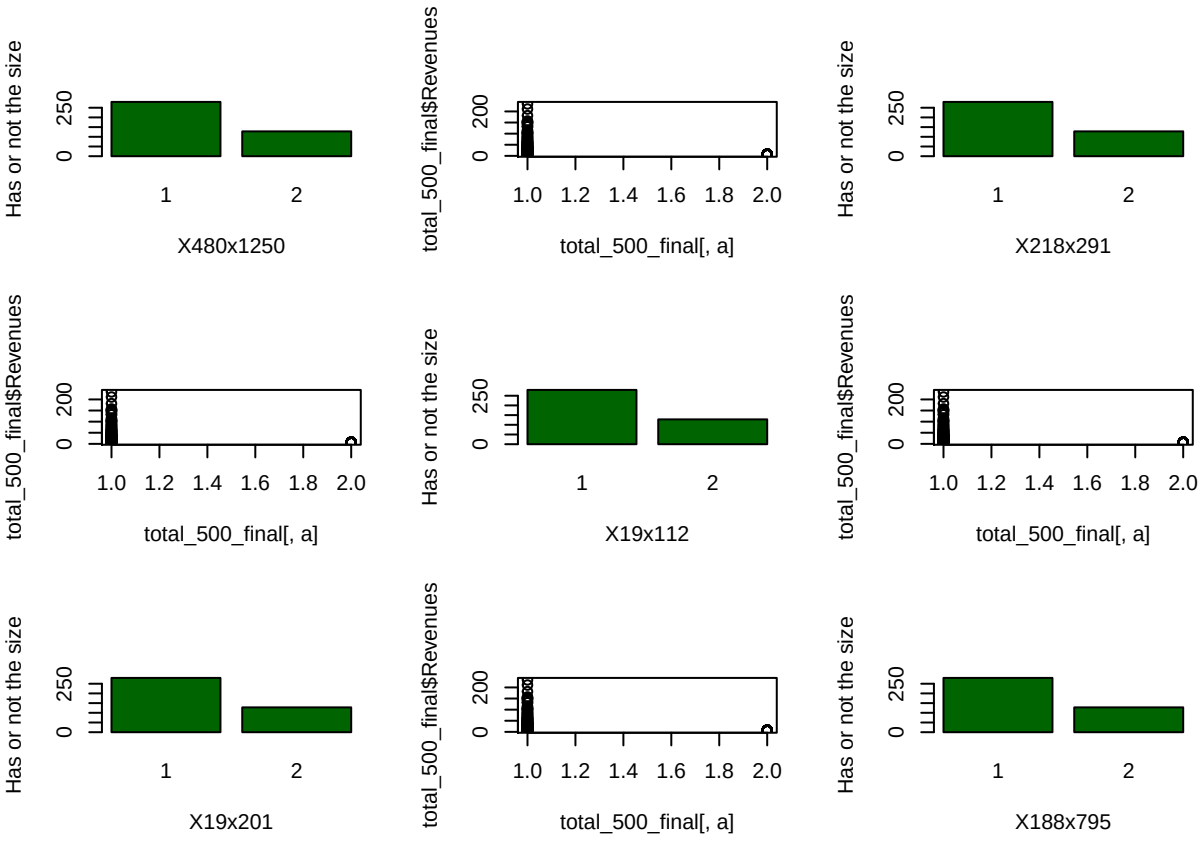

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X25x94
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X188x330
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X280x960
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X260x800
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

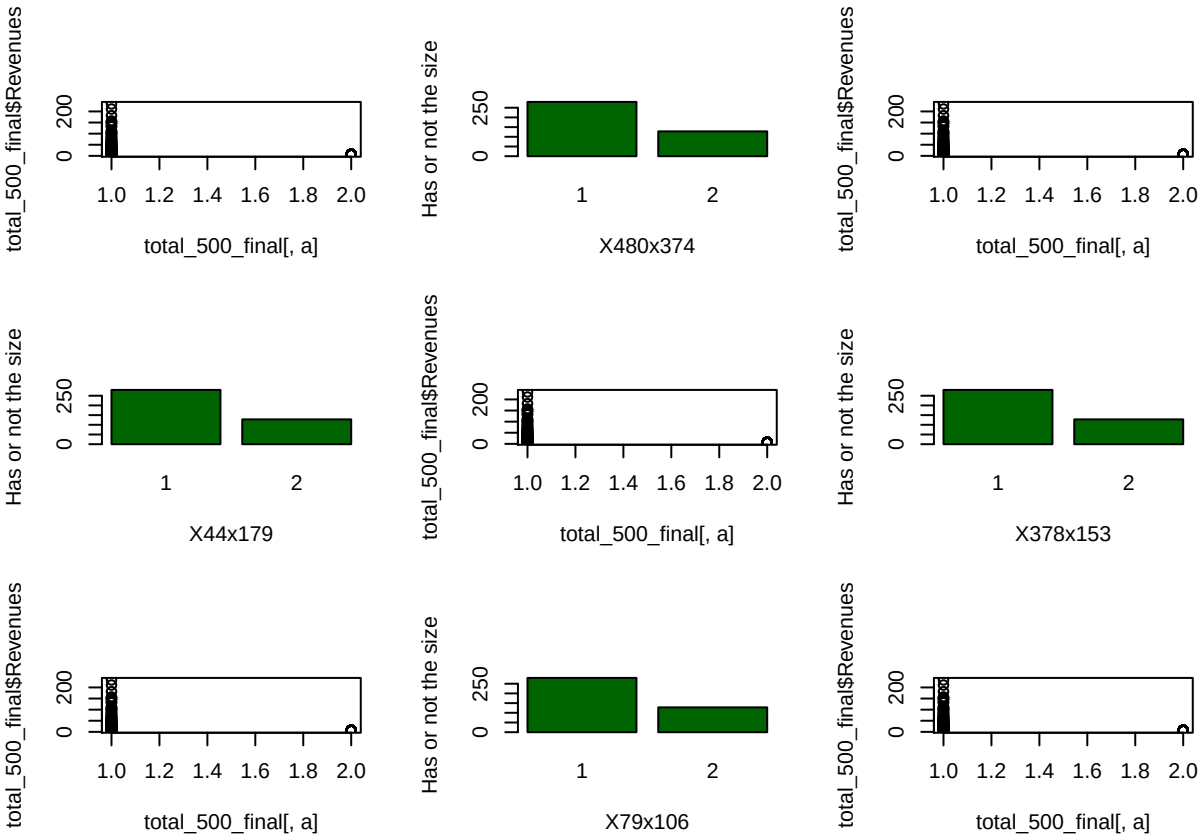

Has or not the size
0 250
1 2
X260x2800
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X40x143
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X74x70
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X310x310
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X84x53

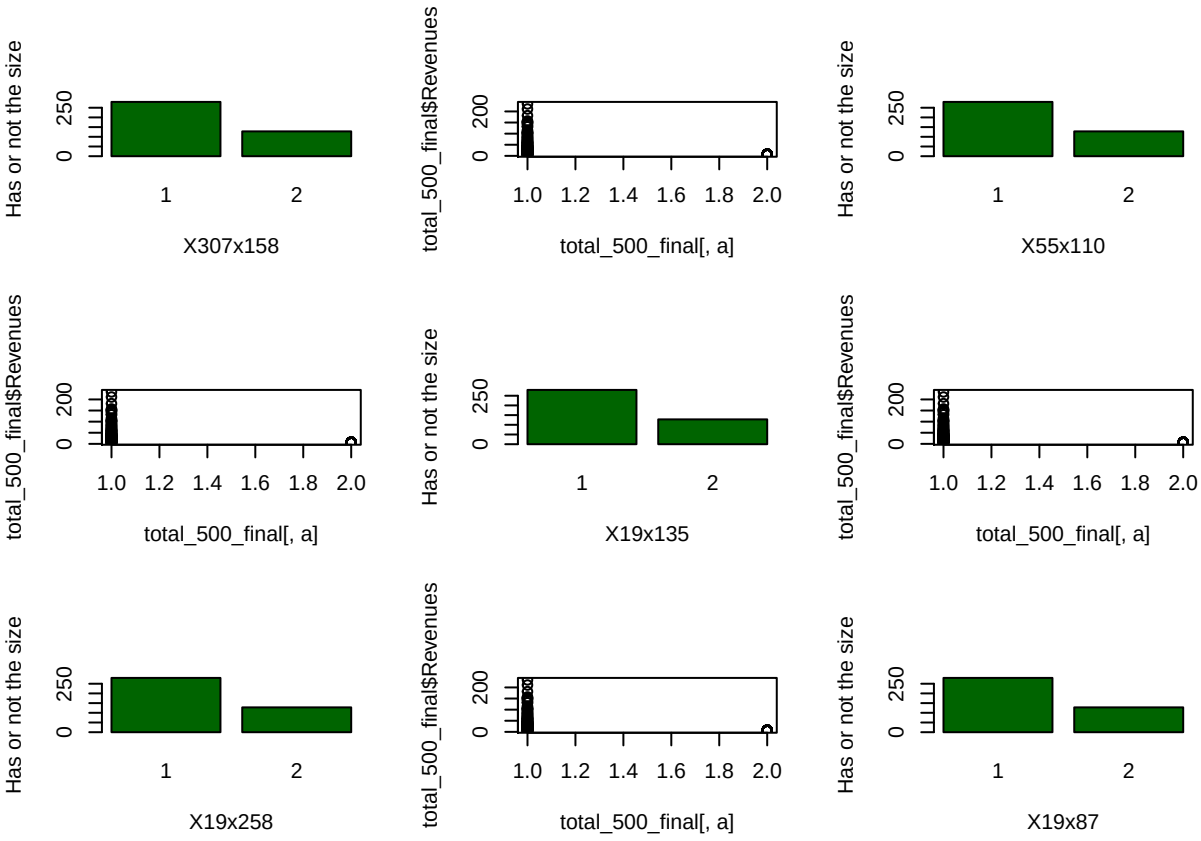

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X621x621
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X88x63
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X100x196
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X102x198
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

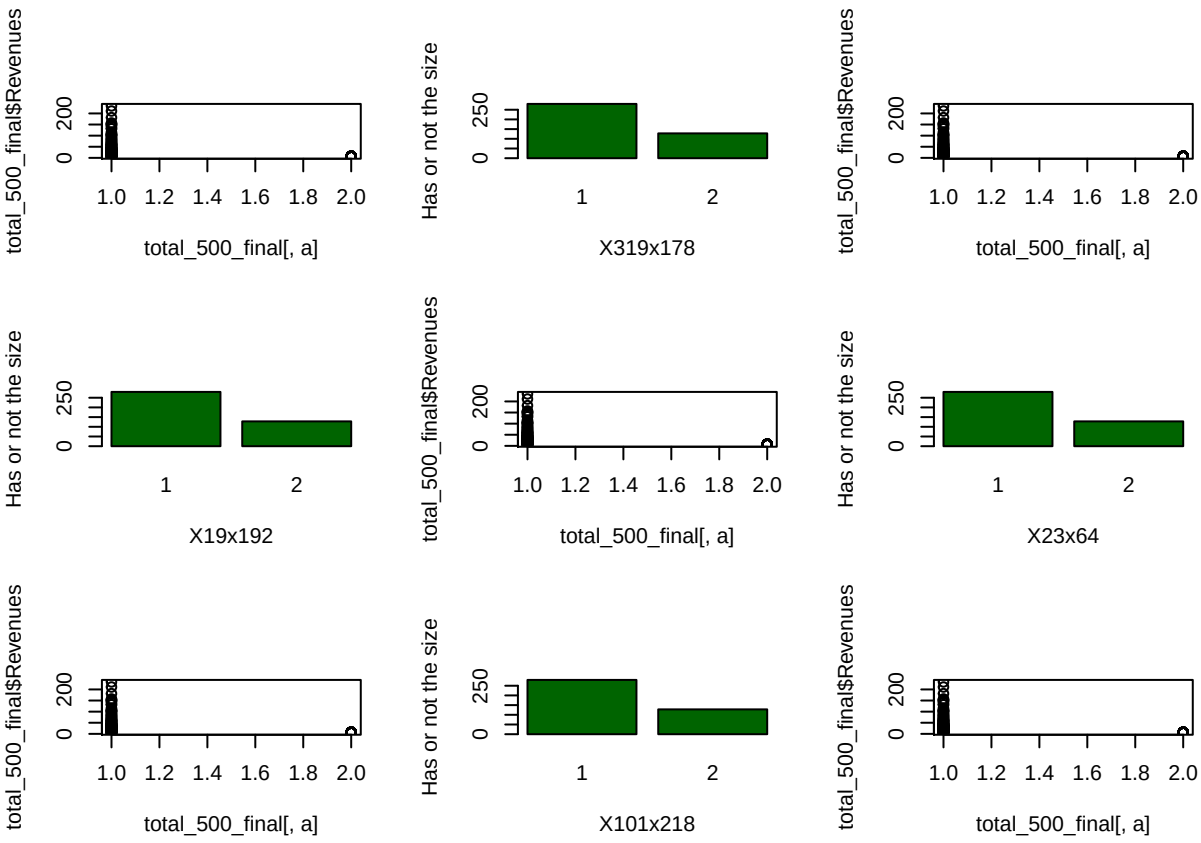

Has or not the size
0 250
1 2
X100x175
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X145x165
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X300x768
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X450x810
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X140x165

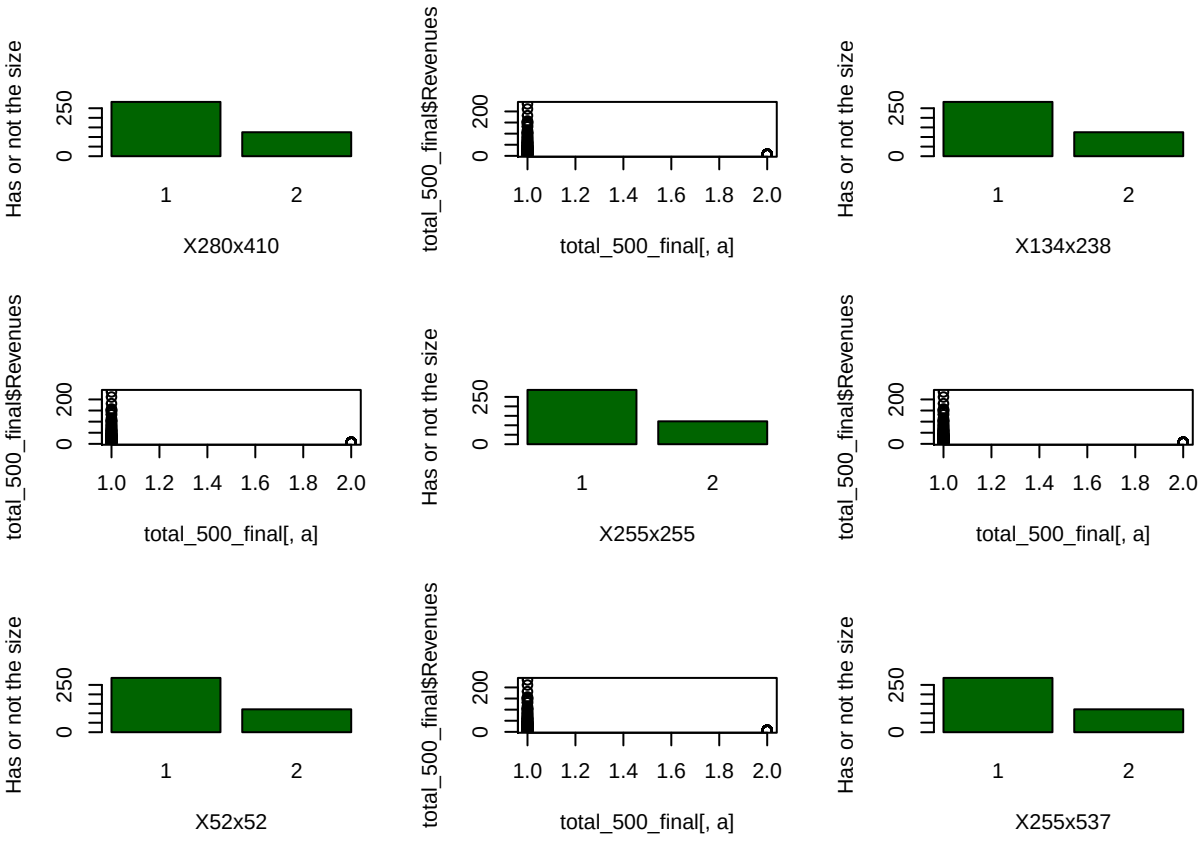

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X300x500
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X480x813
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X43x24
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X250pxx735px
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

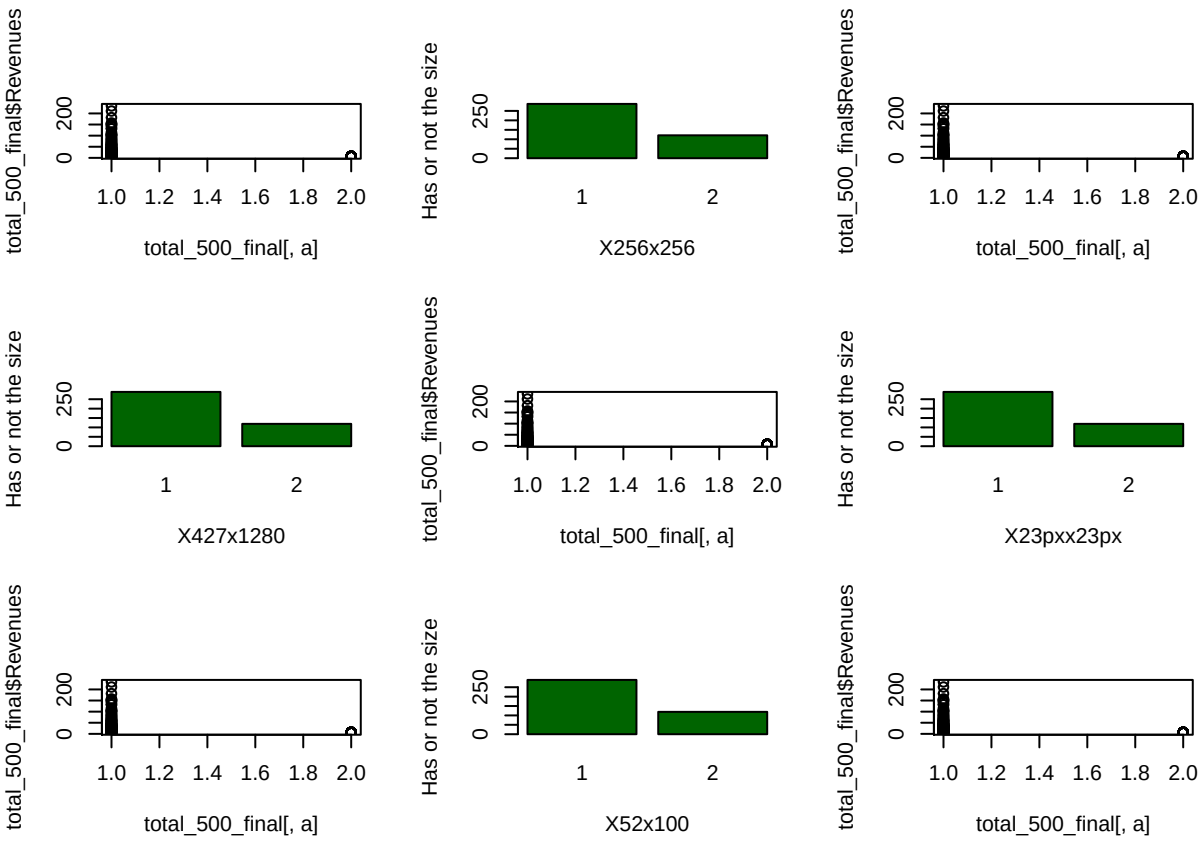

Has or not the size
0 250
1 2
X480x1250
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X218x291
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X19x112
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X19x201
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X188x795

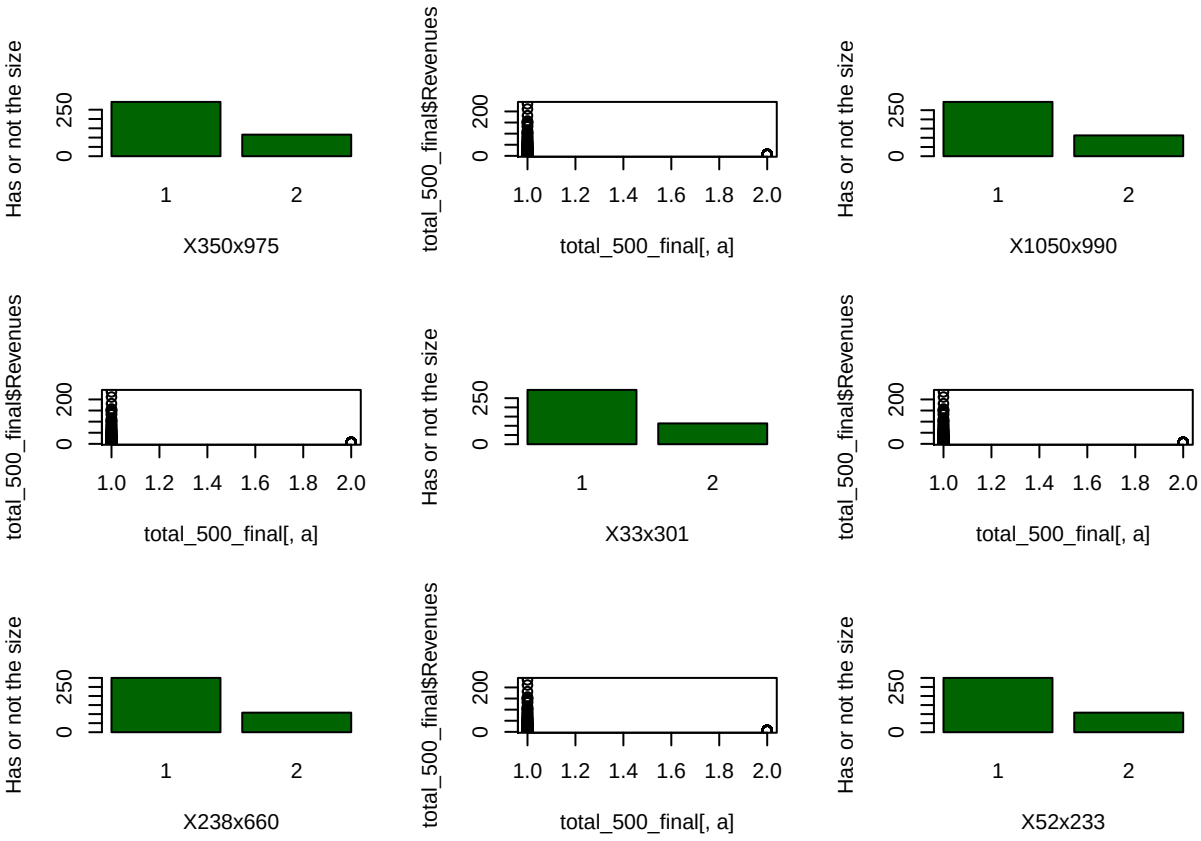

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X480x374
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X44x179
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X378x153
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X79x106
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

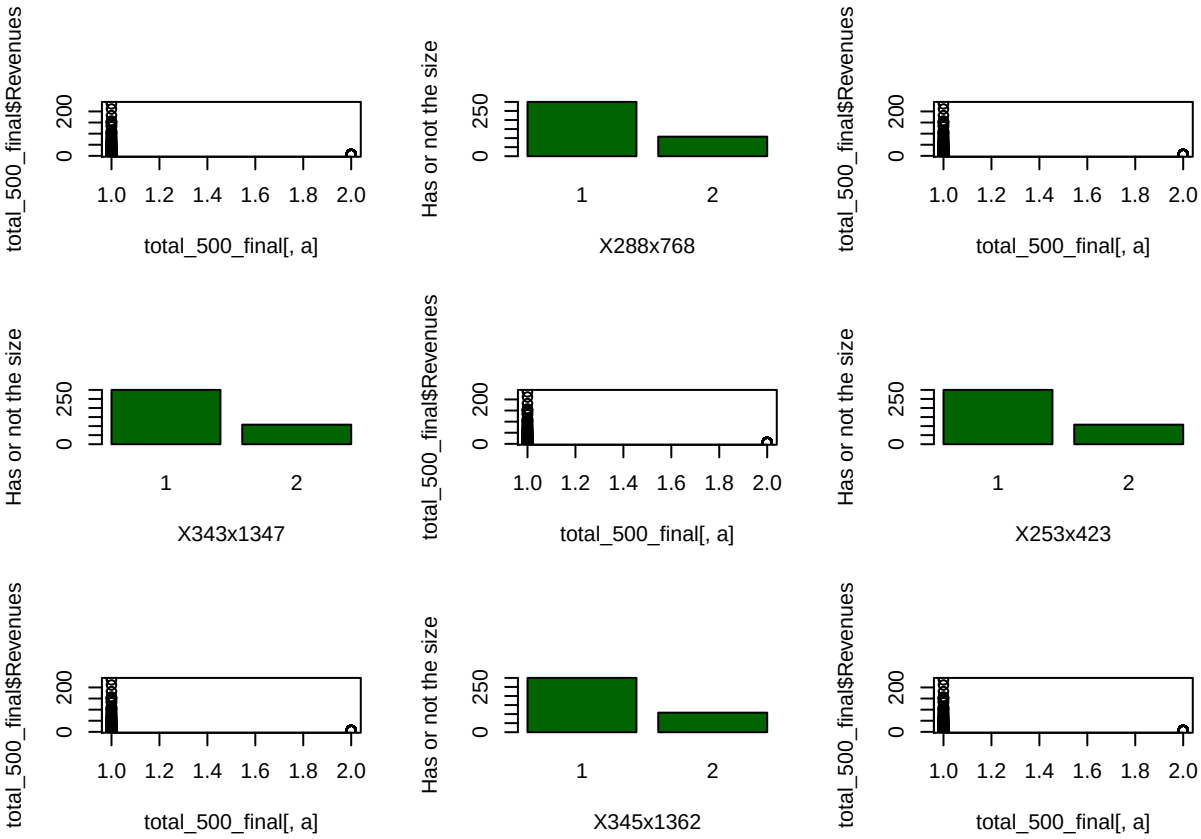

Has or not the size
0 250
1 2
X307x158
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X55x110
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X19x135
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X19x258
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X19x87

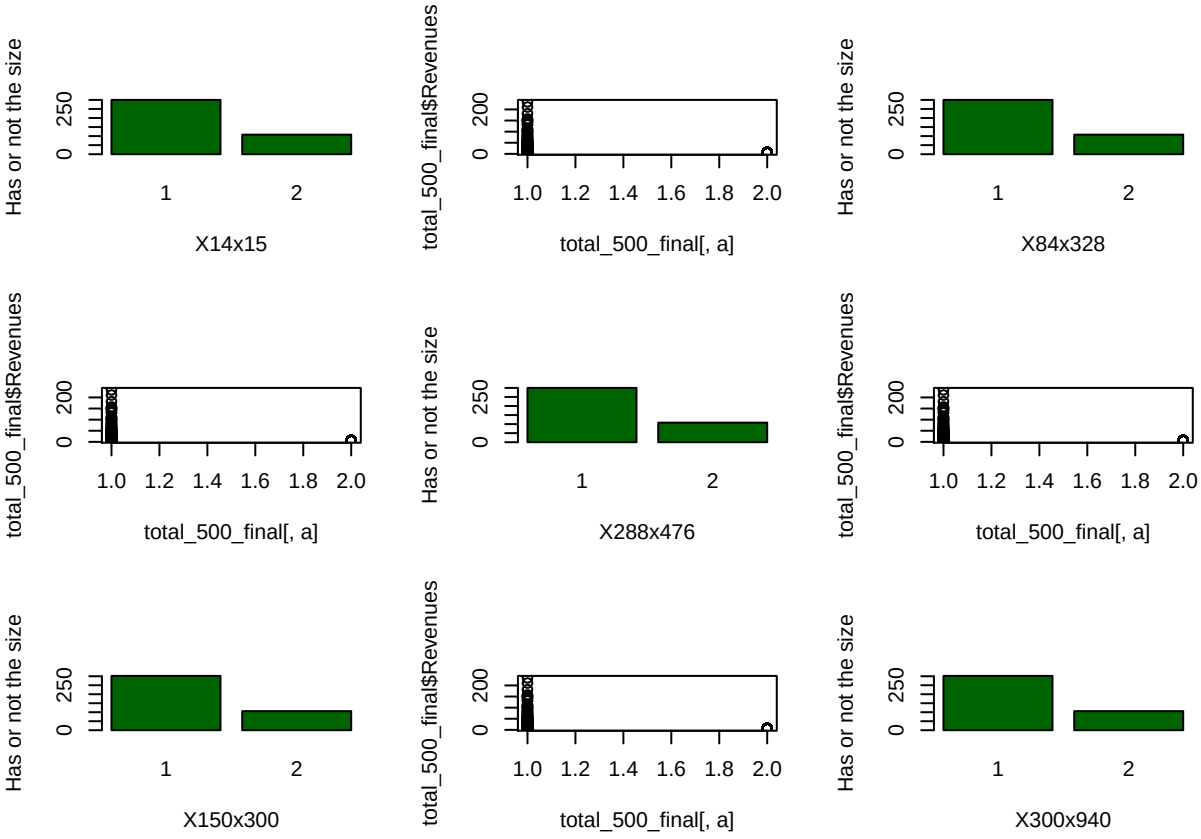

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X319x178
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X19x192
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X23x64
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X101x218
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

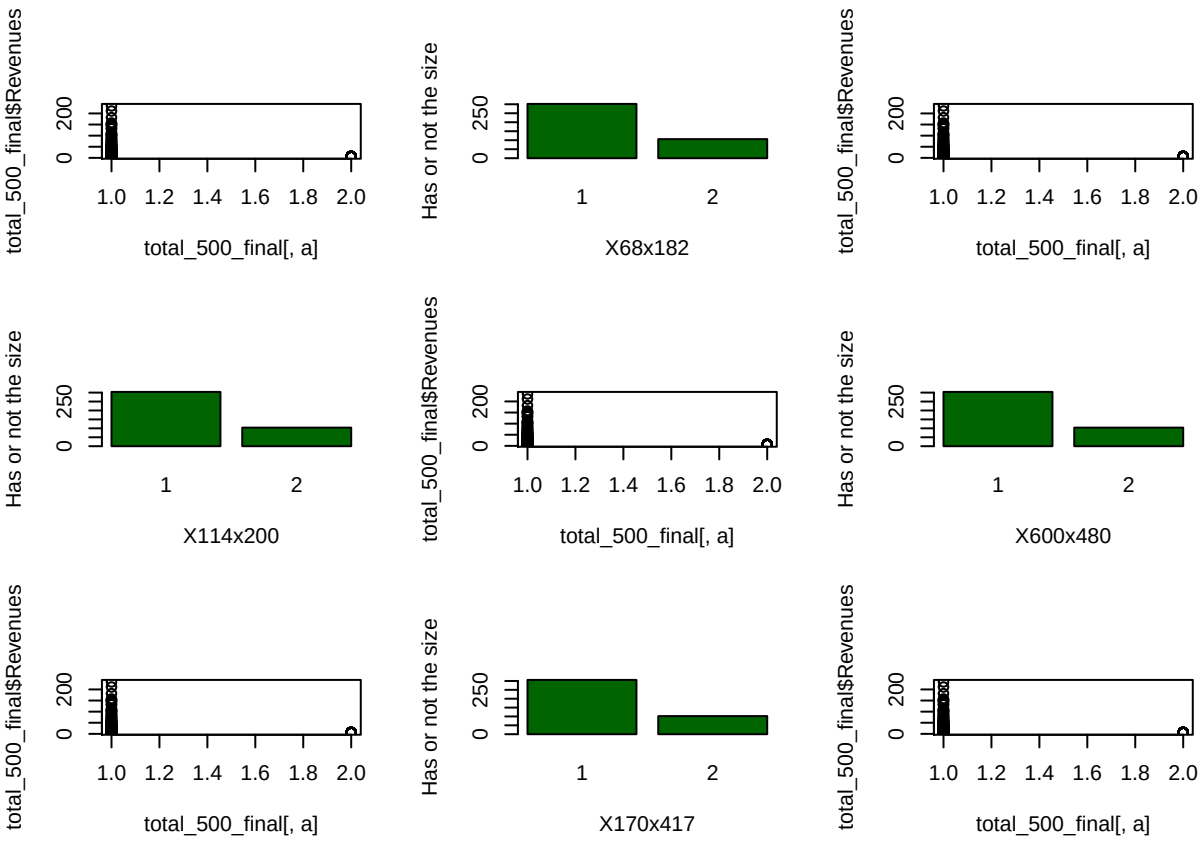

Has or not the size
0 250
1 2
X280x410
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X134x238
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X255x255
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X52x52
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X255x537

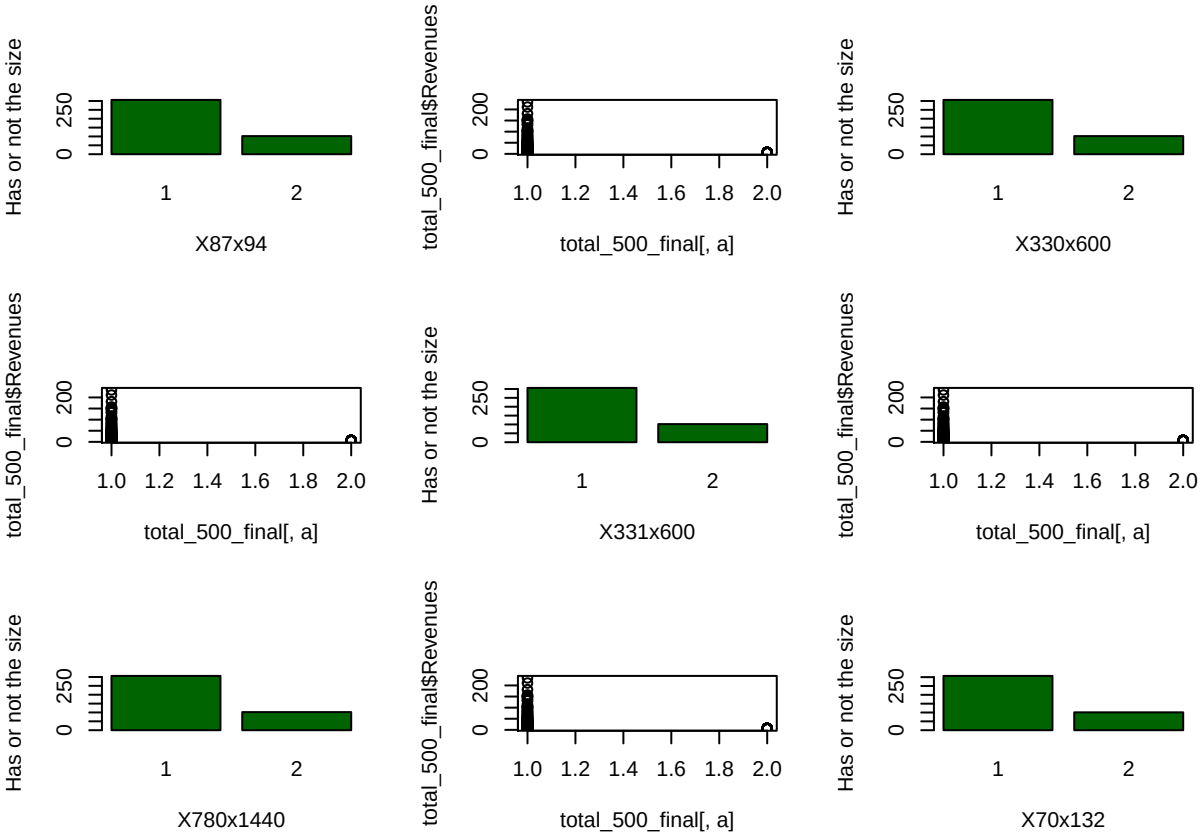

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X256x256
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X427x1280
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X23pxx23px
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X52x100
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

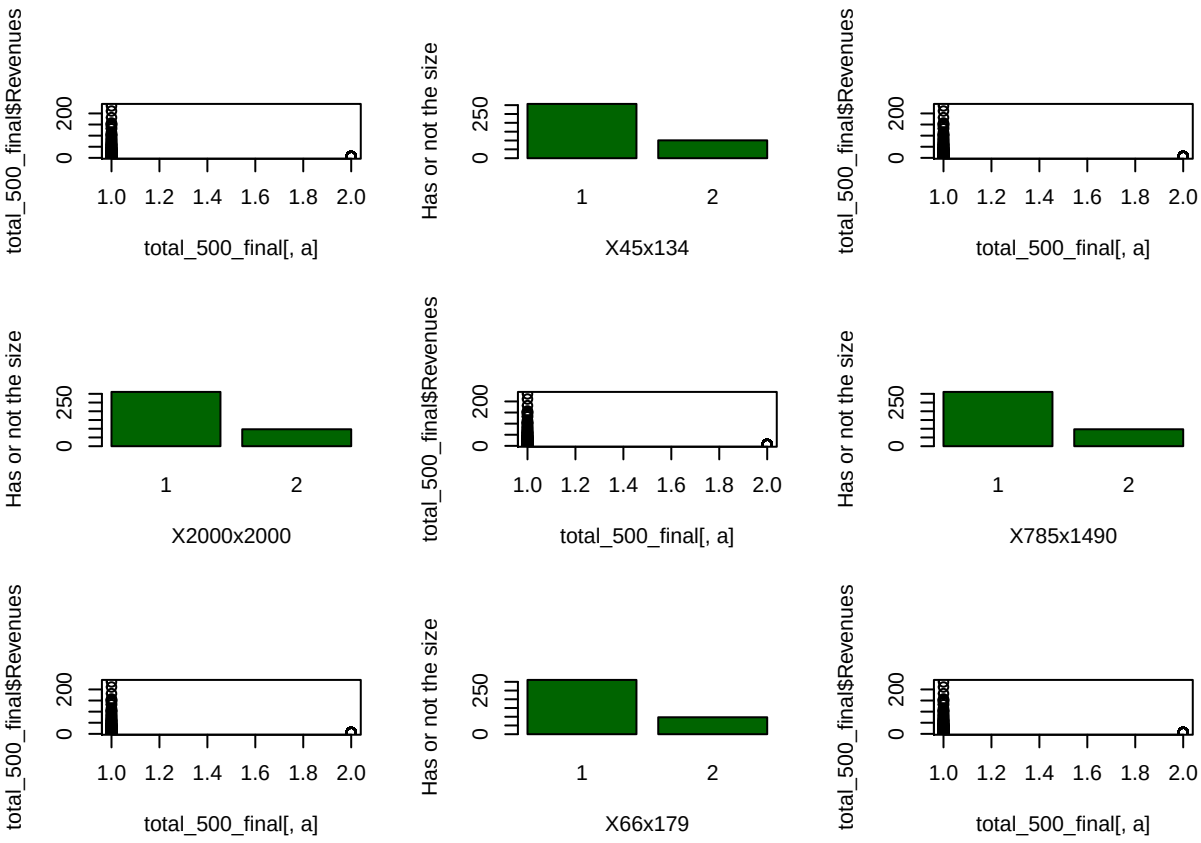

Has or not the size
0 250
1 2
X350x975
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X1050x990
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X33x301
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X238x660
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X52x233

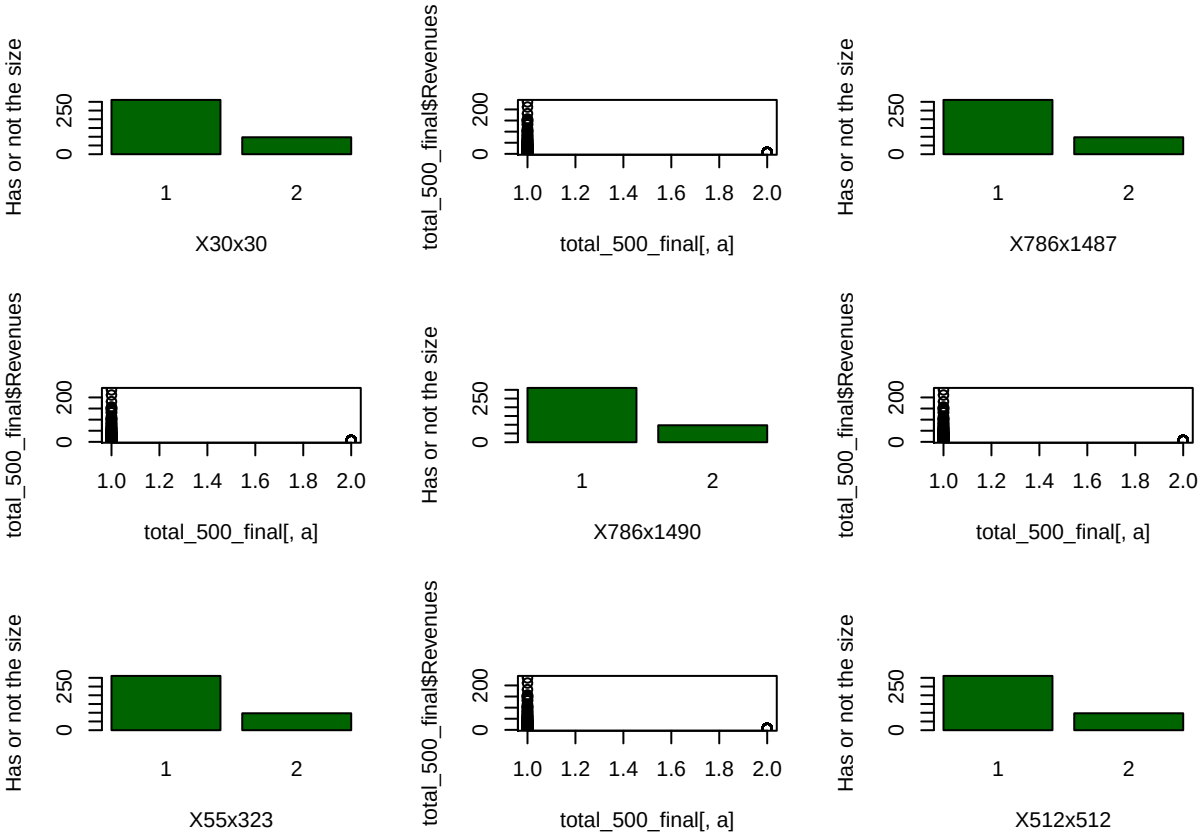

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X288x768
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X343x1347
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X253x423
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X345x1362
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

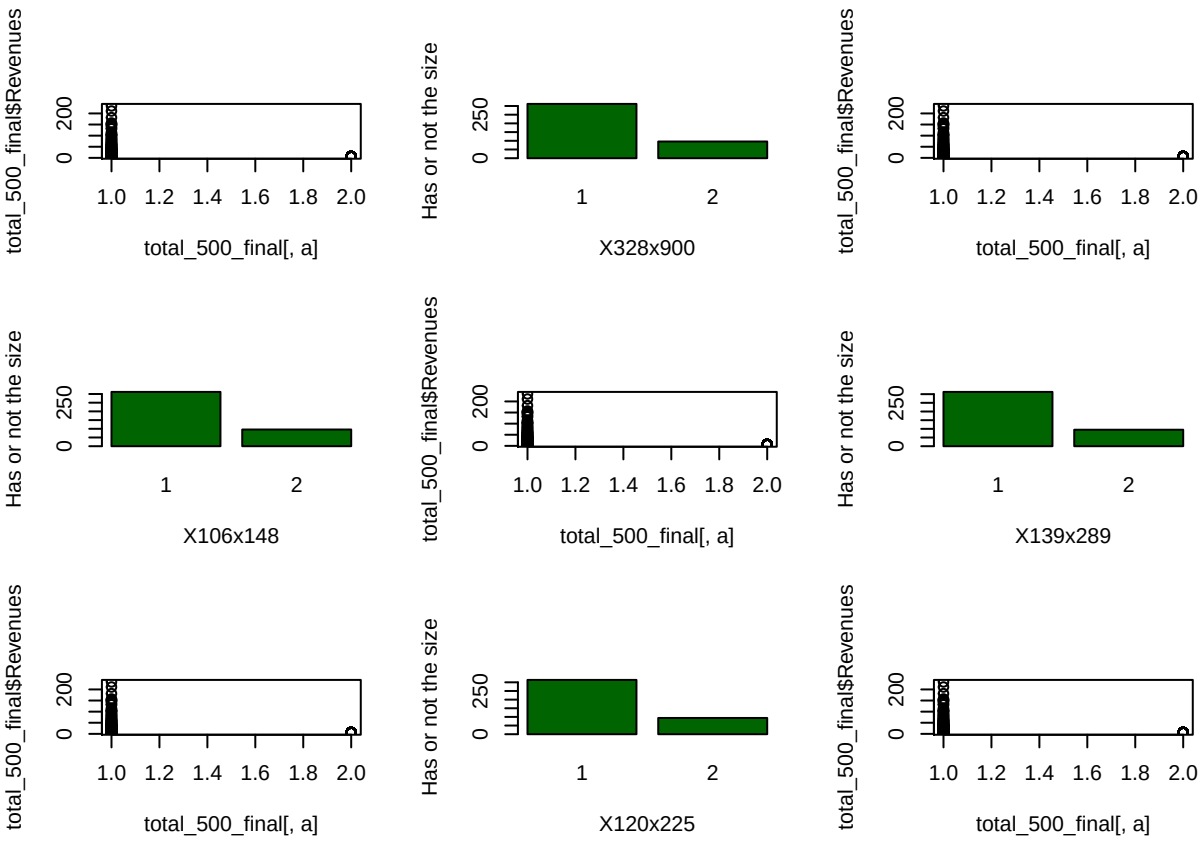

Has or not the size
0 250
1 2
X14x15
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X84x328
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X288x476
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X150x300
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X300x940

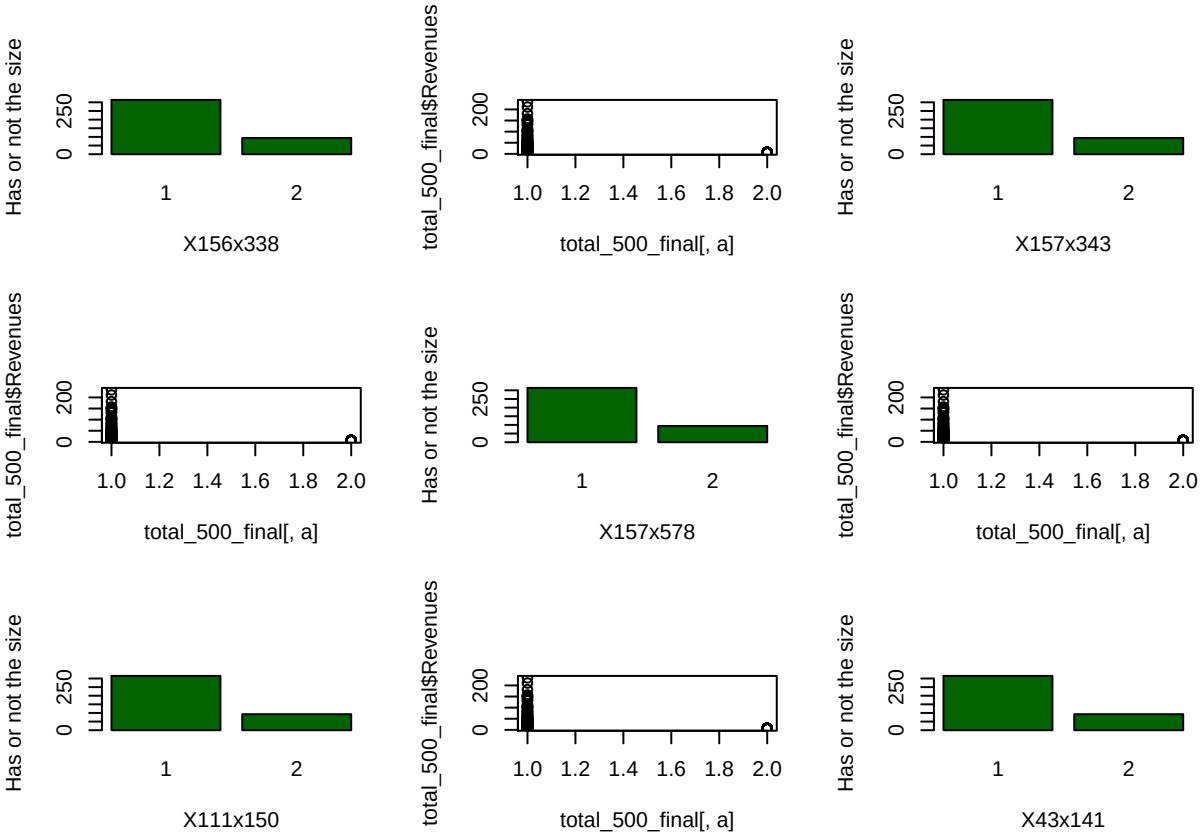

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X68x182
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X114x200
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X600x480
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X170x417
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

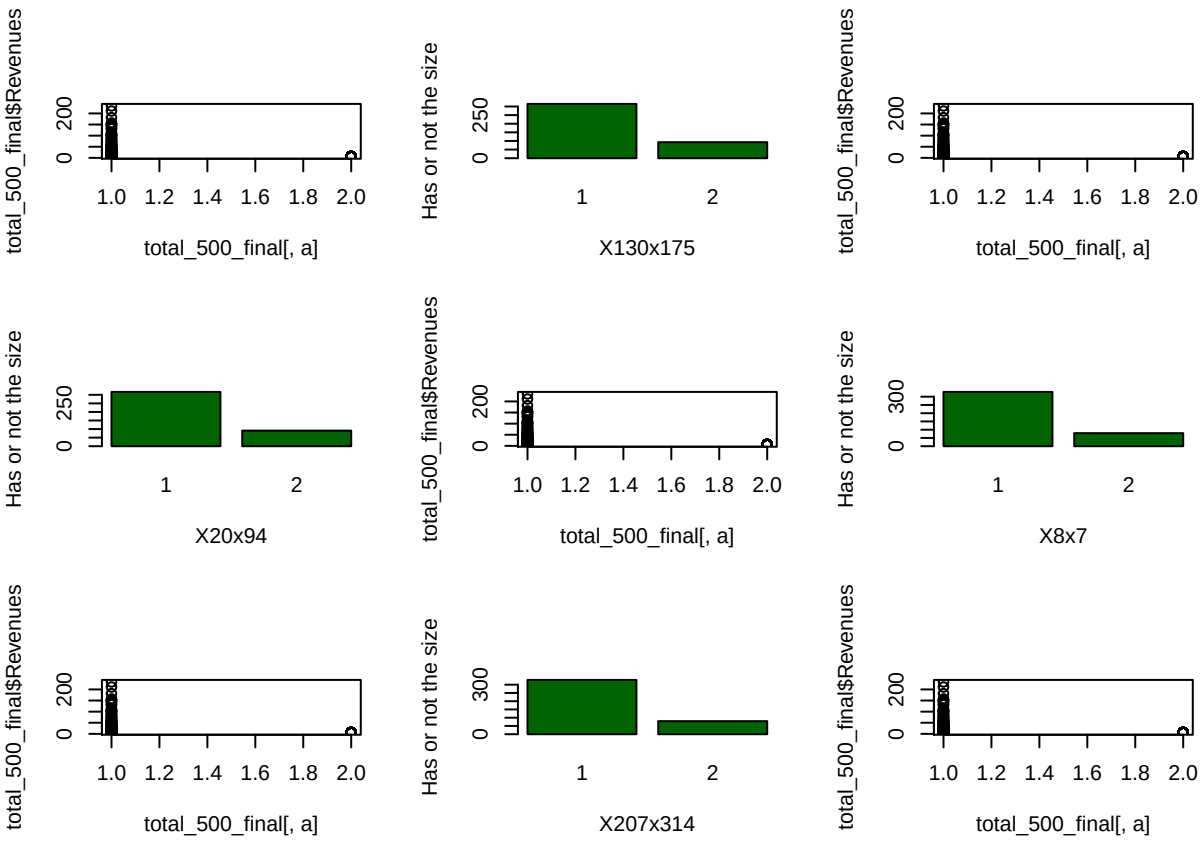

Has or not the size
0 250
1 2
X87x94
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X330x600
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X331x600
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X780x1440
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X70x132

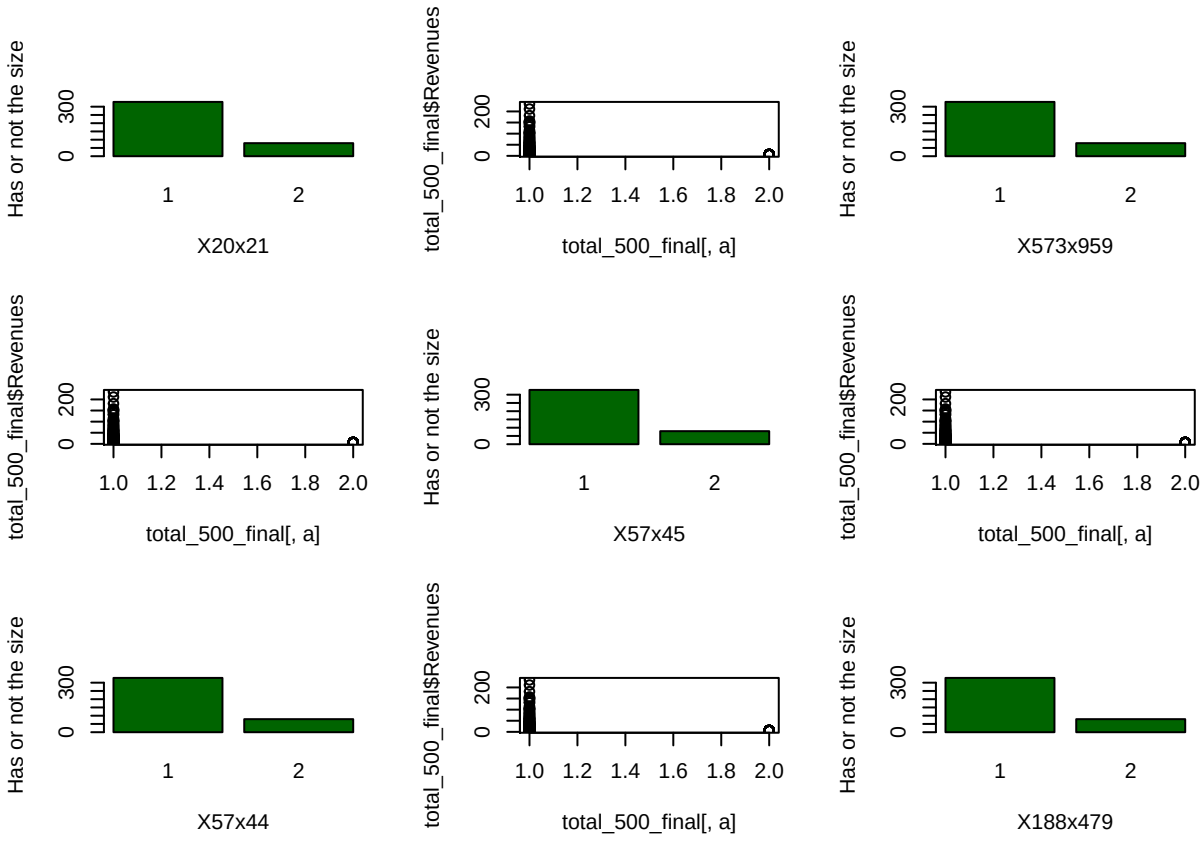

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X45x134
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X2000x2000
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X785x1490
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X66x179
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

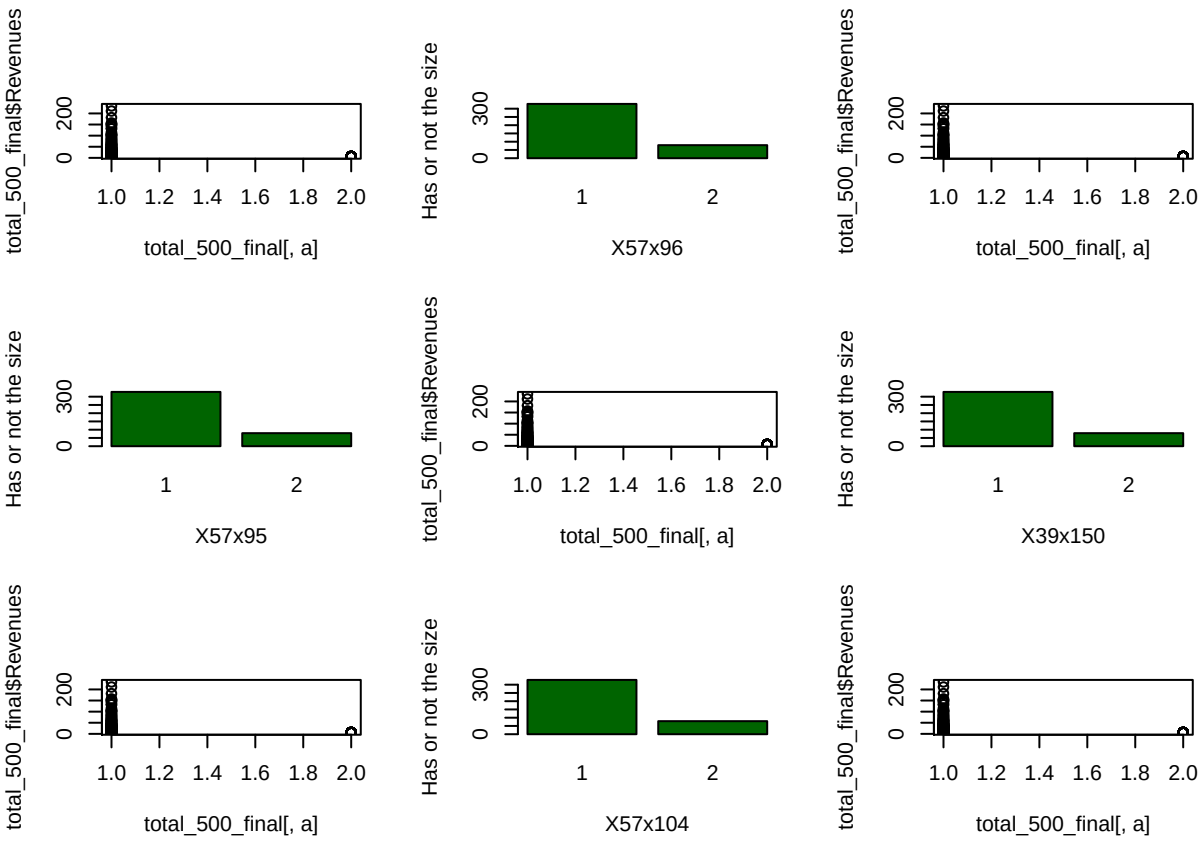

Has or not the size
0 250
1 2
X30x30
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X786x1487
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X786x1490
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X55x323
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X512x512

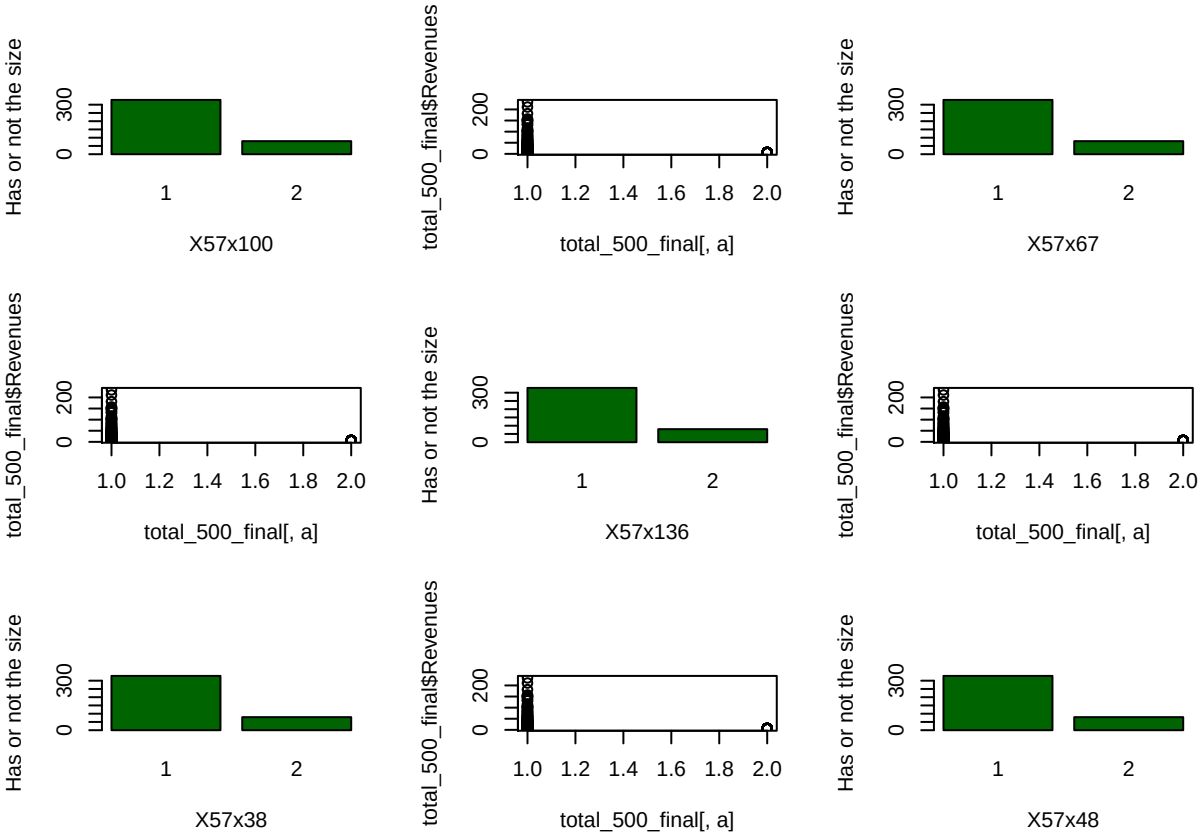

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X328x900
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X106x148
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X139x289
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X120x225
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

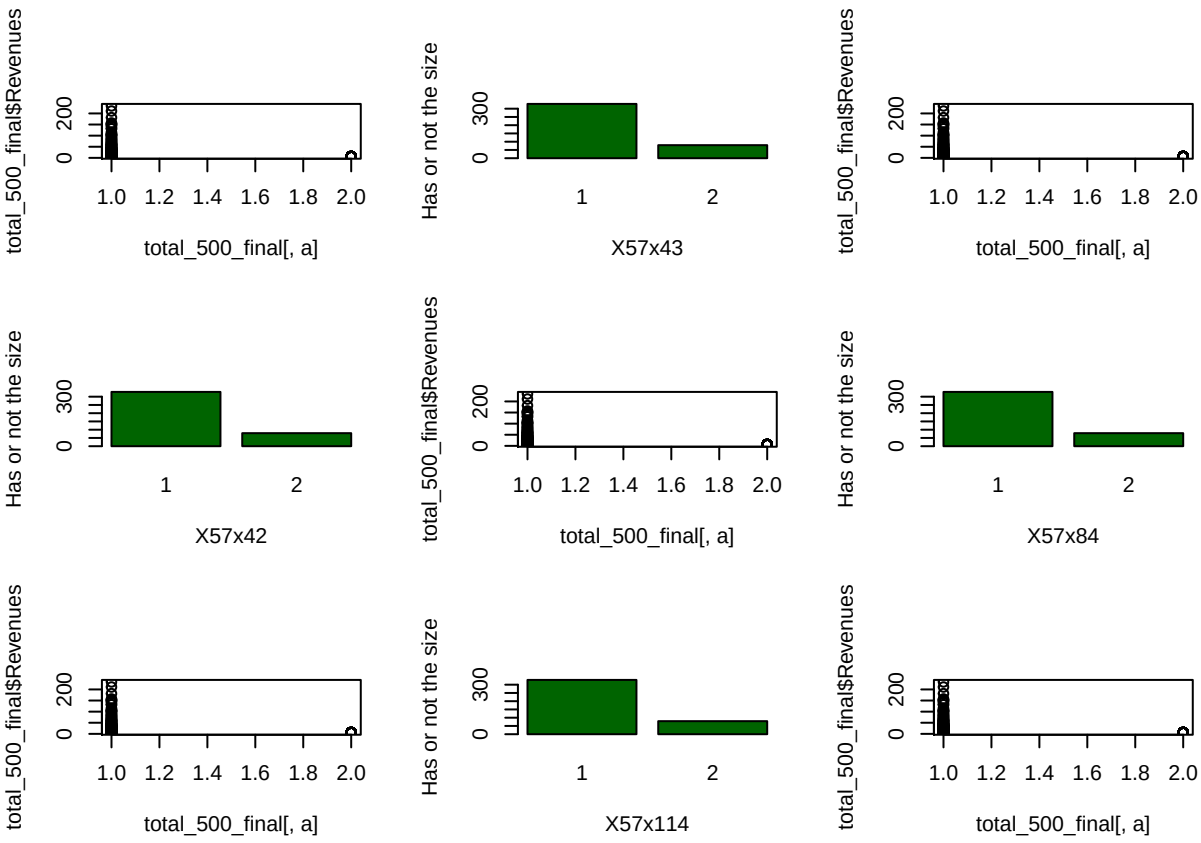

Has or not the size
0 250
1 2
X156x338
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X157x343
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X157x578
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X111x150
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X43x141

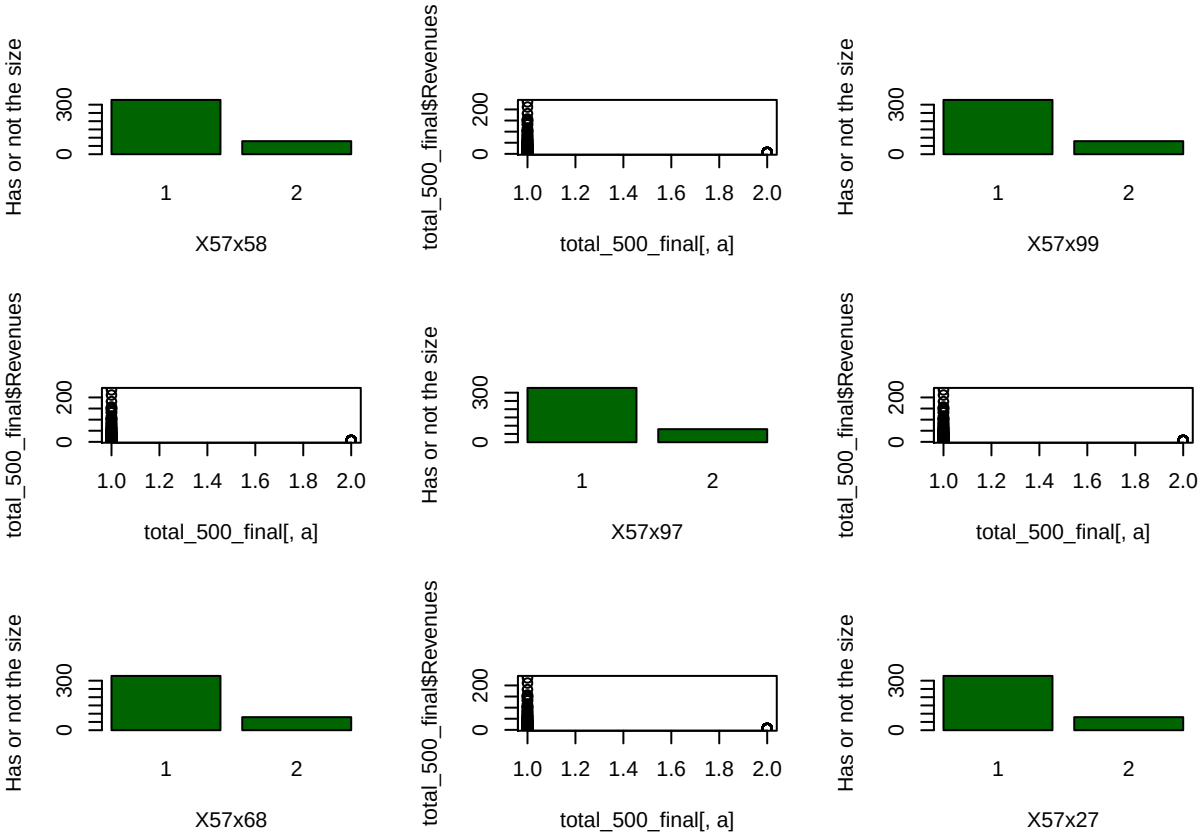

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X130x175
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X20x94
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X8x7
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X207x314
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

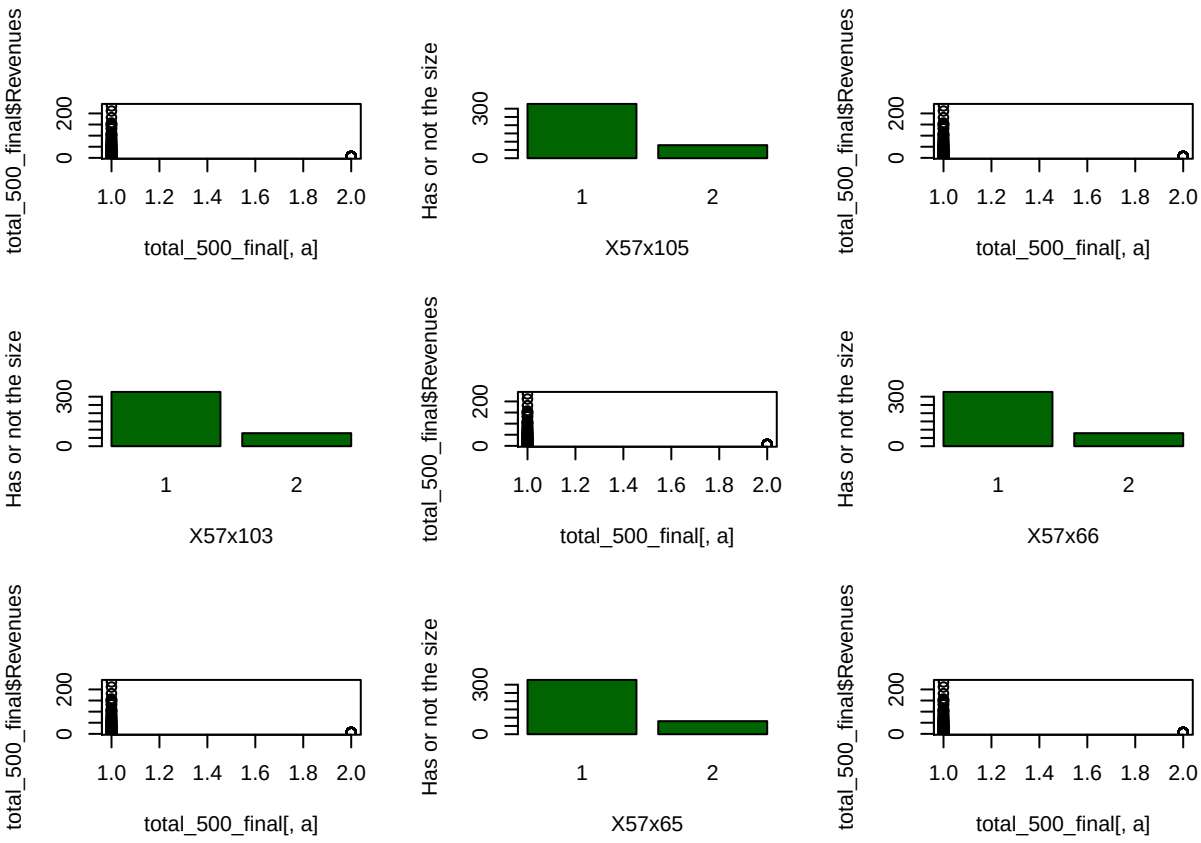

Has or not the size
0 300
1 2
X20x21
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X573x959
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x45
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x44
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X188x479

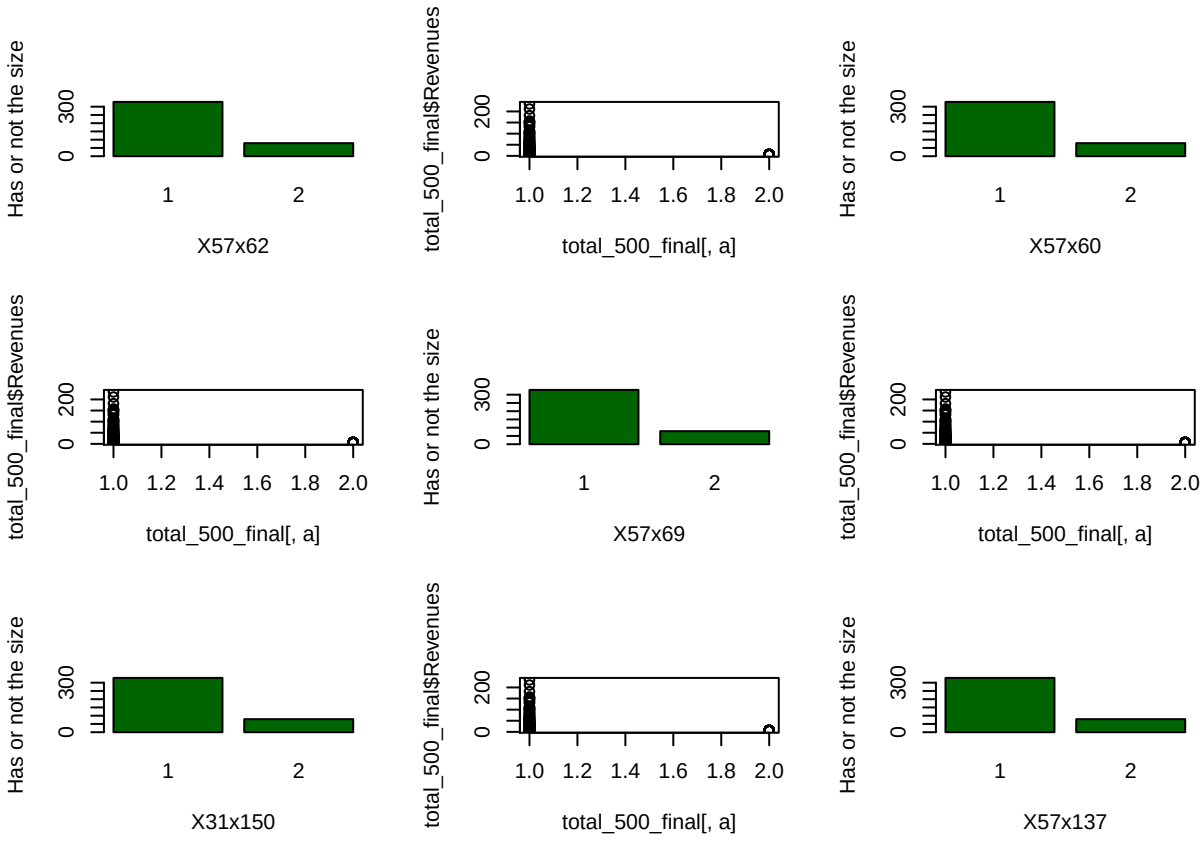

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x96
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x95
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X39x150
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x104
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

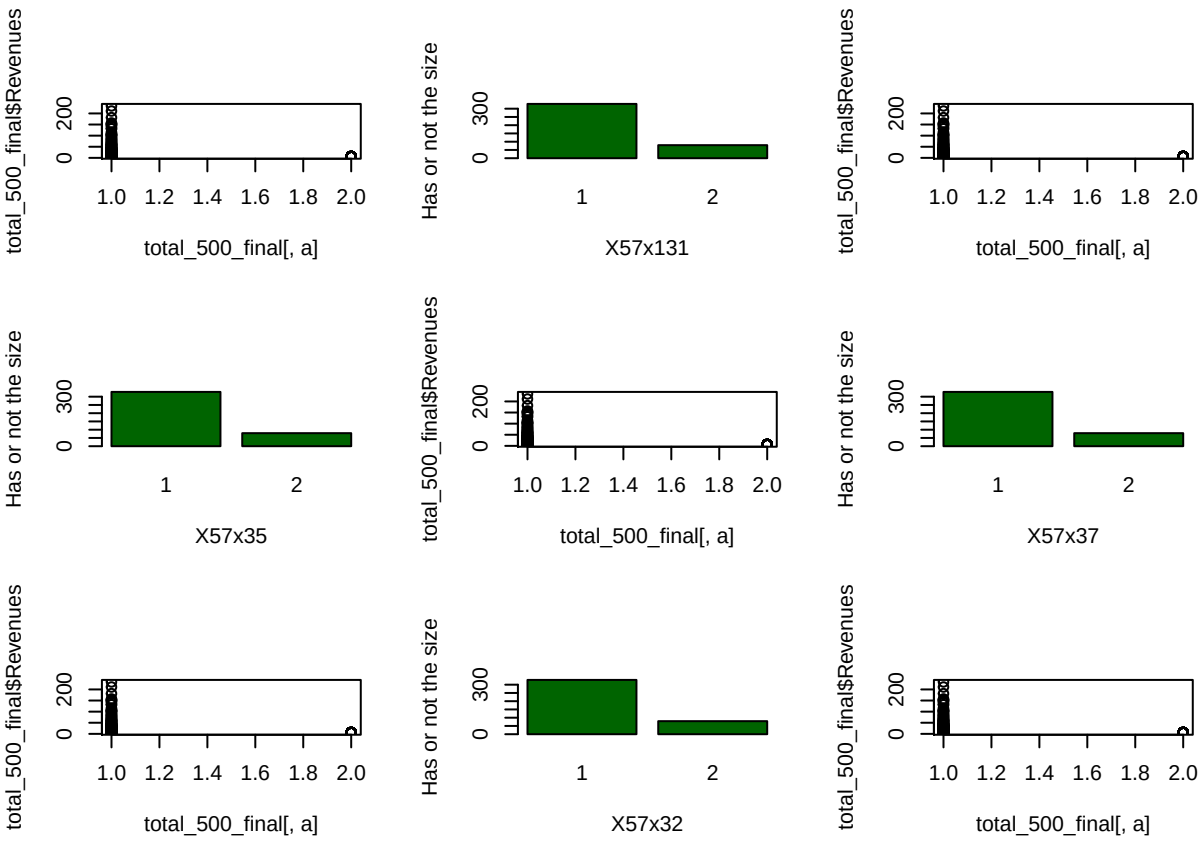

Has or not the size
0 300
1 2
X57x100
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x67
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x136
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x38
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x48

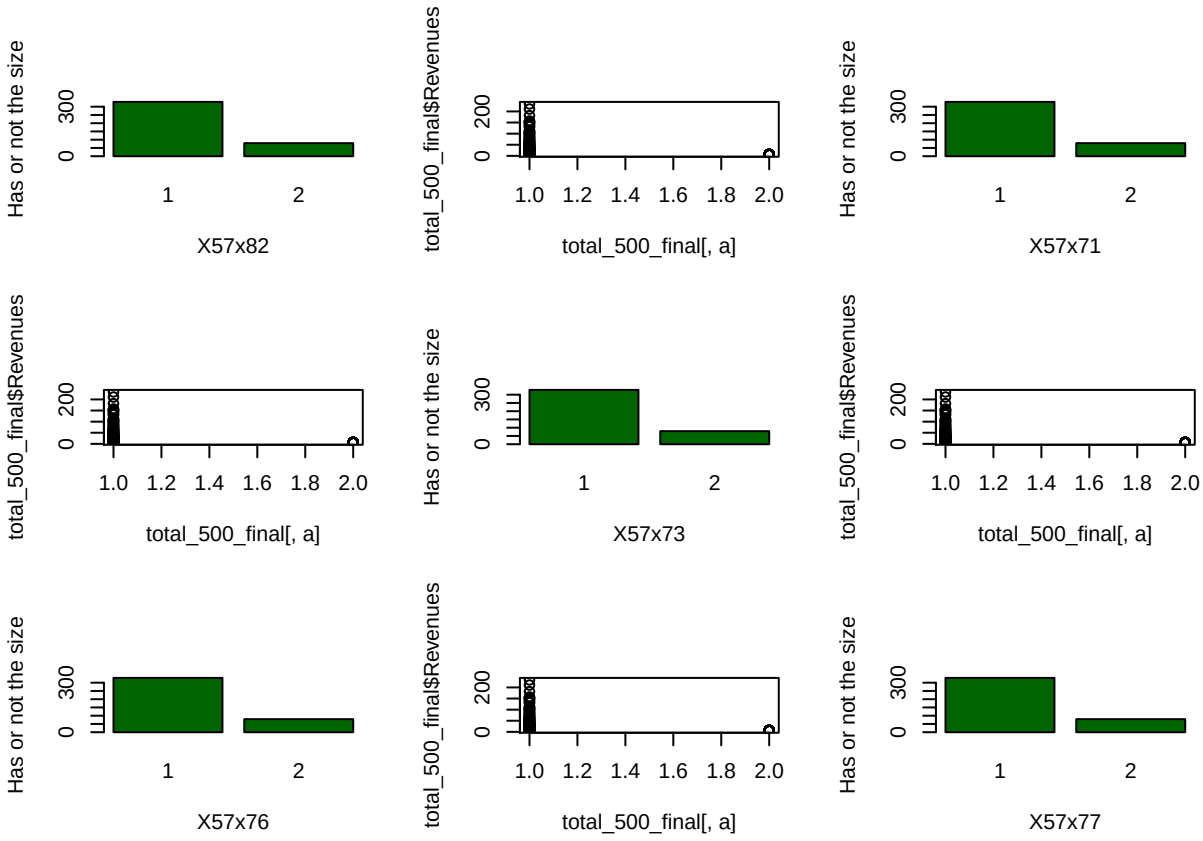

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x43
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x42
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x84
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x114
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

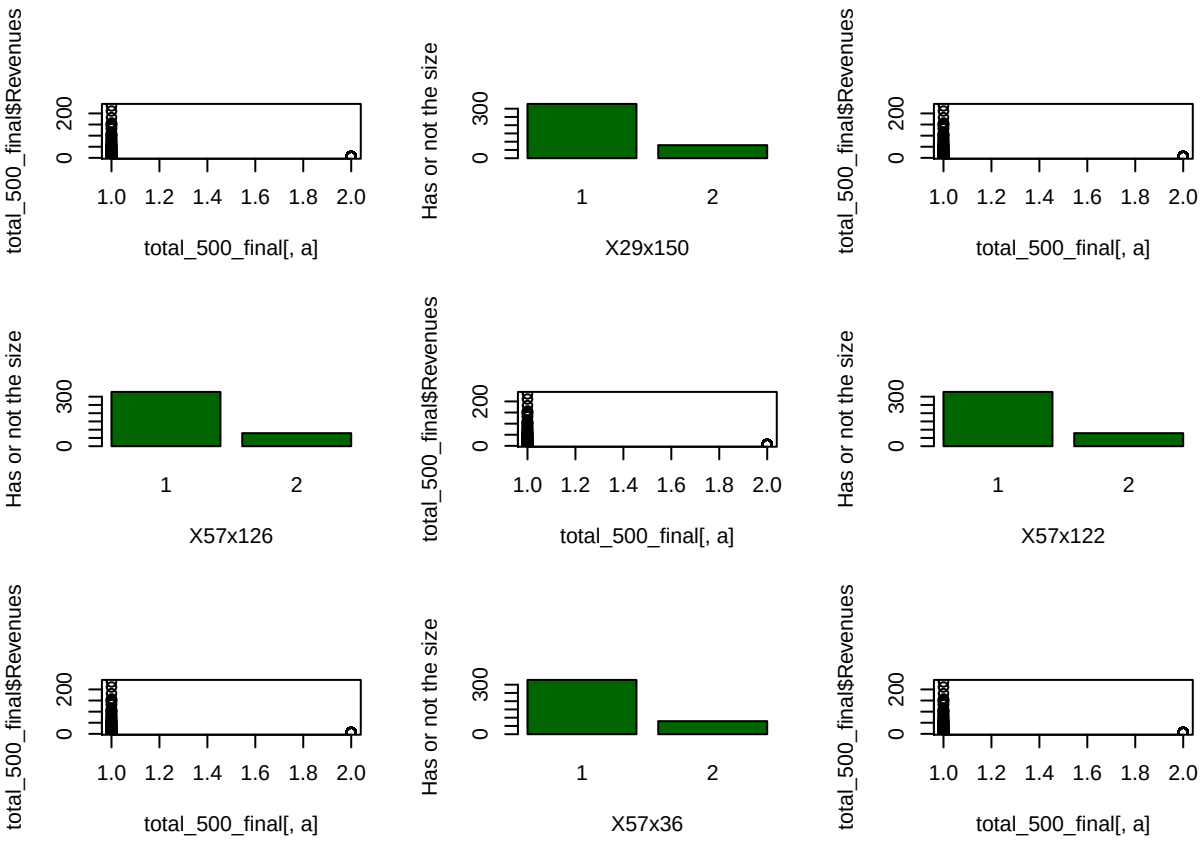

Has or not the size
0 300
1 2
X57x58
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x99
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x97
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x68
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x27

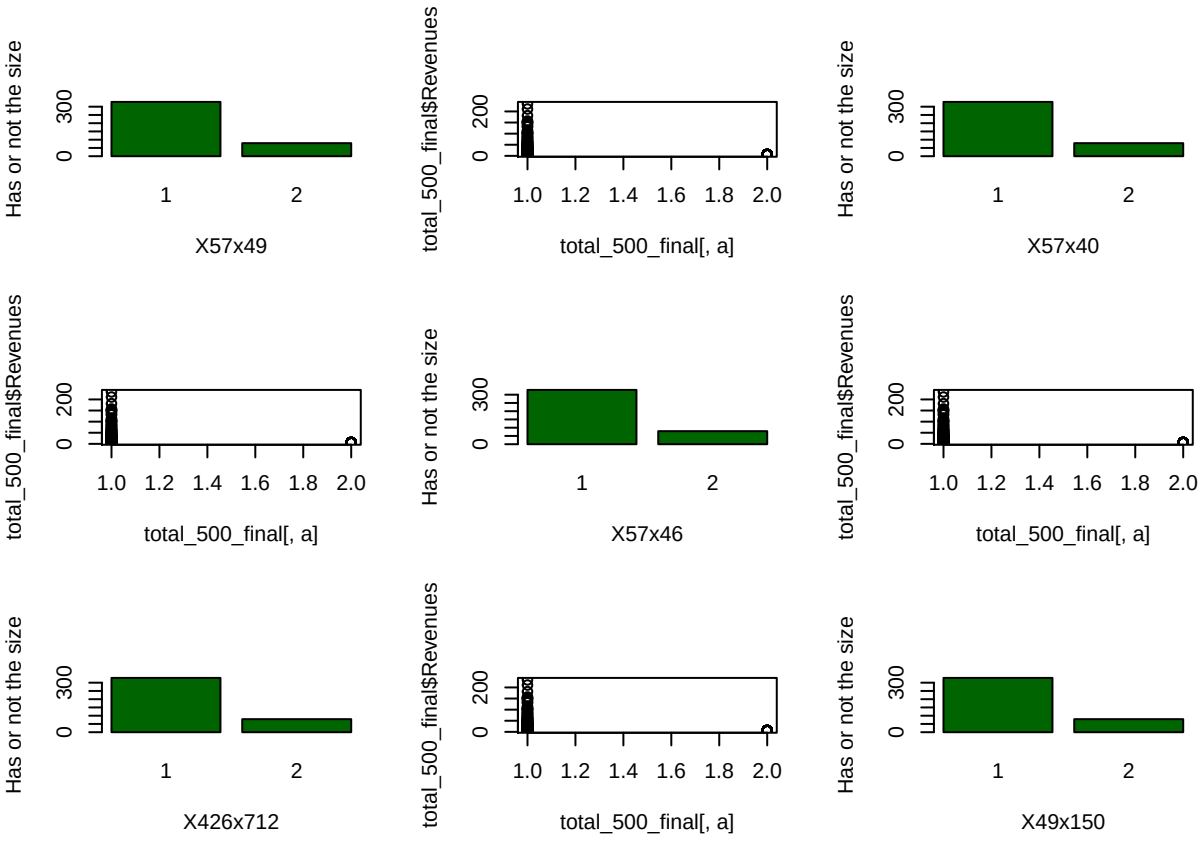

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x105
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x103
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x66
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x65
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

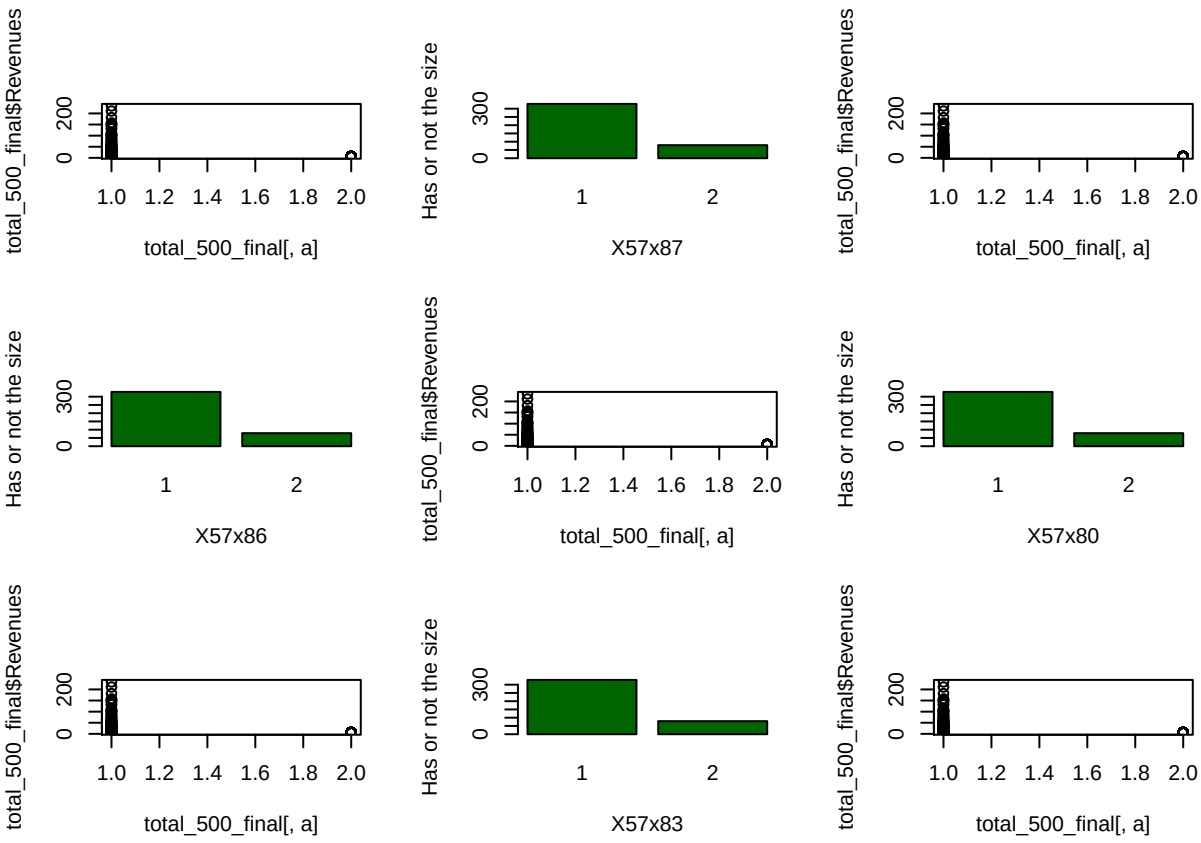

Has or not the size
0 300
1 2
X57x62
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x60
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x69
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X31x150
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x137

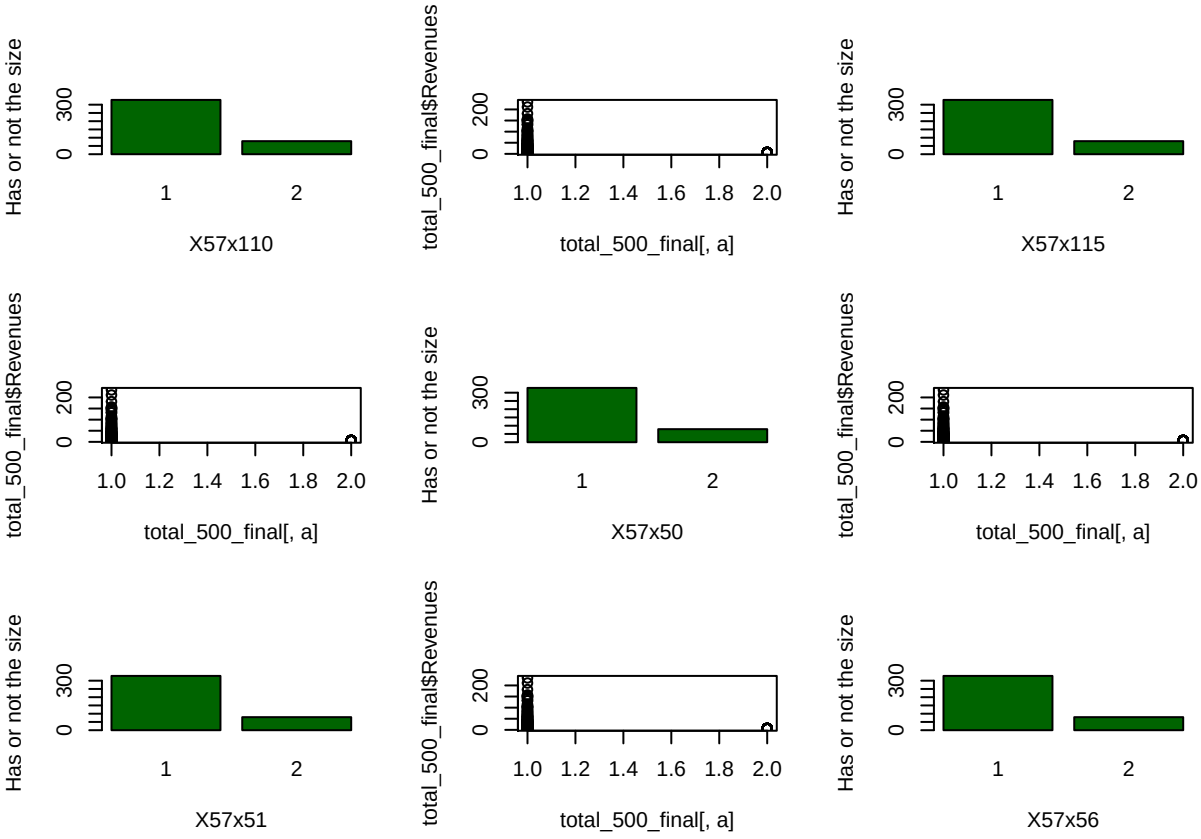

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x131
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x35
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x37
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x32
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

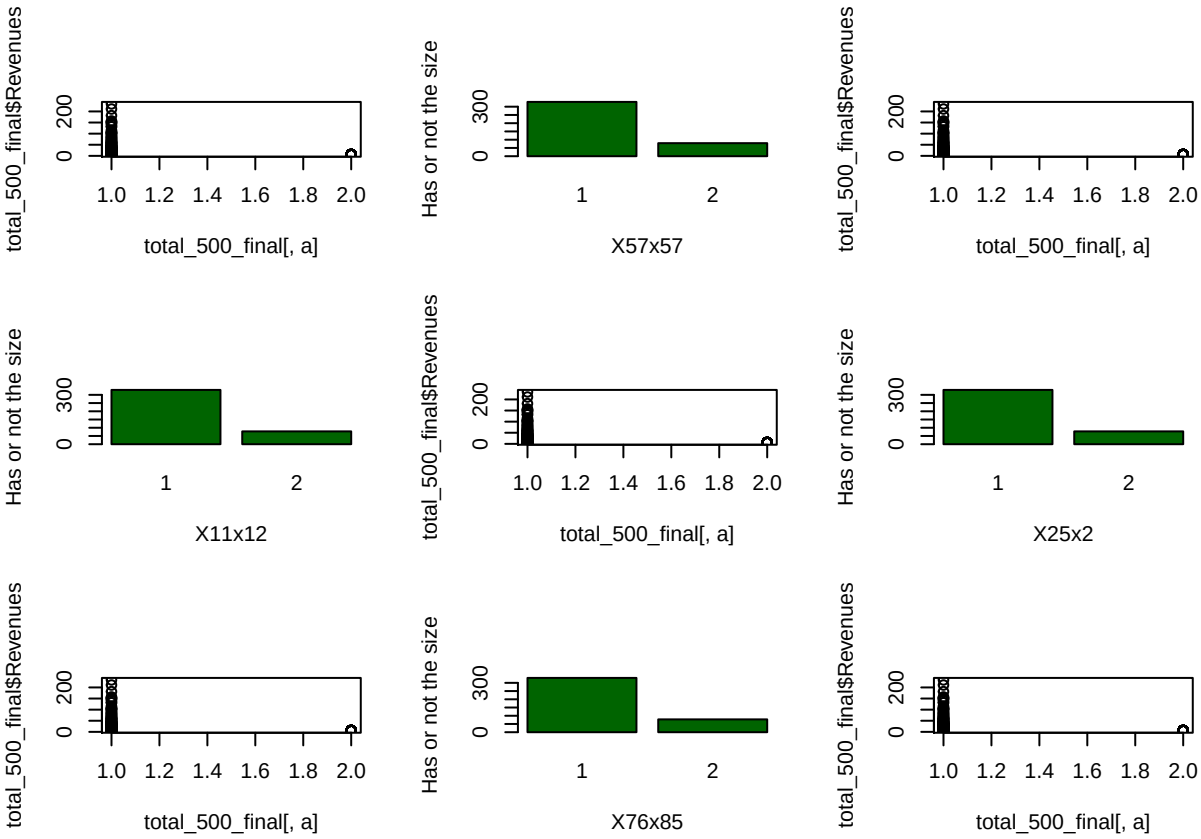

Has or not the size
0 300
1 2
X57x82
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x71
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x73
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x76
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x77

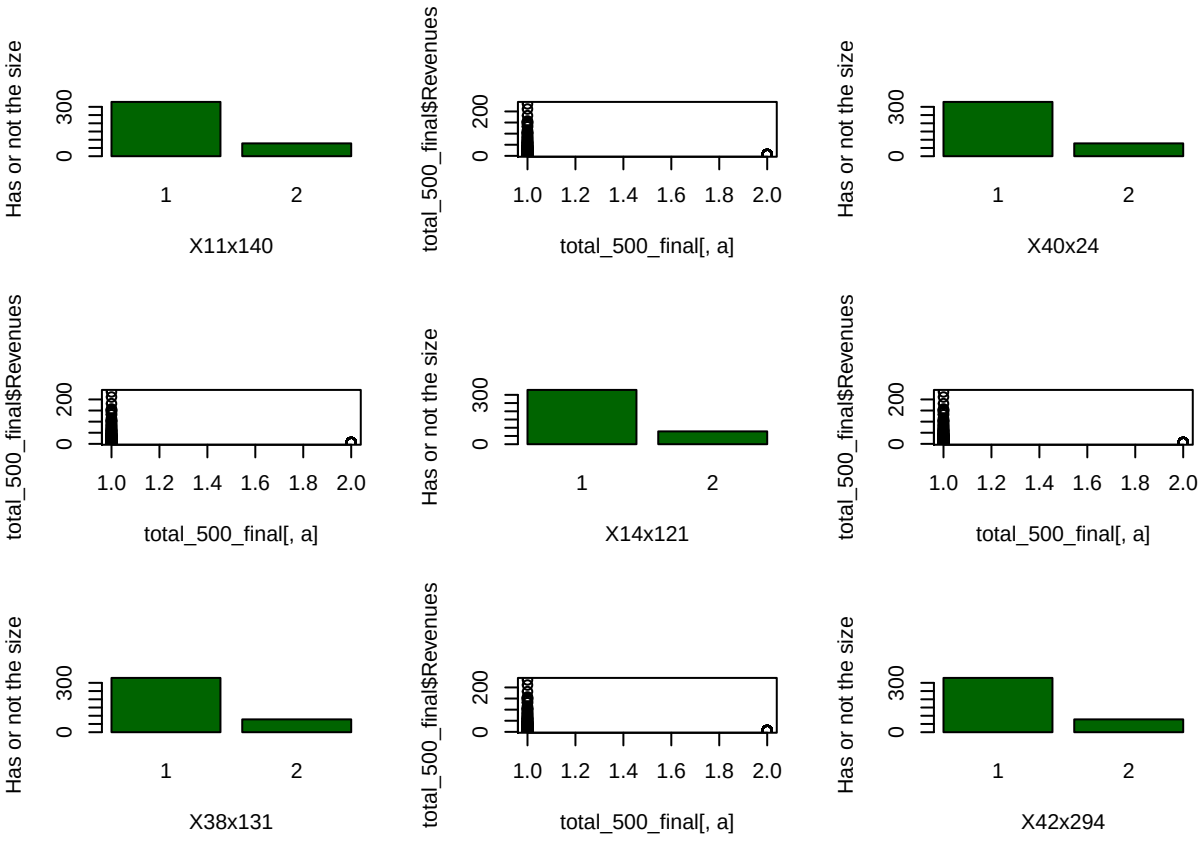

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X29x150
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x126
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x122
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x36
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

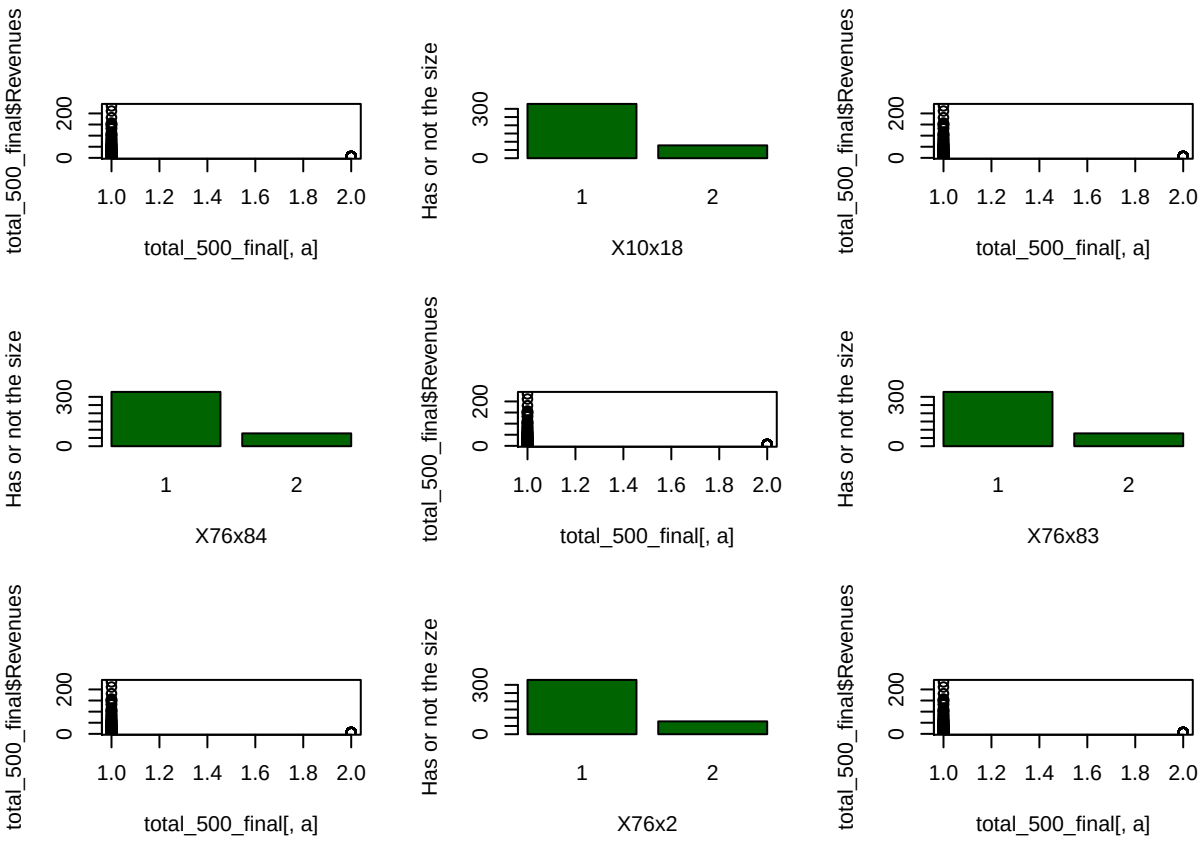

Has or not the size
0 300
1 2
X57x49
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x40
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x46
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X426x712
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X49x150

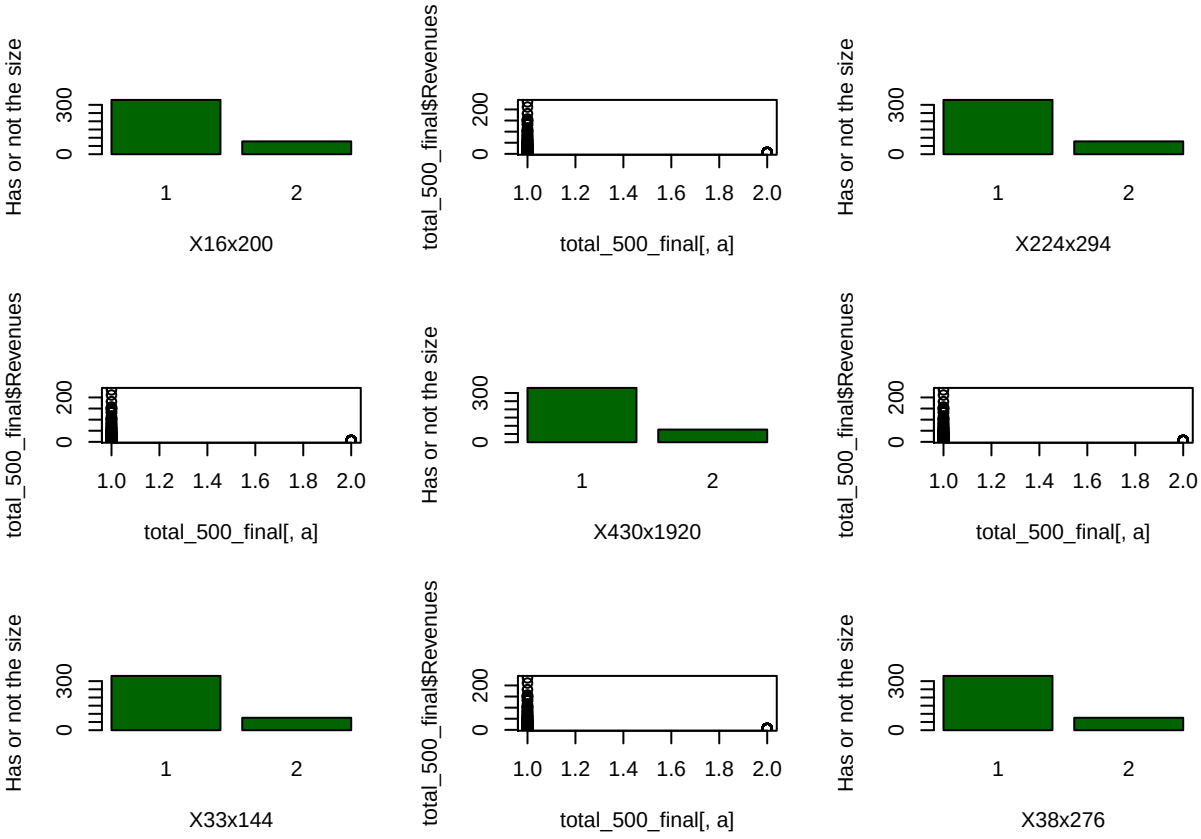

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x87
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x86
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x80
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x83
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

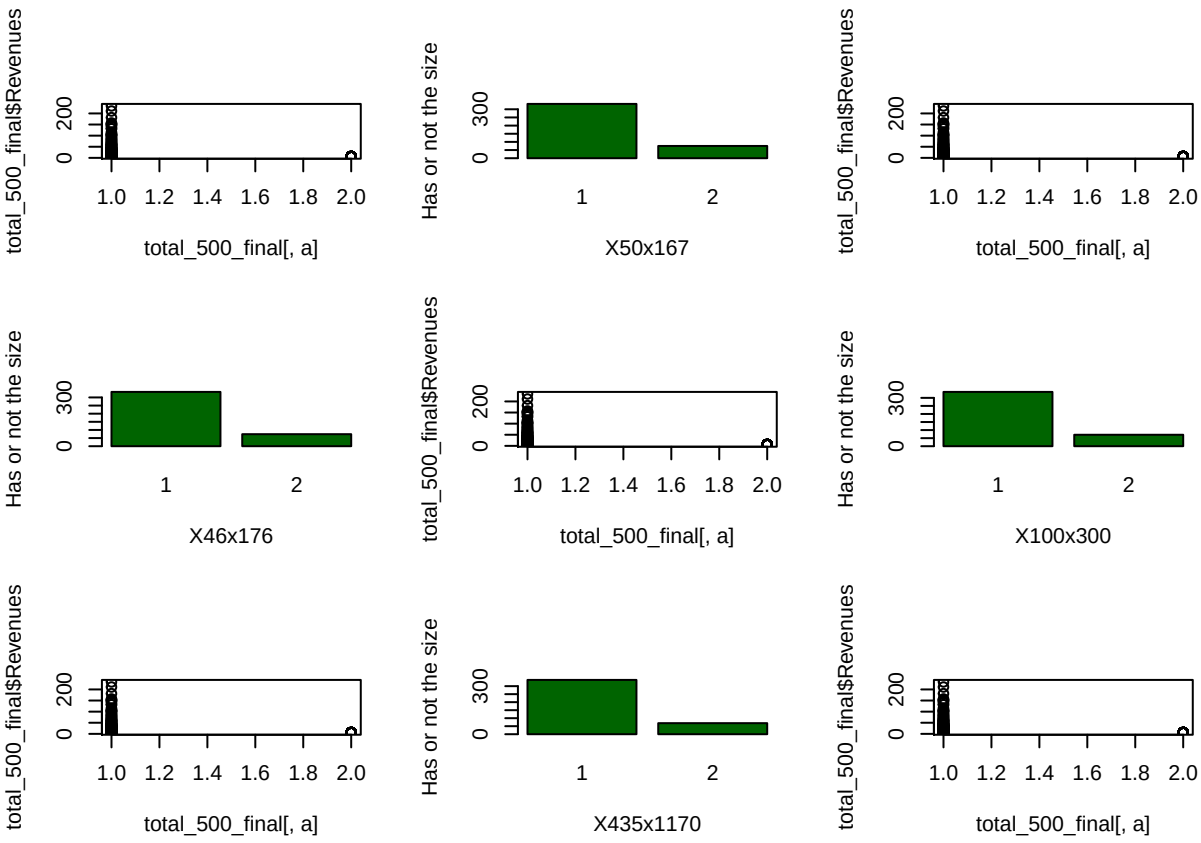

Has or not the size
0 300
1 2
X57x110
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x115
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x50
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x51
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x56

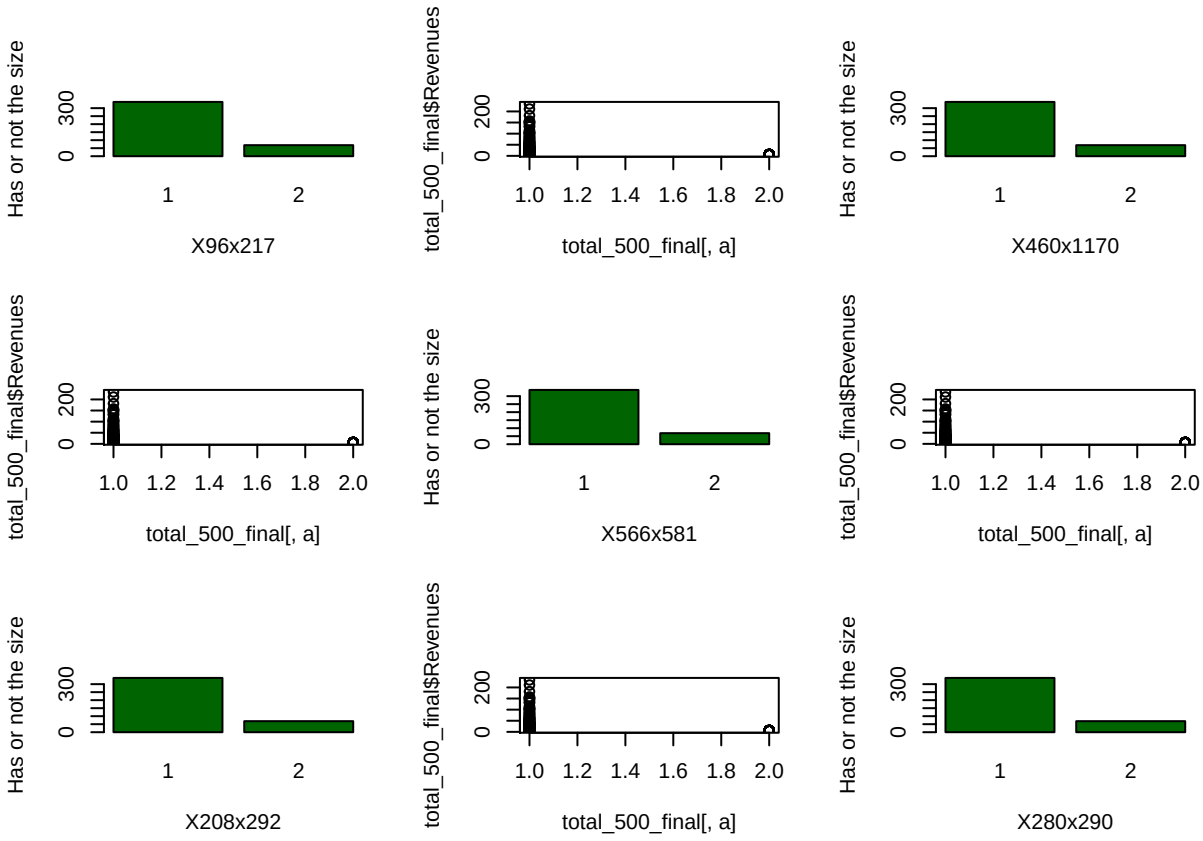

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X57x57
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X11x12
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X25x2
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X76x85
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

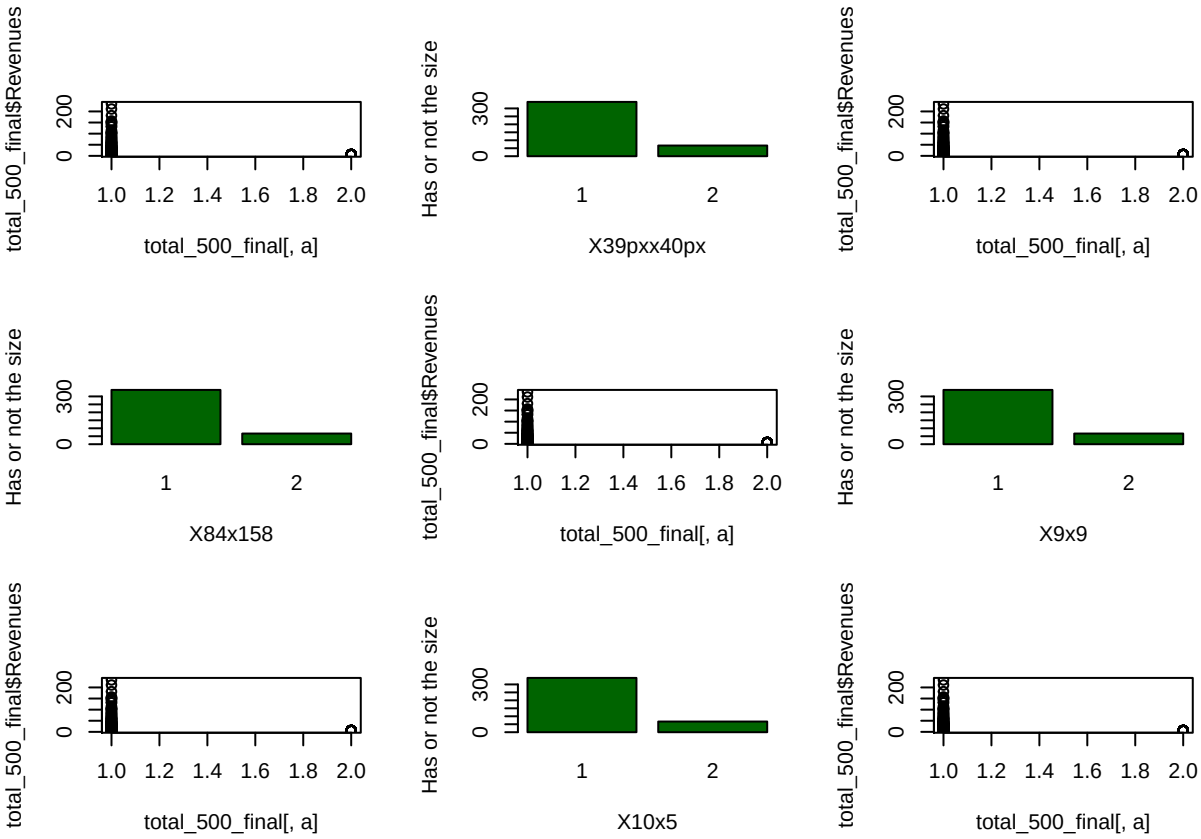

Has or not the size
0 300
1 2
X11x140
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X40x24
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X14x121
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X38x131
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X42x294

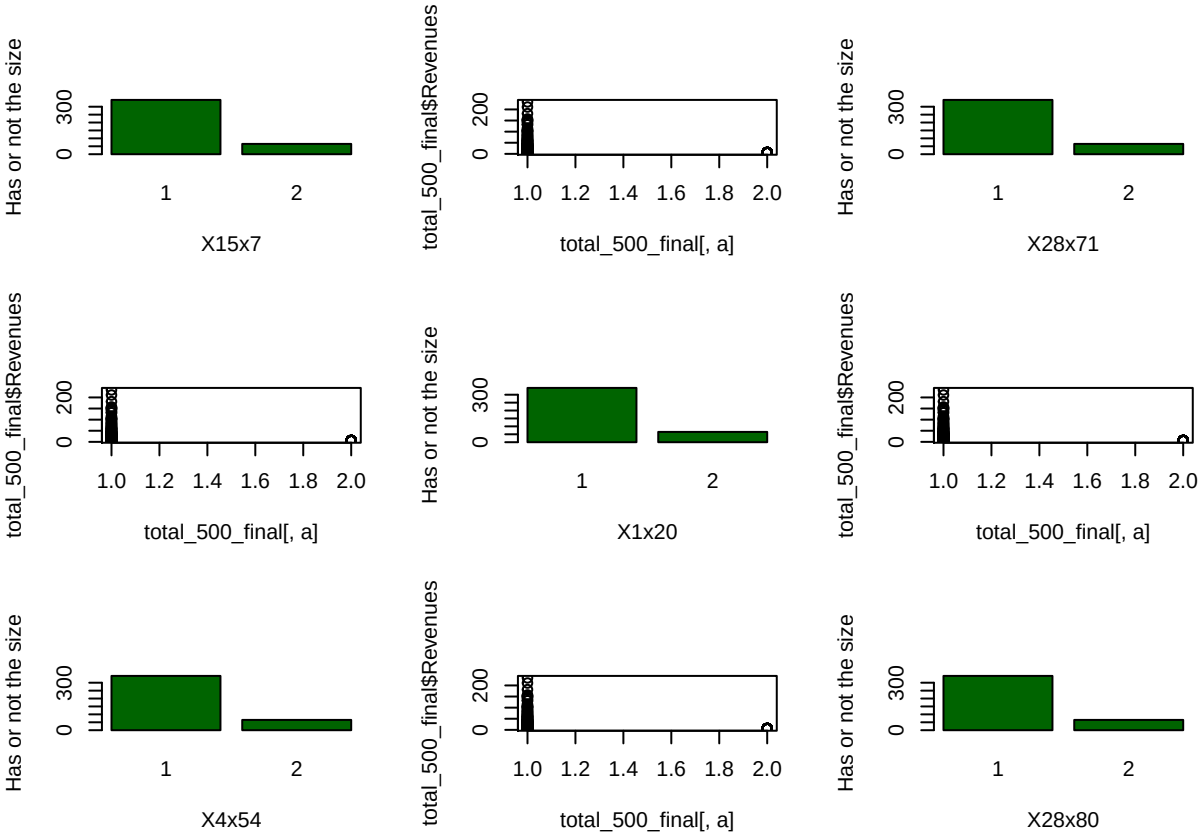

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X10x18
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X76x84
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X76x83
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X76x2
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

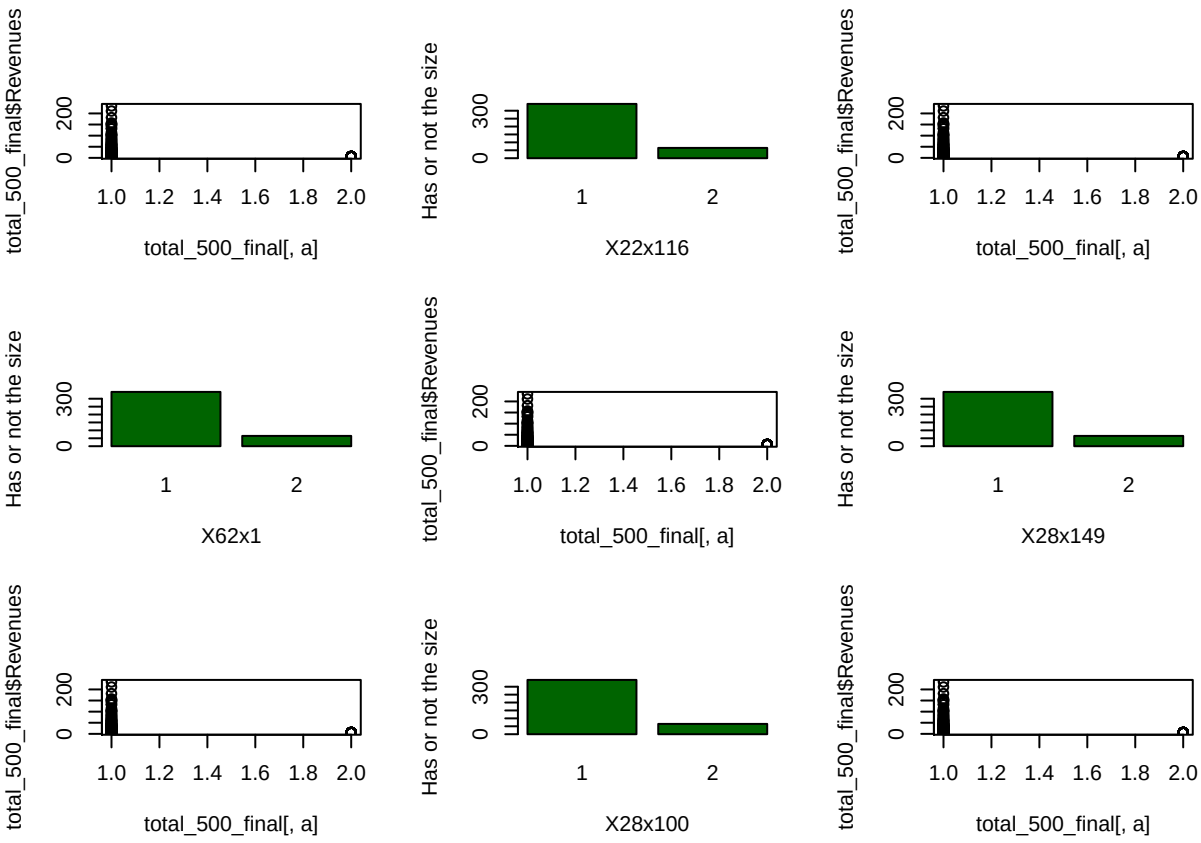

Has or not the size
0 300
1 2
X16x200
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X224x294
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X430x1920
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X33x144
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X38x276

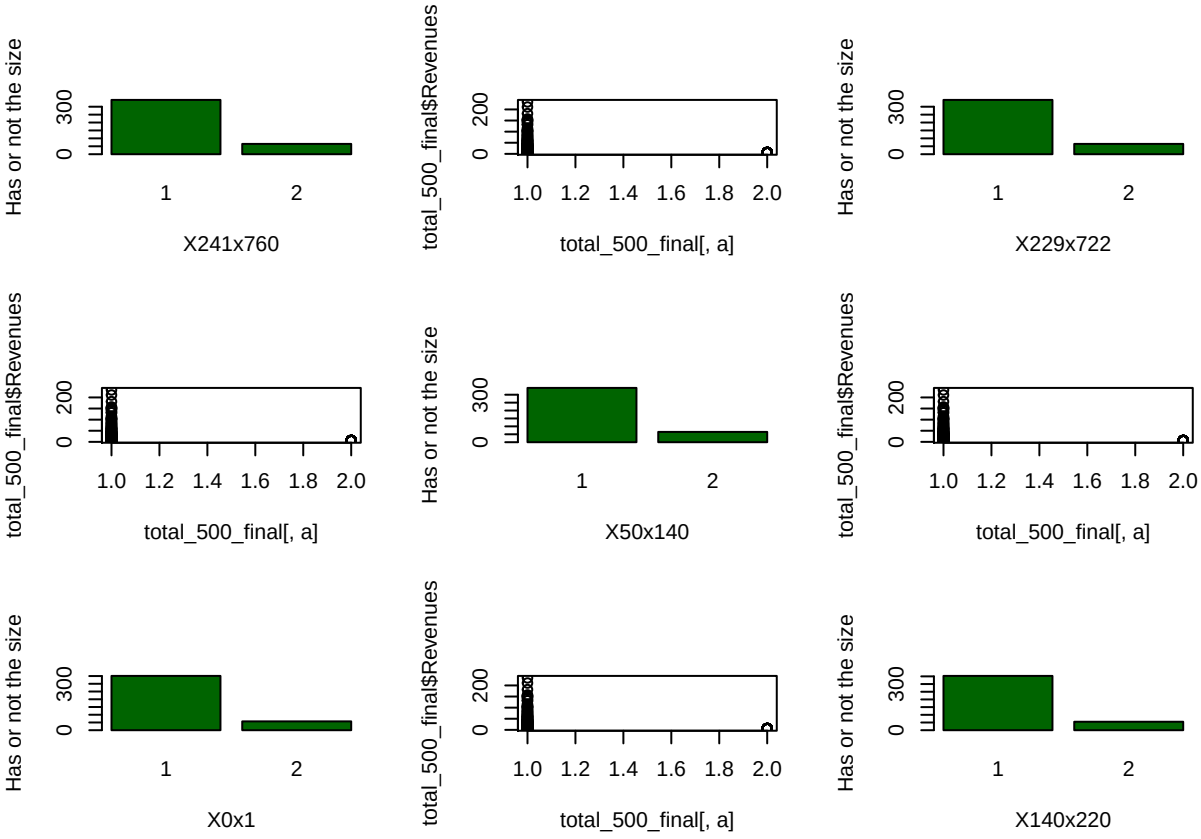

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X50x167
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X46x176
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X100x300
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X435x1170
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

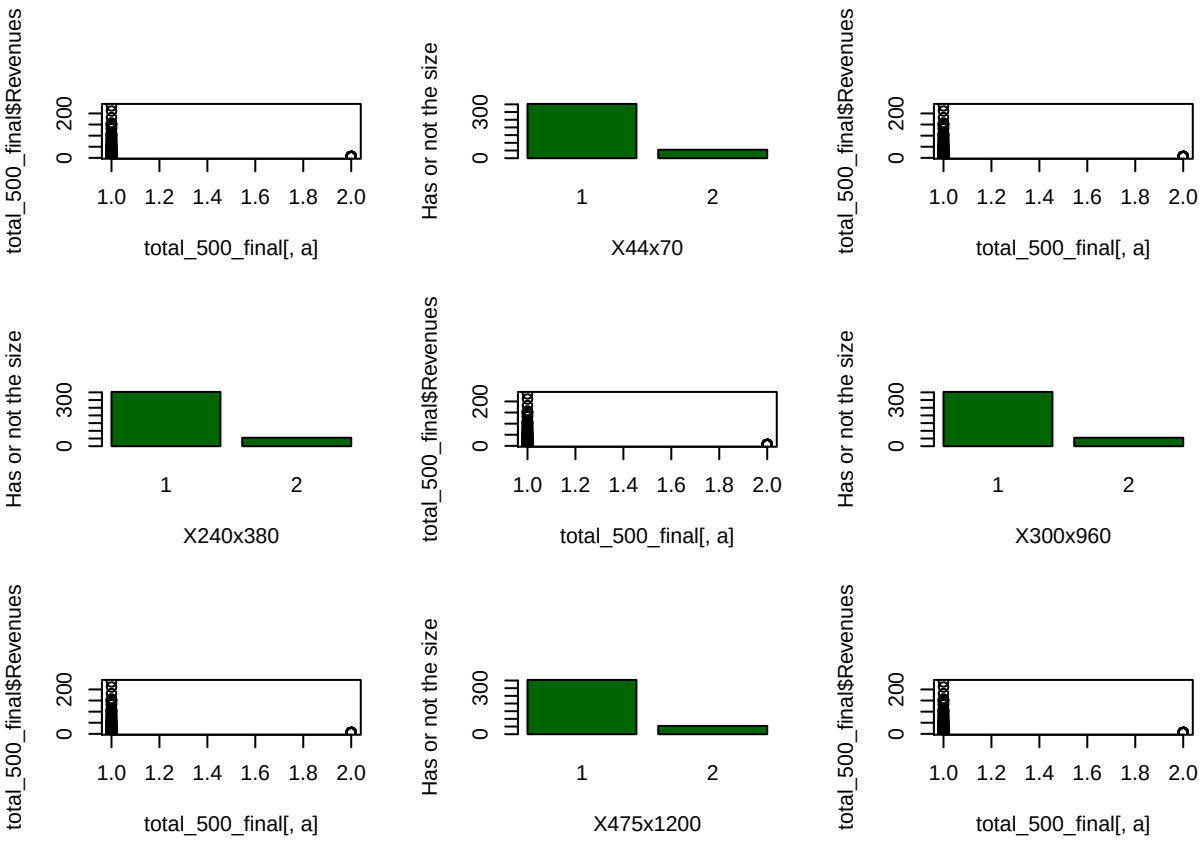

Has or not the size
0 300
1 2
X96x217
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X460x1170
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X566x581
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X208x292
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X280x290

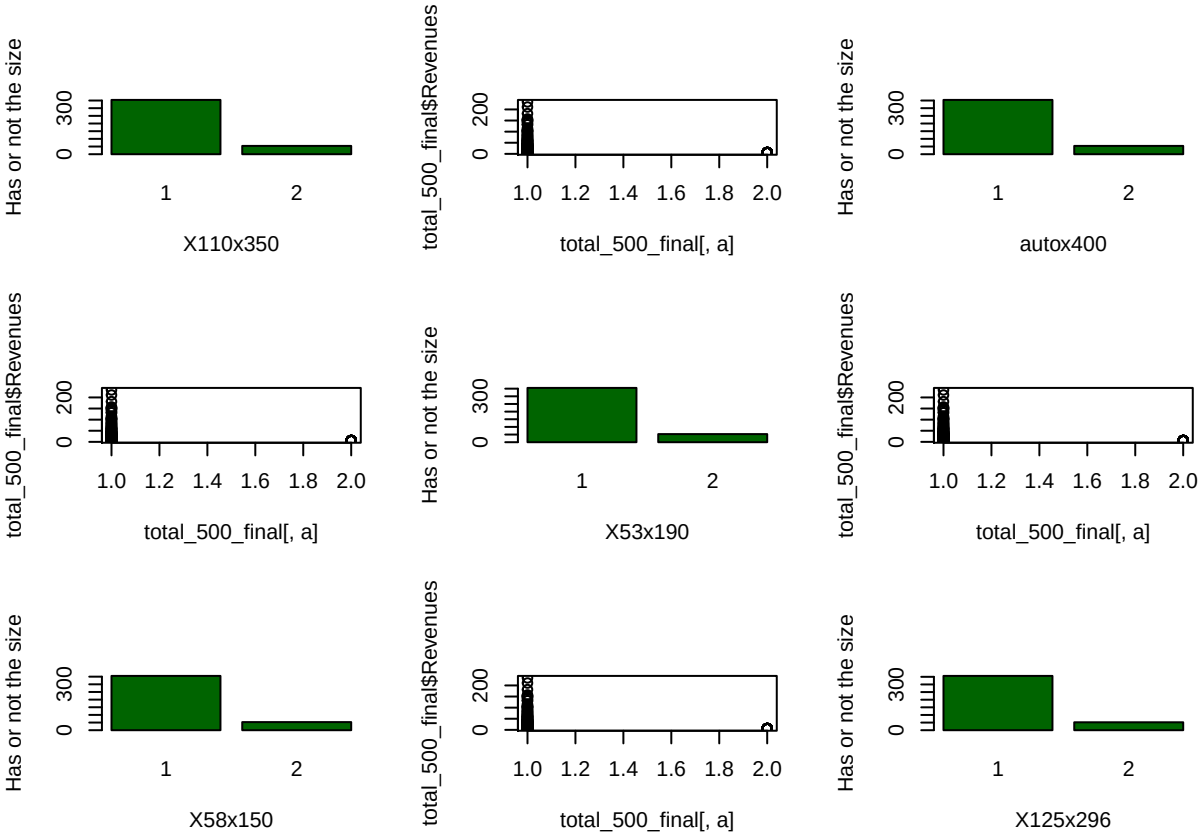

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X39pxx40px
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X84x158
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X9x9
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X10x5
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

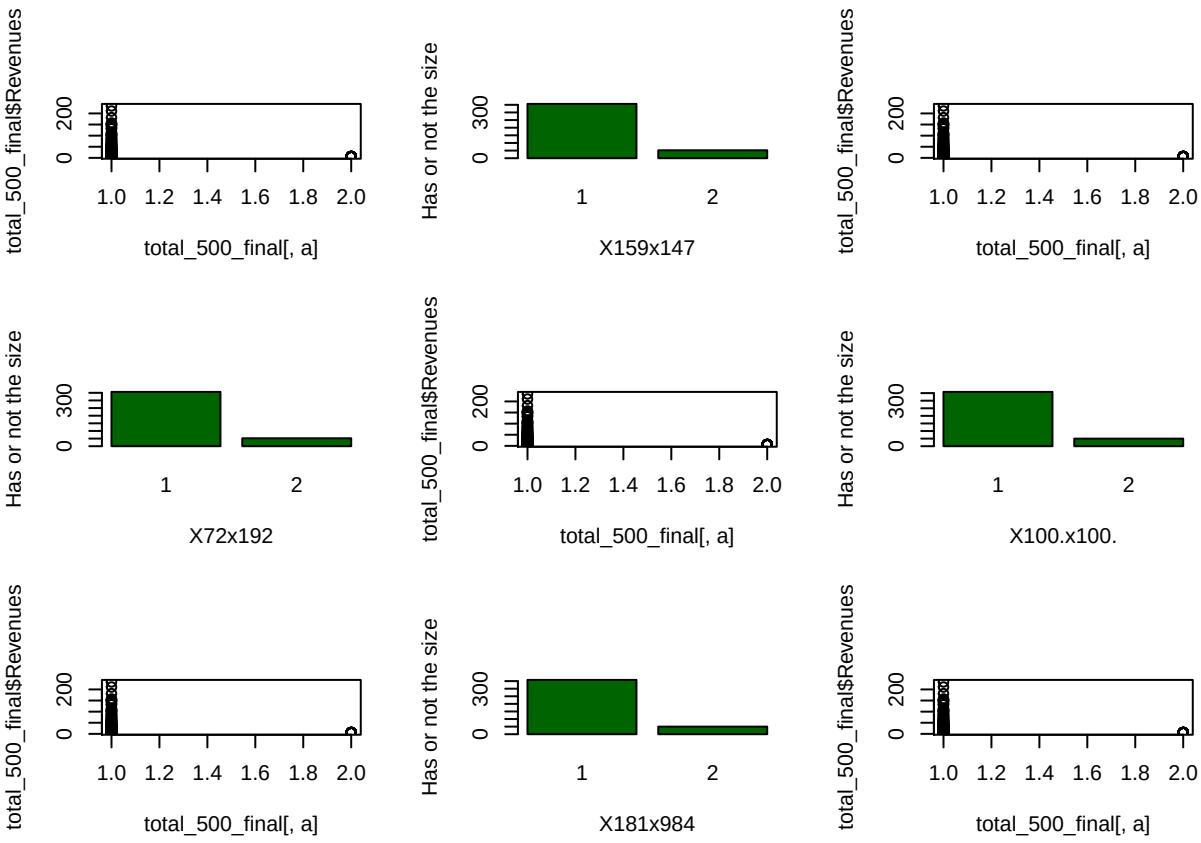

Has or not the size
0 300
1 2
X15x7
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X28x71
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X1x20
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X4x54
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X28x80

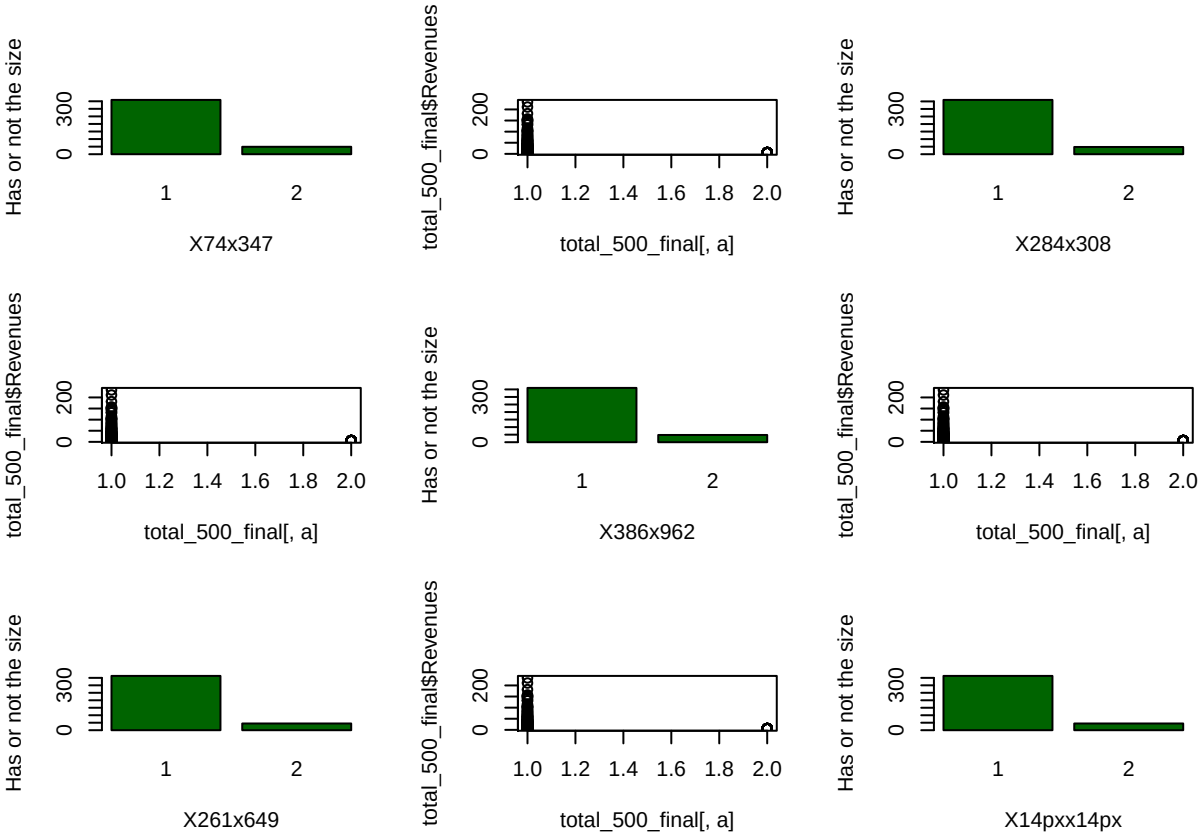

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X22x116
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X62x1
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X28x149
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X28x100
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

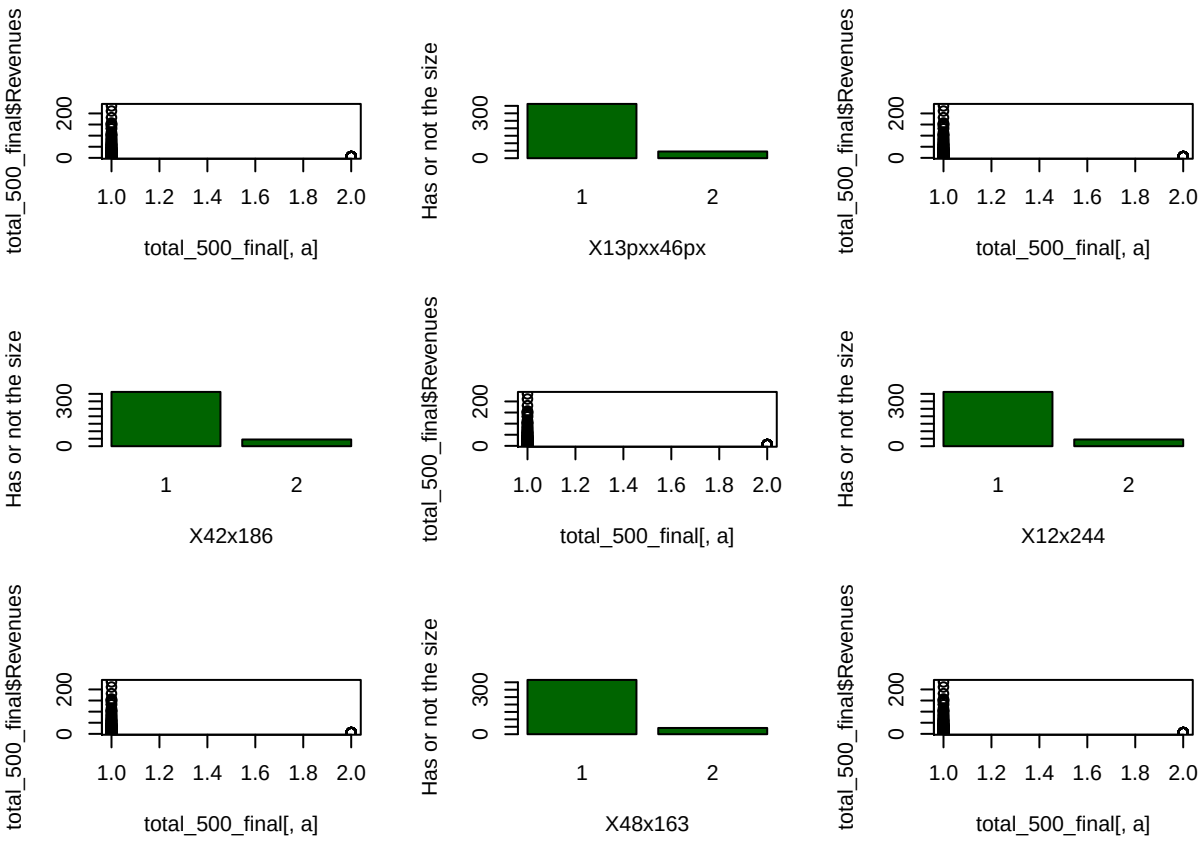

Has or not the size
0 300
1 2
X241x760
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X229x722
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X50x140
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X0x1
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X140x220

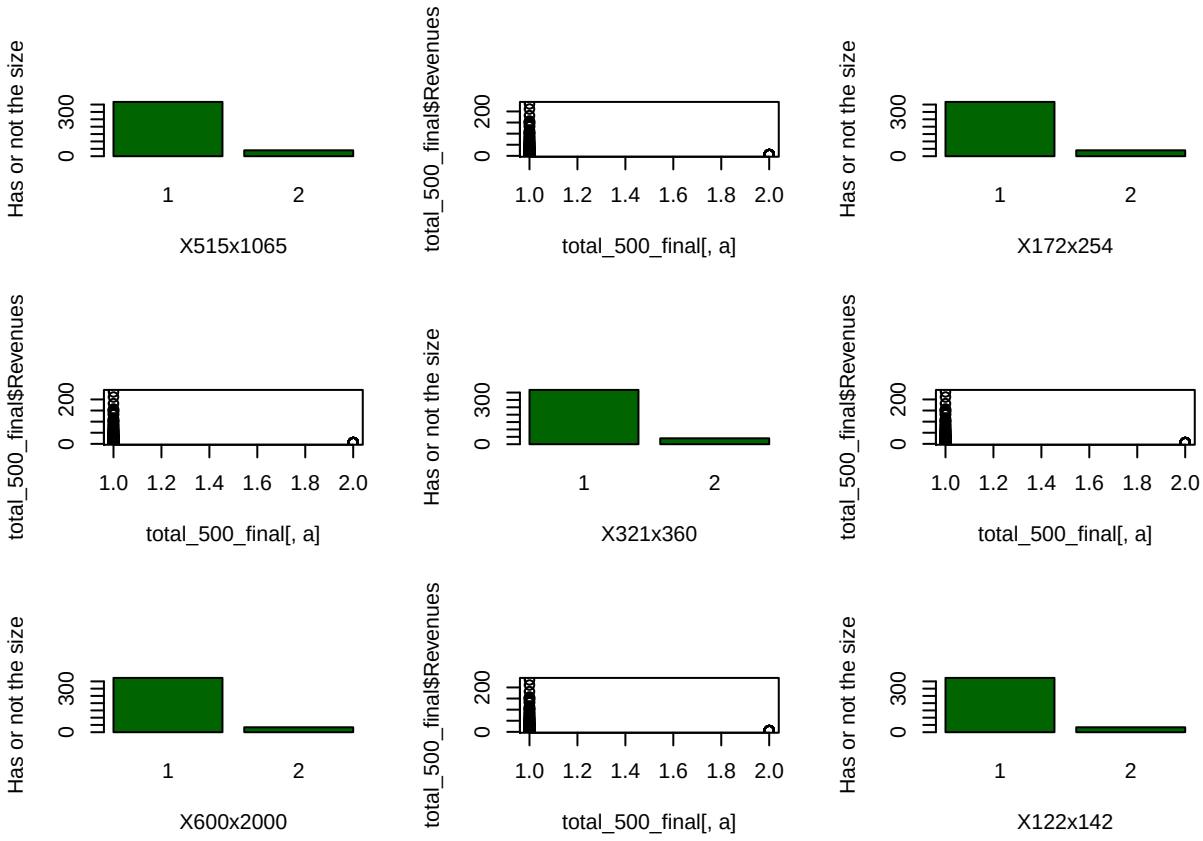

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X44x70
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X240x380
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X300x960
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X475x1200
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

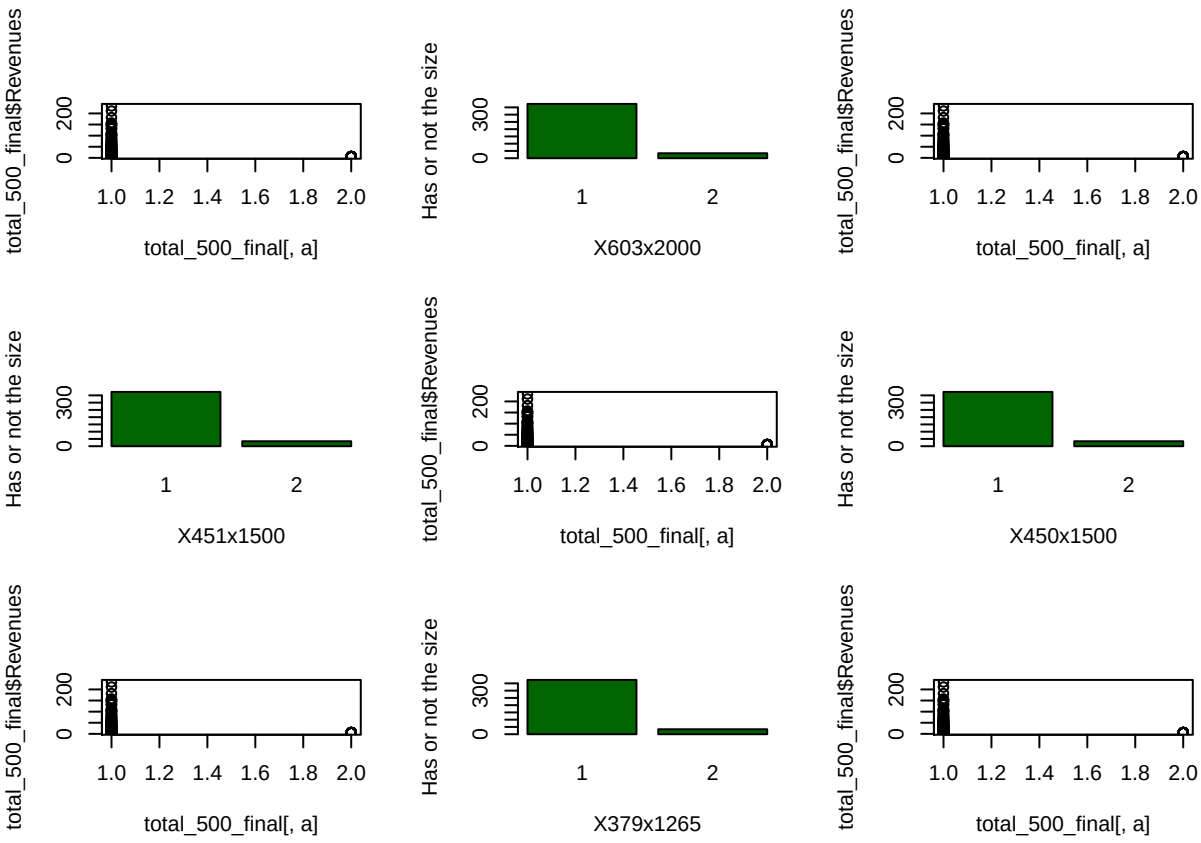

Has or not the size
0 300
1 2
X110x350
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
autox400
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X53x190
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X58x150
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X125x296

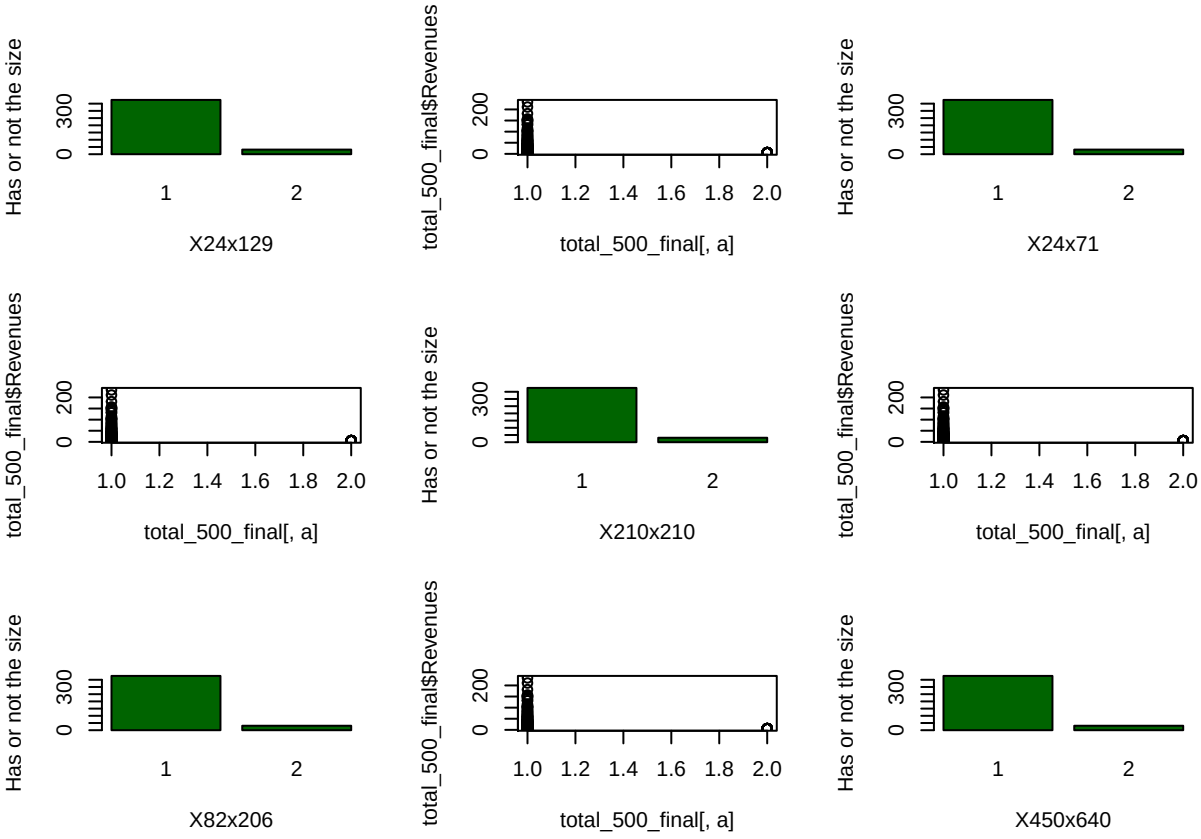

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X159x147
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X72x192
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X100.x100.
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X181x984
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

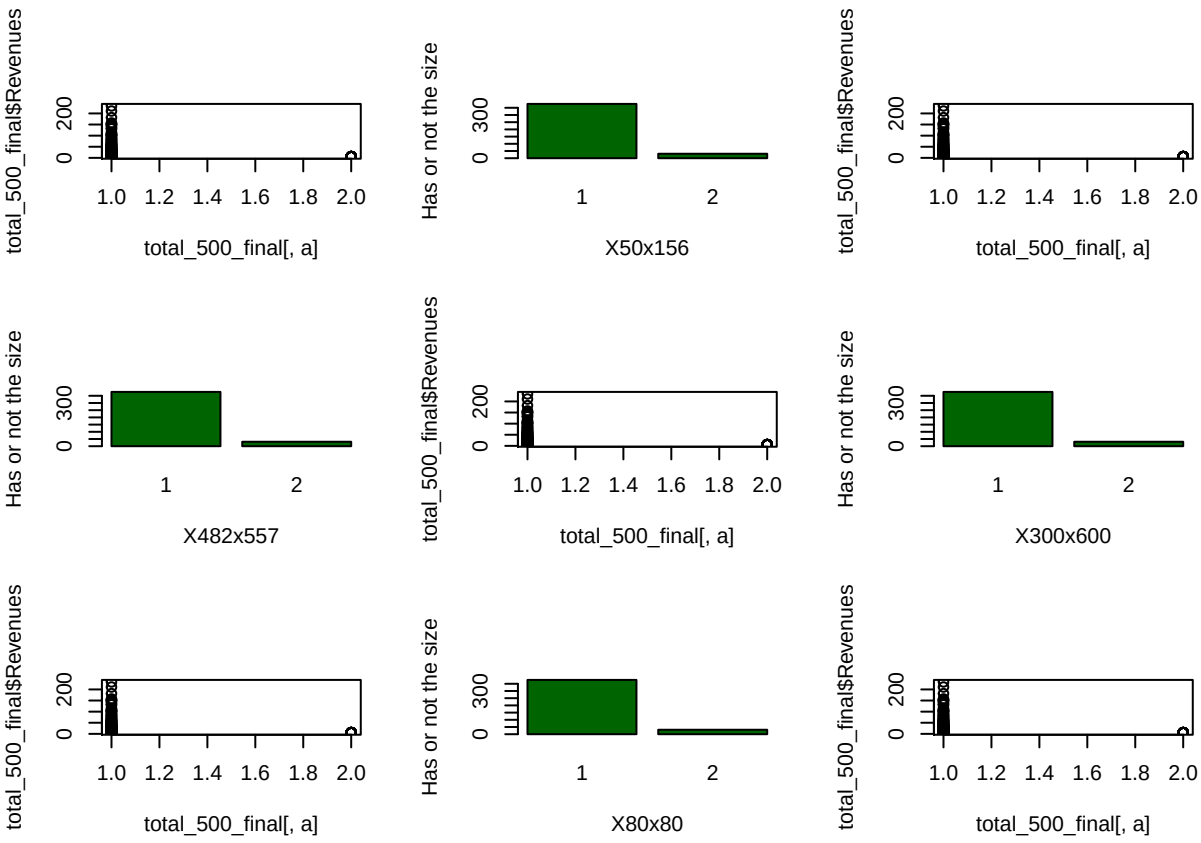

Has or not the size
0 300
1 2
X74x347
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X284x308
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X386x962
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X261x649
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X14pxx14px

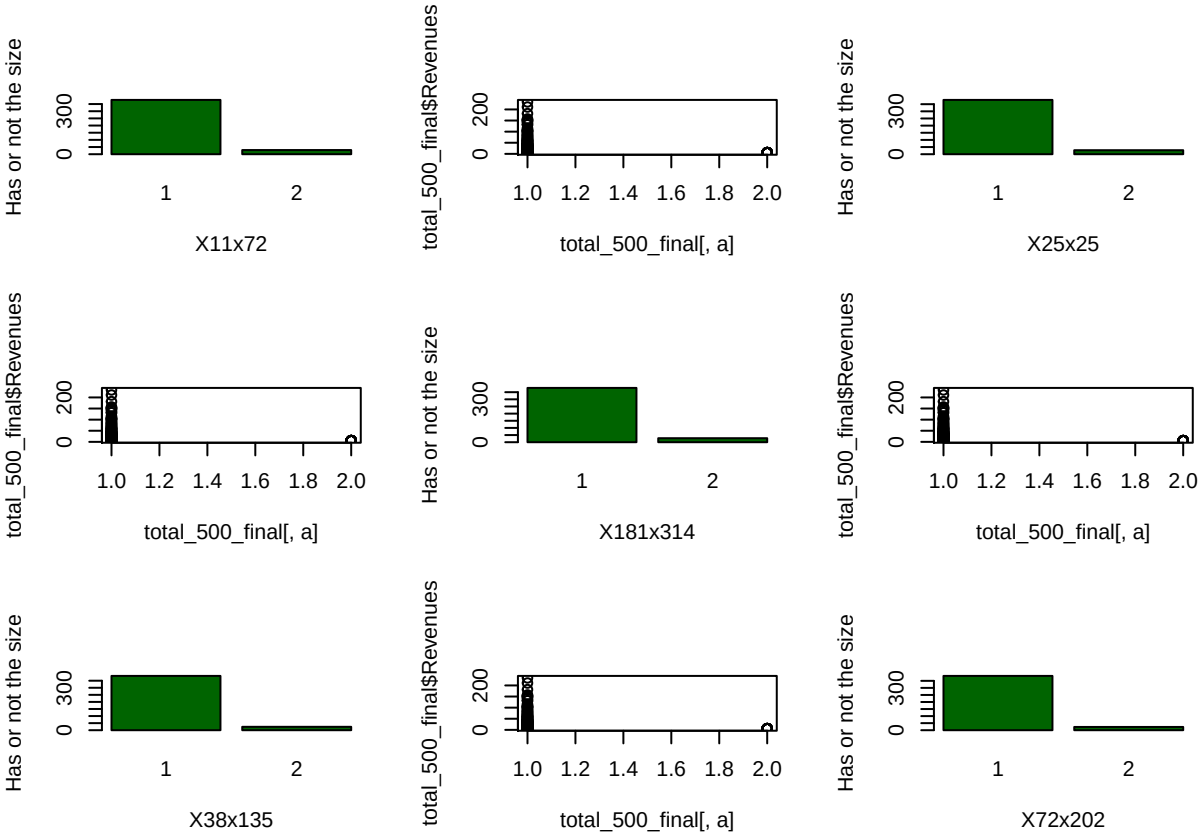

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X13pxx46px
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X42x186
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X12x244
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X48x163
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

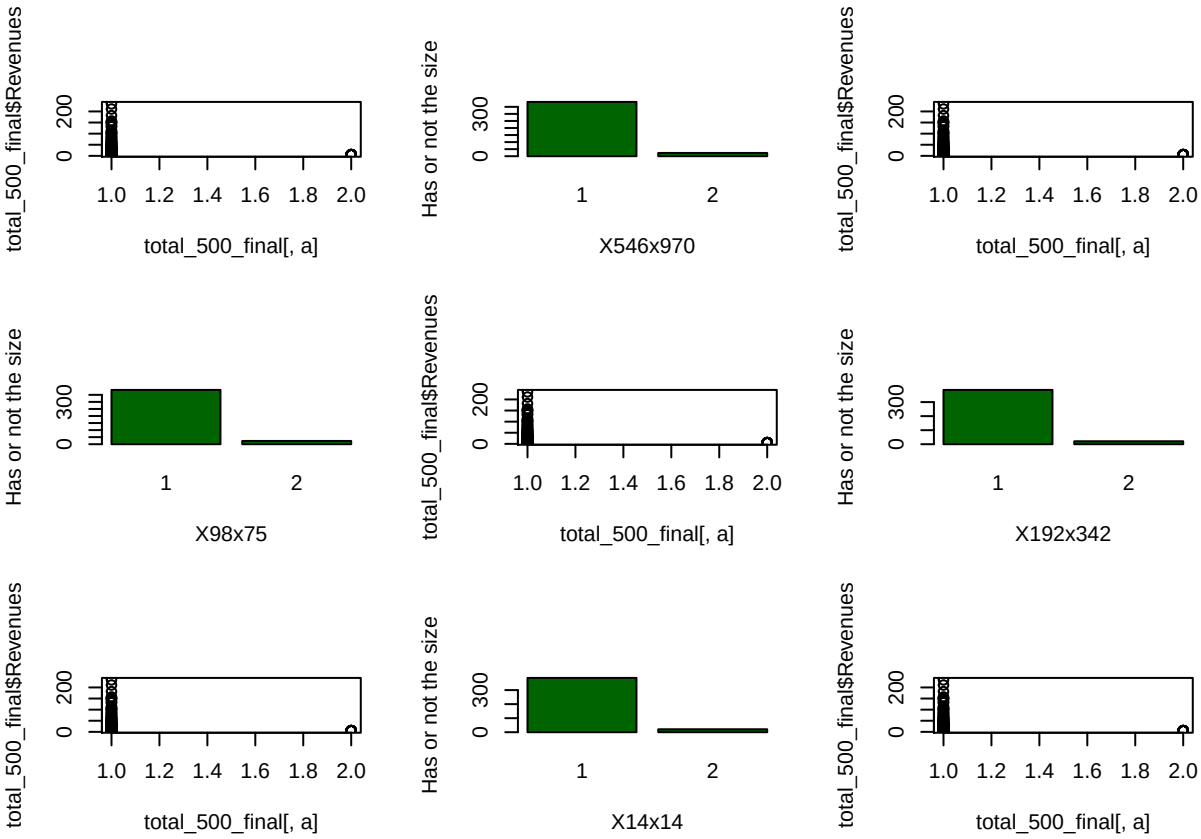

Has or not the size
0 300
1 2
X515x1065
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X172x254
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X321x360
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X600x2000
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X122x142

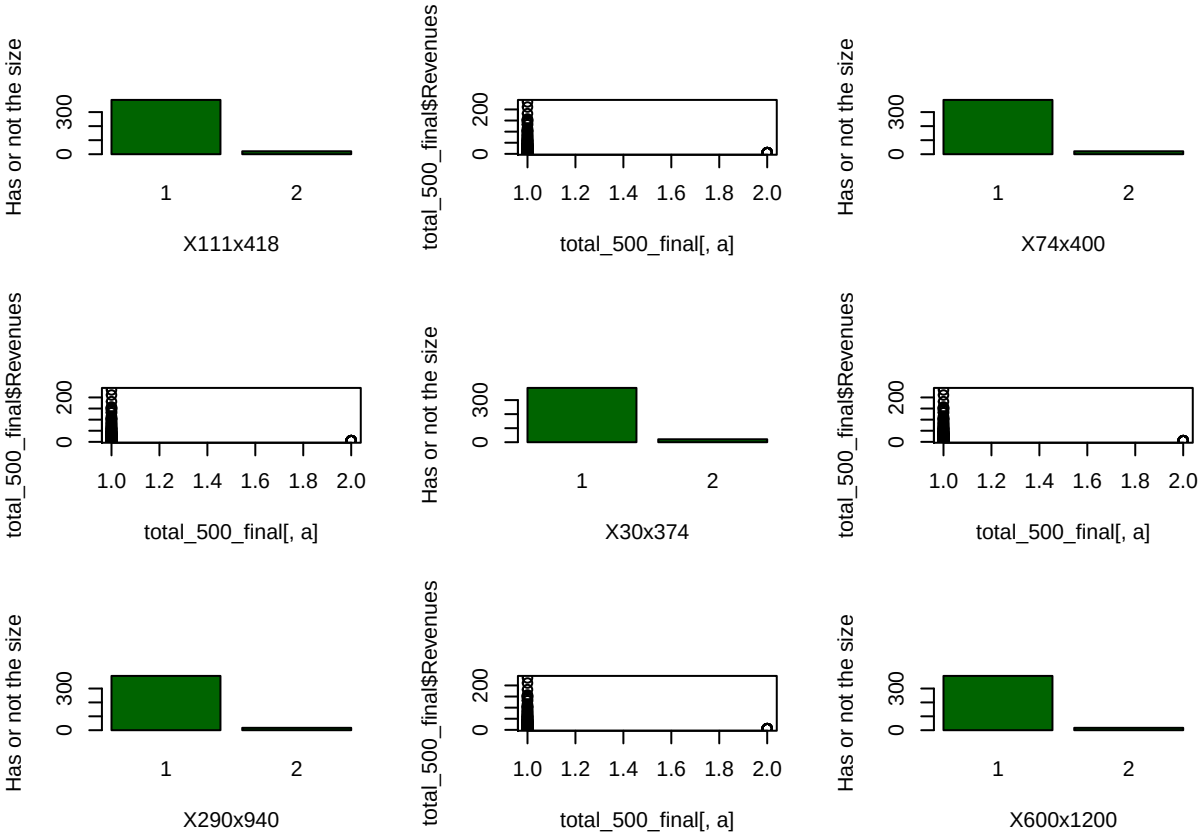

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X603x2000
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X451x1500
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X450x1500
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X379x1265
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

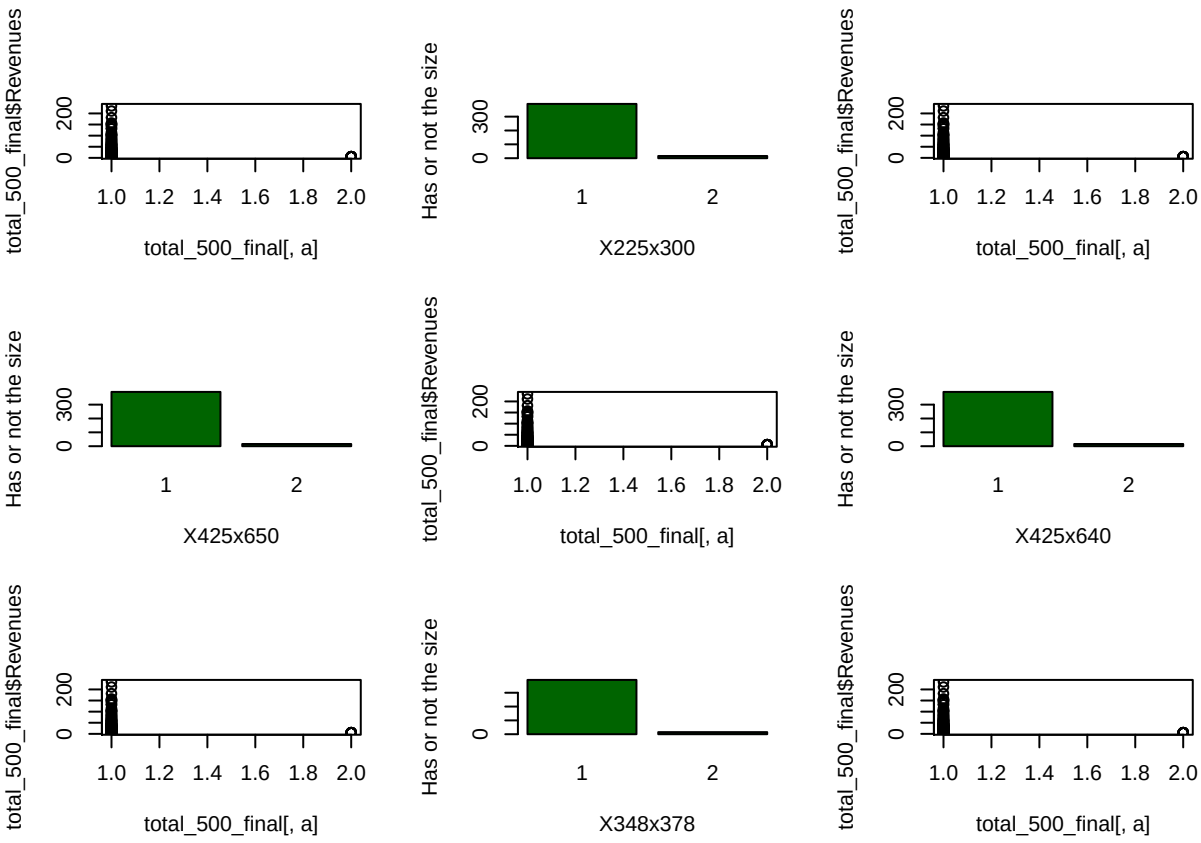

Has or not the size
0 300
1 2
X24x129
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X24x71
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X210x210
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X82x206
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X450x640

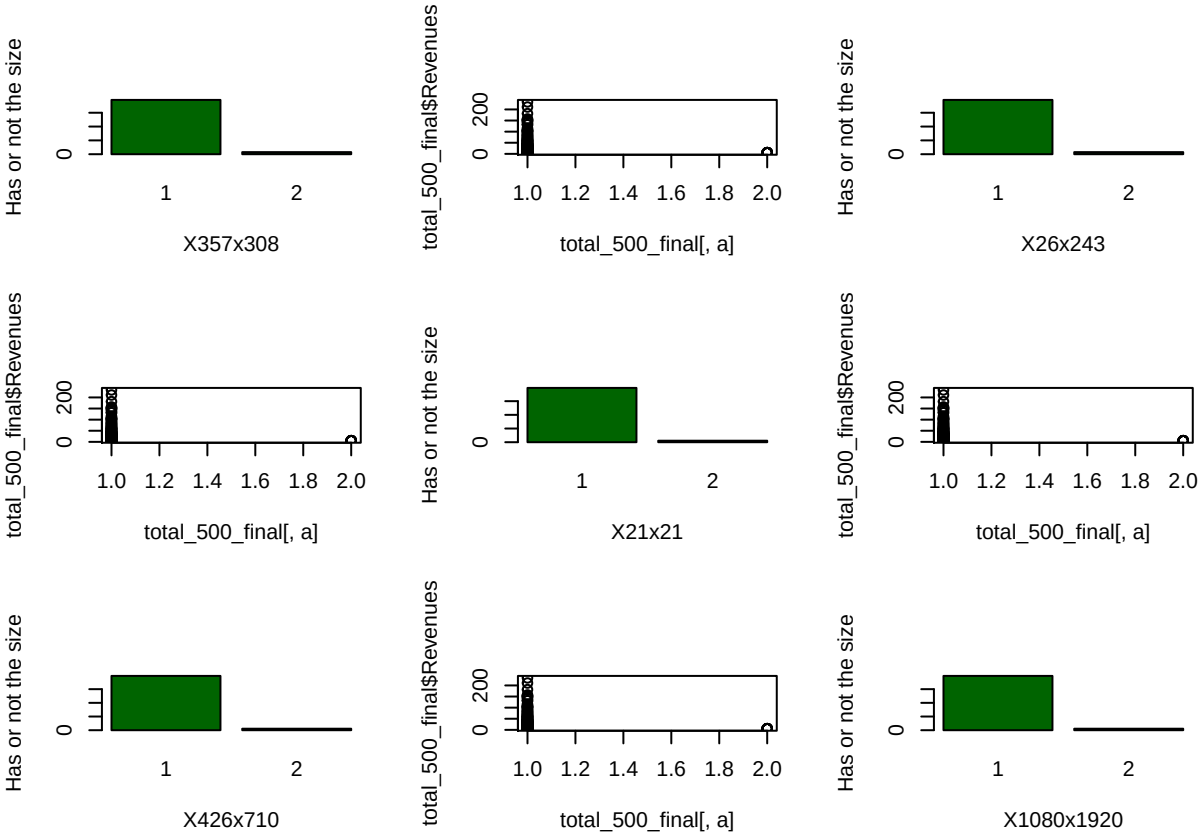

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X50x156
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X482x557
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X300x600
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X80x80
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

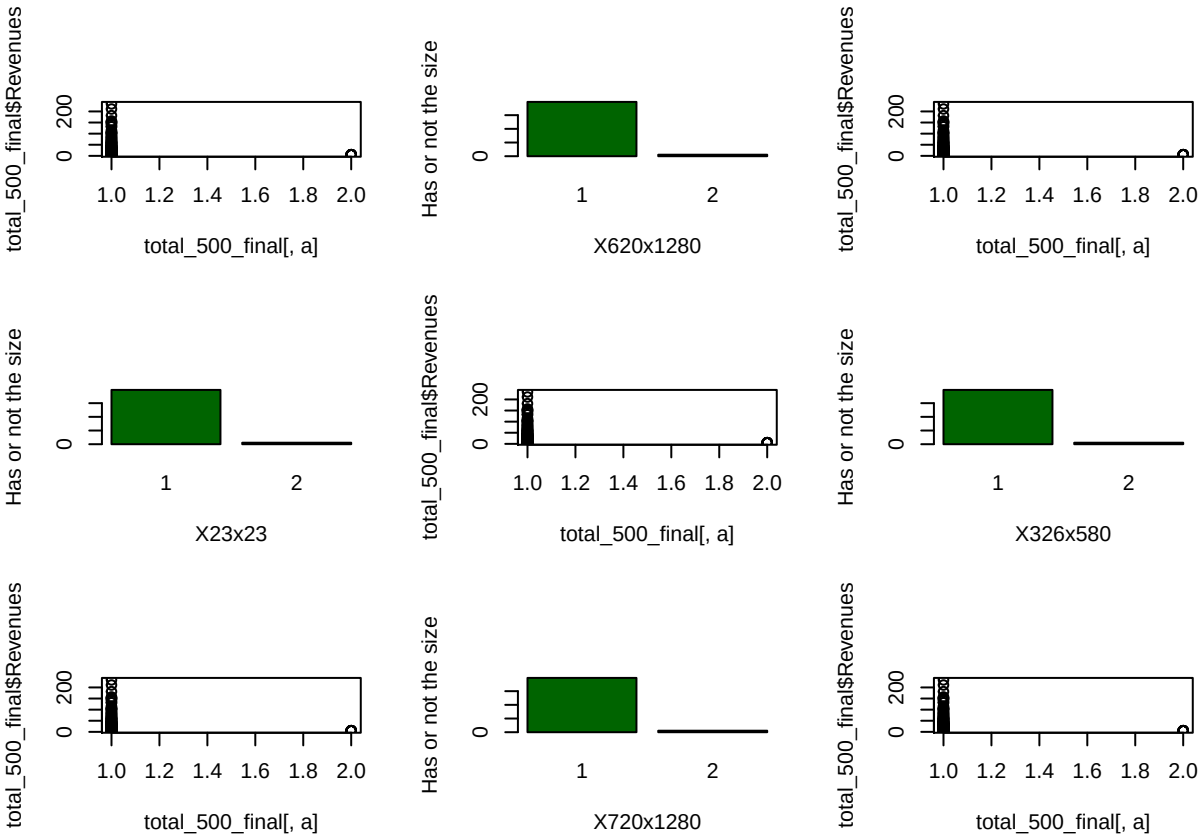

Has or not the size
0 300
1 2
X11x72
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X25x25
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X181x314
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X38x135
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X72x202

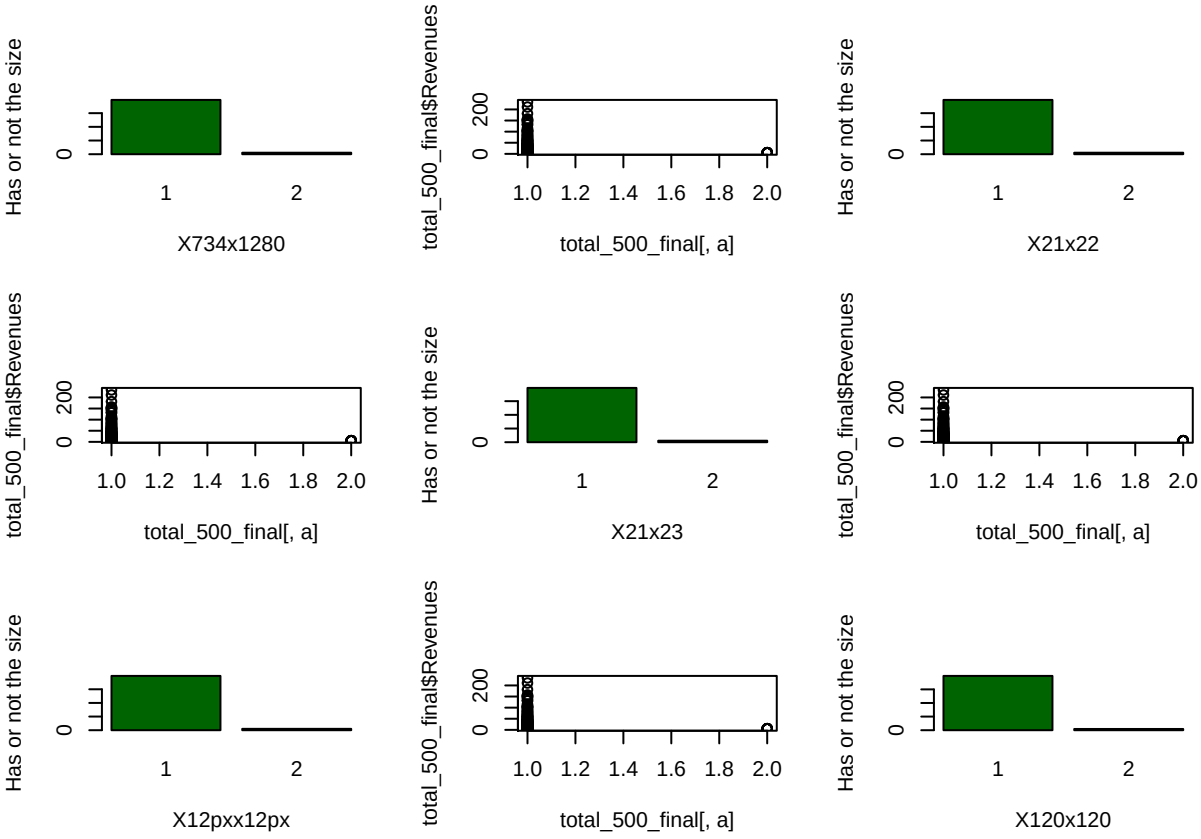

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X546x970
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X98x75
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X192x342
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X14x14
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

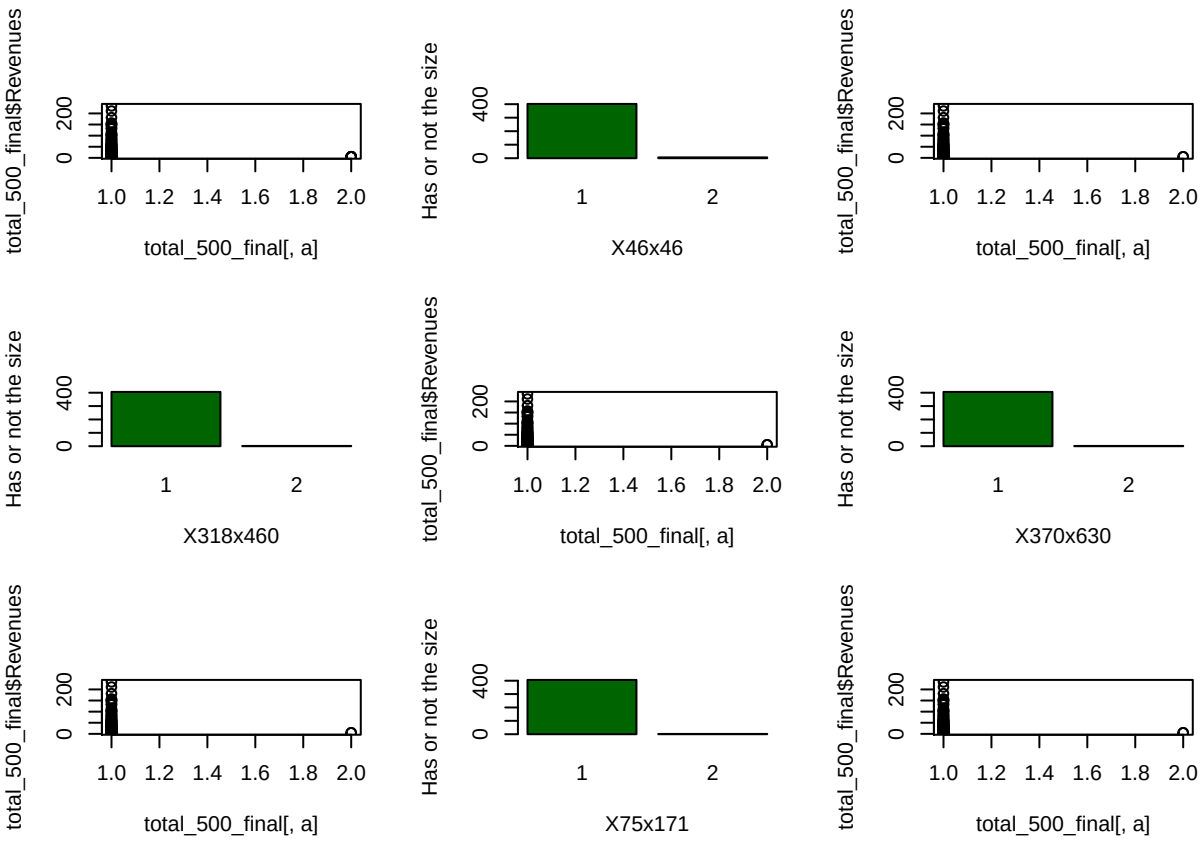

Has or not the size
0 300
1 2
X111x418
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X74x400
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X30x374
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X290x940
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X600x1200

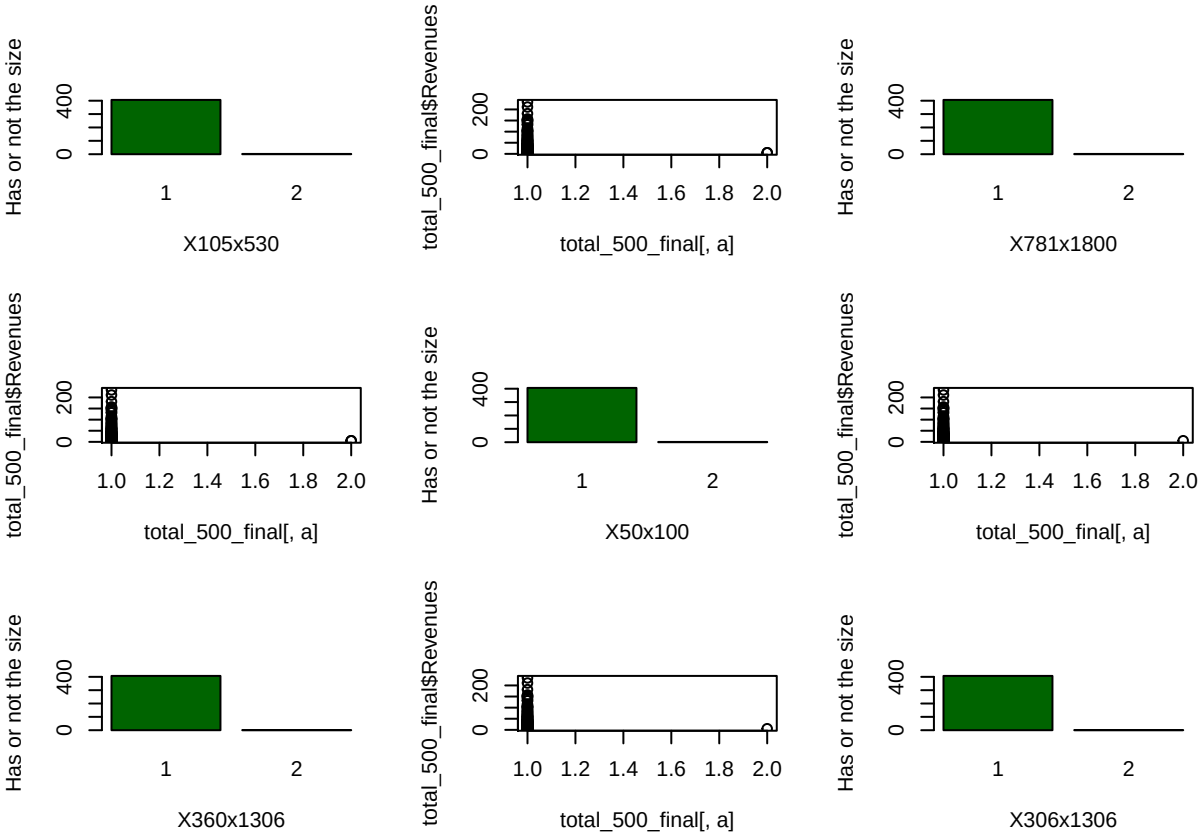

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X225x300
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X425x650
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X425x640
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0
1 2
X348x378
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

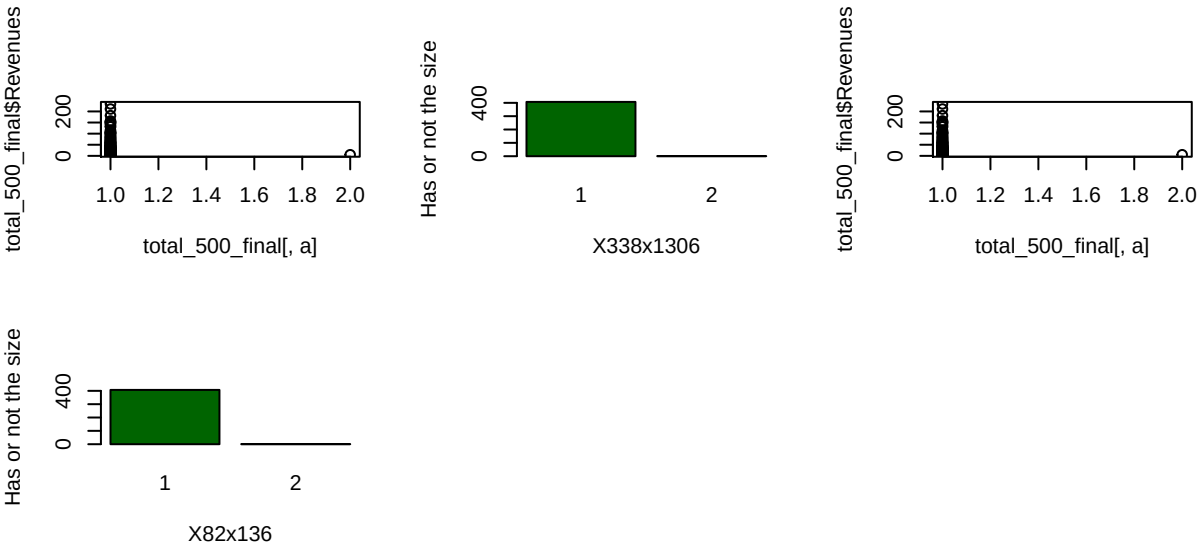

Has or not the size
0
1
2
X357x308
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
1
2
X26x243
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
1
2
X21x21
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
1
2
X426x710
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
1
2
X1080x1920


total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
1
2
X620x1280
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
1
2
X23x23
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
1
2
X326x580
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
1
2
X720x1280
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]


Has or not the size
0
1
2
X734x1280
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
1
2
X21x22
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
1
2
X21x23
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
1
2
X12pxx12px
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
1
2
X120x120

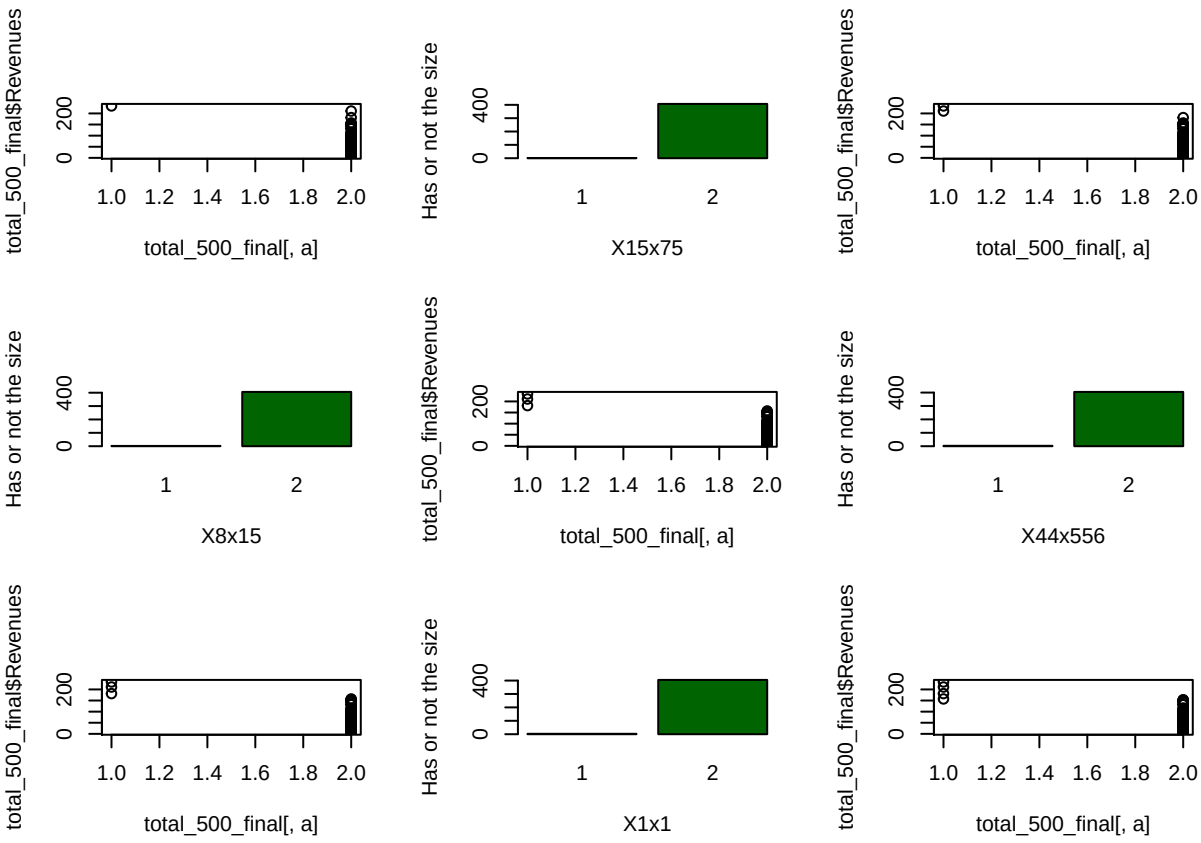

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 400
1 2
X46x46
X318x460
X370x630
X75x171

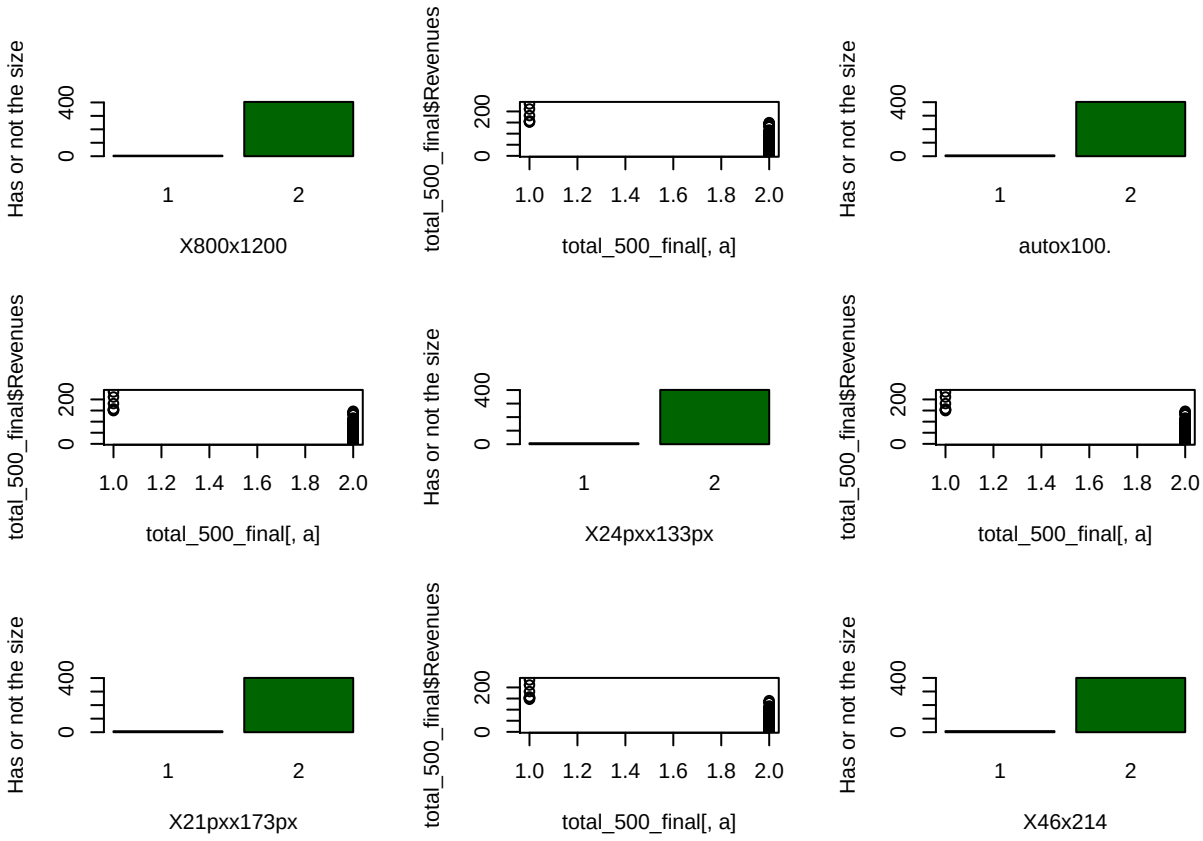

Has or not the size
0
400
1
2
X105x530
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
400
1
2
X781x1800
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
400
1
2
X50x100
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
400
1
2
X360x1306
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
400
1
2
X306x1306

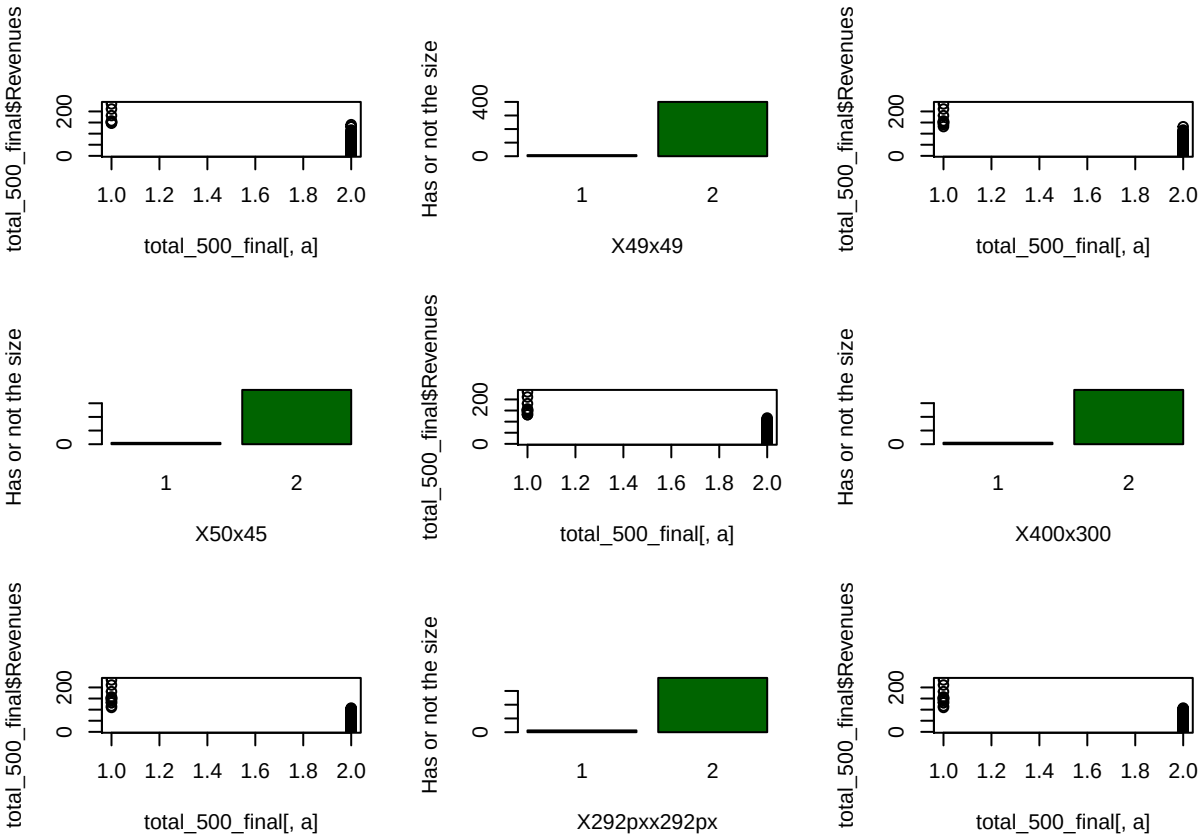


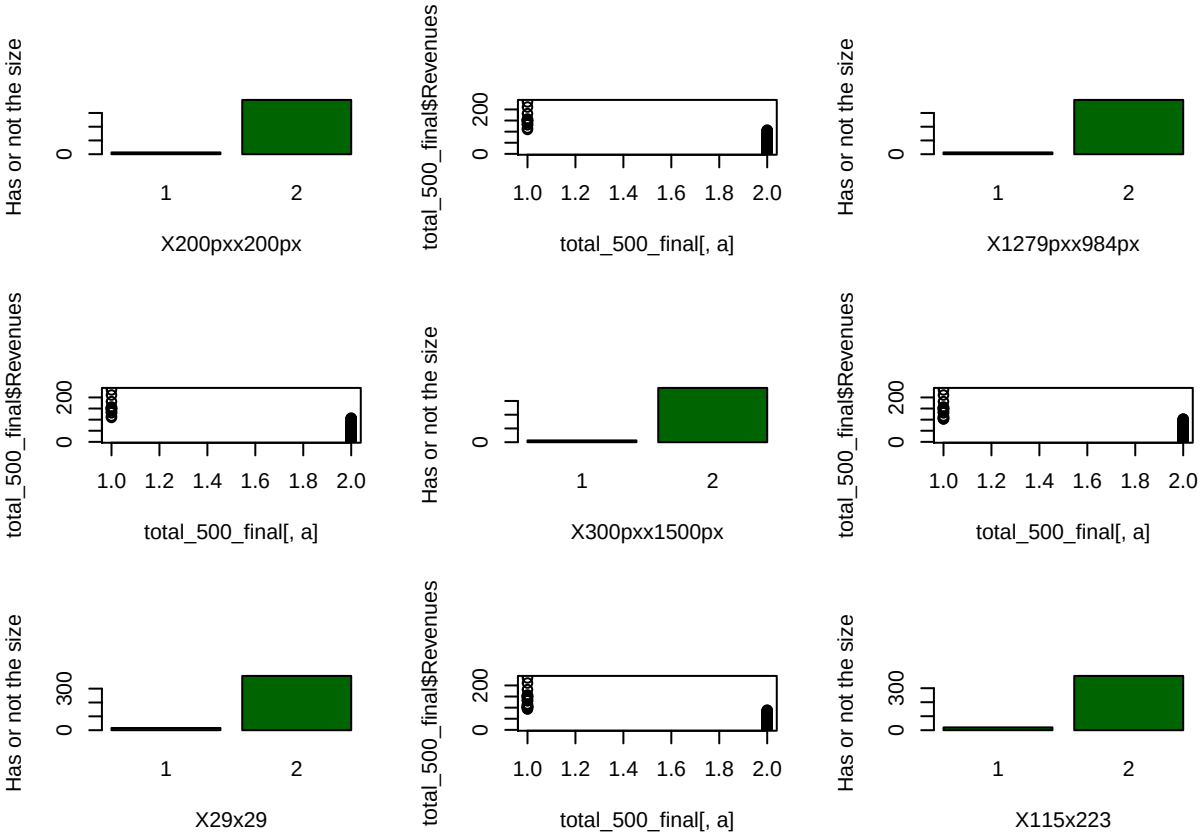

```
true_existing = c()
#Check for sizes that are more than half divided in existing and not
for(i in 24:715){
  image_size<- round(table(total_500_final[,i]))
  if ((image_size[[2]]>204)==TRUE){
    true_existing <- union(true_existing, c(i))
  }}
```

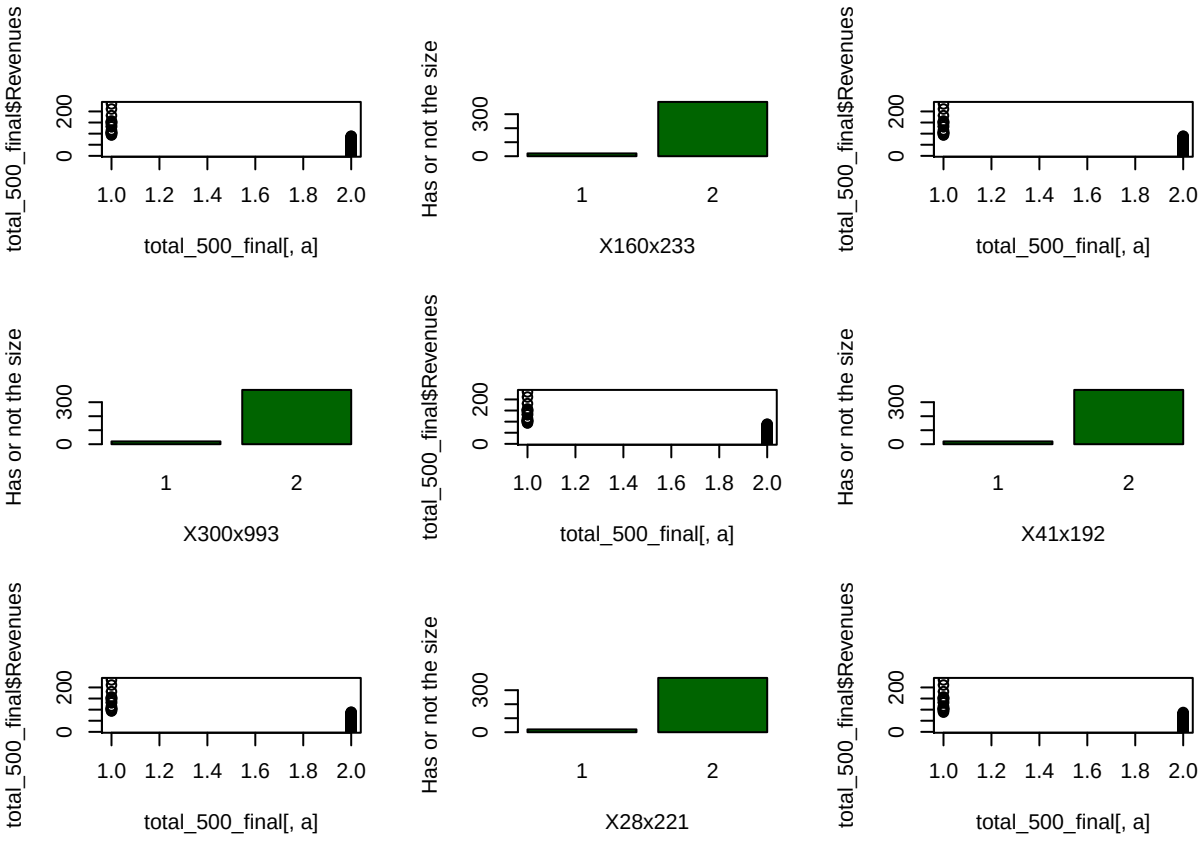
```
#Now we will take the sizes that exist in more than half the instances and check graphically the deviat
par(mfrow=c(3,3))
for(i in 1:276){
  a = true_existing[i]
  image_size<- round(table(total_500_final[,a]))
  plot(total_500_final[,a],total_500_final$Revenues)
  barplot(image_size,xlab=names(total_500_final)[a],ylab = "Has or not the size", col = "dark green")}
```

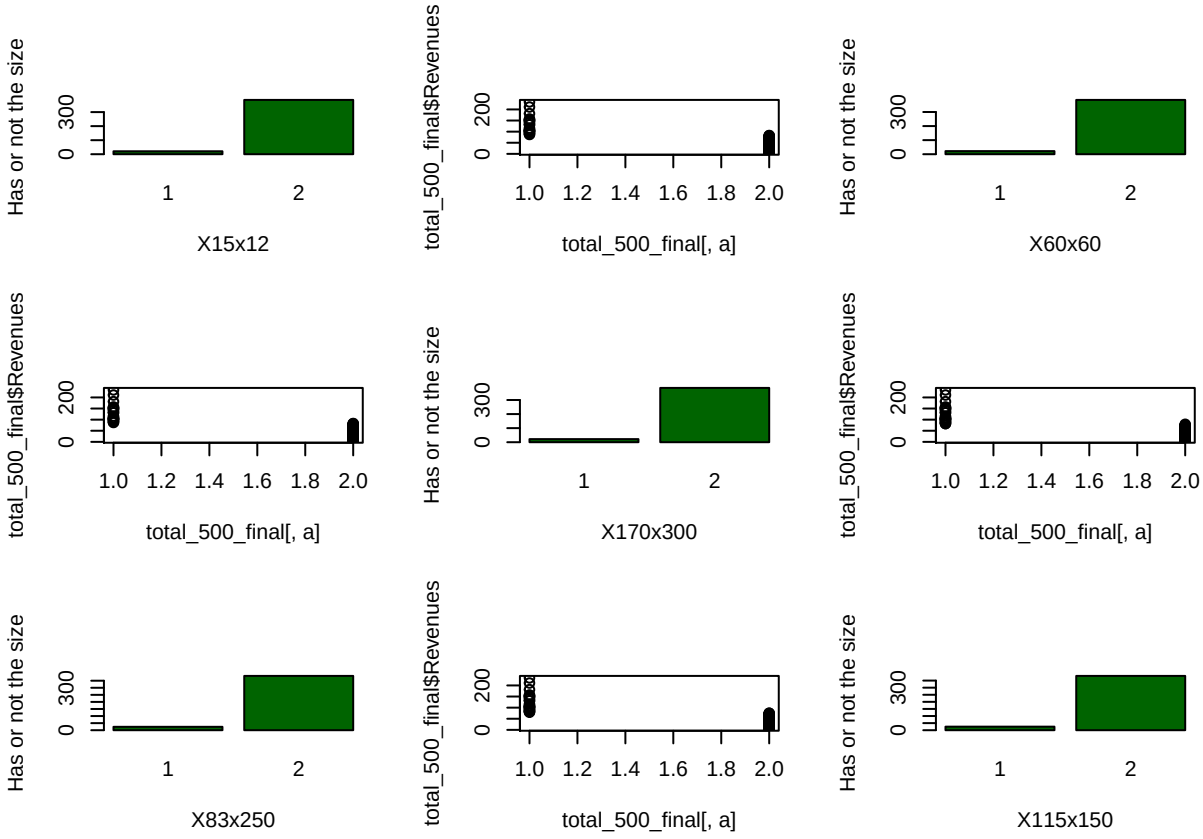

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 400
1 2
X15x75
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 400
1 2
X8x15
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 400
1 2
X44x556
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 400
1 2
X1x1
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

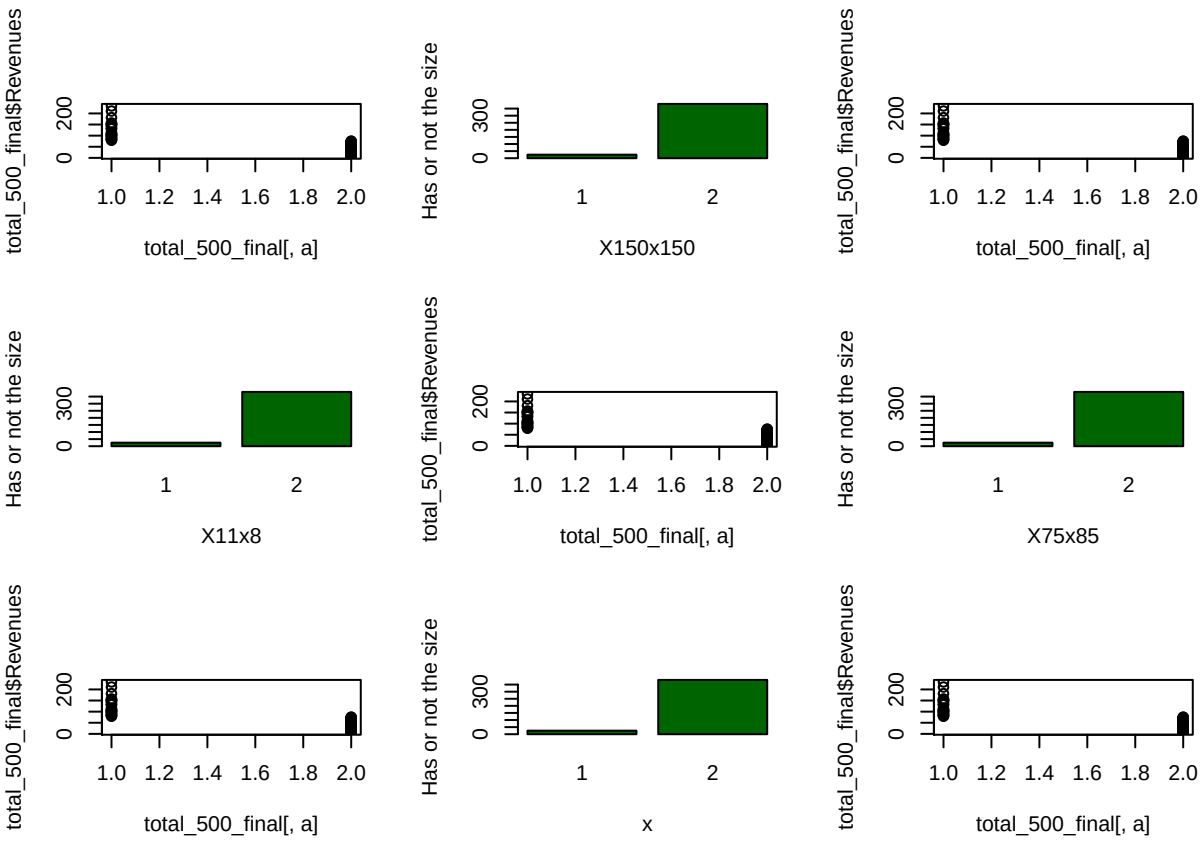

Has or not the size
0 400
1 2
X800x1200
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 400
1 2
autox100.
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 400
1 2
X24pxx133px
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 400
1 2
X21pxx173px
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 400
1 2
X46x214

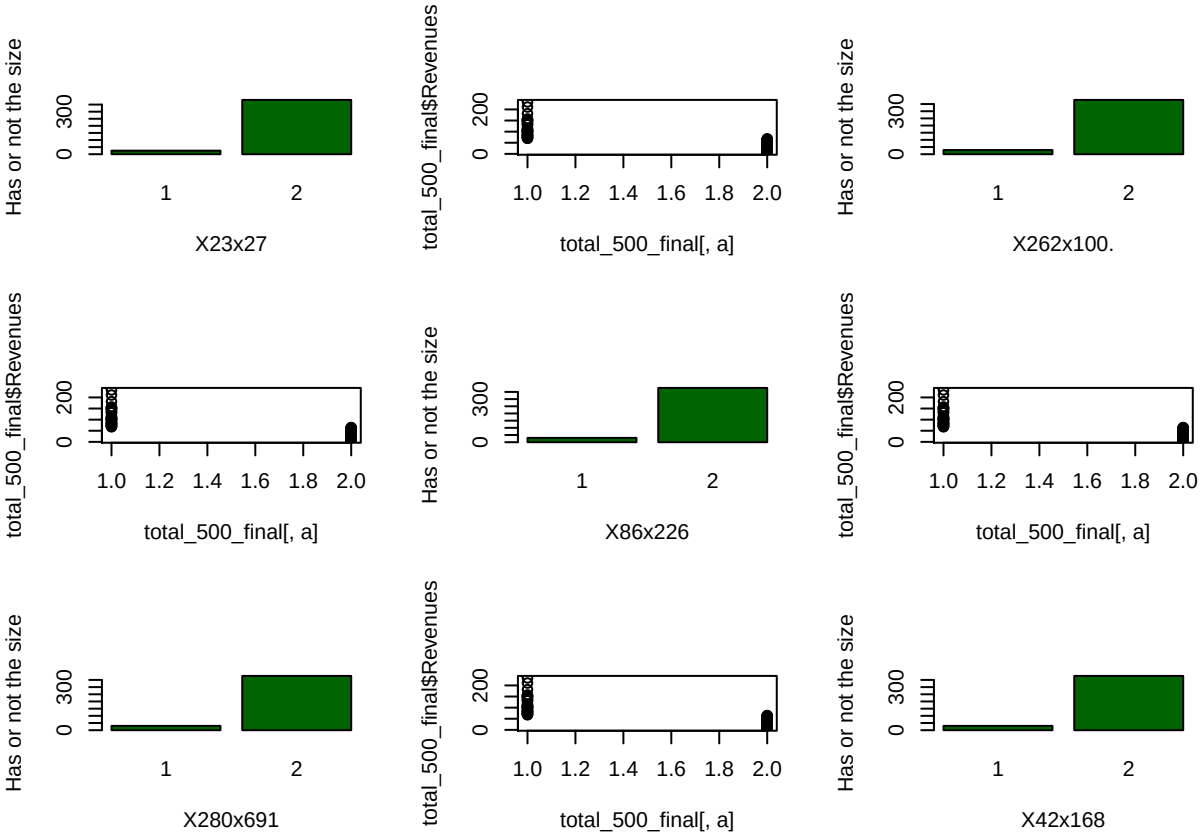

total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
400
1
2
X49x49
X50x45
X400x300
X292pxx292px

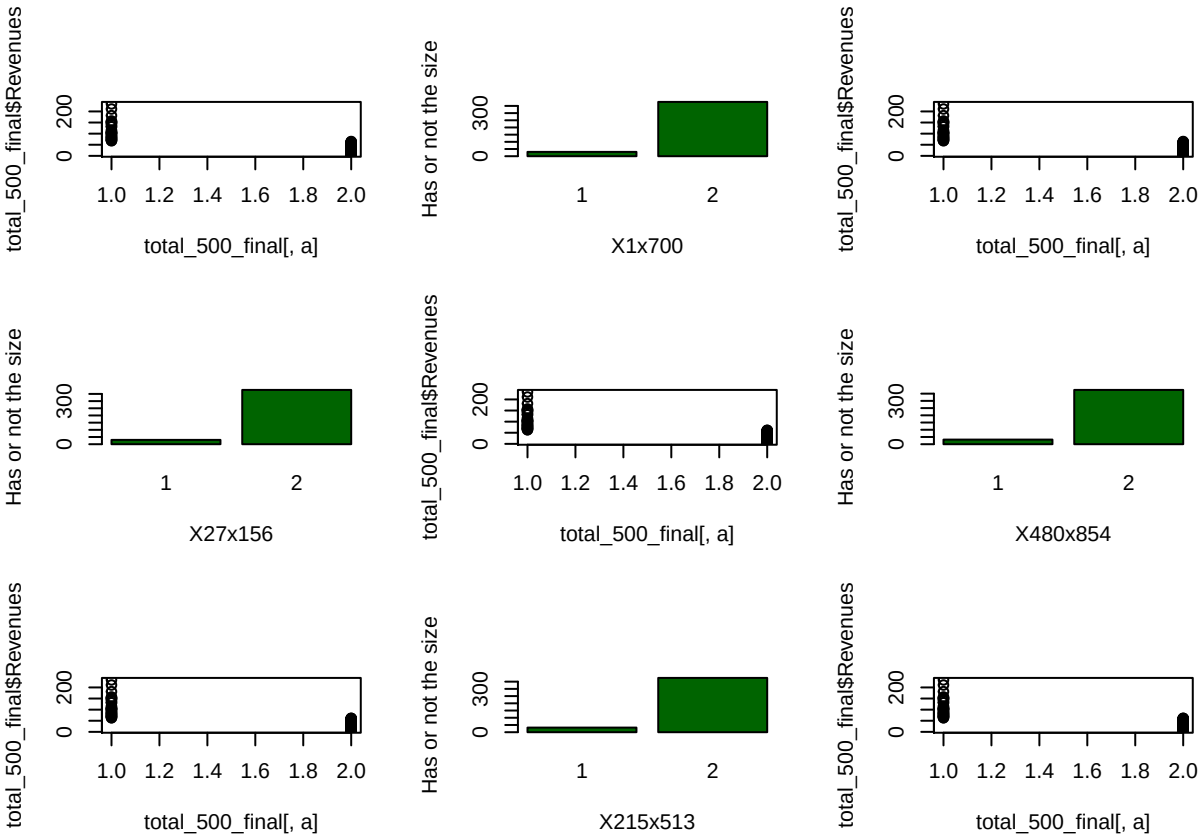

Has or not the size
0
1
2
X200pxx200px
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0
1
2
X1279pxx984px
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0
1
2
X300pxx1500px
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1
2
X29x29
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1
2
X115x223

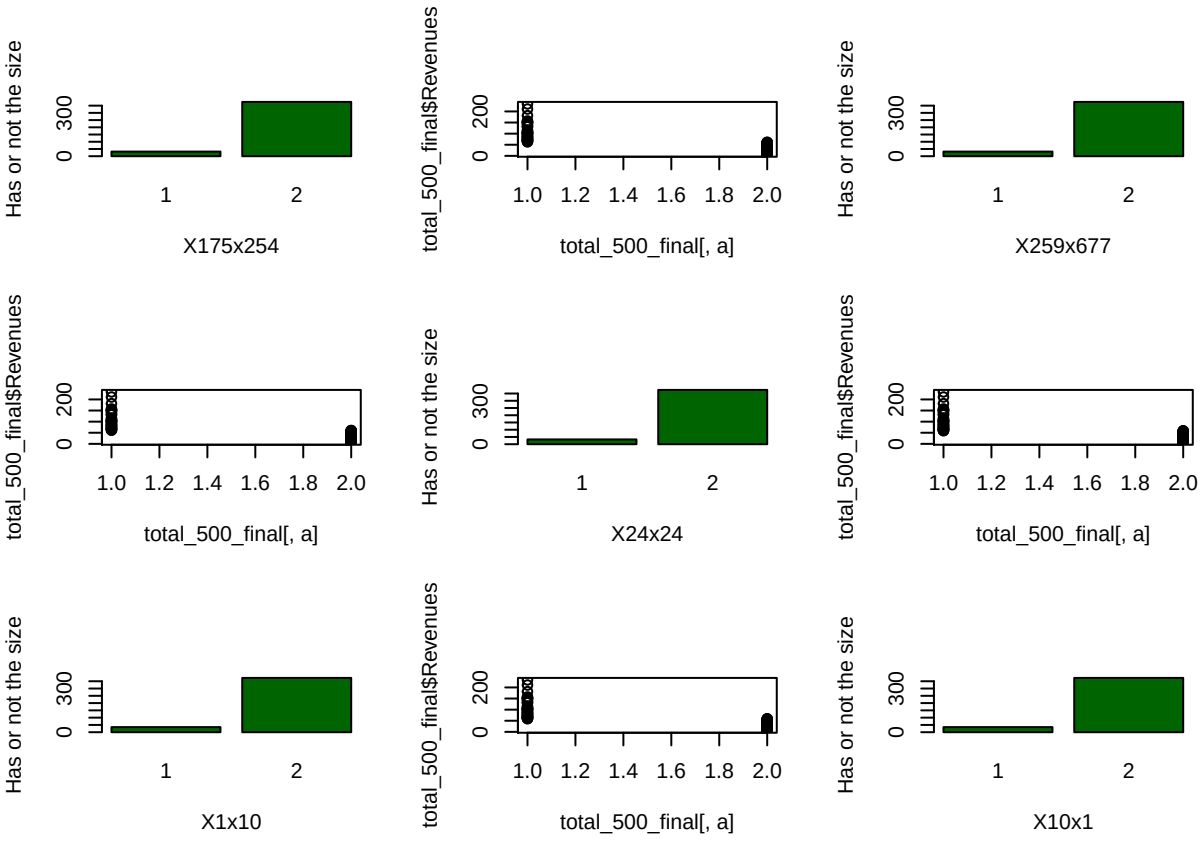

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X160x233
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X300x993
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X41x192
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X28x221
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

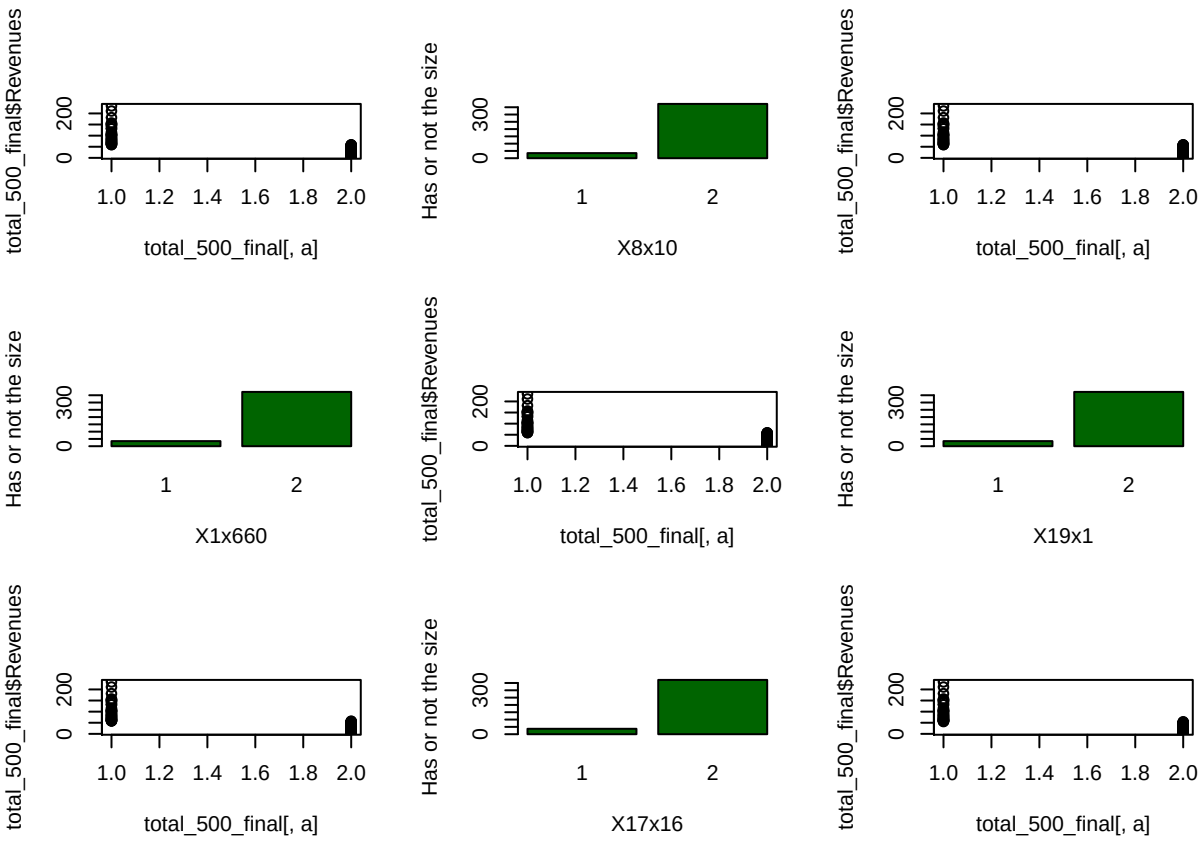

Has or not the size
0 300
1 2
X15x12
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X60x60
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X170x300
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X83x250
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X115x150

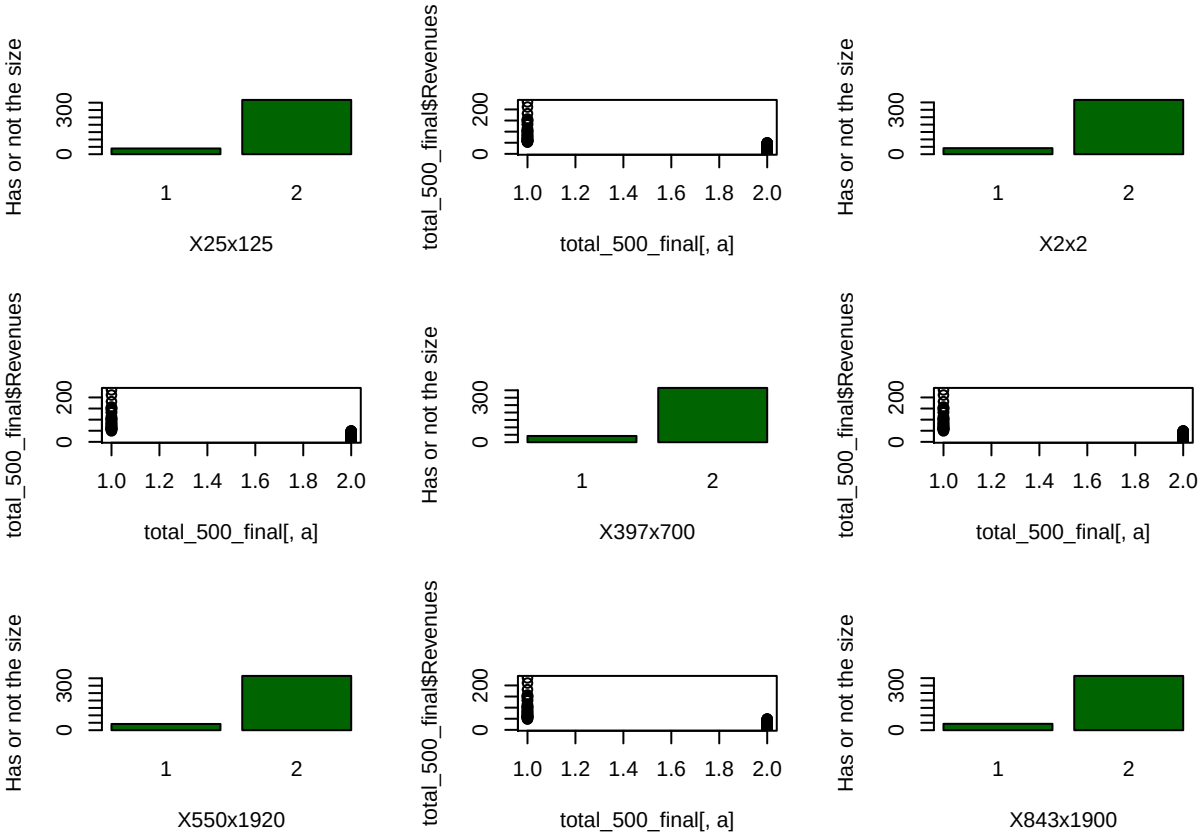

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X150x150
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X11x8
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X75x85
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
x
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

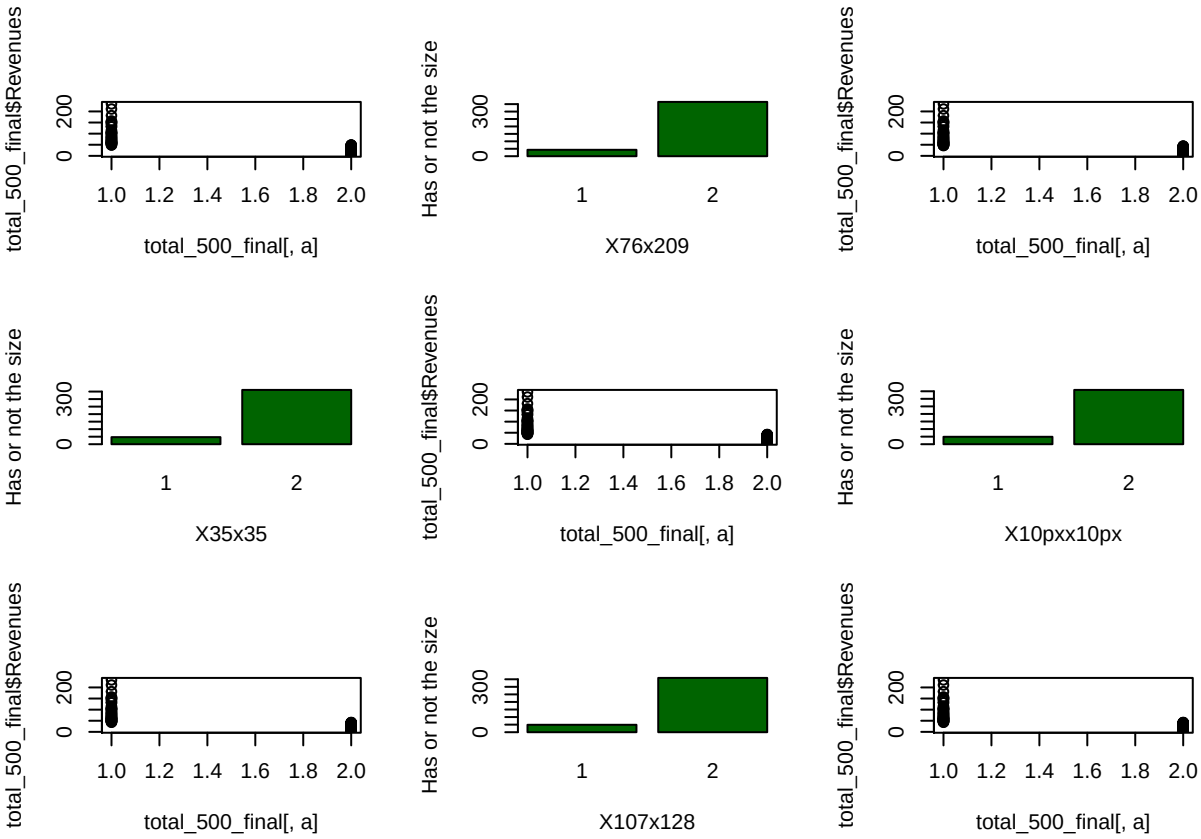

Has or not the size
0 300
1 2
X23x27
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X262x100.
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X86x226
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X280x691
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X42x168

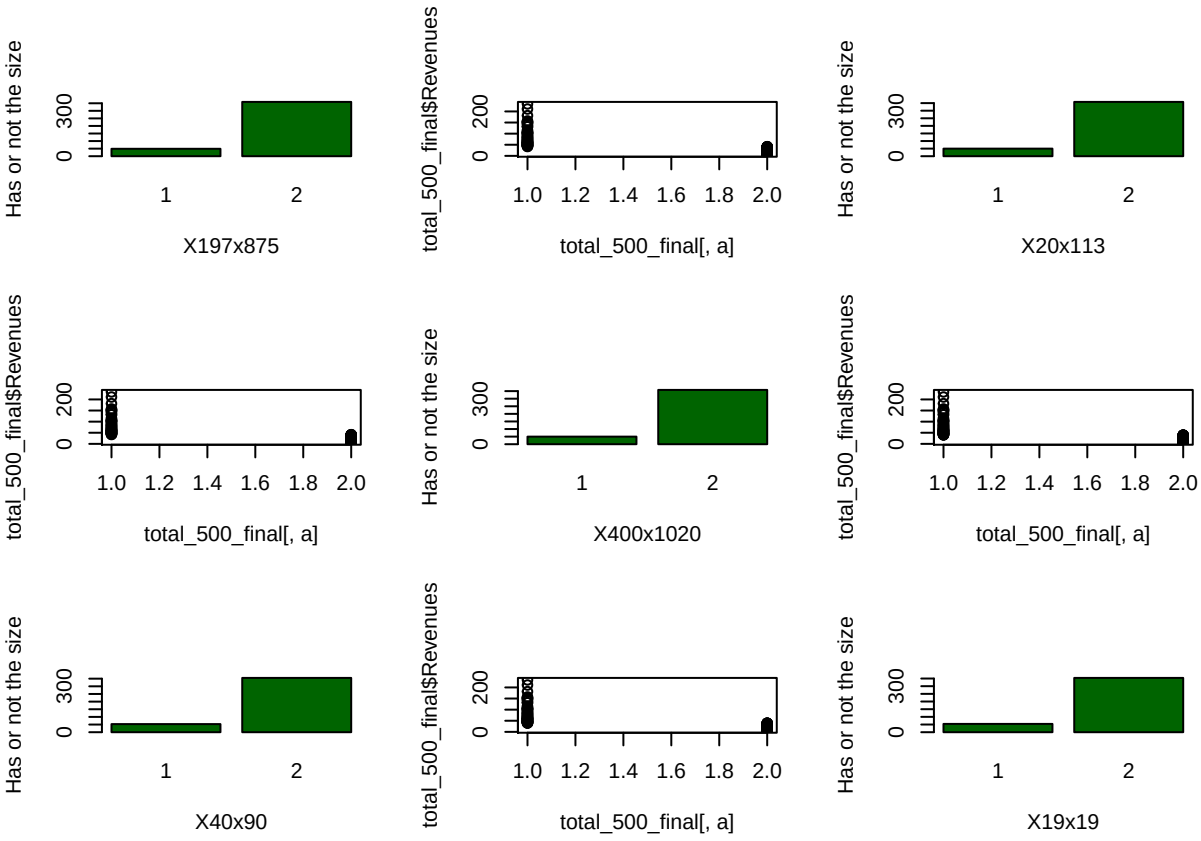

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X1x700
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X27x156
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X480x854
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X215x513
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

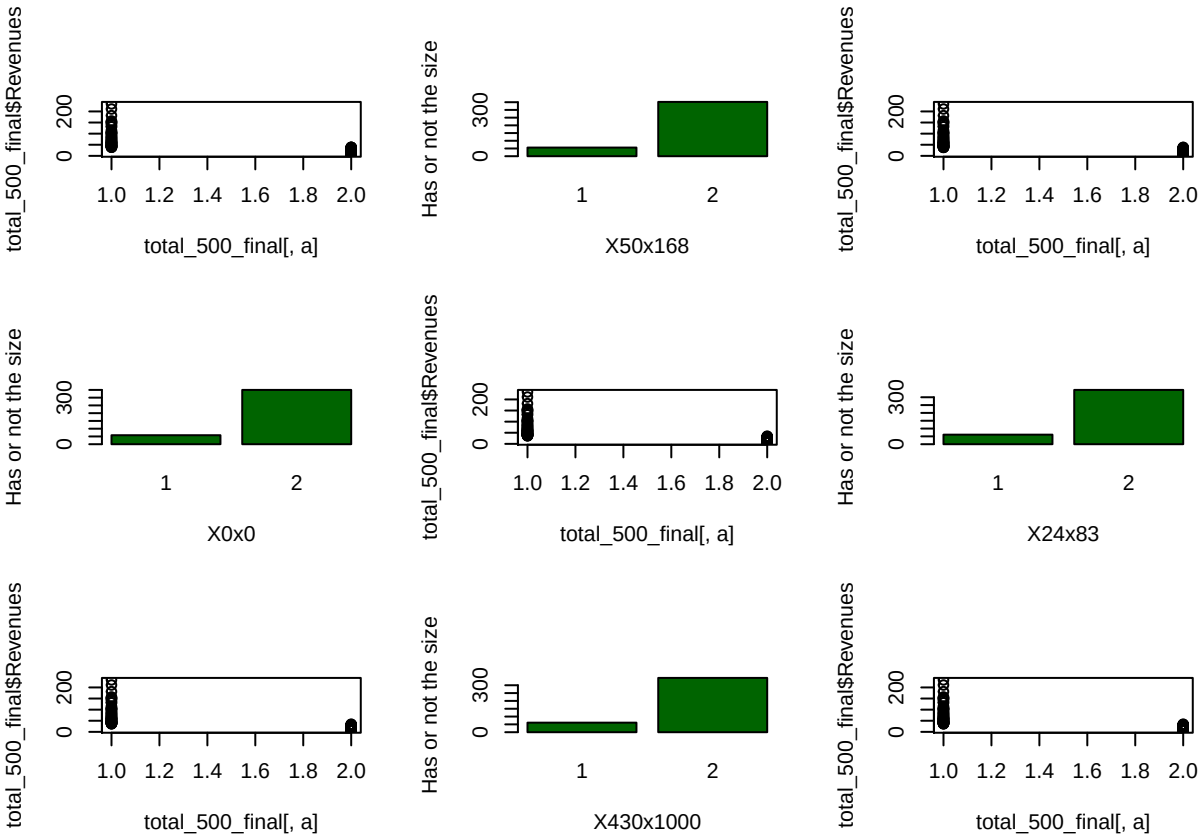

Has or not the size
0 300
1 2
X175x254
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X259x677
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X24x24
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X1x10
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X10x1

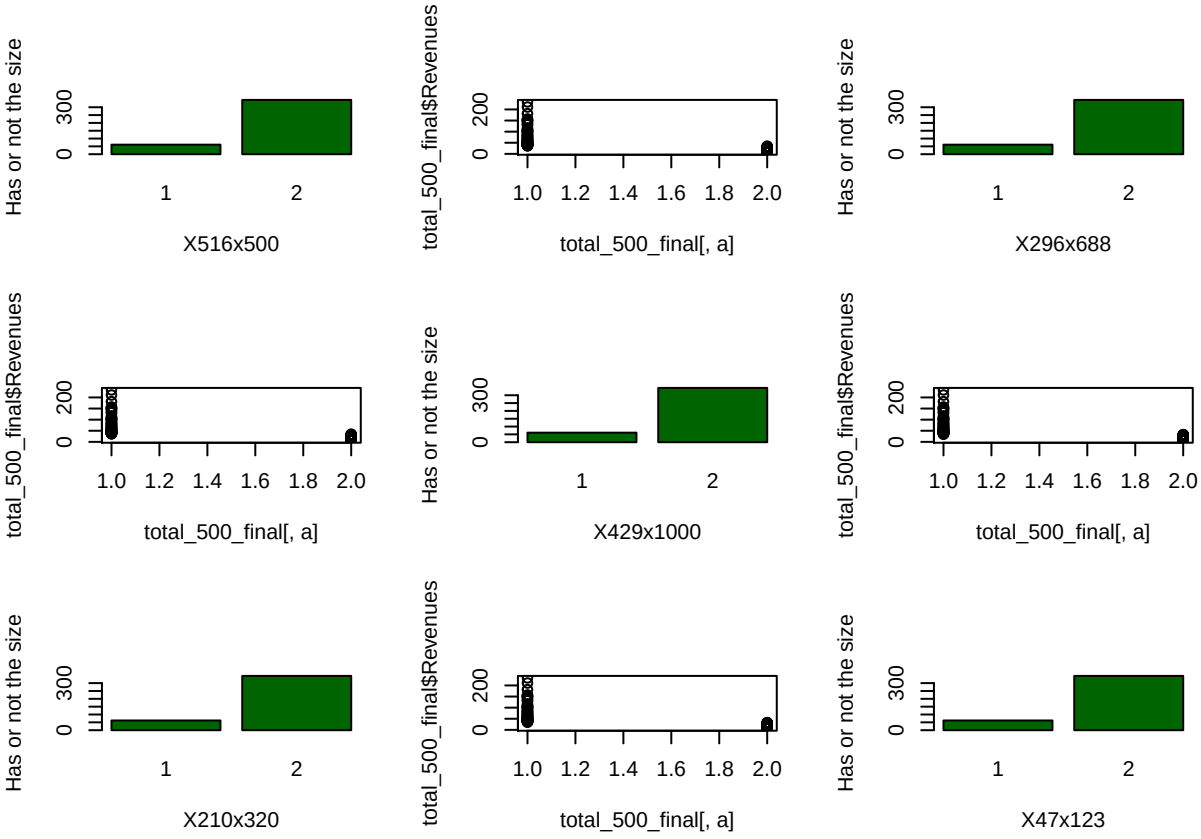

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X8x10
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X1x660
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X19x1
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X17x16
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

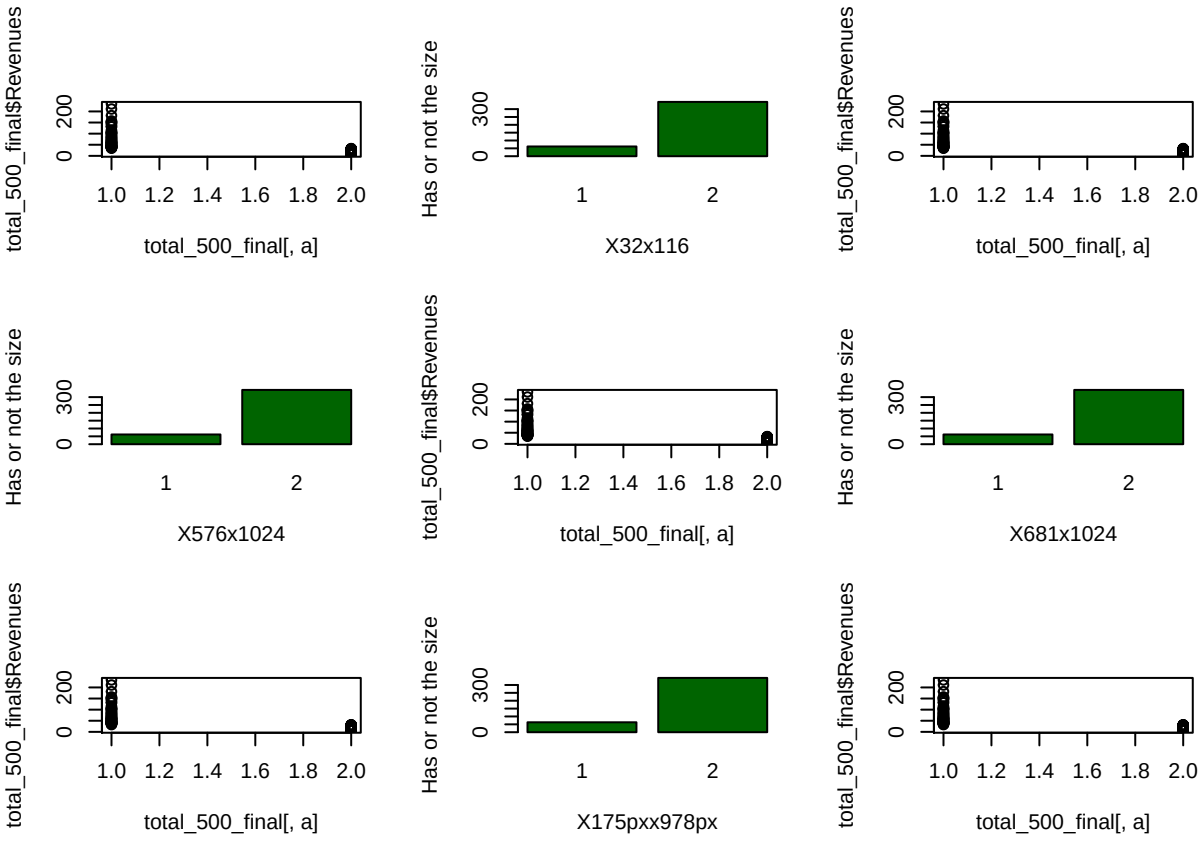

Has or not the size
0 300
1 2
X25x125
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X2x2
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X397x700
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X550x1920
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X843x1900

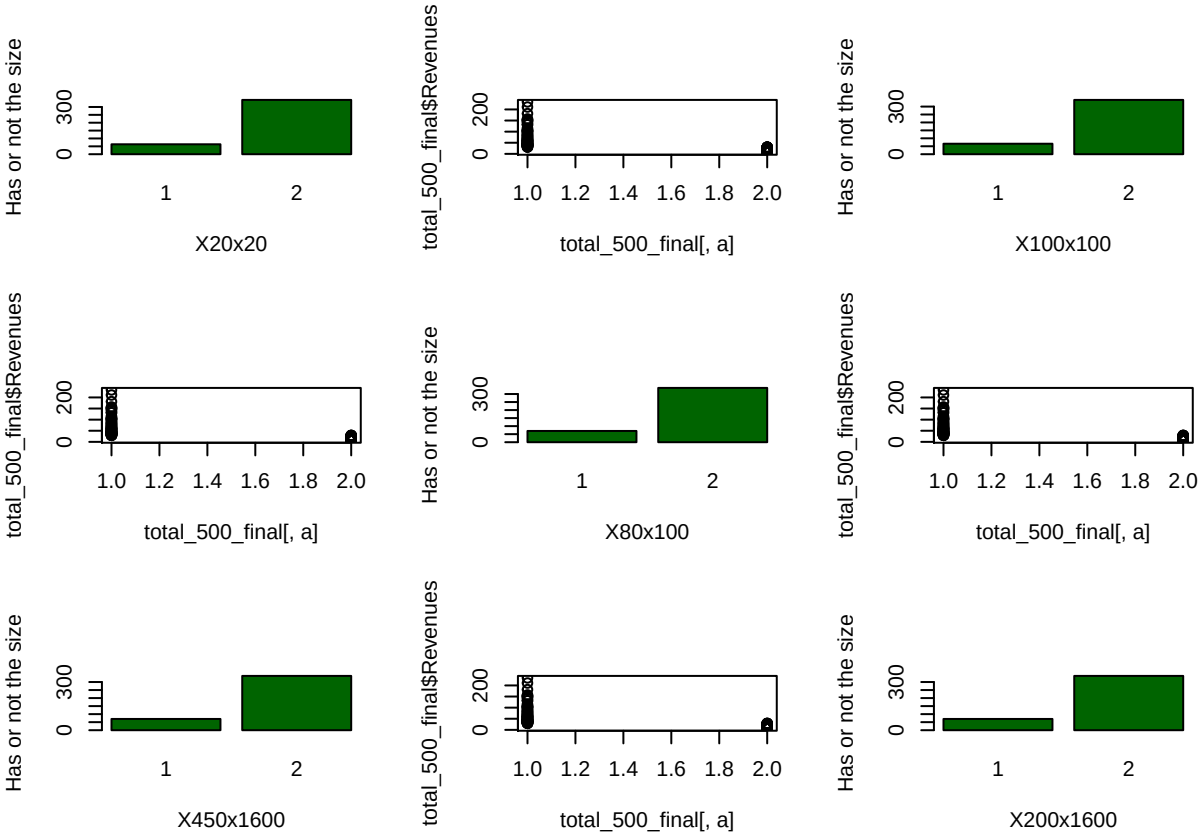

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X76x209
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X35x35
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X10pxx10px
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X107x128
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

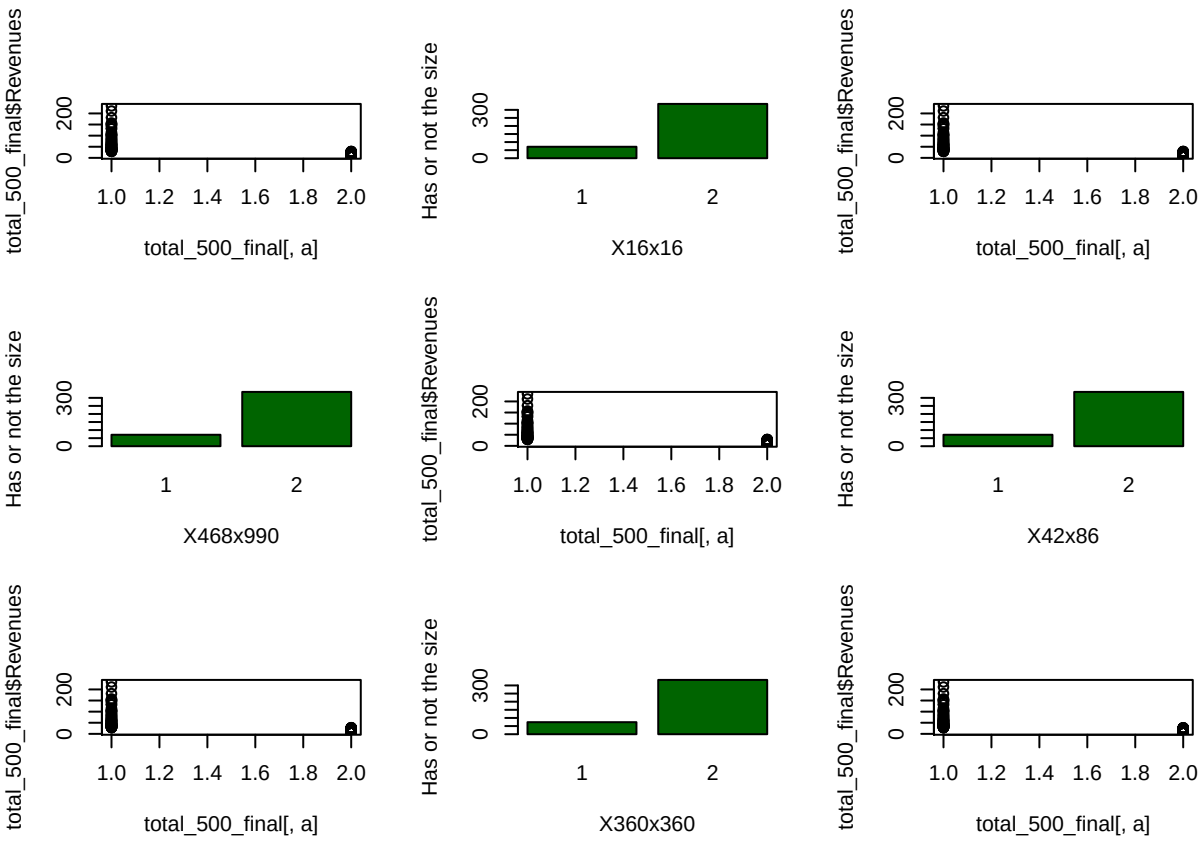

Has or not the size
0 300
1 2
X197x875
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X20x113
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X400x1020
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X40x90
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X19x19

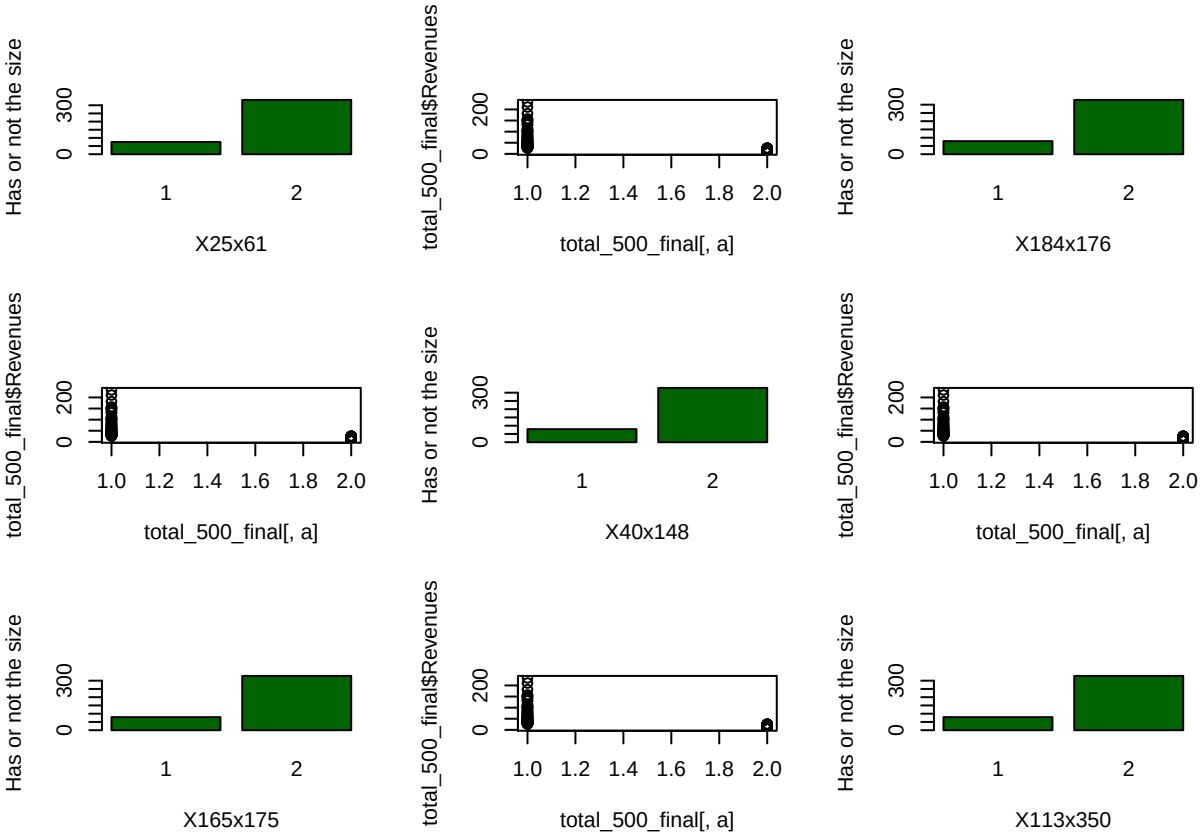

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X50x168
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X0x0
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X24x83
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X430x1000
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

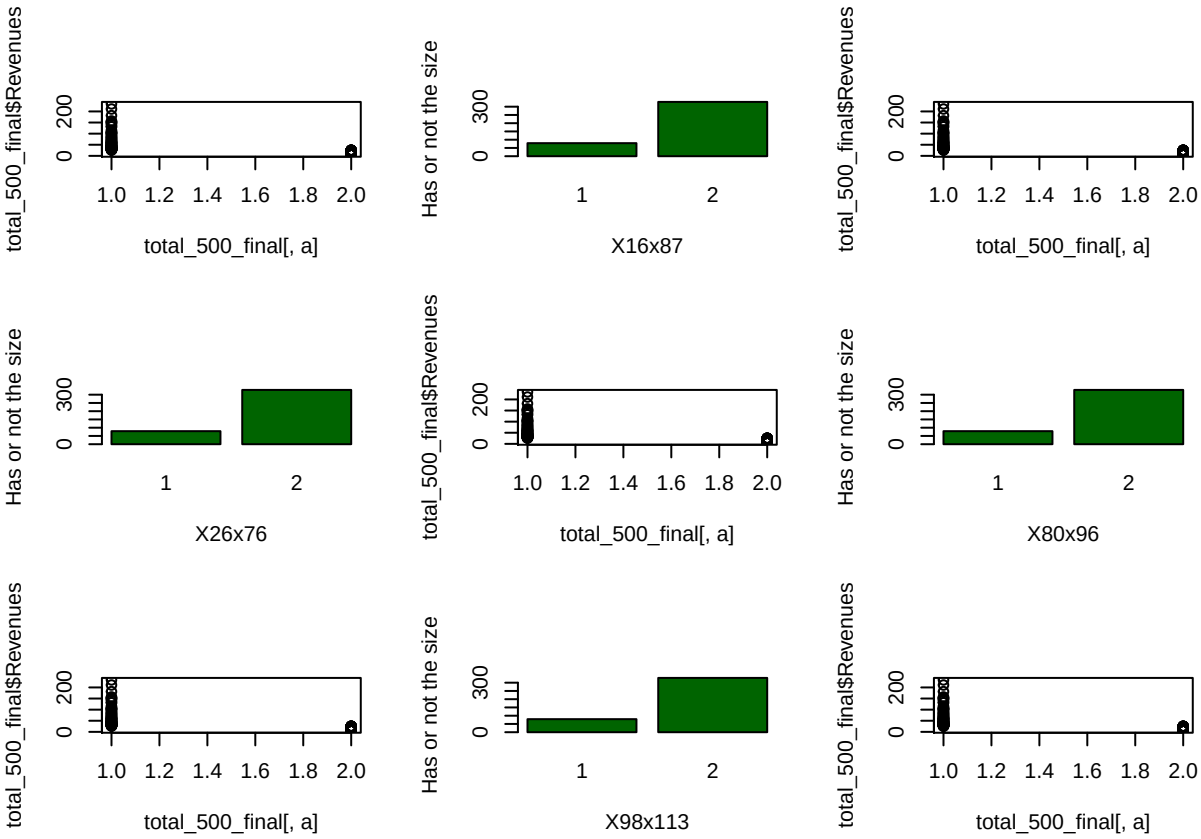

Has or not the size
0 300
1 2
X516x500
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X296x688
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X429x1000
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X210x320
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X47x123

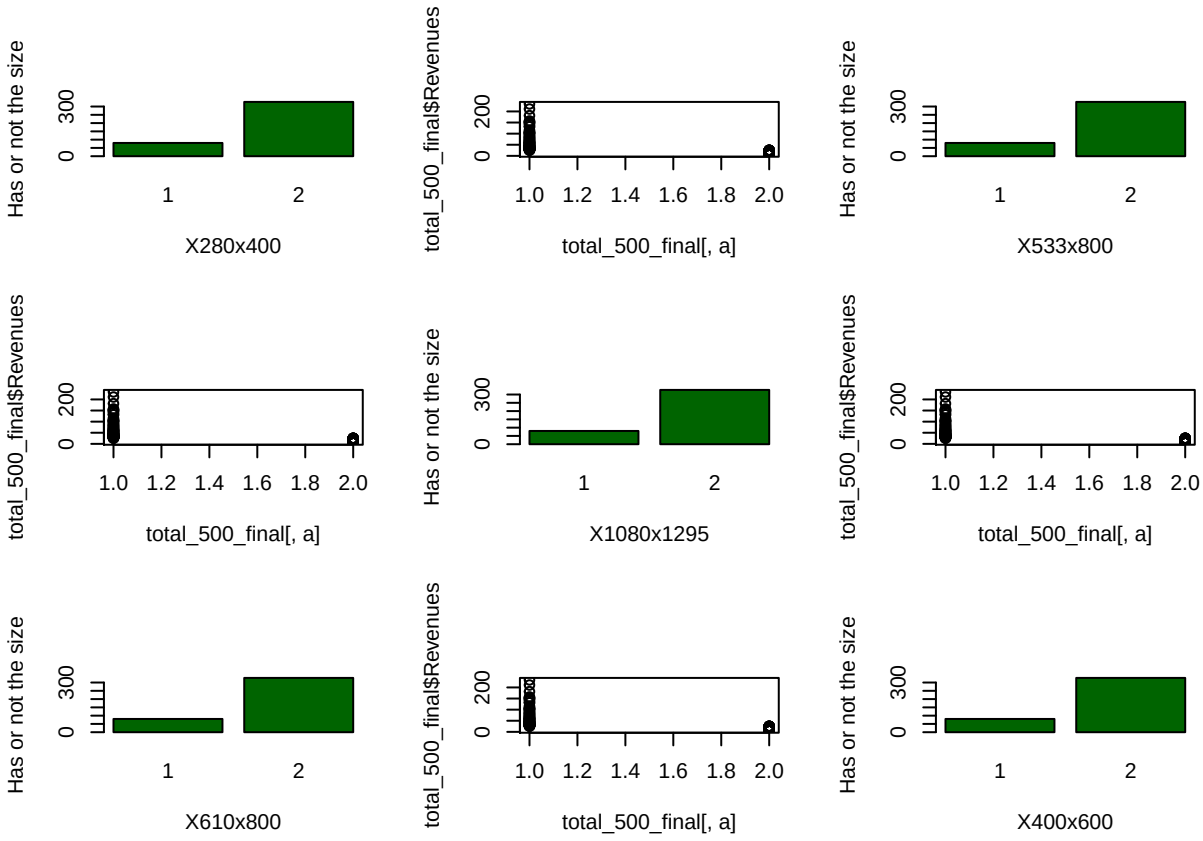

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X32x116
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X576x1024
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X681x1024
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X175pxx978px
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

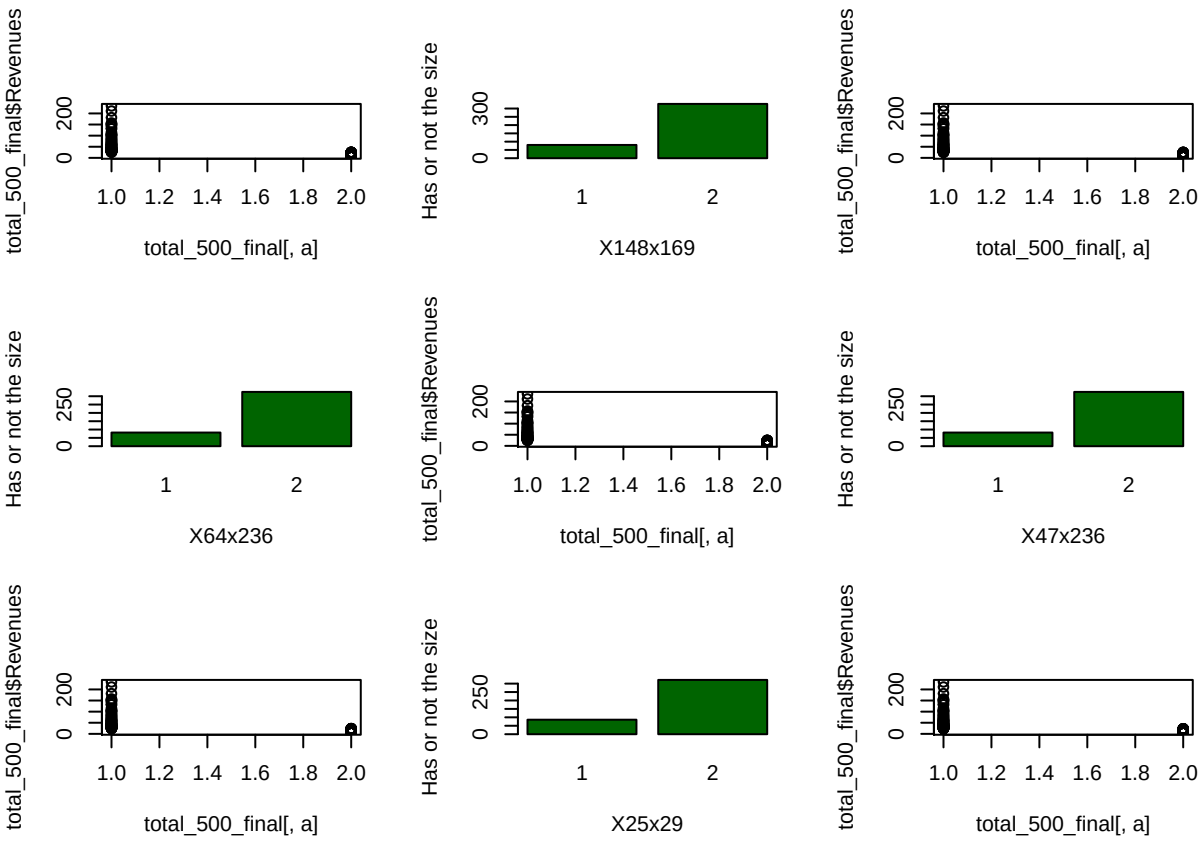

Has or not the size
0 300
1 2
X20x20
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X100x100
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X80x100
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X450x1600
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X200x1600

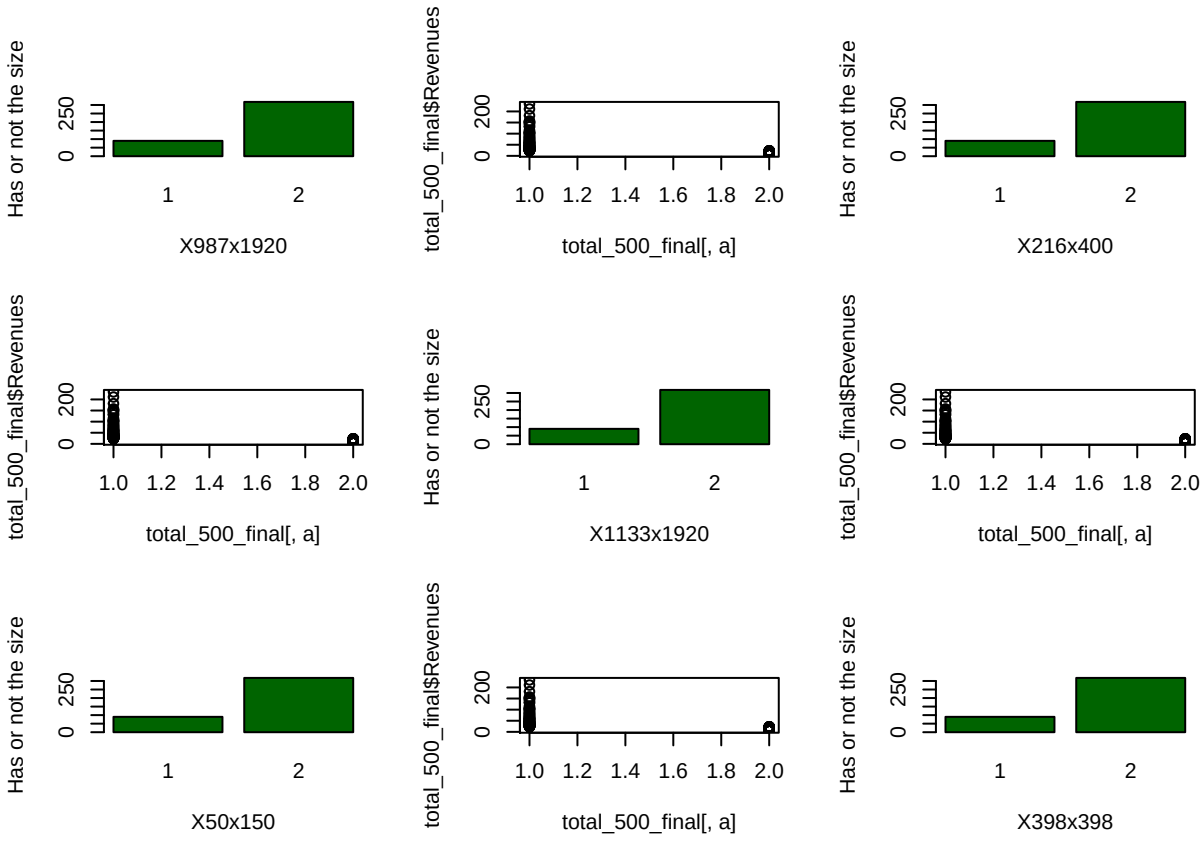

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X16x16
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X468x990
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X42x86
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X360x360
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

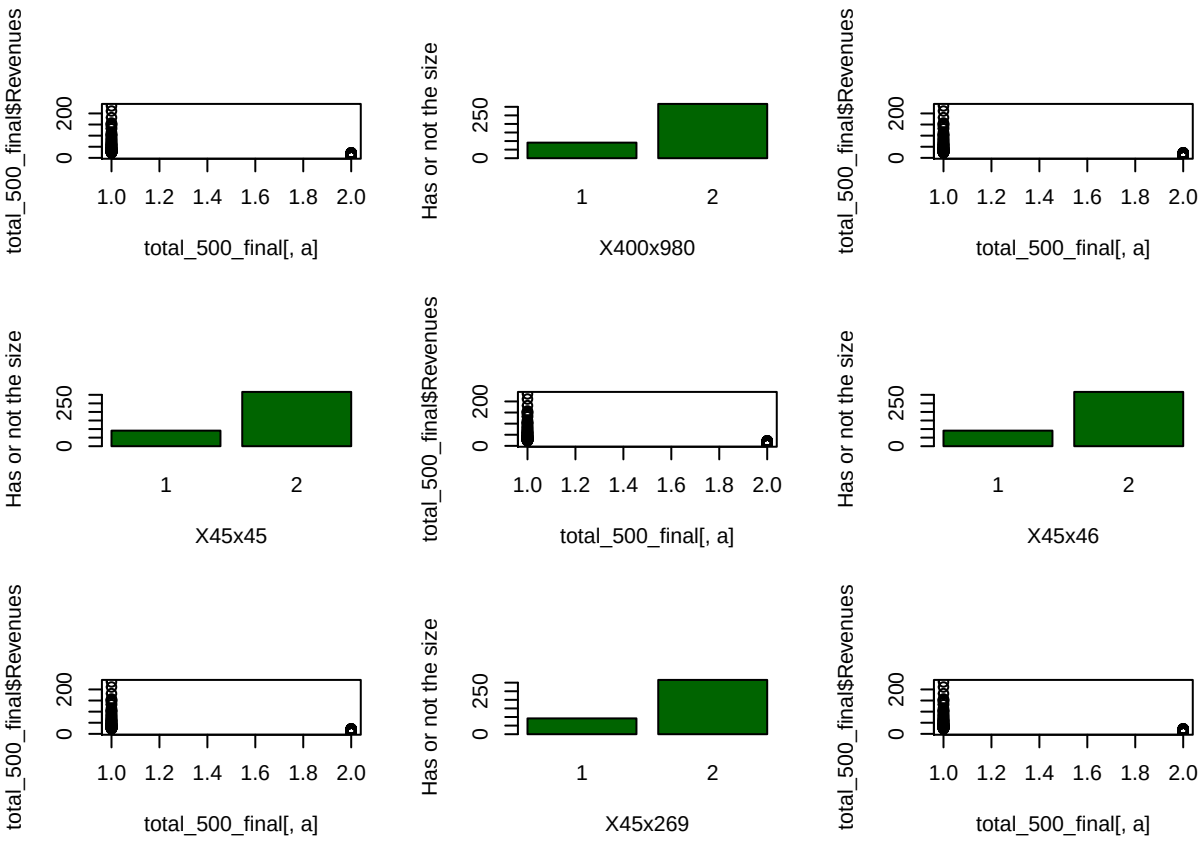

Has or not the size
0 300
1 2
X25x61
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X184x176
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X40x148
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X165x175
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X113x350

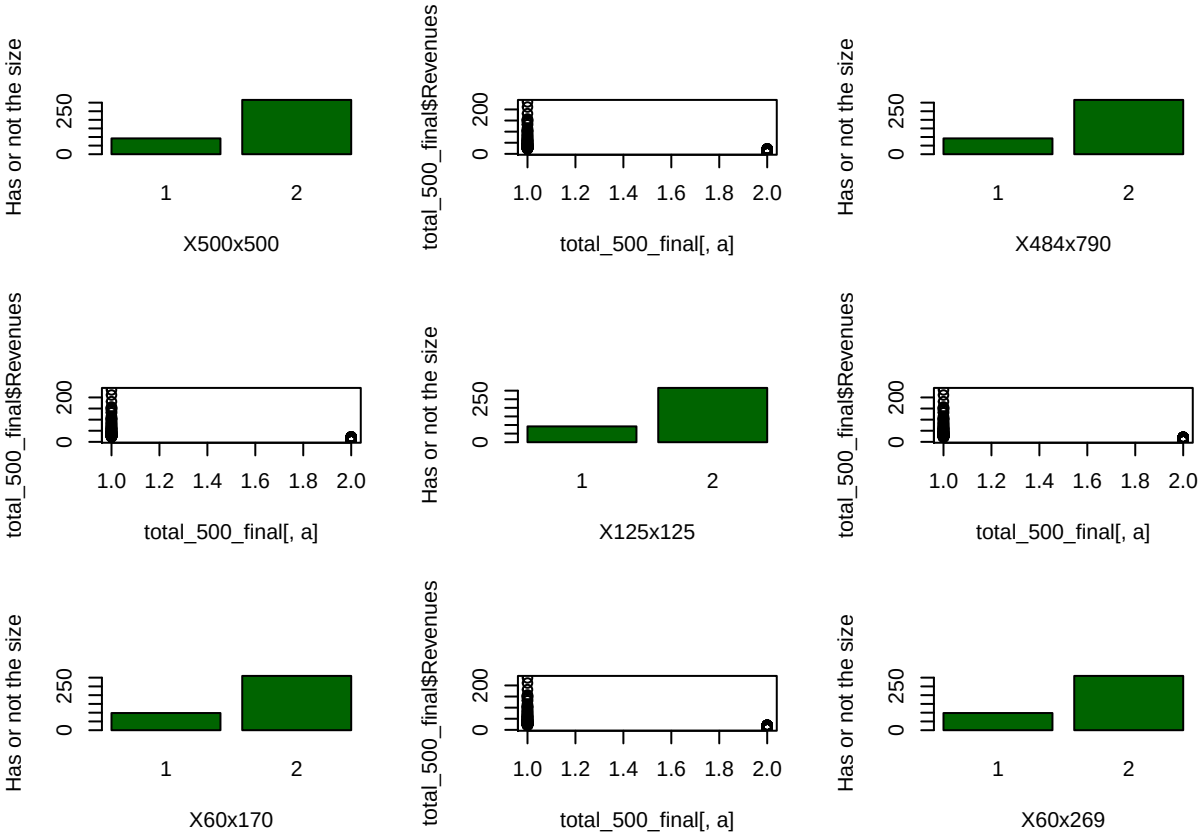

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X16x87
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X26x76
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X80x96
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X98x113
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

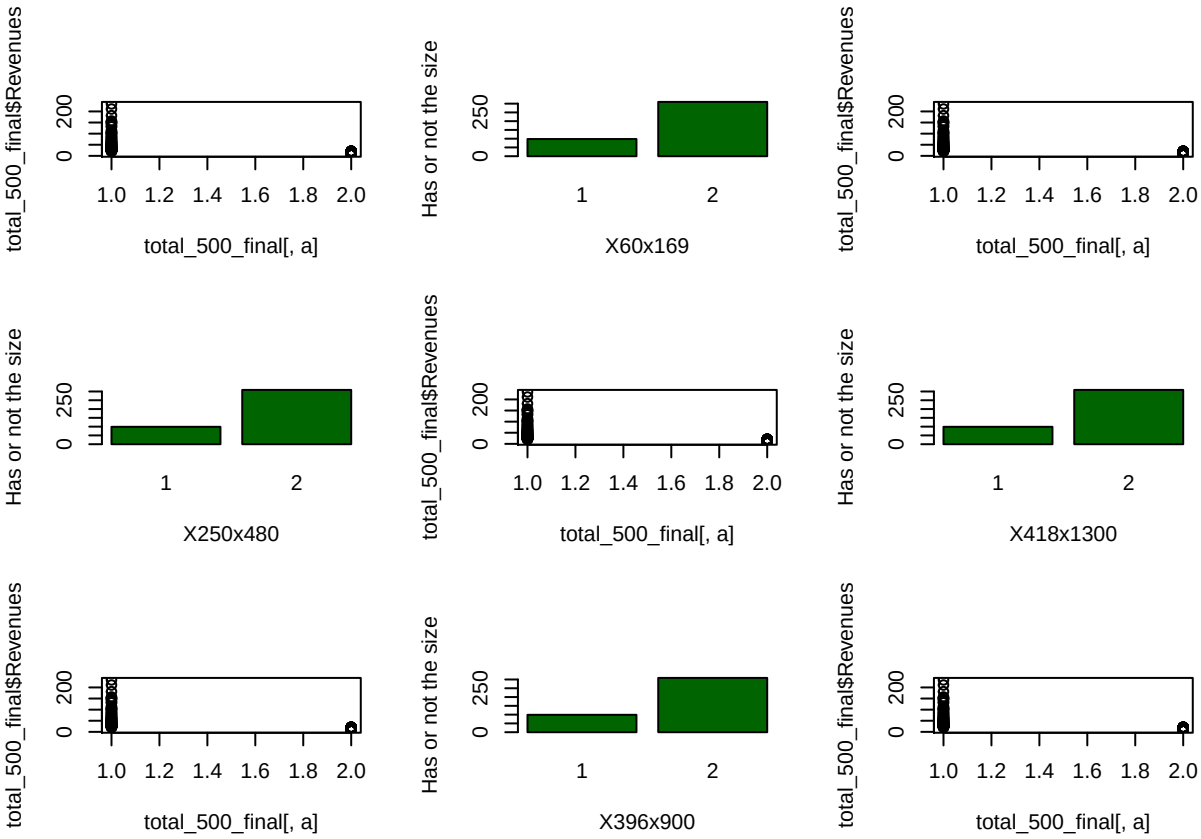

Has or not the size
0 300
1 2
X280x400
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X533x800
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X1080x1295
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X610x800
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X400x600

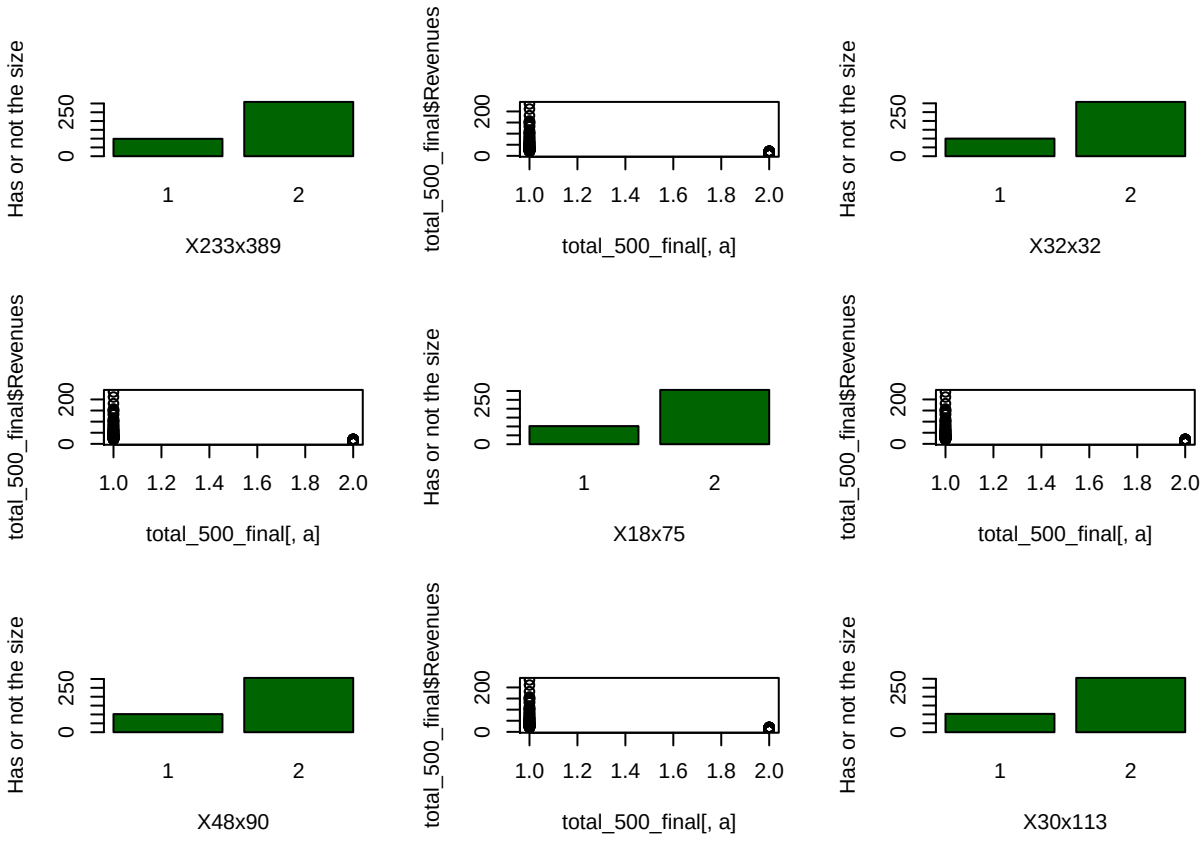

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 300
1 2
X148x169
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X64x236
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X47x236
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X25x29
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

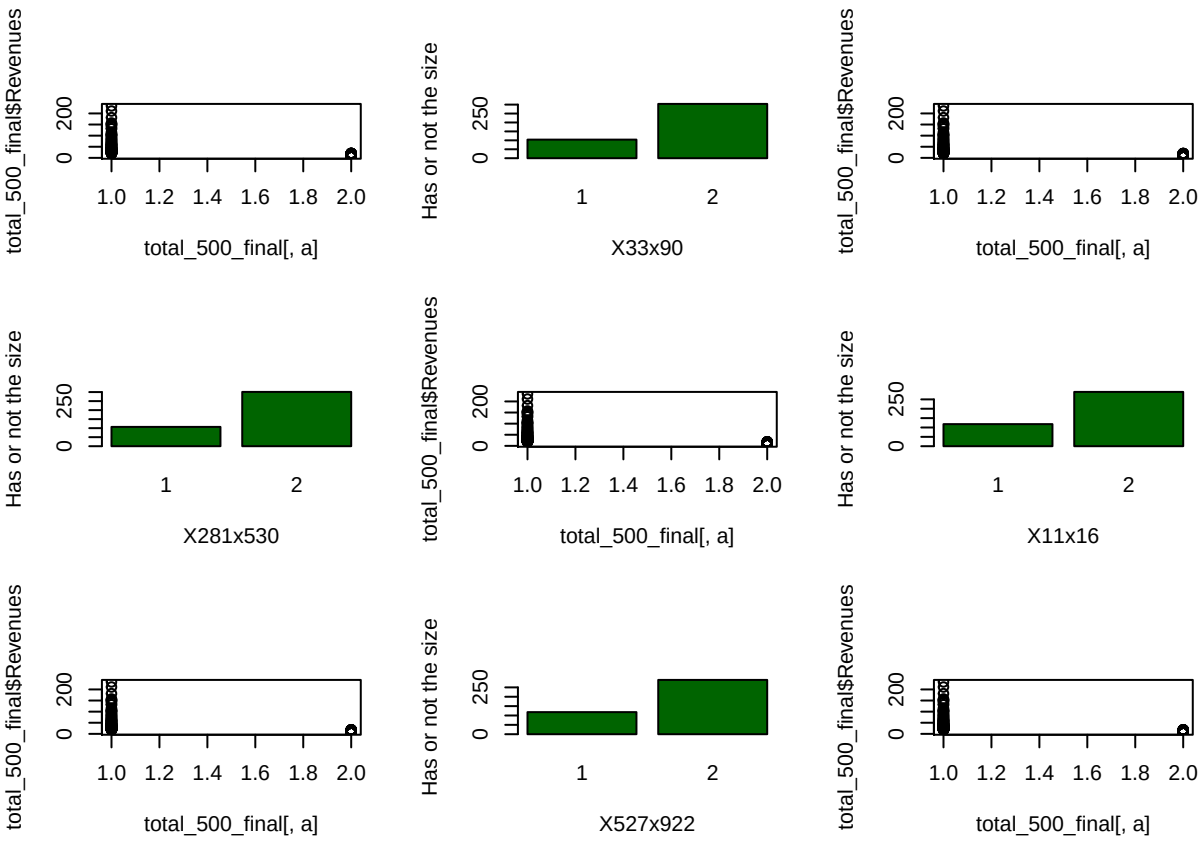

Has or not the size
0 250
1 2
X987x1920
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X216x400
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X1133x1920
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X50x150
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X398x398

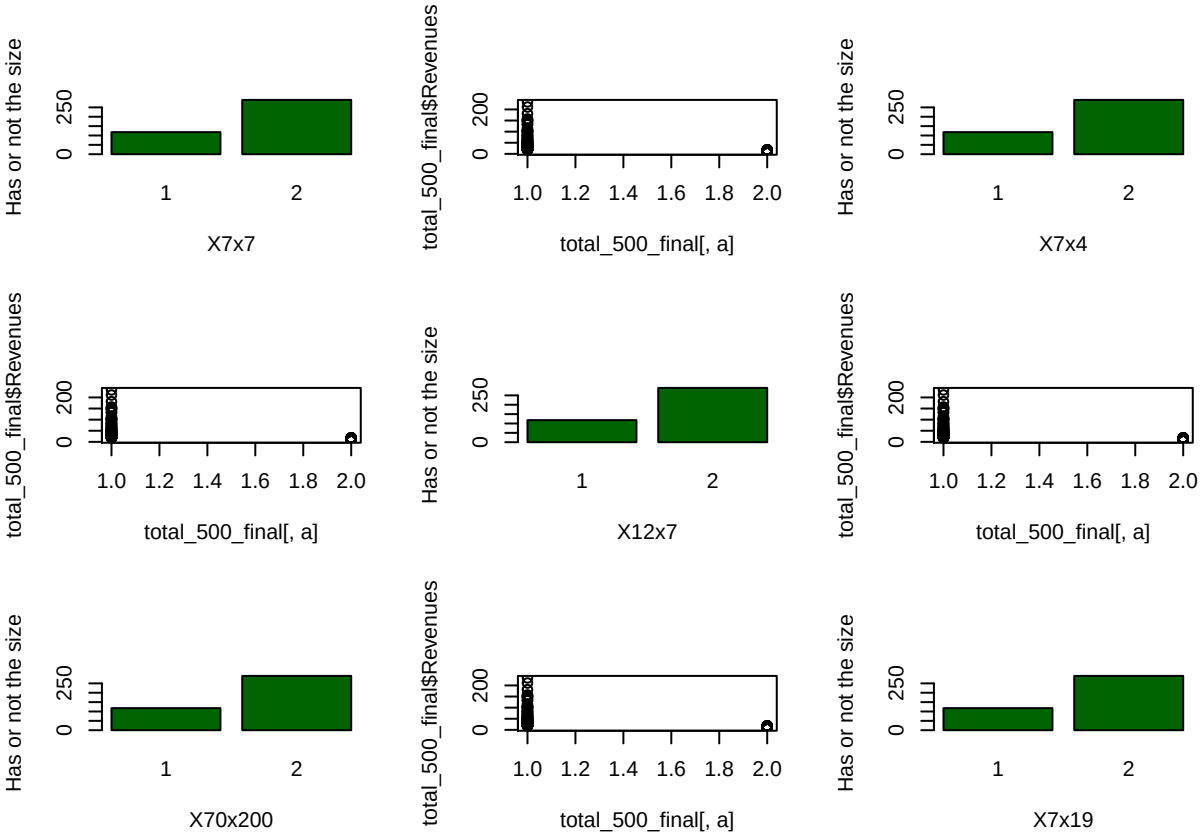

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X400x980
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X45x45
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X45x46
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X45x269
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

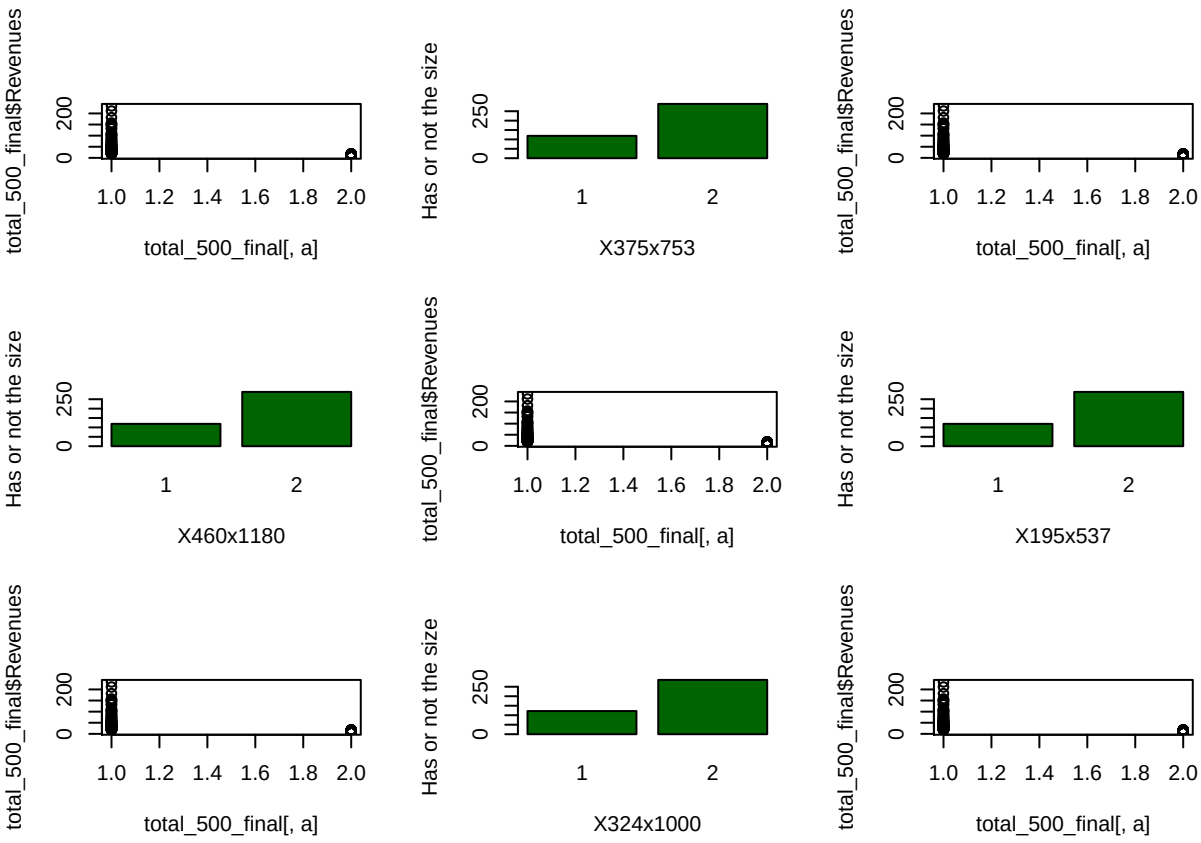

Has or not the size
0 250
1 2
X500x500
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X484x790
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X125x125
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X60x170
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X60x269

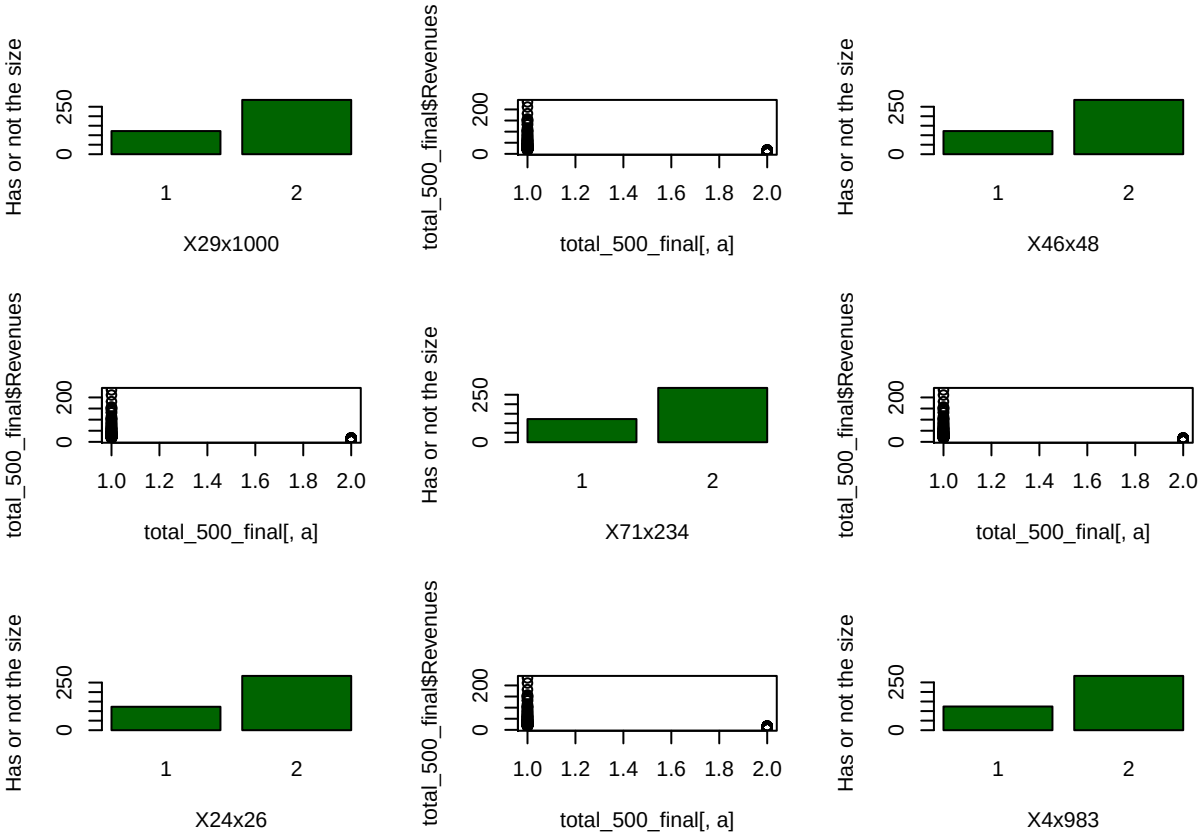

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X60x169
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X250x480
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X418x1300
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X396x900
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

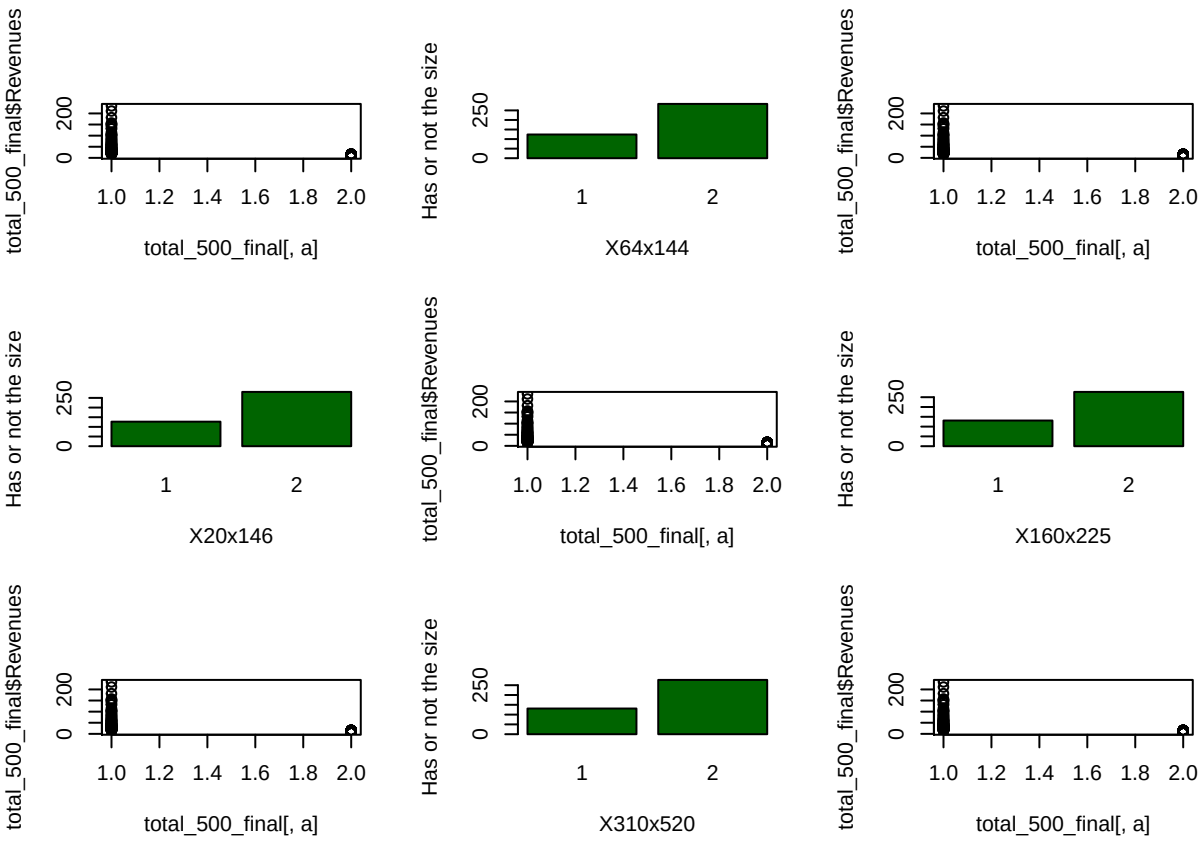

Has or not the size
0 250
1 2
X233x389
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X32x32
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X18x75
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X48x90
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X30x113

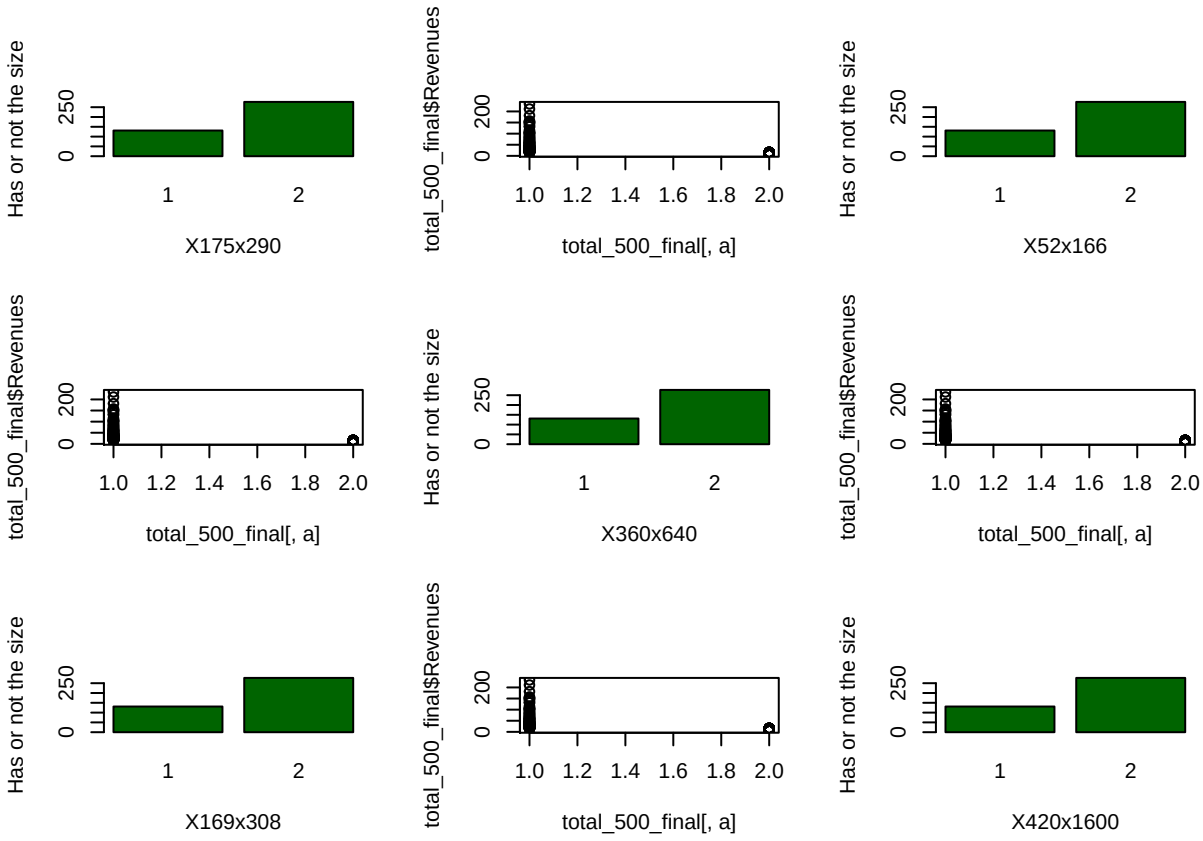

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X33x90
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X281x530
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X11x16
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X527x922
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

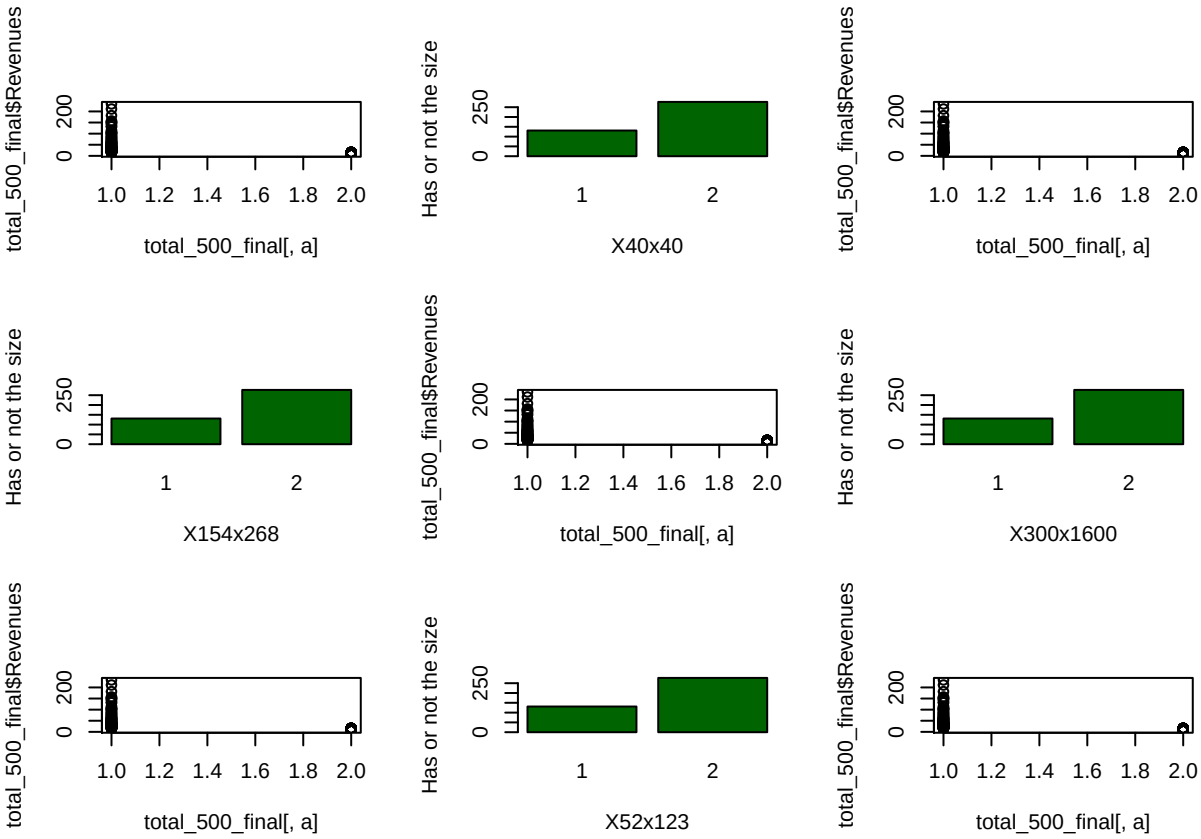

Has or not the size
0 250
1 2
X7x7
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X7x4
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X12x7
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X70x200
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X7x19

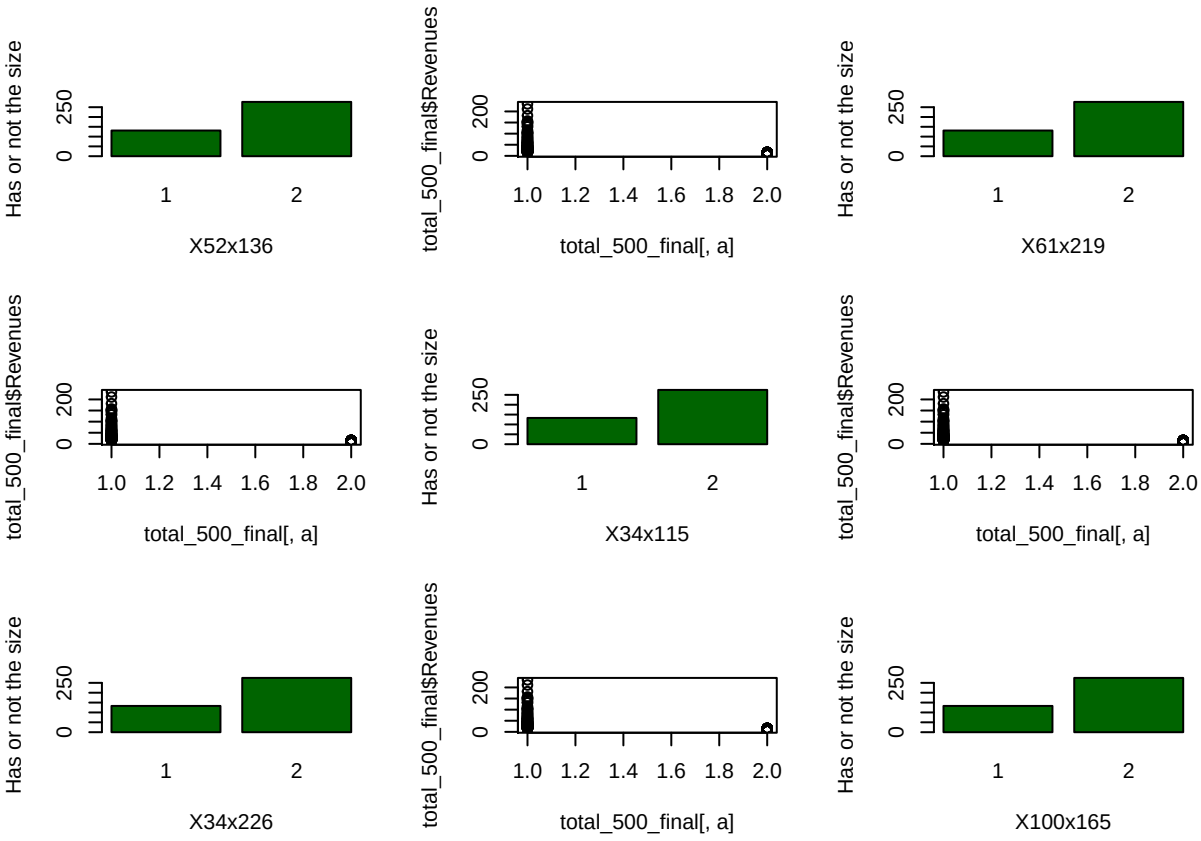

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X375x753
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X460x1180
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X195x537
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X324x1000
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

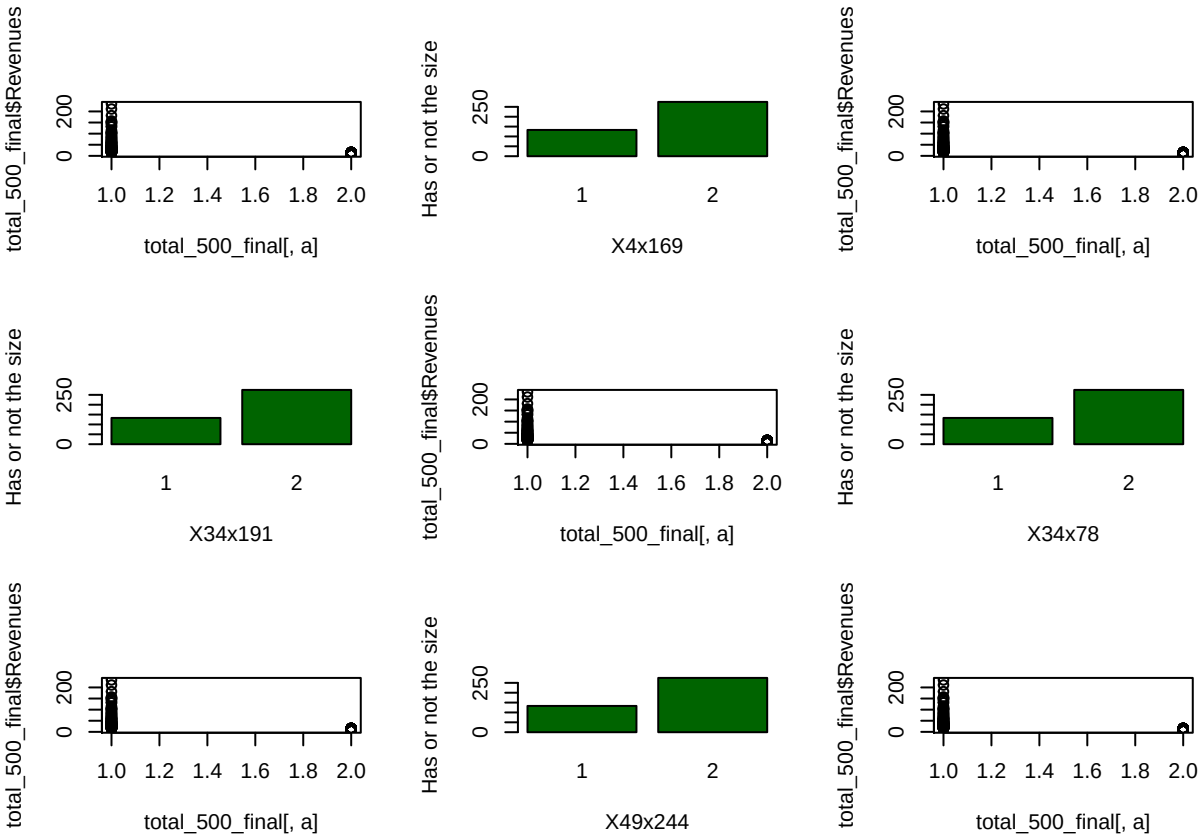

Has or not the size
0 250
1 2
X29x1000
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X46x48
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X71x234
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X24x26
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X4x983

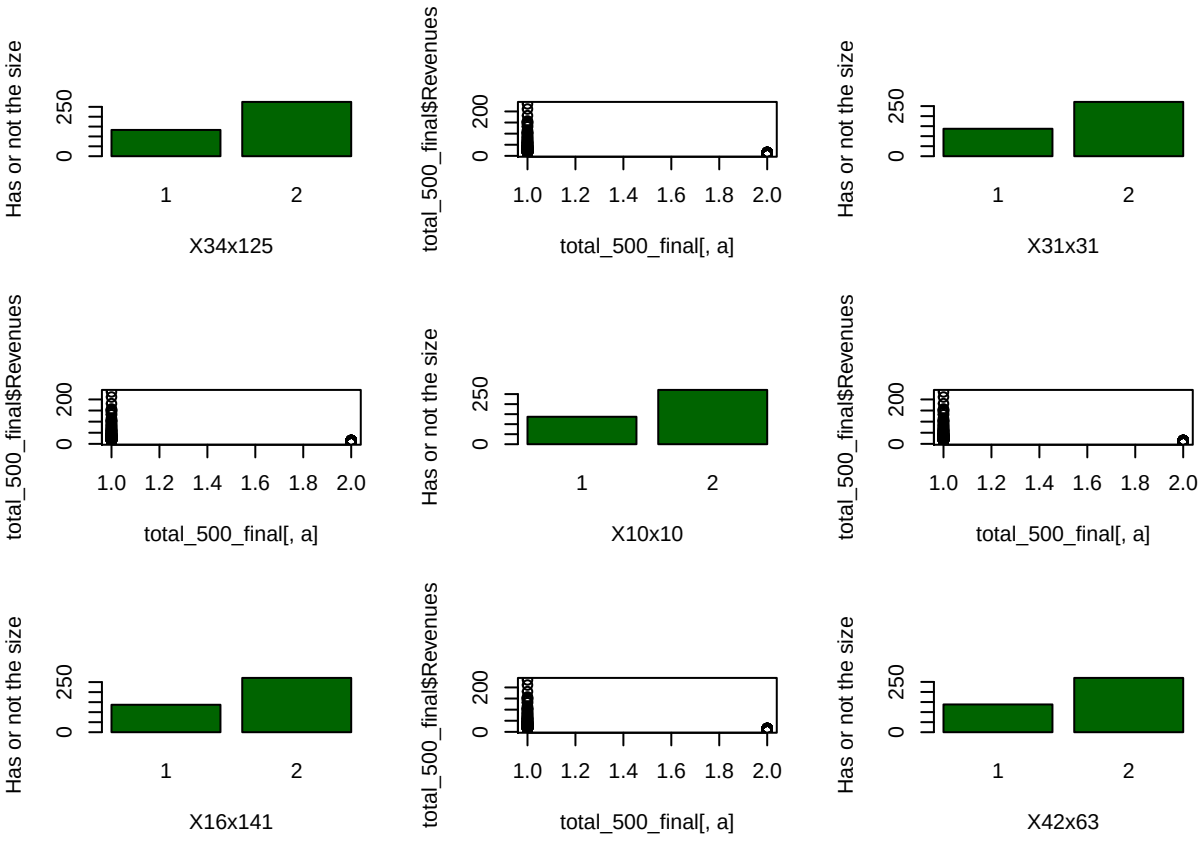

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X64x144
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X20x146
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X160x225
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X310x520
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

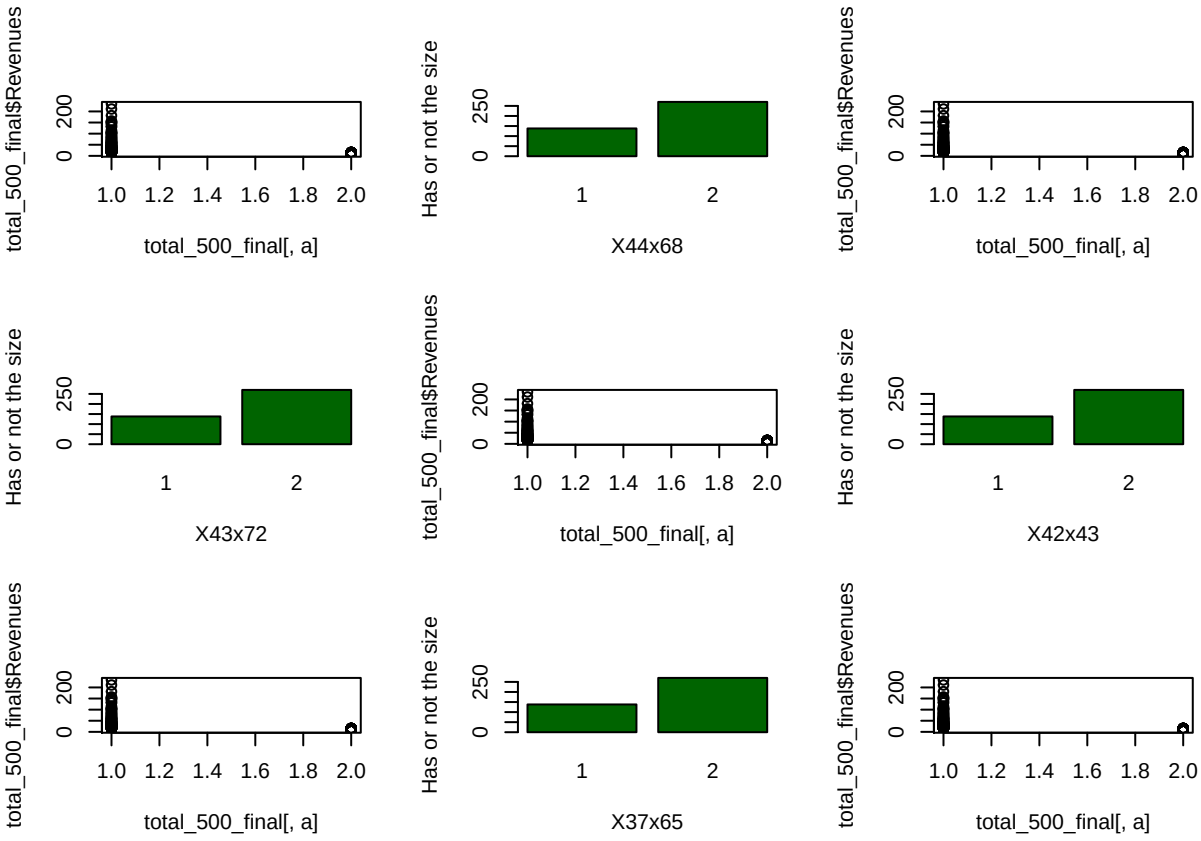

Has or not the size
0 250
1 2
X175x290
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X52x166
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X360x640
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X169x308
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X420x1600

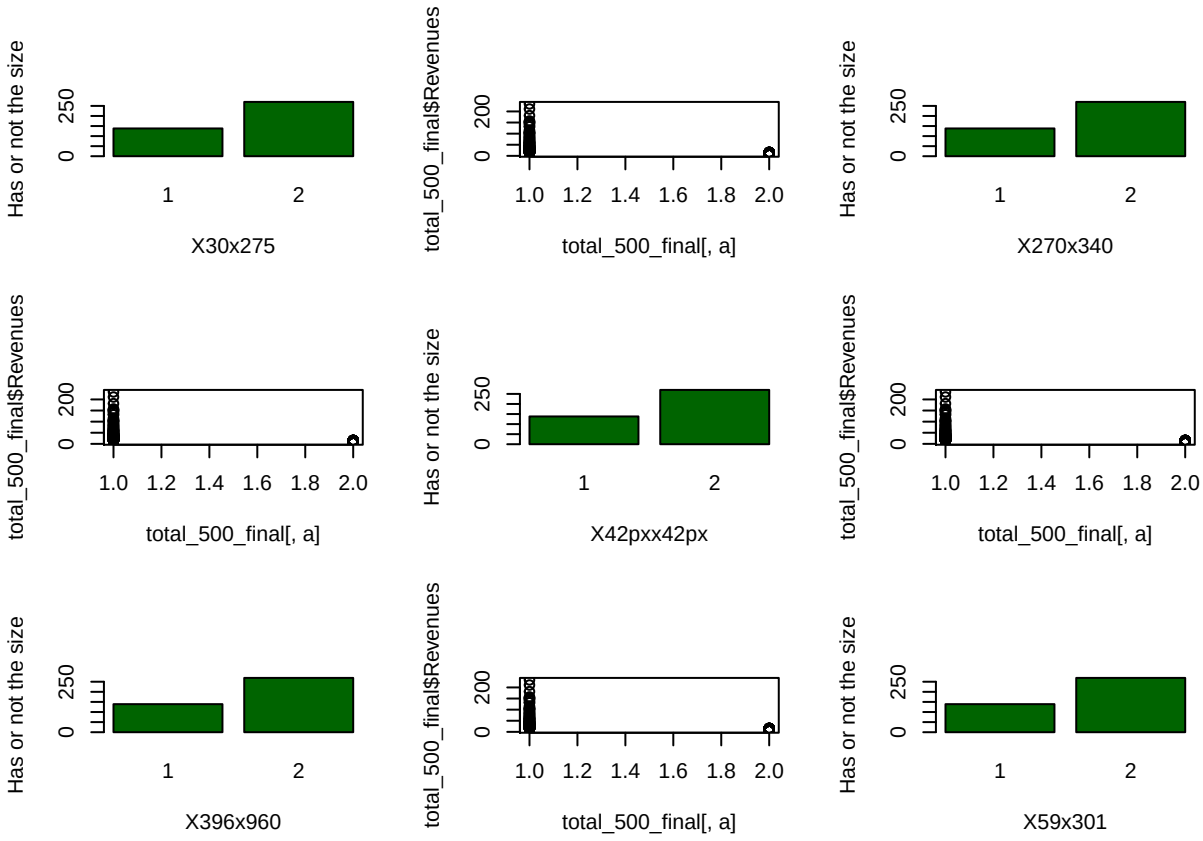

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X40x40
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X154x268
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X300x1600
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X52x123
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

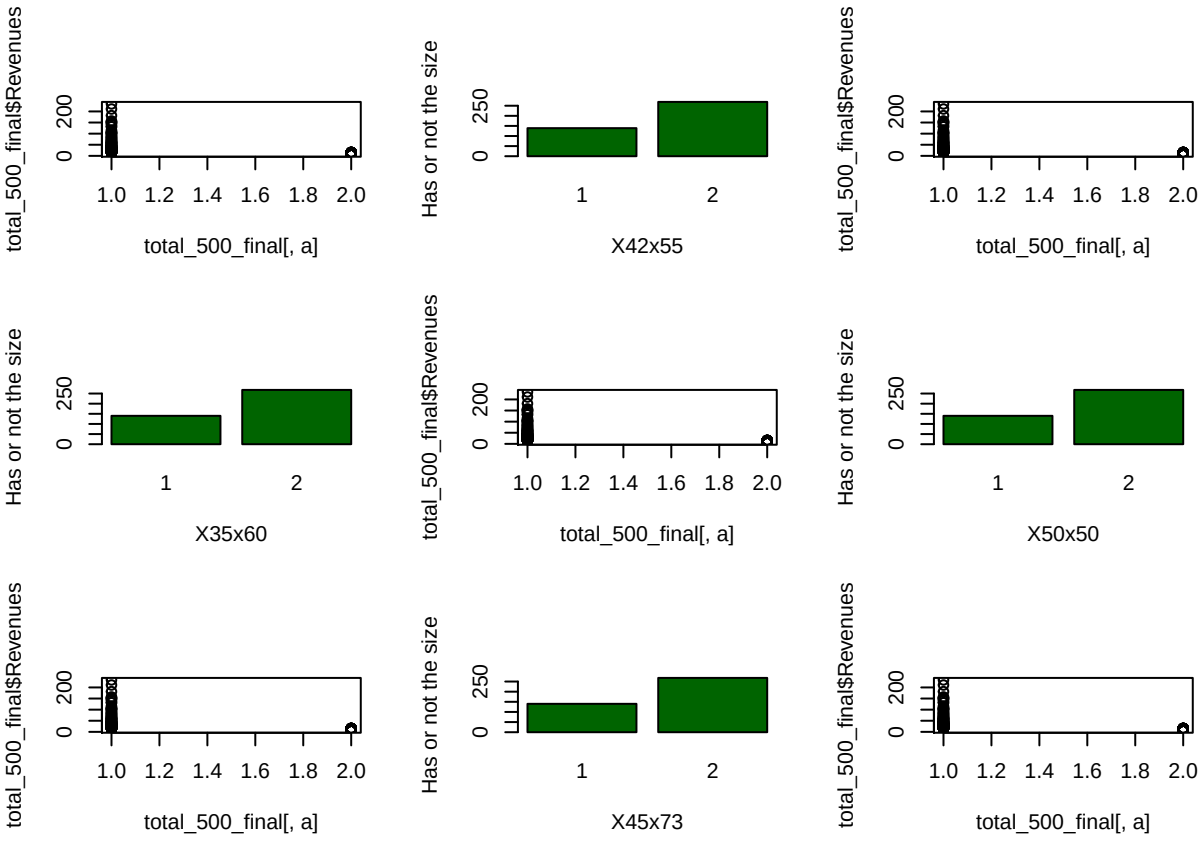

Has or not the size
0 250
1 2
X52x136
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X61x219
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X34x115
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X34x226
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X100x165

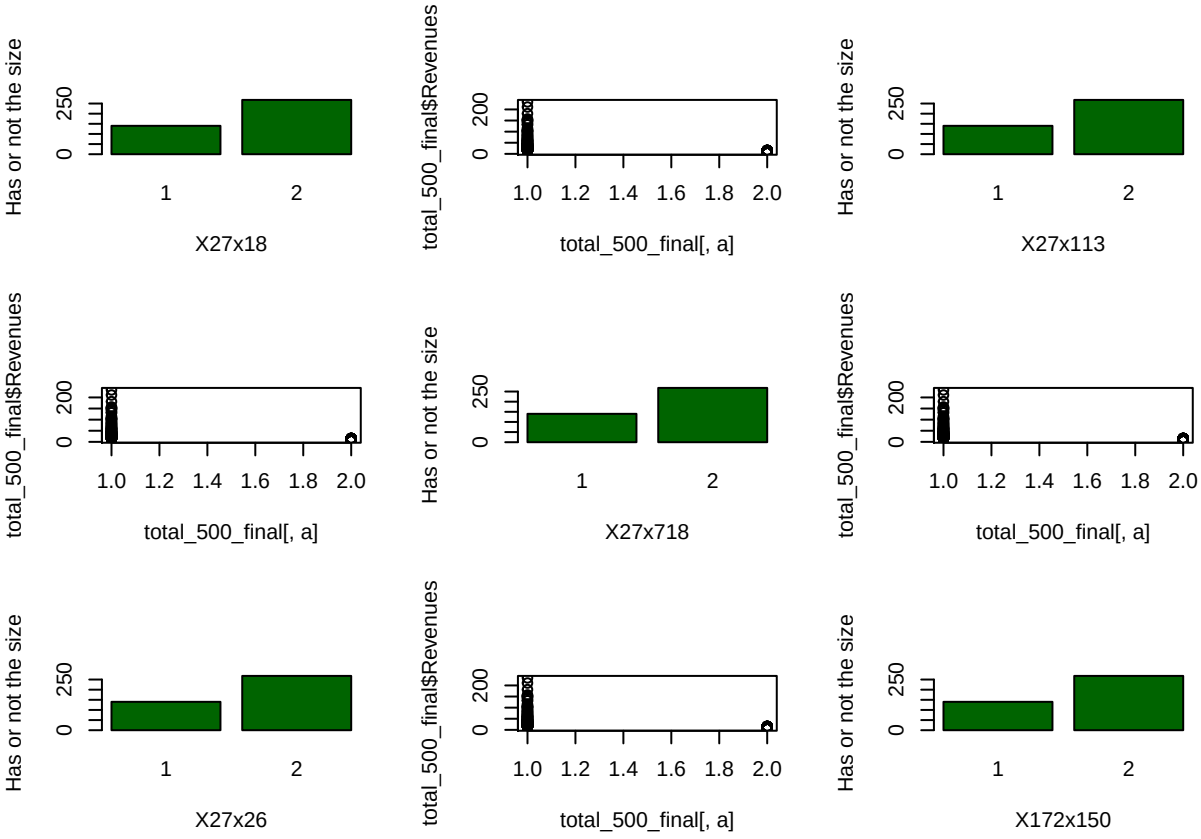

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X4x169
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X34x191
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X34x78
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X49x244
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

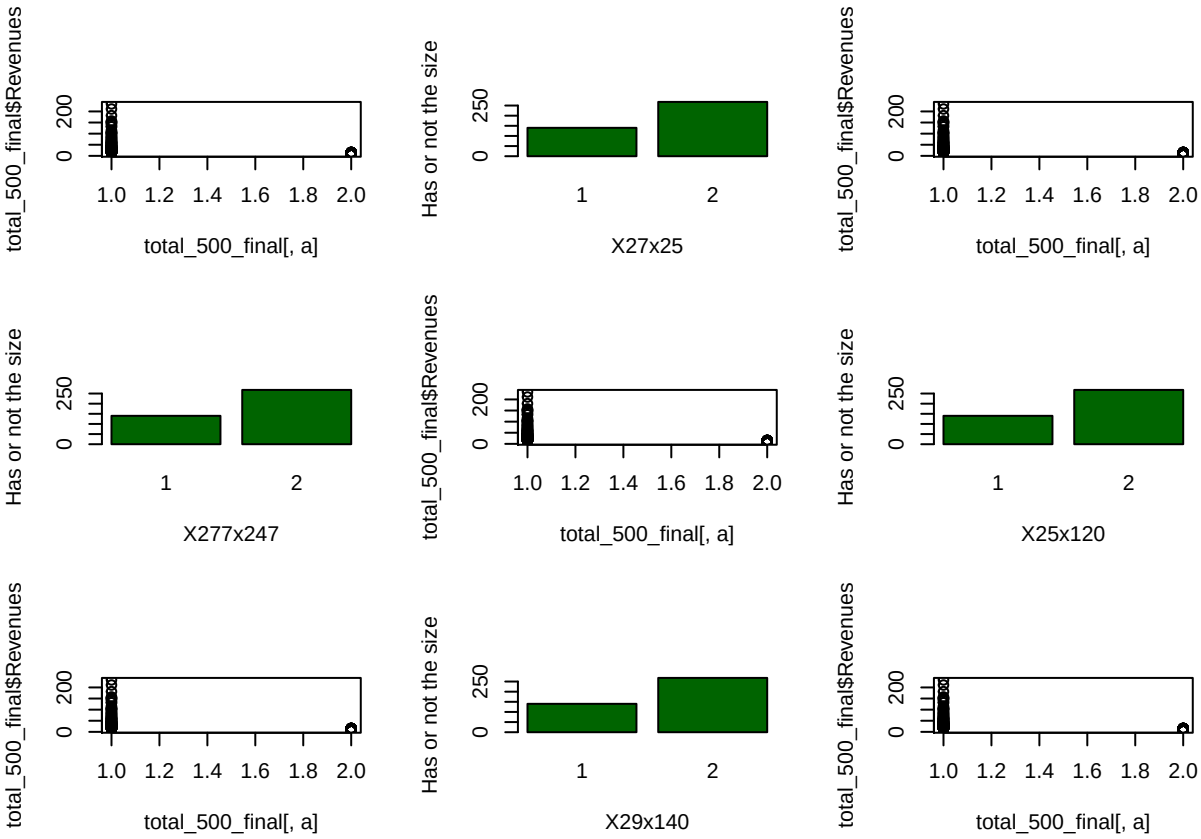

Has or not the size
0 250
1 2
X34x125
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X31x31
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X10x10
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X16x141
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X42x63

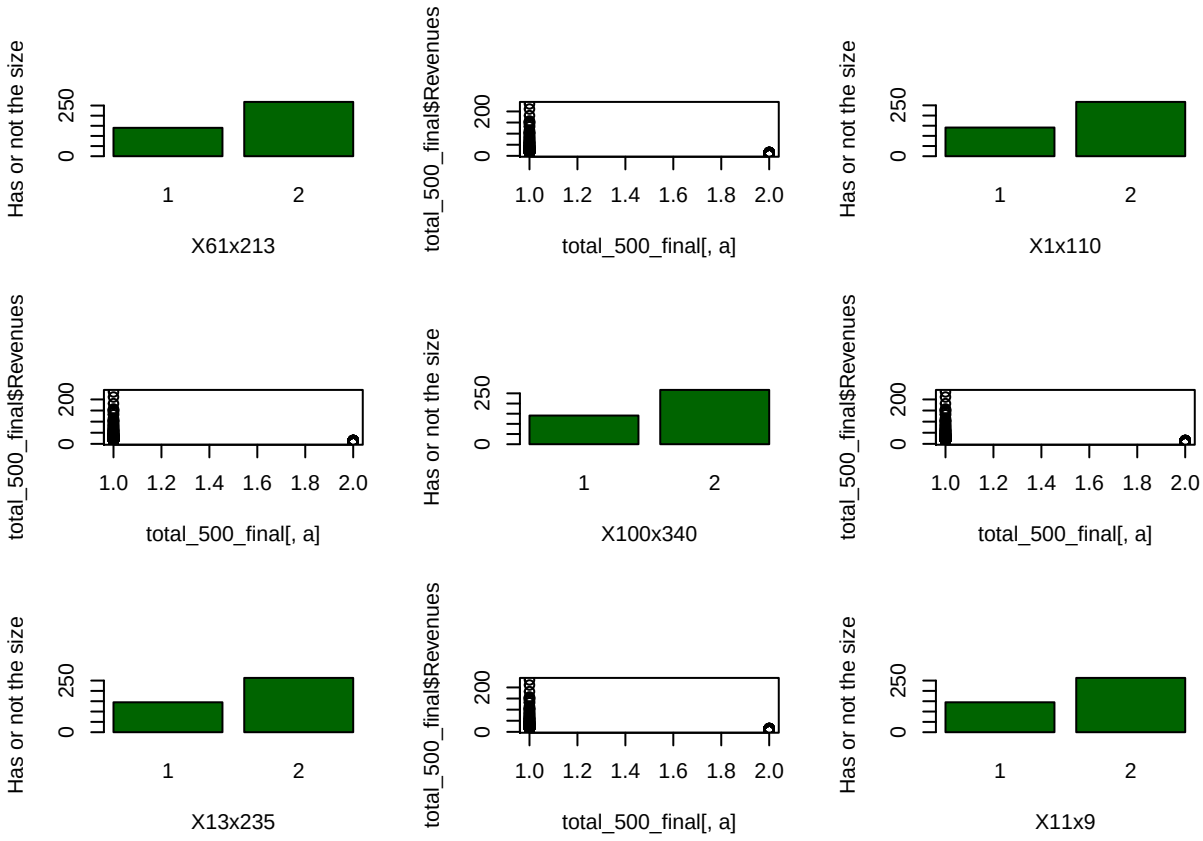

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X44x68
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X43x72
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X42x43
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X37x65
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

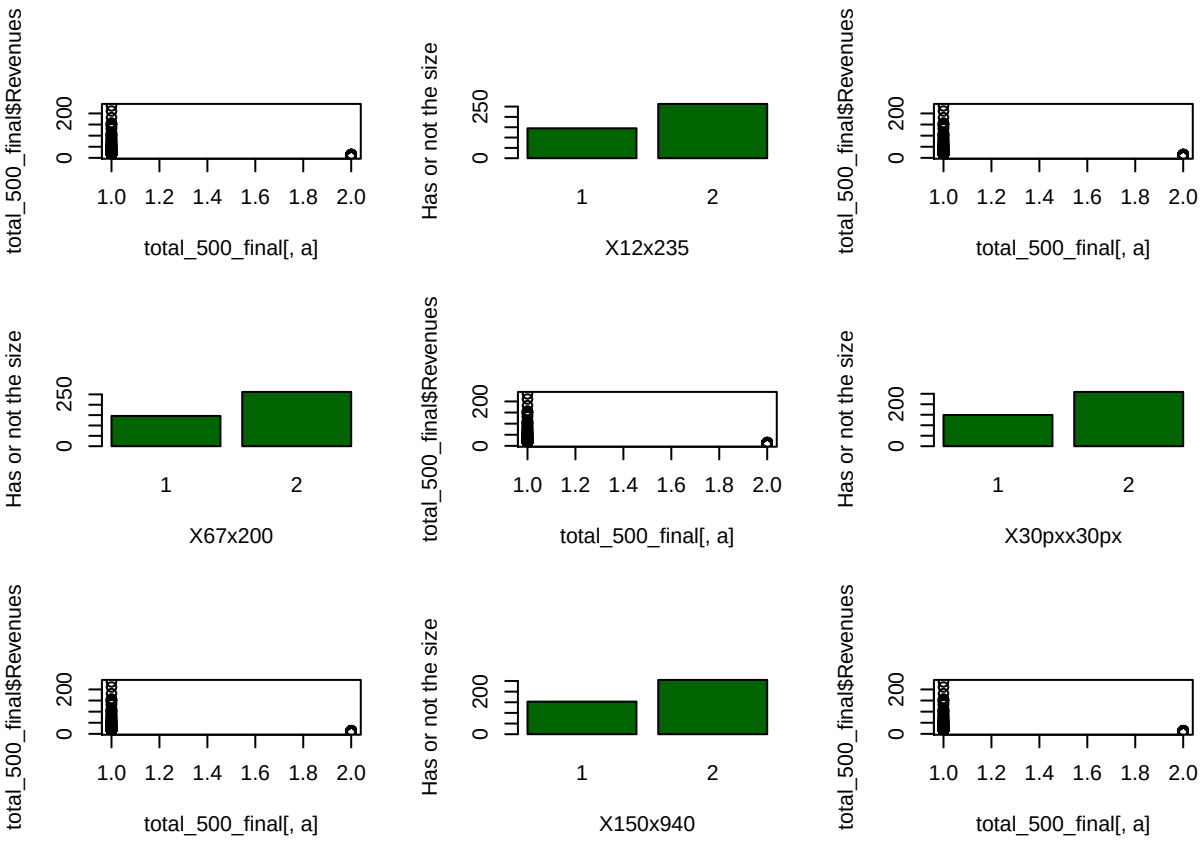

Has or not the size
0 250
1 2
X30x275
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X270x340
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X42pxx42px
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X396x960
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X59x301

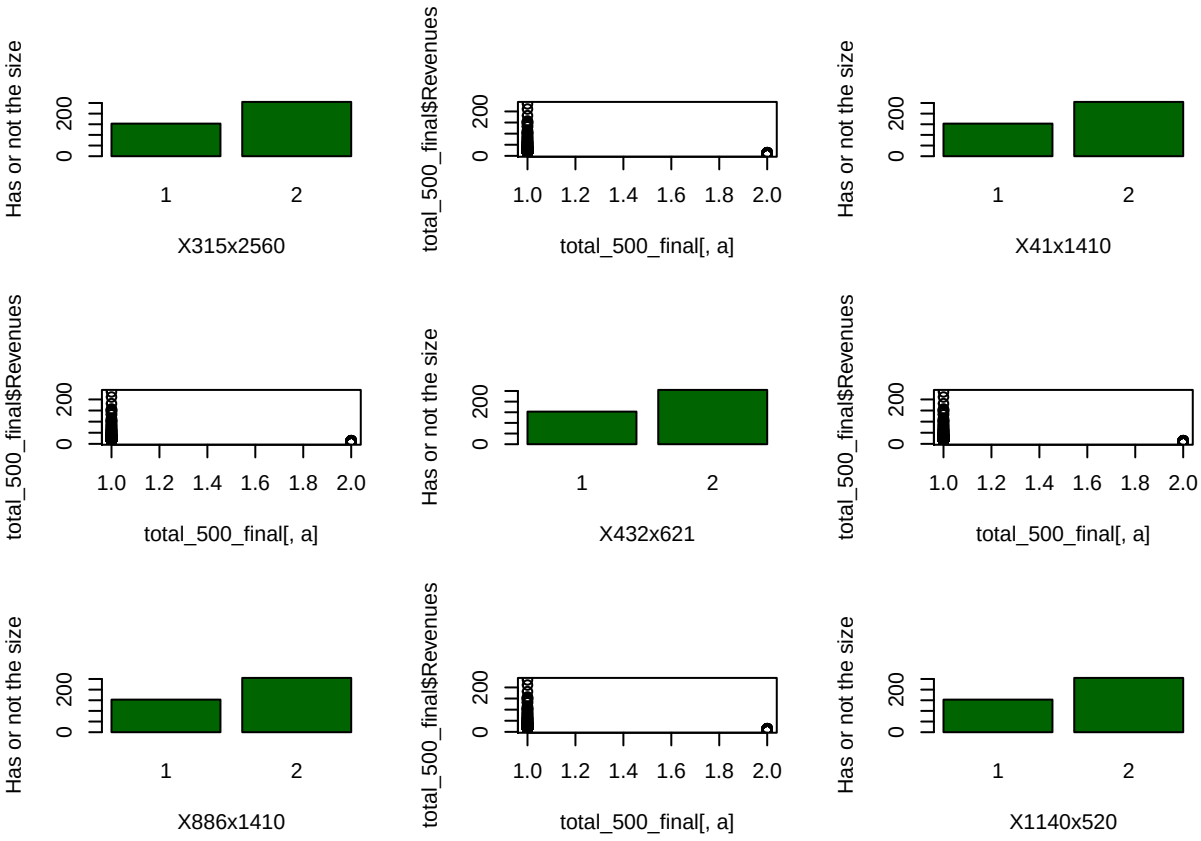

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X42x55
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X35x60
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X50x50
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X45x73
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

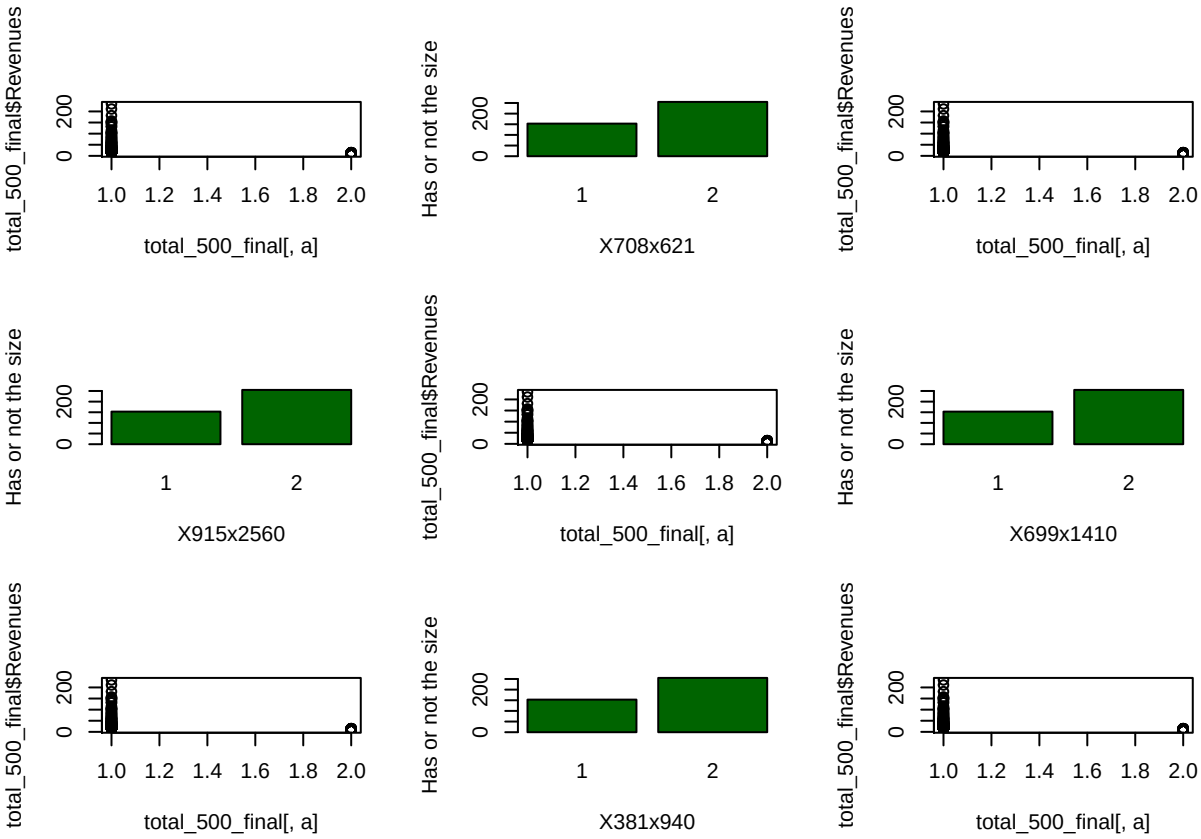

Has or not the size
0 250
1 2
X27x18
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X27x113
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X27x718
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X27x26
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X172x150

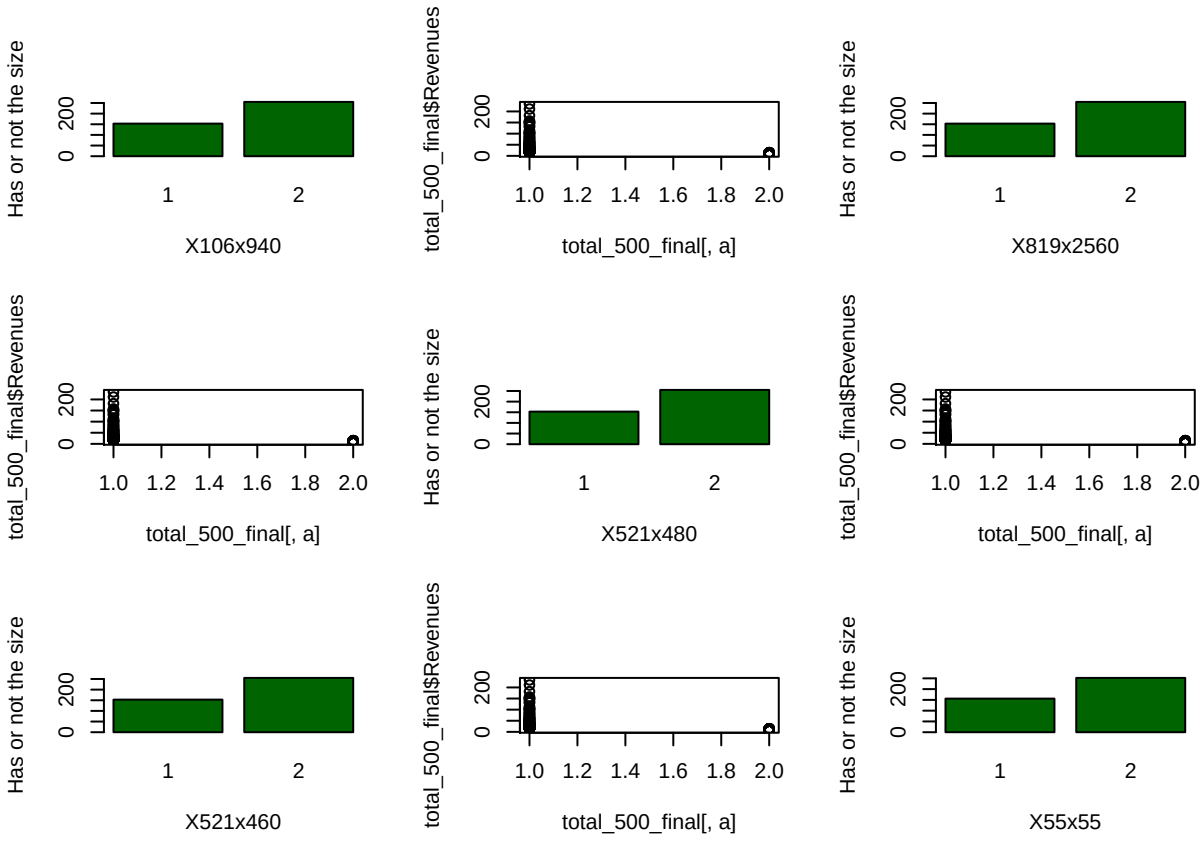

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X27x25
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X277x247
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X25x120
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X29x140
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

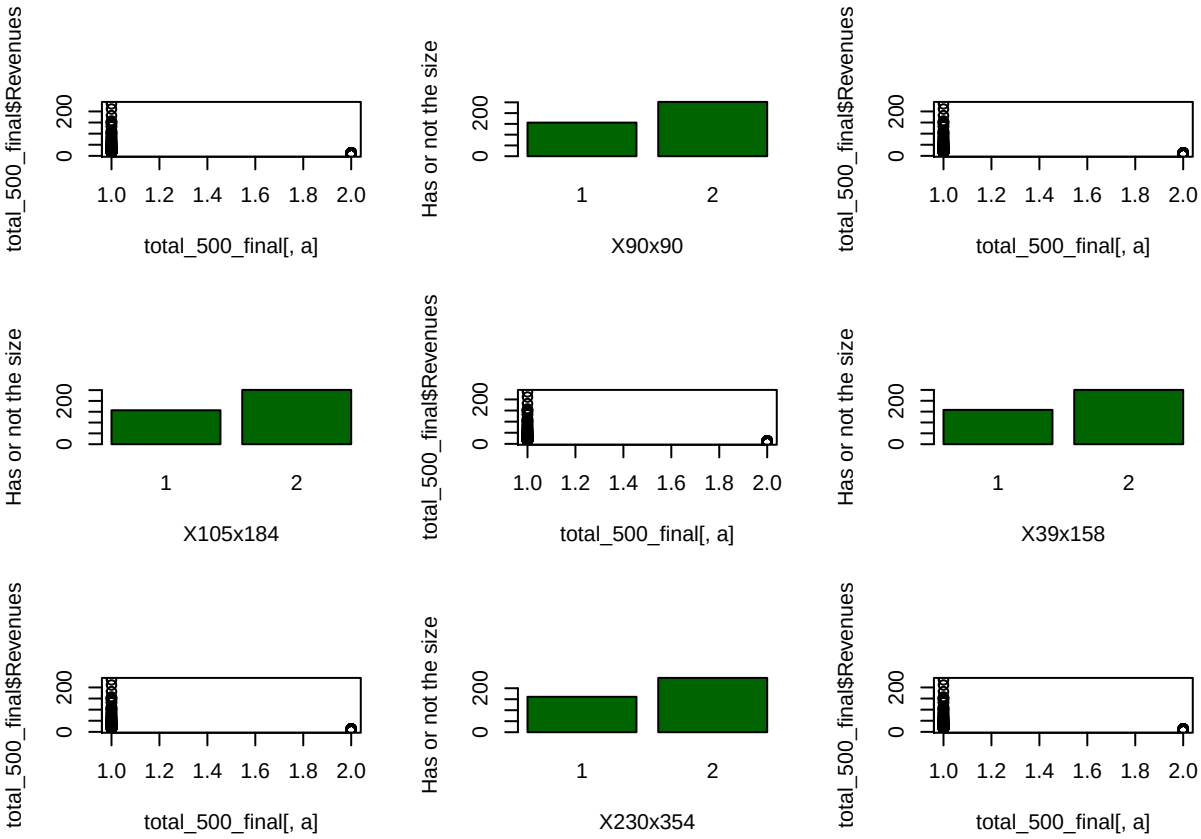

Has or not the size
0 250
1 2
X61x213
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X1x110
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X100x340
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X13x235
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X11x9

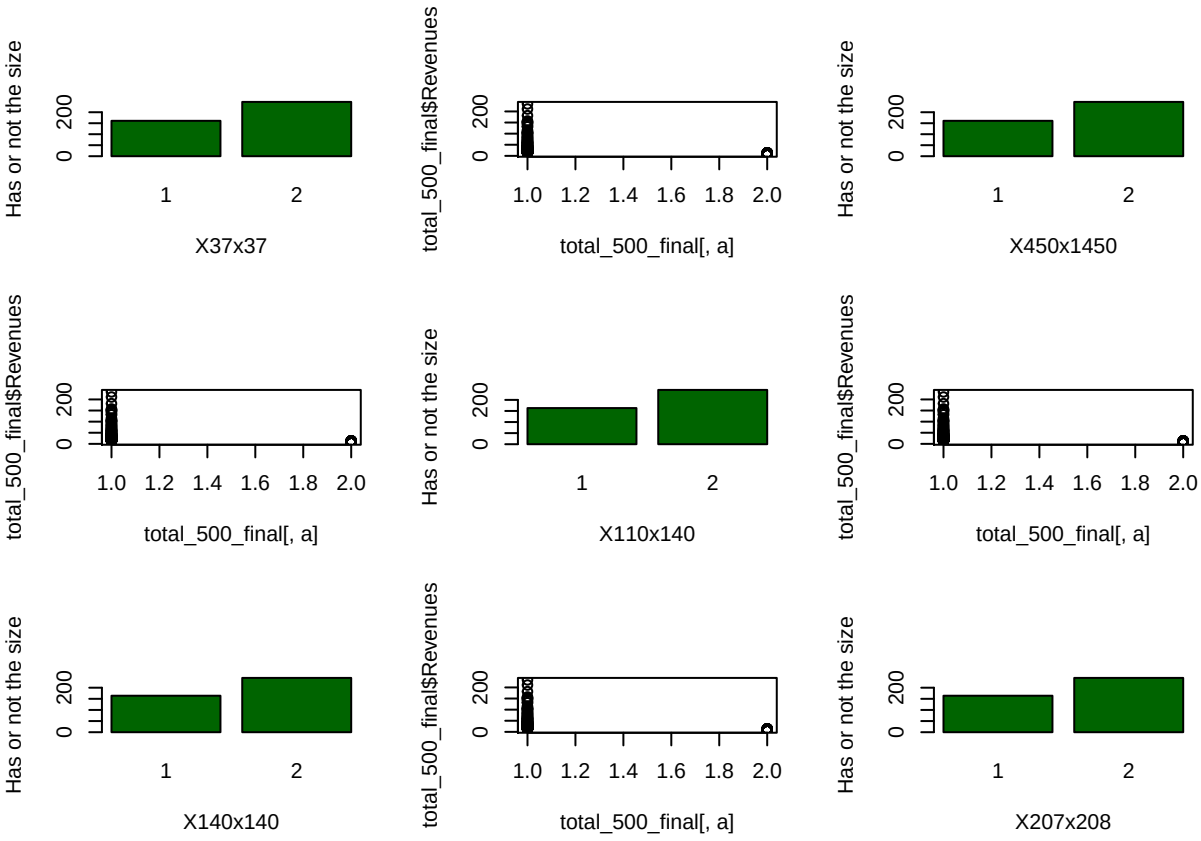

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X12x235
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 250
1 2
X67x200
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X30pxx30px
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X150x940
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

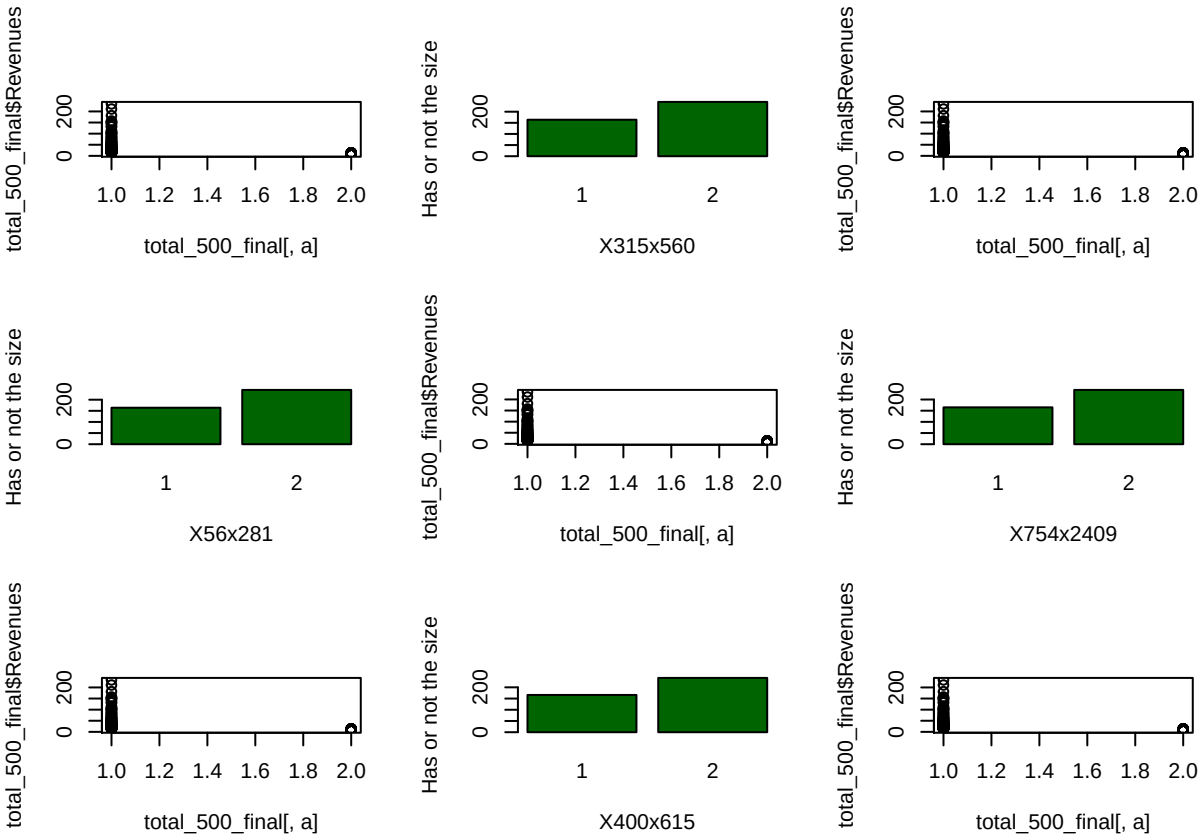

Has or not the size
0 200
1 2
X315x2560
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X41x1410
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X432x621
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X886x1410
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X1140x520

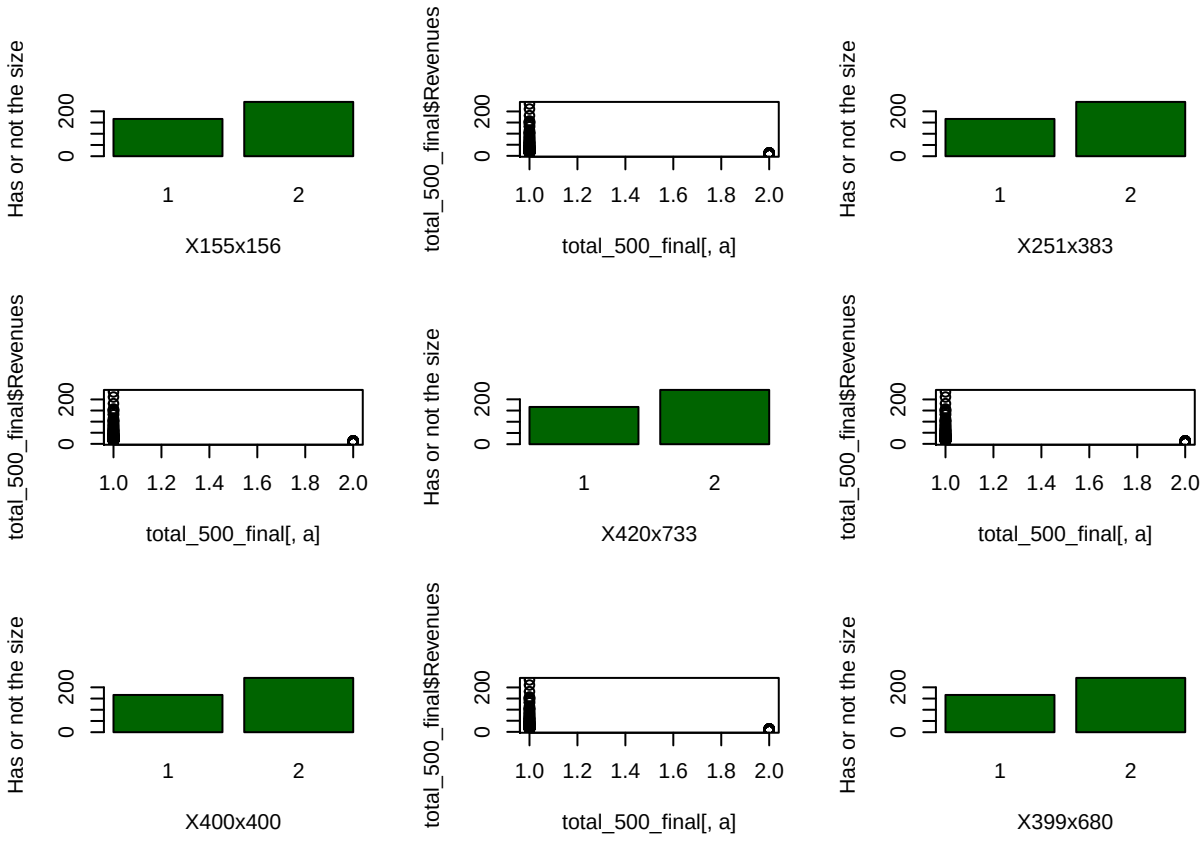

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X708x621
X915x2560
X699x1410
X381x940

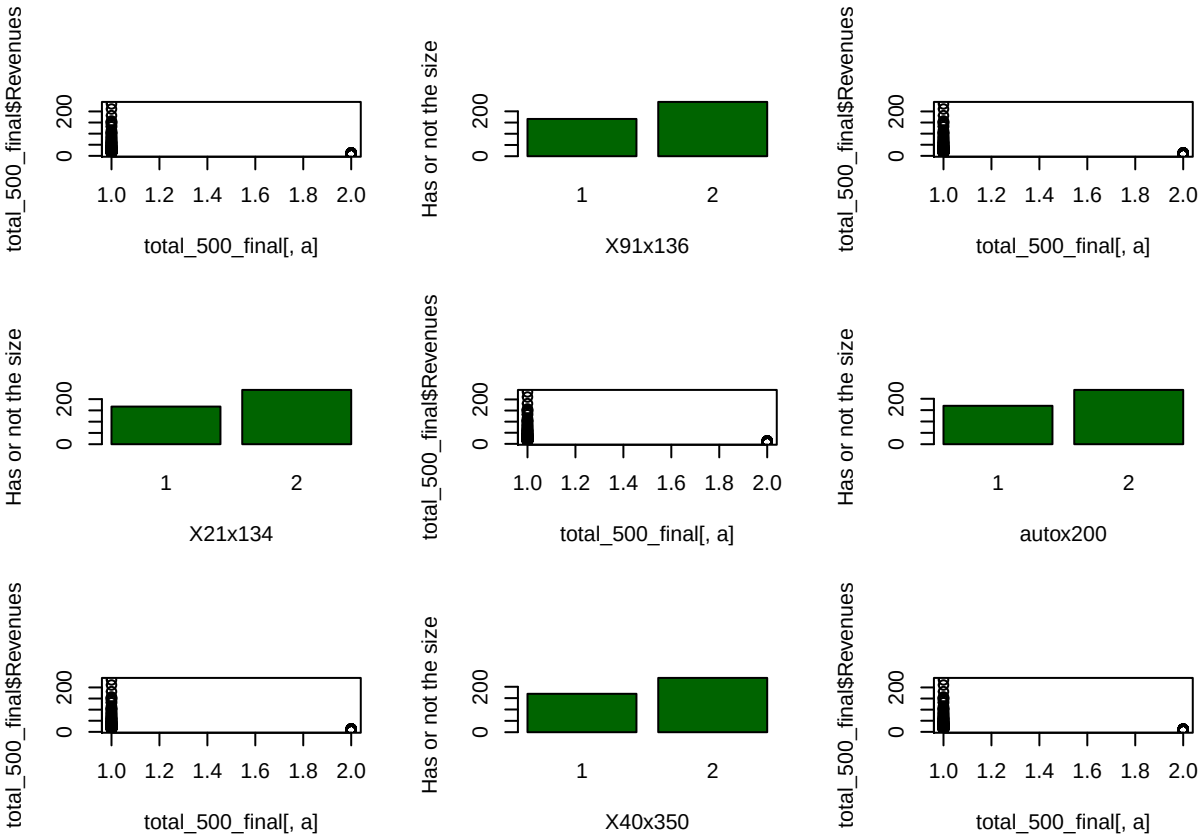

Has or not the size
0 200
1 2
X106x940
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X819x2560
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X521x480
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X521x460
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X55x55

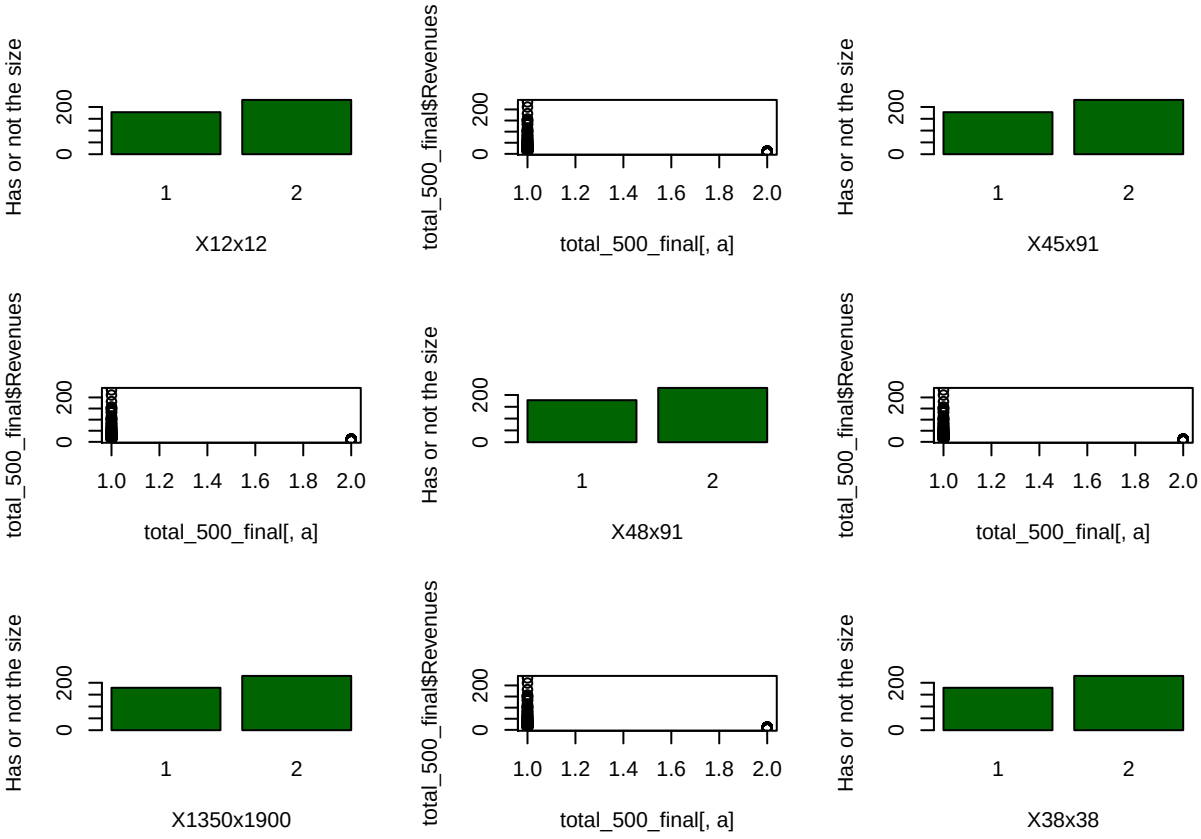

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X90x90
X105x184
X39x158
X230x354

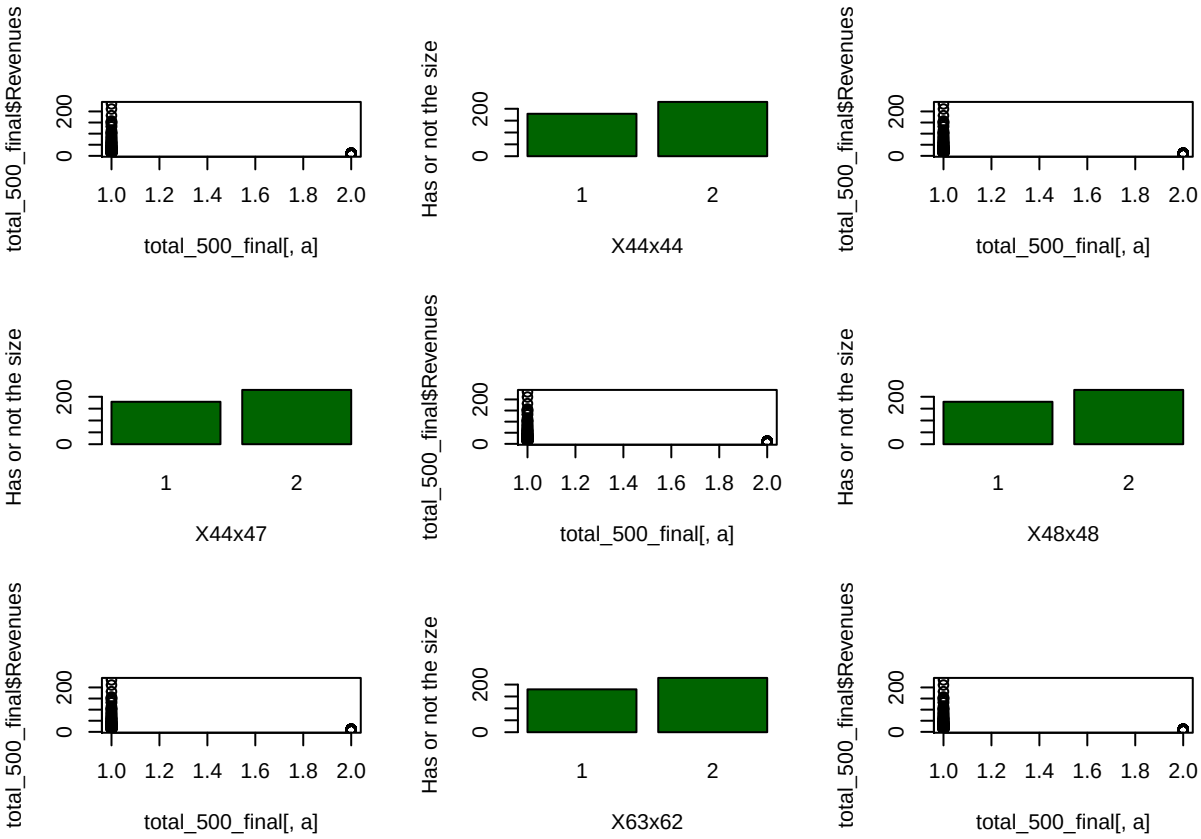

Has or not the size
0 200
1 2
X37x37
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X450x1450
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X110x140
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X140x140
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X207x208

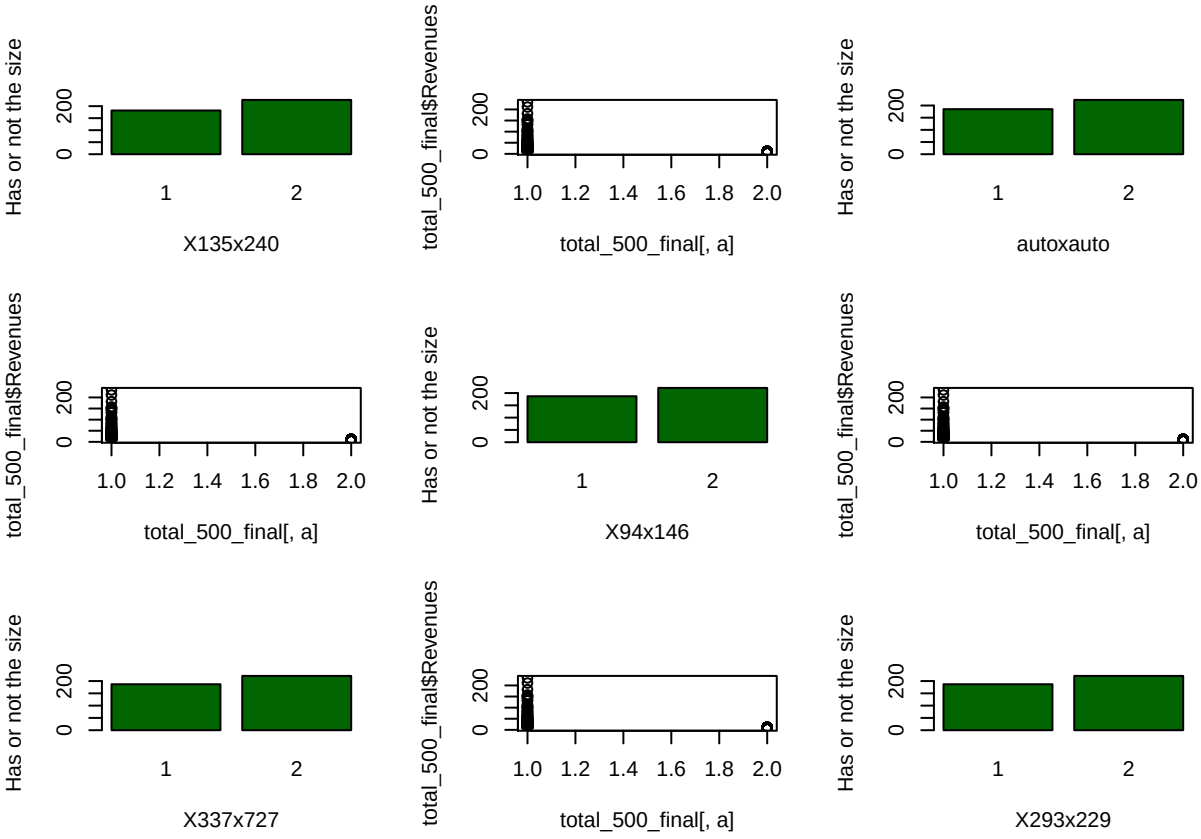

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X315x560
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X56x281
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X754x2409
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X400x615
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

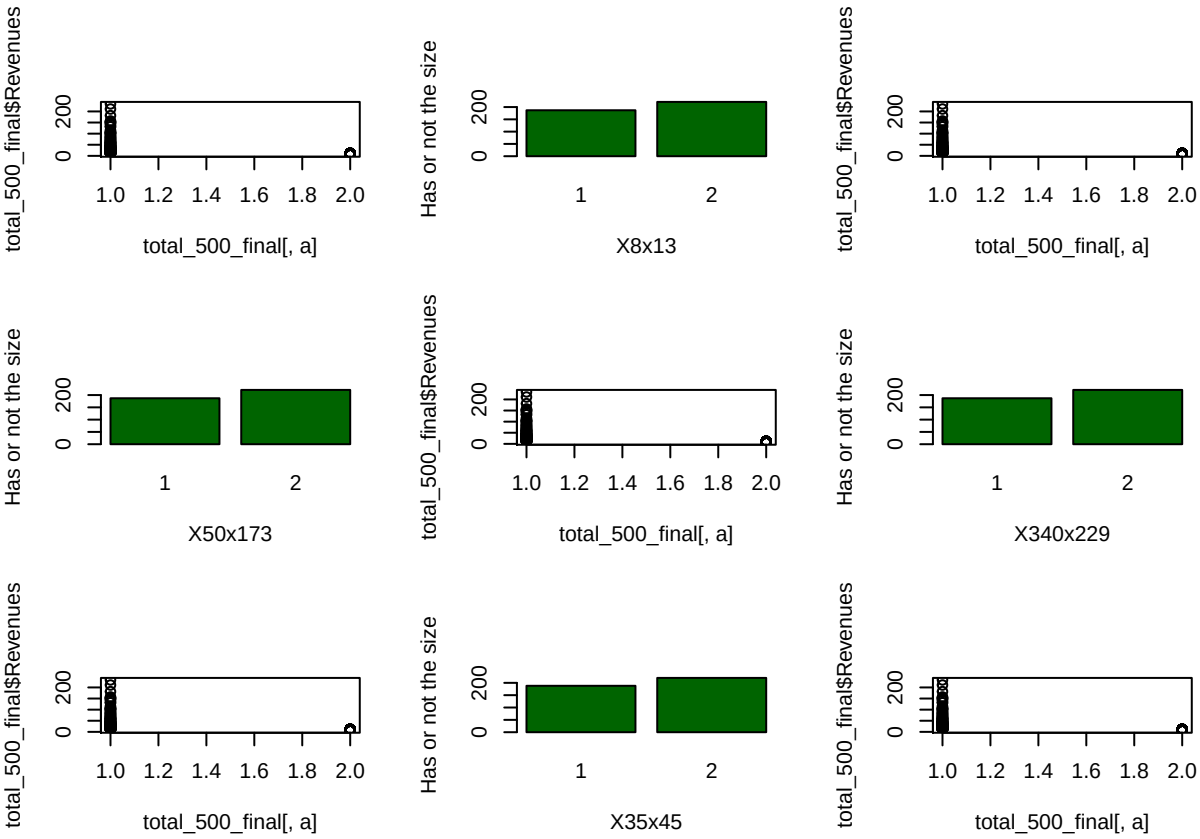

Has or not the size
0 200
1 2
X155x156
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X251x383
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X420x733
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X400x400
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X399x680

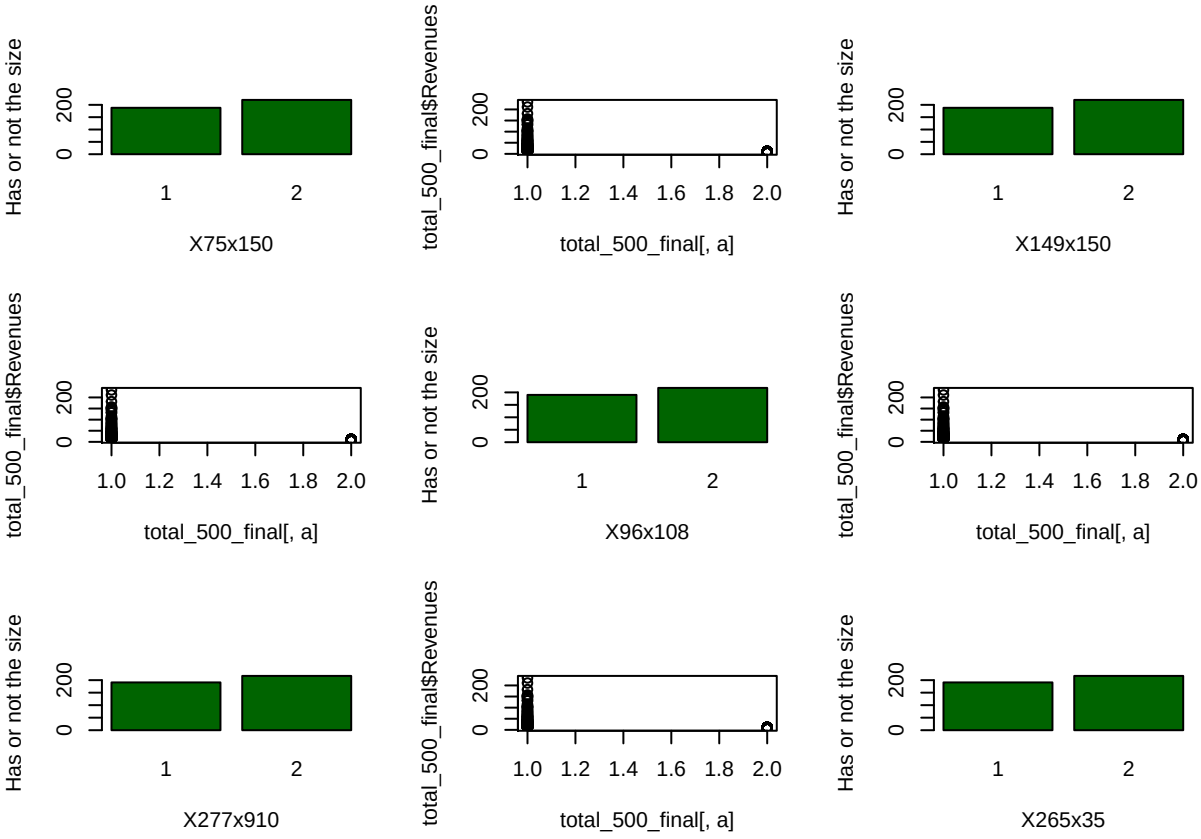

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X91x136
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X21x134
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
autox200
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X40x350
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

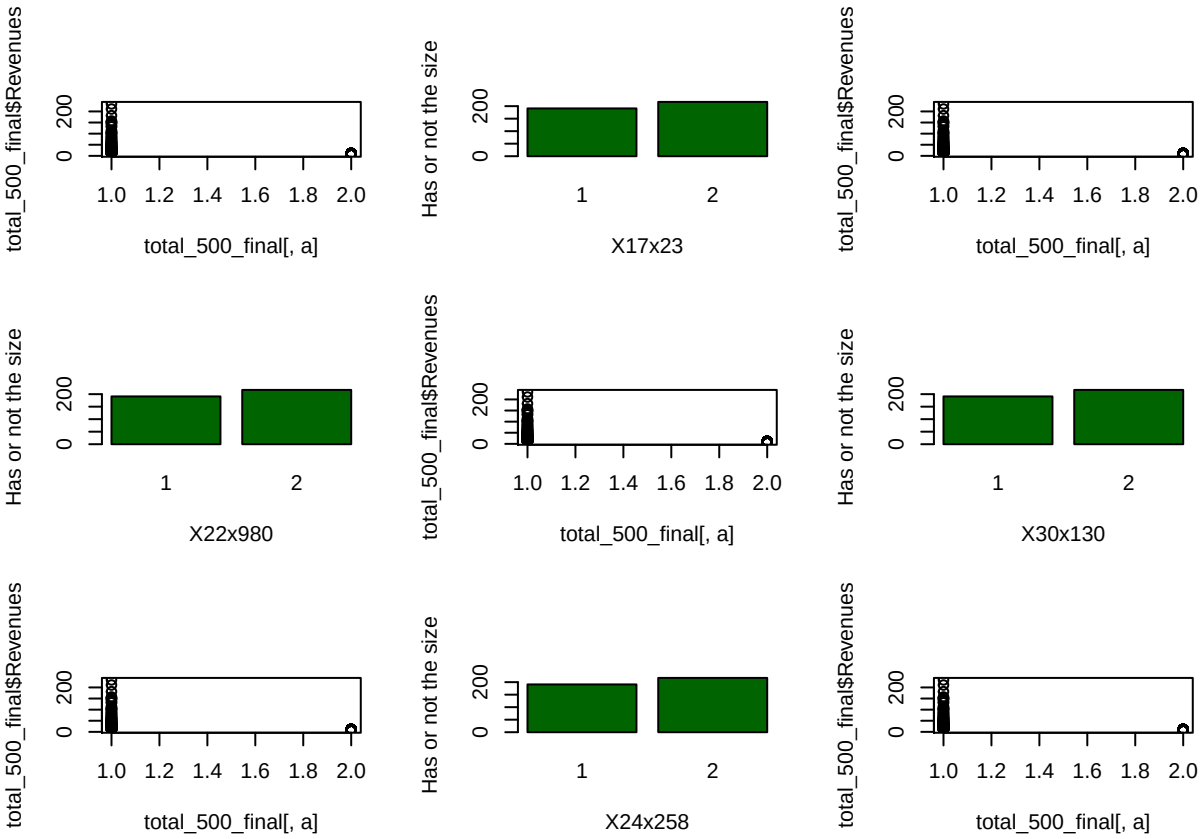

Has or not the size
0 200
1 2
X12x12
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X45x91
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X48x91
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X1350x1900
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X38x38

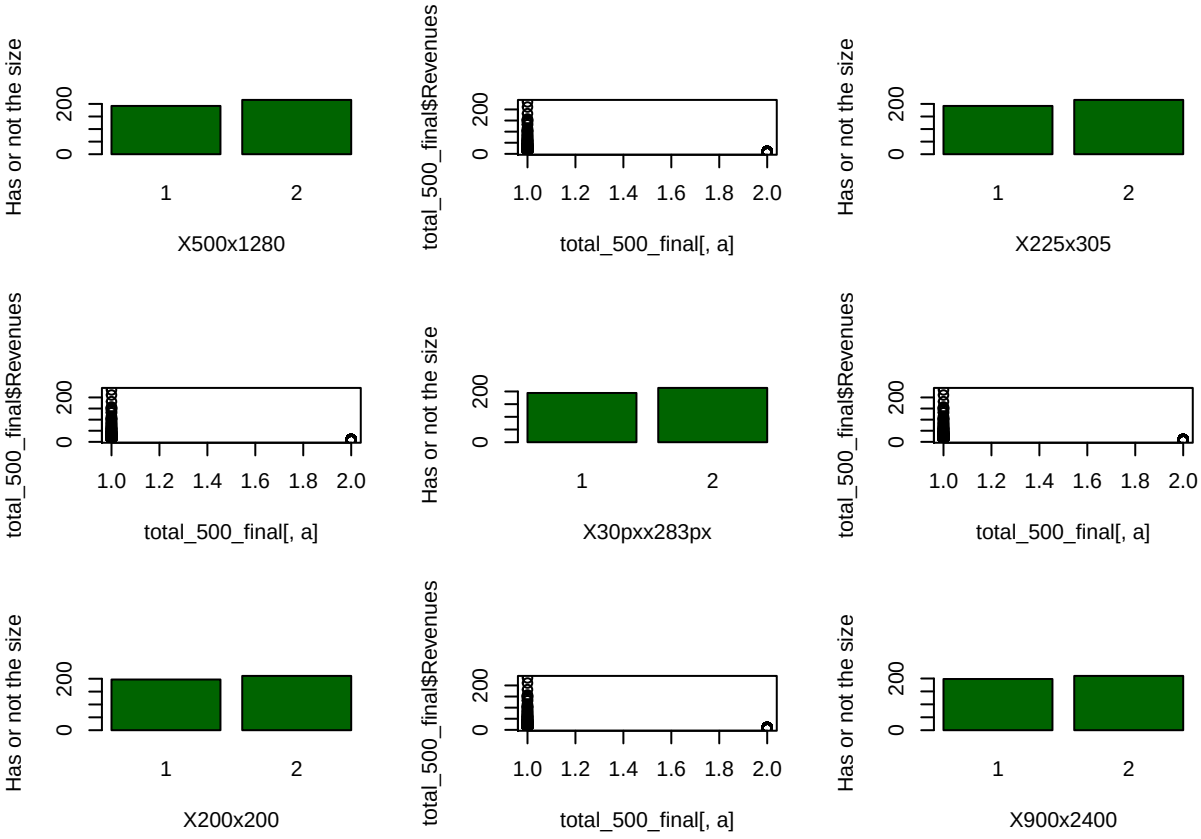

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X44x44
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X44x47
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X48x48
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X63x62
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]

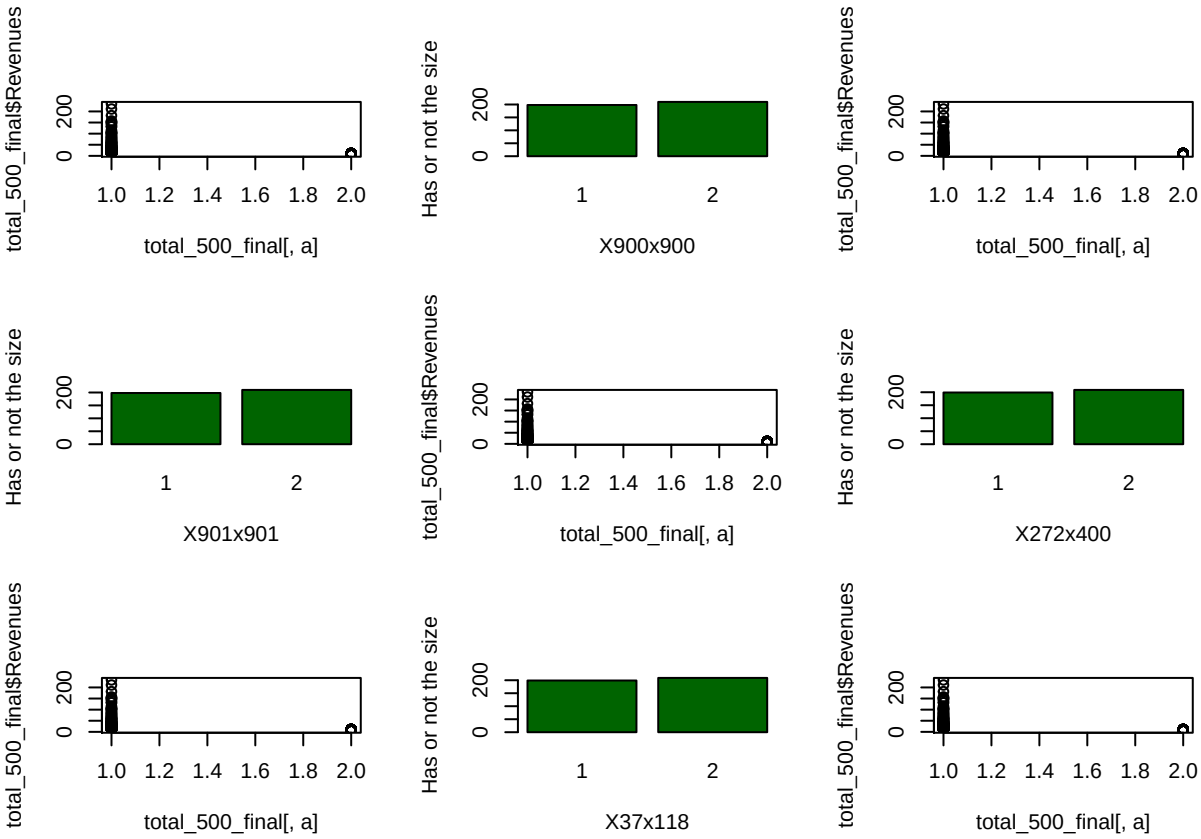

Has or not the size
0
200
1
2
X135x240
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
200
1
2
autoxauto
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
200
1
2
X94x146
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
200
1
2
X337x727
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
200
1
2
X293x229

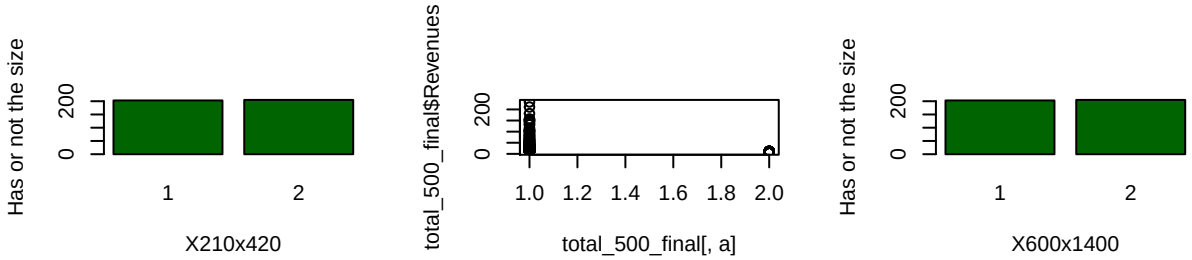

total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
1 2
X8x13
X50x173
X340x229
X35x45


Has or not the size
0
200
1
2
X75x150
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
200
1
2
X149x150
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
200
1
2
X96x108
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
200
1
2
X277x910
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
200
1
2
X265x35


total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X17x23
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X22x980
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X30x130
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X24x258
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]


Has or not the size
0
200
1
2
X500x1280
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
200
1
2
X225x305
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
200
1
2
X30pxx283px
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
200
1
2
X200x200
total_500_final$Revenues
0
200
1.0
1.2
1.4
1.6
1.8
2.0
total_500_final[, a]
Has or not the size
0
200
1
2
X900x2400


total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X900x900
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X901x901
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X272x400
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]
Has or not the size
0 200
1 2
X37x118
total_500_final$Revenues
0 200
1.0 1.2 1.4 1.6 1.8 2.0
total_500_final[, a]




```
#By checking the above plots we can see that the 24 first sizes do appear to have some differentiation
par(mfrow=c(3,3))
keep = c()
for(i in 1:24){
  a = true_existing[i]
  keep = union (keep, c(a))}
keep
```

```
##  [1] 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46
## [24] 47
```

```
#As we can see they are the variables from 24 to 47 and these are the only sizes we are going to keep f
total_500_final <- total_500_final[,-c(48:715)]
```

```
#Also we remove the other Fortune 500 variables since they will interfer in the outcome of the model an
total_500_final$Market_Value <- NULL
total_500_final$Assets <- NULL
total_500_final$Ranking <- NULL
total_500_final$Total_SH_Equity <- NULL
total_500_final$The_page_opened <- NULL
```

```
summary(total_500_final)
```

```
##     Revenues       non.document.error number_of_errors number_of_warning
##  Min.   :  5.130   Min.   :0.0000     Min.   :  0.00   Min.   :  0.000
##  1st Qu.:  7.047   1st Qu.:0.0000     1st Qu.:  0.00   1st Qu.:  0.000
##  Median : 11.118   Median :0.0000     Median : 13.00   Median :  3.000
##  Mean   : 22.244   Mean   :0.2451     Mean   : 37.36   Mean   :  8.669
```

```
##  3rd Qu.: 20.858   3rd Qu.:0.0000     3rd Qu.: 37.00   3rd Qu.:  9.000
##  Max.   :233.715   Max.   :1.0000     Max.   :995.00   Max.   :214.000
##     facebook        instagram        linkedin        pinterest
##  Min.   :0.0000   Min.   :0.000   Min.   :0.0000   Min.   :0.00000
##  1st Qu.:0.0000   1st Qu.:0.000   1st Qu.:0.0000   1st Qu.:0.00000
##  Median :1.0000   Median :0.000   Median :1.0000   Median :0.00000
##  Mean   :0.6471   Mean   :0.223   Mean   :0.5711   Mean   :0.09804
##  3rd Qu.:1.0000   3rd Qu.:0.000   3rd Qu.:1.0000   3rd Qu.:0.00000
##  Max.   :1.0000   Max.   :1.000   Max.   :1.0000   Max.   :1.00000
##     twitter          youtube       Flesh_Mesaure       Readability
##  Min.   :0.0000   Min.   :0.0000   Min.   :-3422.40   Min.   :1.000
##  1st Qu.:0.0000   1st Qu.:0.0000   1st Qu.:   34.85   1st Qu.:5.000
##  Median :1.0000   Median :1.0000   Median :   45.55   Median :6.000
##  Mean   :0.6863   Mean   :0.5833   Mean   :   35.37   Mean   :5.517
##  3rd Qu.:1.0000   3rd Qu.:1.0000   3rd Qu.:   55.40   3rd Qu.:6.000
##  Max.   :1.0000   Max.   :1.0000   Max.   :  121.20   Max.   :7.000
##    Sentences       Unique.words        Words            external
##  Min.   :   1.0   Min.   :   0.0   Min.   :   1.0   Min.   :  0.00
##  1st Qu.:  73.5   1st Qu.:  59.0   1st Qu.: 287.0   1st Qu.:  2.00
##  Median : 139.5   Median : 113.0   Median : 504.5   Median :  5.00
##  Mean   : 178.9   Mean   : 152.3   Mean   : 692.1   Mean   : 18.00
##  3rd Qu.: 243.5   3rd Qu.: 191.5   3rd Qu.: 905.5   3rd Qu.: 13.25
##  Max.   :1350.0   Max.   :1910.0   Max.   :8306.0   Max.   :545.00
##     internal       total.links          X15x75           X8x15
##  Min.   :   0.0   Min.   :   0.0   Min.   :1.000   Min.   :1.000
##  1st Qu.:  73.0   1st Qu.:  81.0   1st Qu.:2.000   1st Qu.:2.000
##  Median : 117.0   Median : 134.5   Median :2.000   Median :2.000
##  Mean   : 154.9   Mean   : 172.9   Mean   :1.998   Mean   :1.995
##  3rd Qu.: 183.0   3rd Qu.: 212.2   3rd Qu.:2.000   3rd Qu.:2.000
##  Max.   :1254.0   Max.   :1255.0   Max.   :2.000   Max.   :2.000
##     X44x556           X1x1          X800x1200      autox100.
##  Min.   :1.000   Min.   :1.000   Min.   :1.00   Min.   :1.000
##  1st Qu.:2.000   1st Qu.:2.000   1st Qu.:2.00   1st Qu.:2.000
##  Median :2.000   Median :2.000   Median :2.00   Median :2.000
##  Mean   :1.993   Mean   :1.993   Mean   :1.99   Mean   :1.985
##  3rd Qu.:2.000   3rd Qu.:2.000   3rd Qu.:2.00   3rd Qu.:2.000
##  Max.   :2.000   Max.   :2.000   Max.   :2.00   Max.   :2.000
##   X24pxx133px     X21pxx173px       X46x214          X49x49
##  Min.   :1.000   Min.   :1.000   Min.   :1.00   Min.   :1.00
##  1st Qu.:2.000   1st Qu.:2.000   1st Qu.:2.00   1st Qu.:2.00
##  Median :2.000   Median :2.000   Median :2.00   Median :2.00
##  Mean   :1.983   Mean   :1.983   Mean   :1.98   Mean   :1.98
##  3rd Qu.:2.000   3rd Qu.:2.000   3rd Qu.:2.00   3rd Qu.:2.00
##  Max.   :2.000   Max.   :2.000   Max.   :2.00   Max.   :2.00
##      X50x45          X400x300      X292pxx292px    X200pxx200px
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:2.000   1st Qu.:2.000   1st Qu.:2.000   1st Qu.:2.000
##  Median :2.000   Median :2.000   Median :2.000   Median :2.000
##  Mean   :1.975   Mean   :1.973   Mean   :1.968   Mean   :1.968
##  3rd Qu.:2.000   3rd Qu.:2.000   3rd Qu.:2.000   3rd Qu.:2.000
##  Max.   :2.000   Max.   :2.000   Max.   :2.000   Max.   :2.000
##  X1279pxx984px   X300pxx1500px       X29x29          X115x223
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:2.000   1st Qu.:2.000   1st Qu.:2.000   1st Qu.:2.000
```

```
##  Median :2.000   Median :2.000   Median :2.000   Median :2.000
##  Mean   :1.968   Mean   :1.968   Mean   :1.961   Mean   :1.951
##  3rd Qu.:2.000   3rd Qu.:2.000   3rd Qu.:2.000   3rd Qu.:2.000
##  Max.   :2.000   Max.   :2.000   Max.   :2.000   Max.   :2.000
##     X160x233        X300x993        X41x192         X28x221
##  Min.   :1.000   Min.   :1.000   Min.   :1.000   Min.   :1.000
##  1st Qu.:2.000   1st Qu.:2.000   1st Qu.:2.000   1st Qu.:2.000
##  Median :2.000   Median :2.000   Median :2.000   Median :2.000
##  Mean   :1.951   Mean   :1.951   Mean   :1.951   Mean   :1.951
##  3rd Qu.:2.000   3rd Qu.:2.000   3rd Qu.:2.000   3rd Qu.:2.000
##  Max.   :2.000   Max.   :2.000   Max.   :2.000   Max.   :2.000
##      X15x12          X60x60           .bmp              .dib
##  Min.   :1.000   Min.   :1.000   Min.   : 0.00000   Min.   : 0.0000
##  1st Qu.:2.000   1st Qu.:2.000   1st Qu.: 0.00000   1st Qu.: 0.0000
##  Median :2.000   Median :2.000   Median : 0.00000   Median : 0.0000
##  Mean   :1.949   Mean   :1.946   Mean   : 0.06863   Mean   : 0.1838
##  3rd Qu.:2.000   3rd Qu.:2.000   3rd Qu.: 0.00000   3rd Qu.: 0.0000
##  Max.   :2.000   Max.   :2.000   Max.   :23.00000   Max.   :35.0000
##       .gif             .jpe             .jpeg             .jpg
##  Min.   :  0.000   Min.   :  0.000   Min.   :  0.000   Min.   :  0.00
##  1st Qu.:  0.000   1st Qu.:  0.000   1st Qu.:  0.000   1st Qu.:  2.00
##  Median :  1.000   Median :  0.000   Median :  0.000   Median :  8.50
##  Mean   :  4.081   Mean   :  2.863   Mean   :  2.821   Mean   : 18.09
##  3rd Qu.:  3.000   3rd Qu.:  0.000   3rd Qu.:  0.000   3rd Qu.: 15.25
##  Max.   :143.000   Max.   :968.000   Max.   :968.000   Max.   :363.00
##       .png             .tif             .tiff          total.images
##  Min.   :  0.00   Min.   :  0.000   Min.   :0.00000   Min.   :   0.00
##  1st Qu.:  3.00   1st Qu.:  0.000   1st Qu.:0.00000   1st Qu.:  13.00
##  Median :  8.00   Median :  0.000   Median :0.00000   Median :  24.00
##  Mean   : 15.51   Mean   :  4.211   Mean   :0.01471   Mean   :  47.84
##  3rd Qu.: 18.00   3rd Qu.:  3.000   3rd Qu.:0.00000   3rd Qu.:  43.25
##  Max.   :304.00   Max.   :301.000   Max.   :2.00000   Max.   :2162.00
##   loading.time
##  Min.   :0.00000
##  1st Qu.:0.08125
##  Median :0.27400
##  Mean   :0.36143
##  3rd Qu.:0.50850
##  Max.   :4.06800
```

```
names(total_500_final)
```

```
##  [1] "Revenues"           "non.document.error" "number_of_errors"
##  [4] "number_of_warning"  "facebook"           "instagram"
##  [7] "linkedin"           "pinterest"          "twitter"
## [10] "youtube"            "Flesh_Mesaure"      "Readability"
## [13] "Sentences"          "Unique.words"       "Words"
## [16] "external"           "internal"           "total.links"
## [19] "X15x75"             "X8x15"              "X44x556"
## [22] "X1x1"               "X800x1200"          "autox100."
## [25] "X24pxx133px"        "X21pxx173px"        "X46x214"
## [28] "X49x49"             "X50x45"             "X400x300"
## [31] "X292pxx292px"       "X200pxx200px"       "X1279pxx984px"
## [34] "X300pxx1500px"      "X29x29"             "X115x223"
## [37] "X160x233"           "X300x993"           "X41x192"
```

```
## [40] "X28x221"            "X15x12"             "X60x60"
## [43] ".bmp"               ".dib"               ".gif"
## [46] ".jpe"               ".jpeg"              ".jpg"
## [49] ".png"               ".tif"               ".tiff"
## [52] "total.images"       "loading.time"
```

```
total_500_final$X15x12<- gsub("1","0", total_500_final$X15x12)
total_500_final$X15x12 <- gsub("2", "1", total_500_final$X15x12 )

total_500_final$X60x60<- gsub("1","0", total_500_final$X60x60)
total_500_final$X60x60 <- gsub("2", "1", total_500_final$X60x60 )

total_500_final$X15x75<- gsub("1","0", total_500_final$X15x75)
total_500_final$X15x75 <- gsub("2", "1", total_500_final$X15x75 )

total_500_final$X28x221<- gsub("1","0", total_500_final$X28x221)
total_500_final$X28x221 <- gsub("2", "1", total_500_final$X28x221 )

total_500_final$X41x192 <- gsub("1","0", total_500_final$X41x192 )
total_500_final$X41x192 <- gsub("2", "1", total_500_final$X41x192 )

total_500_final$X300x993 <- gsub("1","0", total_500_final$X300x993 )
total_500_final$X300x993 <- gsub("2", "1", total_500_final$X300x993 )

total_500_final$X160x233 <- gsub("1","0", total_500_final$X160x233 )
total_500_final$X160x233 <- gsub("2", "1", total_500_final$X160x233 )

total_500_final$X29x29 <- gsub("1","0", total_500_final$X29x29 )
total_500_final$X29x29 <- gsub("2", "1", total_500_final$X29x29 )

total_500_final$X300pxx1500px <- gsub("1","0", total_500_final$X300pxx1500px )
total_500_final$X300pxx1500px <- gsub("2", "1", total_500_final$X300pxx1500px )

total_500_final$X200pxx200px<- gsub("1","0", total_500_final$X200pxx200px )
total_500_final$X200pxx200px <- gsub("2", "1", total_500_final$X200pxx200px )

total_500_final$X292pxx292px <- gsub("1","0", total_500_final$X292pxx292px )
total_500_final$X292pxx292px <- gsub("2", "1", total_500_final$X292pxx292px )

total_500_final$X400x300 <- gsub("1","0", total_500_final$X400x300 )
total_500_final$X400x300 <- gsub("2", "1", total_500_final$X400x300 )

total_500_final$X115x223 <- gsub("1","0", total_500_final$X115x223 )
total_500_final$X115x223 <- gsub("2", "1", total_500_final$X115x223 )

total_500_final$X1279pxx984px <- gsub("1","0", total_500_final$X1279pxx984px )
total_500_final$X1279pxx984px<- gsub("2", "1", total_500_final$X1279pxx984px )

total_500_final$X8x15 <- gsub("1","0", total_500_final$X8x15 )
total_500_final$X8x15 <- gsub("2", "1", total_500_final$X8x15 )

total_500_final$X44x556 <- gsub("1","0", total_500_final$X44x556 )
total_500_final$X44x556 <- gsub("2", "1", total_500_final$X44x556 )
```

```
total_500_final$X1x1 <- gsub("1","0", total_500_final$X1x1 )
total_500_final$X1x1 <- gsub("2", "1", total_500_final$X1x1 )

total_500_final$autox100. <- gsub("1","0", total_500_final$autox100. )
total_500_final$autox100. <- gsub("2", "1", total_500_final$autox100. )
colnames(total_500_final)[24] <- "X100x100"

total_500_final$X800x1200 <- gsub("1","0", total_500_final$X800x1200 )
total_500_final$X800x1200 <- gsub("2", "1", total_500_final$X800x1200 )

total_500_final$X24pxx133px <- gsub("1","0", total_500_final$X24pxx133px )
total_500_final$X24pxx133px <- gsub("2", "1", total_500_final$X24pxx133px )

total_500_final$X21pxx173px <- gsub("1","0", total_500_final$X21pxx173px )
total_500_final$X21pxx173px <- gsub("2", "1", total_500_final$X21pxx173px )

total_500_final$X46x214 <- gsub("1","0", total_500_final$X46x214)
total_500_final$X46x214 <- gsub("2", "1", total_500_final$X46x214 )

total_500_final$X49x49 <- gsub("1","0", total_500_final$X49x49)
total_500_final$X49x49 <- gsub("2", "1", total_500_final$X49x49 )

total_500_final$X50x45 <- gsub("1","0", total_500_final$X50x45)
total_500_final$X50x45 <- gsub("2", "1", total_500_final$X50x45 )
```

```
for(i in 19:42){
 total_500_final[,i] <- as.numeric(total_500_final[,i])}
```

```
#We split the set to training and test set
library(caret)
set.seed(20)
sampling_vector <- createDataPartition(total_500_final$Revenues, p = 0.70, list = FALSE)
total_500_final_train <- total_500_final[sampling_vector,]
total_500_final_test <- total_500_final[-sampling_vector,]
```

```
#We will try to create a regression model to see which of the variables of the websites play the most i
#We create the empty lm model
model_null = lm(Revenues~1,data=total_500_final_train)
summary(model_null)
```

```
##
## Call:
## lm(formula = Revenues ~ 1, data = total_500_final_train)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -18.070 -16.119 -12.152  -2.342 210.515
##
## Coefficients:
##             Estimate Std. Error t value Pr(>|t|)
## (Intercept)   23.200      2.023   11.47   <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 34.33 on 287 degrees of freedom
```

```
#############################################################################################################
#LASSO and Logistic Regression models
library(glmnet)
```

```
## Warning: package 'glmnet' was built under R version 3.3.3
```

```
## Loading required package: Matrix
```

```
## Loading required package: foreach
```

```
## Loaded glmnet 2.0-5
```

```
#We create a full model for the variable Ranking
full <- lm(Revenues~.,data=total_500_final_train)
summary(full)
```

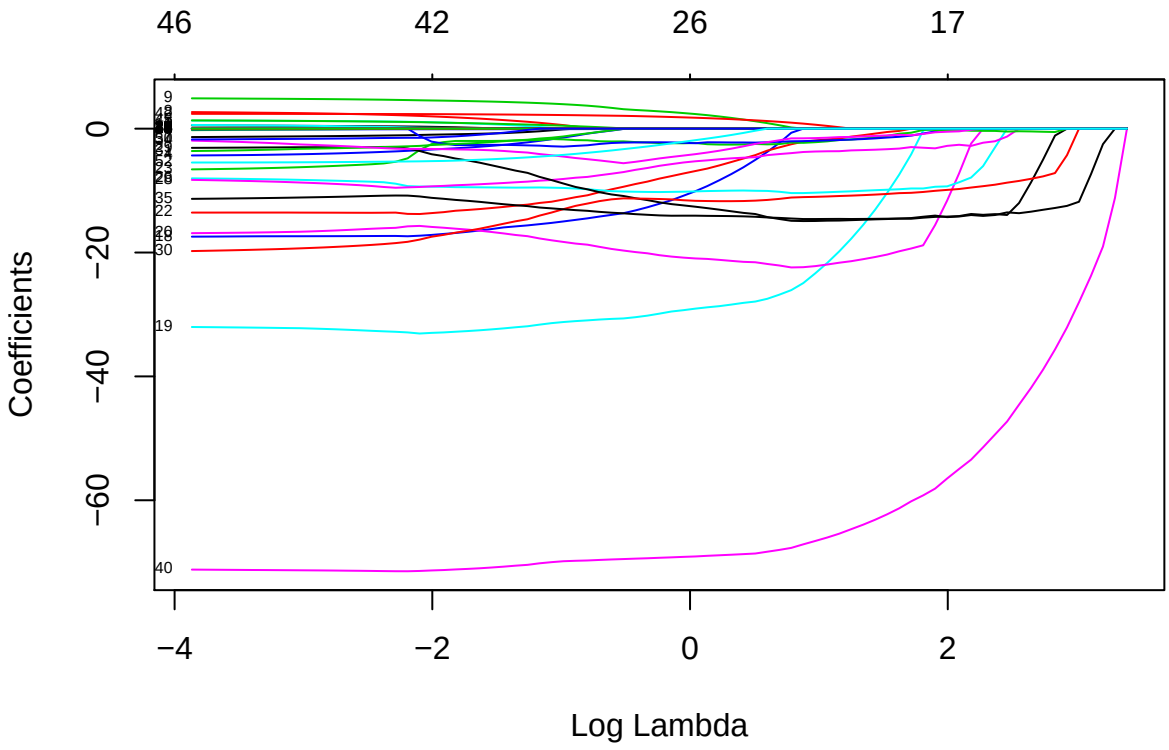
```
##
## Call:
## lm(formula = Revenues ~ ., data = total_500_final_train)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -20.227  -7.486  -3.338   1.303  66.316
##
## Coefficients: (13 not defined because of singularities)
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)         2.266e+02  1.618e+01  14.004  < 2e-16 ***
## non.document.error  5.657e-01  2.195e+00   0.258 0.796868
## number_of_errors    1.230e-02  1.113e-02   1.105 0.270122
## number_of_warning   4.159e-03  4.276e-02   0.097 0.922592
## facebook           -4.503e+00  2.796e+00  -1.611 0.108480
## instagram           1.358e+00  2.551e+00   0.532 0.595127
## linkedin           -3.492e-01  2.435e+00  -0.143 0.886095
## pinterest          -1.613e+00  3.598e+00  -0.448 0.654262
## twitter             2.911e+00  2.727e+00   1.068 0.286712
## youtube             5.036e+00  2.221e+00   2.267 0.024250 *
## Flesh_Mesaure      -3.099e-02  3.103e-02  -0.999 0.318996
## Readability         6.973e-01  9.704e-01   0.719 0.473101
## Sentences           2.104e-03  1.216e-02   0.173 0.862755
## Unique.words       -2.273e-02  2.089e-02  -1.088 0.277518
## Words               5.093e-03  5.053e-03   1.008 0.314457
## external           -6.190e-04  1.927e-02  -0.032 0.974397
## internal           -8.858e-04  1.083e-02  -0.082 0.934908
## total.links                NA         NA      NA       NA
## X15x75             -1.762e+01  2.070e+01  -0.851 0.395495
## X8x15              -3.169e+01  2.095e+01  -1.513 0.131677
## X44x556            -1.722e+01  2.104e+01  -0.819 0.413786
## X1x1                       NA         NA      NA       NA
## X800x1200          -1.293e+01  1.815e+01  -0.712 0.477033
## X100x100           -3.007e+01  5.554e+01  -0.541 0.588661
## X24pxx133px         2.467e+01  5.588e+01   0.441 0.659272
## X21pxx173px                NA         NA      NA       NA
## X46x214            -9.818e+00  1.819e+01  -0.540 0.589877
## X49x49                     NA         NA      NA       NA
## X50x45             -7.650e+00  1.819e+01  -0.421 0.674433
## X400x300           -2.693e+00  2.133e+01  -0.126 0.899623
```

```
## X292pxx292px       -2.495e+01  1.887e+01  -1.322 0.187254
## X200pxx200px               NA         NA      NA       NA
## X1279pxx984px              NA         NA      NA       NA
## X300pxx1500px              NA         NA      NA       NA
## X29x29             -1.477e+00  1.823e+01  -0.081 0.935472
## X115x223           -1.150e+01  2.099e+01  -0.548 0.584217
## X160x233                   NA         NA      NA       NA
## X300x993                   NA         NA      NA       NA
## X41x192                    NA         NA      NA       NA
## X28x221                    NA         NA      NA       NA
## X15x12             -7.116e+01  1.501e+01  -4.741 3.59e-06 ***
## X60x60                     NA         NA      NA       NA
## .bmp                2.396e+00  6.357e-01   3.770 0.000204 ***
## .dib                1.431e+00  1.315e+00   1.088 0.277552
## .gif               -1.133e-01  8.477e-02  -1.337 0.182535
## .jpe                1.133e-01  4.324e+00   0.026 0.979123
## .jpeg               3.710e-01  4.367e+00   0.085 0.932364
## .jpg                4.584e-03  3.071e-02   0.149 0.881438
## .png               -1.891e-02  4.015e-02  -0.471 0.637976
## .tif                3.002e-03  4.911e-02   0.061 0.951302
## .tiff              -1.127e+00  7.240e+00  -0.156 0.876394
## total.images               NA         NA      NA       NA
## loading.time       -5.314e+00  2.578e+00  -2.061 0.040332 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 14.38 on 248 degrees of freedom
## Multiple R-squared:  0.8484, Adjusted R-squared:  0.8246
## F-statistic: 35.59 on 39 and 248 DF,  p-value: < 2.2e-16
```

```
x <- model.matrix(full) [,-1]
dim(x)
```

```
## [1] 288  52
```

```
lasso <- glmnet (x, total_500_final_train$Revenues)
par(mfrow=c(1,1),no.readonly = TRUE)
plot(lasso, xvar='lambda', label=T)
```



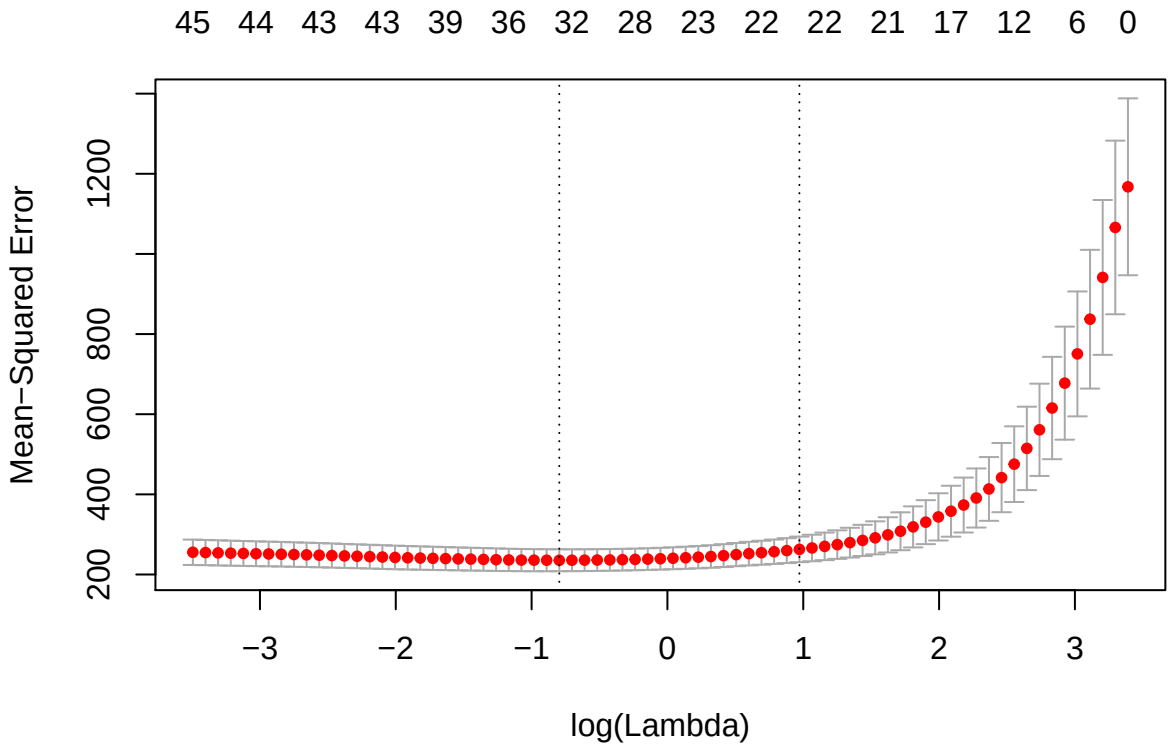

```
lassob <- cv.glmnet(x,total_500_final_train$Revenues)
lassob$lambda.min
```

```
## [1] 0.4511413
```

```
lassob$lambda.1se
```

```
## [1] 2.642344
```

```
plot(lassob)
```




```
#We see the coefficients for lamda min
blasso <- coef(lassob, s="lambda.min")
blasso
```

```
## 53 x 1 sparse Matrix of class "dgCMatrix"
##                                    1
## (Intercept)          2.230833e+02
## non.document.error   .
## number_of_errors     6.149259e-03
## number_of_warning    .
## facebook            -8.053246e-01
## instagram            .
## linkedin             .
## pinterest            .
## twitter              9.824382e-02
## youtube              3.711612e+00
## Flesh_Mesaure       -1.720979e-02
## Readability          .
## Sentences            2.566489e-03
## Unique.words         .
## Words                .
## external             .
## internal             .
## total.links          .
## X15x75              -1.448135e+01
## X8x15               -3.095291e+01
## X44x556             -1.873621e+01
```

```
## X1x1               -5.102733e-11
## X800x1200          -1.075697e+01
## X100x100           -1.877745e+00
## X24pxx133px        -2.682910e+00
## X21pxx173px         .
## X46x214            -9.778805e+00
## X49x49              .
## X50x45             -7.787668e+00
## X400x300           -9.798054e+00
## X292pxx292px       -1.209080e+01
## X200pxx200px       -7.655717e-01
## X1279pxx984px      -2.020626e-03
## X300pxx1500px      -2.665792e-12
## X29x29             -4.932214e+00
## X115x223           -1.326506e+01
## X160x233           -2.505006e-10
## X300x993           -3.322224e-14
## X41x192            -9.966671e-14
## X28x221            -1.162778e-13
## X15x12             -6.972276e+01
## X60x60             -7.618330e-11
## .bmp                2.148840e+00
## .dib                3.222502e-01
## .gif               -7.060778e-02
## .jpe                .
## .jpeg               .
## .jpg                1.022970e-02
## .png                .
## .tif                .
## .tiff               .
## total.images        .
## loading.time       -3.897970e+00
```

```
dim(blasso)
```

```
## [1] 53  1
```

```
zblasso <- blasso[-1] * apply(x,2,sd)
zbolt <- coef (full) [-1] * apply (x,2,sd)
azbolt <- abs(zbolt)
sum(azbolt)
```

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

```
#since the sum is NA that means we have to substract some variables
# in order to find which variables to substract we run the coefficients and we see which of them has NA
coef(full)
```

```
##        (Intercept) non.document.error   number_of_errors
##       2.265809e+02       5.656880e-01       1.230253e-02
##  number_of_warning           facebook          instagram
##       4.158870e-03      -4.503280e+00       1.357670e+00
##           linkedin          pinterest            twitter
##      -3.491824e-01      -1.613471e+00       2.911065e+00
##            youtube      Flesh_Mesaure        Readability
##       5.036021e+00      -3.098642e-02       6.972808e-01
##          Sentences       Unique.words              Words
```

```
##       2.104257e-03      -2.273419e-02       5.093208e-03
##           external           internal        total.links
##      -6.190402e-04      -8.857651e-04                 NA
##             X15x75             X8x15            X44x556
##      -1.761698e+01      -3.169113e+01      -1.722275e+01
##              X1x1          X800x1200           X100x100
##                NA      -1.292930e+01      -3.007324e+01
##        X24pxx133px        X21pxx173px            X46x214
##       2.466914e+01                 NA      -9.817905e+00
##             X49x49             X50x45           X400x300
##                NA      -7.650074e+00      -2.692975e+00
##       X292pxx292px       X200pxx200px      X1279pxx984px
##      -2.494753e+01                 NA                 NA
##      X300pxx1500px             X29x29           X115x223
##                NA      -1.477068e+00      -1.150271e+01
##           X160x233           X300x993            X41x192
##                NA                 NA                 NA
##            X28x221            X15x12             X60x60
##                NA      -7.115613e+01                 NA
##               .bmp               .dib               .gif
##       2.396454e+00       1.430784e+00      -1.133168e-01
##               .jpe               .jpeg              .jpg
##       1.132600e-01       3.710030e-01       4.584279e-03
##               .png               .tif              .tiff
##      -1.891363e-02       3.002462e-03      -1.127253e+00
##       total.images       loading.time
##                NA      -5.314492e+00
```

```
#Now we create a new model with only the variables with coef different from NA
full_2 <- lm(Revenues~. - total.images - total.links - X1x1 - X21pxx173px - X49x49 - X200pxx200px - X12
summary(full_2)
```

```
##
## Call:
## lm(formula = Revenues ~ . - total.images - total.links - X1x1 -
##     X21pxx173px - X49x49 - X200pxx200px - X1279pxx984px - X300pxx1500px -
##     X160x233 - X300x993 - X41x192 - X28x221 - X60x60, data = total_500_final_train)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -20.227  -7.486  -3.338   1.303  66.316
##
## Coefficients:
##                      Estimate Std. Error t value Pr(>|t|)
## (Intercept)         2.266e+02  1.618e+01  14.004  < 2e-16 ***
## non.document.error  5.657e-01  2.195e+00   0.258 0.796868
## number_of_errors    1.230e-02  1.113e-02   1.105 0.270122
## number_of_warning   4.159e-03  4.276e-02   0.097 0.922592
## facebook           -4.503e+00  2.796e+00  -1.611 0.108480
## instagram           1.358e+00  2.551e+00   0.532 0.595127
## linkedin           -3.492e-01  2.435e+00  -0.143 0.886095
## pinterest          -1.613e+00  3.598e+00  -0.448 0.654262
## twitter             2.911e+00  2.727e+00   1.068 0.286712
## youtube             5.036e+00  2.221e+00   2.267 0.024250 *
## Flesh_Mesaure      -3.099e-02  3.103e-02  -0.999 0.318996
```

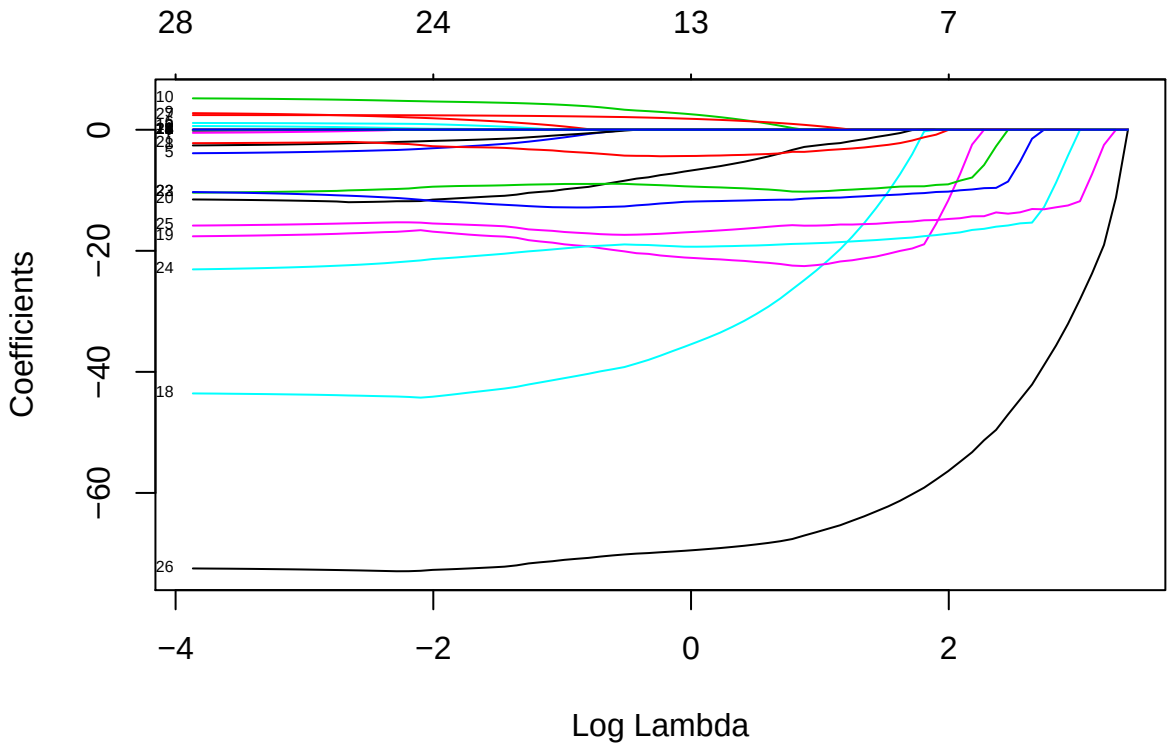
```
## Readability         6.973e-01  9.704e-01   0.719 0.473101
## Sentences           2.104e-03  1.216e-02   0.173 0.862755
## Unique.words       -2.273e-02  2.089e-02  -1.088 0.277518
## Words               5.093e-03  5.053e-03   1.008 0.314457
## external           -6.190e-04  1.927e-02  -0.032 0.974397
## internal           -8.858e-04  1.083e-02  -0.082 0.934908
## X15x75             -1.762e+01  2.070e+01  -0.851 0.395495
## X8x15              -3.169e+01  2.095e+01  -1.513 0.131677
## X44x556            -1.722e+01  2.104e+01  -0.819 0.413786
## X800x1200          -1.293e+01  1.815e+01  -0.712 0.477033
## X100x100           -3.007e+01  5.554e+01  -0.541 0.588661
## X24pxx133px         2.467e+01  5.588e+01   0.441 0.659272
## X46x214            -9.818e+00  1.819e+01  -0.540 0.589877
## X50x45             -7.650e+00  1.819e+01  -0.421 0.674433
## X400x300           -2.693e+00  2.133e+01  -0.126 0.899623
## X292pxx292px       -2.495e+01  1.887e+01  -1.322 0.187254
## X29x29             -1.477e+00  1.823e+01  -0.081 0.935472
## X115x223           -1.150e+01  2.099e+01  -0.548 0.584217
## X15x12             -7.116e+01  1.501e+01  -4.741 3.59e-06 ***
## .bmp                2.396e+00  6.357e-01   3.770 0.000204 ***
## .dib                1.431e+00  1.315e+00   1.088 0.277552
## .gif               -1.133e-01  8.477e-02  -1.337 0.182535
## .jpe                1.133e-01  4.324e+00   0.026 0.979123
## .jpeg               3.710e-01  4.367e+00   0.085 0.932364
## .jpg                4.584e-03  3.071e-02   0.149 0.881438
## .png               -1.891e-02  4.015e-02  -0.471 0.637976
## .tif                3.002e-03  4.911e-02   0.061 0.951302
## .tiff              -1.127e+00  7.240e+00  -0.156 0.876394
## loading.time       -5.314e+00  2.578e+00  -2.061 0.040332 *
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 14.38 on 248 degrees of freedom
## Multiple R-squared:  0.8484, Adjusted R-squared:  0.8246
## F-statistic: 35.59 on 39 and 248 DF,  p-value: < 2.2e-16
```

```
x <- model.matrix(full_2) [,-c(18,22,28,26,34,32,33,42,37,38,39,40,52)]
dim(x)
```

```
## [1] 288  29
```

```
lasso <- glmnet (x, total_500_final_train$Revenues)
```

```
plot(lasso, xvar='lambda', label=T)
```



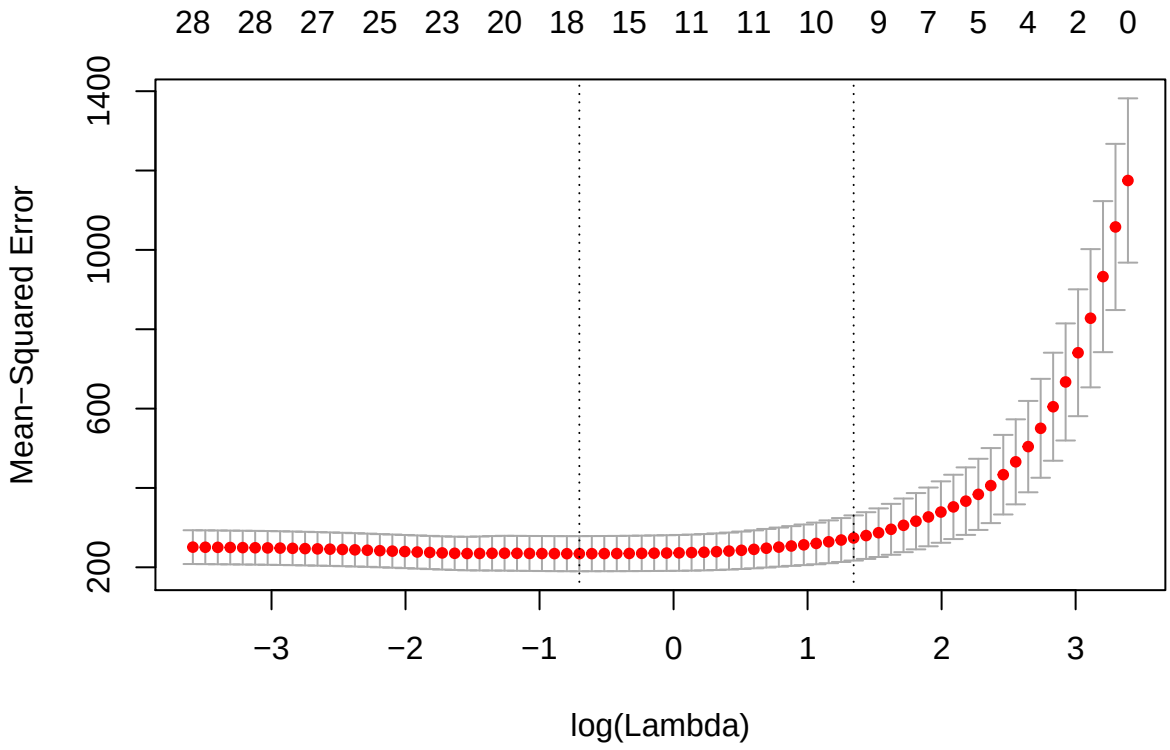

```
lassob <- cv.glmnet(x,total_500_final_train$Revenues)
lassob$lambda.min
```

```
## [1] 0.495127
```

```
lassob$lambda.1se
```

```
## [1] 3.833588
```

```
plot(lassob)
```




```
#coefiecinets for lammda min
blasso <- coef(lassob, s="lambda.min")
blasso
```

```
## 30 x 1 sparse Matrix of class "dgCMatrix"
##                                    1
## (Intercept)         215.050596035
## (Intercept)           .
## non.document.error    .
## number_of_errors      0.004545402
## number_of_warning     .
## facebook             -0.465821955
## instagram             .
## linkedin              .
## pinterest            -0.442067577
## twitter               .
## youtube               3.714394348
## Flesh_Mesaure        -0.012455651
## Readability           .
## Sentences             0.001245264
## Unique.words          .
## Words                 .
## external              .
## internal              .
## X8x15               -39.910397889
## X44x556             -19.570357469
## X800x1200            -9.091373726
```

```
## X24pxx133px         -3.964585608
## X46x214             -8.939435748
## X50x45             -12.779830022
## X292pxx292px       -19.158990860
## X115x223           -17.248924356
## X15x12             -70.512070793
## .bmp                 2.152463769
## .jpeg                .
## .jpg                 0.008247367
```

```
dim(blasso)
```

```
## [1] 30  1
```

```
zblasso <- blasso[-1] * apply(x,2,sd)
zbolt <- coef (full_2) [-1] * apply (x,2,sd)
```

```
## Warning in coef(full_2)[-1] * apply(x, 2, sd): longer object length is not
## a multiple of shorter object length
```

```
azbolt <- abs(zbolt)
sum(azbolt)
```

```
## [1] 5546.237
```

```
s <- sum(abs(zblasso))/sum(abs(azbolt))
s
```

```
## [1] 0.007532779
```

```
full_3 <- lm(Revenues~1 +number_of_errors +facebook +pinterest +youtube+ Flesh_Mesaure +Sentences +X8x15
summary(full_3)
```

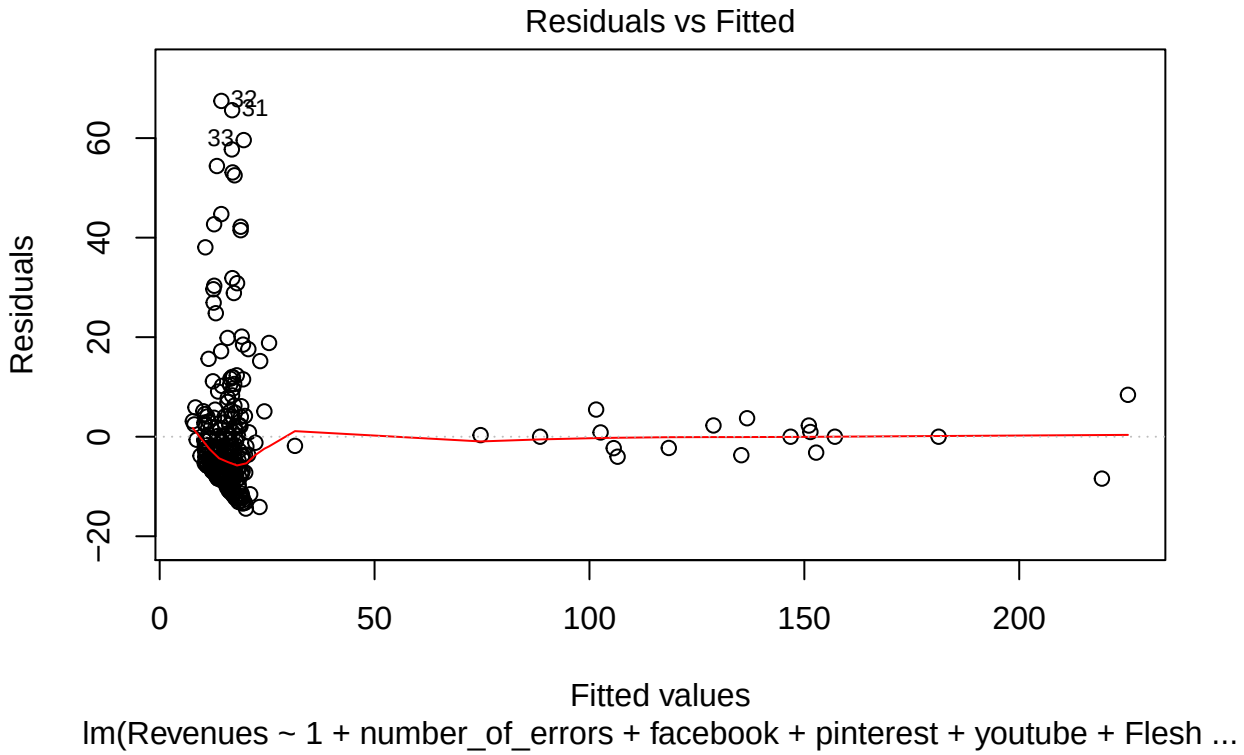
```
##
## Call:
## lm(formula = Revenues ~ 1 + number_of_errors + facebook + pinterest +
##     youtube + Flesh_Mesaure + Sentences + X8x15 + X44x556 + X800x1200 +
##     X24pxx133px + X46x214 + X50x45 + X292pxx292px + X115x223 +
##     X15x12 + .bmp + .jpg, data = total_500_final_train)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -14.444  -7.482  -3.728   1.968  67.468
##
## Coefficients:
##                    Estimate Std. Error t value Pr(>|t|)
## (Intercept)      220.708931  10.142389  21.761  < 2e-16 ***
## number_of_errors   0.009297   0.009860   0.943 0.346575
## facebook          -2.590609   2.142461  -1.209 0.227654
## pinterest         -1.966700   3.155150  -0.623 0.533594
## youtube            5.721687   2.009439   2.847 0.004746 **
## Flesh_Mesaure     -0.028894   0.024264  -1.191 0.234779
## Sentences          0.003712   0.005628   0.660 0.510092
## X8x15            -43.592759  17.439657  -2.500 0.013026 *
## X44x556          -16.356982  20.137030  -0.812 0.417344
## X800x1200        -12.902443  16.481121  -0.783 0.434394
## X24pxx133px       -2.075224  16.689391  -0.124 0.901135
## X46x214           -9.506257  17.481911  -0.544 0.587044
```

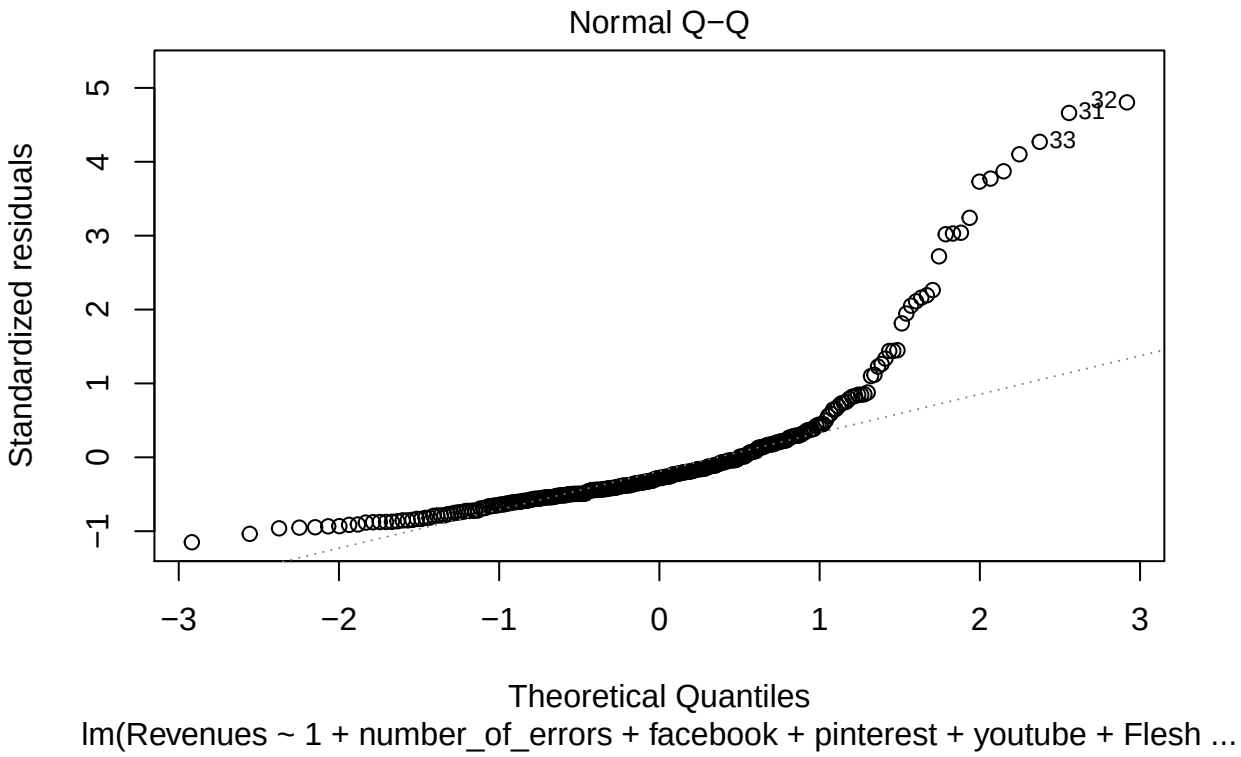
```
## X50x45           -13.137735  14.219494  -0.924 0.356351
## X292pxx292px     -20.460731  12.440363  -1.645 0.101194
## X115x223         -15.298995  16.102120  -0.950 0.342899
## X15x12           -73.307867  14.451593  -5.073  7.3e-07 ***
## .bmp               2.435106   0.619522   3.931 0.000108 ***
## .jpg               0.015724   0.020551   0.765 0.444875
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 14.14 on 270 degrees of freedom
## Multiple R-squared:  0.8405, Adjusted R-squared:  0.8304
## F-statistic: 83.67 on 17 and 270 DF,  p-value: < 2.2e-16
```

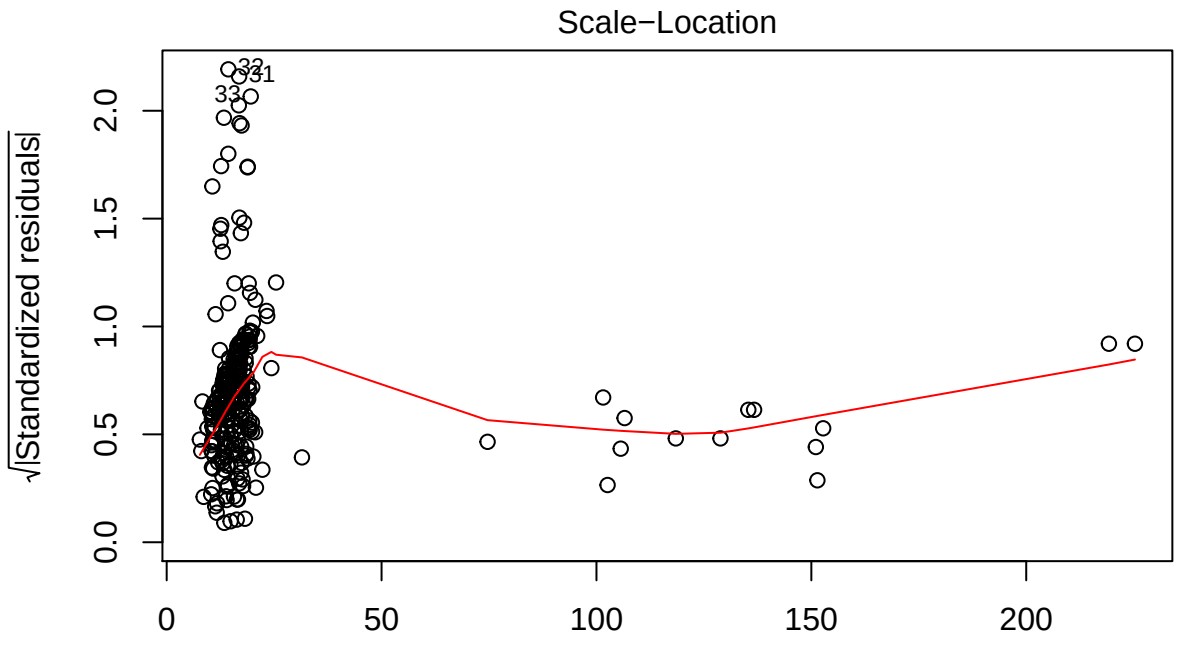
```
ad_r_sq_f3 <- summary(full_3)$adj.r.squared
aic_f3 <- AIC(full_3)
```

```
plot(full_3,which=1:3)
```

```
## Warning: not plotting observations with leverage one:
##   3, 4, 8, 17
```




Normal Q−Q
Standardized residuals
Theoretical Quantiles
lm(Revenues ~ 1 + number_of_errors + facebook + pinterest + youtube + Flesh ...
32
31
33




```
################################################
blassob <- coef(lassob, s="lambda.1se")
blassob
```

```
## 30 x 1 sparse Matrix of class "dgCMatrix"
##                                1
## (Intercept)        176.417391
## (Intercept)          .
## non.document.error   .
## number_of_errors     .
## number_of_warning    .
## facebook             .
## instagram            .
## linkedin             .
## pinterest            .
## twitter              .
## youtube              .
## Flesh_Mesaure        .
## Readability          .
## Sentences            .
## Unique.words         .
## Words                .
## external             .
## internal             .
## X8x15             -15.418145
## X44x556           -21.240420
## X800x1200          -1.553671
```

```
## X24pxx133px         -2.926734
## X46x214             -9.772246
## X50x45             -10.987677
## X292pxx292px       -18.334032
## X115x223           -15.592779
## X15x12             -63.865600
## .bmp                 .
## .jpeg                .
## .jpg                 .
```

```
zblassob <- blassob[-1] * apply(x,2,sd)
zboltb <- coef (full_2) [-1] * apply (x,2,sd)
```

```
## Warning in coef(full_2)[-1] * apply(x, 2, sd): longer object length is not
## a multiple of shorter object length
```

```
s <- sum(abs(zblassob))/sum(abs(zboltb))
s
```

```
## [1] 0.005413772
```

```
#The model based on the lasso method by taking the lambda.1se is the null model only with the intercept
```

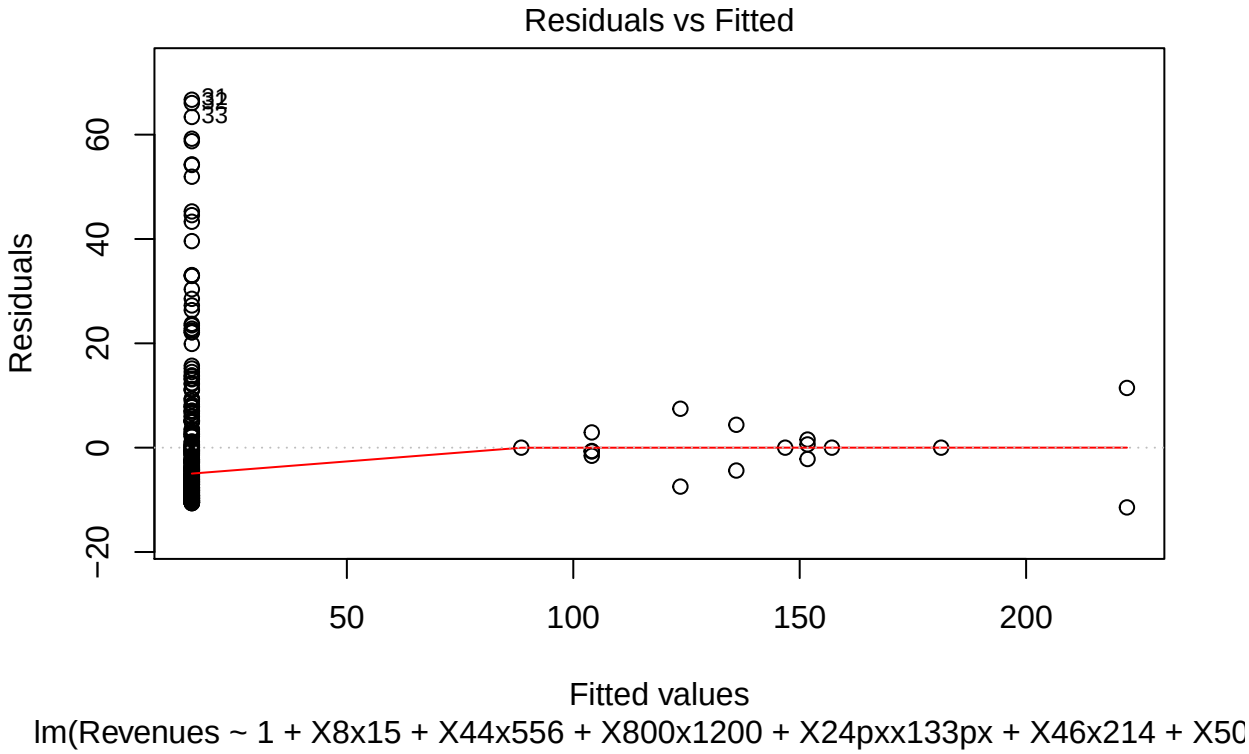
```
full_4 <- lm(Revenues~1 +X8x15  +X44x556 +X800x1200 +X24pxx133px +X46x214 +X50x45 +X292pxx292px +X115x2
summary(full_4)
```

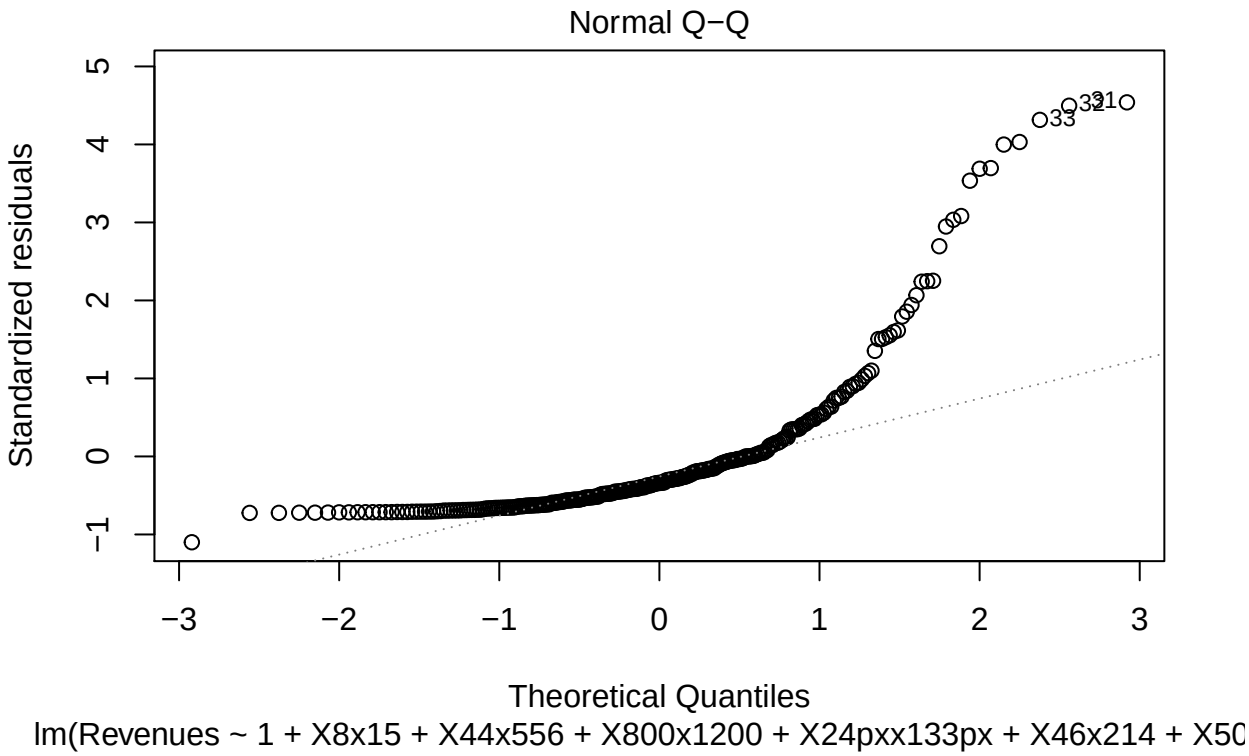
```
##
## Call:
## lm(formula = Revenues ~ 1 + X8x15 + X44x556 + X800x1200 + X24pxx133px +
##     X46x214 + X50x45 + X292pxx292px + X115x223 + X15x12, data = total_500_final_train)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -11.447  -8.735  -4.926   1.100  66.695
##
## Coefficients:
##              Estimate Std. Error t value Pr(>|t|)
## (Intercept)   222.268     10.408  21.356  < 2e-16 ***
## X8x15         -41.027     18.027  -2.276   0.0236 *
## X44x556       -24.134     20.816  -1.159   0.2473
## X800x1200      -5.372     16.996  -0.316   0.7522
## X24pxx133px    -4.934     16.996  -0.290   0.7718
## X46x214       -10.796     18.027  -0.599   0.5497
## X50x45        -12.346     14.719  -0.839   0.4023
## X292pxx292px  -19.575     12.747  -1.536   0.1258
## X115x223      -15.565     16.456  -0.946   0.3450
## X15x12        -72.753     14.746  -4.934 1.39e-06 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 14.72 on 278 degrees of freedom
## Multiple R-squared:  0.822,  Adjusted R-squared:  0.8162
## F-statistic: 142.6 on 9 and 278 DF,  p-value: < 2.2e-16
```

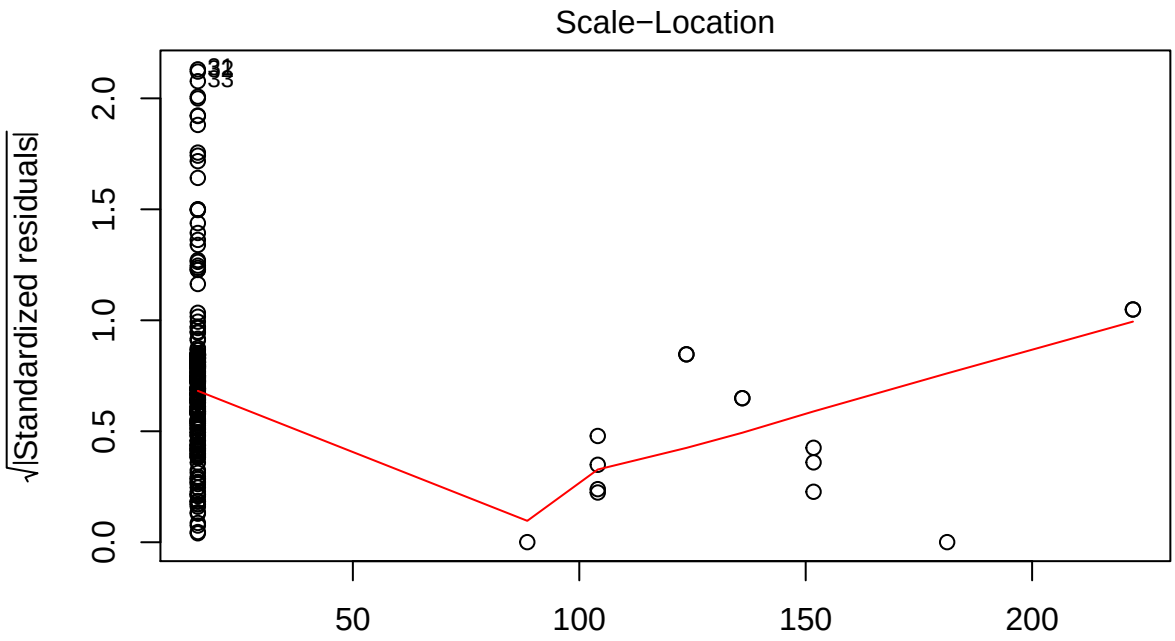
```
ad_r_sq_f4 <- summary(full_4)$adj.r.squared
aic_f4 <- AIC(full_4)
```

```
plot(full_4,which=1:3)
```

```
## Warning: not plotting observations with leverage one:
##   4, 8
```




Normal Q−Q
Standardized residuals
Theoretical Quantiles
lm(Revenues ~ 1 + X8x15 + X44x556 + X800x1200 + X24pxx133px + X46x214 + X50
−3
−2
−1
0
1
2
3
−1
0
1
2
3
4
5
31
32
33




```
################################################
#We use the "both" method to compare the full_3 model with the null model to see how many variables are
model_a <- step(model_null, scope = list(lower = model_null, upper=full_2), direction = "both")
```

```
## Start:  AIC=2037.77
## Revenues ~ 1
##
##                       Df Sum of Sq    RSS    AIC
## + X15x12               1    253735  84542 1640.4
## + X115x223             1    251468  86810 1648.0
## + X29x29               1    245941  92337 1665.8
## + X292pxx292px         1    229850 108428 1712.1
## + X400x300             1    222075 116203 1732.0
## + X50x45               1    210336 127942 1759.8
## + X46x214              1    184923 153355 1811.9
## + X24pxx133px          1    169418 168860 1839.7
## + X100x100             1    153400 184878 1865.8
## + X800x1200            1    120731 217547 1912.6
## + X44x556              1    104196 234082 1933.7
## + X8x15                1     79810 258468 1962.3
## + X15x75               1     44471 293807 1999.2
## + .jpe                 1     14156 324122 2027.5
## + .jpeg                1     13535 324743 2028.0
## + .dib                 1      7274 331004 2033.5
## + loading.time         1      5444 332834 2035.1
## + number_of_warning    1      4240 334037 2036.1
```

```
## + non.document.error  1      3575 334703 2036.7
## + youtube             1      3338 334940 2036.9
## + .bmp                1      2634 335644 2037.5
## <none>                            338278 2037.8
## + number_of_errors    1      1708 336570 2038.3
## + pinterest           1      1505 336773 2038.5
## + internal            1       907 337371 2039.0
## + .gif                1       666 337612 2039.2
## + instagram           1       646 337632 2039.2
## + linkedin            1       570 337708 2039.3
## + Readability         1       563 337715 2039.3
## + Unique.words        1       552 337726 2039.3
## + Words               1       201 338077 2039.6
## + Sentences           1       189 338089 2039.6
## + external            1       131 338147 2039.7
## + .png                1       119 338159 2039.7
## + .tiff               1       107 338171 2039.7
## + twitter             1       106 338172 2039.7
## + Flesh_Mesaure       1        54 338224 2039.7
## + .tif                1         9 338269 2039.8
## + facebook            1         7 338271 2039.8
## + .jpg                1         4 338274 2039.8
##
## Step:  AIC=1640.43
## Revenues ~ X15x12
##
##                      Df Sum of Sq    RSS    AIC
## + X44x556             1     16295  68247 1580.8
## + X800x1200           1     15259  69283 1585.1
## + X46x214             1     14900  69642 1586.6
## + X24pxx133px         1     14711  69832 1587.4
## + X8x15               1     14710  69833 1587.4
## + X100x100            1     14623  69919 1587.7
## + X50x45              1     13965  70577 1590.4
## + X400x300            1     13532  71011 1592.2
## + X292pxx292px        1     11756  72787 1599.3
## + X15x75              1      8994  75548 1610.0
## + X29x29              1      4835  79708 1625.5
## + .bmp                1      3641  80901 1629.8
## + X115x223            1      3006  81536 1632.0
## + youtube             1      1650  82892 1636.8
## + loading.time        1       908  83635 1639.3
## + .dib                1       710  83832 1640.0
## + .gif                1       599  83943 1640.4
## <none>                            84542 1640.4
## + pinterest           1       513  84030 1640.7
## + Readability         1       400  84142 1641.1
## + instagram           1       372  84171 1641.2
## + linkedin            1       332  84211 1641.3
## + .jpg                1       257  84285 1641.5
## + Flesh_Mesaure       1       243  84299 1641.6
## + number_of_errors    1       219  84324 1641.7
## + number_of_warning   1       174  84368 1641.8
## + .jpe                1       158  84384 1641.9
```

```
## + .jpeg                1       152  84390 1641.9
## + external             1        87  84455 1642.1
## + facebook             1        76  84466 1642.2
## + non.document.error   1        41  84502 1642.3
## + .png                 1        31  84511 1642.3
## + twitter              1        28  84514 1642.3
## + Sentences            1        18  84525 1642.4
## + Words                1        12  84530 1642.4
## + .tif                 1        11  84531 1642.4
## + Unique.words         1         2  84541 1642.4
## + internal             1         1  84542 1642.4
## + .tiff                1         0  84542 1642.4
## - X15x12               1    253735 338278 2037.8
##
## Step:  AIC=1580.76
## Revenues ~ X15x12 + X44x556
##
##                       Df Sum of Sq    RSS    AIC
## + X400x300             1      5982  62265 1556.3
## + X50x45               1      5558  62689 1558.3
## + X292pxx292px         1      5424  62823 1558.9
## + X46x214              1      4647  63600 1562.5
## + X24pxx133px          1      3699  64548 1566.7
## + .bmp                 1      3641  64606 1567.0
## + X100x100             1      2757  65490 1570.9
## + X29x29               1      2367  65880 1572.6
## + X115x223             1      1626  66621 1575.8
## + youtube              1      1604  66643 1575.9
## + X8x15                1      1122  67125 1578.0
## + X800x1200            1       952  67295 1578.7
## + loading.time         1       950  67297 1578.7
## + X15x75               1       947  67300 1578.7
## + .jpe                 1       730  67517 1579.7
## + .jpeg                1       691  67556 1579.8
## <none>                              68247 1580.8
## + .gif                 1       414  67833 1581.0
## + .jpg                 1       394  67853 1581.1
## + number_of_errors     1       348  67899 1581.3
## + twitter              1       286  67961 1581.5
## + linkedin             1       254  67993 1581.7
## + instagram            1       252  67995 1581.7
## + external             1       189  68058 1582.0
## + Flesh_Mesaure        1       186  68061 1582.0
## + number_of_warning    1       168  68079 1582.0
## + Readability          1       162  68085 1582.1
## + .dib                 1       144  68103 1582.2
## + pinterest            1       121  68126 1582.2
## + Sentences            1        99  68148 1582.3
## + Words                1        37  68210 1582.6
## + .tif                 1        37  68210 1582.6
## + non.document.error   1        19  68228 1582.7
## + internal             1        10  68237 1582.7
## + .png                 1         8  68239 1582.7
## + facebook             1         7  68240 1582.7
```

```
## + Unique.words        1         2  68245 1582.8
## + .tiff               1         0  68247 1582.8
## - X44x556             1     16295  84542 1640.4
## - X15x12              1    165835 234082 1933.7
##
## Step:  AIC=1556.34
## Revenues ~ X15x12 + X44x556 + X400x300
##
##                      Df Sum of Sq    RSS    AIC
## + .bmp                1      3641  58624 1541.0
## + youtube             1      1284  60981 1552.3
## + X8x15               1      1122  61143 1553.1
## + X15x75              1       947  61318 1553.9
## + loading.time        1       856  61409 1554.4
## + X46x214             1       571  61694 1555.7
## + X24pxx133px         1       486  61778 1556.1
## + .jpg                1       459  61806 1556.2
## <none>                             62265 1556.3
## + .gif                1       416  61849 1556.4
## + X100x100            1       386  61879 1556.5
## + X115x223            1       270  61995 1557.1
## + number_of_errors    1       244  62021 1557.2
## + X50x45              1       229  62036 1557.3
## + X292pxx292px        1       193  62072 1557.5
## + X29x29              1       191  62074 1557.5
## + twitter             1       172  62093 1557.5
## + X800x1200           1       160  62105 1557.6
## + Flesh_Mesaure       1       136  62129 1557.7
## + Sentences           1       115  62150 1557.8
## + Readability         1       112  62153 1557.8
## + .jpe                1       100  62165 1557.9
## + .dib                1       100  62165 1557.9
## + .jpeg               1        97  62168 1557.9
## + external            1        97  62168 1557.9
## + linkedin            1        79  62186 1558.0
## + pinterest           1        74  62191 1558.0
## + .tif                1        68  62197 1558.0
## + instagram           1        67  62198 1558.0
## + Words               1        32  62233 1558.2
## + internal            1        17  62247 1558.3
## + Unique.words        1         6  62259 1558.3
## + number_of_warning   1         2  62263 1558.3
## + facebook            1         1  62264 1558.3
## + non.document.error  1         1  62264 1558.3
## + .tiff               1         0  62265 1558.3
## + .png                1         0  62265 1558.3
## - X400x300            1      5982  68247 1580.8
## - X44x556             1      8746  71011 1592.2
## - X15x12              1     45193 107457 1711.5
##
## Step:  AIC=1540.99
## Revenues ~ X15x12 + X44x556 + X400x300 + .bmp
##
##                      Df Sum of Sq    RSS    AIC
```

```
## + X8x15                1      1122  57501 1537.4
## + youtube              1      1035  57588 1537.9
## + X15x75               1       947  57677 1538.3
## + loading.time         1       742  57882 1539.3
## + X46x214              1       571  58053 1540.2
## + X24pxx133px          1       486  58137 1540.6
## + .jpg                 1       429  58195 1540.9
## <none>                              58624 1541.0
## + .gif                 1       401  58223 1541.0
## + X100x100             1       386  58237 1541.1
## + twitter              1       321  58302 1541.4
## + X115x223             1       270  58354 1541.7
## + number_of_errors     1       232  58391 1541.8
## + X50x45               1       229  58394 1541.9
## + Sentences            1       209  58414 1542.0
## + X292pxx292px         1       193  58430 1542.0
## + X29x29               1       191  58432 1542.0
## + linkedin             1       167  58457 1542.2
## + X800x1200            1       160  58464 1542.2
## + Flesh_Mesaure        1       141  58482 1542.3
## + .jpe                 1       106  58517 1542.5
## + .jpeg                1       102  58521 1542.5
## + .dib                 1        90  58534 1542.5
## + instagram            1        87  58536 1542.6
## + Words                1        80  58544 1542.6
## + Readability          1        79  58545 1542.6
## + pinterest            1        61  58562 1542.7
## + external             1        57  58567 1542.7
## + internal             1        52  58571 1542.7
## + .tif                 1        26  58597 1542.9
## + facebook             1        11  58613 1542.9
## + number_of_warning    1         3  58620 1543.0
## + Unique.words         1         1  58623 1543.0
## + non.document.error   1         1  58623 1543.0
## + .png                 1         0  58623 1543.0
## + .tiff                1         0  58624 1543.0
## - .bmp                 1      3641  62265 1556.3
## - X400x300             1      5982  64606 1567.0
## - X44x556              1      8746  67369 1579.0
## - X15x12               1     45466 104089 1704.3
##
## Step:  AIC=1537.42
## Revenues ~ X15x12 + X44x556 + X400x300 + .bmp + X8x15
##
##                       Df Sum of Sq    RSS    AIC
## + youtube              1      1146  56355 1533.6
## + loading.time         1       601  56900 1536.4
## + X46x214              1       571  56931 1536.5
## + X24pxx133px          1       486  57015 1537.0
## + twitter              1       464  57037 1537.1
## + .jpg                 1       438  57063 1537.2
## + .gif                 1       407  57094 1537.4
## <none>                              57501 1537.4
## + X100x100             1       386  57115 1537.5
```

```
## + number_of_errors    1       273  57229 1538.0
## + X115x223            1       270  57232 1538.1
## + X15x75              1       262  57239 1538.1
## + Sentences           1       258  57243 1538.1
## + X50x45              1       229  57272 1538.3
## + linkedin            1       212  57289 1538.4
## + X292pxx292px        1       193  57308 1538.5
## + X29x29              1       191  57310 1538.5
## + Flesh_Mesaure       1       180  57322 1538.5
## + instagram           1       179  57323 1538.5
## + X800x1200           1       160  57342 1538.6
## + Readability         1       129  57372 1538.8
## + .jpe                1       106  57395 1538.9
## + .jpeg               1       102  57399 1538.9
## + Words               1       101  57400 1538.9
## + .dib                1        90  57412 1539.0
## + pinterest           1        61  57440 1539.1
## + internal            1        58  57443 1539.1
## + external            1        57  57444 1539.1
## + facebook            1        46  57456 1539.2
## + number_of_warning   1        38  57464 1539.2
## + .tif                1        26  57475 1539.3
## + Unique.words        1        11  57490 1539.4
## + non.document.error  1         1  57501 1539.4
## + .png                1         0  57501 1539.4
## + .tiff               1         0  57501 1539.4
## - X8x15               1      1122  58624 1541.0
## - X44x556             1      1150  58651 1541.1
## - .bmp                1      3641  61143 1553.1
## - X400x300            1      5982  63484 1563.9
## - X15x12              1     45466 102967 1703.2
##
## Step:  AIC=1533.62
## Revenues ~ X15x12 + X44x556 + X400x300 + .bmp + X8x15 + youtube
##
##                       Df Sum of Sq    RSS    AIC
## + loading.time         1       617  55738 1532.5
## + X46x214              1       536  55819 1532.9
## + X24pxx133px          1       486  55869 1533.1
## + X100x100             1       416  55939 1533.5
## <none>                              56355 1533.6
## + .gif                 1       389  55966 1533.6
## + X115x223             1       349  56006 1533.8
## + X29x29               1       304  56051 1534.1
## + number_of_errors     1       302  56053 1534.1
## + .jpg                 1       284  56071 1534.2
## + X50x45               1       264  56091 1534.3
## + X292pxx292px         1       261  56094 1534.3
## + X800x1200            1       255  56100 1534.3
## + Flesh_Mesaure        1       210  56145 1534.5
## + pinterest            1       200  56155 1534.6
## + X15x75               1       179  56176 1534.7
## + Sentences            1       152  56203 1534.8
## + facebook             1       138  56216 1534.9
```

```
## + .dib                1       104  56251 1535.1
## + Readability         1        97  56258 1535.1
## + .jpe                1        74  56281 1535.2
## + .jpeg               1        72  56283 1535.2
## + Words               1        62  56293 1535.3
## + twitter             1        37  56318 1535.4
## + external            1        34  56321 1535.5
## + number_of_warning   1        32  56323 1535.5
## + .tif                1        24  56331 1535.5
## + internal            1        15  56340 1535.5
## + instagram           1        10  56345 1535.6
## + .tiff               1         5  56350 1535.6
## + .png                1         2  56353 1535.6
## + Unique.words        1         1  56353 1535.6
## + linkedin            1         0  56354 1535.6
## + non.document.error  1         0  56355 1535.6
## - X44x556             1      1085  57440 1537.1
## - youtube             1      1146  57501 1537.4
## - X8x15               1      1233  57588 1537.9
## - .bmp                1      3380  59735 1548.4
## - X400x300            1      5677  62032 1559.3
## - X15x12              1     45753 102108 1702.8
##
## Step:  AIC=1532.45
## Revenues ~ X15x12 + X44x556 + X400x300 + .bmp + X8x15 + youtube +
##     loading.time
##
##                      Df Sum of Sq    RSS    AIC
## + X46x214             1       597  55141 1531.3
## + X24pxx133px         1       518  55220 1531.8
## + X100x100            1       446  55292 1532.1
## + number_of_errors    1       395  55343 1532.4
## <none>                             55738 1532.5
## + X115x223            1       384  55354 1532.5
## + .gif                1       377  55361 1532.5
## + X29x29              1       357  55381 1532.6
## + .jpg                1       353  55385 1532.6
## + X800x1200           1       332  55406 1532.7
## + Sentences           1       287  55451 1533.0
## + X50x45              1       282  55456 1533.0
## + Flesh_Mesaure       1       253  55485 1533.1
## + X292pxx292px        1       241  55497 1533.2
## + pinterest           1       193  55545 1533.5
## + Words               1       189  55549 1533.5
## + X15x75              1       180  55558 1533.5
## + .dib                1       177  55561 1533.5
## - loading.time        1       617  56355 1533.6
## + facebook            1       139  55599 1533.7
## + external            1       115  55623 1533.9
## + Readability         1        93  55645 1534.0
## + .jpe                1        76  55662 1534.1
## + .jpeg               1        75  55663 1534.1
## + internal            1        74  55664 1534.1
## + twitter             1        65  55673 1534.1
```

```
## + .tif                1        54  55684 1534.2
## + Unique.words        1        50  55688 1534.2
## + .png                1        32  55706 1534.3
## + number_of_warning   1        25  55713 1534.3
## + instagram           1        16  55722 1534.4
## + .tiff               1         8  55730 1534.4
## + linkedin            1         7  55731 1534.4
## + non.document.error  1         0  55738 1534.5
## - X8x15               1      1085  56823 1536.0
## - youtube             1      1162  56900 1536.4
## - X44x556             1      1199  56937 1536.6
## - .bmp                1      3278  59016 1546.9
## - X400x300            1      5596  61334 1558.0
## - X15x12              1     45266 101004 1701.7
##
## Step:  AIC=1531.35
## Revenues ~ X15x12 + X44x556 + X400x300 + .bmp + X8x15 + youtube +
##     loading.time + X46x214
##
##                      Df Sum of Sq    RSS    AIC
## + .gif                1       405  54736 1531.2
## + number_of_errors    1       405  54736 1531.2
## + X115x223            1       385  54756 1531.3
## <none>                             55141 1531.3
## + X29x29              1       358  54783 1531.5
## + .jpg                1       335  54806 1531.6
## + Flesh_Mesaure       1       284  54857 1531.9
## + Sentences           1       273  54868 1531.9
## + X292pxx292px        1       239  54902 1532.1
## + X15x75              1       181  54960 1532.4
## + Words               1       174  54967 1532.4
## + facebook            1       172  54969 1532.5
## - X46x214             1       597  55738 1532.5
## + .dib                1       167  54974 1532.5
## + pinterest           1       165  54976 1532.5
## + Readability         1       148  54993 1532.6
## + X800x1200           1       134  55007 1532.7
## - loading.time        1       678  55819 1532.9
## + external            1        87  55054 1532.9
## + internal            1        68  55073 1533.0
## + X100x100            1        65  55076 1533.0
## + Unique.words        1        53  55087 1533.1
## + .tif                1        51  55090 1533.1
## + twitter             1        47  55094 1533.1
## + X24pxx133px         1        37  55104 1533.2
## + X50x45              1        31  55110 1533.2
## + number_of_warning   1        21  55120 1533.2
## + instagram           1        15  55126 1533.3
## - X44x556             1       760  55901 1533.3
## + .png                1        11  55130 1533.3
## + .tiff               1         8  55133 1533.3
## + linkedin            1         7  55134 1533.3
## + .jpe                1         6  55135 1533.3
## + .jpeg               1         5  55136 1533.3
```

```
## + non.document.error  1         0  55141 1533.3
## - X8x15               1      1076  56217 1534.9
## - youtube             1      1126  56267 1535.2
## - X400x300            1      1712  56853 1538.2
## - .bmp                1      3277  58418 1546.0
## - X15x12              1     45240 100381 1701.9
##
## Step:  AIC=1531.23
## Revenues ~ X15x12 + X44x556 + X400x300 + .bmp + X8x15 + youtube +
##     loading.time + X46x214 + .gif
##
##                       Df Sum of Sq    RSS    AIC
## + number_of_errors     1       457  54279 1530.8
## <none>                              54736 1531.2
## + X115x223             1       366  54369 1531.3
## - .gif                 1       405  55141 1531.3
## + X29x29               1       355  54381 1531.3
## + .jpg                 1       353  54383 1531.4
## + Flesh_Mesaure        1       293  54443 1531.7
## + X292pxx292px         1       237  54499 1532.0
## + Sentences            1       223  54513 1532.0
## + facebook             1       200  54536 1532.2
## + .dib                 1       183  54553 1532.3
## + X15x75               1       182  54554 1532.3
## + Readability          1       154  54582 1532.4
## + Words                1       147  54589 1532.5
## - X46x214              1       625  55361 1532.5
## + pinterest            1       126  54610 1532.6
## + X800x1200            1       117  54619 1532.6
## - loading.time         1       666  55402 1532.7
## + external             1        93  54642 1532.7
## + internal             1        63  54673 1532.9
## + .tif                 1        59  54677 1532.9
## + X24pxx133px          1        45  54691 1533.0
## + X100x100             1        41  54695 1533.0
## + Unique.words         1        40  54696 1533.0
## - X44x556              1       726  55462 1533.0
## + .png                 1        36  54700 1533.0
## + .jpe                 1        30  54706 1533.1
## + .jpeg                1        29  54707 1533.1
## + X50x45               1        28  54708 1533.1
## + twitter              1        22  54714 1533.1
## + number_of_warning    1        20  54716 1533.1
## + instagram            1        20  54716 1533.1
## + .tiff                1         6  54730 1533.2
## + non.document.error   1         6  54730 1533.2
## + linkedin             1         0  54736 1533.2
## - X8x15                1      1083  55819 1534.9
## - youtube              1      1107  55843 1535.0
## - X400x300             1      1683  56419 1538.0
## - .bmp                 1      3266  58002 1545.9
## - X15x12               1     45298 100033 1702.9
##
## Step:  AIC=1530.81
```

```
## Revenues ~ X15x12 + X44x556 + X400x300 + .bmp + X8x15 + youtube +
##     loading.time + X46x214 + .gif + number_of_errors
##
##                       Df Sum of Sq   RSS    AIC
## <none>                             54279 1530.8
## + X115x223             1       360 53919 1530.9
## + Flesh_Mesaure        1       353 53926 1530.9
## + X29x29               1       334 53945 1531.0
## - number_of_errors     1       457 54736 1531.2
## - .gif                 1       458 54736 1531.2
## + facebook             1       284 53995 1531.3
## + Readability          1       219 54060 1531.7
## + X292pxx292px         1       195 54084 1531.8
## + X15x75               1       178 54101 1531.9
## + .jpg                 1       176 54102 1531.9
## + .dib                 1       165 54114 1531.9
## + pinterest            1       138 54141 1532.1
## + X800x1200            1       134 54144 1532.1
## - X46x214              1       638 54916 1532.2
## + Sentences            1        83 54196 1532.4
## + Words                1        73 54206 1532.4
## + non.document.error   1        63 54216 1532.5
## + X100x100             1        62 54216 1532.5
## + X50x45               1        49 54230 1532.5
## + X24pxx133px          1        37 54242 1532.6
## - X44x556              1       726 55004 1532.6
## + external             1        22 54257 1532.7
## + twitter              1        15 54263 1532.7
## + .png                 1        14 54264 1532.7
## + Unique.words         1        13 54265 1532.7
## + .tif                 1        10 54269 1532.8
## + instagram            1         6 54273 1532.8
## + .tiff                1         5 54274 1532.8
## + .jpe                 1         4 54275 1532.8
## + .jpeg                1         3 54275 1532.8
## + linkedin             1         3 54276 1532.8
## + number_of_warning    1         0 54278 1532.8
## + internal             1         0 54278 1532.8
## - loading.time         1       771 55050 1532.9
## - X8x15                1      1126 55405 1534.7
## - youtube              1      1142 55421 1534.8
## - X400x300             1      1610 55888 1537.2
## - .bmp                 1      3237 57516 1545.5
## - X15x12               1     45164 99442 1703.2
```

```
summary(model_a)
```

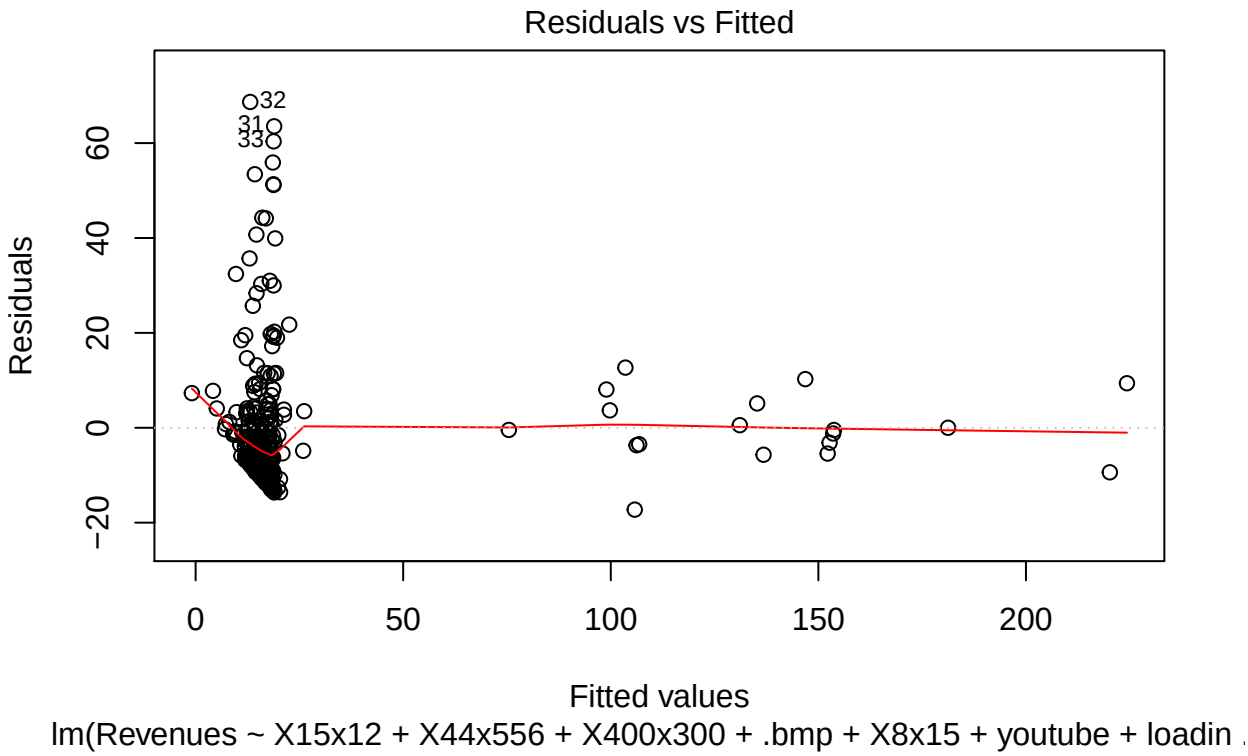
```
##
## Call:
## lm(formula = Revenues ~ X15x12 + X44x556 + X400x300 + .bmp +
##     X8x15 + youtube + loading.time + X46x214 + .gif + number_of_errors,
##     data = total_500_final_train)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
```

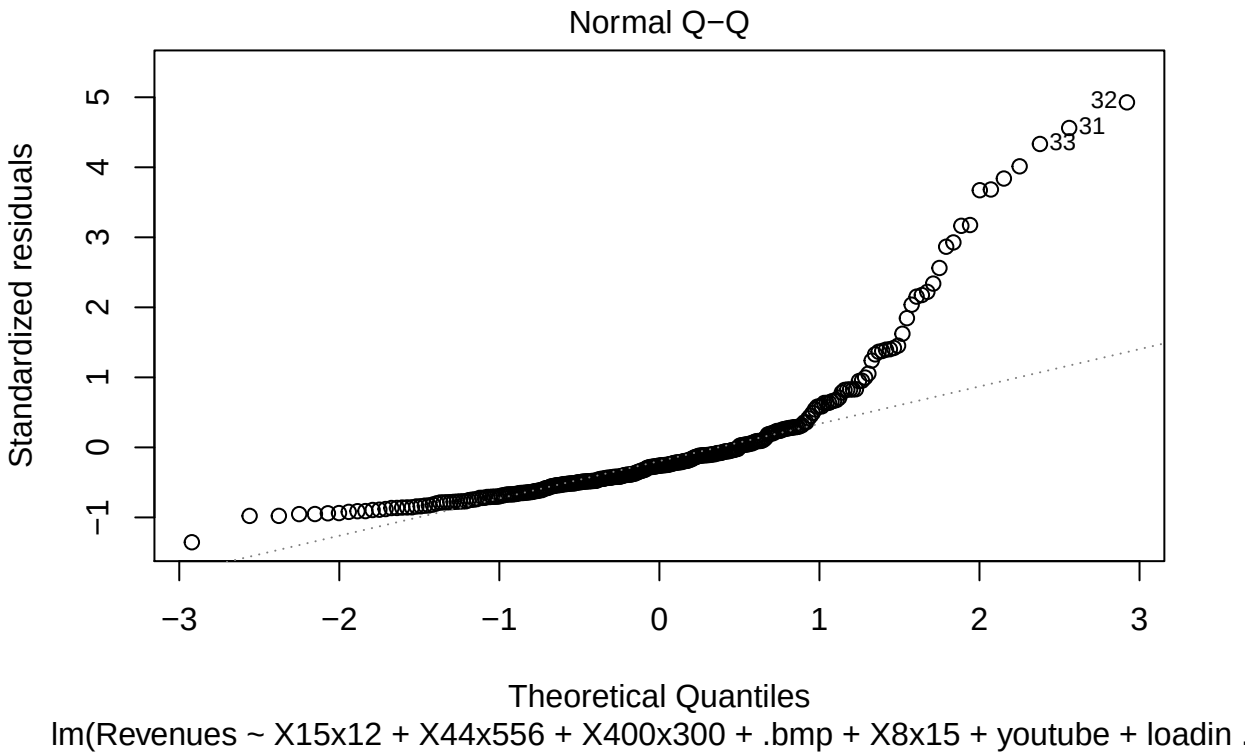
```
## -17.254  -7.695  -3.529   2.137  68.673
##
## Coefficients:
##                    Estimate Std. Error t value Pr(>|t|)
## (Intercept)      220.273625   9.934832  22.172  < 2e-16 ***
## X15x12           -87.818989   5.784528 -15.182  < 2e-16 ***
## X44x556          -29.578085  15.369922  -1.924  0.05533 .
## X400x300         -28.443747   9.923508  -2.866  0.00447 **
## .bmp               2.470545   0.607833   4.065 6.28e-05 ***
## X8x15            -41.311818  17.232973  -2.397  0.01718 *
## youtube            4.058630   1.681080   2.414  0.01641 *
## loading.time      -4.490750   2.264113  -1.983  0.04830 *
## X46x214          -18.477039  10.243269  -1.804  0.07235 .
## .gif              -0.120050   0.078556  -1.528  0.12760
## number_of_errors   0.013675   0.008952   1.528  0.12774
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 14 on 277 degrees of freedom
## Multiple R-squared:  0.8395, Adjusted R-squared:  0.8338
## F-statistic: 144.9 on 10 and 277 DF,  p-value: < 2.2e-16
```

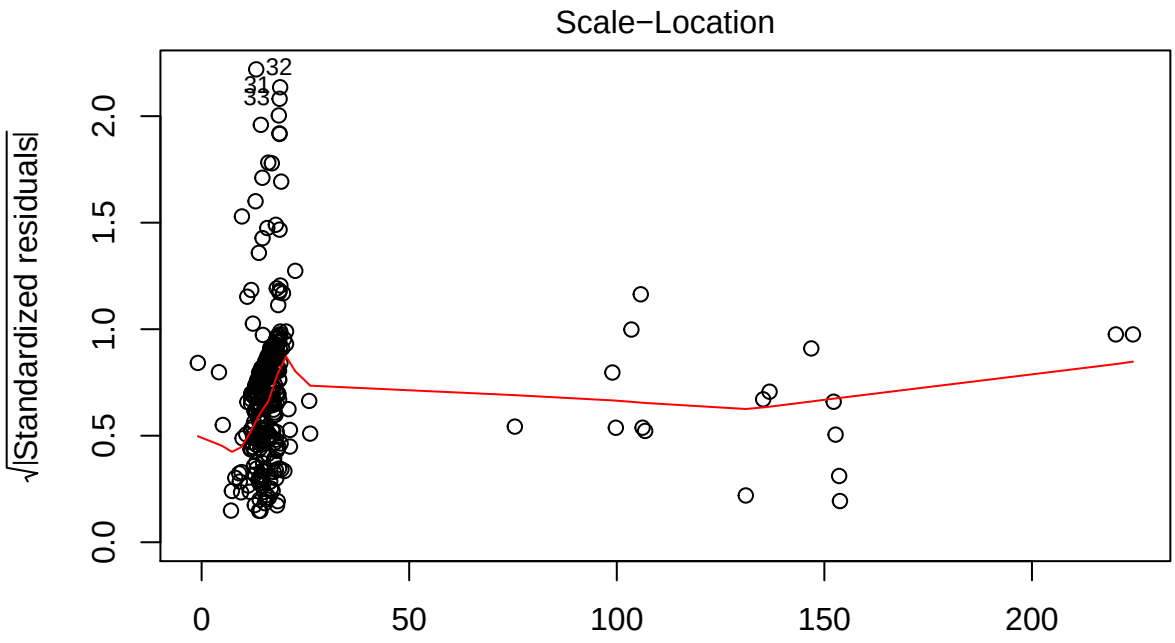
```
ad_r_sq_ma <- summary(model_a)$adj.r.squared
aic_ma <- AIC(model_a)
```

```
plot(model_a,which=1:3)
```

```
## Warning: not plotting observations with leverage one:
##   3
```


Residuals vs Fitted
Residuals
Fitted values
lm(Revenues ~ X15x12 + X44x556 + X400x300 + .bmp + X8x15 + youtube + loadin
32
31
33
60
40
20
0
−20
0
50
100
150
200


Normal Q−Q
Standardized residuals
Theoretical Quantiles
lm(Revenues ~ X15x12 + X44x556 + X400x300 + .bmp + X8x15 + youtube + loadin
32
31
33
−3
−2
−1
0
1
2
3
−1
0
1
2
3
4
5




```
#################
#We compare the Adjusted R squares of the models and also the AIC of the models we created to find the
ad_r_sq_f3
```

```
## [1] 0.830413
```

```
ad_r_sq_f4
```

```
## [1] 0.8161957
```

```
ad_r_sq_ma #BEST
```

```
## [1] 0.8337517
```

```
#The best Adkusted R square is the one in model a (the closer to 1 the better)
aic_f3
```

```
## [1] 2362.474
```

```
aic_f4
```

```
## [1] 2378.069
```

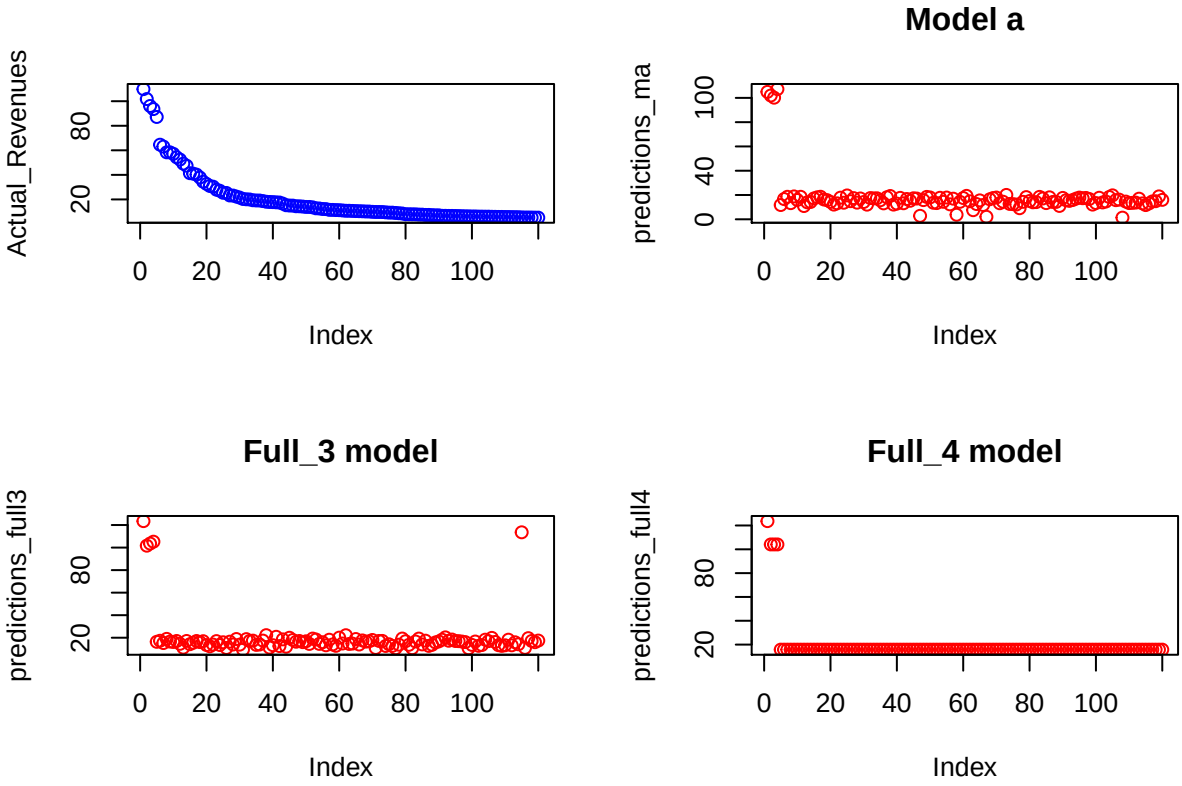
```
aic_ma #Best
```

```
## [1] 2350.119
```

```
#The best AIC and the best Adjusted R square is for model ma
```

```
#################################################################################################################
par(mfrow=c(2,2))
```

```
Actual_Revenues<- total_500_final_test$Revenues
plot (Actual_Revenues, col = "blue")
########################################
predictions_ma <- predict(model_a,total_500_final_test)
plot (predictions_ma, col = "Red",main = "Model a")
#####################################
predictions_full3 <- predict(full_3,total_500_final_test)
plot (predictions_full3, col = "Red",main = "Full_3 model")
#####################################
predictions_full4 <- predict(full_4,total_500_final_test)
plot (predictions_full4, col = "Red",main = "Full_4 model")
```




```
#####################################
#From the plots above we can see that the actual Revenues have a more smooth way of leveling up except
#The prediction model that is more smooth is the model a which has as we said before the best Adjusted
```

```
names(total_500_final_train)
```

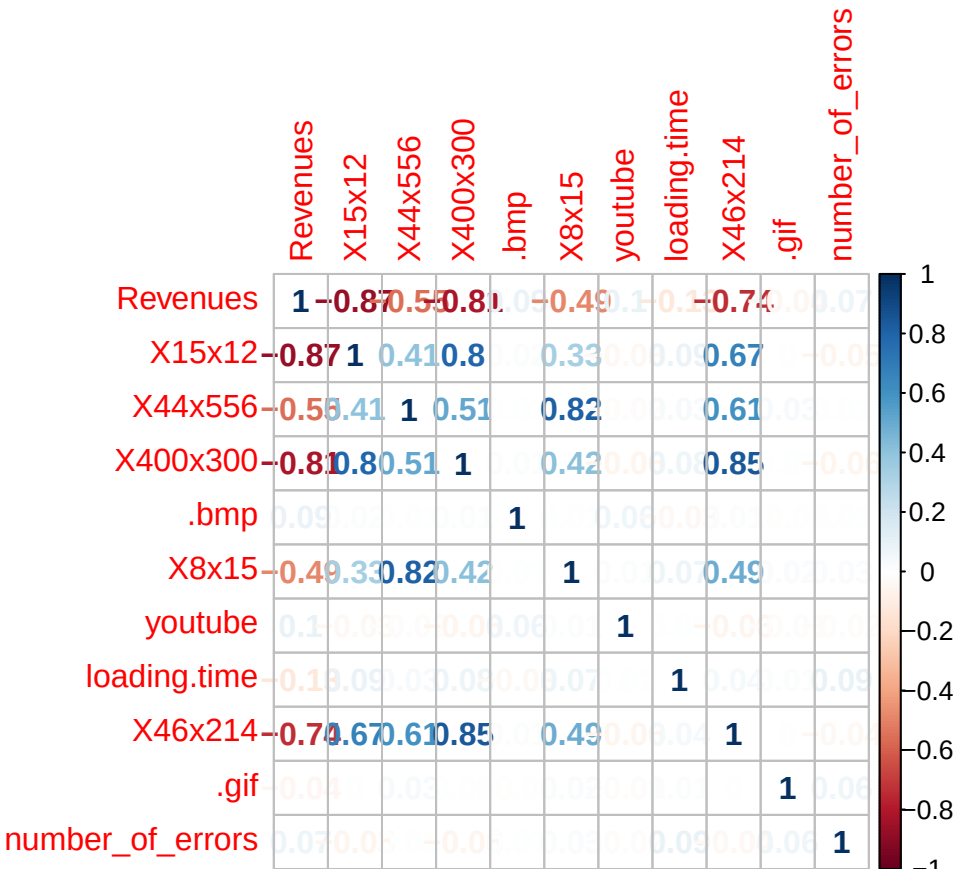
```
##  [1] "Revenues"           "non.document.error" "number_of_errors"
##  [4] "number_of_warning"  "facebook"           "instagram"
##  [7] "linkedin"           "pinterest"          "twitter"
## [10] "youtube"            "Flesh_Mesaure"      "Readability"
## [13] "Sentences"          "Unique.words"       "Words"
## [16] "external"           "internal"           "total.links"
## [19] "X15x75"             "X8x15"              "X44x556"
## [22] "X1x1"               "X800x1200"          "X100x100"
## [25] "X24pxx133px"        "X21pxx173px"        "X46x214"
```

```
## [28] "X49x49"             "X50x45"             "X400x300"
## [31] "X292pxx292px"       "X200pxx200px"       "X1279pxx984px"
## [34] "X300pxx1500px"      "X29x29"             "X115x223"
## [37] "X160x233"           "X300x993"           "X41x192"
## [40] "X28x221"            "X15x12"             "X60x60"
## [43] ".bmp"               ".dib"               ".gif"
## [46] ".jpe"               ".jpeg"              ".jpg"
## [49] ".png"               ".tif"               ".tiff"
## [52] "total.images"       "loading.time"
```

```
par(mfrow=c(1,1))
total_500_final_reg <- total_500_final_train[,c(1,41,21,30,43,20,10,53,27,45,3)]
cor(total_500_final_reg)
```

```
##                     Revenues       X15x12      X44x556     X400x300
## Revenues          1.00000000 -0.866071521 -0.554995003 -0.810238376
## X15x12           -0.86607152  1.000000000  0.409636250  0.795640062
## X44x556          -0.55499500  0.409636250  1.000000000  0.514851212
## X400x300         -0.81023838  0.795640062  0.514851212  1.000000000
## .bmp              0.08823686  0.017894718  0.007330325  0.014237755
## X8x15            -0.48572735  0.333881354  0.815067889  0.419638691
## youtube           0.09933975 -0.034098547 -0.018043770 -0.059515452
## loading.time     -0.12686096  0.086897868  0.030631302  0.079596684
## X46x214          -0.73936498  0.674879385  0.606976979  0.848221975
## .gif             -0.04436402  0.002618064  0.030679347  0.008558755
## number_of_errors  0.07106309 -0.052737836  0.005969412 -0.058134366
##                           .bmp        X8x15     youtube loading.time
## Revenues          0.088236861 -0.485727351  0.09933975  -0.12686096
## X15x12            0.017894718  0.333881354 -0.03409855   0.08689787
## X44x556           0.007330325  0.815067889 -0.01804377   0.03063130
## X400x300          0.014237755  0.419638691 -0.05951545   0.07959668
## .bmp              1.000000000  0.005974713  0.06081623  -0.03202094
## X8x15             0.005974713  1.000000000  0.01353035   0.07305785
## youtube           0.060816230  0.013530346  1.00000000   0.00711365
## loading.time     -0.032020942  0.073057846  0.00711365   1.00000000
## X46x214           0.012076776  0.494727445 -0.05826545   0.04051586
## .gif             -0.006020021  0.022359056 -0.01420548   0.01202806
## number_of_errors  0.005372103  0.026722692 -0.01898525   0.09290871
##                       X46x214          .gif number_of_errors
## Revenues         -0.7393649844 -0.0443640226      0.071063094
## X15x12            0.6748793854  0.0026180642     -0.052737836
## X44x556           0.6069769787  0.0306793475      0.005969412
## X400x300          0.8482219754  0.0085587551     -0.058134366
## .bmp              0.0120767763 -0.0060200206      0.005372103
## X8x15             0.4947274449  0.0223590563      0.026722692
## youtube          -0.0582654543 -0.0142054765     -0.018985254
## loading.time      0.0405158629  0.0120280632      0.092908709
## X46x214           1.0000000000 -0.0009473611     -0.038355173
## .gif             -0.0009473611  1.0000000000      0.062343582
## number_of_errors -0.0383551731  0.0623435816      1.000000000
```

```
corrplot(cor(total_500_final_reg),method="number")
```




```
#We can see here that the variable x8x15 has a very high correlation with the variable x44x556 and also
```

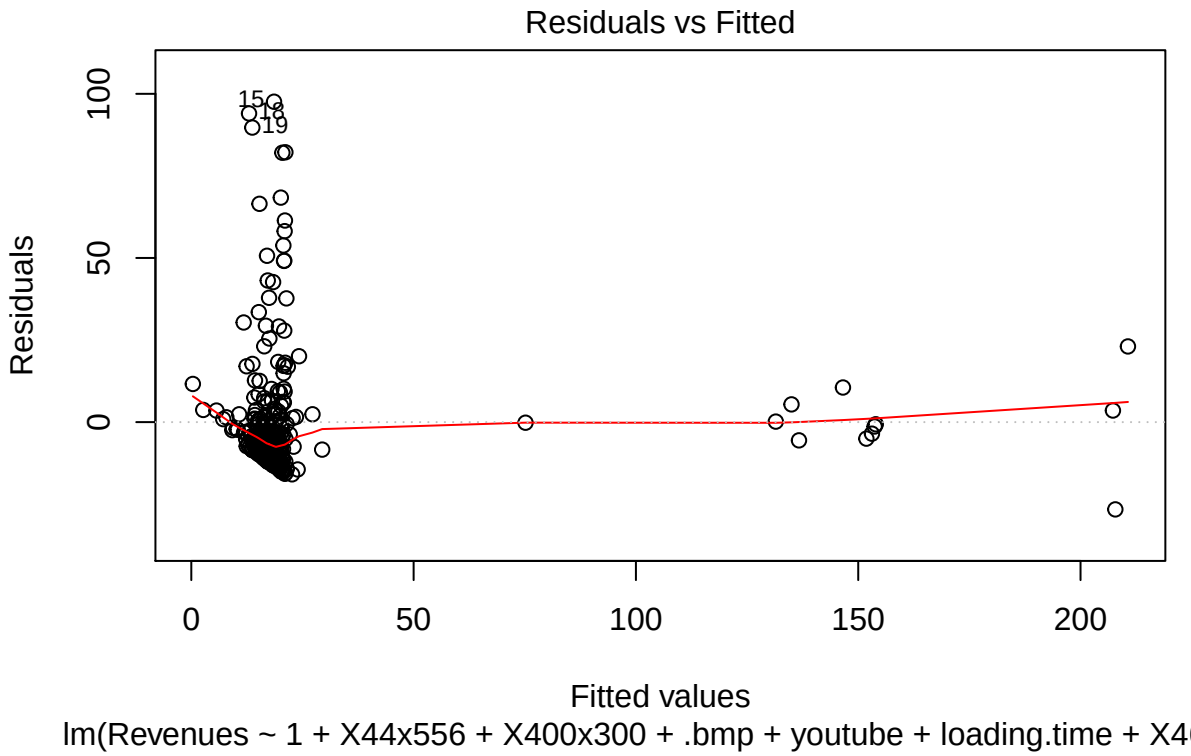
```
#So we can try creating a new model excluding the 2 variables that are correlated from each pair to see
full_5 <- lm(Revenues~1 +X44x556 +X400x300 + .bmp + youtube +loading.time + X46x214 + .gif + number_of_
summary(full_5)
```

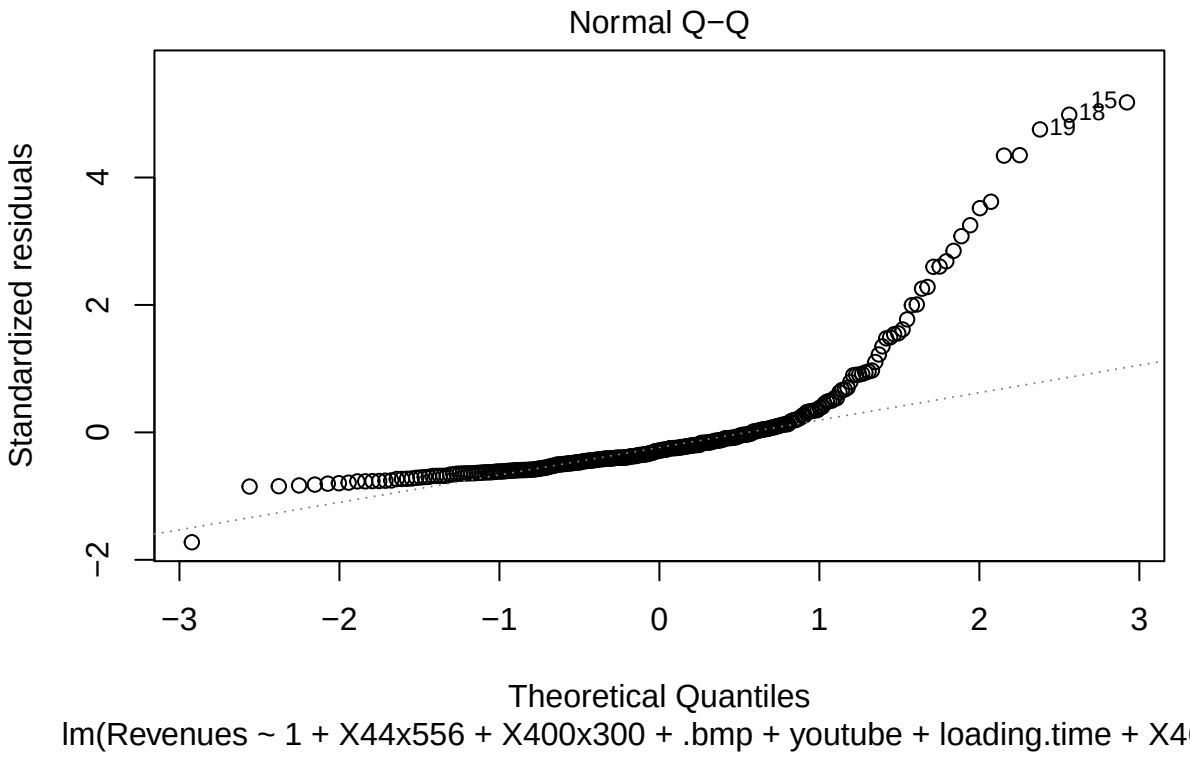
```
##
## Call:
## lm(formula = Revenues ~ 1 + X44x556 + X400x300 + .bmp + youtube +
##     loading.time + X46x214 + .gif + number_of_errors, data = total_500_final_train)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -26.584  -9.736  -5.298   0.999  97.593
##
## Coefficients:
##                   Estimate Std. Error t value Pr(>|t|)
## (Intercept)       207.33952   11.08956  18.697  < 2e-16 ***
## X44x556           -57.05604   13.88428  -4.109 5.22e-05 ***
## X400x300         -113.81359   11.08164 -10.270  < 2e-16 ***
## .bmp                2.37017    0.82413   2.876  0.00434 **
## youtube             3.34344    2.27623   1.469  0.14300
## loading.time       -6.30802    3.05772  -2.063  0.04004 *
## X46x214           -18.96451   13.88890  -1.365  0.17321
## .gif               -0.11152    0.10651  -1.047  0.29600
## number_of_errors    0.01489    0.01213   1.227  0.22072
## ---
```

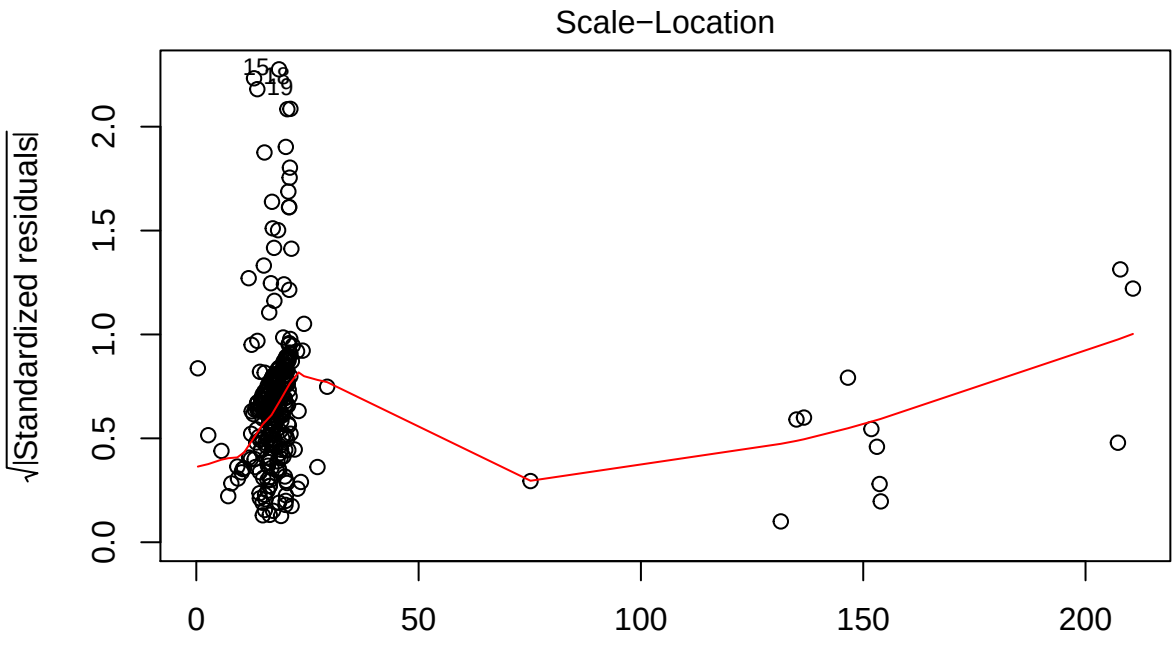
```
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 18.98 on 279 degrees of freedom
## Multiple R-squared:  0.7029, Adjusted R-squared:  0.6943
## F-statistic:  82.5 on 8 and 279 DF,  p-value: < 2.2e-16
```

```
adj_r_square_full5 <- summary(full_5)$adj.r.squared
aic_full5 <- AIC(full_5)
```

```
#We create the 2 basic plots so as to be able to explain the regression model
plot(full_5,which=1:3)
```




Normal Q−Q
Standardized residuals
Theoretical Quantiles
lm(Revenues ~ 1 + X44x556 + X400x300 + .bmp + youtube + loading.time + X46x ..
15
18
19
−3
−2
−1
0
1
2
3
−2
0
2
4




```
ad_r_sq_ma
```

```
## [1] 0.8337517
```

```
adj_r_square_full5
```

```
## [1] 0.6943474
```

```
aic_ma
```

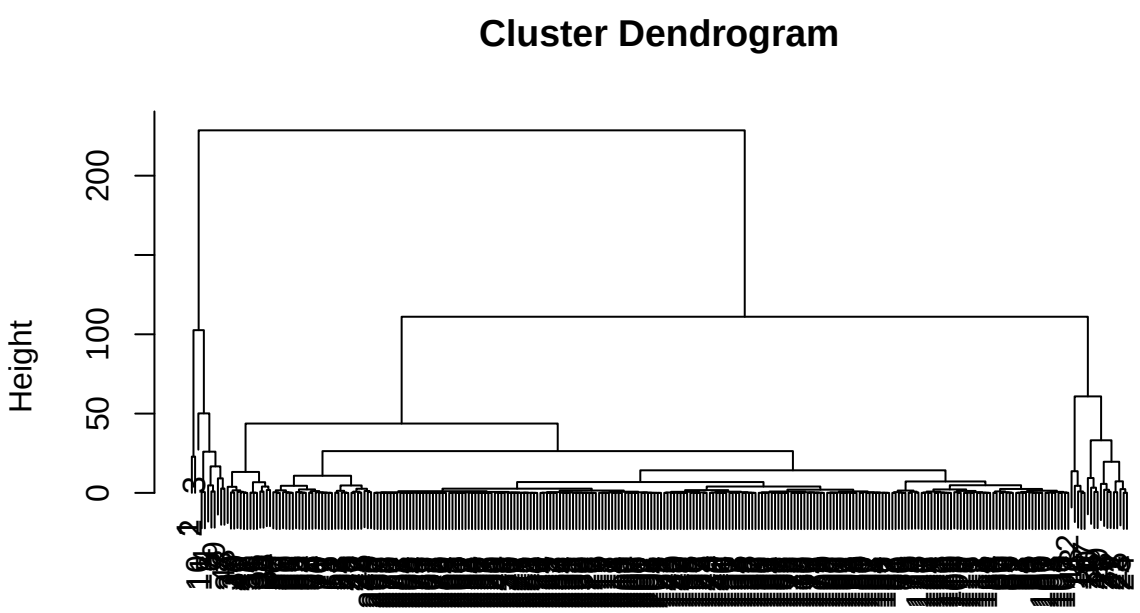
```
## [1] 2350.119
```

```
aic_full5
```

```
## [1] 2523.573
```

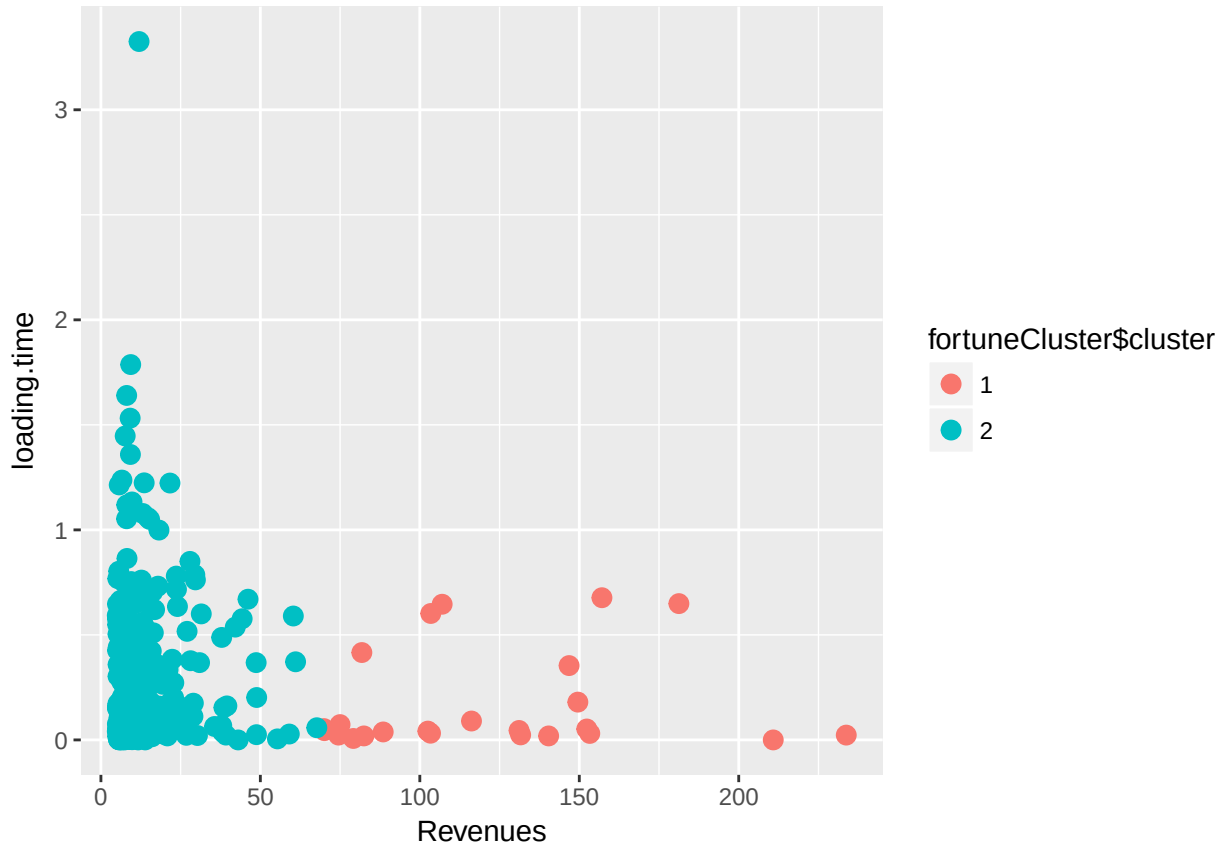
```
#The adjusted R square and the aic are a little worse than before
```

```
#############################################################################################################
#############################################################################################################
#Clustering
#Kmeans clustering
#Based on those results we will try to cluster the companies based on the results of the regression
set.seed(220)
clusters <- hclust(dist(total_500_final_reg[, 1]))
plot(clusters)
```

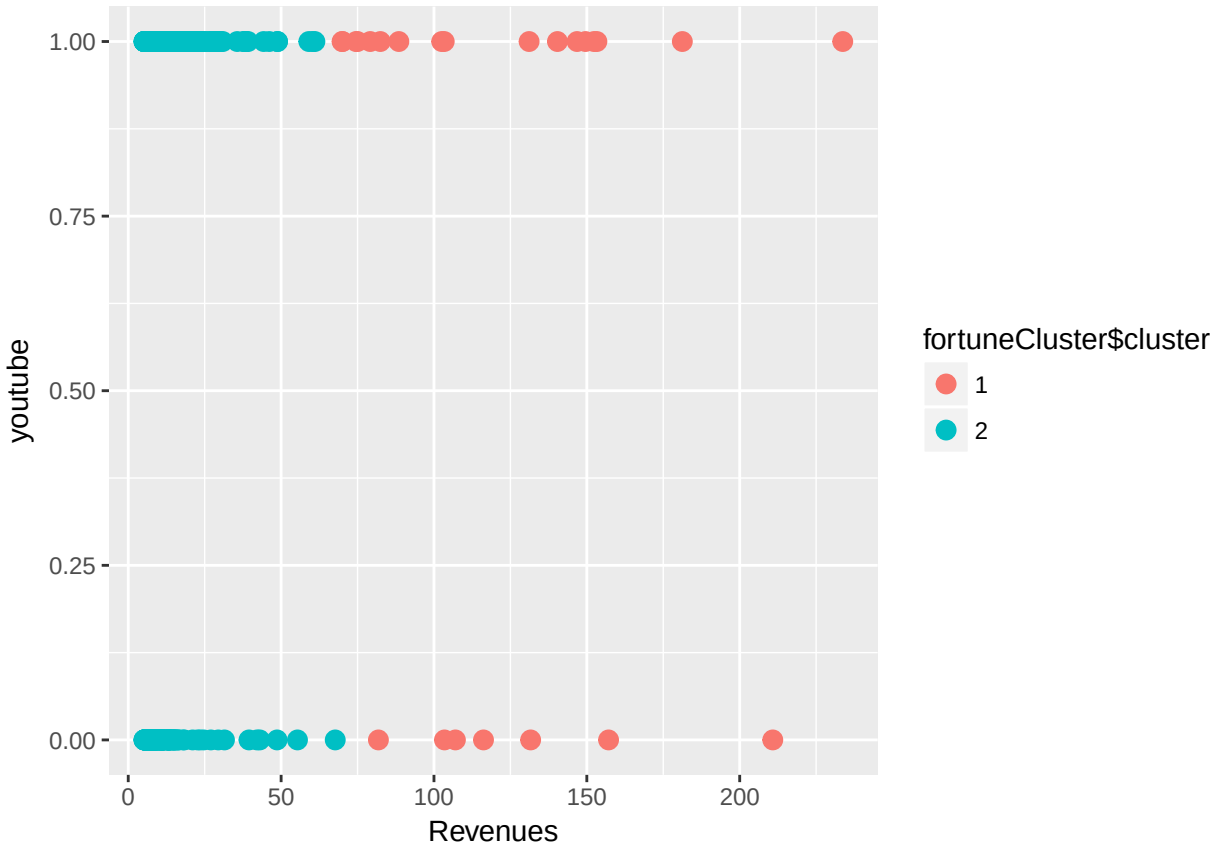



```
fortuneCluster <- kmeans(total_500_final_reg[, 1], 2, iter.max = 500,nstart = 1)
cluster <- table(fortuneCluster$cluster)
fortuneCluster$cluster <- as.factor(fortuneCluster$cluster)
```

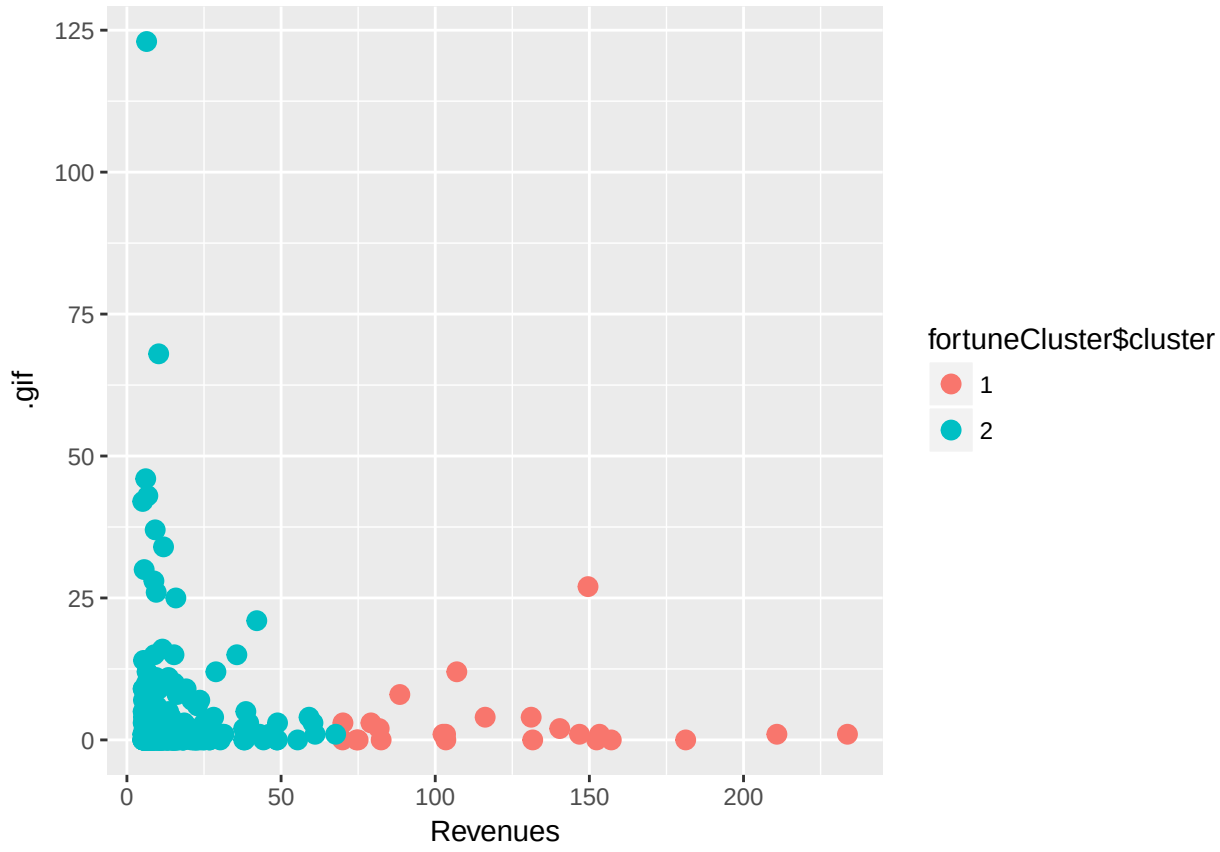
```
ggplot(total_500_final_reg, aes(Revenues, loading.time, color = fortuneCluster$cluster)) + geom_point(si
```



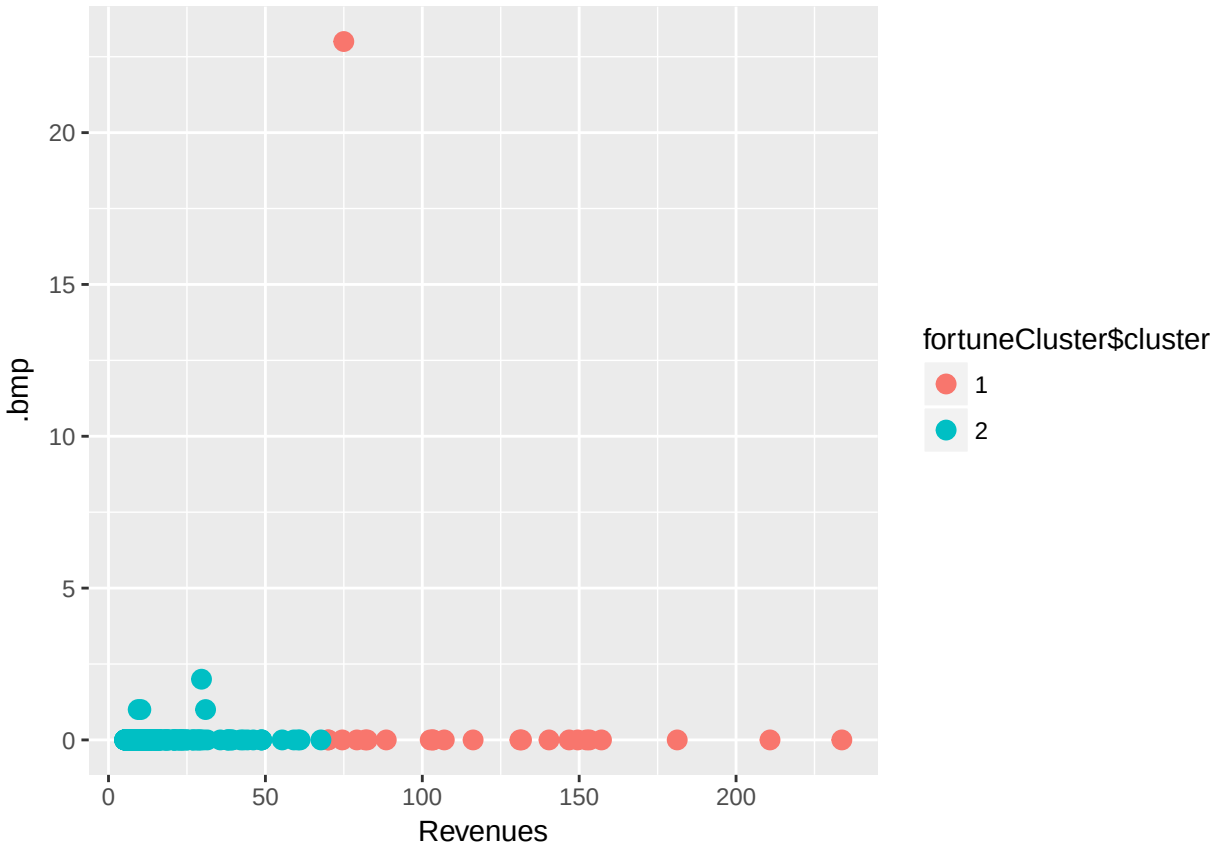

```
ggplot(total_500_final_reg, aes(Revenues, youtube, color = fortuneCluster$cluster)) + geom_point(size=3)
```



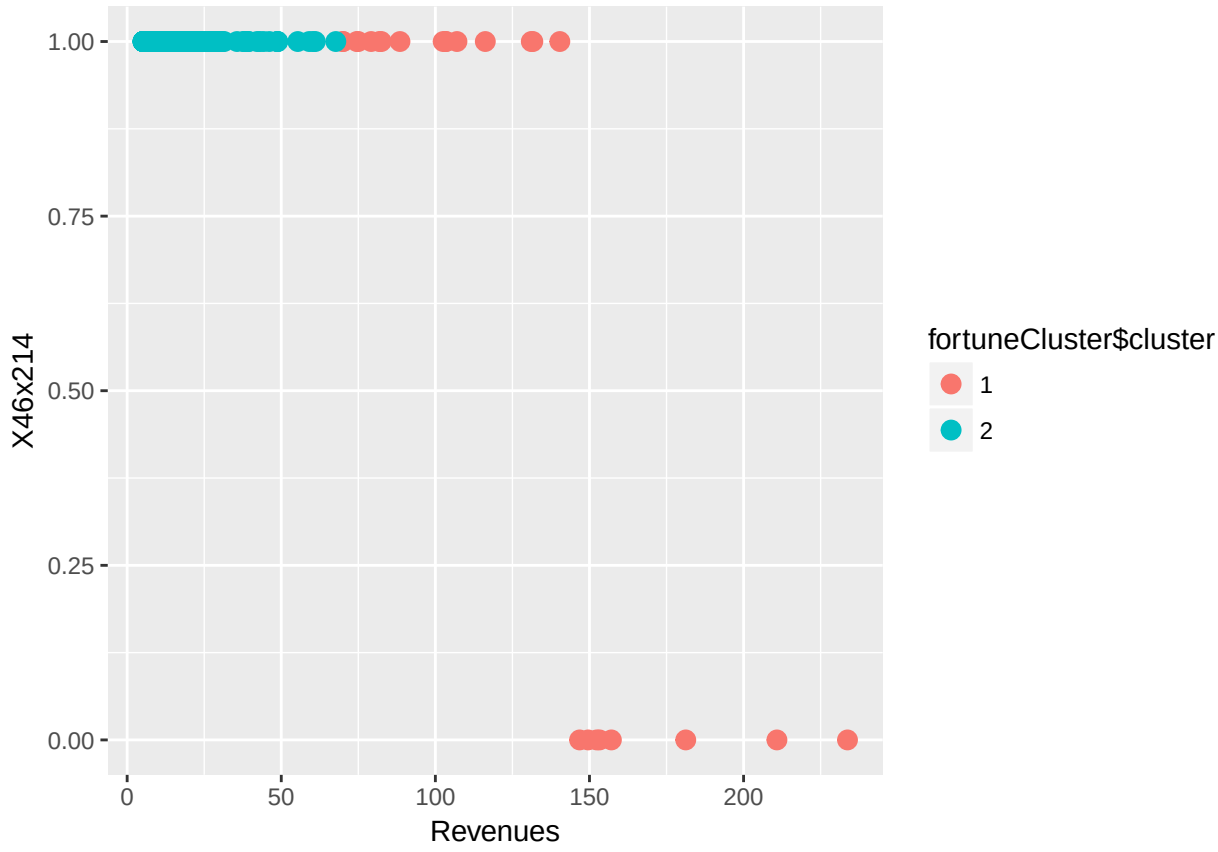

```
ggplot(total_500_final_reg, aes(Revenues, .gif, color = fortuneCluster$cluster)) + geom_point(size=3)
```



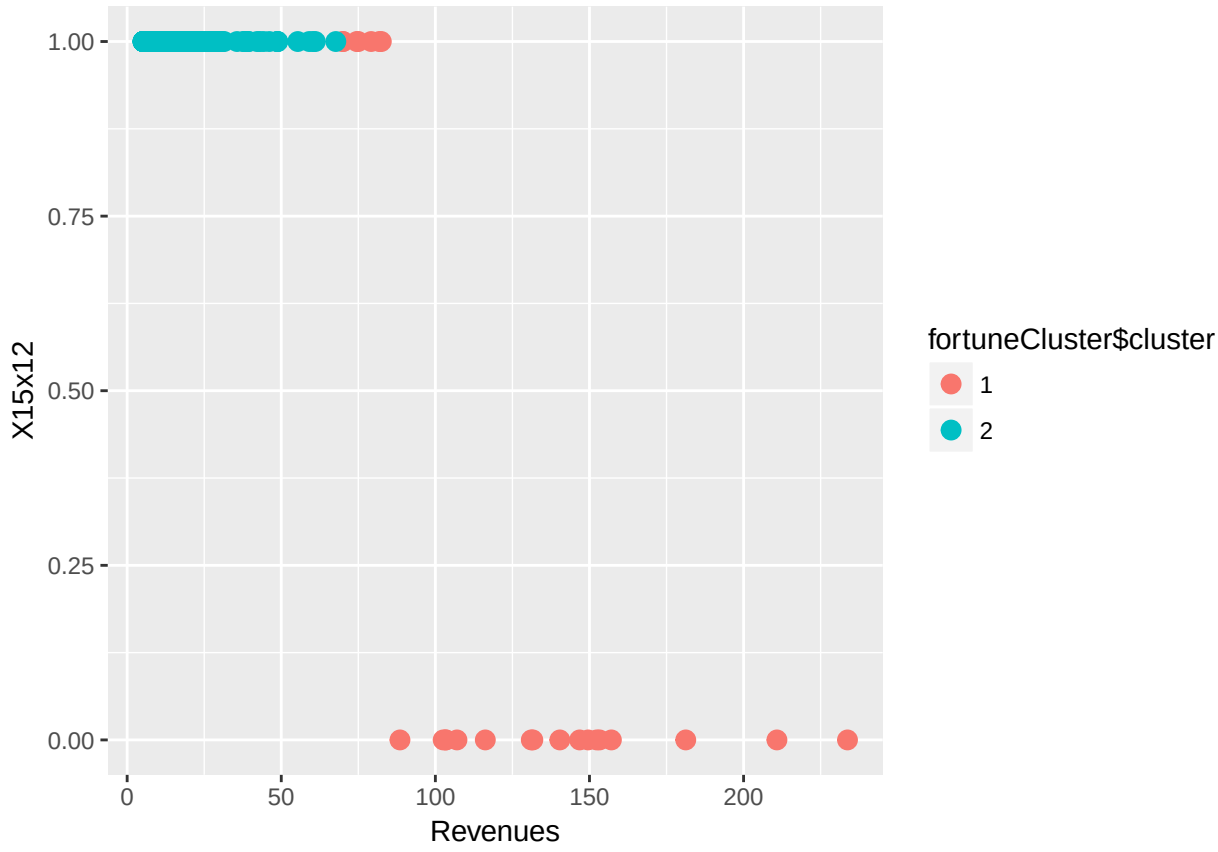

```
ggplot(total_500_final_reg, aes(Revenues, .bmp, color = fortuneCluster$cluster)) + geom_point(size=3)
```



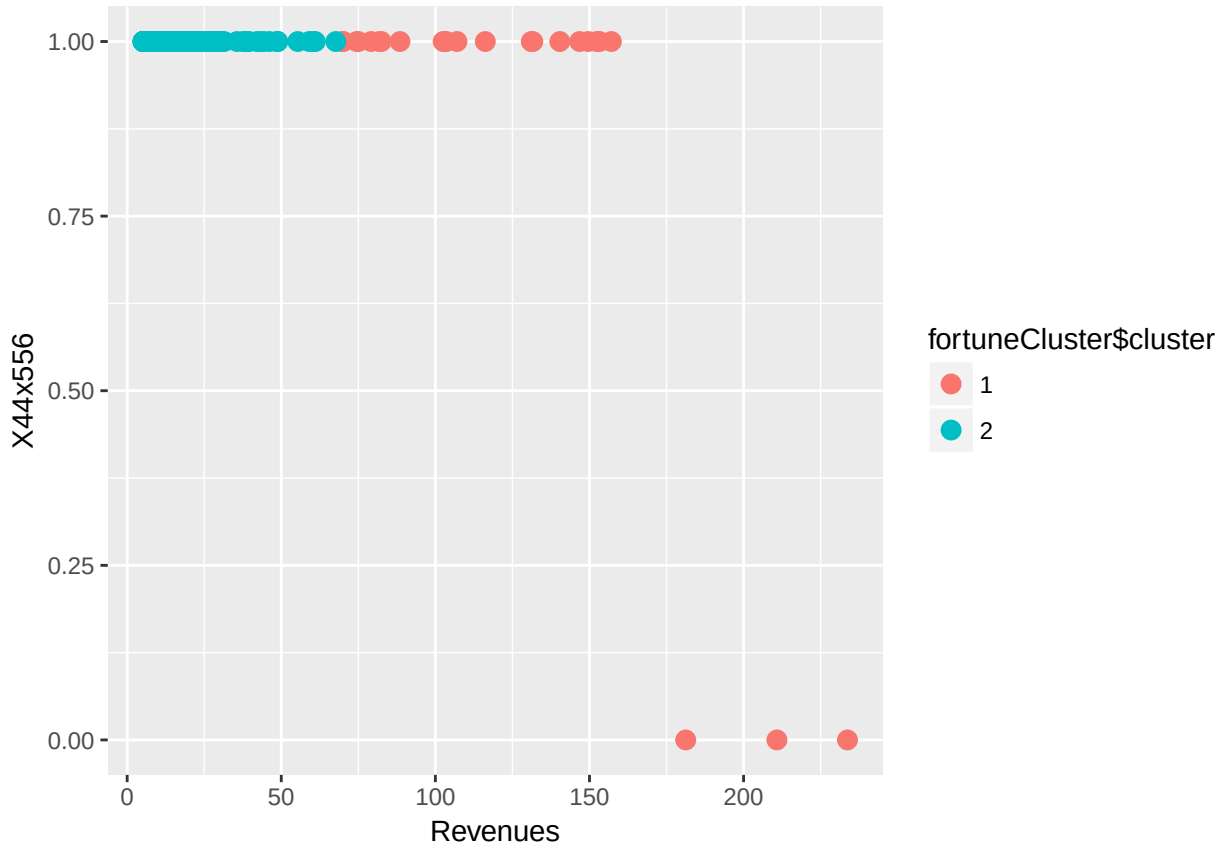

```
ggplot(total_500_final_reg, aes(Revenues, X46x214, color = fortuneCluster$cluster)) + geom_point(size=3)
```



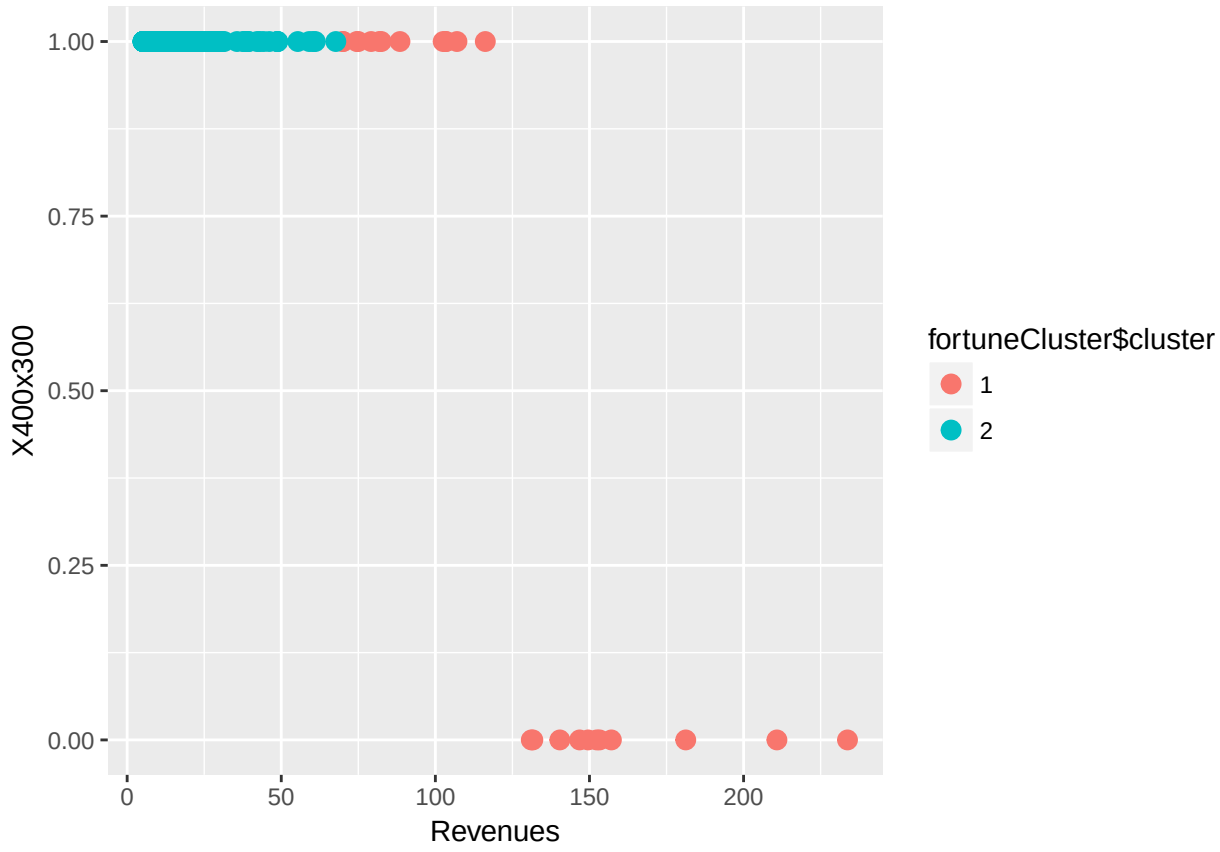

```
ggplot(total_500_final_reg, aes(Revenues, X15x12, color = fortuneCluster$cluster)) + geom_point(size=3)
```



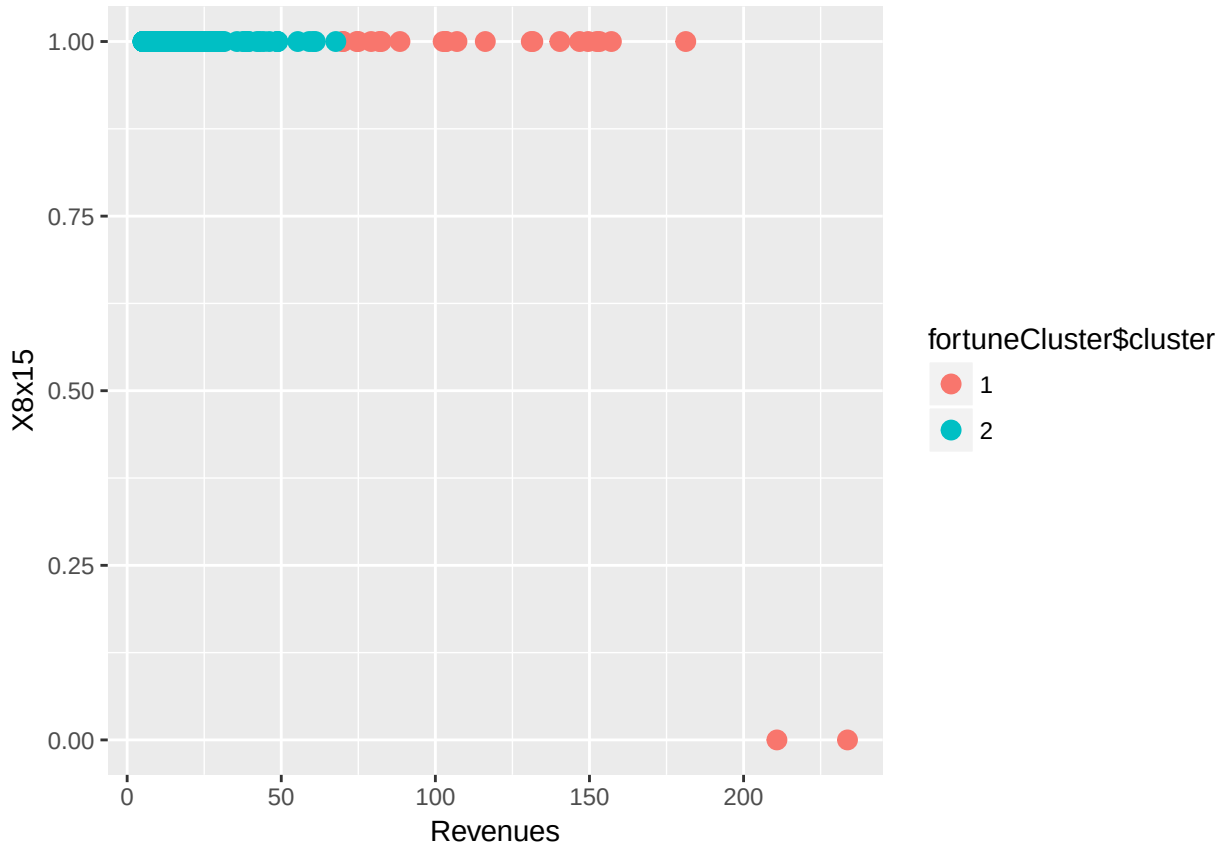

```
ggplot(total_500_final_reg, aes(Revenues, X44x556, color = fortuneCluster$cluster)) + geom_point(size=3)
```




```
ggplot(total_500_final_reg, aes(Revenues, X400x300, color = fortuneCluster$cluster)) + geom_point(size=
```




```
ggplot(total_500_final_reg, aes(Revenues, X8x15, color = fortuneCluster$cluster)) + geom_point(size=3)
```




```
#From the clustering we can see that the variables do indeed devide the most high revenues from the sma
summary(model_a)
```

```
##
## Call:
## lm(formula = Revenues ~ X15x12 + X44x556 + X400x300 + .bmp +
##     X8x15 + youtube + loading.time + X46x214 + .gif + number_of_errors,
##     data = total_500_final_train)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -17.254  -7.695  -3.529   2.137  68.673
##
## Coefficients:
##                   Estimate Std. Error t value Pr(>|t|)
## (Intercept)     220.273625   9.934832  22.172  < 2e-16 ***
## X15x12          -87.818989   5.784528 -15.182  < 2e-16 ***
## X44x556         -29.578085  15.369922  -1.924  0.05533 .
## X400x300        -28.443747   9.923508  -2.866  0.00447 **
## .bmp              2.470545   0.607833   4.065 6.28e-05 ***
## X8x15           -41.311818  17.232973  -2.397  0.01718 *
## youtube           4.058630   1.681080   2.414  0.01641 *
## loading.time     -4.490750   2.264113  -1.983  0.04830 *
## X46x214         -18.477039  10.243269  -1.804  0.07235 .
## .gif             -0.120050   0.078556  -1.528  0.12760
## number_of_errors  0.013675   0.008952   1.528  0.12774
```

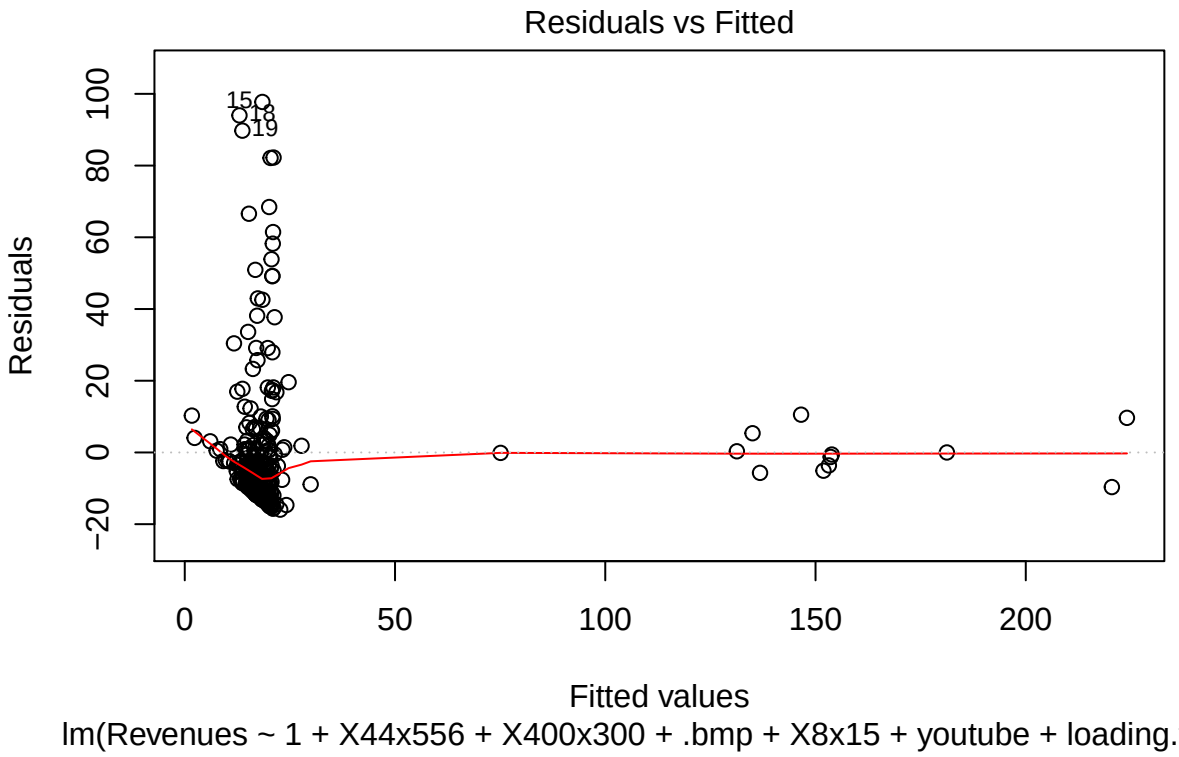
```
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 14 on 277 degrees of freedom
## Multiple R-squared:  0.8395, Adjusted R-squared:  0.8338
## F-statistic: 144.9 on 10 and 277 DF,  p-value: < 2.2e-16
```

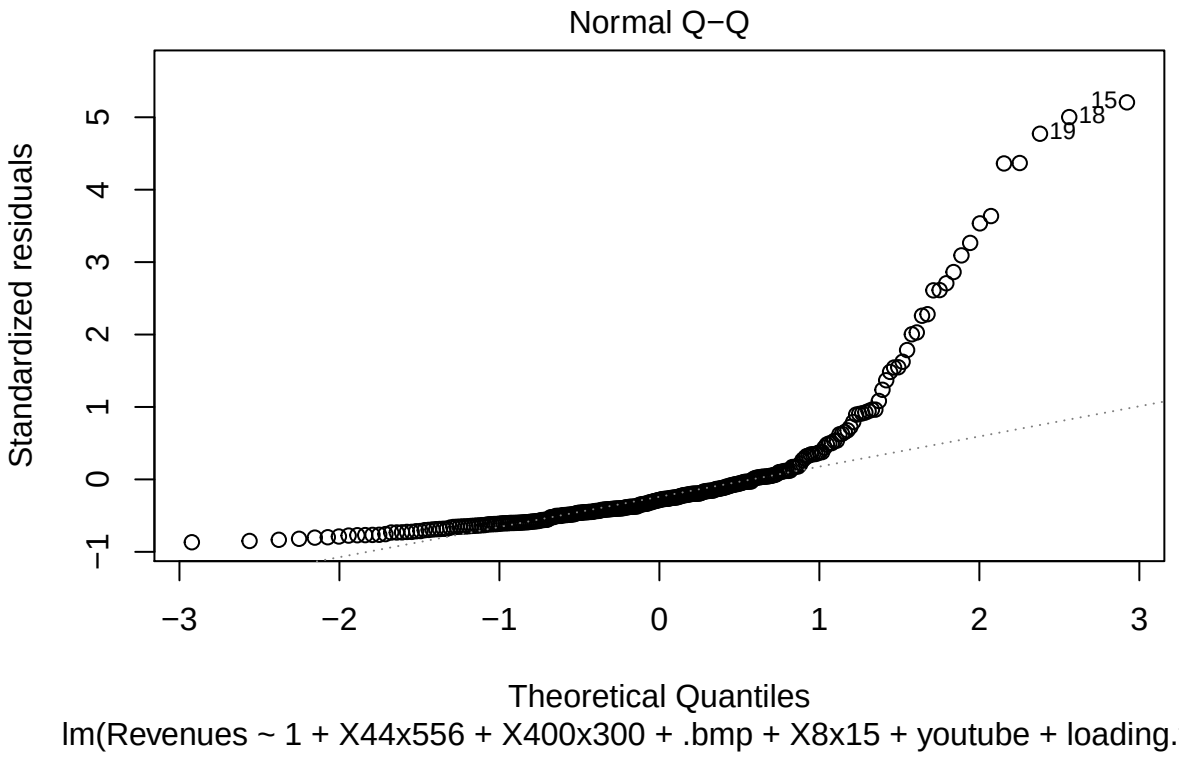
```
#We can see from the model that the basic variable that effect a companys ranking
#is whether or not it has an image in size X15x12
#We will try to make a model that we will not take into consideration this variable at all just in orde
full_6 <- lm(Revenues~1 +X44x556 +X400x300 + .bmp + X8x15+ youtube +loading.time + X46x214 + .gif + numb
summary(full_6)
```

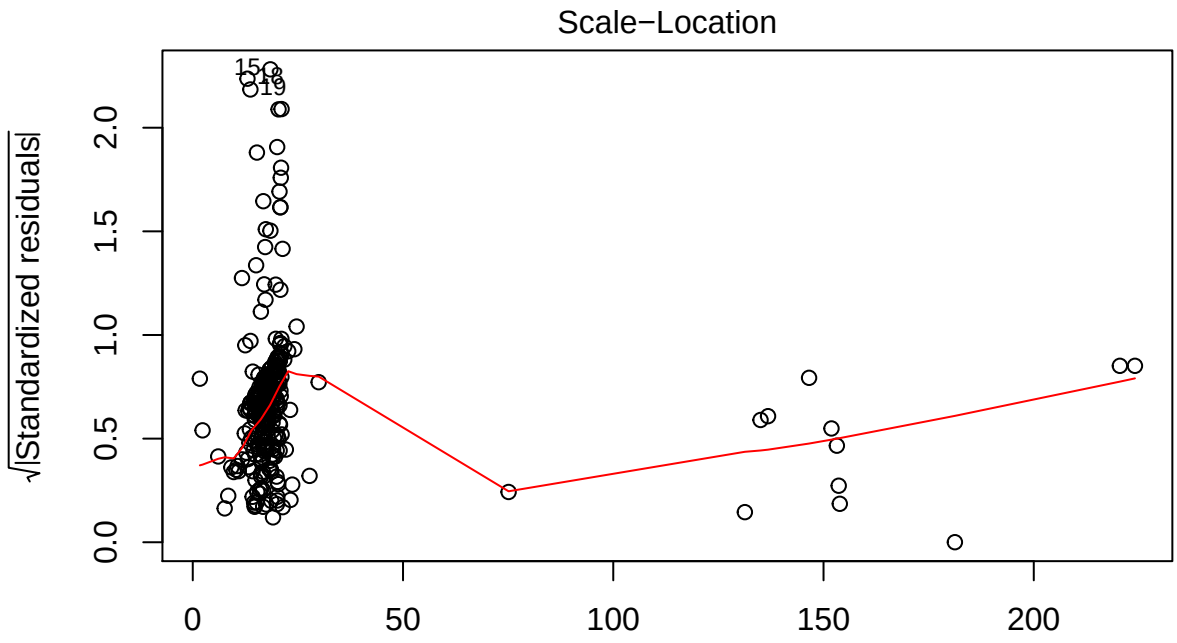
```
##
## Call:
## lm(formula = Revenues ~ 1 + X44x556 + X400x300 + .bmp + X8x15 +
##     youtube + loading.time + X46x214 + .gif + number_of_errors,
##     data = total_500_final_train)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -15.941  -9.536  -5.194   0.764  97.740
##
## Coefficients:
##                    Estimate Std. Error t value Pr(>|t|)
## (Intercept)       220.52558   13.42298  16.429  < 2e-16 ***
## X44x556           -30.25871   20.76628  -1.457  0.14622
## X400x300         -113.89510   11.04234 -10.314  < 2e-16 ***
## .bmp                2.36934    0.82120   2.885  0.00422 **
## X8x15             -40.28865   23.28336  -1.730  0.08468 .
## youtube             3.53481    2.27084   1.557  0.12070
## loading.time       -5.88761    3.05653  -1.926  0.05509 .
## X46x214           -18.85123   13.83968  -1.362  0.17426
## .gif               -0.11274    0.10614  -1.062  0.28906
## number_of_errors    0.01555    0.01209   1.285  0.19971
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 18.91 on 278 degrees of freedom
## Multiple R-squared:  0.706,  Adjusted R-squared:  0.6965
## F-statistic: 74.19 on 9 and 278 DF,  p-value: < 2.2e-16
```

```
adj_r_square_full6 <- summary(full_6)$adj.r.squared
aic_full6 <- AIC(full_6)
```

```
#We create the 2 basic plots so as to be able to explain the regression model
plot(full_6,which=1:3)
```

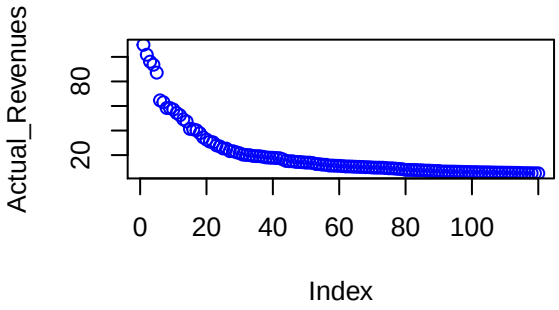

Residuals vs Fitted
Residuals
Fitted values
lm(Revenues ~ 1 + X44x556 + X400x300 + .bmp + X8x15 + youtube + loading.tim ..
15
18
19
−20
0
20
40
60
80
100
0
50
100
150
200

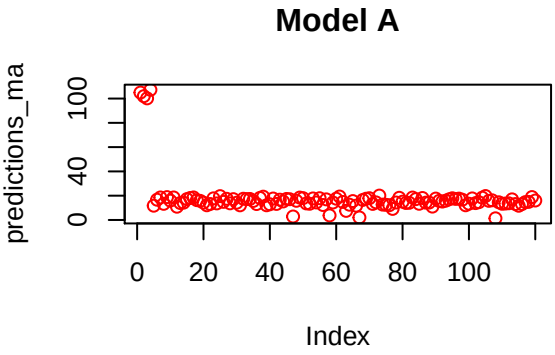

Normal Q−Q
Standardized residuals
Theoretical Quantiles
lm(Revenues ~ 1 + X44x556 + X400x300 + .bmp + X8x15 + youtube + loading.tim ..
15
18
19

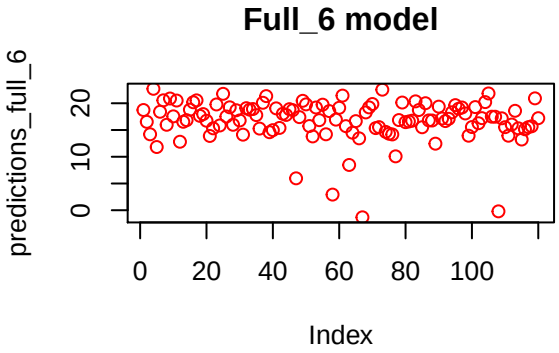



```
predictions_ma <- predict(model_a,total_500_final_test)
Actual_Revenues<- total_500_final_test$Revenues
```

```
par(mfrow=c(2,2))
plot (Actual_Revenues, col = "blue")
plot (predictions_ma, col = "Red",main = "Model A")
#####################################
predictions_full_6 <- predict(full_6,total_500_final_test)
plot (predictions_full_6, col = "Red",main = "Full_6 model")
#########################################################
```








```
#We can see that here the prediction of the new model is not as good as the previous one so now that we
summary(model_a)
```

```
##
## Call:
## lm(formula = Revenues ~ X15x12 + X44x556 + X400x300 + .bmp +
##     X8x15 + youtube + loading.time + X46x214 + .gif + number_of_errors,
##     data = total_500_final_train)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -17.254  -7.695  -3.529   2.137  68.673
##
## Coefficients:
##                   Estimate Std. Error t value Pr(>|t|)
## (Intercept)     220.273625   9.934832  22.172  < 2e-16 ***
## X15x12          -87.818989   5.784528 -15.182  < 2e-16 ***
## X44x556         -29.578085  15.369922  -1.924  0.05533 .
## X400x300        -28.443747   9.923508  -2.866  0.00447 **
## .bmp              2.470545   0.607833   4.065 6.28e-05 ***
## X8x15           -41.311818  17.232973  -2.397  0.01718 *
## youtube           4.058630   1.681080   2.414  0.01641 *
## loading.time     -4.490750   2.264113  -1.983  0.04830 *
## X46x214         -18.477039  10.243269  -1.804  0.07235 .
## .gif             -0.120050   0.078556  -1.528  0.12760
## number_of_errors  0.013675   0.008952   1.528  0.12774
```

```
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 14 on 277 degrees of freedom
## Multiple R-squared:  0.8395, Adjusted R-squared:  0.8338
## F-statistic: 144.9 on 10 and 277 DF,  p-value: < 2.2e-16
```