Ch 2 Applied 8

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Part A

```
College <- read.csv("C:/Users/Elijah/OneDrive/Homework/MATH 384/Ch 2/College.csv", header=TRUE)
View(College)
```

Getting the data from my computer

Part B

```
rownames(College) = College[,1]
College = College[,-1]
fix(College)
```

Viewing and setting up the data

Part C

i

```
summary(College)
```

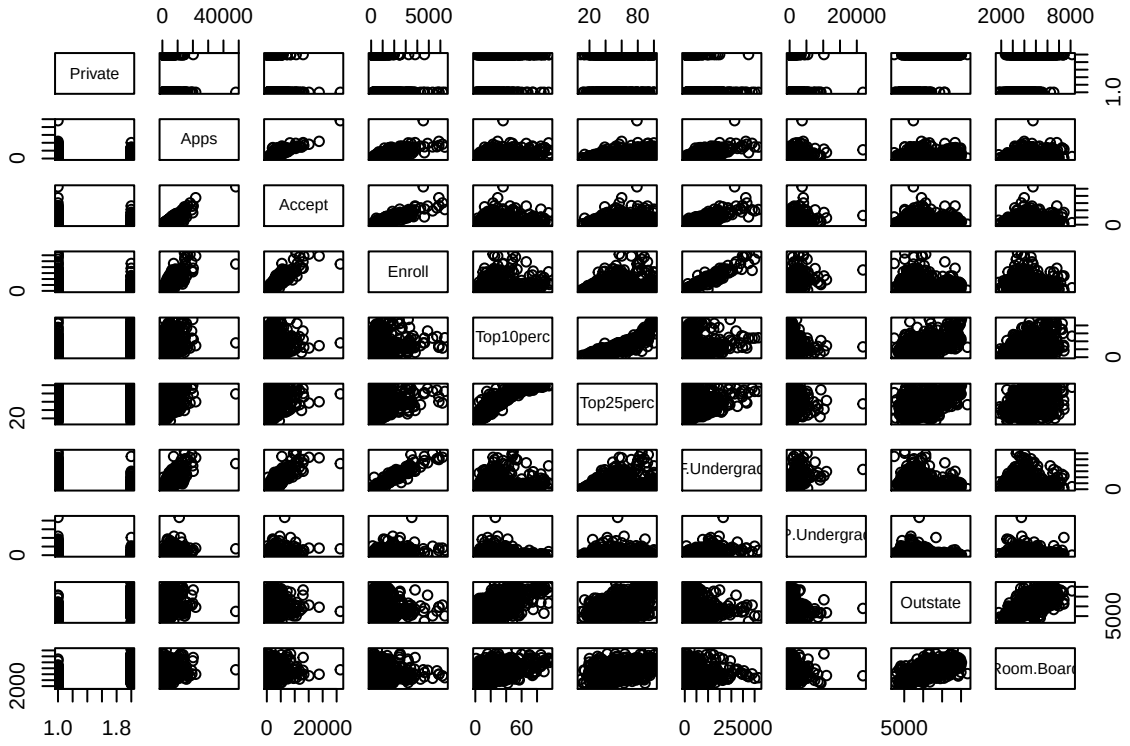
```
##  Private        Apps           Accept          Enroll       Top10perc
##  No :212   Min.   :   81   Min.   :   72   Min.   :  35   Min.   : 1.00
##  Yes:565   1st Qu.:  776   1st Qu.:  604   1st Qu.: 242   1st Qu.:15.00
##            Median : 1558   Median : 1110   Median : 434   Median :23.00
##            Mean   : 3002   Mean   : 2019   Mean   : 780   Mean   :27.56
##            3rd Qu.: 3624   3rd Qu.: 2424   3rd Qu.: 902   3rd Qu.:35.00
##            Max.   :48094   Max.   :26330   Max.   :6392   Max.   :96.00
##    Top25perc      F.Undergrad     P.Undergrad         Outstate
##  Min.   :  9.0   Min.   :  139   Min.   :    1.0   Min.   : 2340
##  1st Qu.: 41.0   1st Qu.:  992   1st Qu.:   95.0   1st Qu.: 7320
##  Median : 54.0   Median : 1707   Median :  353.0   Median : 9990
##  Mean   : 55.8   Mean   : 3700   Mean   :  855.3   Mean   :10441
##  3rd Qu.: 69.0   3rd Qu.: 4005   3rd Qu.:  967.0   3rd Qu.:12925
##  Max.   :100.0   Max.   :31643   Max.   :21836.0   Max.   :21700
##    Room.Board       Books           Personal         PhD
##  Min.   :1780   Min.   :  96.0   Min.   : 250   Min.   :  8.00
##  1st Qu.:3597   1st Qu.: 470.0   1st Qu.: 850   1st Qu.: 62.00
```

```
##  Median :4200   Median : 500.0   Median :1200   Median : 75.00
##  Mean   :4358   Mean   : 549.4   Mean   :1341   Mean   : 72.66
##  3rd Qu.:5050   3rd Qu.: 600.0   3rd Qu.:1700   3rd Qu.: 85.00
##  Max.   :8124   Max.   :2340.0   Max.   :6800   Max.   :103.00
##     Terminal       S.F.Ratio      perc.alumni        Expend
##  Min.   : 24.0   Min.   : 2.50   Min.   : 0.00   Min.   : 3186
##  1st Qu.: 71.0   1st Qu.:11.50   1st Qu.:13.00   1st Qu.: 6751
##  Median : 82.0   Median :13.60   Median :21.00   Median : 8377
##  Mean   : 79.7   Mean   :14.09   Mean   :22.74   Mean   : 9660
##  3rd Qu.: 92.0   3rd Qu.:16.50   3rd Qu.:31.00   3rd Qu.:10830
##  Max.   :100.0   Max.   :39.80   Max.   :64.00   Max.   :56233
##    Grad.Rate
##  Min.   : 10.00
##  1st Qu.: 53.00
##  Median : 65.00
##  Mean   : 65.46
##  3rd Qu.: 78.00
##  Max.   :118.00
```

Getting the summary

ii

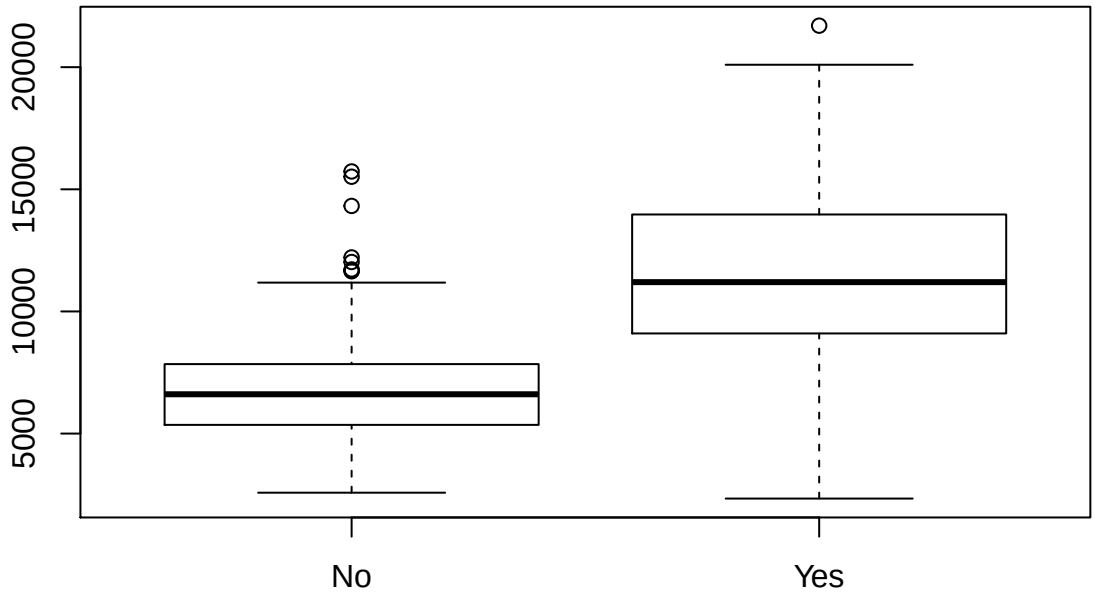
```
pairs(College[,1:10])
```



The scatterplot matrix

iii

```
plot(College$Private, College$Outstate)
```



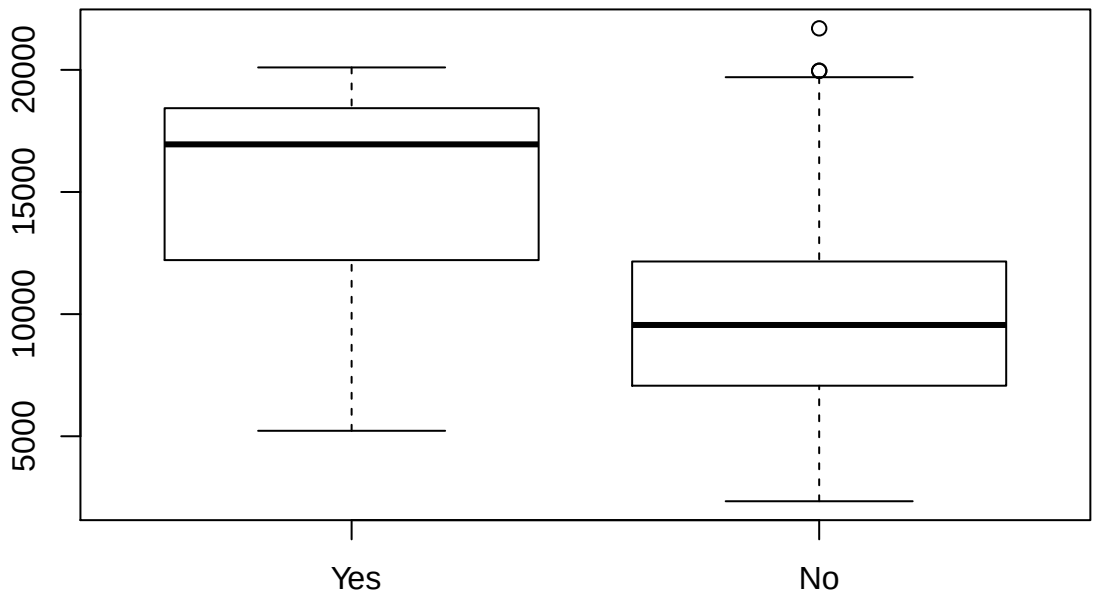
Boxplots

iv

```
Elite=rep("No",nrow(College))
Elite[College$Top10perc >50]=" Yes"
Elite=as.factor(Elite)
college=data.frame(College ,Elite)
summary(Elite)
```

```
##  Yes   No
##   78  699
```

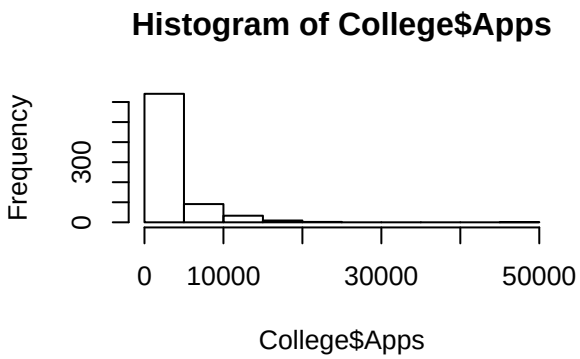
```
plot(Elite, College$Outstate)
```

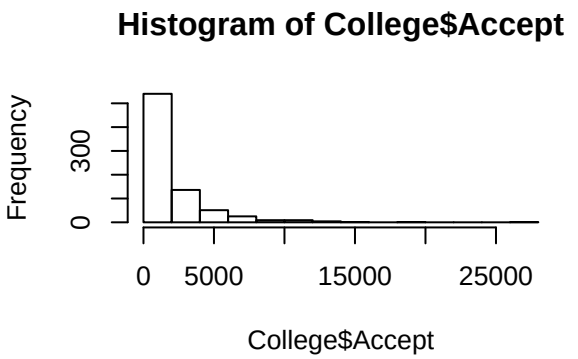


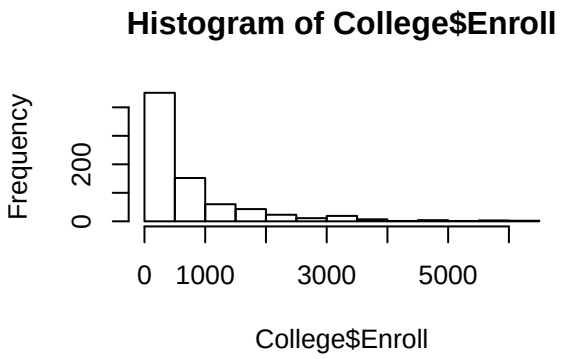
Finding out if the college is "Elite" by looking at if over half of the college's students were in the top 10% of their high school class.

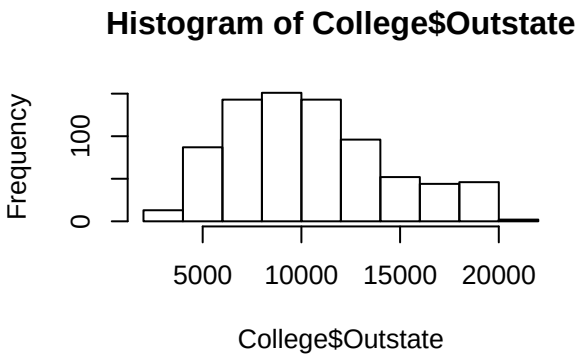
v

```
par(mfrow=c(2,2))
hist(College$Apps)
hist(College$Accept)
hist(College$Enroll)
hist(College$Outstate)
```


Histogram of College$Apps
Frequency
0
300
0
10000
30000
50000
College$Apps


Histogram of College$Accept
Frequency
0
300
0
5000
15000
25000
College$Accept


Histogram of College$Enroll
Frequency
0
200
0
1000
3000
5000
College$Enroll


Histogram of College$Outstate
Frequency
0
100
5000
10000
15000
20000
College$Outstate

Histograms