Mobile banking survey

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Install Library

```
#install.packages('plotrix')
#install.packages("data.table")
#install.packages("data.table")           # Install and load data.table
```

Import Library

```
library("data.table")
library(plotrix)
library(plyr)
library(plotrix)
library(gdata)
library(data.table)
library("data.table")
```

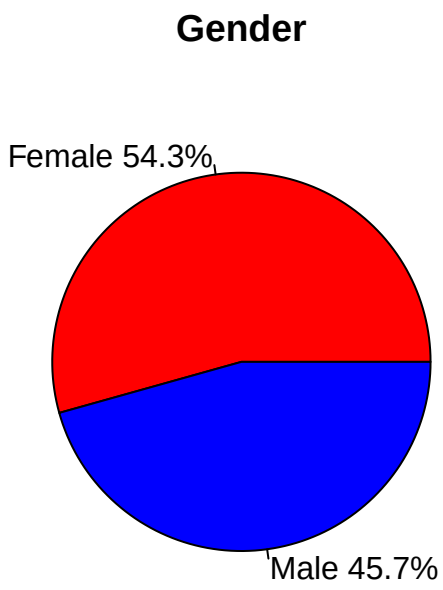
Read data

```
m=read.csv("data.csv")
```

Descriptive Analyiss

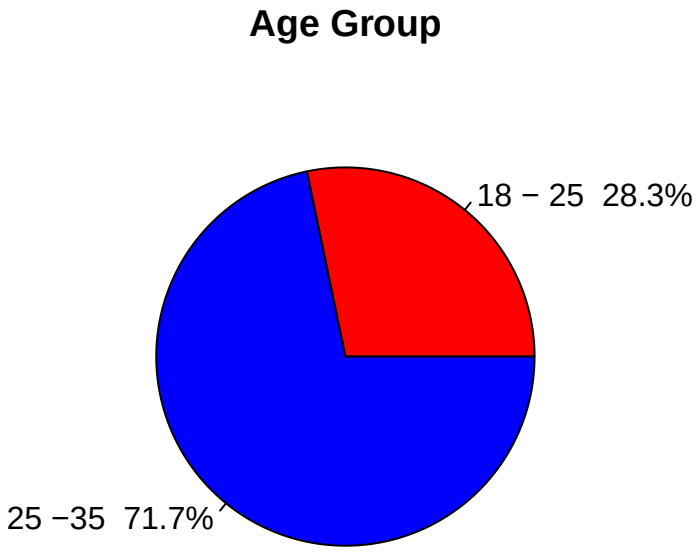
Gender

```
gender_count=count(m$Gender)
x=gender_count$freq
gender=gender_count$x
piepercent<- round(100*x/sum(x), 1)
labels_new<-paste(gender,piepercent)
final_labels<-paste(labels_new,'%',sep = "")
pie(x,labels =final_labels ,col = c("red","blue"), main = "Gender")
```



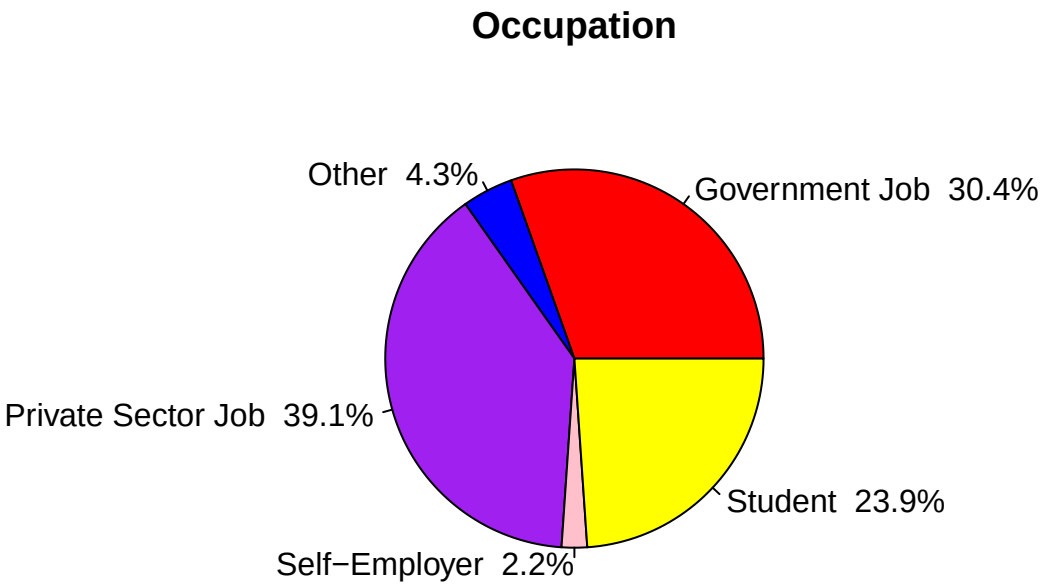
Age Group

```
age_count=count(m$Age.Group)
x=age_count$freq
age=age_count$x
piepercent<- round(100*x/sum(x), 1)
labels_new<-paste(age, piepercent,sep="  ")
final_labels<-paste(labels_new,'%',sep = "")
pie(x,labels =final_labels ,col = c("red",'blue'), main = "Age Group")
```



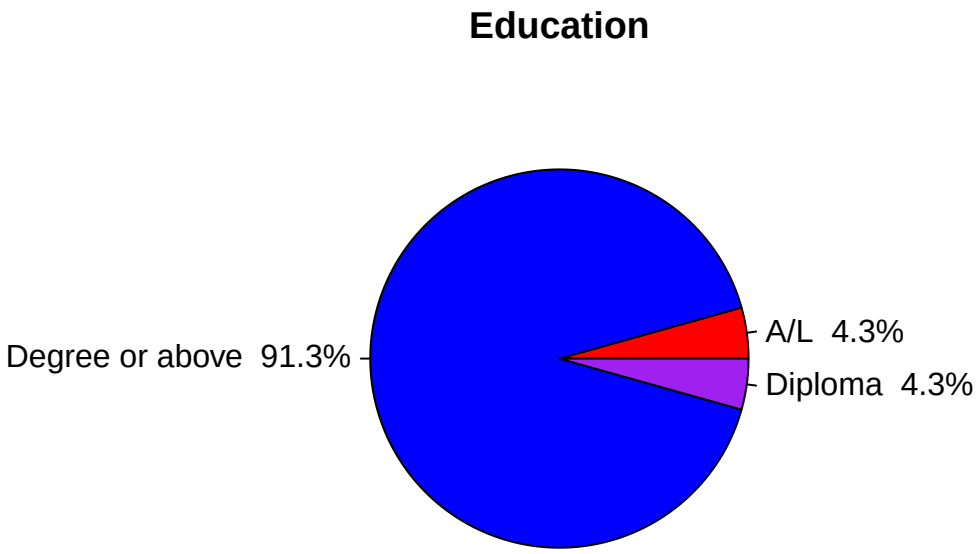
Occupation

```
job_count=count(m$Occupation)
x=job_count$freq
job=job_count$x
piepercent<- round(100*x/sum(x), 1)
labels_new<-paste(job, piepercent,sep="  ")
final_labels<-paste(labels_new,'%',sep = "")
pie(x,labels =final_labels ,col = c("red",'blue','purple', 'pink','yellow'), main = "Occupation")
```



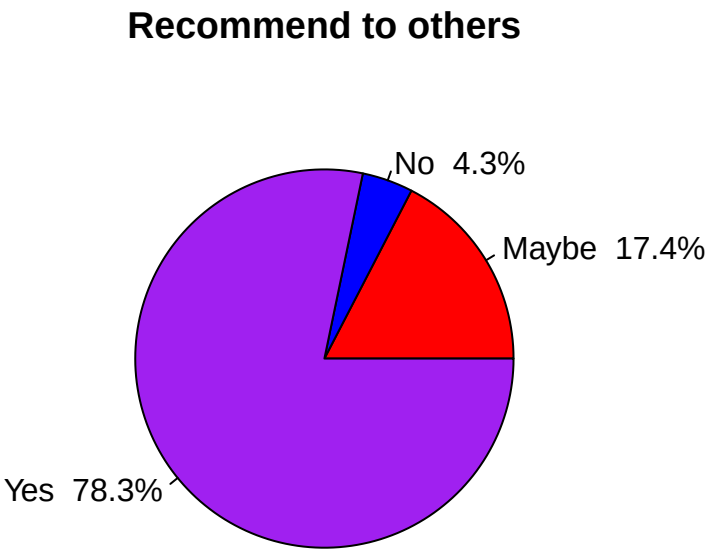
Education

```
education_count=count(m$Education)
x=education_count$freq
education=education_count$x
piepercent<- round(100*x/sum(x), 1)
labels_new<-paste(education, piepercent,sep="  ")
final_labels<-paste(labels_new,'%',sep = "")
pie(x,labels =final_labels ,col = c("red",'blue','purple', 'pink','yellow'), main = "Education")
```



Recommend to others

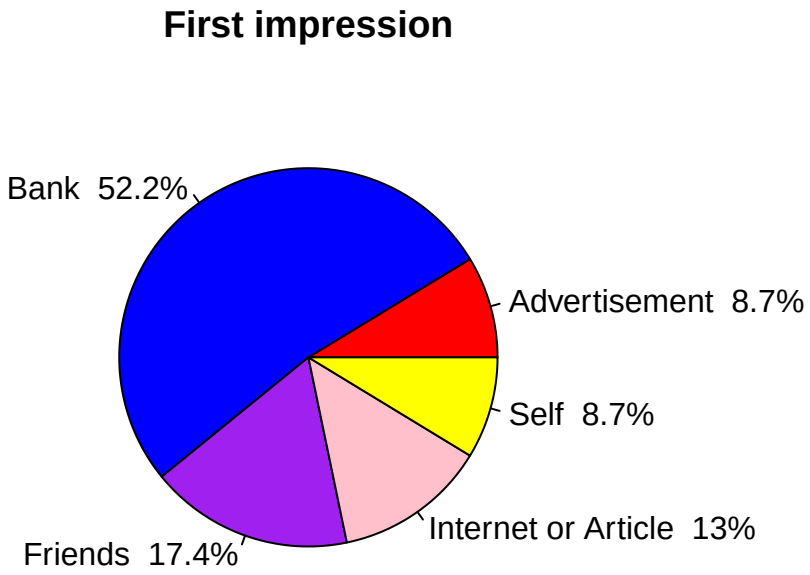
```
First_impression_count=count(m$Recommend)
x=First_impression_count$freq
First_impression=First_impression_count$x
piepercent<- round(100*x/sum(x), 1)
labels_new<-paste(First_impression, piepercent,sep="  ")
final_labels<-paste(labels_new,'%',sep = "")
pie(x,labels =final_labels ,col = c("red",'blue','purple', 'pink','yellow'), main = "Recommend to others
```



First impression

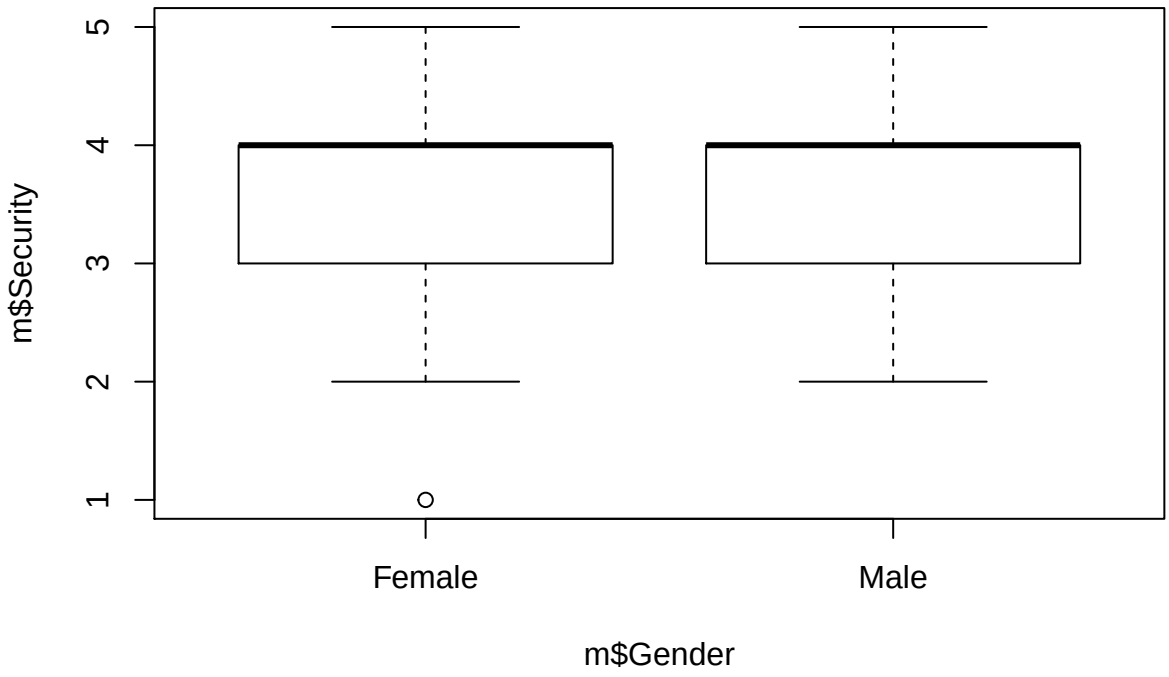
```
recommend_count=count(m$First.impression)
x=recommend_count$freq
recommend=recommend_count$x
piepercent<- round(100*x/sum(x), 1)
labels_new<-paste(recommend, piepercent,sep="  ")
final_labels<-paste(labels_new,'%',sep = "")


pie(x,labels =final_labels ,col = c("red",'blue','purple', 'pink','yellow'), main = "First impression")
```



Hypothesis test

```
boxplot(m$Security~m$Gender)
```



test1

```
m <- rename.vars(m, from = "Security", to = "Fear")
```

```
##
## Changing in m
## From: Security
## To:   Fear
```

```
wilcox.test(m$Fear~m$Gender,alt='less',conf.int=T,conf.level=0.95,paired=FALSE,Exact=F,correct=T)
```

```
## Warning in wilcox.test.default(x = c(5L, 5L, 2L, 4L, 4L, 4L, 5L, 4L, 3L, :
## cannot compute exact p-value with ties
```

```
## Warning in wilcox.test.default(x = c(5L, 5L, 2L, 4L, 4L, 4L, 5L, 4L, 3L, :
## cannot compute exact confidence intervals with ties
```

```
##
##  Wilcoxon rank sum test with continuity correction
##
## data:  m$Fear by m$Gender
## W = 266, p-value = 0.5366
## alternative hypothesis: true location shift is less than 0
## 95 percent confidence interval:
##      -Inf 0.999984
## sample estimates:
## difference in location
##           3.600668e-05
```

test2

```
t1=table(m$How.often, m$Gender)
t1
```

```
##
##                         Female Male
##   Daily Once                 3    5
##   Daily Several Times        1    2
##   Monthly Once               5    3
##   Monthly Several Times      5    3
##   Weekly  Once               4    4
##   Weekly  Several Times      6    4
##   Yearly  Once               1    0
```

```
frequency=c("daily","wekly","monthly","daily","wekly","monthly")
male=c(4,10,10)
female=c(7,6,8)
df=data.frame(frequency,male,female)
setDT(df)
df
```

```
##    frequency male female
## 1:     daily    4      7
## 2:     wekly   10      6
## 3:   monthly   10      8
## 4:     daily    4      7
## 5:     wekly   10      6
## 6:   monthly   10      8
```

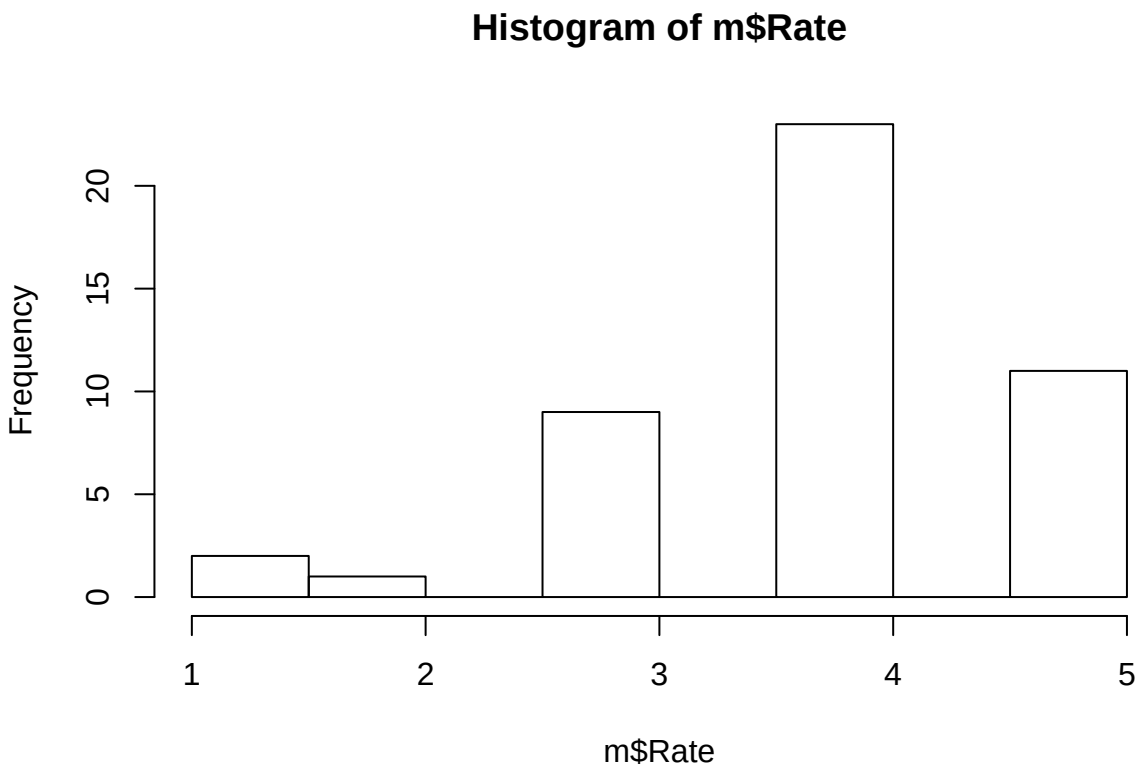
```
chisq.test(c(df$frequency,df$frequency),c(df$male,df$female))
```

```
## Warning in chisq.test(c(df$frequency, df$frequency), c(df$male, df$female)):
## Chi-squared approximation may be incorrect
```

```
##
##  Pearson's Chi-squared test
##
## data:  c(df$frequency, df$frequency) and c(df$male, df$female)
## X-squared = 18, df = 8, p-value = 0.02123
```

test 3

```
hist(m$Rate)
```



```r
wilcox.test(m$Rate, mu = 4, alternative = "two.sided",exact = F)
```

```
##
##  Wilcoxon signed rank test with continuity correction
##
## data:  m$Rate
## V = 115.5, p-value = 0.467
## alternative hypothesis: true location is not equal to 4
```