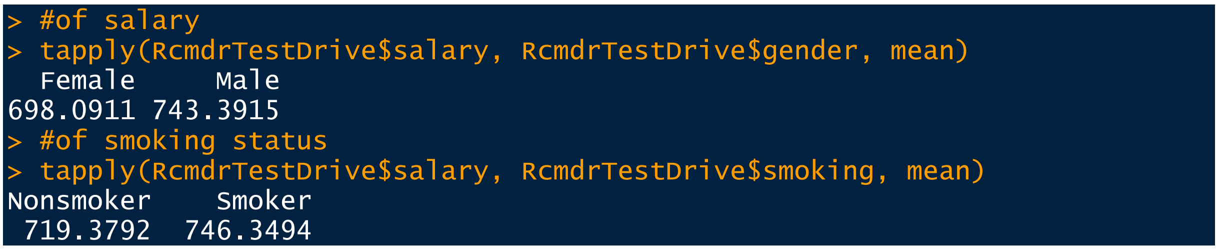
# Assignment - 1

## Session 8 – Exploratory Data Analytics

1. Use the package RcmdrPlugin.IPSUR.
data(RcmdrTestDrive)
and perform the below operations:
a. Calculate the average salary by gender and smoking status.

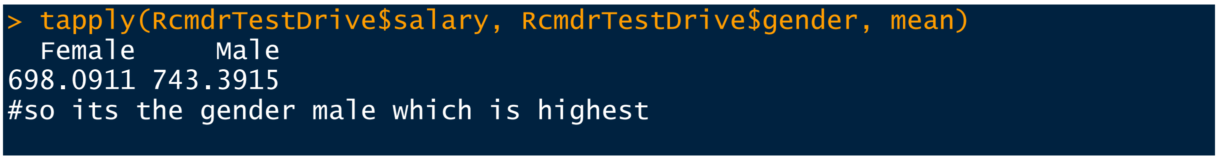
Ans:



```
> #of salary
> tapply(RcmdrTestDrive$salary, RcmdrTestDrive$gender, mean)
  Female     Male 
698.0911 743.3915 
> #of smoking status
> tapply(RcmdrTestDrive$salary, RcmdrTestDrive$smoking, mean)
Nonsmoker    Smoker 
 719.3792  746.3494 
```

b. Which gender has the highest mean salary?

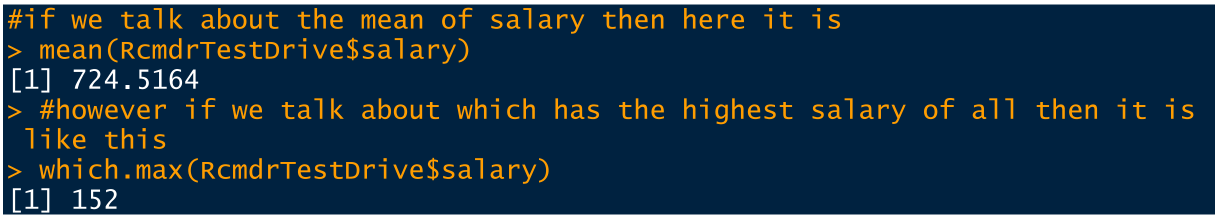
Ans:



```
> tapply(RcmdrTestDrive$salary, RcmdrTestDrive$gender, mean)
  Female     Male 
698.0911 743.3915 
#so its the gender male which is highest
```

c. Report the highest mean salary.

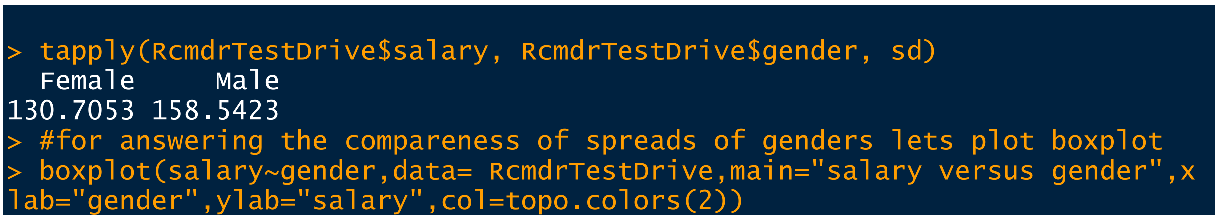
Ans:



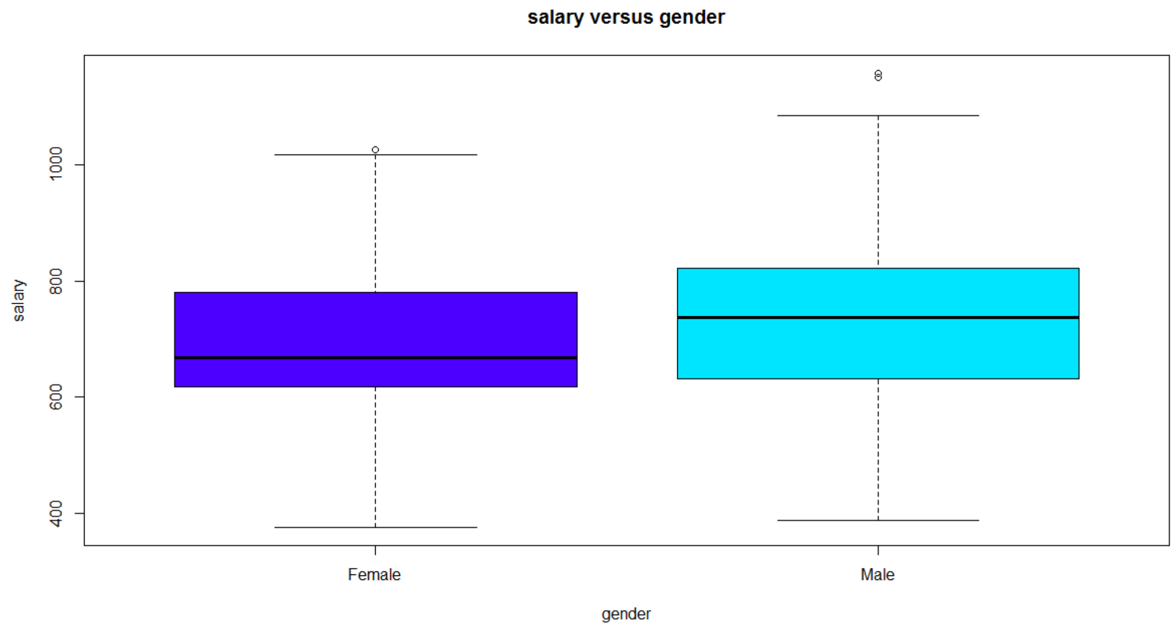
```
#if we talk about the mean of salary then here it is
> mean(RcmdrTestDrive$salary)
[1] 724.5164
> #however if we talk about which has the highest salary of all then it is
 like this
> which.max(RcmdrTestDrive$salary)
[1] 152
```

d. Compare the spreads for the genders by calculating the standard deviation of salary by gender.

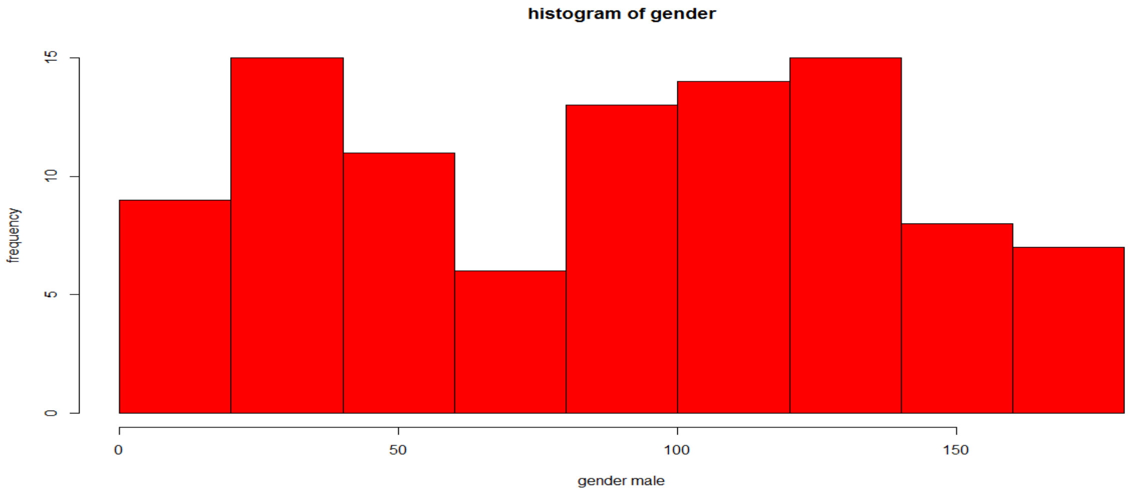
Ans:



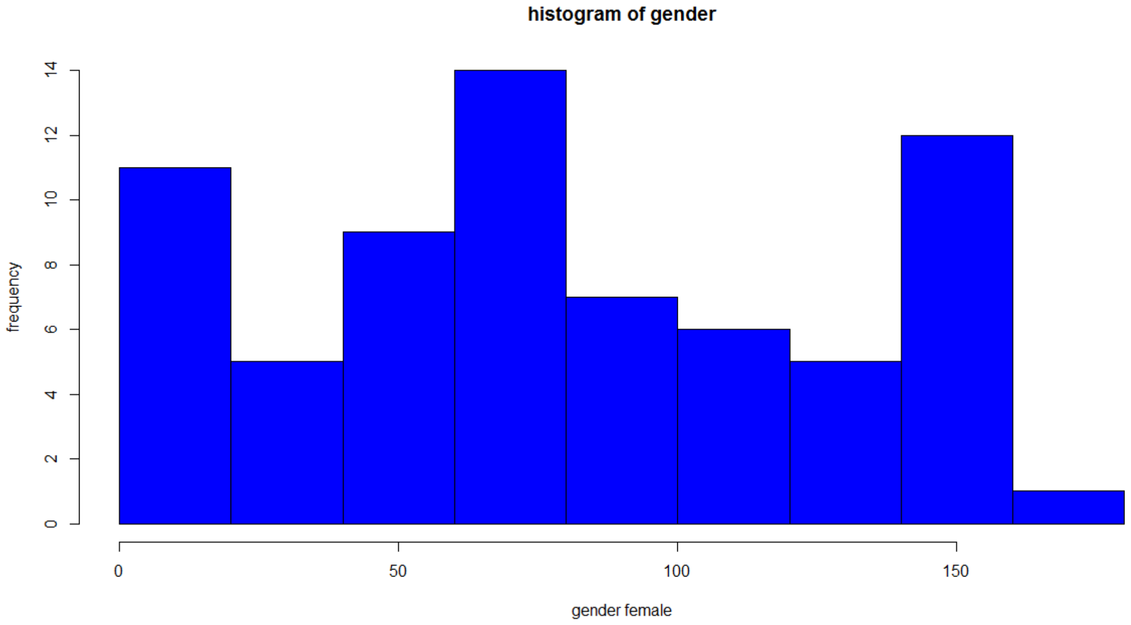
```
> tapply(RcmdrTestDrive$salary, RcmdrTestDrive$gender, sd)
  Female     Male 
130.7053 158.5423 
> #for answering the compareness of spreads of genders lets plot boxplot
> boxplot(salary~gender,data= RcmdrTestDrive,main="salary versus gender",x
lab="gender",ylab="salary",col=topo.colors(2))
```



```
#see mean too
> tapply(RcmdrTestDrive$salary, RcmdrTestDrive$gender, mean)
  Female     Male 
698.0911 743.3915 
> #we can aslo plot histogram by genders to compare spreadness
> hist(which(RcmdrTestDrive$gender =="Male") ,xlab="gender male", ylab="fr
equency",main="histogram of gender",col="red")
```



```
> hist(which(RcmdrTestDrive$gender =="Female") ,xlab="gender female", ylab
="frequency",main="histogram of gender",col="blue")
```


histogram of gender
frequency
0
2
4
6
8
10
12
14
0
50
100
150
gender female