>

> setwd("C:/Users/BlackCrabb/Documents/6semester/Data Science Lab")

> dsalary<-read.csv("employ.csv",stringsAsFactors = FALSE)

> print("DATASET")

[1] "DATASET"

> print(dsalary)

Rank YrsSincePhd YrsService Gender Salary

1 AstProf 3 7 M 85

2 AstProf 8 12 F 95

3 AstProf 2 5 F 80

4 AsctProf 9 18 M 150

5 AsctProf 10 19 F 150

6 AsctProf 10 18 M 160

7 Prof 20 25 M 200

8 Prof 22 29 F 250

9 Prof 20 25 M 210

10 Prof 22 29 F 220

> print("number of observations")

[1] "number of observations"

> print(nrow(dsalary))

[1] 10

> print("number of variables")

[1] "number of variables"

> print(ncol(dsalary))

[1] 5

>

> print("The average salary of all faculty members")

[1] "The average salary of all faculty members"

> print(mean(dsalary$Salary))

[1] 160

> print("The average salary of all faculty members male and female seperatly")

[1] "The average salary of all faculty members male and female seperatly"

> print(aggregate(Salary~Gender,dsalary,mean))

Gender Salary

1 F 159

2 M 161

>

> print("The average salary rank-wise faculty members")

[1] "The average salary rank-wise faculty members"

> print(aggregate(Salary~Rank,dsalary,mean))

Rank Salary

1 AsctProf 153.33333

2 AstProf 86.66667

3 Prof 220.00000

> print("No. of male Asst. Prof")

[1] "No. of male Asst. Prof"

> d<-which((dsalary$Gender=="M") & (dsalary$Rank=="AsctProf"))

> print(length(d))

[1] 2

>

> print("No. of female Asst. Prof")

[1] "No. of female Asst. Prof"

> d<-which((dsalary$Gender=="F") & (dsalary$Rank=="AsctProf"))

> print(length(d))

[1] 1

>

> print("first two columns of second row")

[1] "first two columns of second row"

> print(dsalary[2,1:2])

Rank YrsSincePhd

2 AstProf 8

>

> print("the yearsofservice of 2nd entry in the data set")

[1] "the yearsofservice of 2nd entry in the data set"

> print(dsalary[2,"YrsService"])

[1] 12

>

> print("YrsSincePhd and YrsofService all the teachers")

[1] "YrsSincePhd and YrsofService all the teachers"

> print(dsalary[,c("YrsSincePhd","YrsService")])

YrsSincePhd YrsService

1 3 7

2 8 12

3 2 5

4 9 18

5 10 19

6 10 18

7 20 25

8 22 29

9 20 25

10 22 29

>

> print("highest salary drawing male Associate Professor with maximum year of services")

[1] "highest salary drawing male Associate Professor with maximum year of services"

> d<-which( dsalary$Gender=="M" & dsalary$Rank=="AsctProf")

> print(d)

[1] 4 6

> y<-dsalary[d,"Salary"]

> x<-dsalary[d,"YrsService"]

> print(x)

[1] 18 18

> print(y)

[1] 150 160

>

> print("Rank of the teacher whose salary is more than 150")

[1] "Rank of the teacher whose salary is more than 150"

> print(dsalary[Salary>150,"Rank"])

[1] "AsctProf" "Prof" "Prof" "Prof" "Prof"

>

> print("new column 'special-allowance' which is 5% of the salary")

[1] "new column 'special-allowance' which is 5% of the salary"

> allowance=(Salary\*5)/100

> dsalary=cbind(dsalary,"ALLOWANCE"=(Salary\*5)/100)

> print(dsalary)

Rank YrsSincePhd YrsService Gender Salary ALLOWANCE

1 AstProf 3 7 M 85 4.25

2 AstProf 8 12 F 95 4.75

3 AstProf 2 5 F 80 4.00

4 AsctProf 9 18 M 150 7.50

5 AsctProf 10 19 F 150 7.50

6 AsctProf 10 18 M 160 8.00

7 Prof 20 25 M 200 10.00

8 Prof 22 29 F 250 12.50

9 Prof 20 25 M 210 10.50

10 Prof 22 29 F 220 11.00

>

> print("Increase the salary of male prof by 5% and female prof by 10%")

[1] "Increase the salary of male prof by 5% and female prof by 10%"

> m <- dsalary$Salary[which((dsalary$Gender=="M"))]

> print(m)

[1] 85 150 160 200 210

> m <- m+(m\*5)/100

> f <- dsalary$Salary[which((dsalary$Gender=="F"))]

> print(f)

[1] 95 80 150 250 220

> f <- f+(f\*10)/100

>

> print("Compare the average salary between above two")

[1] "Compare the average salary between above two"

> mean(f)-mean(m)

[1] 5.85

>

> print("Vector which contains the average salary of each rank")

[1] "Vector which contains the average salary of each rank"

> avg\_sal=c(aggregate(Salary~Rank,dsalary,mean))

> print(avg\_sal)

$Rank

[1] "AsctProf" "AstProf" "Prof"

$Salary

[1] 153.33333 86.66667 220.00000