AFRAAZ HUSSAIN
20BDS0374
DATA VISUALIZATION AND PRESENTATION
LAB MID-TERM ASSESSMENT

QUESTION:

Write an R program to perform Univariate, Bi-variate, and Multi-variate plots on the provided dataset, and display it in a 3 x 3 matrix form.

CODE:

```
myData <- read.csv('HRDataset_v14.csv')
View(myData)


library(ggplot2)
library(gridExtra)



# Uni-variate graph plot
uniVariateDensityPlot <- ggplot(data = myData, aes(x = myData$EmpStatusID)) +
geom_density() +
  labs(title = "Afraaz Hussain | 20BDS0374", x = "Employee status ID")

uniVariateHistogram <- hist(myData$Salary, col = "purple", breaks = 15, xlab =
"Employee salary")

uniVariateBarPlot <- barplot(table(myData$EmpSatisfaction), col = "purple",
xlab = "Employee satisfaction", ylab = "Frequency")



# Bi-variate graph plot
biVariateDensityPlot <- ggplot(data = myData, aes(x = EmpStatusID)) +
  geom_density(aes(fill = factor(myData$Sex), alpha = 0.5)) +
  labs(title = "Afraaz Hussain | 20BDS0374", x = "Employee status ID")

biVariateBarPlot <- boxplot(myData$ManagerID~myData$EmpStatusID, data =
myData, col = "purple", title = "Afraaz Hussain | 20BDS0374", xlab = "Employee
status ID", ylab = "Manager ID")

biVariatePlot <- with(myData, plot(ManagerID, EmpStatusID))



# Multivariate graph plot
multiVariatePlot <- ggplot(data = myData) + geom_point(mapping = aes(x =
myData$ManagerID, y = myData$EmpStatusID, color = myData$EmpSatisfaction)) +
  labs(title = "Afraaz Hussain | 20BDS0374", x = "Employee manager ID", y =
"Employee status ID", col = "Employee satisfaction")
```

```
multiVariatePlotTwo <- ggplot(data = myData) + geom_point(mapping = aes(x =
myData$RecruitmentSource, y = myData$EmpStatusID, color =
myData$EmpSatisfaction)) +
  labs(title = "Afraaz Hussain | 20BDS0374", x = "Recruitment source", y =
"Employee status ID", col = "Employee satisfaction")

multiVariatePlotThree <- ggplot(data = myData) + geom_point(mapping = aes(x =
myData$PerformanceScore, y = myData$EngagementSurvey, color =
myData$EmpSatisfaction)) +
  labs(title = "Afraaz Hussain | 20BDS0374", x = "Performance score", y =
"Engagement", col = "Employee satisfaction")



grid.arrange(uniVariateDensityPlot, uniVariateHistogram, uniVariateBarPlot,
biVariateDensityPlot, biVariateBarPlot, biVariatePlot, multiVariatePlot,
multiVariatePlotTwo, multiVariatePlotThree,  nrow = 3, top = "A 3 by 3 matrix
consisting of 3 different plots")
```

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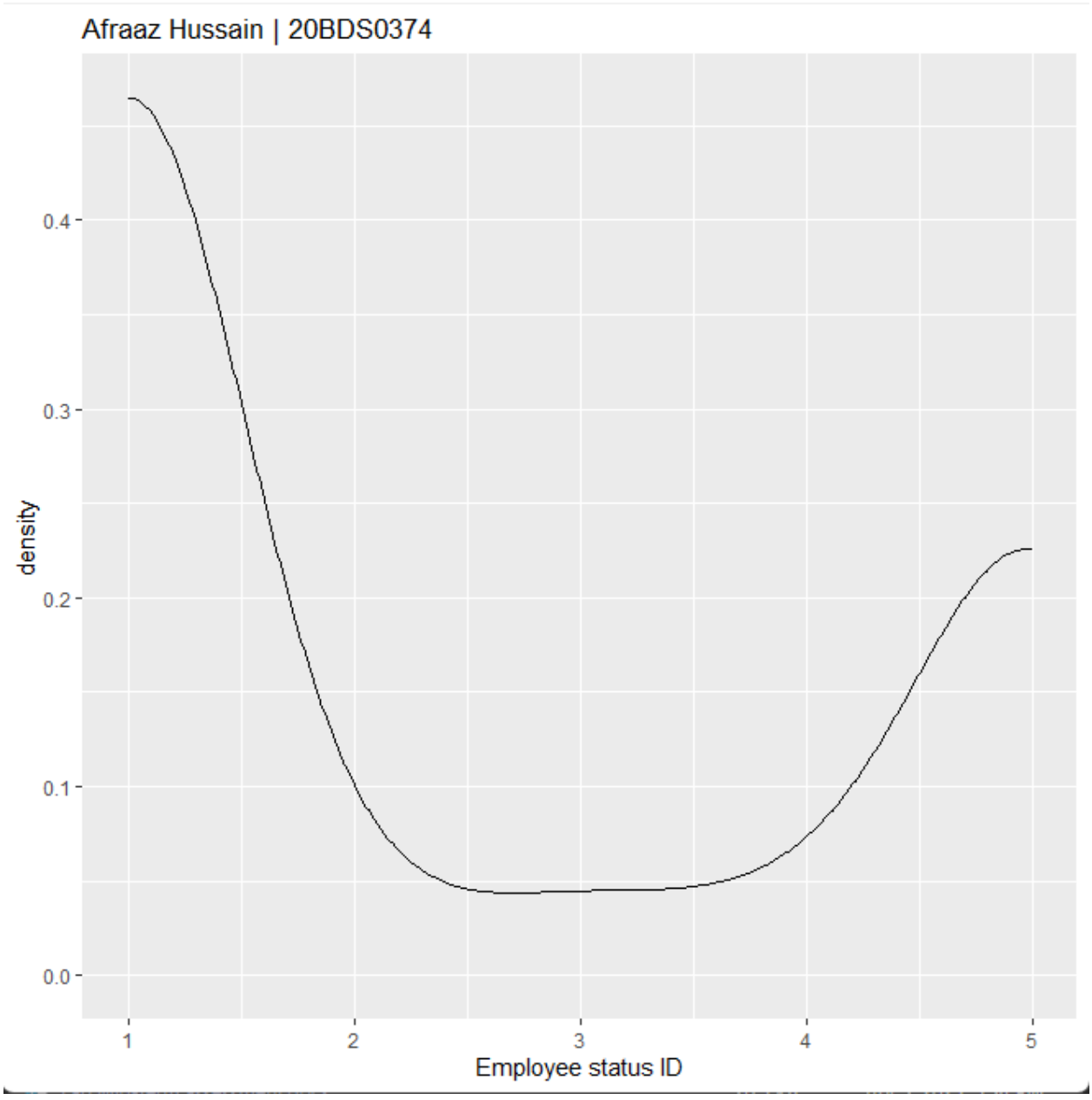
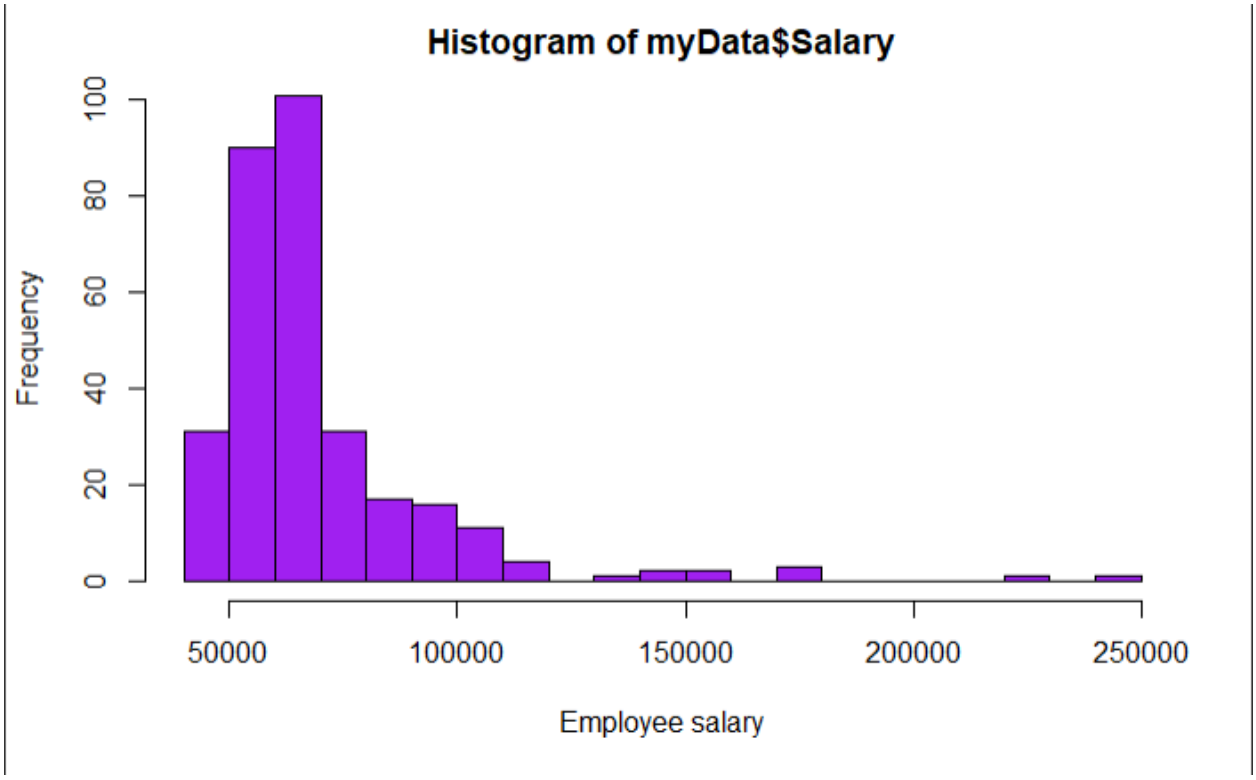
OUTPUT:

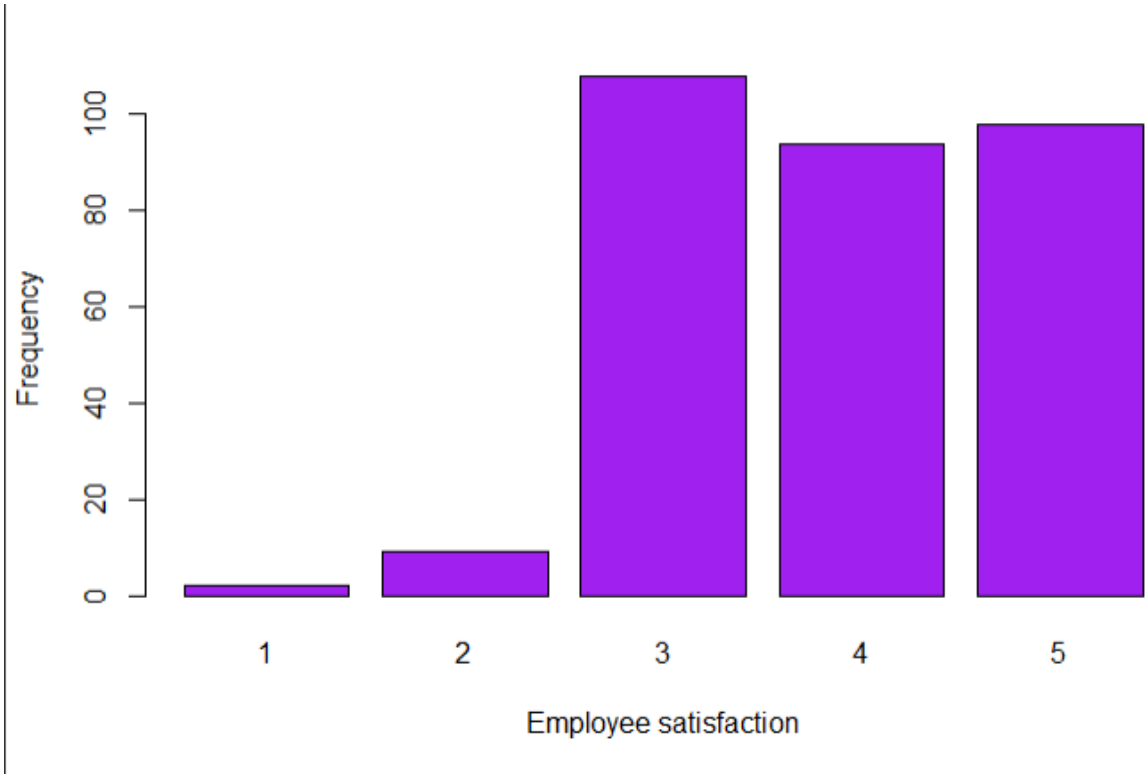
- Univariate density plot:



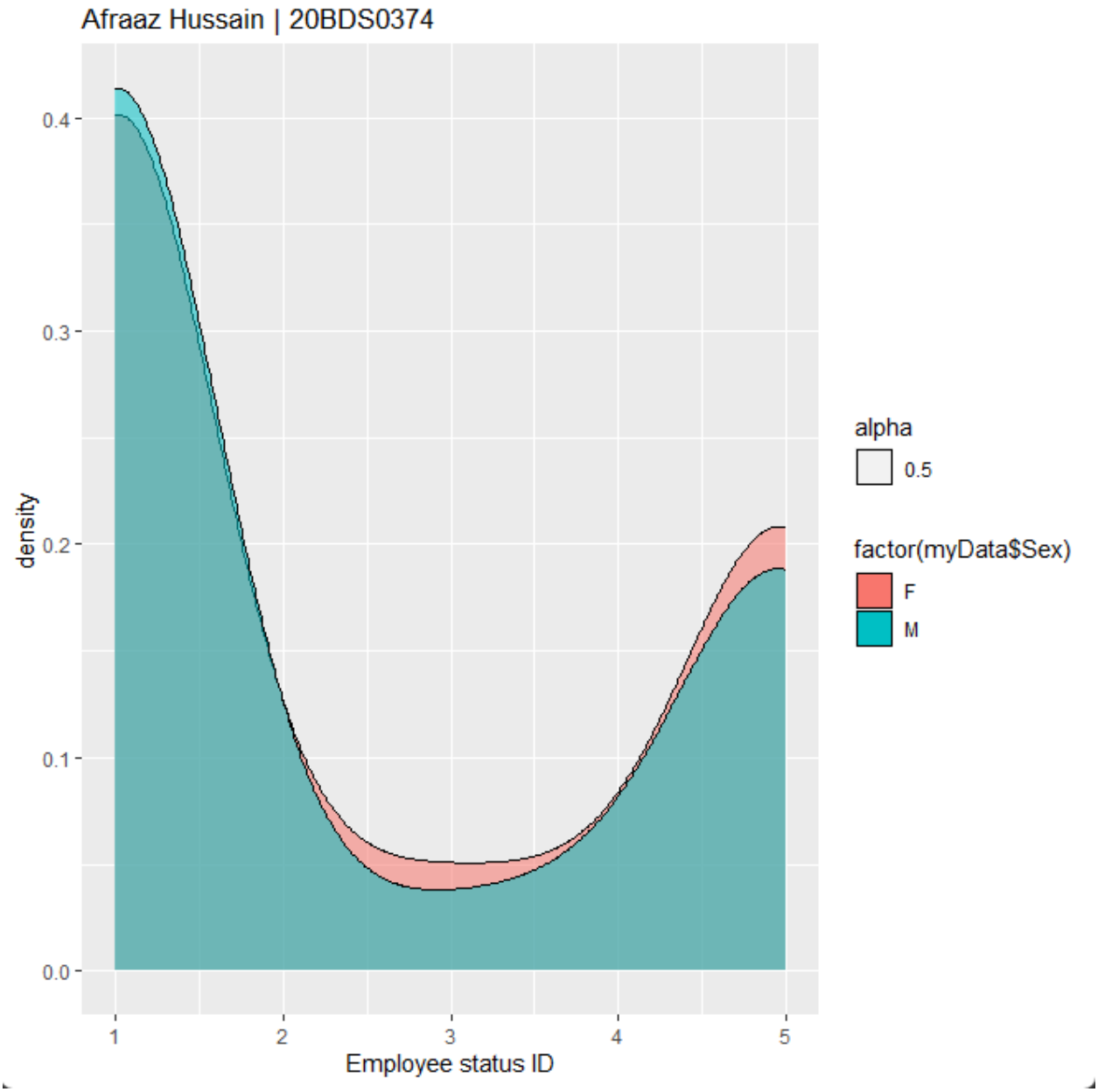
- Univariate histogram:



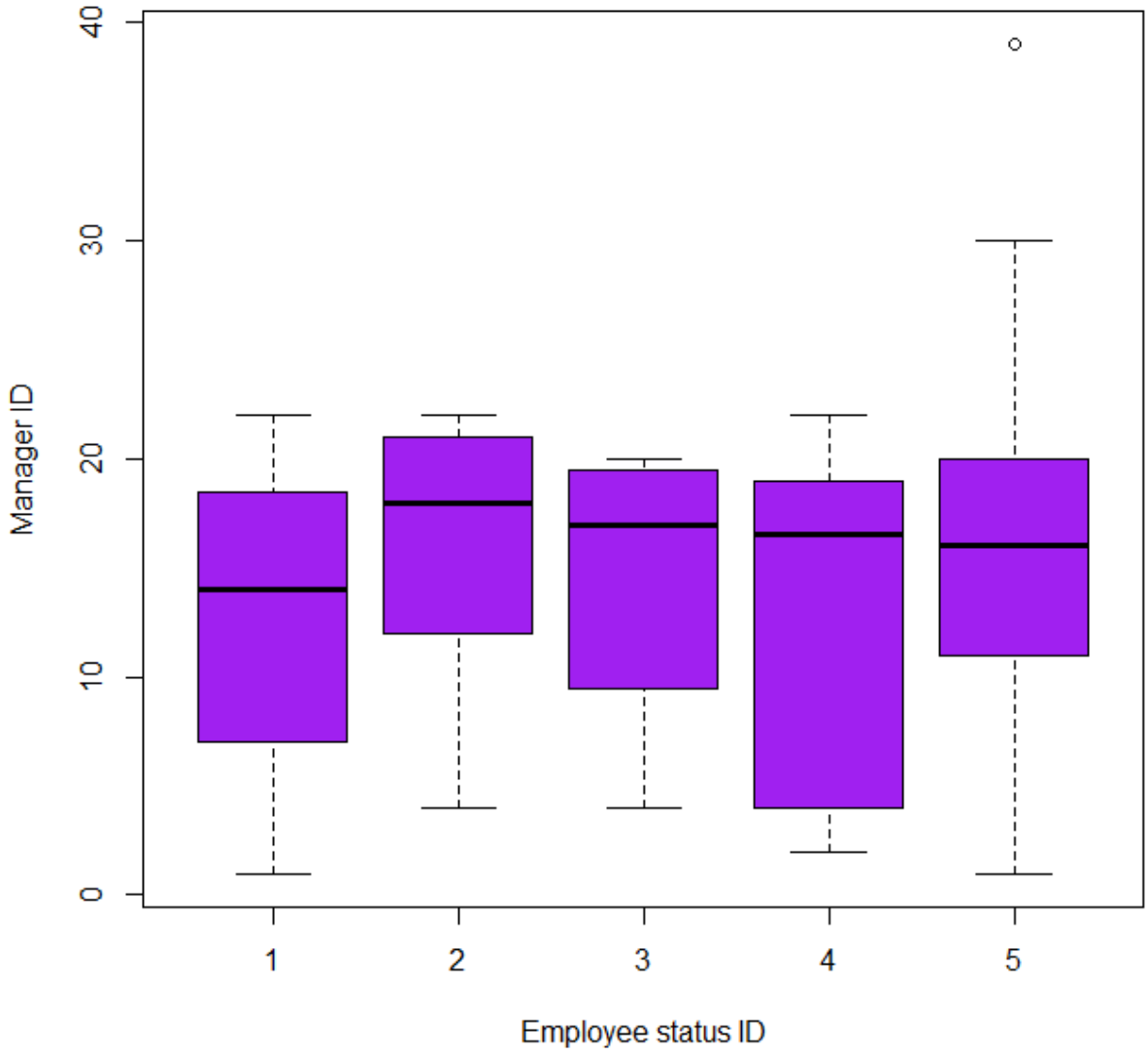
- Univariate bar plot:



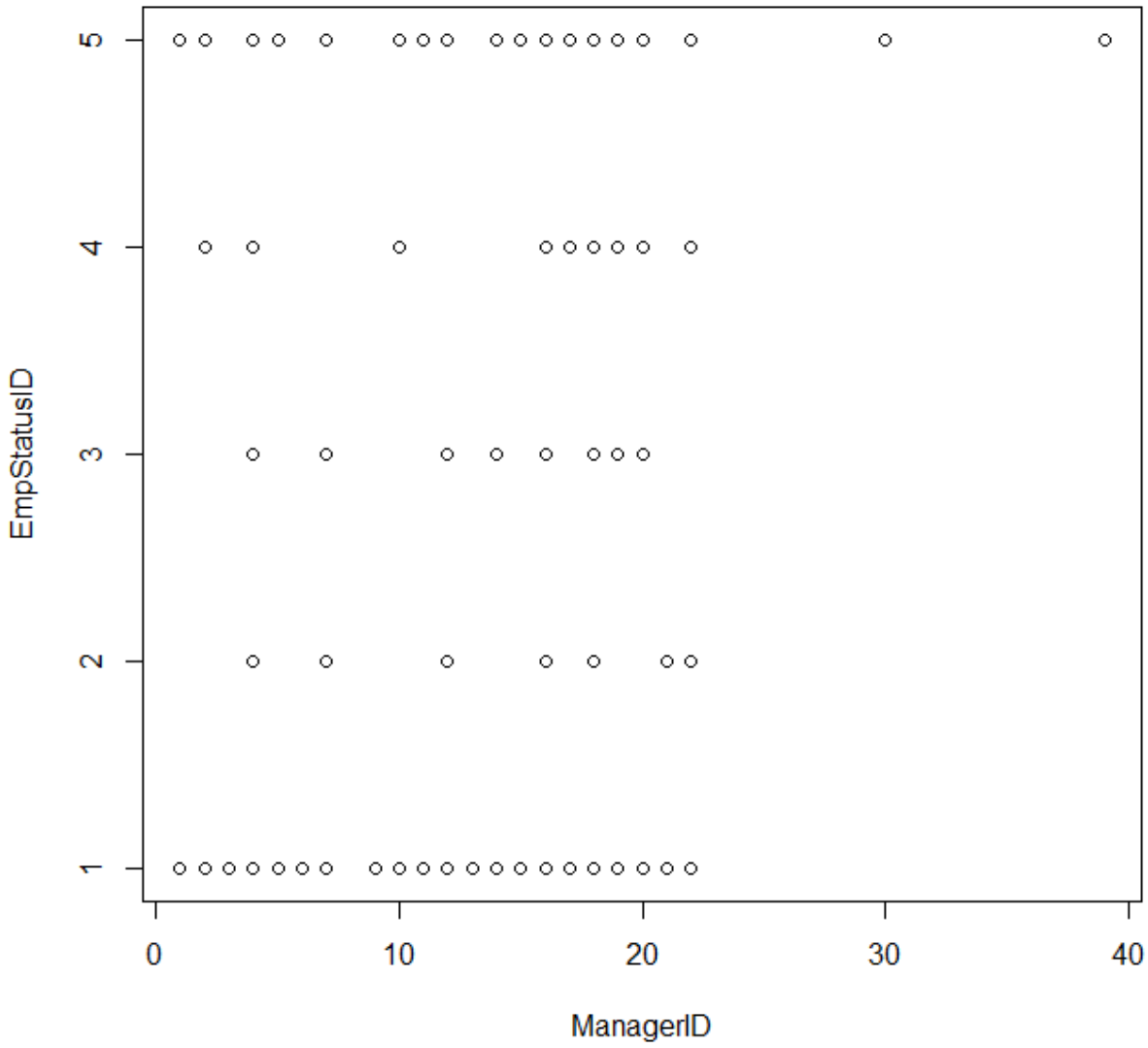
- Bi-variate density plot:



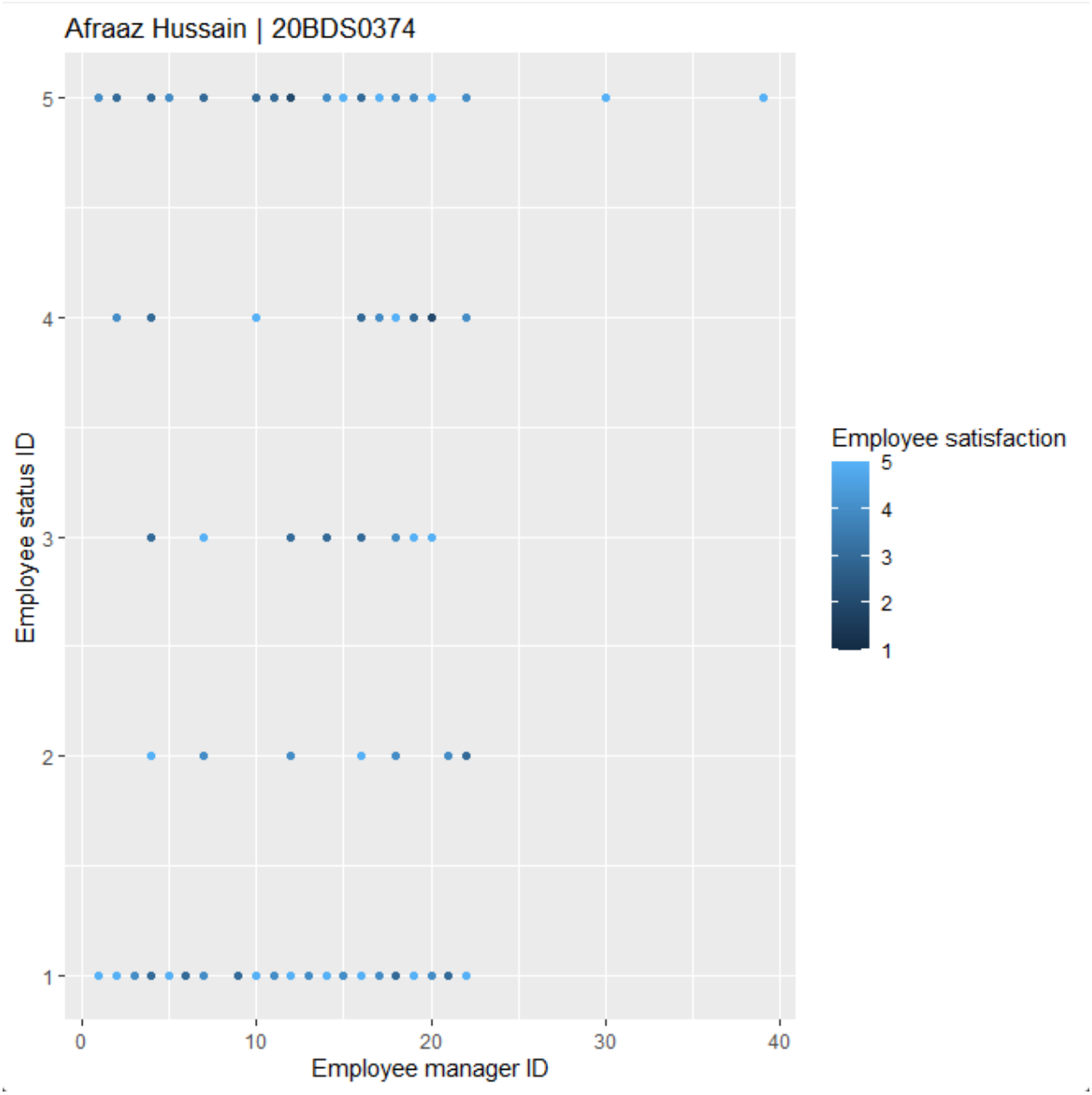
- Bi-variate bar plot:



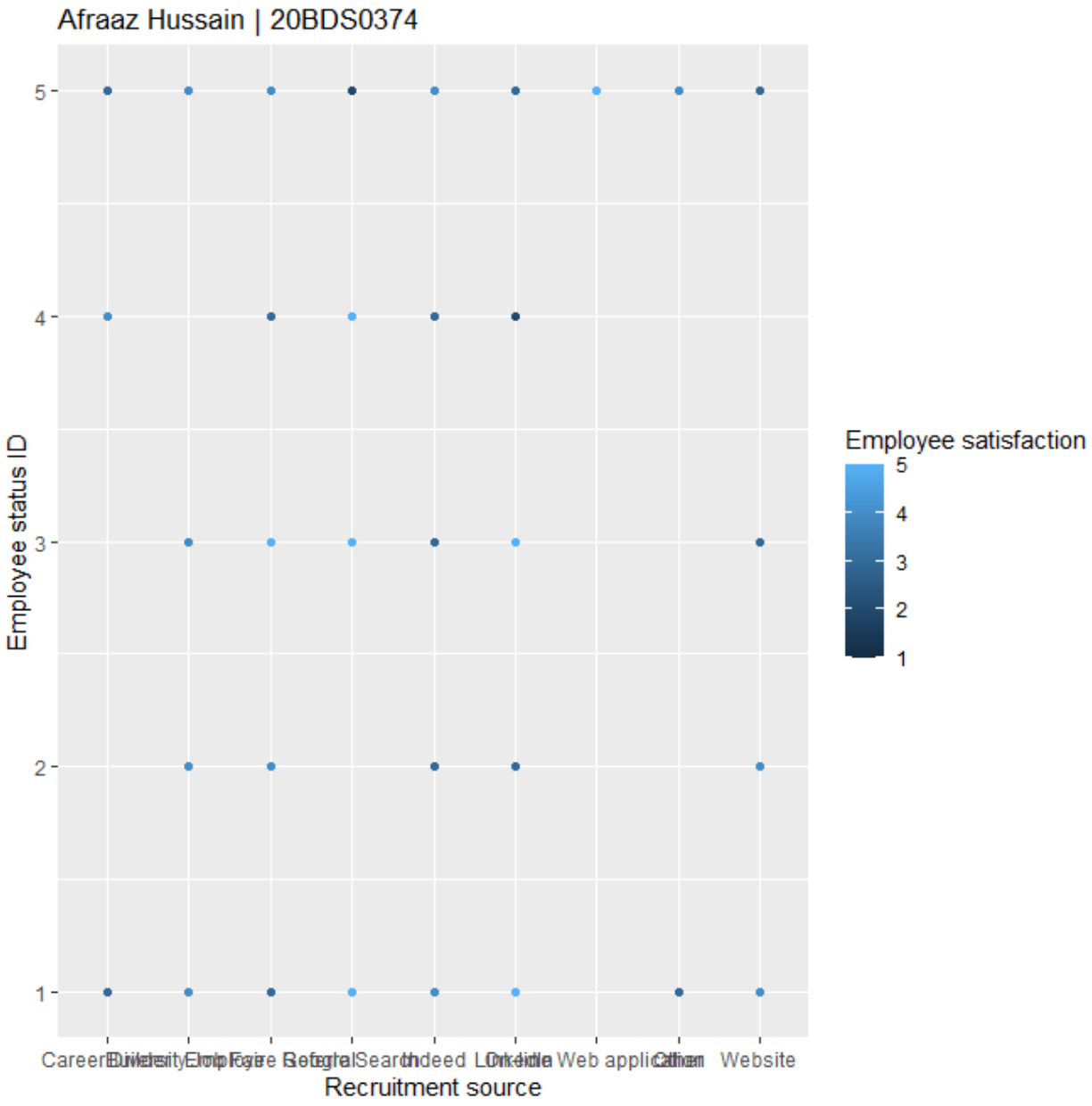
- Bi-variate plot:



- Multi-variate plot one:



- Multi-variate plot two:



- Multi-variate plot three: