A.S.A Lab Assignment 7

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Q .*To visualize the relationship between two scale variables creating scatter plots and to quantify this relationship with the correlation coefficient*

CODE:

```r
    #Iris dataset
data=read.csv(file.choose())  # read  dataset
View(data)
str(data)

cor(data$PetalLengthCm, data$SepalWidthCm)

#Scatter plot
plot(data$PetalLengthCm, data$SepalWidthCm, main="Sepal Length vs Sepal Width
",
    xlab="Petal.Length", ylab=" Sepal.Width ", pch = 21,
    bg = "red",
```

```
        col = "yellow")

library(scatterplot3d)

colors <- c("Red", "Green", "Blue")
colors <- colors[as.numeric(iris$Species)]
scatterplot3d(iris[,1:3], pch = 16, color=colors,
              grid = TRUE, box = FALSE, )

legend("topleft", legend = levels(iris$Species),
       col = c("Red", "Green", "Blue"), pch = 16)

#corelation matrix
my_cols <- c("#00AFBB", "#E7B800", "#FC4E07")
pairs(iris[,1:4], pch = 19,  cex = 0.5,
      col = my_cols[iris$Species])


cor(data$PetalLengthCm, data$SepalWidthCm, method = "spearman")

#Scatter plot
plot(data$PetalLengthCm, data$SepalWidthCm, main="Sepal Length vs Sepal Width
",
     xlab="Petal.Length", ylab=" Sepal.Width ", pch = 21,
     bg = "red",
     col = "blue")
```

output:

```
> cor(data$PetalLengthCm, data$SepalWidthCm, method = "spearman")
[1] -0.3034206
```
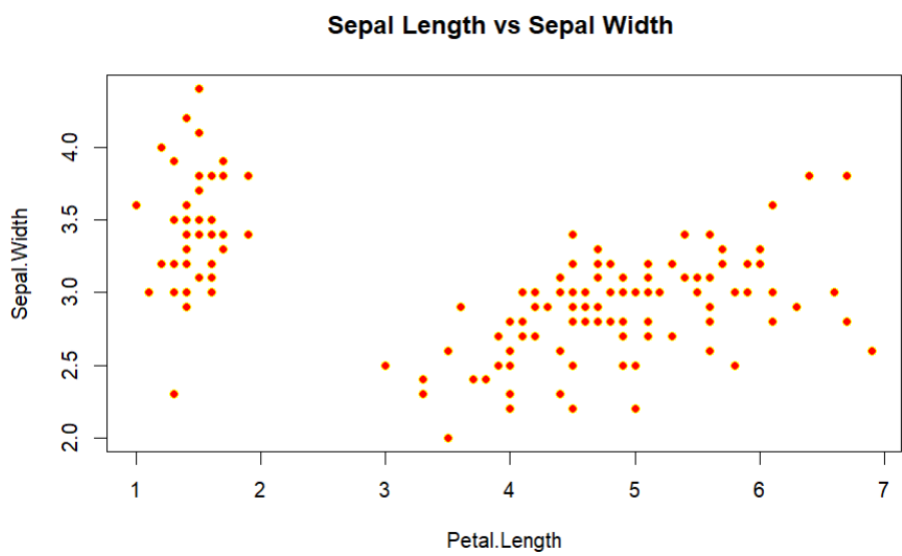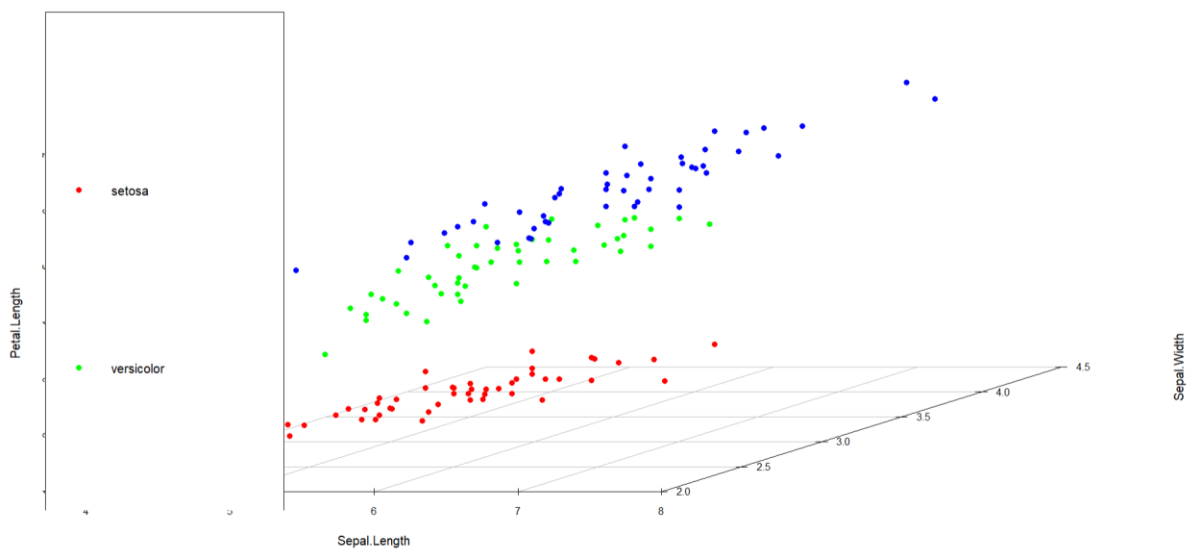
```
> cor(data$PetalLengthCm, data$SepalWidthCm)
[1] -0.4205161
```
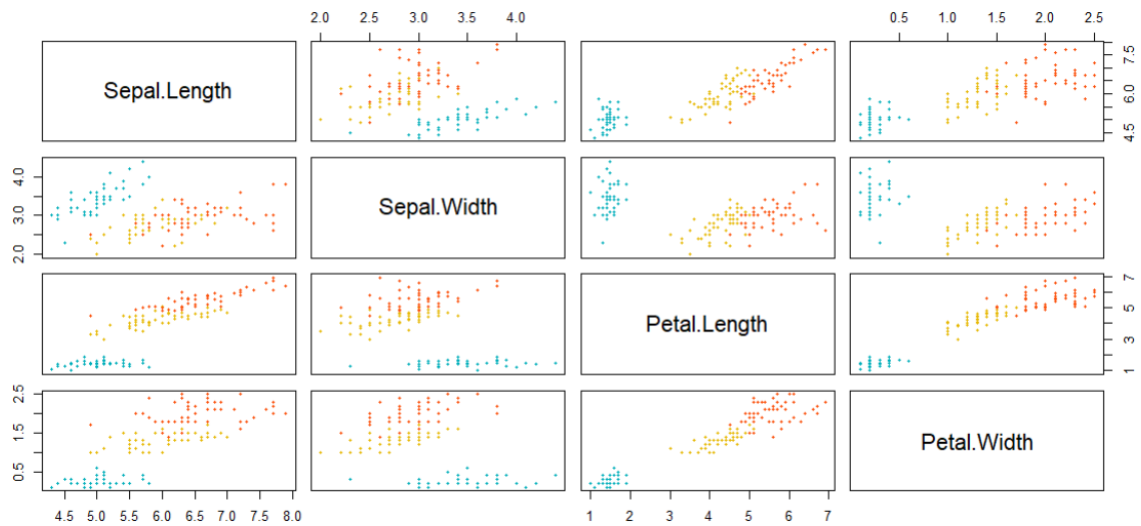
Dotplot:

Sepal Length vs Sepal Width

SCATTERPLOT 3D

COREATION MATRIX

SCATTER PLOT

Sepal Length vs Sepal Width

Petal.Length