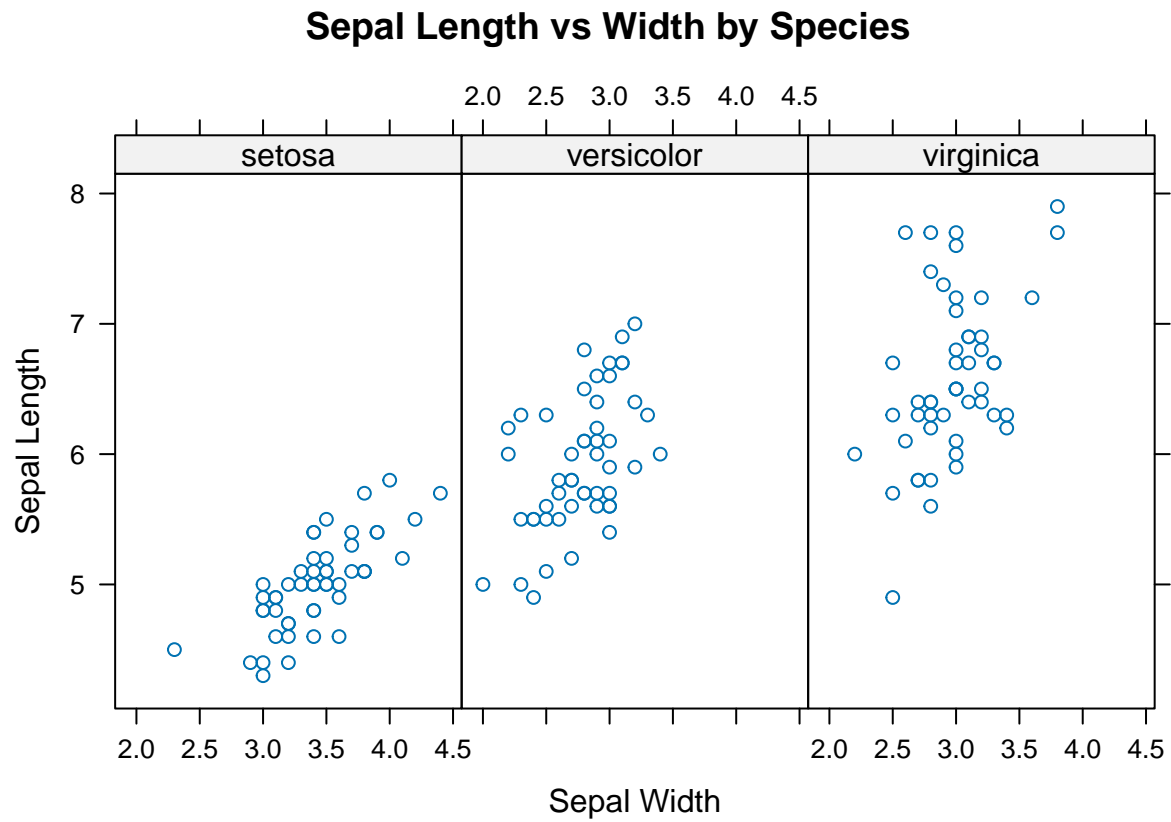# Lattice

Sadaf Zuhra

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```r
library(readxl)
library(tidyverse)
library(lattice)
data("iris")
```

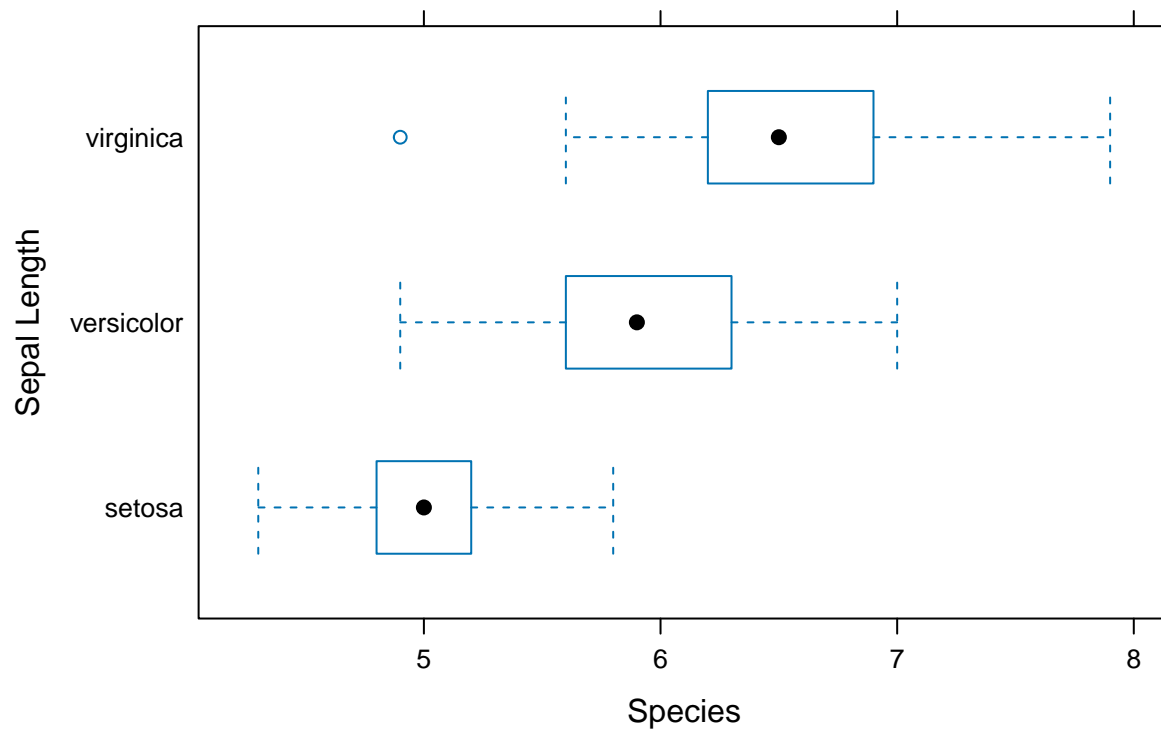## Scatter plot—-

```r
library(lattice)
xyplot(Sepal.Length ~ Sepal.Width | Species,
       data = iris,
       main = "Sepal Length vs Width by Species",
       xlab = "Sepal Width",
       ylab = "Sepal Length",
       auto.key = TRUE)
```

Sepal Length vs Width by Species

Box plot—-

```
library(lattice)
bwplot(Species ~ Sepal.Length,
       data = iris,
       main = "Box Plot of Sepal Length by Species",
       xlab = "Species",
       ylab = "Sepal Length",
       horizontal = TRUE)
```
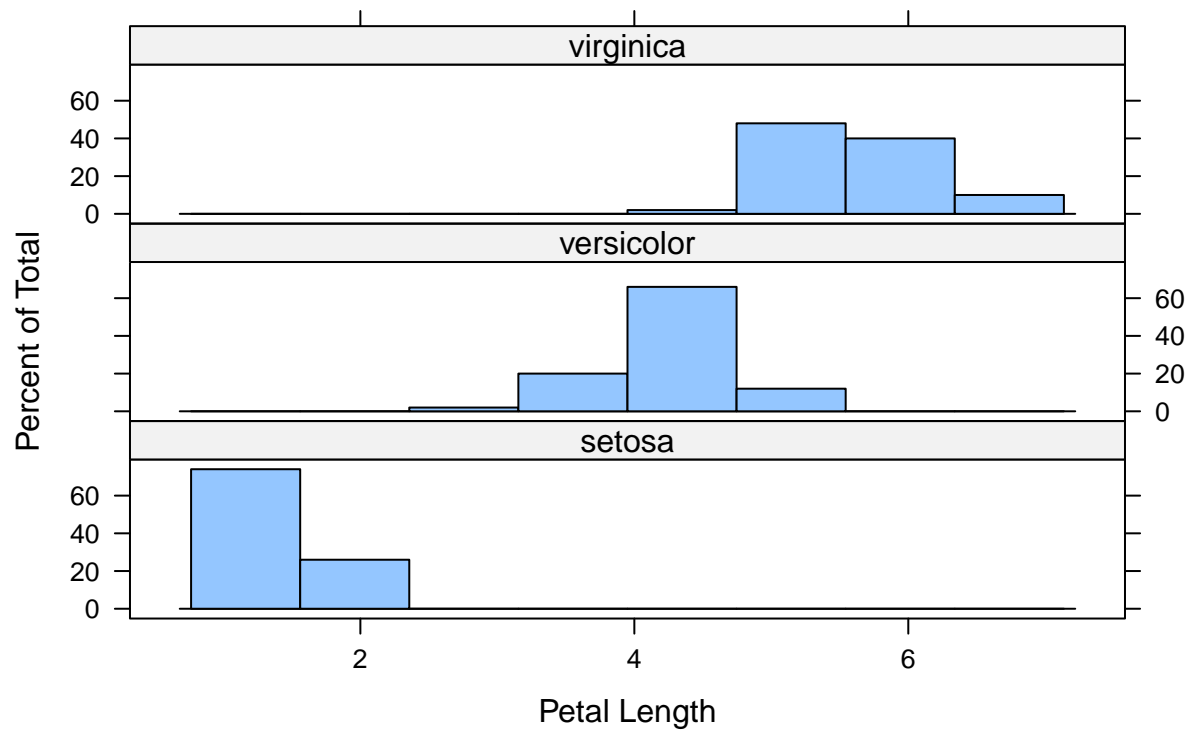
Box Plot of Sepal Length by Species

Sepal Length

virginica

versicolor

setosa

5   6   7   8
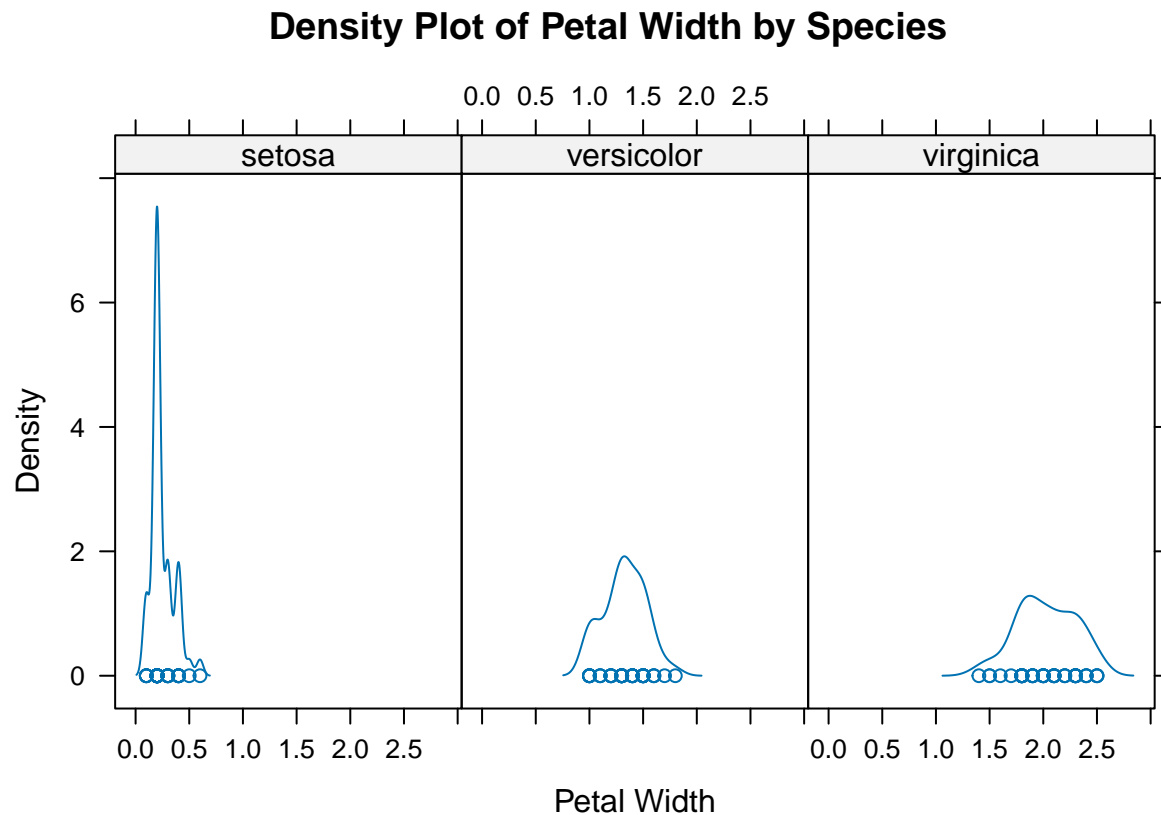
Species

Histogram——

```
library(lattice)
histogram(~ Petal.Length | Species,
        data = iris,
        main = "Histogram of Petal Length by Species",
        xlab = "Petal Length",
        layout = c(1, 3))
```

Histogram of Petal Length by Species

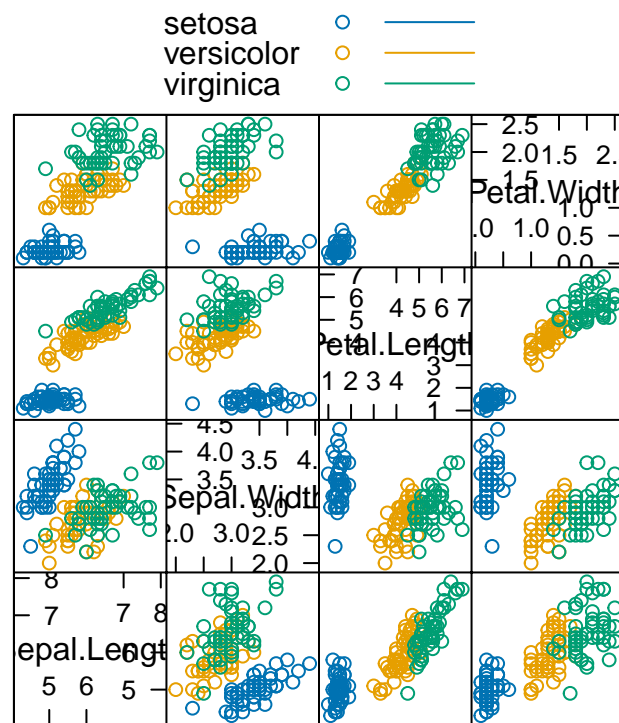Density plot—-

```
library(lattice)
densityplot(~ Petal.Width | Species,
          data = iris,
          main = "Density Plot of Petal Width by Species",
          xlab = "Petal Width",
          plot.points = TRUE)
```

Density Plot of Petal Width by Species

Scatterplot matrix—-

```r
library(lattice)
splom(iris[1:4],
      groups = iris$Species,
      main = "Scatterplot Matrix of Iris Measurements",
      panel = panel.splom,
      auto.key = list(space = "top", points = TRUE, lines = TRUE))
```

Scatterplot Matrix of Iris Measurements

setosa	○	——
versicolor	○	——
virginica	○	——

Scatter Plot Matrix

Conditioning plot——-

```r
library(lattice)
xyplot(Petal.Length ~ Petal.Width | Species,
       data = iris,
       main = "Petal Length vs Width by Species",
       xlab = "Petal Width",
       ylab = "Petal Length",
       type = c("p", "r"),  # points and regression line
       layout = c(1, 3))
```

Petal Length vs Width by Species