ROLL NO: 210701263

Exp:10

VISUALIZE DATA USING ANY PLOTTING FRAMEWORK

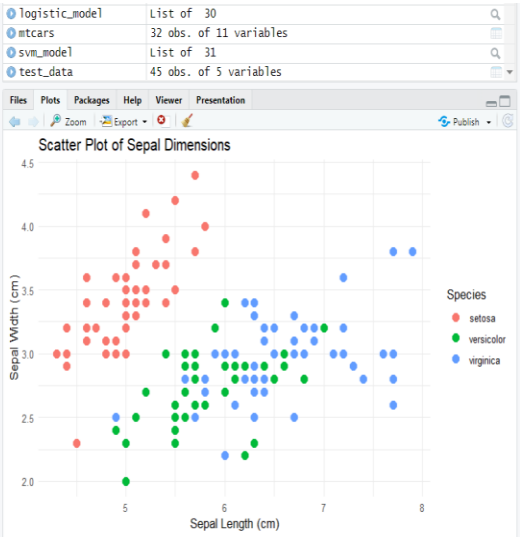
Aim: To visualize data using any plotting framework

PROCEDURE:

1) SCATTER PLOT

```
# Install ggplot2 (if not already installed)
install.packages("ggplot2")

# Load the ggplot2 package library(ggplot2)

# Scatter plot of Sepal.Length vs Sepal.Width, colored by Species
ggplot(data = iris, aes(x = Sepal.Length, y = Sepal.Width, color = Species))
+ geom_point(size = 3) + # Adds points labs(title = "Scatter Plot of Sepal
Dimensions",        x = "Sepal Length (cm)",        y = "Sepal Width (cm)") +
# Adds axis labels and title  theme_minimal()  # Applies a minimal theme
```

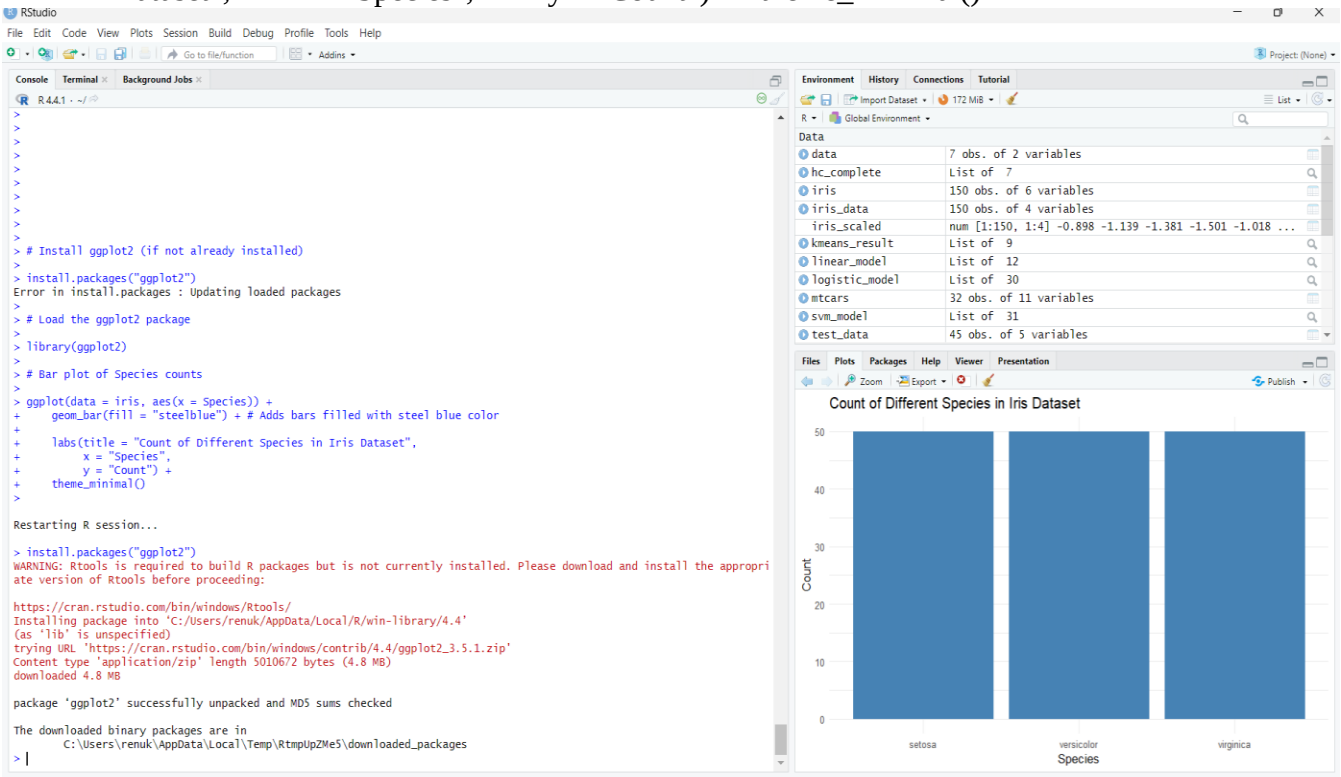
```
> # Install ggplot2 (if not already installed)
> install.packages("ggplot2")
Error in install.packages : Updating loaded packages
> # Load the ggplot2 package
> library(ggplot2)
> # Scatter plot of Sepal.Length vs Sepal.Width, colored by Species
> ggplot(data = iris, aes(x = Sepal.Length, y = Sepal.Width, color = Species)) + geom_point(size = 3) + # Adds points
+     labs(title = "Scatter Plot of Sepal Dimensions",
+          x = "Sepal Length (cm)",
+          y = "Sepal Width (cm)") + # Adds axis labels and title
+     theme_minimal() # Applies a minimal theme

Restarting R session...

> install.packages("ggplot2")
WARNING: Rtools is required to build R packages but is not currently installed. Please download and install the appropri
ate version of Rtools before proceeding:

https://cran.rstudio.com/bin/windows/Rtools/
Installing package into 'C:/Users/renuk/AppData/Local/R/win-library/4.4'
(as 'lib' is unspecified)
trying URL 'https://cran.rstudio.com/bin/windows/contrib/4.4/ggplot2_3.5.1.zip'
Content type 'application/zip' length 5010672 bytes (4.8 MB)
downloaded 4.8 MB

package 'ggplot2' successfully unpacked and MD5 sums checked

The downloaded binary packages are in
        C:\Users\renuk\AppData\Local\Temp\Rtmpgx36wK\downloaded_packages
>
```



2) BAR CHART

```
# Install ggplot2 (if not already installed)  install.packages("ggplot2")

# Load the ggplot2 package library(ggplot2)

# Bar plot of Species counts ggplot(data
```

= iris, aes(x = Species)) + geom_bar(fill = "steelblue") + # Adds bars filled with steel blue color labs(title = "Count of Different Species in Iris
Dataset", x = "Species", y = "Count") + theme_minimal()

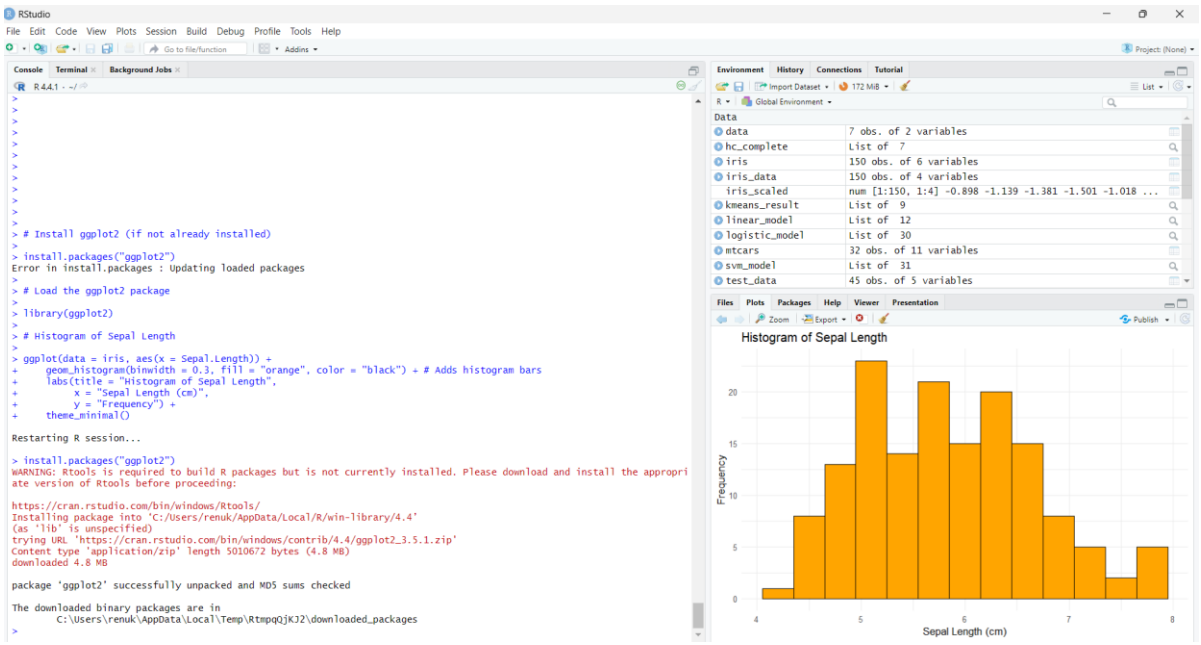


3) HISTOGRAM

# Install ggplot2 (if not already installed)
install.packages("ggplot2")

Load the ggplot2 package library(ggplot2)

Histogram of Sepal Length
ggplot(data = iris, aes(x = Sepal.Length)) +
geom_histogram(binwidth = 0.3, fill = "orange", color = "black") + # Adds histogram bars
labs(title = "Histogram of Sepal Length", x = "Sepal Length (cm)", y = "Frequency") +
theme_minimal()



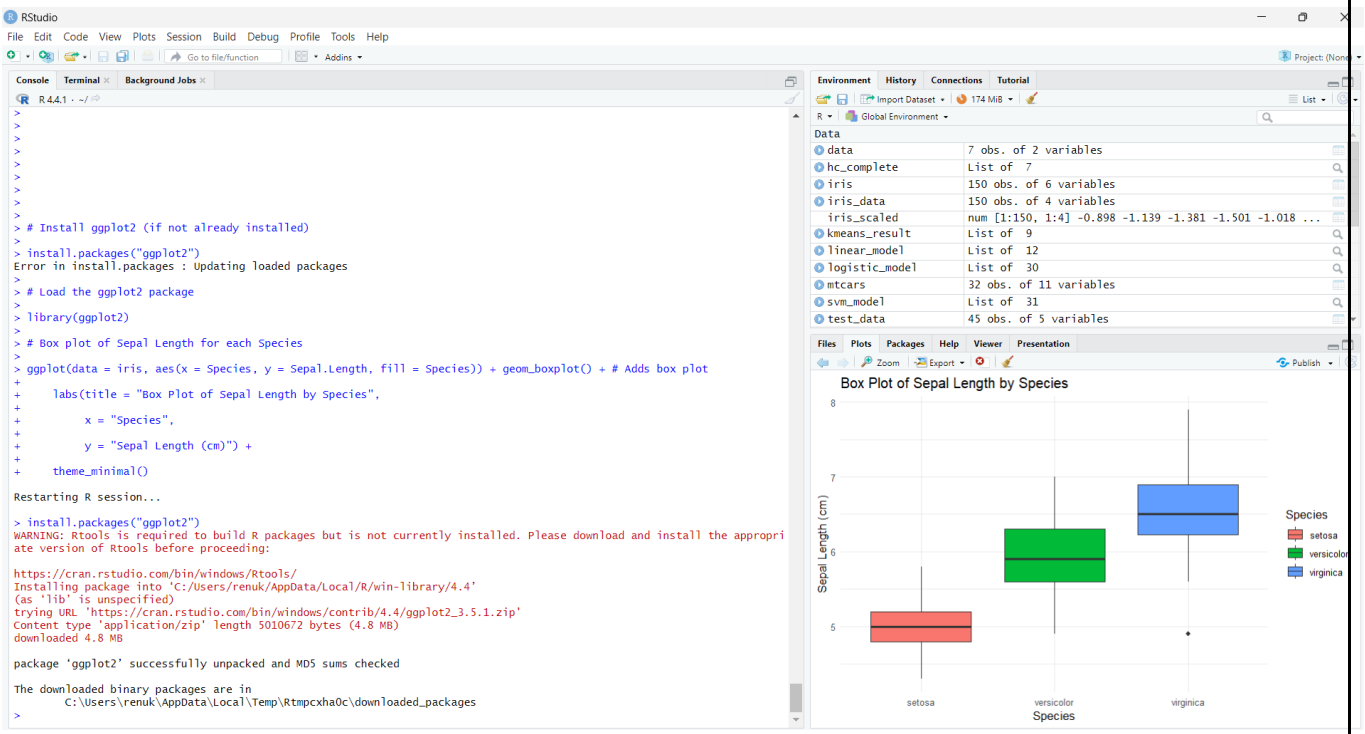
4)BOX PLOT

Install ggplot2 (if not already installed)

install.packages("ggplot2")

Load the ggplot2 package library(ggplot2)

Box plot of Sepal Length for each Species ggplot(data = iris, aes(x = Species, y = Sepal.Length, fill = Species)) + geom_boxplot() + # Adds box plot labs(title = "Box Plot of Sepal Length by Species", x = "Species", y = "Sepal Length (cm)") + theme_minimal()



RESULT:

Thus data using any plotting framework is visualiziedsuccessfully.