VISUALIZE DATA USING ANY PLOTTING FRAMEWORK

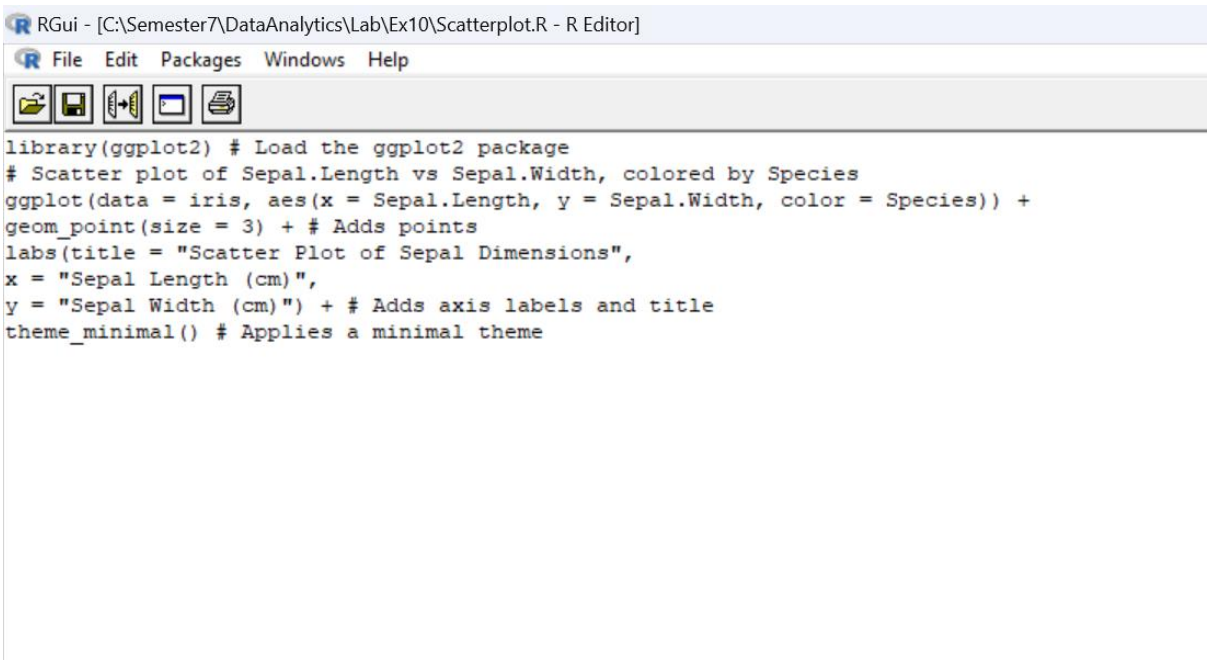
AIM:

To visualize data using plotting framework like scatter plot, Bar chart, Histogram and Box Plot using R.

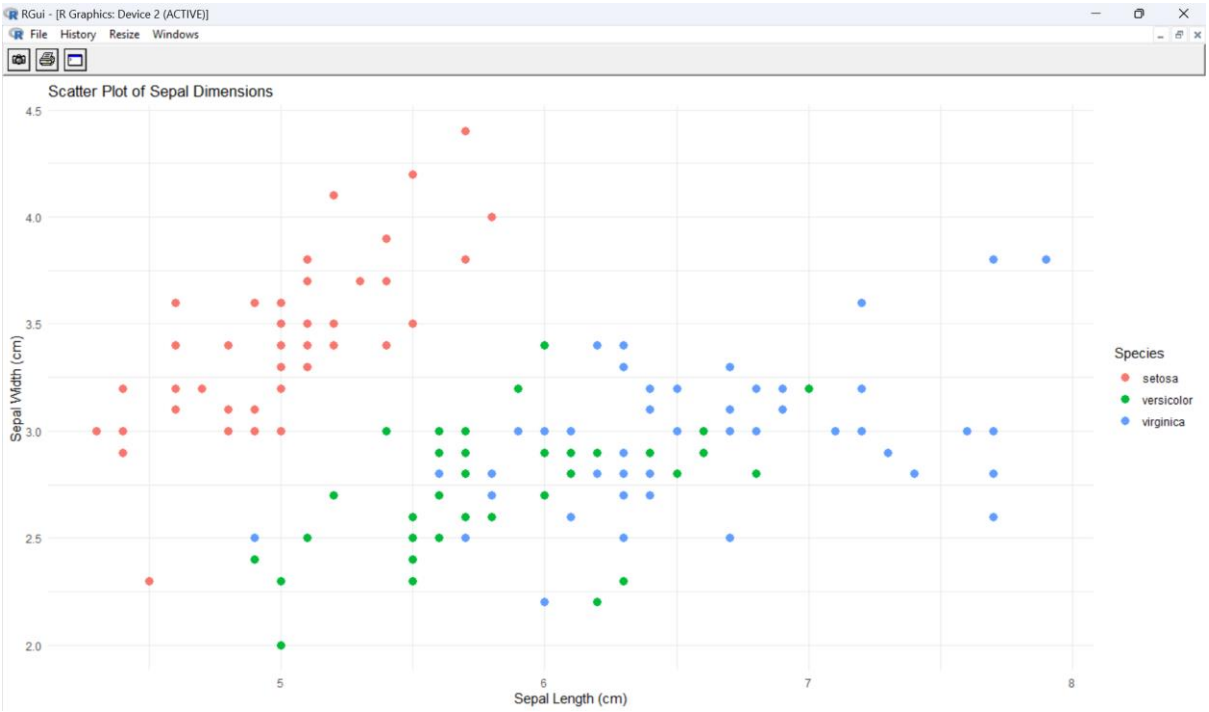
Scatter Plot:

PROGRAM:

```
library(ggplot2) # Load the ggplot2 package
# 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
```



OUTPUT:



Bar Graph:

PROGRAM:

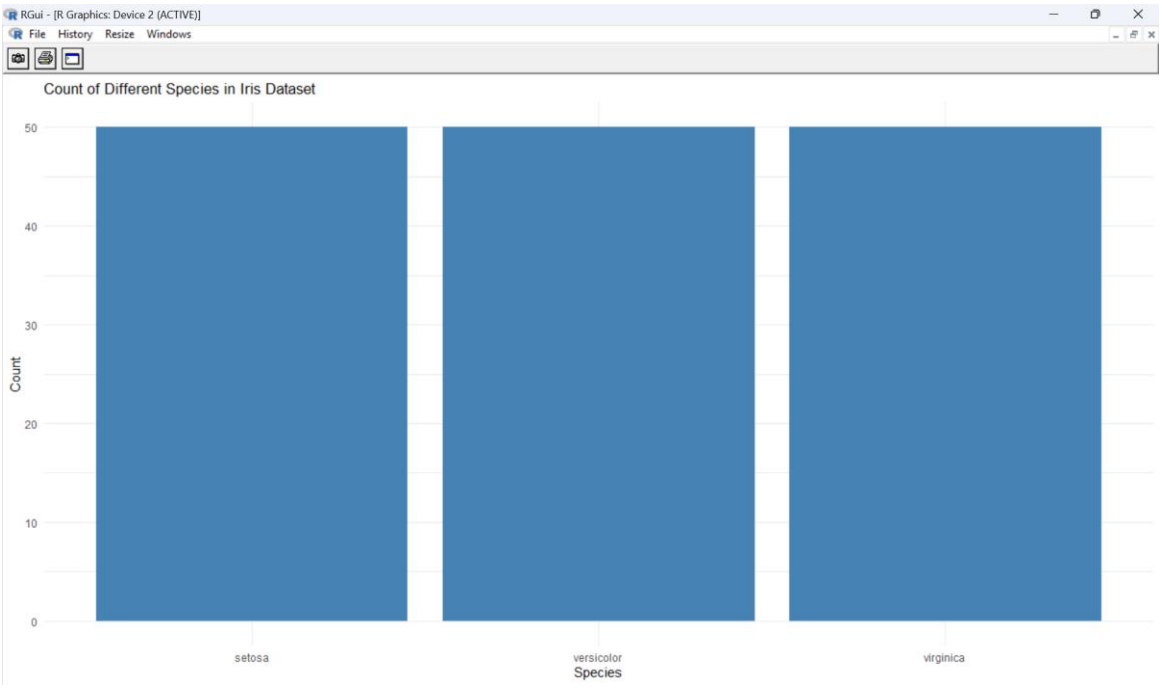
```
# Load the ggplot2 package

library(ggplot2)

# Bar plot of Species counts

ggplot(data = iris, aes(x = Species)) + geom_bar(fill = "steelblue") + labs(title = "Count of Different Species in Iris Dataset", x = "Species", y = "Count") + theme_minimal()
```

OUTPUT:

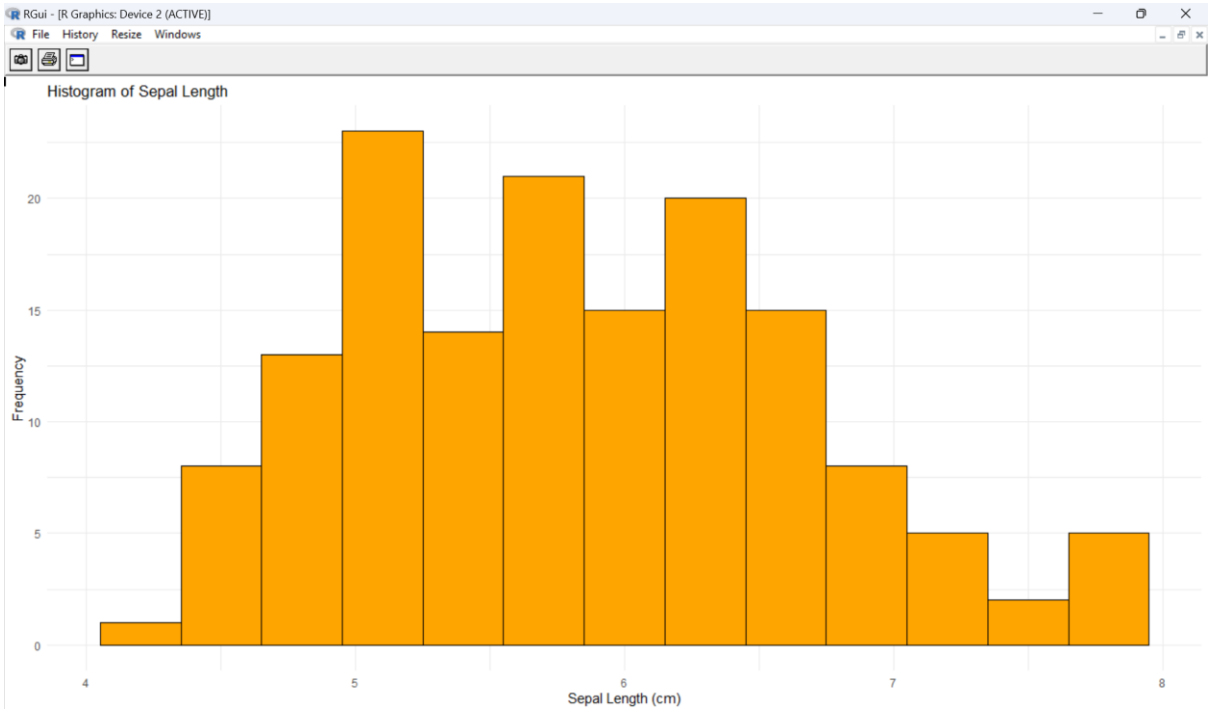


Histogram:

PROGRAM:

```
# 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") +
labs(title = "Histogram of Sepal Length",
x = "Sepal Length (cm)",
y = "Frequency") +
theme_minimal()
```

OUTPUT:



Box Plot:

PROGRAM:

```
# 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() +
labs(title = "Box Plot of Sepal Length by Species",
x = "Species",
y = "Sepal Length (cm)") +
theme_minimal()
```

OUTPUT:

RESULT:

Thus, data visualization using scatter plot, bar graph, histogram and box plot was implemented successfully using R.