#### **Ex No 10**

## Visualize Data using Any plotting Framework

#### AIM:

To Visualize Data using Any plotting Frame work using R programming.

#### **PROCEDURE:**

- Install Plotly using pip install plotly if it's not already installed.
- Import the necessary libraries: import plotly.express as px and import pandas as pd.
- Load your dataset into a DataFrame using pd.read\_csv() or other data loading methods.
- Explore the dataset to understand its structure, variables, and potential visualizations.
- Choose the appropriate Plotly function (e.g., px.scatter, px.bar,px.line) based on the type of data and the desired plot.
- Define the x and y axes by specifying the columns from the DataFrame.
- Customize the plot by adding titles, labels, color coding, and other plot-specific attributes.
- Add interactive elements like hover data, tooltips, or facet plots for deeper insights.
- Render the plot using fig.show() to display it in a web browser or inline in a notebook.
- Save the plot to an HTML file or as a static image using fig.write\_html() or fig.write\_image().

#### **CODE:**

#### **Scatter Plot.R:**

#### Bar Chart.R:

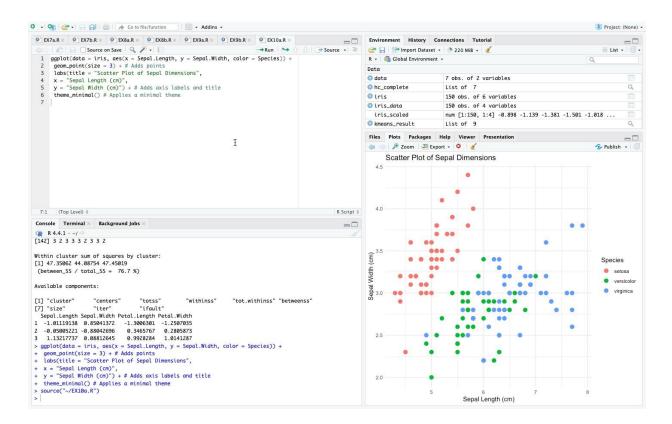
y = "Sepal Length (cm)") +

theme\_minimal()

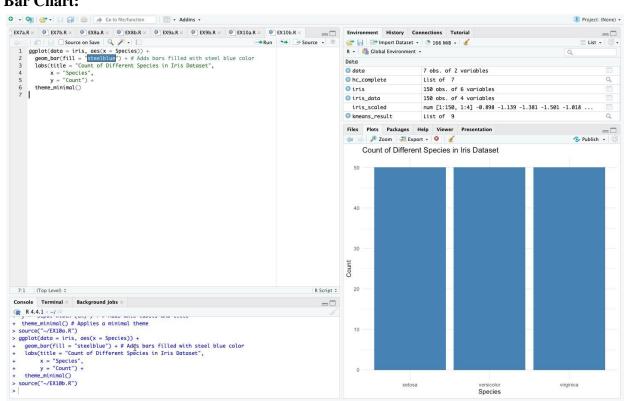
```
# Install ggplot2 (if not already installed)
install.packages("ggplot2")
# Load the ggplot2 package
library(ggplot2)
# Bar plot of Species counts
ggplot(data = iris, aes(x = Species)) +
 geom_bar(fill = "steelblue") + # Adds bars filled with steel blue color
 labs(title = "Count of Different Species in Iris Dataset",
     x = "Species",
    y = "Count") +
  theme_minimal()
Histogram.R:
# 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()
Box Plot.R:
# Install ggplot2 (if not already installed)
install.packages("ggplot2")
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",
```

## **OUTPUT:**

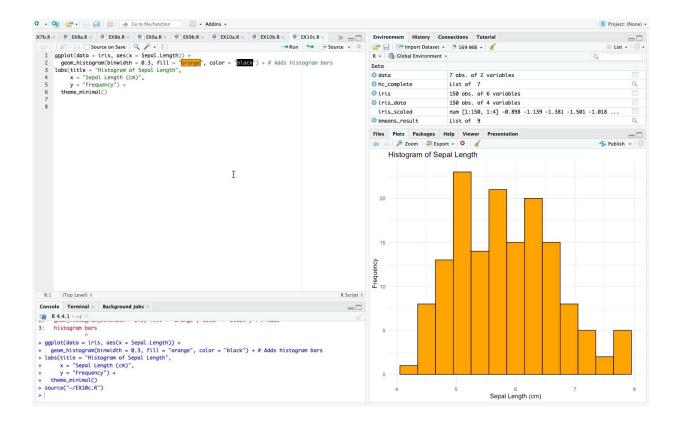
#### **Scatter Plot:**



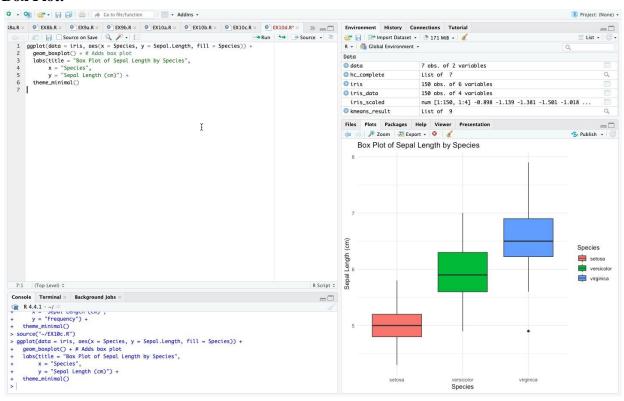
## **Bar Chart:**



## **Histogram:**



## **Box Plot:**



# **RESULT:**

Thus, Visualizing Data using any plotting framework using R programming has been successfully executed.