Exp.No: 10

Visualize Data using Any plotting Framework

AIM:

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

PROCEDURE:

- Install Plotly if it's not already present by running pip install plotly.
- Import the required libraries: import plotly.express as px and import pandas as pd.
- Load your dataset into a DataFrame using pd.read_csv() or other suitable methods for data loading.
- Examine the dataset to grasp its structure, variables, and potential visualizations.
- Select the appropriate Plotly function (e.g., px.scatter, px.bar, px.line) based on the data type and the visualization you wish to create.
- Specify the x and y axes by selecting the corresponding columns from the DataFrame.
- Enhance the plot by adding titles, axis labels, color coding, and other relevant attributes.
- A Introduce interactive features such as hover data, tooltips, or facet plots for enriched insights.
- Render the plot using fig.show() to display it in a web browser or inline within a notebook.
- Save the visualization to an HTML file or as a static image using fig.write_html() or fig.write_image().

PROGRAM:

Scatter Plot.R:

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

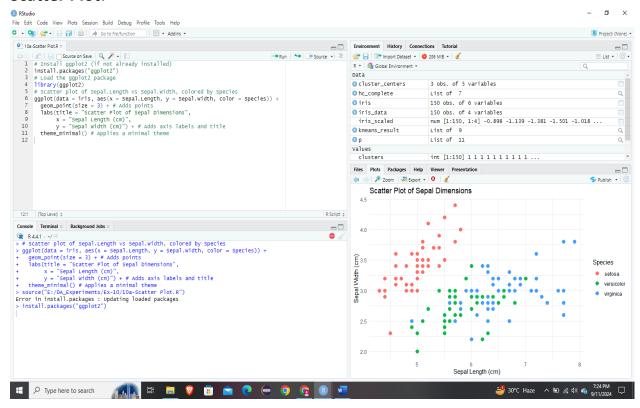
```
# Load the ggplot2 package
library(ggplot2)
# Scatter plot of Sepal.Length vs Sepal.Width, colored by Species
ggplot(data = iris, aes(x = Sepal.Length, y = Sepal.Width, color = Species)) +
 geom point(size = 3) + # Adds points
 labs(title = "Scatter Plot of Sepal Dimensions",
    x = "Sepal Length (cm)",
    y = "Sepal Width (cm)") + # Adds axis labels and title
 theme_minimal() # Applies a minimal theme
Bar Chart.R:
# 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:

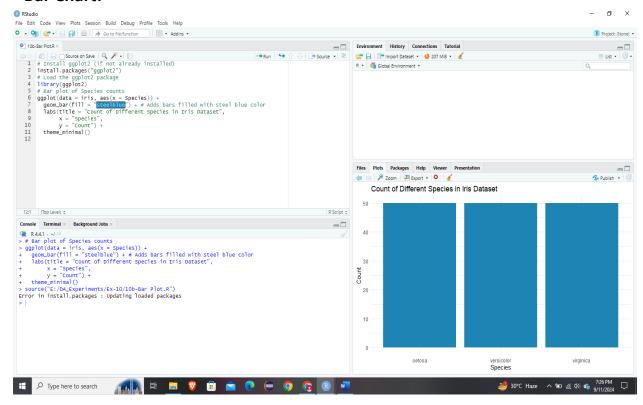
OUTPUT:

Scatter Plot:

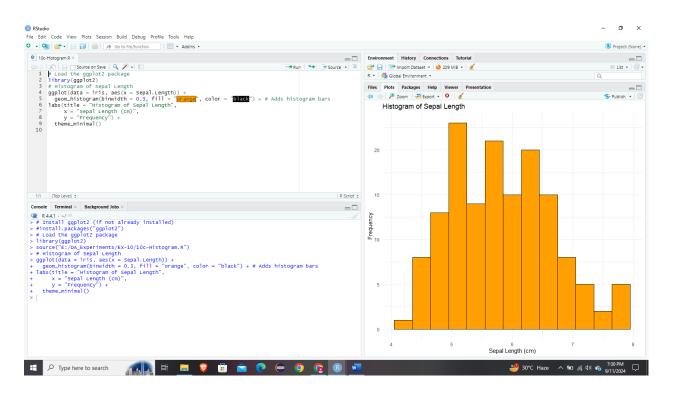


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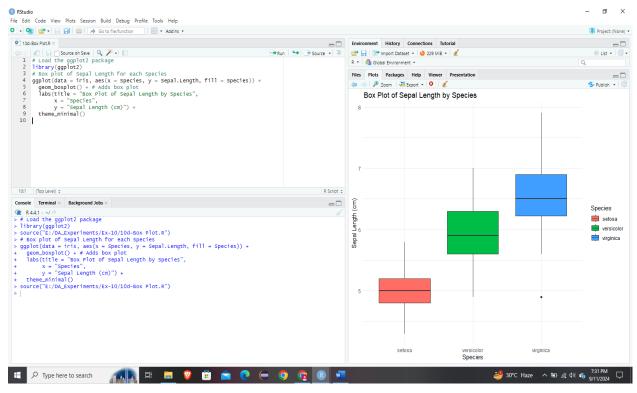
Bar Chart:



Histogram:



Box Plot:



RESULT:

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