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:

```
# 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:

Histogram.R:

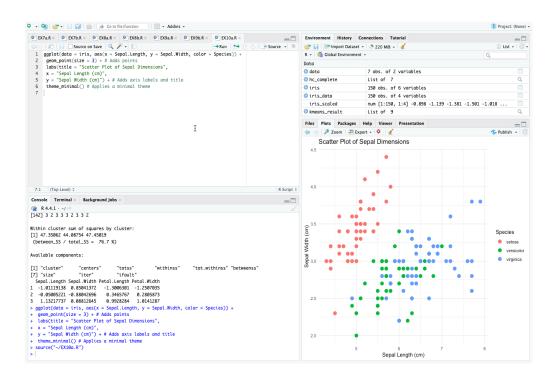
```
# Install ggplot2 (if not already installed)
install.packages("ggplot2")
# Load the ggplot2 package
library(ggplot2)
# Histogram of Sepal Length
ggplot(data = iris, aes(x = Sepal.Length)) +
geom_histogram(binwidth = 0.3, fill = "orange", color = "black") + # Adds histogram bars
```

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

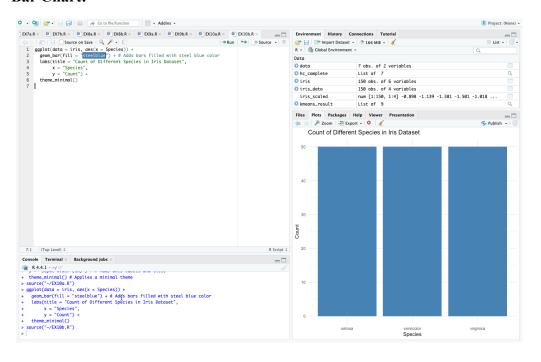
Box Plot.R:

OUTPUT:

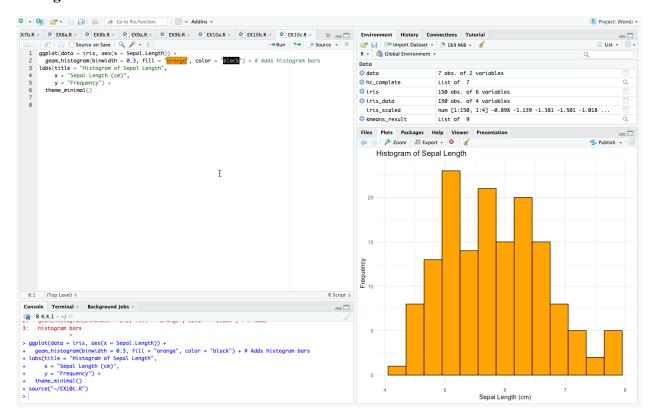
Scatter Plot:



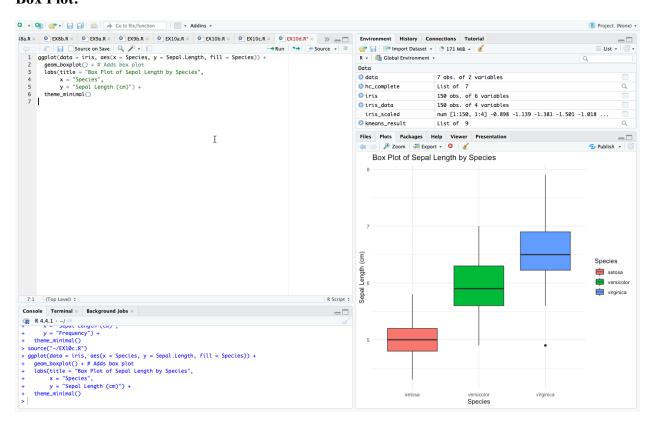
Bar Chart:



Histogram:



Box Plot:



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