Ex.No – 10 Roll No – 210701149

Visualize Data Using any Plotting Framework

AIM:

To visualize data using any plotting framework in python.

PROCEDURES:

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

CODE:

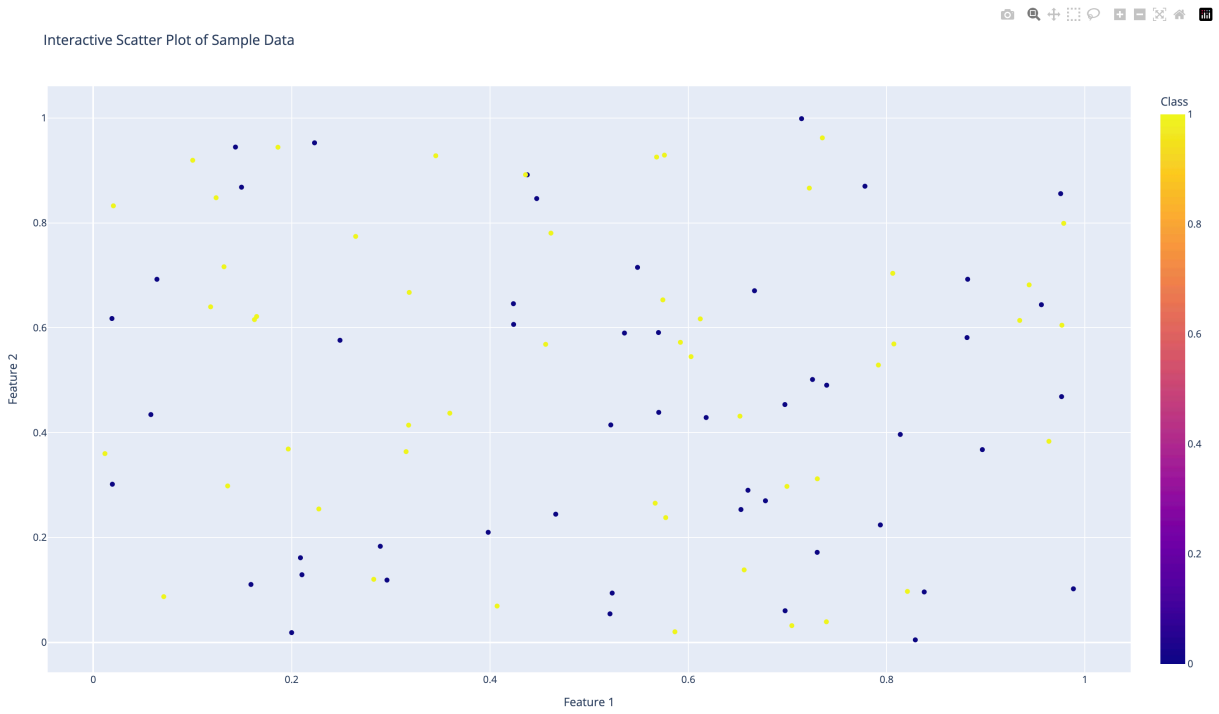
```
import plotly.express as px
import numpy as np
import pandas as pd

# Generating some random data
np.random.seed(0)
X = np.random.rand(100, 2)
y = np.random.choice([0, 1], size=100)

# Create a DataFrame
data = pd.DataFrame(X, columns=["Feature 1", "Feature 2"])
data['Class'] = y

# Scatter plot with Plotly
fig = px.scatter(data, x='Feature 1', y='Feature 2', color='Class',
                 title="Interactive Scatter Plot of Sample Data")
fig.show()
```

OUTPUT:



RESULT:

Thus, to visualize data using any plotting framework in python is done successfully.