Marwadi University Marwadi Chandarana Group NAAC A+	**Marwadi University** **Faculty of Engineering & Technology** **Department of Information and Communication Technology**	
Subject: Programming With Python (01CT1309)	**Aim:** Practical based on Data Visualization with Plotly	
Experiment No: 24	**Date:**	**Enrollment No: 92400133037**

Aim: Practical based on Data Visualization with Plotly

IDE:

Installation

pip install plotly pandas

Creating a Sample Dataset

import pandas as pd

import plotly.express as px

Creating a Sample Dataset

```
# Sample data
data = {
    'Product': ['A', 'B', 'C', 'D', 'E'],
    'Sales': [100, 200, 150, 300, 250],
    'Profit': [30, 70, 50, 120, 90]
}
df = pd.DataFrame(data)
```

Creating Basic Visualizations

Bar Chart

Bar chart for Sales

A bar chart is great for comparing quantities across categories.

```
fig = px.bar(df, x='Product', y='Sales', title='Sales by Product')
fig.show()
```

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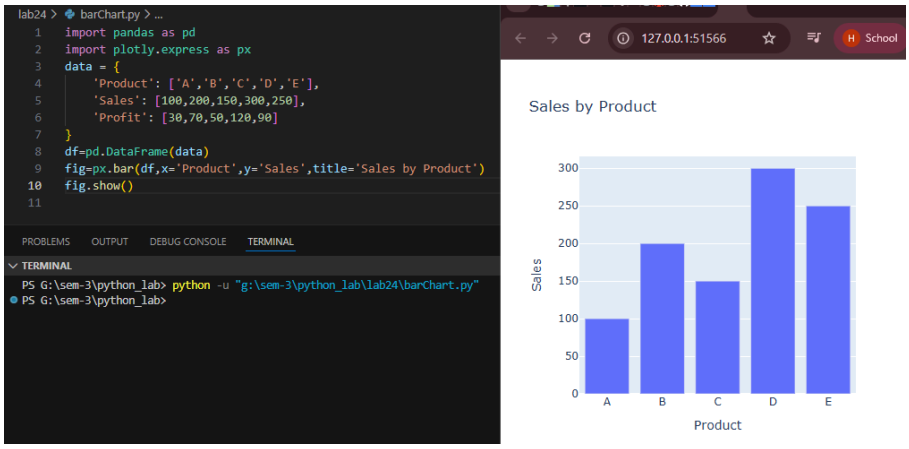


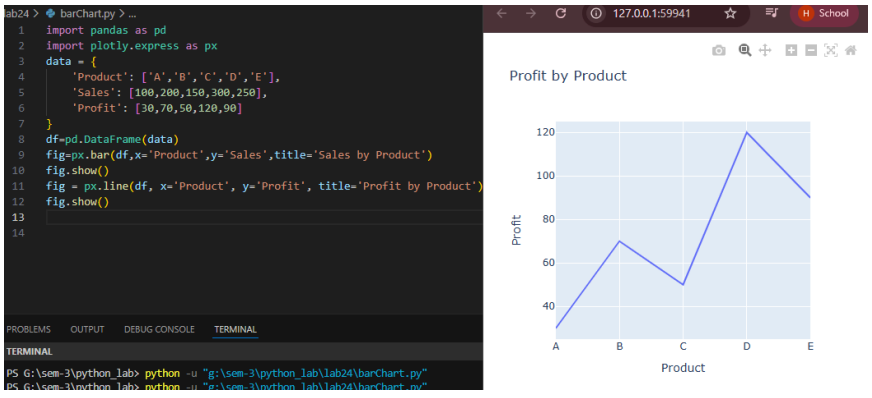
Line Chart

A line chart can help visualize trends over time or categories.

Line chart for Profit

fig = px.line(df, x='Product', y='Profit', title='Profit by Product')

fig.show()



Scatter Plot

A scatter plot is useful for examining the relationship between two numerical variables.

Scatter plot for Sales vs. Profit

fig = px.scatter(df, x='Sales', y='Profit', color='Product', title='Sales vs. Profit')

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fig.show()

Customizing Visualizations

Plotly allows for extensive customization. Let’s enhance our bar chart with more features.

Enhanced Bar chart

fig = px.bar(df, x='Product', y='Sales',

title='Sales by Product',

color='Profit', # Color by Profit

text='Sales') # Show sales value on bars

Customize layout

fig.update_layout(xaxis_title='Product',

yaxis_title='Sales',

legend_title='Profit',

template='plotly_dark') # Change template

fig.show()

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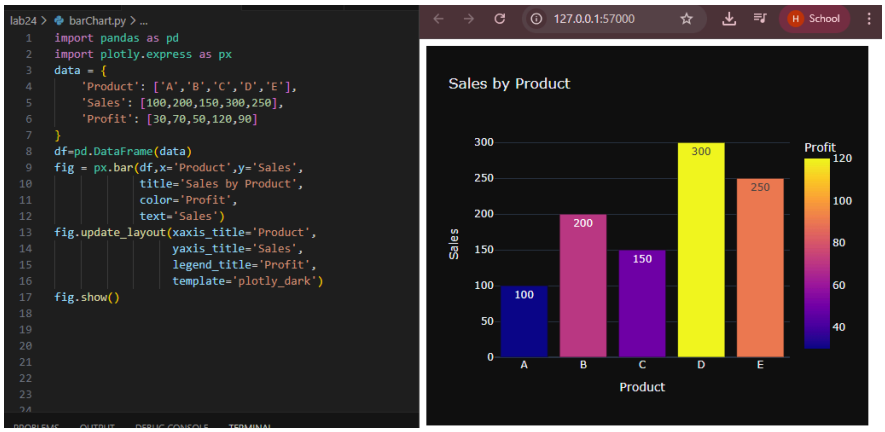


Exporting Visualizations

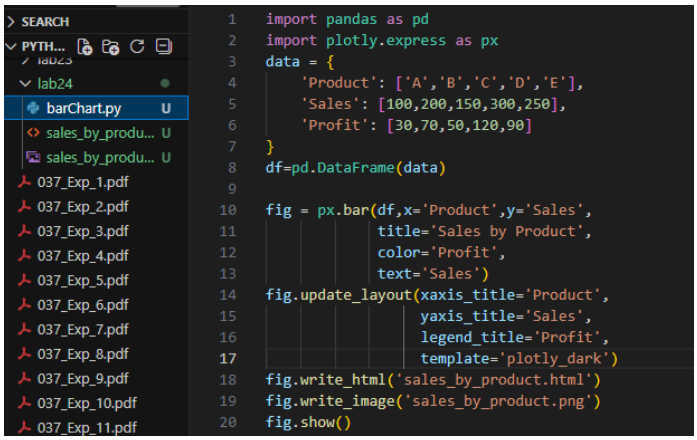
Plotly figures as static images or HTML files.

Save the figure as an HTML file

fig.write_html('sales_by_product.html')

Save the figure as a PNG file (you may need to install kaleido)

fig.write_image('sales_by_product.png')



GITHUB LINK:
https://github.com/Heer972005/Python_Lab