	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:92400133131**

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') 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()

Exporting Visualizations

Plotly figures as static images or HTML files.

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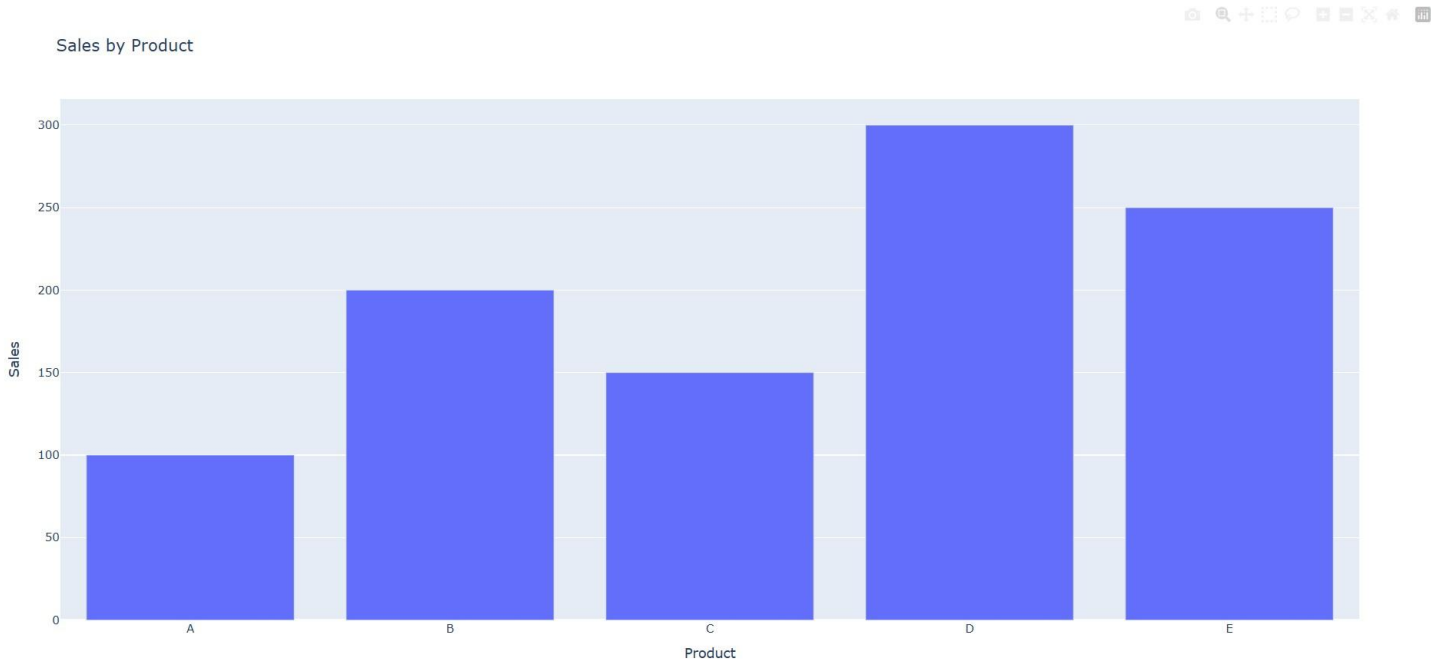
Save the figure as an HTML file

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')\ output:-



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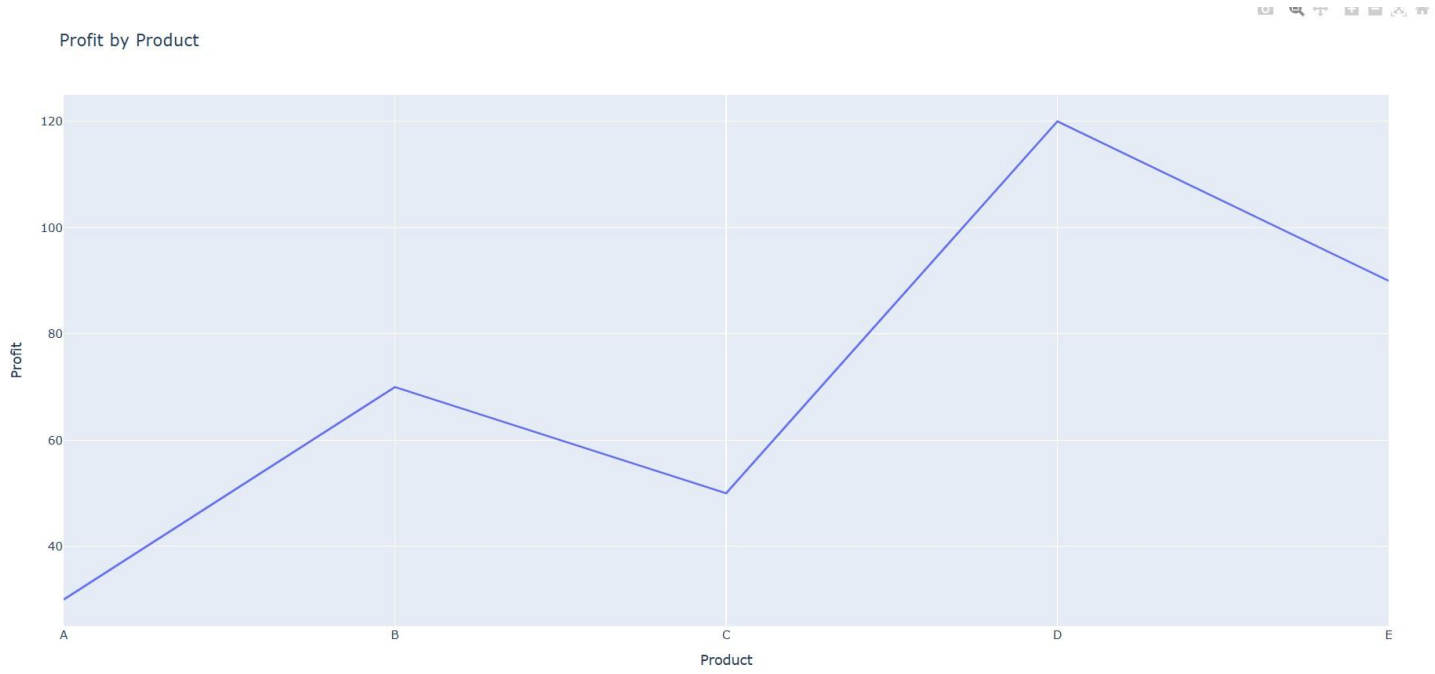

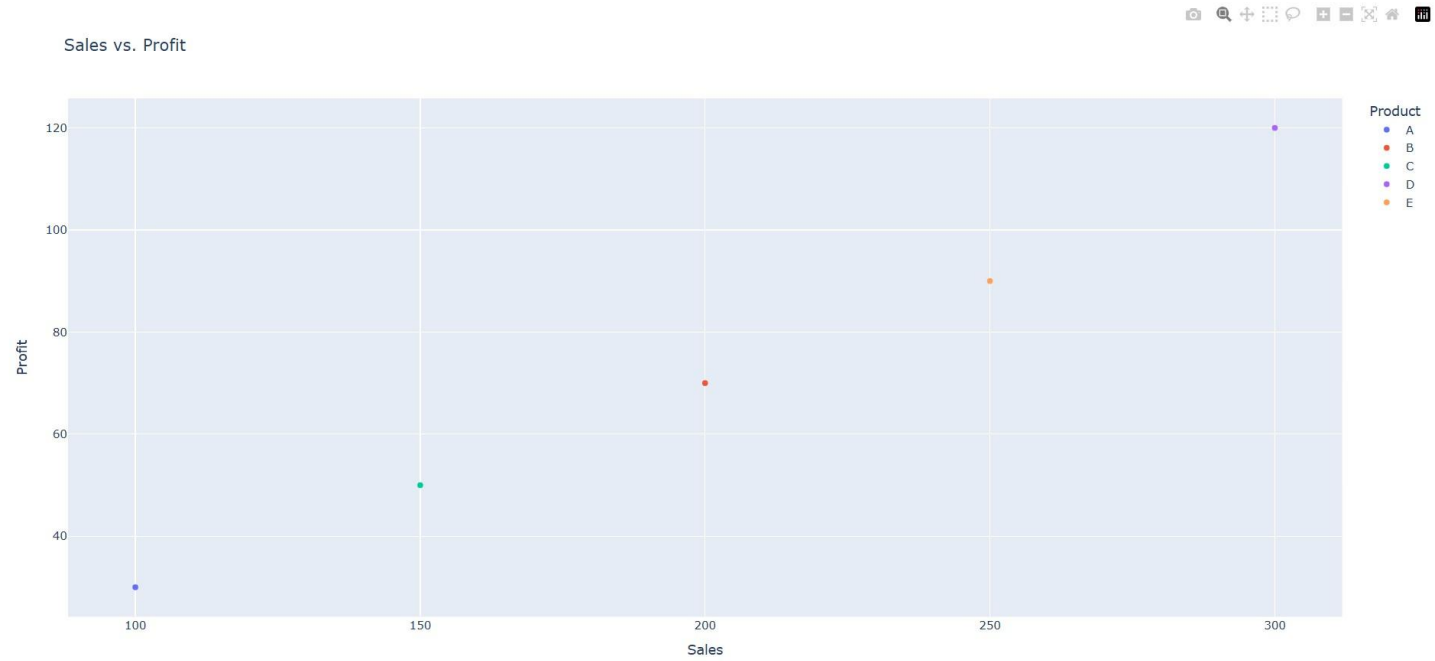

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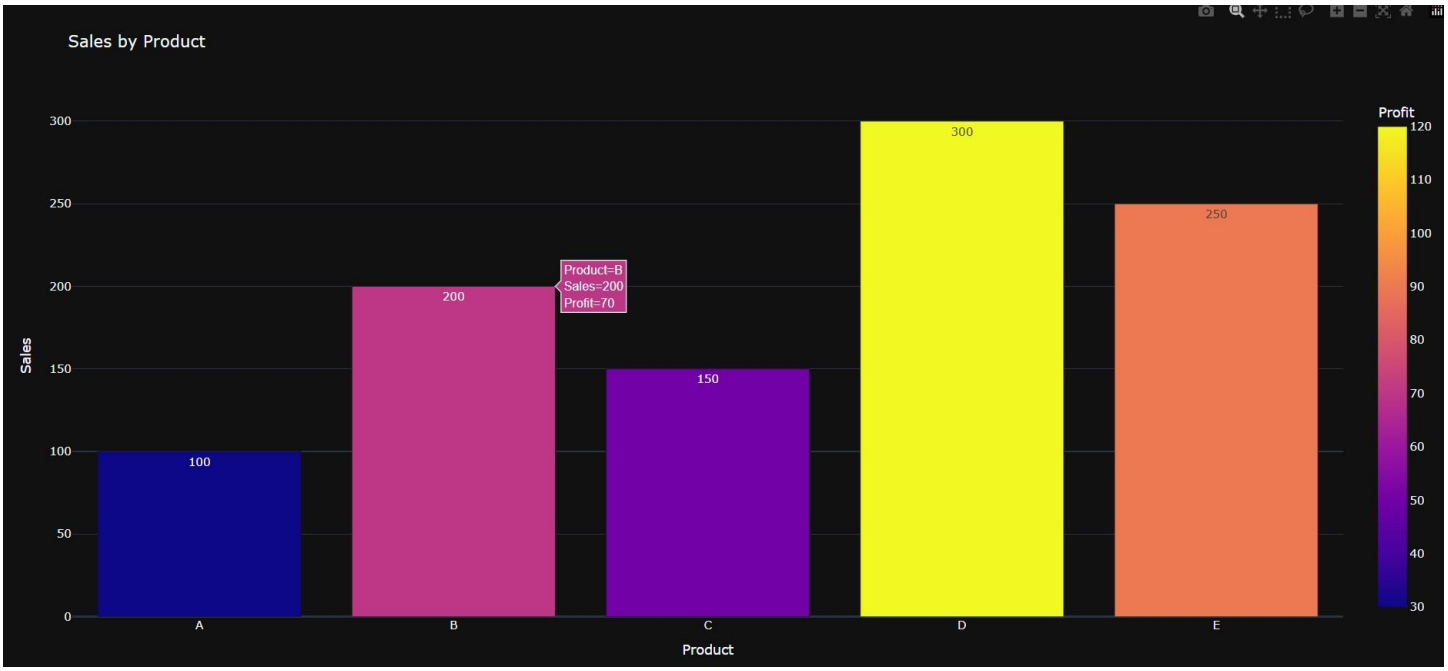

Girhub link :- https://github.com/farhan-web404/farhankaladiya.git