10/10/25

Task 10 : Use Matplotlib module for plotting in Python.

Aim : To visualize and analyze the Sales performance of three products using line, bar, and pie charts in python with Matplotlib

Algorithm :

- Import Matplotlib.pyplot as plt.
- Define monthly sales data for 3 product over 6 months.
- plot a line chart showing monthly trends calculate total sales and plot a bar chart
- use last month's data to plot a pie chart for market share
- Add titles, labels, legends, and grid lines for clarity.

program :

```
import matplotlib.pyplot as plt
months = ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun']
product_A = [120, 135, 150, 160, 145, 170]
product_B = [100, 115, 130, 125, 140, 155]
product_C = [90, 105, 95, 110, 120, 130]

# 1. Line chart
plt.figure(figsize = (8,5))
plt.plot(months, product_A, marker = 'O',
         label = 'product A')
plt.plot(months, product_B, marker = 'S',
         label = 'product B')
plt.plot(months, product_C, marker = 'A',
         label = 'product C')
plt.title('Monthly Sales Trend')
```

Output

1. Line chart – Monthly Sales trend

X-axis : Jan → Jun

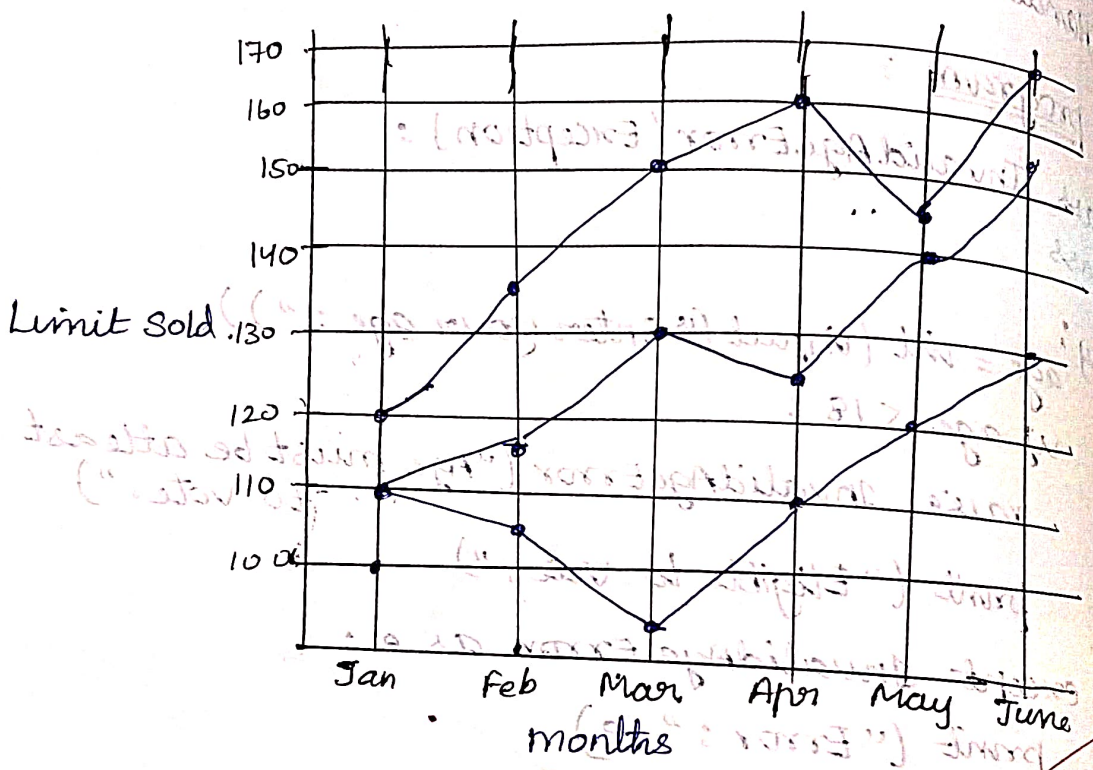
Y-axis : units sold

3 lines :

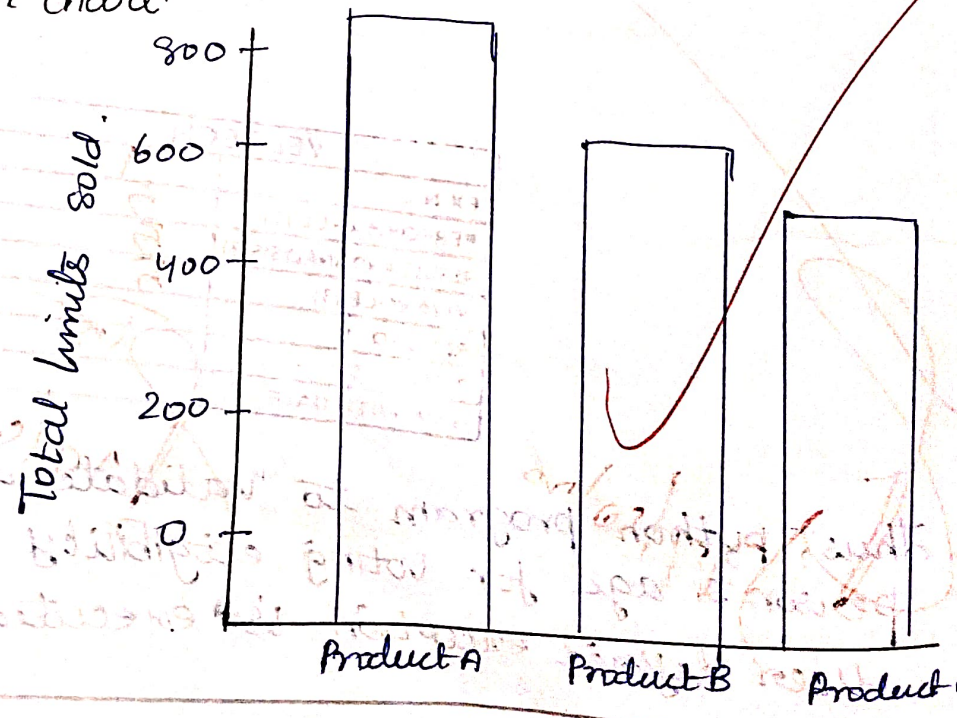
product A (○ markers)

product B (□ markers)

product C (△ markers.

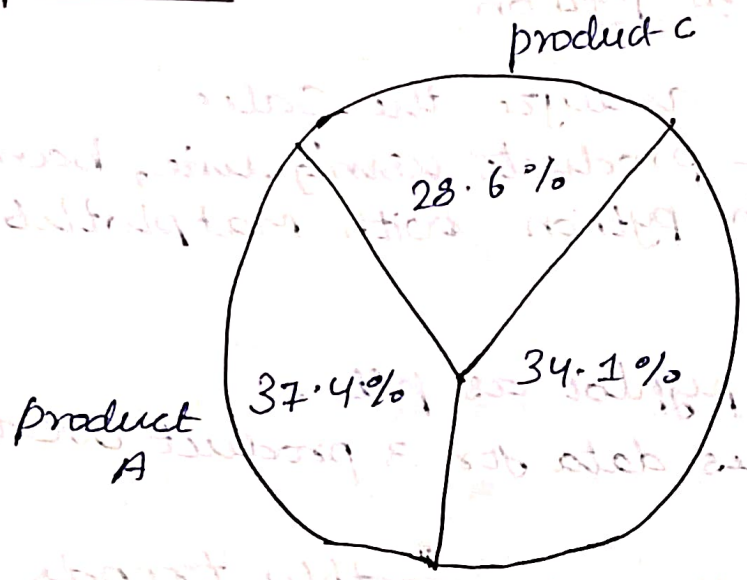


2. Bar chart



pie chart

Market Share - June



```
plt.xlabel('Month')
plt.ylabel('units sold')
plt.legend()
plt.grid(True)
plt.show()
```

2. Bar chart - Total Sales

```
total_A = sum(product_A)
total_B = sum(product_B)
total_c = sum(product_c)
products = ['product A', 'product B', 'product c']
totals = [total_A, total_B, total_c]
plt.figure(figsize=(6,4))
plt.bar(products, totals, color=['blue', 'green', 'orange'])
plt.title('Total Sales comparison')
plt.ylabel('Total units sold')
plt.grid(axis='y')
plt.show()
```

3. pie chart - Market Share in Last month

```
last_month_sales = [product_A[-1], product_B[-1], product_c[-1]]
plt.figure(figsize=(5,5))
plt.pie(last_month_sales, labels=products, autopct='%1.1f%%', startangle=140)
plt.title('Market Share - June')
plt.show()
```

VELTECH	
EX No.	10
PERFORMANCE (5)	5
RESULT AND ANALYSIS (3)	3
VIVA VOCE (3)	5
RECORD (4)	—
TOTAL (15)	13
SIGN WITH DATE	

Result: Thus python program to use matplotlib module for plotting is executed.