LAB EXPERIMENTS DAY 3

DATE: 10/01/2026

FUNDAMENTALS OF DATA SCIENCE

11.

Question:

1. Write code to create a simple line plot in Python using Matplotlib to predict sales happened in a

month?

2. Write code to create a scatter plot in Python using Matplotlib to predict sales happened in a

month?

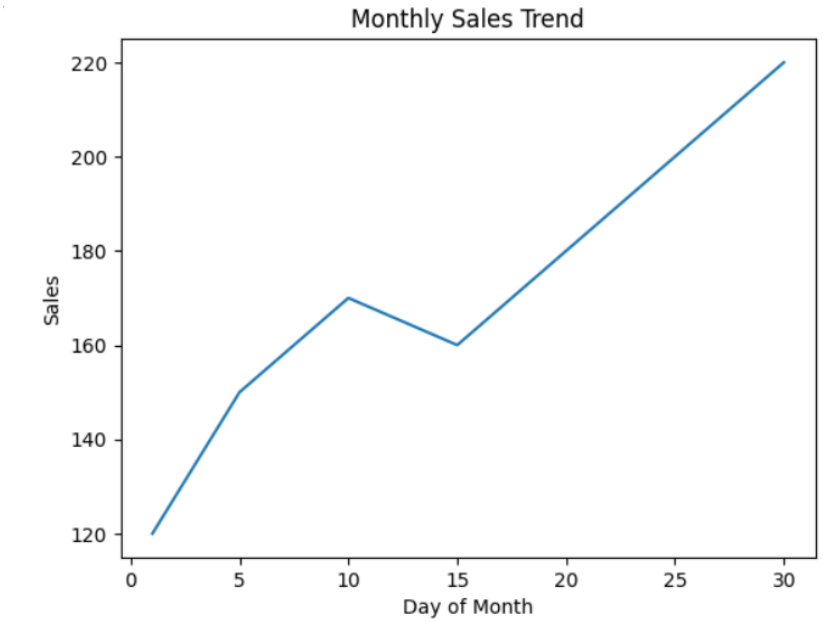
3. Develop a Python program to create a bar plot of the monthly sales data.

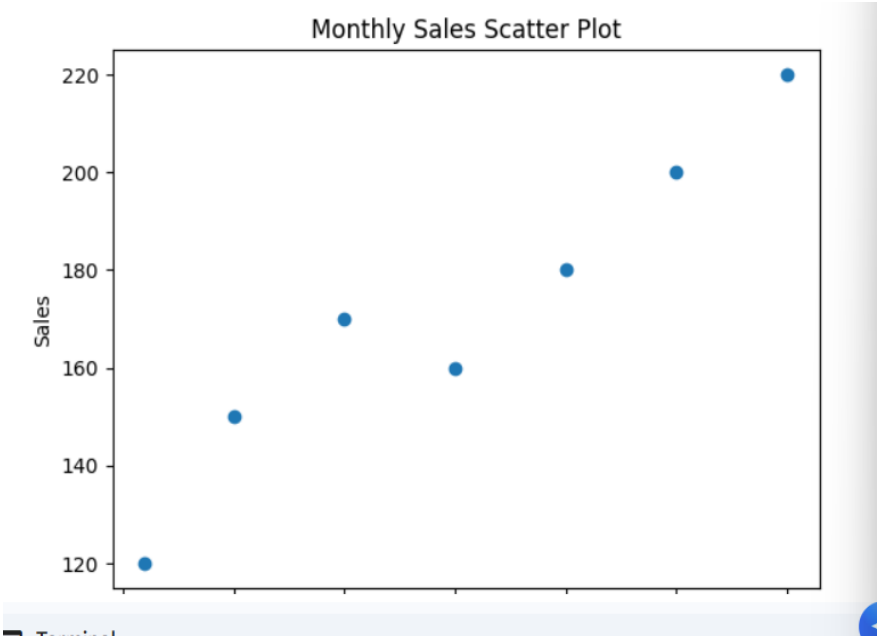
CODE:

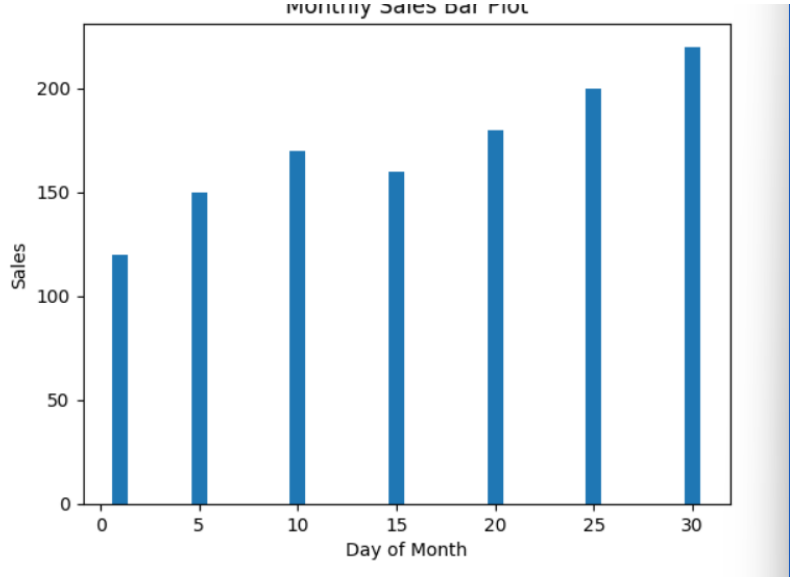
```
import matplotlib.pyplot as plt

days = [1, 5, 10, 15, 20, 25, 30]

sales = [120, 150, 170, 160, 180, 200, 220]

plt.plot(days, sales)

plt.xlabel("Day of Month")

plt.ylabel("Sales")

plt.title("Monthly Sales Trend")

plt.show()

plt.scatter(days, sales)
```

```
plt.xlabel("Day of Month")
plt.ylabel("Sales")
plt.title("Monthly Sales Scatter Plot")
plt.show()
plt.bar(days, sales)
plt.xlabel("Day of Month")
plt.ylabel("Sales")
plt.title("Monthly Sales Bar Plot")
plt.show()
```

OUTPUT:




Monthly Sales Scatter Plot
Sales
220
200
180
160
140
120


Monthly Sales Bar Plot
Sales
200
150
100
50
0
0
5
10
15
20
25
30
Day of Month

12.

Question:

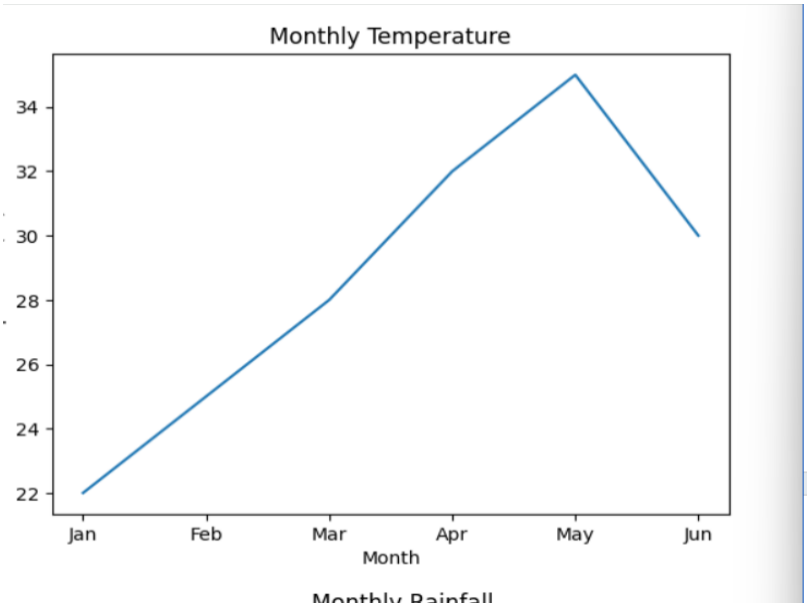
1. Develop a Python program to create a line plot of the monthly temperature data.

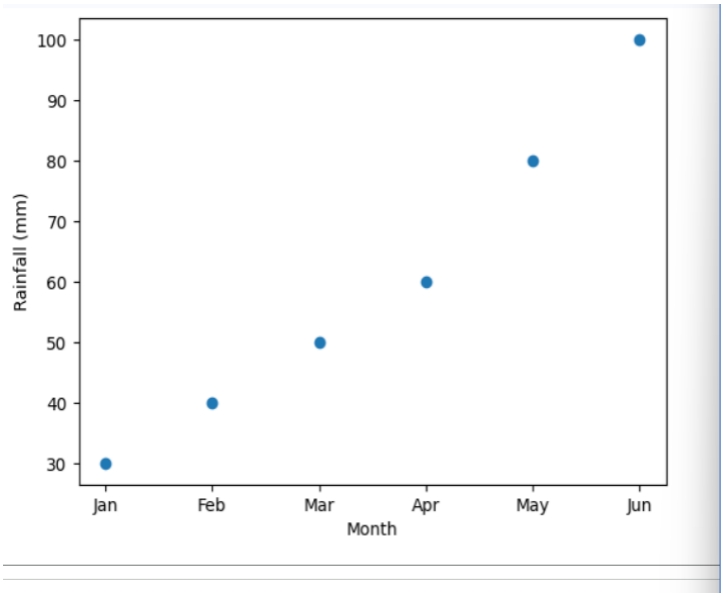
2: Develop a Python program to create a scatter plot of the monthly rainfall data.

CODE:

```
months = ["Jan","Feb","Mar","Apr","May","Jun"]
temperature = [22, 25, 28, 32, 35, 30]
rainfall = [30, 40, 50, 60, 80, 100]
plt.plot(months, temperature)
plt.xlabel("Month")
plt.ylabel("Temperature (°C)")
plt.title("Monthly Temperature")
plt.show()
plt.scatter(months, rainfall)
plt.xlabel("Month")
plt.ylabel("Rainfall (mm)")
plt.title("Monthly Rainfall")
plt.show()
```

OUTPUT


Monthly Temperature
34
32
30
28
26
24
22
Jan
Feb
Mar
Apr
May
Jun
Month


100
90
80
70
60
50
40
30
Rainfall (mm)
Jan
Feb
Mar
Apr
May
Jun
Month

13.

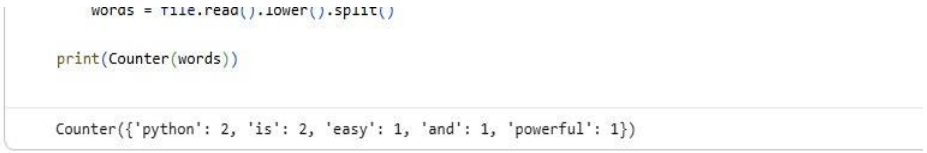
Question: How would you develop a Python program to calculate the frequency distribution of

words in a text document?

CODE

```
from collections import Counter
with open("teju_dharu.txt", "r", encoding="utf-8") as file:
    words = file.read().lower().split()
print(Counter(words))
```

OUTPUT



14.

Question: Develop a code in python to find the frequency distribution of the ages of the customers

who have made a purchase in the past month.

CODE:

```
import pandas as pd
data = {'Age': [22, 25, 30, 25, 40, 22, 30]}
df = pd.DataFrame(data)
age_freq = df['Age'].value_counts()
print(age_freq)
```

OUTPUT:

```
Age
22    2
25    2
30    2
40    1
Name: count, dtype: int64
```

15 Question: Develop a Python program to calculate the frequency distribution of likes among the

posts?

CODE

```
likes = [10, 20, 10, 30, 20, 10, 40]
from collections import Counter
like_freq = Counter(likes)
print(like_freq)
```

OUTPUT

```
Counter({10: 3, 20: 2, 30: 1, 40: 1})
```