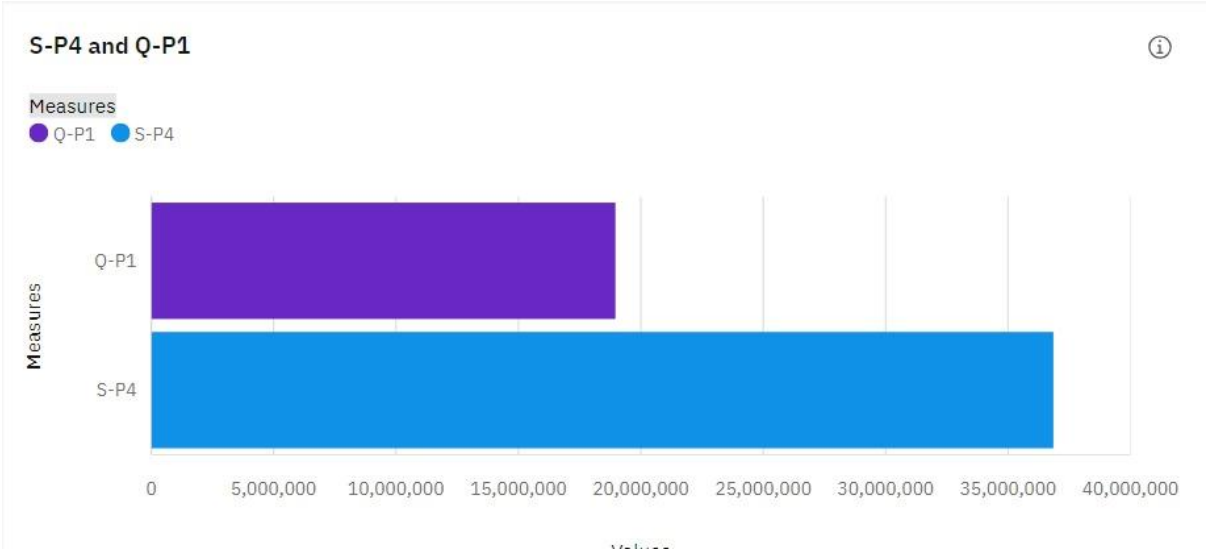
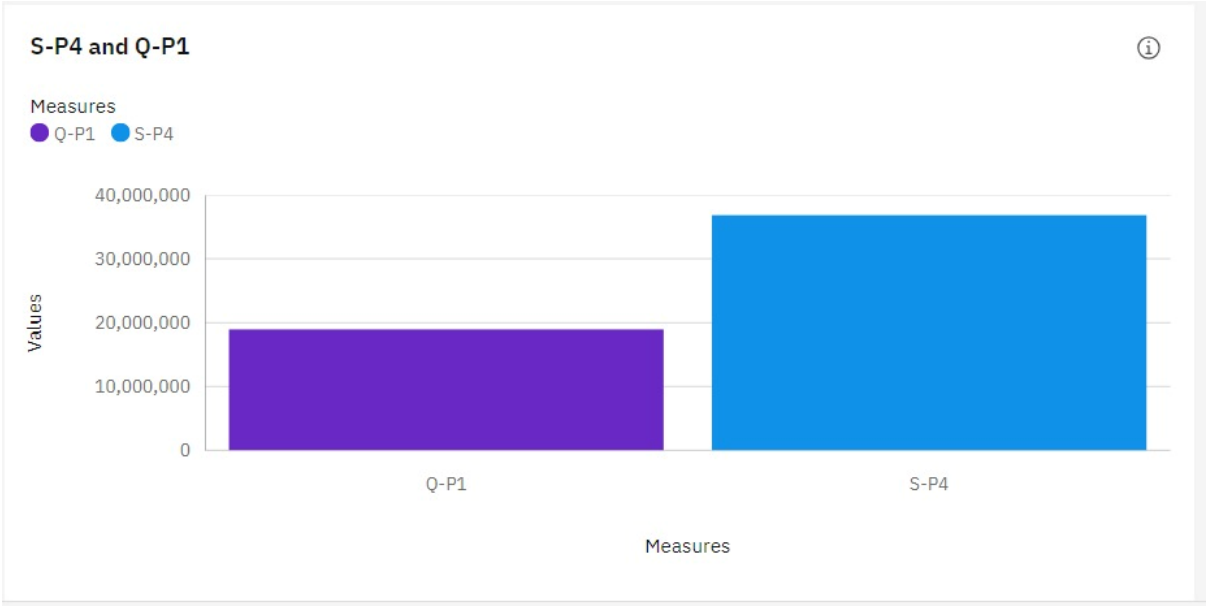
Phase 4: Development part 2

Program:

```
import pandas as pd

import matplotlib.pyplot as plt

sales_data =
pd.read_csv("C:\\Users\\karan\\Documents\\phase444.csv")

top_selling_products =
sales_data.groupby('Product')['Quantity'].sum().nlargest(5)

sales_data['Date'] = pd.to_datetime(sales_data['Date'])

sales_data.set_index('Date', inplace=True)

monthly_sales = sales_data['Quantity'].resample('M').sum()

peak_sales_period = monthly_sales.idxmax()

product_preferences = sales_data.groupby(['Customer',
'Product'])['Quantity'].sum().unstack().fillna(0)

top_selling_products.plot(kind='bar', title='Top Selling Products')

plt.xlabel('Product')

plt.ylabel('Total Quantity Sold')

plt.show()

monthly_sales.plot(title='Monthly Sales')

plt.xlabel('Date')

plt.ylabel('Total Quantity Sold')

plt.show()

print(f'Peak Sales Period: {peak_sales_period}')

print('Customer Preferences
```

output:


S-P4 and Q-P1
Measures
Q-P1
S-P4
Measures
Q-P1
S-P4
0
5,000,000
10,000,000
15,000,000
20,000,000
25,000,000
30,000,000
35,000,000
40,000,000


S-P4 and Q-P1
Measures
Q-P1
S-P4
40,000,000
30,000,000
20,000,000
10,000,000
0
Values
Q-P1
S-P4
Measures

Q-P1 and S-P4

Q-P1	S-P4
18,960,506	36,848,553

Q-P1 by S-P4