EXP 2b

PROGRAM:

import pandas as pd

import numpy as np

import matplotlib.pyplot as plt

df=pd.read\_csv("Wholesale customers data.csv")

print(df.head())

#check for missing values

print(df.isnull().sum())

df.dropna(subset=['Region','Fresh','Milk','Grocery','Frozen','Detergents\_Paper','Delicassen'],inplace=True)

print(df.describe())

product\_summary=df.groupby('Region').agg({'Channel':'sum','Fresh':'sum'}).reset\_index()

print(summary)

plt.figure(figsize=(10,6))

plt.bar(product\_summary['Region'],product\_summary['Channel'])

plt.xlabel('Product')

plt.ylabel('Total Sales')

plt.show()

df['Milk']=pd.to\_datetime(df['Milk'])

sales\_over\_time=df.groupby('Milk').agg({'Channel':'sum'}).reset\_index()

plt.figure(figsize=(10,6))

plt.plot(sales\_over\_time['Milk'],sales\_over\_time['Milk'])

plt.xlabel('Milk')

plt.ylabel('totalsalers')

plt.title('Sales over time')

plt.show()

OUTPUT:





