14. Scenario: You are a data analyst working for a company that sells products online. You have

been tasked with analyzing the sales data for the past month. The data is stored in a Pandas data

frame.

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:

#!4

import pandas as pd

from datetime import datetime, timedelta

df = pd.read\_excel('sales\_data.xlsx')

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

today = datetime.today()

last\_month\_start = today - timedelta(days=30)

df\_last\_month = df[df['purchase\_date'] >= last\_month\_start]

age\_frequency = df\_last\_month['customer\_age'].value\_counts().sort\_index()

print("Frequency Distribution of Customer Ages (Past Month):")

print(age\_frequency)

output:

Frequency Distribution of Customer Ages (Past Month):

Series([], Name: count, dtype: int64)

Dataset :

|  |  |
| --- | --- |
| **customer\_age** | **purchase\_date** |
| 25 | 01-03-25 |
| 30 | 02-03-25 |
| 22 | 03-03-25 |
| 35 | 04-03-25 |
| 40 | 05-03-25 |
| 22 | 06-03-25 |
| 30 | 07-03-25 |
| 27 | 08-03-25 |
| 29 | 09-03-25 |
| 40 | 10-03-25 |
| 34 | 11-03-25 |
| 22 | 12-03-25 |
| 30 | 13-03-25 |