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Module 11.1 - Milestone #3  
I selected the case study “Wilson financial”.

### Report 1: Number of Clients Added Monthly

\*\*Description:\*\* This report will show how many new clients have been added for each of the past six months.

\*\*Python Script:\*\*

```python

# Import necessary libraries

import pandas as pd

# Sample data (assuming data structure)

client\_data = {

'ClientID': [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12],

'JoinDate': ['2023-01-15', '2023-02-10', '2023-03-05', '2023-03-20', '2023-04-02', '2023-05-10',

'2023-06-08', '2023-06-25', '2023-07-03', '2023-07-18', '2023-08-05', '2023-08-30']

}

# Convert to DataFrame

df\_clients = pd.DataFrame(client\_data)

# Convert JoinDate to datetime

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

# Calculate number of clients added each month

df\_clients['JoinMonth'] = df\_clients['JoinDate'].dt.to\_period('M')

# Group by month and count new clients

monthly\_new\_clients = df\_clients.groupby('JoinMonth').size()

# Display the report

print("Number of Clients Added Each Month:")

print(monthly\_new\_clients)

```

\*\*Screenshot of Report 1:\*\*

![Report 1 Screenshot](report1\_screenshot.png)

### Report 2: Average Client Assets

\*\*Description:\*\* This report calculates the average amount of assets held by clients.

\*\*Python Script:\*\*

```python

# Sample data (assuming data structure)

client\_assets = {

'ClientID': [1, 2, 3, 4, 5, 6, 7, 8, 9, 10],

'Assets': [250000, 300000, 150000, 400000, 600000, 200000, 350000, 450000, 550000, 280000]

}

# Convert to DataFrame

df\_assets = pd.DataFrame(client\_assets)

# Calculate average client assets

average\_assets = df\_assets['Assets'].mean()

# Display the report

print(f"Average Client Assets: ${average\_assets:.2f}")

```

\*\*Screenshot of Report 2:\*\*

![Report 2 Screenshot](report2\_screenshot.png)

### Report 3: Clients with High Transaction Volumes

\*\*Description:\*\* This report identifies how many clients have a high number (more than 10) of transactions per month.

\*\*Python Script:\*\*

```python

# Sample data (assuming data structure)

client\_transactions = {

'ClientID': [1, 2, 3, 4, 5, 6, 7, 8, 9, 10],

'Transactions': [8, 12, 6, 14, 9, 5, 18, 3, 11, 7]

}

# Convert to DataFrame

df\_transactions = pd.DataFrame(client\_transactions)

# Count clients with more than 10 transactions

high\_transaction\_clients = df\_transactions[df\_transactions['Transactions'] > 10].shape[0]

# Display the report

print(f"Number of Clients with High Transaction Volumes (> 10 transactions/month): {high\_transaction\_clients}")

```

\*\*Screenshot of Report 3:\*\*

![Report 3 Screenshot](report3\_screenshot.png)

These reports provide the necessary insights into client growth, asset management, and transaction volumes, aiding Jake and Ned in their decision-making process for Willson Financial. Each Python script processes sample data and computes the required metrics based on assumptions derived from the case study context.