In [20]:
```python
import pandas as pd


df = pd.read_csv(r"TASK 2/10kdata.csv")

df['Company'] = df['Company'].str.strip()
df['Year'] = df['Year'].astype(int)


df['Revenue Growth (%)'] = df.groupby('Company')['Total Revenue'].pct_change() *
df['Net Income Growth (%)'] = df.groupby('Company')['Net Income'].pct_change() *
df['Net Worth'] = df['Total Assets'] - df['Total Liabilities']

df.fillna(0, inplace=True)
df.to_csv('final_report.csv', index=False)

final_report = pd.read_csv('final_report.csv')
final_report['Company'] = final_report['Company'].str.lower()
final_report['Year'] = final_report['Year'].astype(int)


def financial_chatbot(company_input, fiscal_year):
    print("\nAsk your financial query:")
    user_query = input().lower()

    record = final_report[
        (final_report['Company'] == company_input.lower()) &
        (final_report['Year'] == fiscal_year)]

    if record.empty:
        return "No data available for the selected company and year."

    record = record.iloc[0]

    if "revenue growth" in user_query:
        return f"Revenue Growth (%) for {company_input.title()} in {fiscal_year}

    elif "net income growth" in user_query or "income growth" in user_query:
        return f"Net Income Growth (%) for {company_input.title()} in {fiscal_ye

    elif "total revenue" in user_query:
        return f"Total Revenue for {company_input.title()} in {fiscal_year} is $

    elif "net income" in user_query:
        return f"Net Income for {company_input.title()} in {fiscal_year} is $ {r

    elif "total assets" in user_query or "assets" in user_query:
        return f"Total Assets for {company_input.title()} in {fiscal_year} is $

    elif "total liabilities" in user_query or "liabilities" in user_query:
        return f"Total Liabilities for {company_input.title()} in {fiscal_year}

    elif "net worth" in user_query:
        return f"Net Worth for {company_input.title()} in {fiscal_year} is $ {re

    elif "operating activities" in user_query or "cash flow" in user_query:
        return f"Cash Flow from Operating Activities for {company_input.title()}
```

```python
        else:
            return "Sorry, I couldn't understand the financial query."


while True:
    user_input = input("\nEnter 'Hi' to start the chatbot session or type 'exit'

    if user_input == "exit":
        print("Chatbot session ended.")
        break

    elif user_input == "hi":
        company_input = input("Enter company name (Apple/Microsoft/Tesla): ").st
        if company_input not in ['apple', 'microsoft', 'tesla']:
            print("Invalid company name.")
            continue

        fiscal_year = int(input("Enter fiscal year (2025/2024/2023): "))
        if fiscal_year not in [2023, 2024, 2025]:
            print("Invalid fiscal year.")
            continue

        response = financial_chatbot(company_input, fiscal_year)
        print(response)

    else:
        print("Invalid input. Type 'Hi' or 'exit'.")
```

```
Ask your financial query:
Revenue Growth (%) for Apple in 2025 is 0.0%
Ask your financial query:
Net Worth for Apple in 2024 is $ 56950
Ask your financial query:
Total Assets for Microsoft in 2025 is $ 619003
Ask your financial query:
Net Worth for Tesla in 2024 is $ 73680
Ask your financial query:
Net Income for Microsoft in 2023 is $ 72361
Ask your financial query:
Net Income Growth (%) for Tesla in 2023 is 109.3387%
Invalid input. Type 'Hi' or 'exit'.
Chatbot session ended.
```

In [ ]: