**Financial Data Chatbot Documentation**

**Overview**

The Financial Data Chatbot is a simple web-based application built using Python's Flask framework. It is designed to respond to a predefined set of financial queries about major companies (Microsoft, Tesla, Apple) for the year 2023. Users can input queries through a user-friendly web interface, and the chatbot will return relevant financial data based on the input.

**How It Works**

1. **Flask Backend**: The chatbot is powered by a Flask server that handles incoming requests from the frontend (web page). The server uses a basic predefined logic to match user queries to specific responses.
2. **Frontend**: The user interacts with the chatbot through a simple web interface, where they can type their financial questions into a text box. After submitting the query, the Flask server processes it and returns an appropriate response, which is then displayed on the web page.
3. **Predefined Query Matching**: The backend contains a function called simple\_chatbot() that checks if the user's query matches any of the predefined questions. If a match is found, the corresponding financial information is returned. If no match is found, the chatbot informs the user that it can only respond to predefined queries.

**Predefined Queries**

The chatbot can respond to the following predefined queries:

1. **Total Revenue**:
   * "What is the total revenue for Microsoft in 2023?"
   * "What is the total revenue for Tesla in 2023?"
   * "What is the total revenue for Apple in 2023?"
2. **Net Income Change**:
   * "How has net income changed for Microsoft from 2022 to 2023?"
   * "How has net income changed for Tesla from 2022 to 2023?"
   * "How has net income changed for Apple from 2022 to 2023?"
3. **Total Assets Trend**:
   * "What is the trend in total assets for Microsoft from 2021 to 2023?"
   * "What is the trend in total assets for Tesla from 2021 to 2023?"
   * "What is the trend in total assets for Apple from 2021 to 2023?"
4. **Cash Flow from Operating Activities**:
   * "What is the cash flow from operating activities for Microsoft in 2023?"
   * "What is the cash flow from operating activities for Tesla in 2023?"
   * "What is the cash flow from operating activities for Apple in 2023?"

**Limitations**

* **Predefined Queries Only**: The chatbot is limited to the predefined queries mentioned above. If a user asks a question that is not predefined, the chatbot will respond with: "Sorry, I can only provide information on predefined queries."
* **Static Data**: The financial data provided by the chatbot is static and based on predefined responses for the year 2023. It does not perform real-time data retrieval from external APIs or databases.
* **Simple Logic**: The chatbot uses basic if-else conditions to match queries, making it unsuitable for handling complex or natural language processing (NLP)-based queries.

**Usage Instructions**

1. Visit the web interface hosted on the local Flask server.
2. Type a predefined financial question into the input box.
3. Press the "Ask" button or hit "Enter" to submit your query.
4. View the chatbot’s response displayed below the input box.

This chatbot serves as a starting point for financial data interaction and can be expanded to include more sophisticated data handling techniques, such as integration with real-time financial APIs and advanced NLP capabilities.