FinanceBot Prototype Documentation

Overview

A simple rule-based chatbot prototype that responds to predefined financial queries using static, pre-analyzed data. This document outlines the steps to set up, run, and understand FinanceBot.

Step 1: Preparation

• Review your analyzed financial data and note key metrics (revenue, net income, cash flow, etc.).

• Ensure Python 3.7+ is installed and a virtual environment is set up.

• (Optional) Install Flask if you plan to run the web interface.

Step 2: Define Queries & Responses

• Identify 4–5 common financial questions users will ask.

• Create a RESPONSES dictionary in responses.py mapping each exact question to a static answer.

• Example keys include 'What is the total revenue?' and 'Who is the top-performing company?'.

Step 3: Implement Chatbot Logic

• Command-Line Version (chatbot.py): use a loop with input() to capture user queries, normalize input, and match against RESPONSES keys.

• Optional Flask App (app.py): expose a /ask endpoint accepting JSON queries.

Step 4: Testing

• Test each predefined question in both the command-line and, if used, the Flask endpoint.

• Verify exact-match behavior and that unsupported queries yield the help message.

Step 5: Documentation

• Include this PDF and a brief README.md in your project folder.

• Summarize: setup steps, file structure, usage instructions, supported questions, limitations.

Step 6: Packaging & Next Steps

• Zip the folder: zip -r FinanceBot.zip finance-chatbot-prototype/.

• Future enhancements: flexible matching via NLP, ML layer for free-text queries, real-time data feed integration.

Example Interaction

Below is a sample session demonstrating FinanceBot running in a terminal:

```
@umamaheshwar3528 →/workspaces/BCGX/Task-2 (main) $ python chatbot.py
FinanceBot ready. Ask me one of the predefined questions.

You: Which company grew the fastest this year?
FinanceBot: Tesla grew fastest, posting 17%+ revenue growth in FY 2024 after flat growth the year before.

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FinanceBot: Tesla grew fastest, posting 17%+ revenue growth in FY 2024 after flat growth the year before.

You: How has net income changed over the last year?
FinanceBot: Net income increased by $1,250,000 compared to last year.

You: Which company shows warning signs?
FinanceBot: Apple's revenue dipped 0.01% and net income fell 5% in FY 2024 - a signal to watch for product-cycle or co
st pressures.

You: Who has the strongest liquidity position?
FinanceBot: Microsoft leads on liquidity: assets rose ~17% vs. a 12% rise in liabilities, boosting its balance-sheet f
lexibility.

You: Which company generated the most operating cash flow?
FinanceBot: Apple still tops in absolute cash flow, but it fell from $122 B to $100 B; Microsoft's OCF rose from $83 B
 to $90 B.

You: exit
FinanceBot: Goodbye!
@umamaheshwar3528 →/workspaces/BCGX/Task-2 (main) $
```

Type `exit` or `quit` to end the session.