

Creating a mutual fund-oriented chatbot in Python requires a combination of natural language processing (NLP) techniques, a well-structured handling of mutual fund related queries, and possibly integration with a financial data API for real-time information. Below is a simplified version that utilizes basic Python structure and logic. This chatbot will be able to handle a few common user queries regarding mutual funds.

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In [ ]: import random

class MutualFundChatBot:
    def __init__(self):
        self.greetings = ["Hello! How can I assist you today?", "Hi there! What do you want to know about mutual funds?", "Greetings!"]
        self.fund_types = ["Equity Fund", "Debt Fund", "Hybrid Fund", "Index Fund", "Sector Fund"]
        self.questions = {
            "What are mutual funds?": "Mutual funds are investment vehicles that pool money from many investors to purchase securities.",
            "What types of mutual funds are there?": f"The common types of mutual funds are: {', '.join(self.fund_types)}.",
            "How to invest in mutual funds?": "You can invest in mutual funds through a financial advisor, directly through the fund company, or via a robo-advisor."
        }
        self.farewells = ["Thank you for chatting! Have a great day!", "Goodbye! Hope I helped you with your queries.", "See you later!"]

    def greet(self):
        return random.choice(self.greetings)

    def farewell(self):
        return random.choice(self.farewells)

    def handle_query(self, query):
        query = query.strip().capitalize()
        return self.questions.get(query, "I'm sorry, I don't have information on that. Can you ask something else?")

    def chat(self):
        print(self.greet())
        while True:
            user_input = input("You: ")
            if user_input.lower() in ("exit", "quit"):
                print(self.farewell())
                break
            response = self.handle_query(user_input)
            print(f"Bot: {response}")

if __name__ == "__main__":
    bot = MutualFundChatBot()
    bot.chat()
```

Hi there! What do you want to know about mutual funds?

## How the Chatbot Works:

Initialization:

The bot initializes with predefined greetings, a list of mutual fund types, a dictionary of common questions and responses, and farewells. Greeting and Farewells:

The bot greets the user upon starting. It will respond with a random greeting each time. Similarly, it says farewell with a random message when the user decides to exit. Handling Queries:

The bot listens for user input and responds to predefined questions. For any query that isn't recognized, it provides a fallback message. Possible Outputs: User Input: "What are mutual funds?"

Bot Response: "Mutual funds are investment vehicles that pool money from many investors to purchase securities like stocks and bonds." User Input: "What types of mutual funds are there?"

Bot Response: "The common types of mutual funds are: Equity Fund, Debt Fund, Hybrid Fund, Index Fund, Sector Fund." User Input: "How to invest in mutual funds?"

Bot Response: "You can invest in mutual funds through a financial advisor, directly through the fund house, or through online platforms." User Input: "Tell me about SIP."

Bot Response: "I'm sorry, I don't have information on that. Can you ask something else?" User Input: "exit"

Bot Response: "Goodbye! Hope I helped you with your queries." Future Improvements: Natural Language Processing: To understand more varied queries. Integration with Financial APIs: For real-time data on mutual funds, NAVs, etc. User Profiles: To provide personalized recommendations based on user preferences. Logging and Analytics: To analyze user interactions for better performance and training. This basic framework can be expanded and improved based on specific user needs and capabilities required for a full mutual fund chatbot

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