

TASK-1

CHATBOT WITH RULE-BASED A RESPONSES

TASK 1

CHATBOT WITH RULE-BASED RESPONSES

Build a simple chatbot that responds to user inputs based on predefined rules. Use if-else statements or pattern matching techniques to identify user queries and provide appropriate responses. This will give you a basic understanding of natural language processing and conversation flow.

CODE :

Output

```
def chatbot():
```

```
    print("ChatBot: Hi! I'm your chatbot. Type 'bye' to end the chat.")
```

```
while True:
```

```
    user_input = input("You: ").lower()
```

```
    if user_input in ["hi", "hello", "hey"]:
```

```
        print("ChatBot: Hello! How can I help you today?")
```

```
elif "your name" in user_input:

    print("ChatBot: I'm ChatBot, your virtual assistant.")

elif "how are you" in user_input:

    print("ChatBot: I'm just a program, but I'm doing great! How about you?")

elif "help" in user_input:

    print("ChatBot: Sure! I can help you with general questions. Ask me anything!")

elif "time" in user_input:

    from datetime import datetime

    current_time = datetime.now().strftime("%H:%M:%S")

    print(f"ChatBot: The current time is {current_time}")

elif user_input in ["bye", "exit", "quit"]:

    print("ChatBot: Goodbye! Have a great day!")

    break

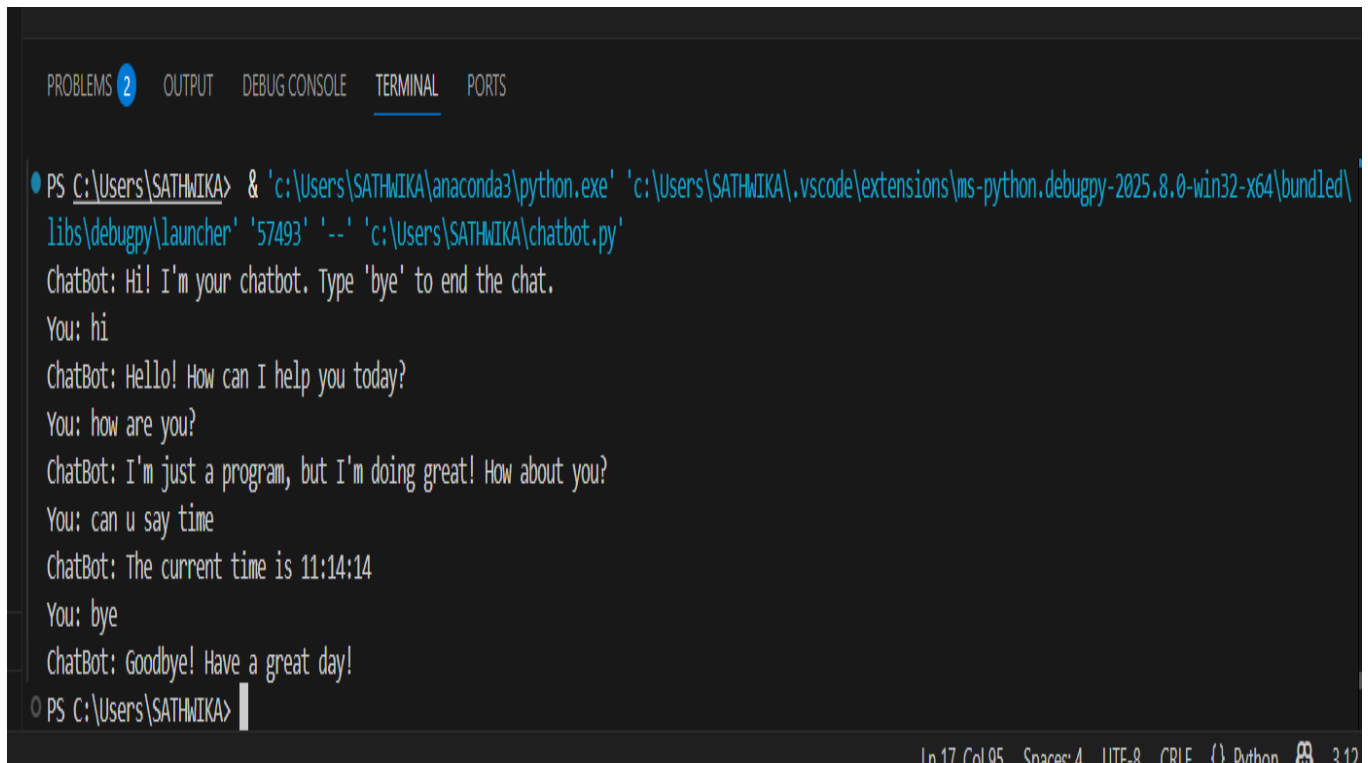
else:

    print("ChatBot: I'm sorry, I didn't understand that. Can you please rephrase?")

# Run the chatbot

chatbot()
```

Input



The screenshot shows a VS Code terminal window with the 'TERMINAL' tab selected. The terminal displays the execution of a Python script named 'chatbot.py'. The script starts with a welcome message: 'ChatBot: Hi! I'm your chatbot. Type 'bye' to end the chat.' It then enters a loop where it responds to user input. The user inputs 'hi', 'how are you?', 'can u say time', and 'bye'. The chatbot responds with 'Hello! How can I help you today?', 'I'm just a program, but I'm doing great! How about you?', 'The current time is 11:14:14', and 'Goodbye! Have a great day!' respectively. The terminal prompt is 'PS C:\Users\SATHWIKI>'.

```
PS C:\Users\SATHWIKI> & 'c:\Users\SATHWIKI\anaconda3\python.exe' 'c:\Users\SATHWIKI\.vscode\extensions\ms-python.debugpy-2025.8.0-win32-x64\bundle\
libs\debugpy\launcher' '57493' '--' 'c:\Users\SATHWIKI\chatbot.py'
ChatBot: Hi! I'm your chatbot. Type 'bye' to end the chat.
You: hi
ChatBot: Hello! How can I help you today?
You: how are you?
ChatBot: I'm just a program, but I'm doing great! How about you?
You: can u say time
ChatBot: The current time is 11:14:14
You: bye
ChatBot: Goodbye! Have a great day!
PS C:\Users\SATHWIKI>
```

Code explanation :

Function Definition

def chatbot():

This defines a function named chatbot.

Greeting the User

python

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Print ("Chat Bot: Hi! I'm your chatbot. Type 'bye' to end the chat.")

- The chatbot starts by printing a welcome message and instructions.

Infinite Loop for Chat

python

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while True:

 user_input = input("You: ").lower()

- This creates an infinite loop (while True) to keep the conversation going.
- input("You: ") waits for the user to type a message.
- .lower() converts the input to lowercase to make comparisons case-insensitive.

Rule-Based Responses

Each if-elif block checks for specific keywords or phrases in the user input:

1. Greeting

python

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```
if user_input in ["hi", "hello", "hey"]:
```

- If the user types a common greeting, the bot replies with a friendly message.

2. Asking Name

python

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```
elif "your name" in user_input:
```

- If the message includes "your name", it replies with its identity.

3. How Are You

python

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```
elif "how are you" in user_input:
```

- Responds with a friendly message about its own (non-human) status.

4. Help Keyword

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```
elif "help" in user_input:
```

- Offers to help the user with questions.

5. Time Request

python

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elif "time" in user_input:

```
from datetime import datetime
current_time = datetime.now().strftime("%H:%M:%S")
print(f"ChatBot: The current time is {current_time}")
```

- If the user mentions “time”, the bot:
 - Imports the datetime module.
 - Gets the current system time.
 - Displays it in HH:MM:SS format.

6. Exit Command

python

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elif user_input in ["bye", "exit", "quit"]:

```
print("ChatBot: Goodbye! Have a great day!")
```

```
break
```

- Ends the loop and exits the chat if the user types a farewell command.

7. Fallback Response

python

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else:

```
print("ChatBot: I'm sorry, I didn't understand that. Can you please rephrase?")
```

- If the input doesn't match any known pattern, it gives a generic response.

8. Calling the Function

python

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```
chatbot()
```

- This line runs the chatbot function, starting the interaction.