

Project Description: Basic Rule-Based Chatbot

Overview:

This project is a **basic text-based chatbot** built using Python. The chatbot can interact with users using **predefined responses**. It uses simple programming concepts like **conditional statements, loops, functions, and user input/output**.

The chatbot is not intelligent or powered by AI — it works based on fixed rules. When the user types specific phrases like "hello" or "how are you", the chatbot replies with matching responses. If the input doesn't match any of the expected phrases, it shows a default message.

Goal of the Project:

- To learn how to build a **rule-based conversation system**.
 - To practice basic Python programming skills.
 - To understand how **input/output, control flow, and loops** work in a real-world use case.
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How It Works:

1. The chatbot starts and prints a welcome message.
 2. It enters a loop where it waits for the user's input.
 3. It checks the input using **if-elif-else** conditions.
 4. Based on the input, it prints a matching response:
 - "hello" → "Hi!"
 - "how are you" → "I'm fine, thanks!"
 - "bye" → "Goodbye!" and ends the chat
 - Any other input → "Sorry, I don't understand that."
 5. The loop continues until the user types "bye".
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Key Features:

- **User interaction** through the terminal using `input()` and `print()`.

- **Rule-based logic** using if-elif-else.
 - **Repeats** until the user says goodbye using a while loop.
 - Encapsulated in a **function** for clean and reusable code.
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Technologies Used:

- **Python** programming language (basic level)
 - No external libraries required
 - Works in any Python environment (IDLE, VS Code, Jupyter, etc.)
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Possible Improvements:

You can expand this chatbot to make it more useful or fun by adding:

- More predefined responses for more inputs.
 - Use of random module to give different responses each time.
 - Add **time-based greetings** like "Good morning", "Good evening".
 - Make responses case-insensitive and trim extra spaces.
 - Create a simple **GUI** using tkinter.
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Learning Outcomes:

- Understanding basic chatbot logic.
- Using Python control structures effectively.
- Developing interactive programs that take user input.
- Writing clean, readable, and reusable code using functions.