RULE-BASED CHATBOT USING PYTHON REPORT

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INTRODUCTION:

This project involves the creation of a basicRule based chatbot using python. A rule-based chatbot operates on a predefined set of rules and responses. It is designed to respond to specific inputs with appropriate replies.

OBGECTIVE:

To design a simple chatbot that interacts with users using if-else conditions based on fixed input patterns.

TOOLS AND TECHNOLOGIES:

- PYTHON(version 3.6)
- VS CODE

SYSTEM REQUIREMENTS:

- Windows
- Python 3.6
- Code editor(vs code)

PROJECT DESIGN:

The chatbot takes user input,checks it against predefined rules, and gives a suitable response. If the input is not recognized,it responds with a default message.

CODE EXPLANATION:

```
print("Hi !I'm chatbot. Type'bye' to exit.\n")
while True:
    user_input=input("You:").lower()
    if user_input=="bye":
        print("chatbot: Goodbye! Have a nice day")
        break
    elif user_input in["hi","hello","hey"]:
        print("chatbot: Hello! How can I help you?")
    elif "time" in user_input:
        print("chatbot:sorry, I can't check the time right now.")
    elif "your name" in user_input:
        print("chatbot: I'm a simple chatbot created by python.")
    elif "how are you" in user_input:
```

```
        print("chatbot: I'm just a program, but
I'm doing great!")
    elif "weather" in user_input:
        print("chatbot: I can't check the
weather,but I hope it's sunny!")
    elif "thank" in user_input:
        print("chatbot: IYou're welcome! I'm glad
its helps you!")
    elif "help" in user_input:
        print("chatbot: you ask me about my
name,time,weather,or just hi!")
    elif "sad" in user_input or "not good" in
user_input:
        print("chatbot: I'm sorry to hear that.
Ihope things are better soon.")
    elif "happy" in user_input or "good" in
user_input:
        print("chatbot: That's great to hear!")
```

```
    elif "+" in user_input or "-" in user_input or
"*" in user_input or "/" in user_input:
        try:
            result = eval(user_input)
            print(f"chatbot: The answer is {result}")
        except:
            print("chatbot: sorry, I couldn't
calculate that.")
    else:
        print("chatbot: I'm not sure how to
respond to that.")
```

TESTING AND OUTPUT

```
Hi !I'm chatbot. Type'bye' to exit.

You:hi
chatbot: Hello! How can I help you?
You:what is the time now
chatbot:sorry, I can't check the time right now.
You:can I know your name
chatbot: I'm a simple chatbot created by python.
You:how the weather is going to be today
chatbot: I can't check the weather,but I hope it's sunny!
You:thank you for answering my questions
chatbot: IYou're welcome! I'm glad its helps you!
You:
```

```
Hi !I'm chatbot. Type'bye' to exit.

You:6-2
chatbot: The answer is 4
You:4*5
chatbot: The answer is 20
You:66/23
chatbot: The answer is 2.869565217391304
You:thank you for answering
chatbot: IYou're welcome! I'm glad its helps you!
You:bye
chatbot: Goodbye! Have a nice day
PS C:\python>
```

CONCLUSION:

- Successfully built a basic rule-based chatbot in python.
- Learned to use loops and conditionals to process under input.
- Tested and refined responses for accuracy.
- Identified limitations of simple rule-based systems.
- Next step: Integrate a library like NLTK or spaCy for basic NLP.