

Chatbot Description and Setup

Technologies Used:

1. Python - The primary programming language for the chatbot's logic and execution.
2. Requests Library - Used to make HTTP requests to the Google Custom Search API for retrieving web search results.
3. Regular Expressions (re Library) - Used for detecting mathematical expressions and parsing percentage calculations.
4. Google Custom Search API - Enables the chatbot to perform web searches and fetch relevant search results.
5. Console-Based Interface - The chatbot runs in a terminal, accepting user input and displaying responses.

Setup Instructions:

1. Install Required Dependencies:

Ensure you have Python installed (preferably Python 3.x). Install the required dependencies using:

```
pip install requests
```

2. Obtain API Keys:

- Sign up for the Google Custom Search API at Google Cloud Console.
- Generate an API key and a Custom Search Engine (CSE) ID.

3. Store API Keys Securely:

Create a text file named 'api_keys.txt' in the same directory as your script and add the following lines:

```
GOOGLE_API_KEY=your_api_key_here
```

```
GOOGLE_CSE_ID=your_cse_id_here
```

4. Run the Chatbot:

Execute the chatbot script in the terminal:

```
python chatbot.py
```

5. Usage Instructions:

- Type a greeting (e.g., 'hello') to start the conversation.
- Enter a math expression (e.g., '5 + 3') for quick calculations.
- Ask a general knowledge question, and the bot will fetch results using Google Search.
- Type 'bye' to exit the chatbot.

Demonstration:

For demonstration purposes, I added my API keys to show how it works.