# **Chatbot Documentation**

## **Overview**

This is a simple chatbot developed using Python and NLTK (Natural Language Toolkit). The chatbot is capable of understanding user input, recognizing intents, and generating appropriate responses.

## **Features**

****Text Preprocessing****:

* + Tokenization: Splits the user input into individual words or tokens.
  + Stopword Removal: Removes common words (stopwords) that do not carry significant meaning.
  + Lemmatization: Converts words to their base or dictionary form to normalize variations.

****Intent Recognition****:

* + The chatbot can recognize the following intents:
    - Greetings: Responds to various forms of greetings such as "hello", "hi", etc.
    - Farewells: Responds to farewells like "bye", "goodbye", etc.
    - Questions: Provides predefined responses to specific questions asked by the user.

****Response Generation****:

* + Based on the recognized intent, the chatbot generates appropriate responses.
  + Responses include greetings, farewells, and answers to predefined questions.

****User Interaction****:

* + The chatbot interacts with the user via a command-line interface.
  + Users can initiate conversations by typing messages and receive responses from the chatbot.

## **Usage**

****Installation****:

* + Ensure that Python and NLTK are installed in your environment.
  + You can install NLTK using pip with the command: **pip install nltk**.

****Running the Chatbot****:

* + Execute the provided Python script (**chatbot.py**) in your terminal or command prompt.
  + Once running, the chatbot will greet the user and wait for input.
  + Type your message and press Enter to send it to the chatbot.
  + You can ask questions or engage in conversation with the chatbot.
  + To exit the chatbot, type "exit" and press Enter.

## **Example Interaction**

Chatbot: Hi! I'm a simple chatbot. You can start chatting or type 'exit' to end the conversation.

You: Hello

Chatbot: Hello!

You: Who are you?

Chatbot: I am a chatbot created using Python and NLTK.

You: How are you?

Chatbot: I am just a bot, so I don't have feelings, but thanks for asking!

You: What can you do?

Chatbot: I can help you with basic tasks and answer questions.

You: Goodbye

Chatbot: Goodbye! Have a great day!

## **Dependencies**

* Python
* NLTK (Natural Language Toolkit)

## **Author**

This chatbot was developed by Deekshitha Gundukadi.