```python
        }
        return tag_dict.get(tag, wordnet.NOUN)

# Preprocess text function
def preprocess_text(text):
        tokens = nltk.word_tokenize(text)
        tokens = [word.lower() for word in tokens]
        tokens = [word for word in tokens if word.isalnum()]
        tokens = [lemmatizer.lemmatize(word, get_pos_tag(word)) for word in tokens]
        return tokens

# SimpleChatbot class
class SimpleChatbot:
        def __init__(self):
                self.responses = {
                        'hello': ['Hello! How can I help you today?', 'Hi there! How can I assist you?', 'Greetings! What can I do for you?'],
                        'bye': ['Goodbye! Have a great day!', 'See you later! Take care!', 'Farewell! Have a wonderful day!'],
                        'how are you': ['I am just a bot, but I am functioning properly.', 'I am doing well, thank you for asking!', 'I am here to assist you!'],
                        'default': ['I am sorry, I do not understand that.', 'Can you please rephrase?', 'I am not sure I follow.']
                }

        def get_response(self, user_input):
                tokens = preprocess_text(user_input)
                processed_input = ' '.join(tokens)
                for key in self.responses:
                        if key in processed_input:
                                return random.choice(self.responses[key])
                return random.choice(self.responses['default'])

# Initialize chatbot
chatbot = SimpleChatbot()

# Chat function
def chat():
        print("Chatbot: Hi! I am a chatbot. Type 'bye' to exit.")
        while True:
                user_input = input("You: ")
                if 'bye' in user_input.lower():
                        print("Chatbot: Goodbye! Have a great day!")
                        break
                response = chatbot.get_response(user_input)
                print(f"Chatbot: {response}")
```

```
Command Prompt

Microsoft Windows [Version 10.0.19045.4529]
(c) Microsoft Corporation. All rights reserved.

C:\Users\DELL>cd C:\K8's

C:\K8's>python chatbot.py
[nltk_data] Downloading package punkt to
[nltk_data]     C:\Users\DELL\AppData\Roaming\nltk_data...
[nltk_data]   Package punkt is already up-to-date!
[nltk_data] Downloading package wordnet to
[nltk_data]     C:\Users\DELL\AppData\Roaming\nltk_data...
[nltk_data]   Package wordnet is already up-to-date!
[nltk_data] Downloading package averaged_perceptron_tagger to
[nltk_data]     C:\Users\DELL\AppData\Roaming\nltk_data...
[nltk_data]   Unzipping taggers\averaged_perceptron_tagger.zip.
[nltk_data] Downloading package omw-1.4 to
[nltk_data]     C:\Users\DELL\AppData\Roaming\nltk_data...
[nltk_data]   Package omw-1.4 is already up-to-date!
Chatbot: Hi! I am a chatbot. Type 'bye' to exit.
You: hello
Chatbot: Greetings! What can I do for you?
You: hii
Chatbot: I am sorry, I do not understand that.
You: how are you
Chatbot: I am not sure I follow.
You: bye
Chatbot: Goodbye! Have a great day!

C:\K8's>
```

Type here to search   28°C Mostly cloudy   ENG   22:44 14-06-2024