**AI Assignment 5**

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**Simple Chatbot**

**Code:**

**import nltk**

**from nltk.*stem* import WordNetLemmatizer**

**from nltk.*tokenize* import word\_tokenize**

**nltk.*download*('punkt\_tab')**

**nltk.*download*('wordnet')**

**lemmatizer = WordNetLemmatizer()**

**# Expanded greetings and responses**

**greetings = ['hello', 'hi', 'hey', 'greetings', 'what’s up', 'good morning', 'good evening']**

**farewells = ['bye', 'goodbye', 'see you', 'quit', 'exit']**

**responses = {**

**# Common questions**

**'hello': 'Hello! How can I assist you today?',**

**'how are you': 'I\'m doing great! Thanks for asking. How about you?',**

**'what is your name': 'I am ChatBot, your virtual assistant!',**

**'what can you do': 'I can answer questions, chat with you, and provide general information.',**

**# General knowledge questions**

**'what is the capital of india': 'The capital of India is New Delhi.',**

**'who is the prime minister of india': 'The Prime Minister of India is Narendra Modi.',**

**# Tech-related questions**

**'what is python': 'Python is a high-level, interpreted programming language known for its simplicity.',**

**'what is machine learning': 'Machine Learning is a field of AI that enables computers to learn from data and make decisions.',**

**'what is ai': 'AI (Artificial Intelligence) is the simulation of human intelligence in machines.',**

**# Fun & Small talk**

**'tell me a joke': 'Why do programmers prefer dark mode? Because light attracts bugs! 😆',**

**'do you have feelings': 'I don\'t have emotions, but I can simulate friendly conversations!',**

**'can you sing': 'I can\'t sing, but I can recommend great music! What genre do you like?',**

**# Assistance-related**

**'how can you help me': 'I can answer questions, provide general information, and assist with basic tasks.',**

**'can you remind me of something': 'I currently don’t have memory, but you can use a reminder app Hfor that!',**

**}**

**# Function to process user input**

**def process\_input(user\_input):**

**user\_input = user\_input.*lower*()**

**tokens = word\_tokenize(user\_input) # Tokenize input**

**tokens = [lemmatizer.*lemmatize*(word) for word in tokens] # Lemmatize input**

**# Check for greetings**

**for word in tokens:**

**if word in greetings:**

**return responses['hello']**

**# Check for predefined responses**

**for phrase in responses.*keys*():**

**if phrase in user\_input:**

**return responses[phrase]**

**# Check for farewells**

**for word in tokens:**

**if word in farewells:**

**return "Goodbye! Have a great day!"**

**return "I'm not sure I understand. Can you rephrase that?"**

**# Chatbot loop**

**def chatbot():**

**print("Welcome to the chatbot! Type 'quit' to exit.")**

**while True:**

**user\_input = input("You: ")**

**if user\_input.*lower*() in farewells:**

**print("ChatBot: Goodbye! Have a nice day!")**

**break**

**print("ChatBot:", process\_input(user\_input))**

**# Run the chatbot**

**chatbot()**

**Output:**

**A screenshot of a computer

AI-generated content may be incorrect.**