import random # Importing random to add variety in chatbot responses

class HybridChatBot:

def \_\_init\_\_(self):

# A collection of technical questions and their answers

self.knowledge\_base = {

"what is artificial intelligence": (

"Artificial Intelligence is when machines are programmed to think and learn like humans. "

"They can solve problems, recognize patterns, and even make decisions!"

),

"what is machine learning": (

"Machine Learning is a way for computers to learn from data without being explicitly told what to do."

),

"what is deep learning": (

"Deep Learning is a kind of Machine Learning that uses neural networks with many layers, "

"inspired by how the human brain works."

),

"what is python": (

"Python is a versatile programming language used for web development, AI, data analysis, and more."

),

"what is blockchain": (

"Blockchain is a secure, decentralized system for recording and verifying transactions."

),

"what is data science": (

"Data Science involves analyzing and interpreting large sets of data to uncover patterns, "

"make predictions, and solve problems."

),

}

# Fun, casual questions to keep the conversation engaging

self.conversation\_questions = [

"What is your favorite food?",

"What do you like to do for fun?",

"Have you traveled to any interesting places?",

"What is your dream job?",

"Do you have any hobbies?",

]

# Words the user can type to exit the chat

self.exit\_commands = ["bye", "exit", "quit", "stop"]

def greet(self):

# Start with a friendly greeting

name = input("Chatbot: Hello! What is your name?\nYou: ")

print(f"Chatbot: Hi {name}, I’m here to answer your questions or just chat! Type 'exit' anytime to leave.")

self.chat()

def chat(self):

# Keep the chat going until the user wants to exit

while True:

# Ask the user to type their question or comment

user\_input = input("You: ").strip().lower()

# If the user wants to exit, say goodbye

if user\_input in self.exit\_commands:

print("Chatbot: Goodbye! It was great chatting with you. Have a wonderful day!")

break

# Check if the input matches a technical question

elif user\_input in self.knowledge\_base:

print(f"Chatbot: {self.knowledge\_base[user\_input]}")

# If not, switch to casual conversation

else:

self.casual\_conversation(user\_input)

def casual\_conversation(self, user\_input):

# Pick a random question to ask the user

random\_question = random.choice(self.conversation\_questions)

print(f"Chatbot: Hmm, I’m not sure about that. Let’s chat instead! {random\_question}")

# Get the user's reply

reply = input("You: ").lower()

# Respond based on keywords in the reply

if any(keyword in reply for keyword in ["food", "eat", "dish"]):

print("Chatbot: Yum! Food is always a great topic. What's your favorite cuisine?")

elif any(keyword in reply for keyword in ["travel", "place", "trip"]):

print("Chatbot: Traveling is fun! What's the most amazing place you've visited?")

elif any(keyword in reply for keyword in ["job", "career", "work"]):

print("Chatbot: A dream job is important! What motivates you the most?")

elif any(keyword in reply for keyword in ["hobby", "fun", "activity"]):

print("Chatbot: Hobbies are the spice of life! How long have you been doing that?")

else:

print("Chatbot: Interesting! Tell me more.")

# Create an instance of the chatbot and start the conversation

hybrid\_bot = HybridChatBot()

hybrid\_bot.greet()