

Expert System

Program

```
class MedicalDiagnosisExpertSystem:
```

```
    def __init__(self):
```

```
        self.knowledge_base = {
```

```
            "fever": {
```

```
                "symptoms": ["high body temperature", "headache"],
```

```
                "diagnosis": "Flu"
```

```
            },
```

```
            "cough": {
```

```
                "symptoms": ["persistent cough", "shortness of breath"],
```

```
                "diagnosis": "Respiratory infection"
```

```
            },
```

```
            "rash": {
```

```
                "symptoms": ["itchy rash", "redness"],
```

```
                "diagnosis": "Skin allergy"
```

```
            },
```

```
            "fatigue": {
```

```
                "symptoms": ["extreme tiredness", "weakness"],
```

```
                "diagnosis": "Chronic fatigue syndrome"
```

```
            },
```

```
        }
```

```
    def get_diagnosis(self, symptoms):
```

```
        for condition, data in self.knowledge_base.items():
```

```
            if all(symptom in symptoms for symptom in data["symptoms"]):
```

```
                return data["diagnosis"]
```

```

        return "Unknown"

def main():
    expert_system = MedicalDiagnosisExpertSystem()

    print("Medical Diagnosis Expert System")
    print("Enter your symptoms (comma-separated) or type 'exit' to quit.")

    while True:
        user_input = input("Symptoms: ").strip().lower()

        if user_input == 'exit':
            break

        symptoms = [symptom.strip() for symptom in user_input.split(',')]
        diagnosis = expert_system.get_diagnosis(symptoms)
        print("Diagnosis:", diagnosis)

if __name__ == "__main__":
    main()

```

Output

Medical Diagnosis Expert System

Enter your symptoms (comma-separated) or type 'exit' to quit.

Symptoms: itchy rash

Diagnosis: Unknown

Symptoms: itchy rash ,redness

Diagnosis: Skin allergy

Symptoms: high body temperature, headache

Diagnosis: Flu

Symptoms: weakness, extreme tiredness

Diagnosis: Chronic fatigue syndrome

Symptoms: stomachache

Diagnosis: Unknown

Symptoms:

AI CHATBOT

Program

```
import random
```

```
def get_response(user_input):
```

```
    responses = {
```

```
        "hello": "Hi there! How can I help you?",
```

```
        "how are you": "I'm just a computer program, but thanks for asking!",
```

```
        "bye": "Goodbye! Have a great day.",
```

```
        "whats your name": "ai chatbardy",
```

```
        "default": "I'm not sure how to respond to that. Can you ask me something else?"
```

```
    }
```

```
    return responses.get(user_input.lower(), responses["default"])
```

```
def main():
```

```
    print("Simple Python Chatbot")
```

```
    print("Type 'bye' to exit.")
```

```
    while True:
```

```
        user_input = input("You: ")
```

```
        if user_input.lower() == 'bye':
```

```
            print("Chatbot: Goodbye!")
```

```
            break
```

```
        response = get_response(user_input)
```

```
print(f'Chatbotc
```

```
if __name__ == "__main__":
```

```
    main()
```

Output

Simple Python Chatbot

Type 'bye' to exit.

You: hi

Chatbot: I'm not sure how to respond to that. Can you ask me something else?

You: whats your name

Chatbot: ai chatbardy

You: how are you

Chatbot: I'm not sure how to respond to that. Can you ask me something else?

You: tell about ai

Chatbot: I'm not sure how to respond to that. Can you ask me something else?

You: about chatgpt

Chatbot: I'm not sure how to respond to that. Can you ask me something else?

You: