Expert System

# Sample symptom-to-department and condition mapping (rule-based)

symptom\_db = [

{"keywords": ["fever", "headache", "sore throat"], "department": "General Medicine", "condition": "Viral Infection"},

{"keywords": ["cough", "chest pain"], "department": "Pulmonology", "condition": "Bronchitis"},

{"keywords": ["rash", "itching"], "department": "Dermatology", "condition": "Eczema"},

{"keywords": ["abdominal pain", "nausea"], "department": "Gastroenterology", "condition": "Ulcer"},

{"keywords": ["shortness of breath", "fatigue"], "department": "Cardiology", "condition": "Heart Failure"},

{"keywords": ["joint pain", "swelling"], "department": "Orthopedics", "condition": "Arthritis"},

{"keywords": ["ear pain", "discharge"], "department": "ENT", "condition": "Ear Infection"},

{"keywords": ["vision problems", "headache"], "department": "Neurology", "condition": "Migraine"},

{"keywords": ["frequent urination", "thirst"], "department": "Endocrinology", "condition": "Diabetes"},

]

# Hospital directory

hospitals = {

"City General Hospital": {

"departments": ["General Medicine", "Cardiology", "Neurology"],

"contact": "Pune, India - +91 123 456 7890"

},

"Pulse Care Clinic": {

"departments": ["Pulmonology", "Orthopedics"],

"contact": "Pune, India - +91 234 567 8901"

},

"Heart Life Hospital": {

"departments": ["Cardiology", "Neurology"],

"contact": "Pune, India - +91 345 678 9012"

},

"Skin Solutions": {

"departments": ["Dermatology"],

"contact": "Pune, India - +91 456 789 0123"

},

"Sunshine Medical Center": {

"departments": ["Gastroenterology", "Urology"],

"contact": "Pune, India - +91 567 890 1234"

}

}

def welcome():

print("==============================================")

print(" 🏥 AI Hospital Expert System - Basic")

print("==============================================\n")

# Rule-based prediction

def rule\_based\_prediction(symptoms\_input):

symptoms\_input = symptoms\_input.lower()

for record in symptom\_db:

for keyword in record["keywords"]:

if keyword in symptoms\_input:

return record["department"], record["condition"]

return "General Medicine", "General Illness"

# Recommend hospitals

def recommend\_hospitals(department):

recommended = []

for name, info in hospitals.items():

if department in info["departments"]:

recommended.append(f"{name} - Contact: {info['contact']}")

return recommended

# Main logic

def main():

welcome()

# Patient details

name = input("👤 Enter patient's name: ")

age = input("📅 Enter age: ")

address = input("📍 Enter address: ")

mobile = input("📞 Enter mobile number: ")

symptoms = input("📝 Describe the patient's symptoms: ")

department, condition = rule\_based\_prediction(symptoms)

recommended = recommend\_hospitals(department)

# Output

print("\n===================== 🧾 Report =====================")

print(f"👤 Name : {name}")

print(f"📅 Age : {age}")

print(f"📍 Address : {address}")

print(f"📞 Mobile : {mobile}")

print(f"📝 Symptoms : {symptoms}")

print(f"🏥 Department : {department}")

print(f"🩺 Condition : {condition}")

print("\n================= 🏥 Recommended Hospitals =================")

if recommended:

for r in recommended:

print(r)

else:

print("No hospital found for this department.")

print("============================================================")

if \_\_name\_\_ == "\_\_main\_\_":

main()