

AI Experiment-9

April 18, 2024

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[ ]: class Patient:
    def __init__(self, blood_glucose_level, cholesterol, blood_pressure, age,
    ↪weight):
        self.age = age
        self.weight = weight
        self.cholesterol = cholesterol
        self.blood_pressure = blood_pressure
        self.blood_glucose_level = blood_glucose_level

class ExpertSystem:
    def __init__(self, patients):
        self.patients = patients

    def recommend_diet(self, patient):
        if patient.blood_glucose_level > 140 and patient.cholesterol > 200:
            return "Recommendation: Follow a low-carb, low-cholesterol diet."
        elif patient.blood_glucose_level < 70 or patient.blood_pressure < 90:
            return "Recommendation: Follow a balanced diet and consult with a
    ↪healthcare professional."
        elif patient.age > 50 and patient.weight > 200:
            return "Recommendation: Follow a low-fat, high-fiber diet and
    ↪engage in regular physical activity."
        elif patient.blood_pressure > 140 and patient.cholesterol > 200:
            return "Recommendation: Follow a low-sodium, low-cholesterol diet."
        elif patient.blood_glucose_level > 140 or (patient.age > 50 and patient.
    ↪weight > 200):
            return "Recommendation: Follow a low-carb diet and engage in
    ↪regular physical activity."
        else:
            return "Recommendation: Maintain a balanced diet with a good mix of
    ↪fruits, vegetables, lean proteins, and whole grains."

    def run(self):
        patient_count = 1
        for patient in self.patients:
            print(f"For Patient #{patient_count}", self.recommend_diet(patient))
            patient_count += 1
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patients = [
    Patient(blood_glucose_level=100, cholesterol=180, blood_pressure=120, ↵
↵age=30, weight=150),
    Patient(blood_glucose_level=80, cholesterol=220, blood_pressure=150, ↵
↵age=60, weight=180),
    Patient(blood_glucose_level=150, cholesterol=170, blood_pressure=110, ↵
↵age=40, weight=250)
]

system = ExpertSystem(patients)
system.run()

```

For Patient #1 Recommendation: Maintain a balanced diet with a good mix of fruits, vegetables, lean proteins, and whole grains.

For Patient #2 Recommendation: Follow a low-sodium, low-cholesterol diet.

For Patient #3 Recommendation: Follow a low-carb diet and engage in regular physical activity.