**1. BMI Calculator Closure**

def bmi\_calculator():

def calculate(weight, height):

return weight / (height \*\* 2)

return calculate

bmi = bmi\_calculator()

print("BMI:", bmi(70, 1.75)) # Example usage

**2. Patient Blood Pressure Monitor**

def blood\_pressure\_monitor(normal\_range):

def check(bp):

return "Normal" if normal\_range[0] <= bp <= normal\_range[1] else "Abnormal"

return check

bp\_checker = blood\_pressure\_monitor((90, 120))

print("Blood Pressure Status:", bp\_checker(110)) # Example usage

**3. Calorie Intake Tracker**

def calorie\_tracker(daily\_limit):

def track(calories):

return "Within Limit" if calories <= daily\_limit else "Exceeded Limit"

return track

calorie\_check = calorie\_tracker(2000)

print("Calorie Status:", calorie\_check(1800)) # Example usage

**4. Heart Rate Monitor**

def heart\_rate\_monitor(ideal\_range):

def check(hr):

return "Healthy" if ideal\_range[0] <= hr <= ideal\_range[1] else "Unhealthy"

return check

hr\_checker = heart\_rate\_monitor((60, 100))

print("Heart Rate Status:", hr\_checker(85)) # Example usage

**5. Diabetes Risk Analyzer**

def diabetes\_risk\_analyzer(threshold):

def analyze(glucose\_level):

return "High Risk" if glucose\_level > threshold else "Low Risk"

return analyze

diabetes\_check = diabetes\_risk\_analyzer(140)

print("Diabetes Risk:", diabetes\_check(150)) # Example usage

**6. Water Intake Reminder**

def water\_intake\_tracker(daily\_requirement):

total\_intake = 0

def intake(amount):

nonlocal total\_intake

total\_intake += amount

return f"Total Intake: {total\_intake} ml, Remaining: {daily\_requirement - total\_intake} ml"

return intake

water\_tracker = water\_intake\_tracker(3000)

print(water\_tracker(500)) # Example usage

**7. Step Counter for Fitness Tracking**

def step\_counter(target\_steps):

steps\_taken = 0

def track(steps):

nonlocal steps\_taken

steps\_taken += steps

return f"Steps Taken: {steps\_taken}, Target: {target\_steps}"

return track

steps = step\_counter(10000)

print(steps(3000)) # Example usage

**8. Medication Reminder**

def medication\_reminder(schedule):

def check(time):

return "Time for Medicine" if time in schedule else "No Medication Now"

return check

med\_reminder = medication\_reminder(["08:00 AM", "02:00 PM", "08:00 PM"])

print(med\_reminder("08:00 AM")) # Example usage

**9. Hospital Bed Availability Tracker**

def hospital\_bed\_tracker(total\_beds):

occupied\_beds = 0

def update\_beds(occupied):

nonlocal occupied\_beds

occupied\_beds += occupied

available\_beds = total\_beds - occupied\_beds

return f"Occupied: {occupied\_beds}, Available: {available\_beds}"

return update\_beds

bed\_tracker = hospital\_bed\_tracker(100)

print(bed\_tracker(5)) # Example usage

**10. Doctor's Appointment Scheduler**

def appointment\_scheduler(slots):

scheduled\_appointments = []

def schedule(patient):

if len(scheduled\_appointments) < slots:

scheduled\_appointments.append(patient)

return f"Appointment Confirmed for {patient}"

else:

return "No Slots Available"

return schedule

scheduler = appointment\_scheduler(3)

print(scheduler("John Doe")) # Example usage