# Carbon Footprint Calculation - Source Code

import random  
  
# Carbon footprint factors (in kg CO2 per unit)  
carbon\_factors = {  
 "electricity": 0.5, # kg CO2 per kWh  
 "transport\_car": 2.3, # kg CO2 per liter of fuel  
 "public\_transport": 0.1, # kg CO2 per km  
 "meat\_consumption": 27, # kg CO2 per kg of meat  
 "plant\_based\_diet": 2, # kg CO2 per kg of plant food  
}  
  
# AI-driven recommendations  
tips = [  
 "Switch to renewable energy sources like solar or wind.",  
 "Use public transport, cycle, or walk instead of driving.",  
 "Adopt a plant-based diet to reduce food-related emissions.",  
 "Reduce, reuse, and recycle to minimize waste.",  
 "Use energy-efficient appliances to save electricity."  
]  
  
def estimate\_carbon\_footprint(electricity, transport\_car, public\_transport, meat, plants):  
 """Calculate the estimated carbon footprint."""  
 footprint = (  
 electricity \* carbon\_factors["electricity"] +  
 transport\_car \* carbon\_factors["transport\_car"] +  
 public\_transport \* carbon\_factors["public\_transport"] +  
 meat \* carbon\_factors["meat\_consumption"] +  
 plants \* carbon\_factors["plant\_based\_diet"]  
 )  
 return footprint  
  
def get\_suggestion():  
 """Return a random sustainability tip."""  
 return random.choice(tips)  
  
# Example user input  
user\_footprint = estimate\_carbon\_footprint(  
 electricity=300, # kWh per month  
 transport\_car=50, # liters of fuel per month  
 public\_transport=100, # km per month  
 meat=5, # kg of meat per month  
 plants=10 # kg of plant-based food per month  
)  
  
# Output results  
print(f"Your estimated carbon footprint: {user\_footprint:.2f} kg CO2 per month")  
print("AI Tip:", get\_suggestion())