# Step 1: Hard-coding Variables for Weather Modeling

# Define the quadratic equation for temperature modeling

def temperature\_modeling(a, b, c, time):

# Calculate temperature based on time using the quadratic equation

temperature = a \* time\*\*2 + b \* time + c

return temperature

# Hard-coded coefficients for temperature modeling

a\_hardcoded, b\_hardcoded, c\_hardcoded = 0.1, 2, 10

# Display results

print("Step 1: Hard-coded Variables for Weather Modeling")

time\_hardcoded = 5 # Example time value

print("Temperature for hardcoded coefficients at time", time\_hardcoded, "hours:", temperature\_modeling(a\_hardcoded, b\_hardcoded, c\_hardcoded, time\_hardcoded))

print("\n")

# Step 2: Keyboard Input for Weather Modeling

# Get coefficients from user input

a\_keyboard = float(input("Enter coefficient a: "))

b\_keyboard = float(input("Enter coefficient b: "))

c\_keyboard = float(input("Enter coefficient c: "))

# Get time from user input

time\_keyboard = float(input("Enter time in hours: "))

# Display results

print("Step 2: Keyboard Input for Weather Modeling")

print("Temperature for keyboard input coefficients at time", time\_keyboard, "hours:", temperature\_modeling(a\_keyboard, b\_keyboard, c\_keyboard, time\_keyboard))

print("\n")

# Step 3: Read from a File for Weather Modeling

# Assume coefficients and time are stored in a file named 'weather\_coefficients.txt'

with open('weather\_coefficients.txt', 'r') as file:

lines = file.readlines()

a\_file, b\_file, c\_file, time\_file = map(float, lines[0].split())

# Display results

print("Step 3: Read from a File for Weather Modeling")

print("Temperature for file input coefficients at time", time\_file, "hours:", temperature\_modeling(a\_file, b\_file, c\_file, time\_file))

print("\n")

# Step 4: Single Set of Input for Weather Modeling

# Display results for a single set of input

print("Step 4: Single Set of Input for Weather Modeling")

print("Temperature for hardcoded coefficients at time", time\_hardcoded, "hours:", temperature\_modeling(a\_hardcoded, b\_hardcoded, c\_hardcoded, time\_hardcoded))

print("\n")

# Step 5: Multiple Sets of Inputs for Weather Modeling

# Assume coefficients and time for multiple sets are stored in 'multiple\_weather\_coefficients.txt'

with open('multiple\_weather\_coefficients.txt', 'r') as file:

lines = file.readlines()

for line in lines:

a\_multi, b\_multi, c\_multi, time\_multi = map(float, line.split())

print("Temperature for multiple set coefficients at time", time\_multi, "hours:", temperature\_modeling(a\_multi, b\_multi, c\_multi, time\_multi))

print("\n")

# Steps 6-8: Save All Versions, Debug and Fix Problems, Create a GitHub Account