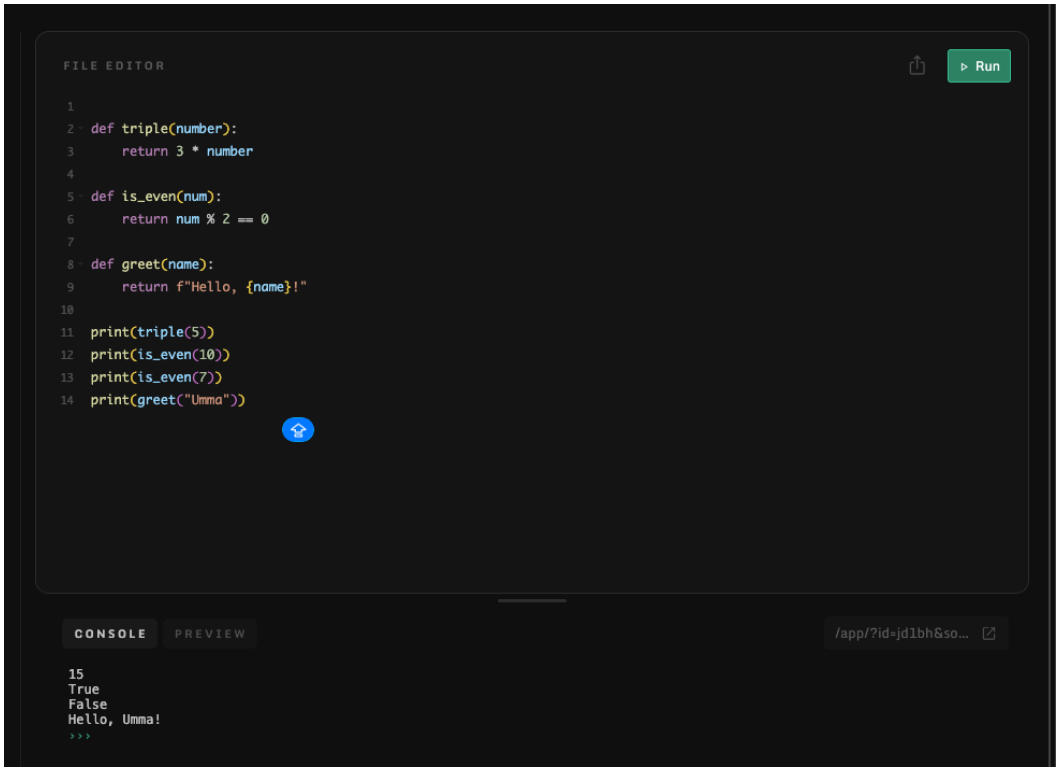
Part A – Function Basics (20 points)

1. Define a function triple(number) that returns 3 × the number.
Code: def triple(number):
    return 3 * number

2. Define a function is_even(num) that returns True if even, otherwise False.
Code: def is_even(num):
    return num % 2 == 0

3. Define a function greet(name) that returns a greeting message.
Code: def greet(name):
    return f"Hello, {name}!"

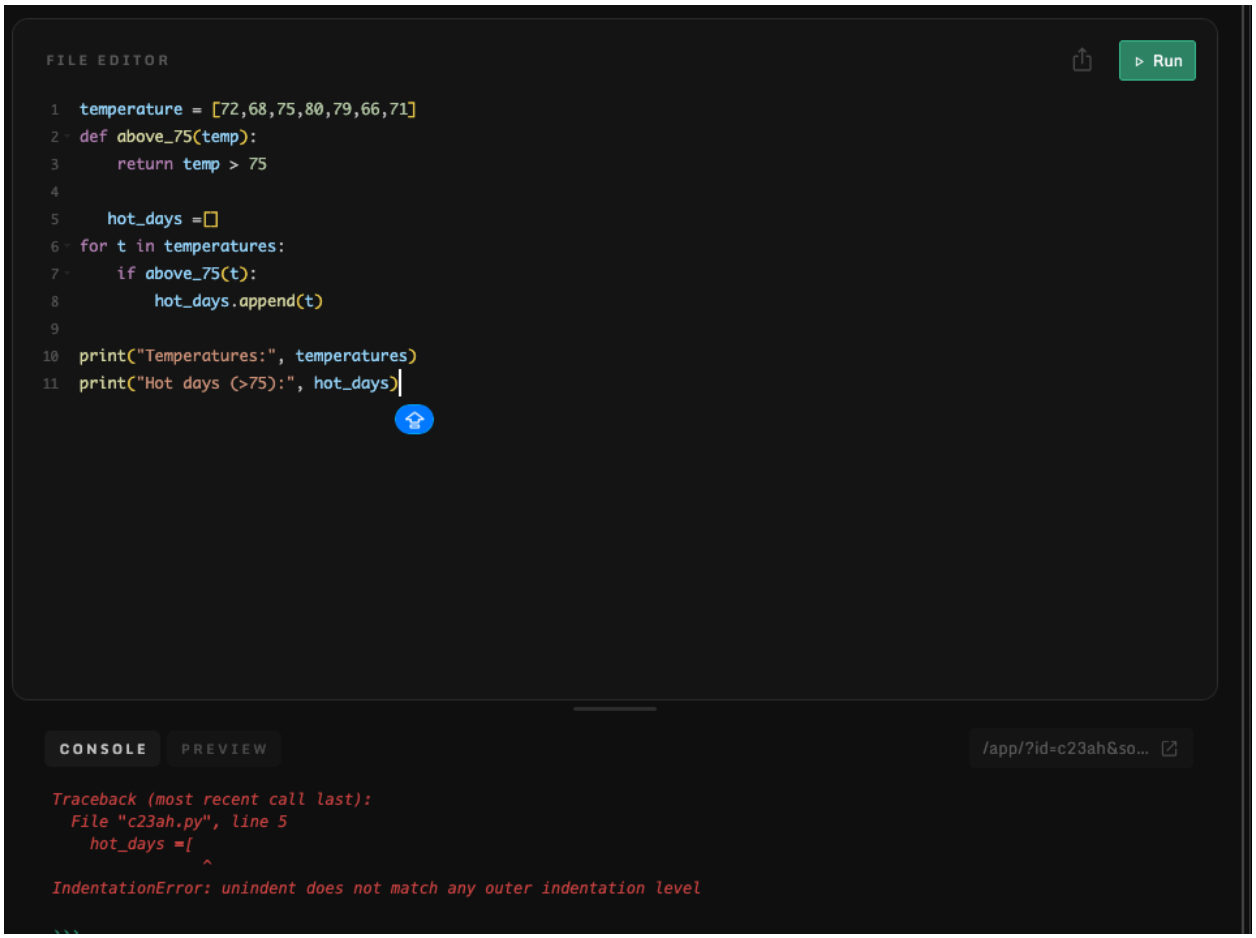
4. Test all three functions by printing the results.
Code: print(triple(5))
print(is_even(10))
print(is_even(7))
print(greet("Umma"))



Part B – Functions With Lists (25 points)
temperatures = [72, 68, 75, 80, 79, 66, 71]
1. Write above_75(temp) that returns True if temp > 75.
Code: temperature = [72,68,75,80,79,66,71]
def above_75(temp):
    return temp > 75

2. Use a for loop and the function to create a list of hot_days.
Code: hot_days =[]
for t in temperatures:
    if above_75(t):
        hot_days.append(t)

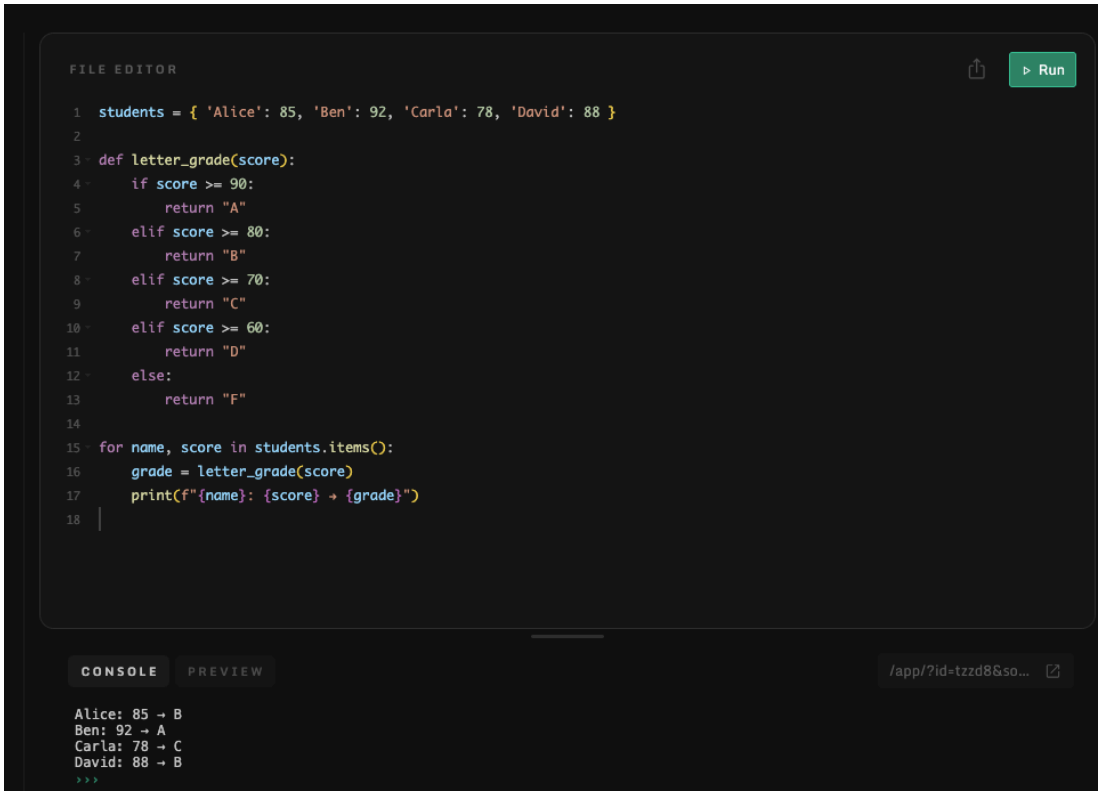
3. Print original temperatures and hot_days.
Code: print("Temperatures:", temperatures)
print("Hot days (>75):", hot_days)



Part C – Functions + Dictionaries + Conditionals (25 points)
students = { 'Alice': 85, 'Ben': 92, 'Carla': 78, 'David': 88 }

1. Write letter_grade(score) returning A, B, C, D, or F.
Code : def letter_grade(score):
    if score >= 90:
        return "A"
    elif score >= 80:
        return "B"
    elif score >= 70:
        return "C"
    elif score >= 60:
        return "D"
    else:
        return "F"

2. Loop through students and print Name: score → letter
Code: for name, score in students.items():
    grade = letter_grade(score)
    print(f"{name}: {score} → {grade}")



Part D – While Loop + Functions (20 points)

Write find_max(numbers) using a while loop to find the largest number.

Use nums = [5, 9, 2, 17, 3, 11] and print the maximum.
Code: def find_max(numbers):
    i = 0
    max_value = numbers[0]

    while i < len(numbers):
        if numbers[i] > max_value:
            max_value = numbers[i]
        i += 1
    return max_value
nums = [5, 9, 2, 17, 3, 11]
print("Maximum number:", find_max(nums))

Part E – Create Your Own Function (10 points)

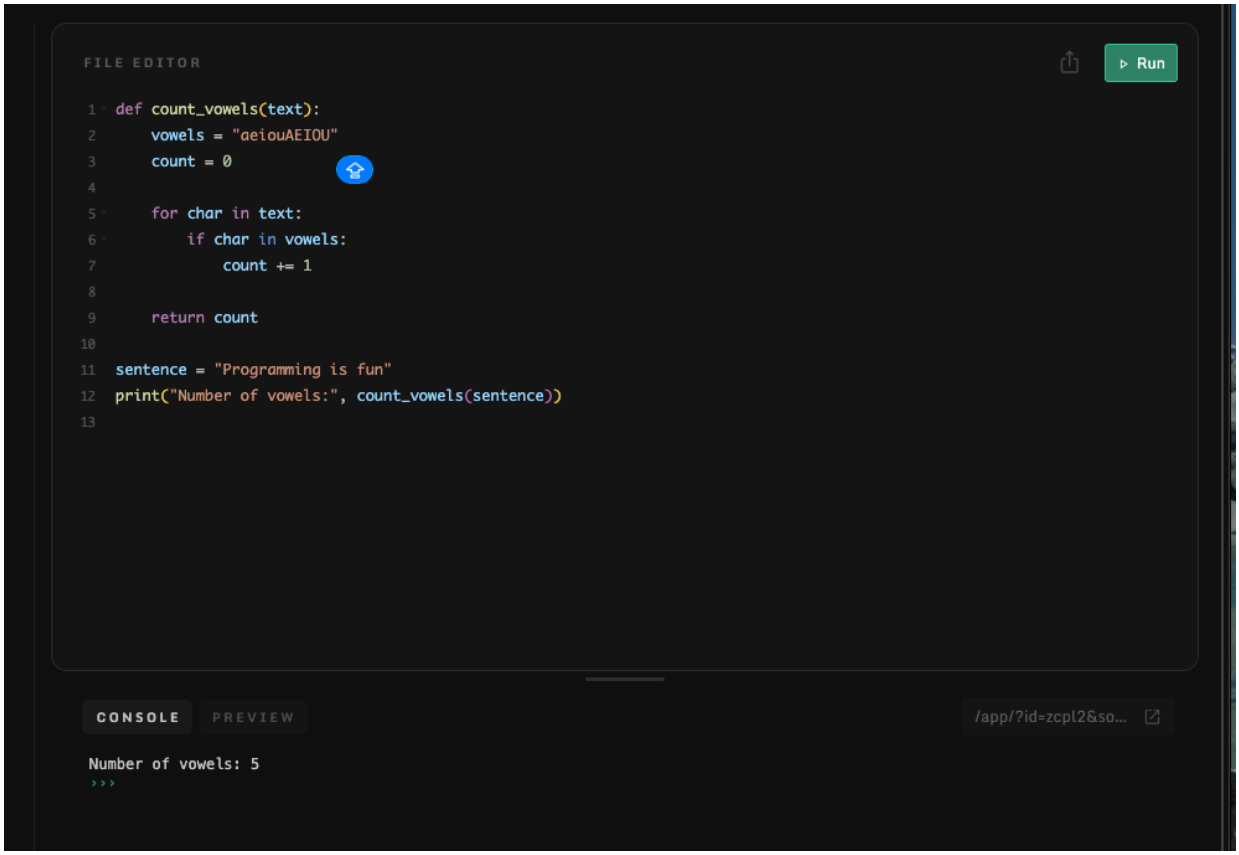
Create a function for a real - world task (e.g., convert minutes, count vowels).
Must include at least one argument and a conditional or loop.

Code: def count_vowels(text):
    vowels = "aeiouAEIOU"
    count = 0

    for char in text:
        if char in vowels:
            count += 1

    return count

sentence = "Programming is fun"
print("Number of vowels:", count_vowels(sentence))



Bonus – Optional (+10 points)

Write reverse_list(lst) using a while loop to return a reversed list

Code: def reverse_list(lst):

```
    reversed_lst = []
    i = len(lst) - 1

    while i >= 0:
        reversed_lst.append(lst[i])
        i -= 1
    return reversed_lst
nums = [1, 2, 3, 4, 5]
print(reverse_list(nums))
```