**AI ASSITED CODING**

**Task 1:**

**Description:**

**Try 3 different prompts to generate a factorial function.**

**PROMPT 1:**

1. **Write a python function to find factorial of a Number**

**Code:**

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**PROMPT 2:  
write Python function for factorial**

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**PROMPT 3:  
Write a python function that finds factorial of list of numbers**

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**Expected Output:**

**For Prompt 1:**

****

**For Prompt 2:**

****

**For Prompt 3:**

****

**Comparison of AI-generated code styles**

**Explanation:**

**All the codes are given by Copilot based on the different prompts .Almost all the codes are similar.some of them are user defined and other are not user defined .**

**In Third prompt it has calculated the factorial of list of numbers**

**Observation:**

**All the outputs are as expected**

**Task 2:**

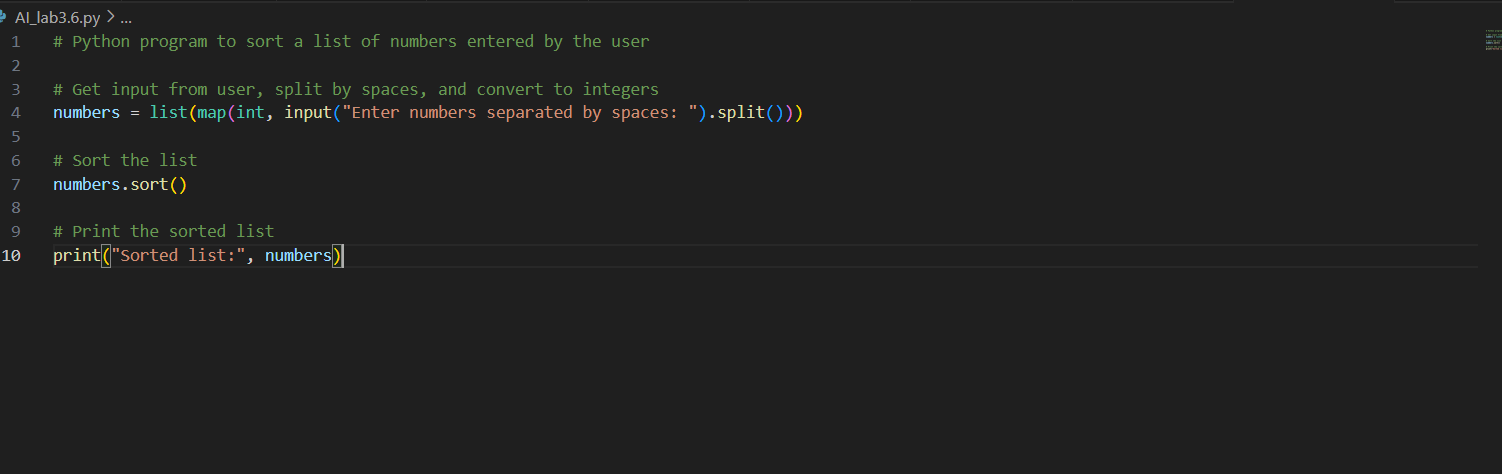
**Description:**

**Provide a clear example input-output prompt to generate a sorting function.**

**PROMPT:**

**Write a python function that sorts list of numbers where list elements are user defined**

**Code:**

****

**Functional sorting code from AI**

**Output:**

****

**Explanation:**

**I asked Copilot to generate the code based on the prompt that I have given .It has used map method to take the inputs which are separated by spaces .**

**The numbers which are given separated by spaces are stored in list .List has a pre defined function ‘reference.sort()’**

**With the help of the function it has given the output**

**Observation:**

**As per my Observation for all the inputs outputs are expected**

**Task 3**

**Description:**

**Start with the vague prompt “Generate python code to power bill” and  
improve it step by calculate step**

**PROMPT:**

**Write a Python function to calculate an electricity bill based on total kWh used.**

**Code:**

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**Output:**

****

**Lets improve the code with other prompt**

**Prompt 2:**

**Write a simple and efficient Python function to calculate an electricity bill based on total kWh used where kwh is user defined**

**Code:**

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**Output:**

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**Task 4:**

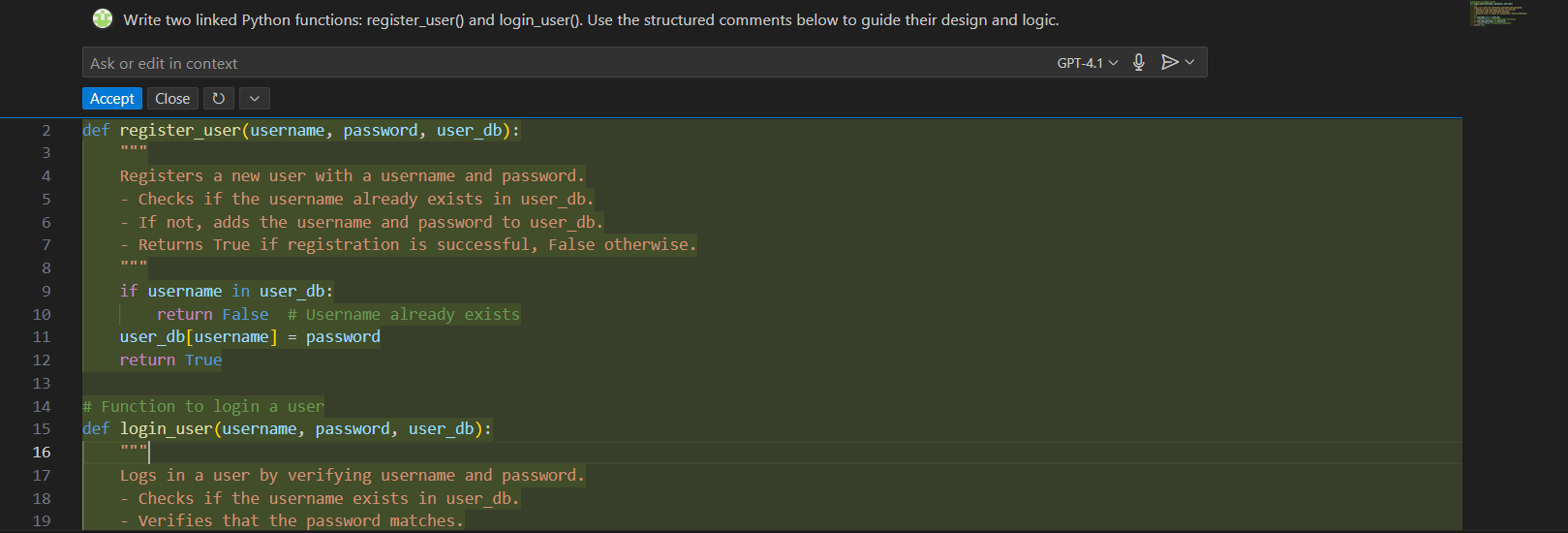
**Description:**

**Write structured comments to help AI generate two linked functions (e.g., login\_user()  
and register\_user()).**

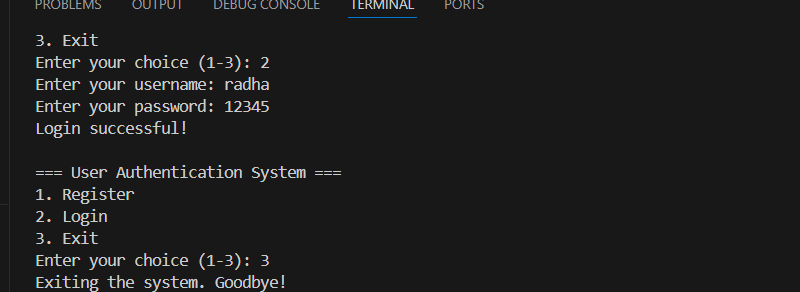
**PROMPT:**

**"Write two linked Python functions: register\_user() and login\_user(). Use the structured comments below to guide their design and logic**

**Code:**

****

**Output:**

****

**Explanation:**

**The register\_user() function adds a new user to a database (a dictionary) by checking if the username already exists—if it doesn’t, it stores the username and password. The login\_user() function checks if the username exists and if the given password matches the stored one, allowing access only if both are correct. Together, these functions create a simple user authentication system with basic validation.**

**Observation:**

**All the outputs are as expected**

**Task 5:**

**Description:**

**Analyzing Prompt Specificity: Improving Temperature Conversion Function with  
Clear Instructions**

**PROMPT:**

**Write a Python function called `convert\_temperature(value, from\_unit, to\_unit)` that converts temperatures between Celsius (C), Fahrenheit (F), and Kelvin (K). The function should:**

**Code:**

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**Output:**

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**Explanation:**

**Validates input units (must be 'C', 'F', or 'K').**

**Converts the input to Celsius using a to\_celsius dictionary of lambda functions.**

**Then converts from Celsius to the desired target unit using a from\_celsius dictionary.**

**Returns the result rounded to 2 decimal places.**

**Observation:**

**All the test cases are true as expected .**