SR UNIVERSITY

School of Computer Science and Artificial Intelligence

LAB ASSIGNMENT - 1

Program	**: B. Tech (CSE)**
Specialization	**:**
Course Title	**: AI Assisted coding**
Course Code	**: 23CS002PC304**
Semester	**: II**
Academic Session	**: 2025-2026**
Name of Student	**: K. Deepak**
Enrollment No.	**: 2303A51T02**
Batch No.	**: 52**
Date	**:06-01-2026**

Submission Instructions:

(All instructions should be followed strictly to avoid deduction of marks)

1. Use the same file to complete the assignment and don't change the settings.
2. Minimum 10 screen shots of your account should be taken to showcase your work.
3. **File Format:**
   - Submit your assignment as a PDF document (pdf). Ensure the file is named according to the following convention:

     `BNo_StudentName_SESD_A1.`

     `Sample`: B10_Rohit_22A523421_A1
4. Fill all the entries mentioned on top section.
5. Mention your AWS Academy Virtual Lab Account details as shown in the next page.
6. **Don't write on this page.**
7. All answers should be answered from next page only.

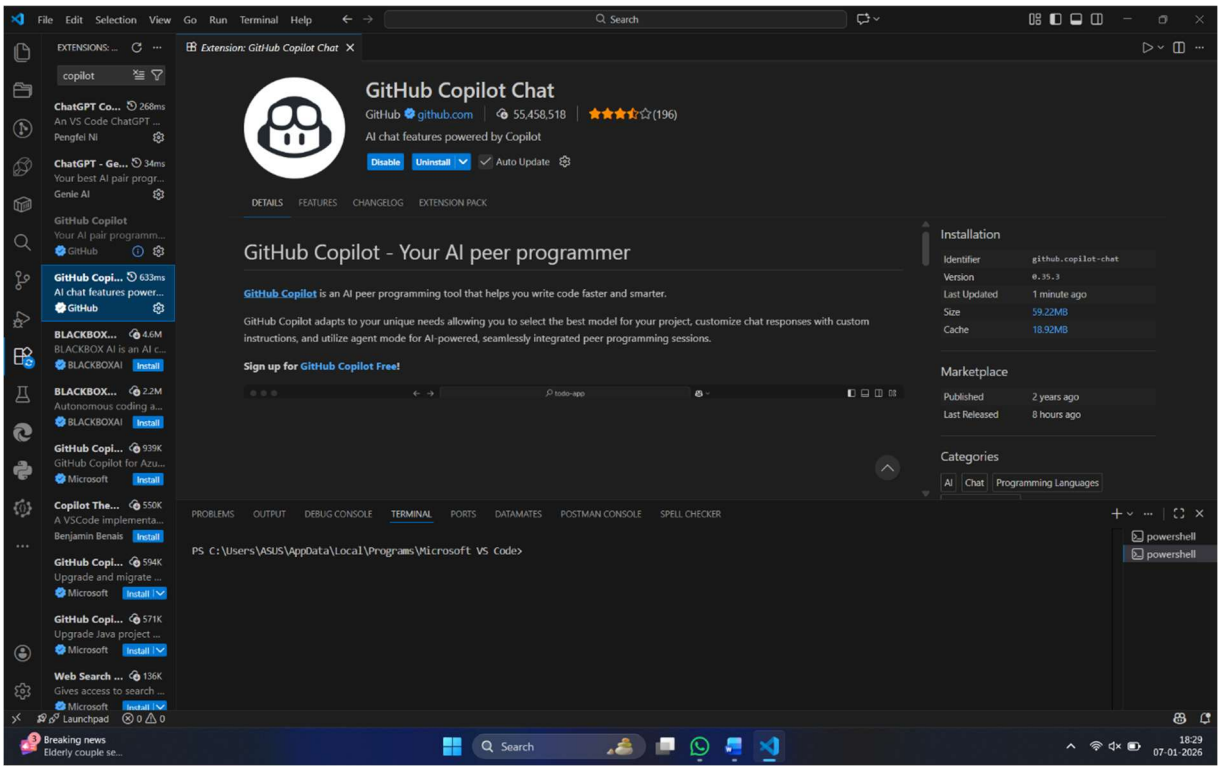
SR UNIVERSITY

Submission Starts here

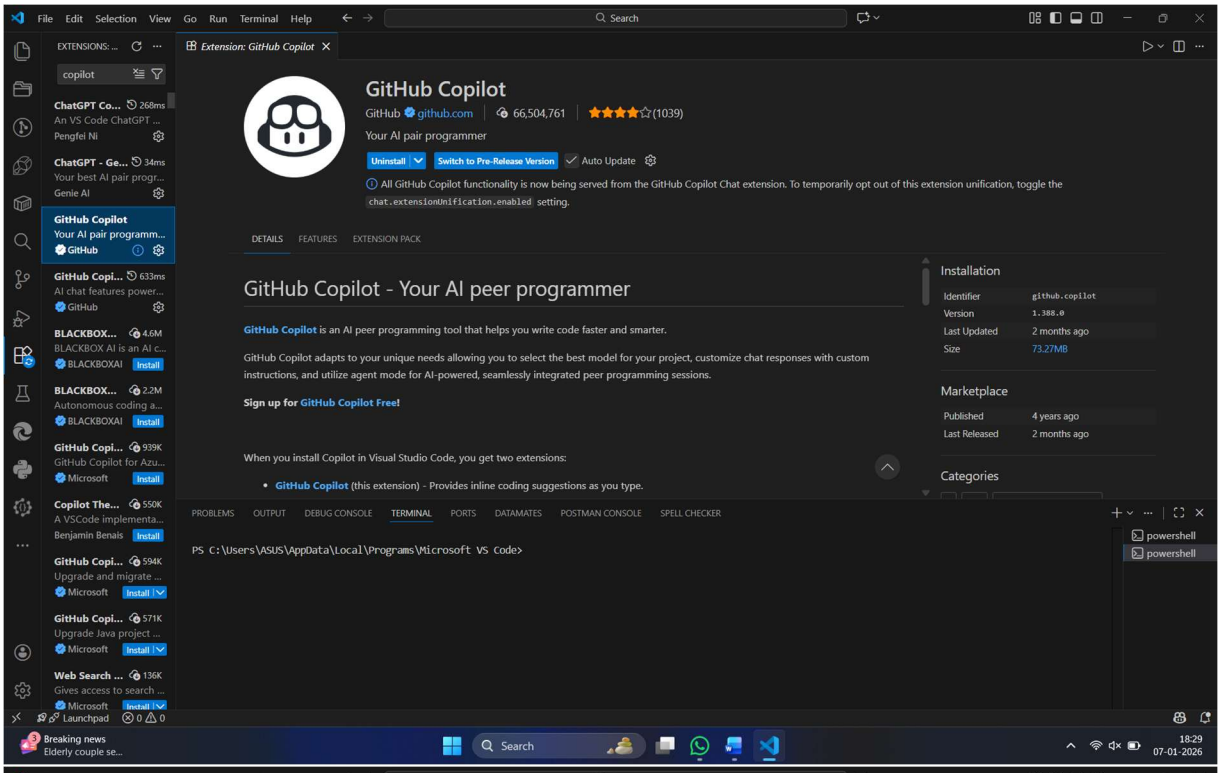
OUTPUT :

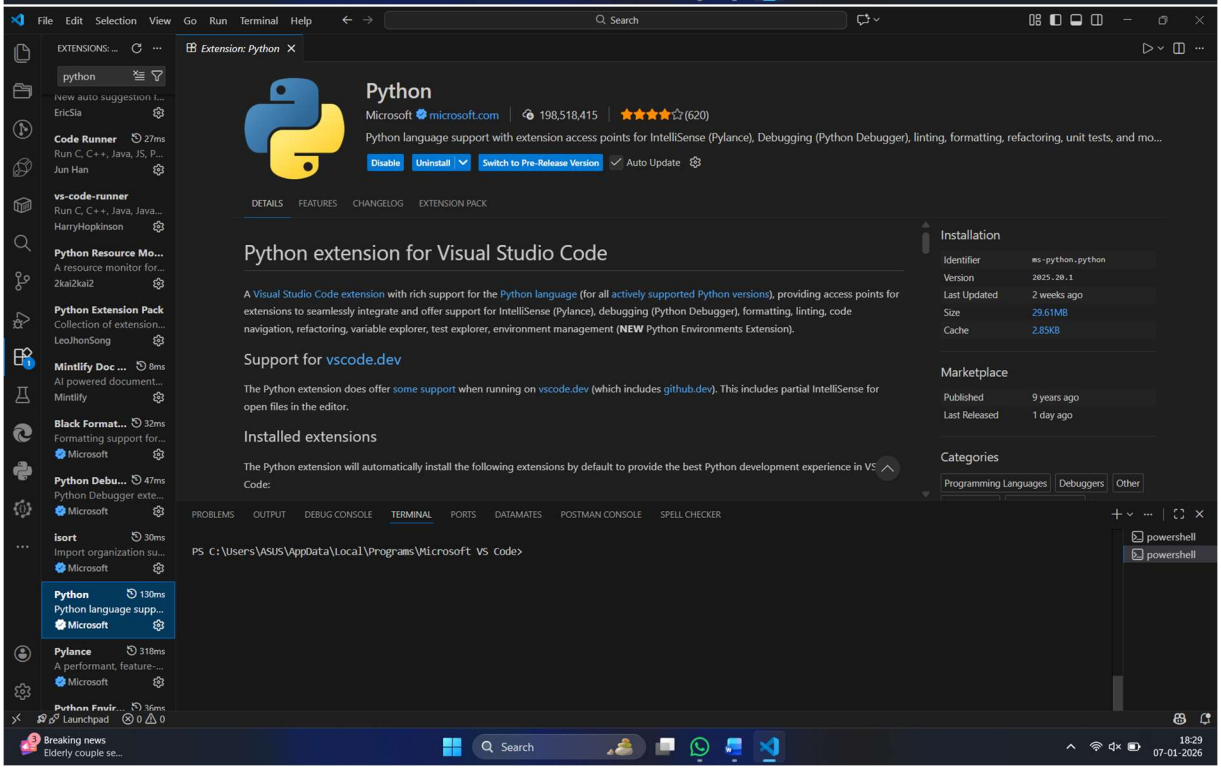
SCREENSHOTS:

Task 0: Install and configure GitHub Copilot in VS Code. Take screenshots of each step.



SR UNIVERSITY

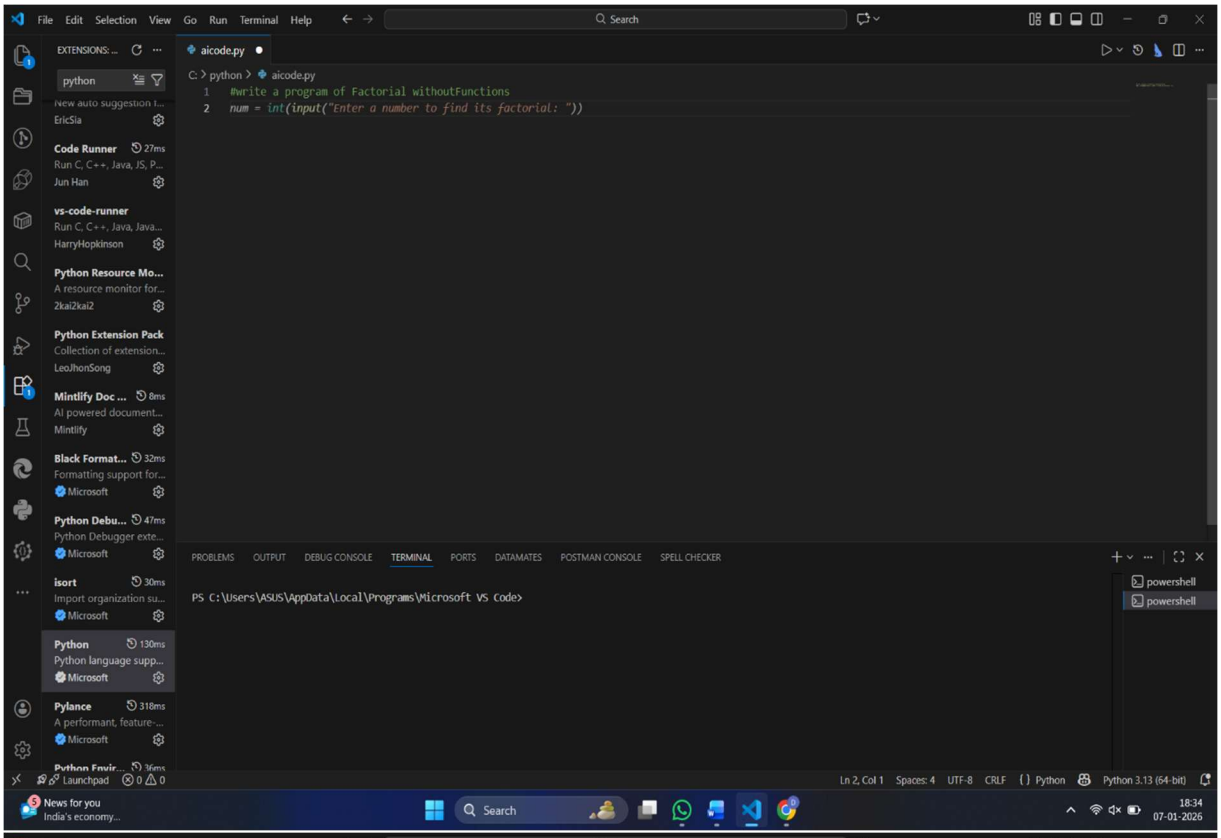


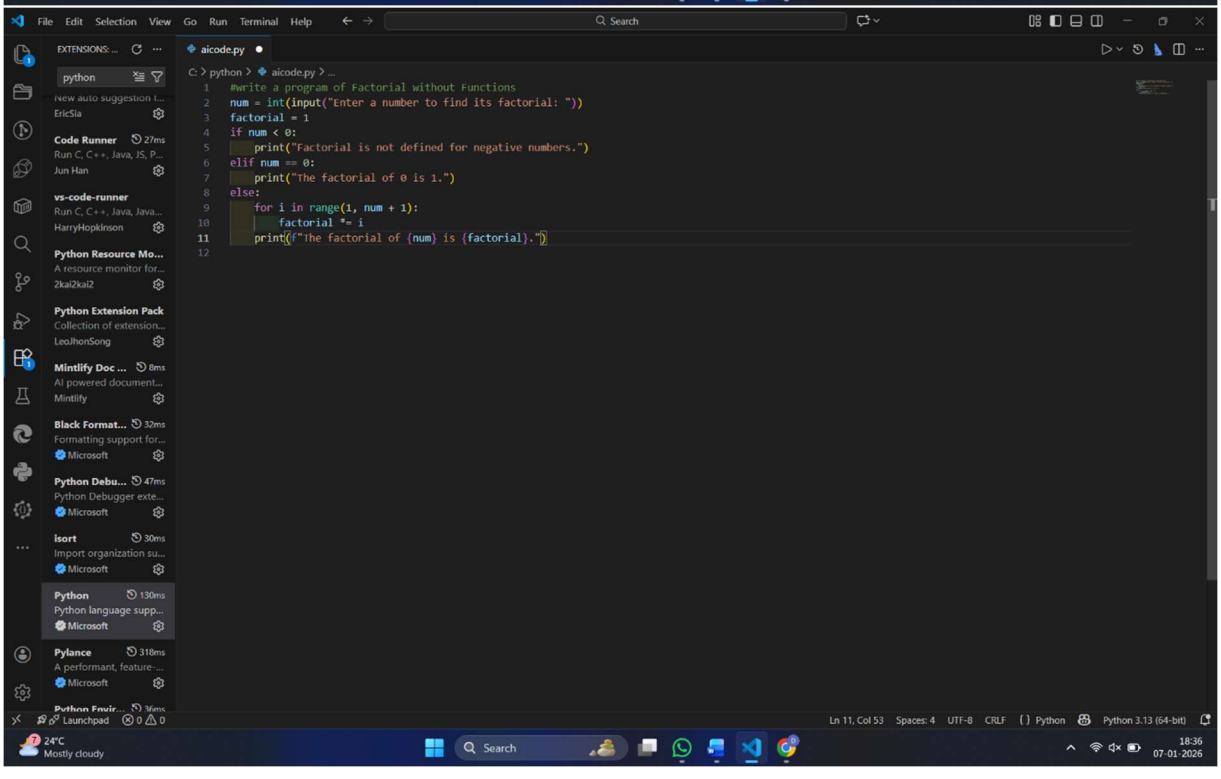


Task1: Task Description

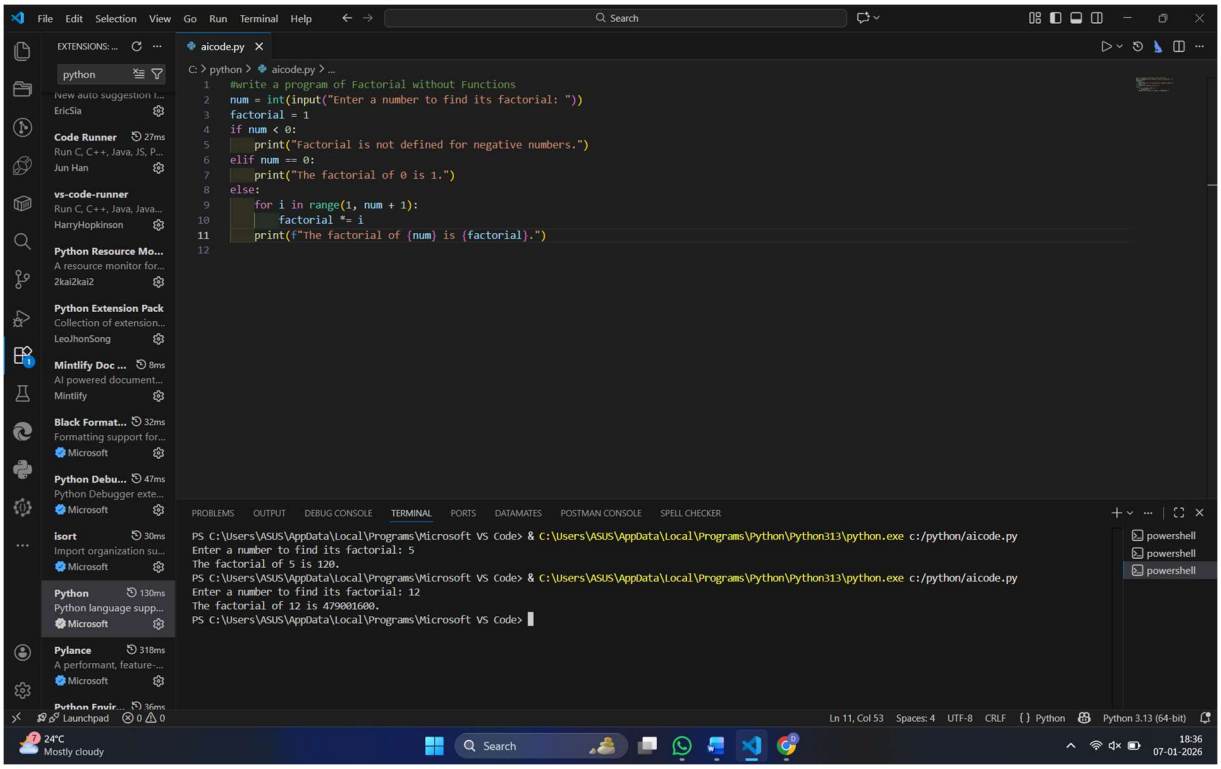
Use GitHub Copilot to generate a Python program that computes a mathematical product-based value (factorial-like logic) directly in the main execution flow, without using any user-defined functions.

SR UNIVERSITY





SR UNIVERSITY



- **The Copilot is very helpful because we can generate code by just giving a prompt in Copilot Chat (ctrl + I)**

- **The code generated was as requested in the prompt**

EXPLANATION :

1 The program asks the user to enter a number.

2 It stores the entered value as an integer.

3 The code calculates the factorial by multiplying numbers from 1 to the given number.

4 The final multiplied result is stored as the factorial value.

5 The program prints the factorial of the given number as output.

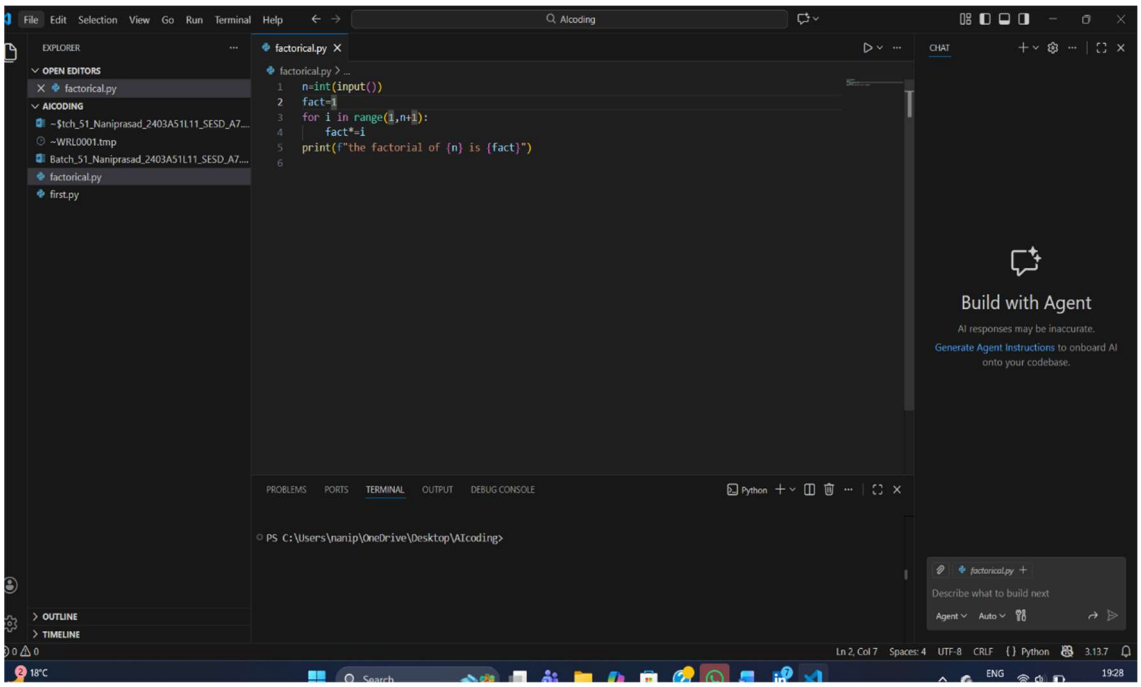
 # TASK - 2

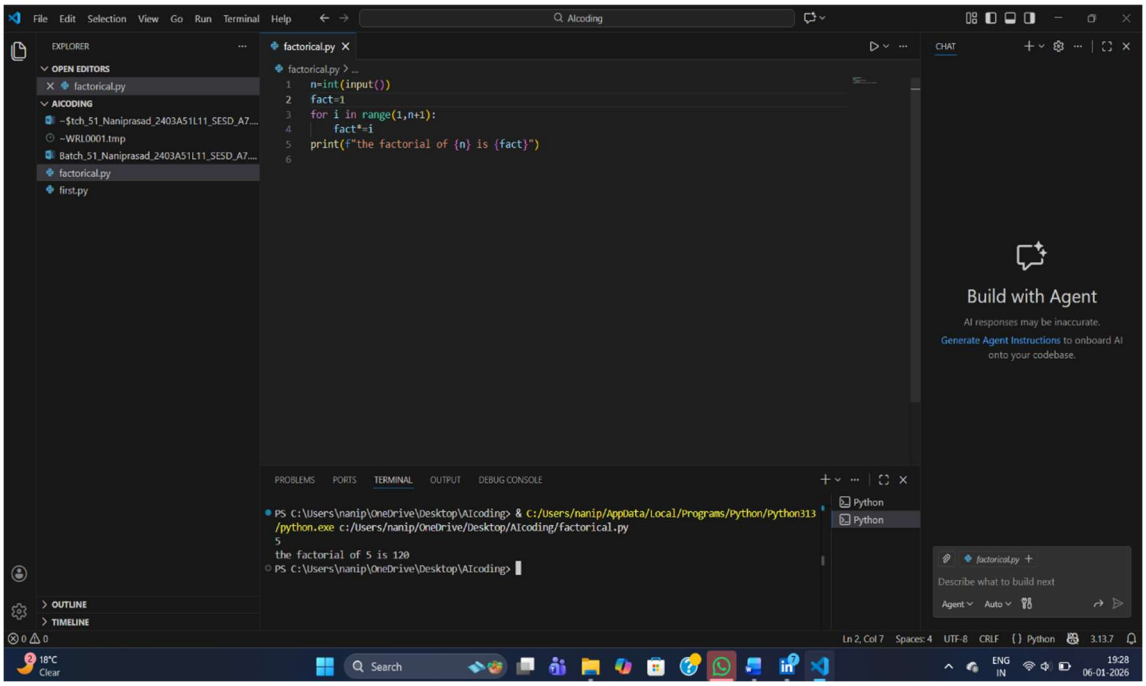
Task Description

Analyze the code generated in Task 1 and use Copilot again to:

- **Reduce unnecessary variables**
- **Improve loop clarity**
- **Enhance readability and efficiency**

SR UNIVERSITY





 # What was improved?

- **Shorter multiplication statement**
- **factorial = factorial * i → factorial *= i**
- **Removed unnecessary comment**

❖ **The loop logic is self-explanatory, so the comment was removed.**

❖ # Why the new version is better?

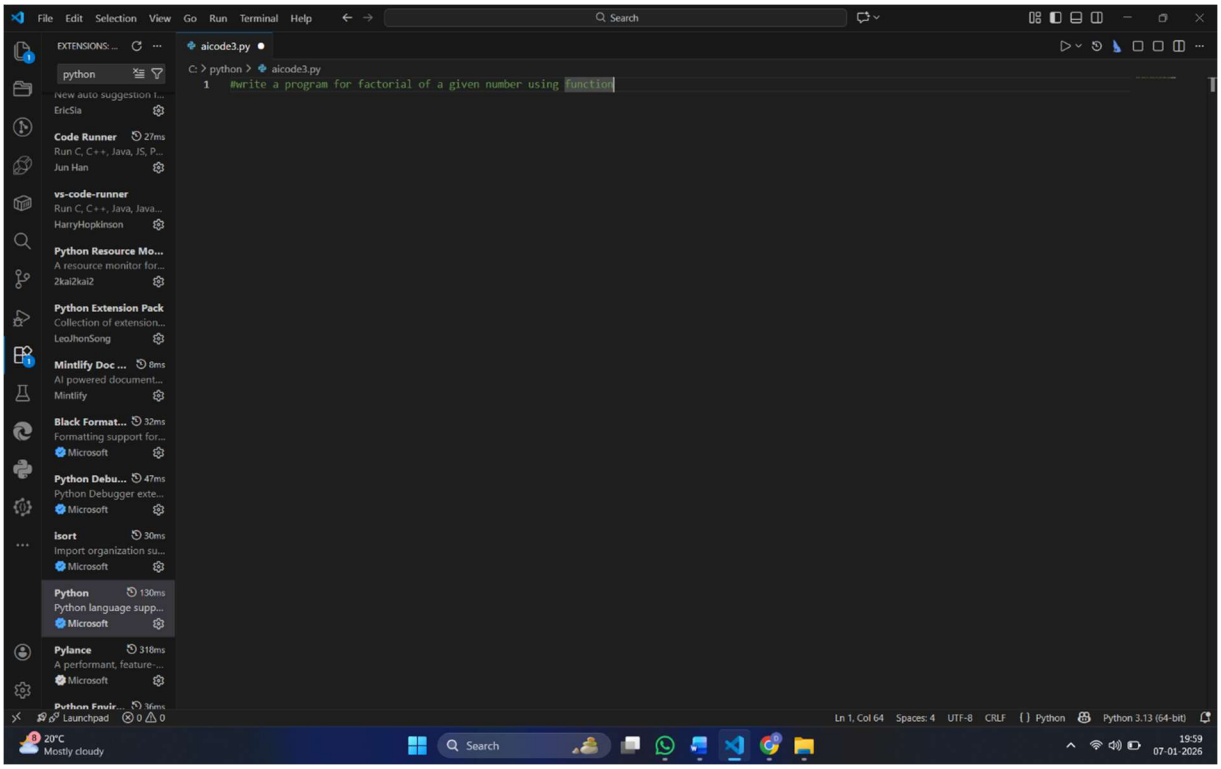
- ❖ Readability
- ❖ *= is clearer and more concise.
  - Fewer lines and less clutter make the code easier to read.
- ❖ Maintainability
  - Cleaner code is easier to modify and debug.
  - Reduced redundancy lowers the chance of mistakes.
- ❖ Performance
  - Performance is effectively the same.
- ❖ *= is marginally optimized at the bytecode level, but the difference is negligible.

Task3

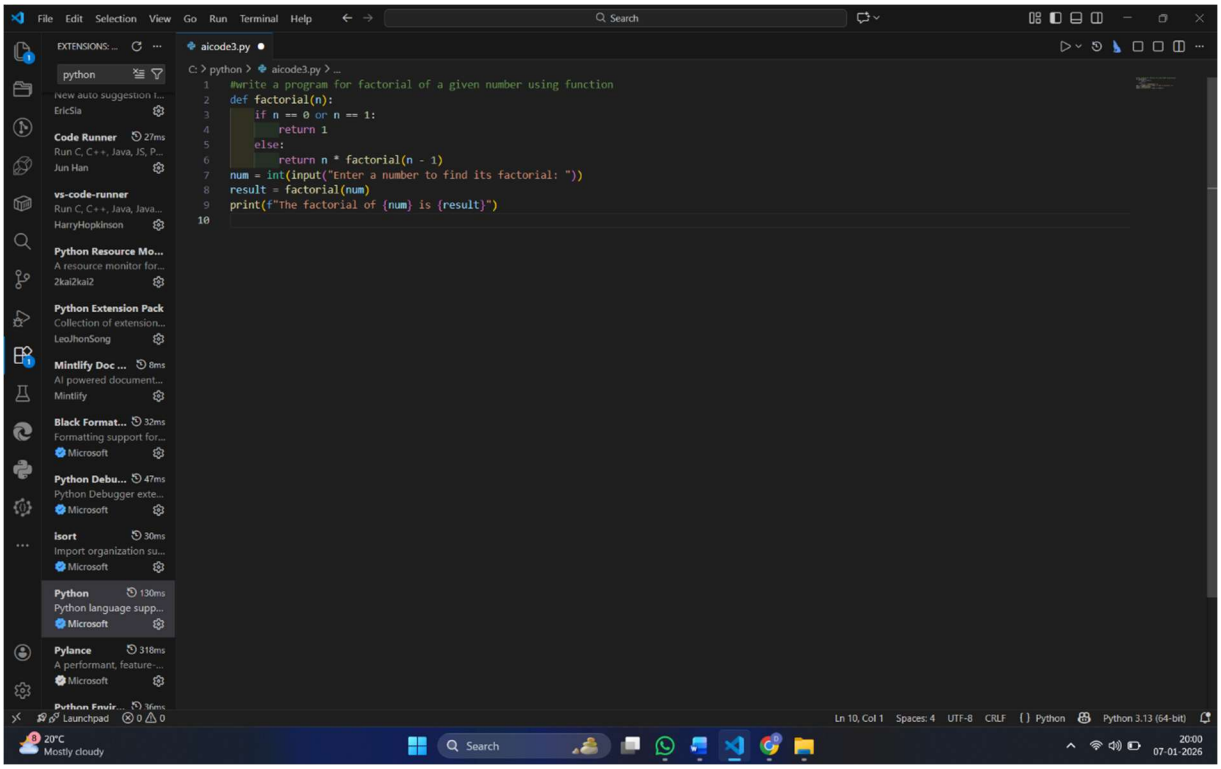
Task Description

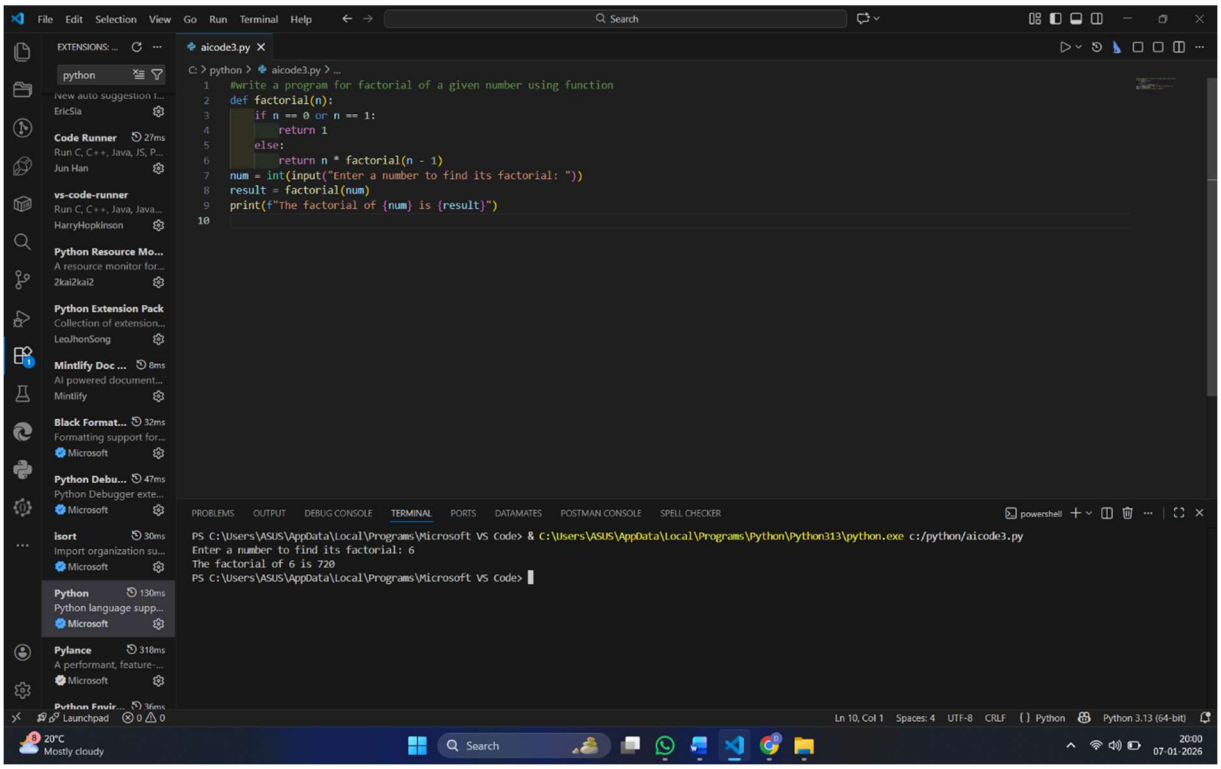
Use GitHub Copilot to generate a modular version of the program by:

- ❖ Creating a user-defined function
- ❖ Calling the function from the main block



SR UNIVERSITY





- **Modularity improves reusability by:**

Allowing the factorial() function to be reused in multiple programs without rewriting code.

Making the program easier to test, update, and debug.

Improving code organization, where logic is separated from input/output handling.

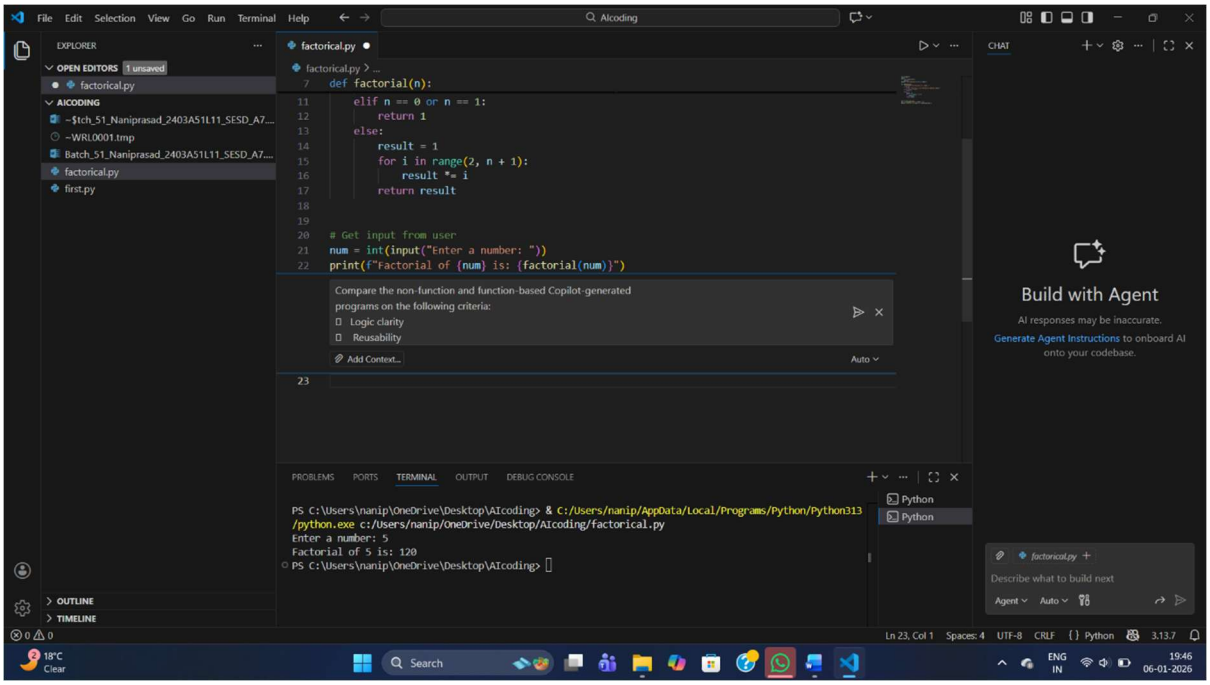
Supporting scalability, as the same function can be extended or integrated into larger projects.

#Task4

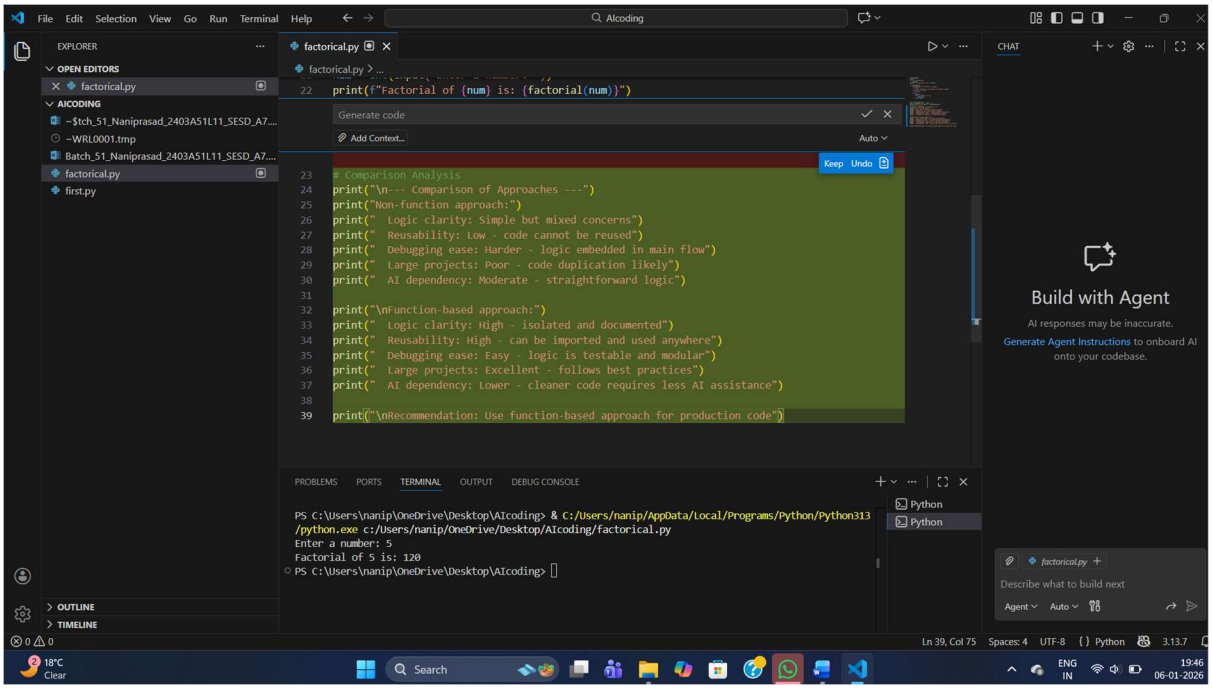
Task Description

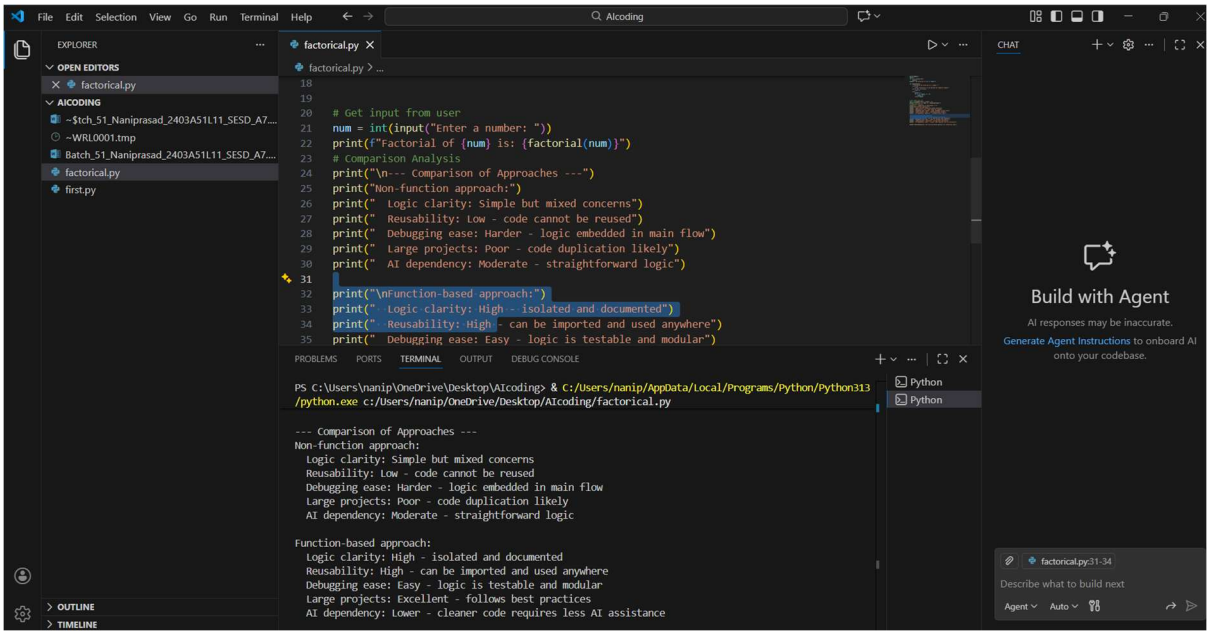
Compare the non-function and function-based Copilot-generated programs on the following criteria:

- **Logic clarity**
- **Reusability**
- **Debugging ease**
- **Suitability for large projects**
- **AI dependency risk**



SR UNIVERSITY

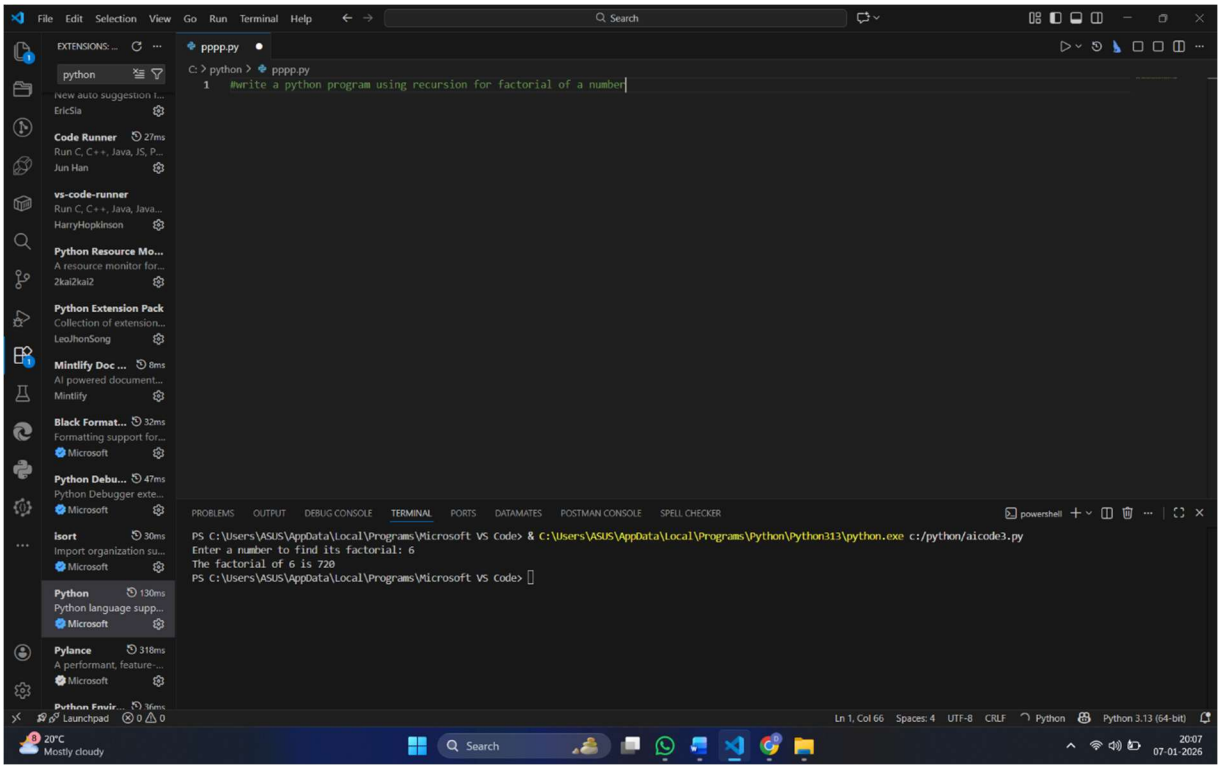


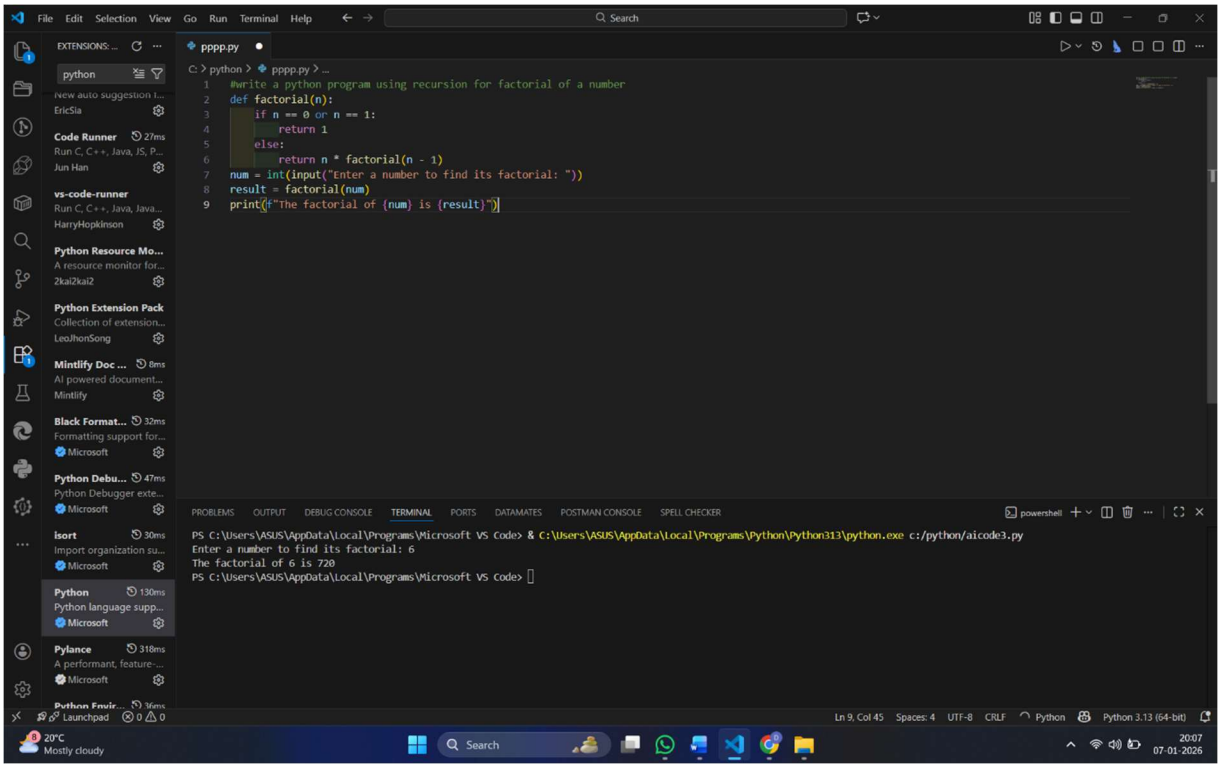


 # TASK - 5

Task Description
Prompt Copilot to generate:
An iterative version of the logic
A recursive version of the same logic

SR UNIVERSITY





SR UNIVERSITY