SCHOOL OF COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE		DEPARTMENT OF COMPUTER SCIENCE ENGINEERING	
ProgramName:B. Tech		**Assignment Type: Lab**	**AcademicYear:**2025-2026
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CourseCode	24CS002PC215	**CourseTitle**	AI Assisted Coding
Year/Sem	II/I	**Regulation**	R24
Date and Day of Assignment	Week1 - Thursday	**Time(s)**	
Duration	2 Hours	**Applicableto Batches**	24CSBTB01 To 24CSBTB39
AssignmentNumber:1.4(Present assignment number)/**24**(Total number of assignments)			

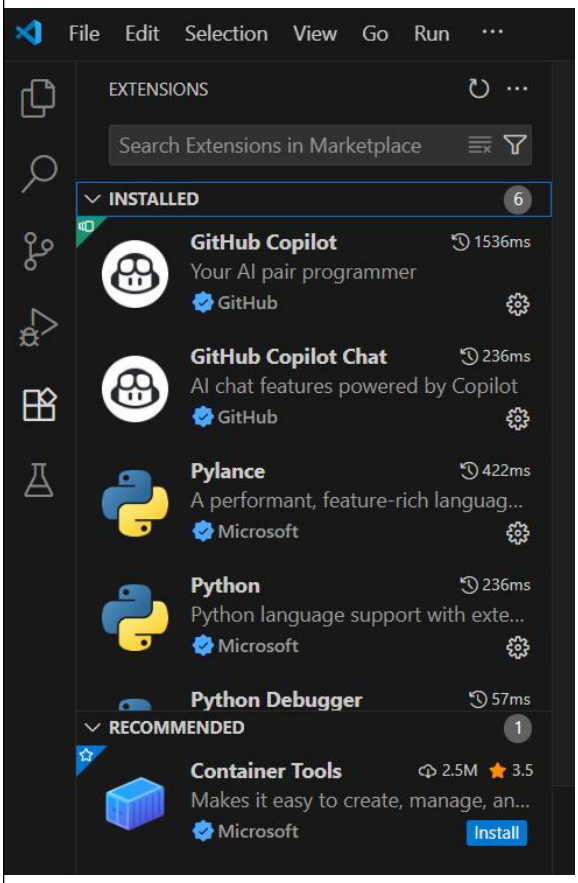
Q.No.	Question	*ExpectedTime to complete*
1	Lab 1: Environment Setup – GitHub Copilot and VS Code Integration **Lab Objectives:** ● To install and configure GitHub Copilot in Visual Studio Code. ● To explore AI-assisted code generation using GitHub Copilot.	Week1 - Thursday

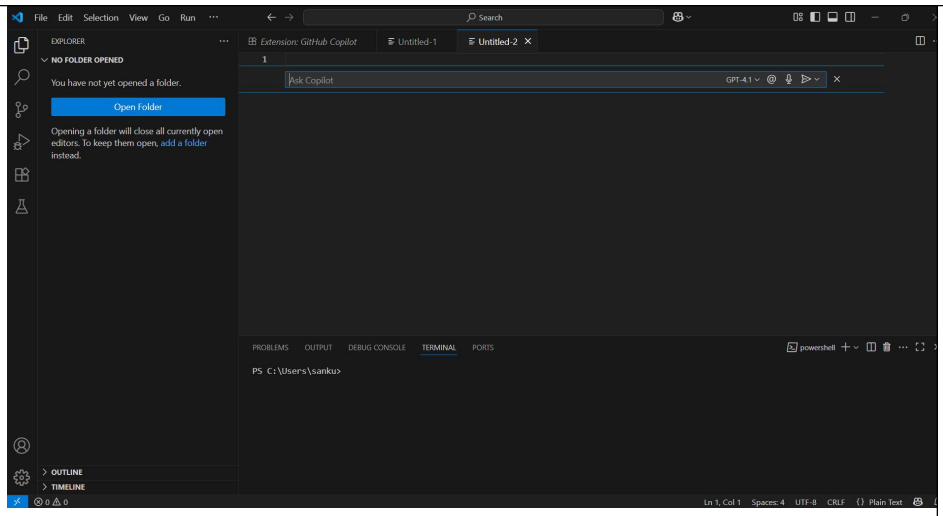
- To analyze the accuracy and effectiveness of Copilot's code suggestions.
- To understand prompt-based programming using comments and code context

Lab Outcomes (LOs):
After completing this lab, students will be able to:

- Set up GitHub Copilot in VS Code successfully.
- Use inline comments and context to generate code with Copilot.
- Evaluate AI-generated code for correctness and readability.
- Compare code suggestions based on different prompts and programming styles.

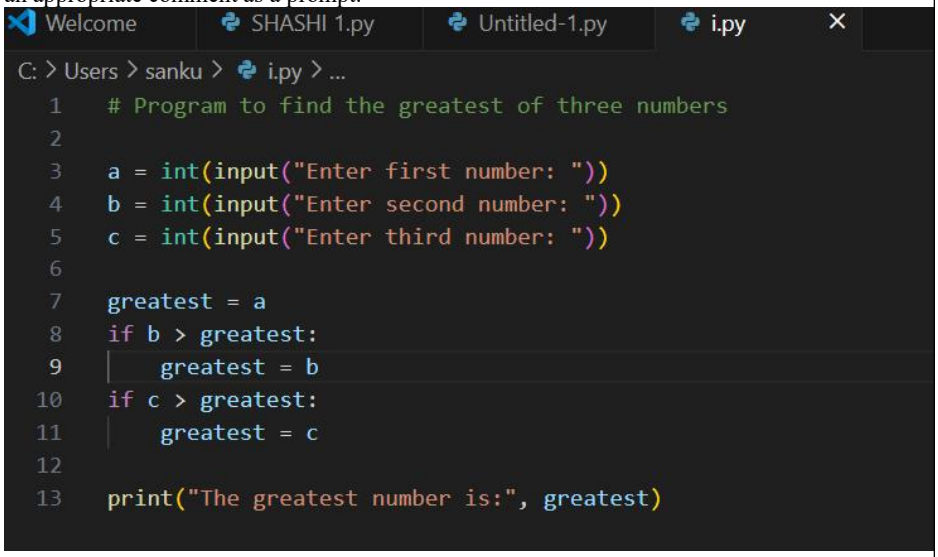
Task Description #1
• Install and configure GitHub Copilot in VS Code. Take screenshots of each step.
Expected Output #1
• Successfully install and activate GitHub Copilot in VS Code. Include screenshots showing installation, authentication via GitHub, and an example suggestion from Copilot**.**

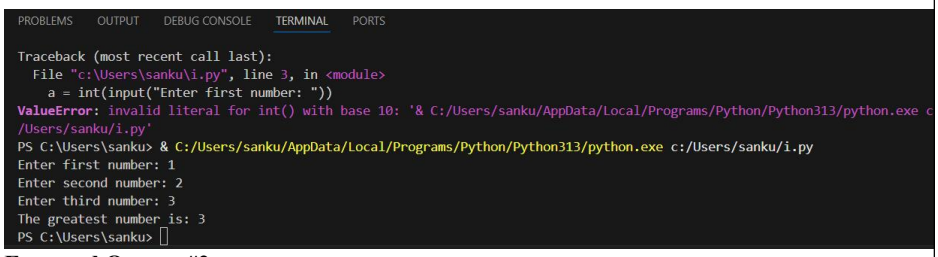




Task Description #2

• A function in Python that returns the maximum of three numbers using GitHub Copilot. Use an appropriate comment as a prompt.





Expected Output #2

• Python function that takes three inputs and returns the largest value. Include the code and output.

Task Description #3

• Use GitHub Copilot to create a recursive Python function that calculates the factorial of a number.

Expected Output #3

• Python function for factorial using recursion with input and output examples.

Prompt: can you give a python function that reads and calculates the factorial of a number from the user using recursion

task_03.py > ...

```python
def factorial(n):
    if n < 0:
        raise ValueError("Factorial is not defined for negative nu
    if n == 0 or n == 1:
        return 1
    return n * factorial(n - 1)

def main():
    try:
        num = int(input("Enter a number: "))
        result = factorial(num)
        print(f"Factorial of {num} is {result}")
    except ValueError as e:
        print(f"Error: {e}")

if __name__ == "__main__":
    main()
```

```
k_03.py"
Enter a number: 5
Factorial of 5 is 120
PS C:\Users\sanku\OneDrive\Desktop\AIAC\lab 01>
```

Task Description #4

• Prompt GitHub Copilot to create a class named Student with attributes name, roll_no, and marks. Add a method to display student details.

aiac_task4.py > ...

```python
class Student:
    def __init__(self, name, roll_no, marks):
        self.name = name
        self.roll_no = roll_no
        self.marks = marks

    def display_details(self):
        print(f"Name: {self.name}")
        print(f"Roll No: {self.roll_no}")
        print(f"Marks: {self.marks}")

# Example usage:
student1 = Student("Alice", 101, 95)
student1.display_details()
```

Expected Output #4

• Python class definition with an initializer and a display method. Include object creation and output.

```
c_task4.py"
Name: Alice
Roll No: 101
Marks: 95
PS C:\Users\sanku\OneDrive\Desktop\AIAC\lab 01> & C:/Users/sanku/AppData/Local/Pro
grams/Python/Python313/python.exe "c:/Users/sanku/OneDrive/Desktop/AIAC/lab 01/aia
c_task4.py"
Name: Alice
Roll No: 101
Marks: 95
PS C:\Users\sanku\OneDrive\Desktop\AIAC\lab 01>
```

Task Description #5

• Ask GitHub Copilot to generate a Python function that takes a string as input and returns the frequency of each word.

task_5.py > ...

```python
def word_frequency():
    text = input("Enter a string: ")
    words = text.split()
    freq = {}
    for word in words:
        freq[word] = freq.get(word, 0) + 1
    return freq

# Example usage:
if __name__ == "__main__":
    result = word_frequency()
    print(result)
```

Expected Output #5

• Python function that returns word frequency using a dictionary. Provide sample input and output.

```
e "c:/Users/Dattu/OneDrive/Documents/AIAS/Lab 1/task_5.py"
Enter a string: ok not bad
{'ok': 1, 'not': 1, 'bad': 1}
PS C:\Users\Dattu\OneDrive\Documents\AIAS\Lab 1>
```

Note: Report should be submitted a word document for all tasks in a single document with prompts, comments & code explanation, and output and if required, screenshots

Evaluation Criteria:

Criteria	Max Marks
Install and configure GitHub Copilot in VS Code (Task #1)	0.5
Python function that takes three inputs and returns the largest value (Task #2)	0.5
Python function for factorial using recursion (Task #3)	0.5
Python class definition with an initializer and a	0.5

	display method (Task #4)			
	Function that returns word frequency using a dictionary (Task #5)	0.5		
	Total	**2.5 Marks**		