

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	Applicable to Batches	24CSBTB01 To 24CSBTB39
AssignmentNumber: 1.4 (Present assignment number) / 24 (Total number of assignments)			
Q.No.	Question	Expected Time to complete	
1	Lab 1: Environment Setup – GitHub Copilot and VS Code Integration Lab Objectives: <ul style="list-style-type: none"> To install and configure GitHub Copilot in Visual Studio Code. To explore AI-assisted code generation using GitHub Copilot. 	Week1 - Thursday	

	<ul style="list-style-type: none"> • To analyze the accuracy and effectiveness of Copilot's code suggestions. • To understand prompt-based programming using comments and code context <p>Lab Outcomes (LOs): After completing this lab, students will be able to:</p> <ul style="list-style-type: none"> • 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. <p>Task Description #1</p> <ul style="list-style-type: none"> • Install and configure GitHub Copilot in VS Code. Take screenshots of each step. <p>Expected Output #1</p> <ul style="list-style-type: none"> • Successfully install and activate GitHub Copilot in VS Code. Include screenshots showing installation, authentication via GitHub, and an example suggestion from Copilot. <p>Task Description #2</p> <ul style="list-style-type: none"> • A function in Python that returns the maximum of three numbers using GitHub Copilot. Use an appropriate comment as a prompt. <p>Expected Output #2</p> <ul style="list-style-type: none"> • Python function that takes three inputs and returns the largest value. Include the code and output. <p>Task Description #3</p> <ul style="list-style-type: none"> • Use GitHub Copilot to create a recursive Python function that calculates the factorial of a number. <p>Expected Output #3</p> <ul style="list-style-type: none"> • Python function for factorial using recursion with input and output examples. <p>Task Description #4</p> <ul style="list-style-type: none"> • Prompt GitHub Copilot to create a class named Student with attributes name, roll_no, and marks. Add a method to display student details. <p>Expected Output #4</p> <ul style="list-style-type: none"> • Python class definition with an initializer and a display method. Include object creation and output. <p>Task Description #5</p> <ul style="list-style-type: none"> • Ask GitHub Copilot to generate a Python function that takes a string as input and returns the frequency of each word. <p>Expected Output #5</p> <ul style="list-style-type: none"> • Python function that returns word frequency using a dictionary. Provide sample input and output. <p>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</p> <p>Evaluation Criteria:</p>	
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	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 display method (Task #4)	0.5		
	Function that returns word frequency using a dictionary (Task #5)	0.5		
	Total	2.5 Marks		

Task2

Prompt: Write a python code that takes input 3 numbers and returns largest number among them.

task-2.py > ...

```
1 def max_of_three(a, b, c):
2     return max(a, b, c)
3
4 num1 = float(input("Enter first number: "))
5 num2 = float(input("Enter second number: "))
6 num3 = float(input("Enter third number: "))
7 print("The maximum number is", max_of_three(num1, num2, num3))
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

ValueError: could not convert string to float: '& "C:/Users/Rishitha Reddy/AppData/Local/Programs/Python/Python313/python.exe" "c:/Users/Rishitha Reddy/OneDrive/Desktop/AIAC/lab1/task-2.py"'

- PS C:\Users\Rishitha Reddy\OneDrive\Desktop\AIAC\lab1> & "C:/Users/Rishitha Reddy/AppData/Local/Programs/Python/Python313/python.exe" "c:/Users/Rishitha Reddy/OneDrive/Desktop/AIAC/lab1/task-2.py"

```
Enter first number: 7
Enter second number: 10
Enter third number: 15
The maximum number is 15.0
```

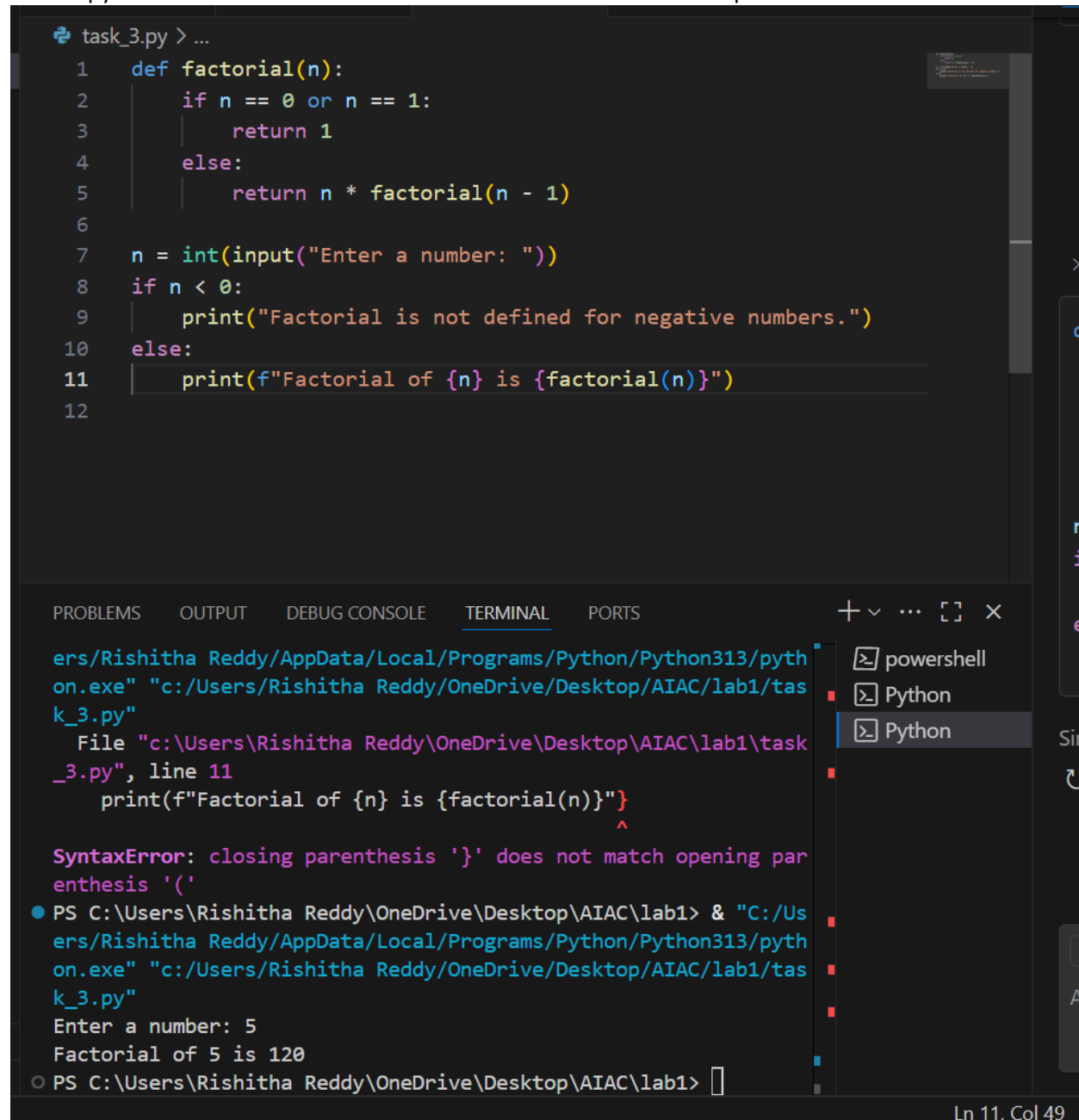
- PS C:\Users\Rishitha Reddy\OneDrive\Desktop\AIAC\lab1>

Ln 7, Col 63 Spaces:

Task3

Prompt:

write a python code of recursive function which shows the factorial of positive numbers.



```
task_3.py > ...
1  def factorial(n):
2      if n == 0 or n == 1:
3          return 1
4      else:
5          return n * factorial(n - 1)
6
7  n = int(input("Enter a number: "))
8  if n < 0:
9      print("Factorial is not defined for negative numbers.")
10 else:
11     print(f"Factorial of {n} is {factorial(n)}")
12
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

ers/Rishitha Reddy/AppData/Local/Programs/Python/Python313/python.exe" "c:/Users/Rishitha Reddy/OneDrive/Desktop/AIAC/lab1/task_3.py"

File "c:\Users\Rishitha Reddy\OneDrive\Desktop\AIAC\lab1\task_3.py", line 11

```
print(f"Factorial of {n} is {factorial(n)}")
                        ^
SyntaxError: closing parenthesis '}' does not match opening parenthesis '('
```

● PS C:\Users\Rishitha Reddy\OneDrive\Desktop\AIAC\lab1> & "C:/Users/Rishitha Reddy/AppData/Local/Programs/Python/Python313/python.exe" "c:/Users/Rishitha Reddy/OneDrive/Desktop/AIAC/lab1/task_3.py"

Enter a number: 5

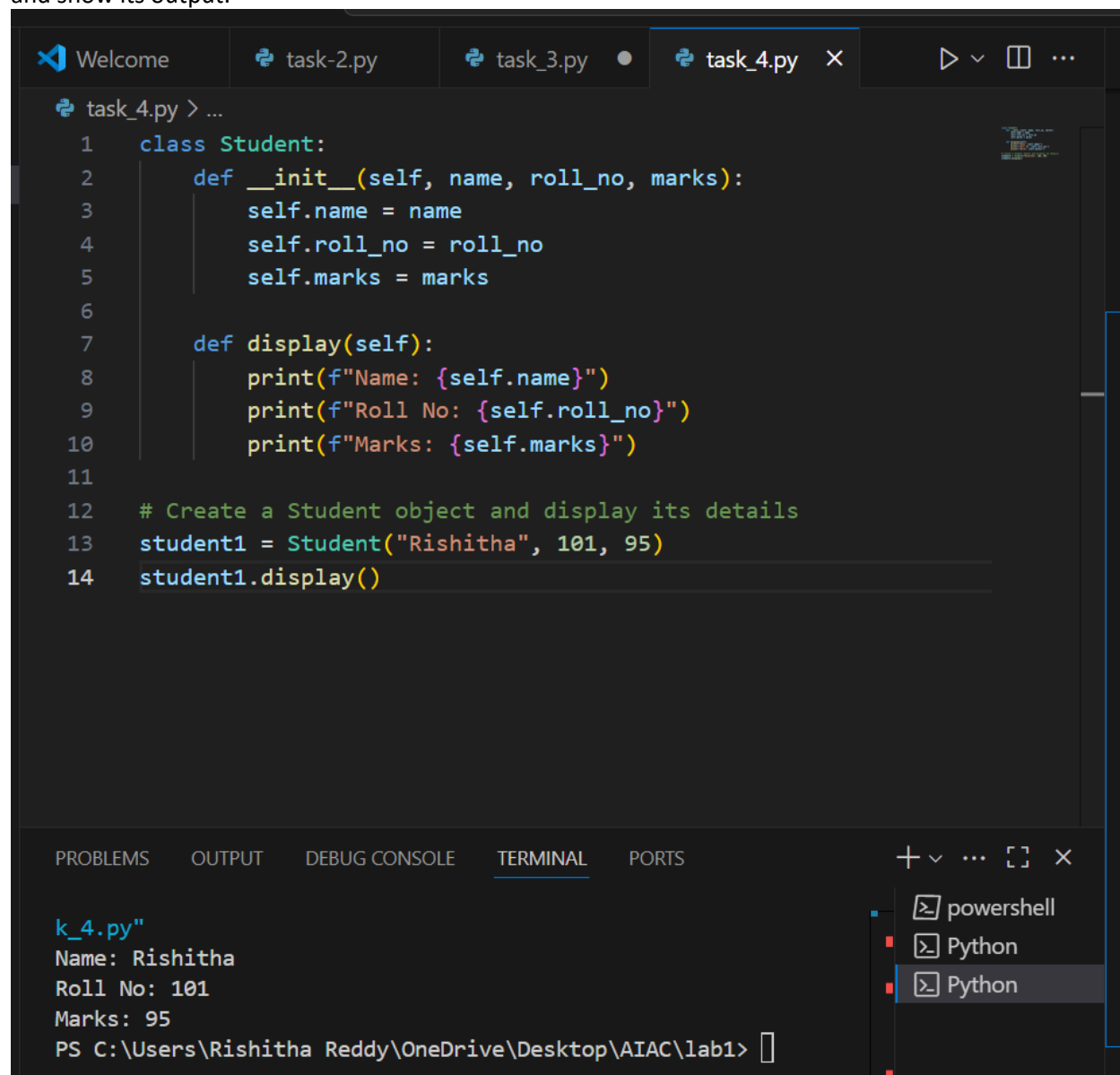
Factorial of 5 is 120

○ PS C:\Users\Rishitha Reddy\OneDrive\Desktop\AIAC\lab1>

Ln 11, Col 49

Task4

Prompt: Write a Python code with class named Student with attributes name, roll_no, and marks. Add an `__init__` method and a `display()` method that prints the student's details. Then create a Student object and show its output.



```
task_4.py > ...
1  class Student:
2      def __init__(self, name, roll_no, marks):
3          self.name = name
4          self.roll_no = roll_no
5          self.marks = marks
6
7      def display(self):
8          print(f"Name: {self.name}")
9          print(f"Roll No: {self.roll_no}")
10         print(f"Marks: {self.marks}")
11
12     # Create a Student object and display its details
13     student1 = Student("Rishitha", 101, 95)
14     student1.display()
```

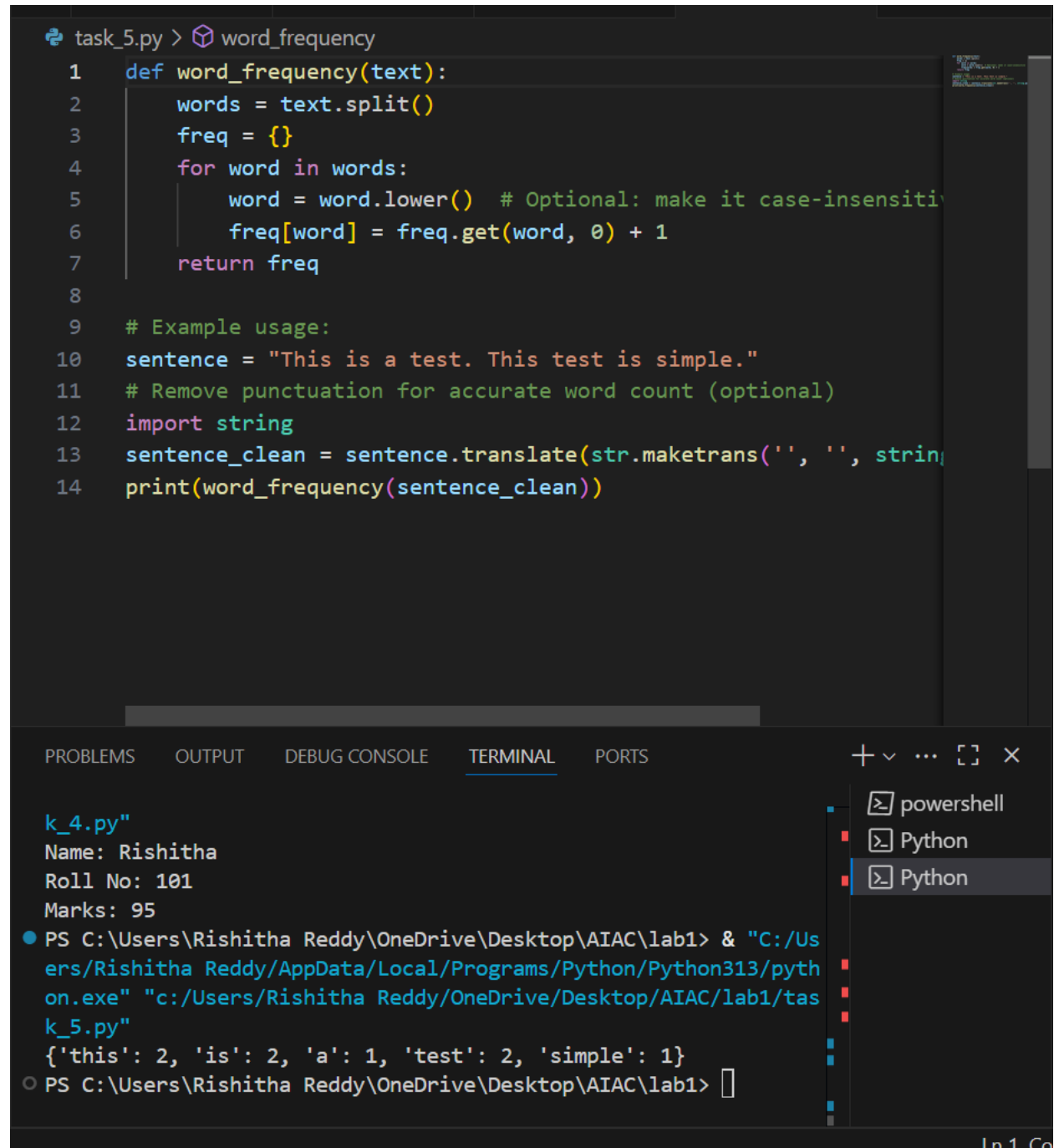
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
k_4.py"
Name: Rishitha
Roll No: 101
Marks: 95
PS C:\Users\Rishitha Reddy\OneDrive\Desktop\AIAC\lab1> 
```

powerShell
Python
Python

Task5

Prompt: Write a Python function called `word_frequency` that takes a string input. The function should return the frequency of each word, and return a dictionary {word: count}



```
task_5.py > word_frequency
1 def word_frequency(text):
2     words = text.split()
3     freq = {}
4     for word in words:
5         word = word.lower() # Optional: make it case-insensitive
6         freq[word] = freq.get(word, 0) + 1
7     return freq
8
9 # Example usage:
10 sentence = "This is a test. This test is simple."
11 # Remove punctuation for accurate word count (optional)
12 import string
13 sentence_clean = sentence.translate(str.maketrans('', '', string.punctuation))
14 print(word_frequency(sentence_clean))
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

k_4.py"
Name: Rishitha
Roll No: 101
Marks: 95

- PS C:\Users\Rishitha Reddy\OneDrive\Desktop\AIAC\lab1> & "C:/Users/Rishitha Reddy/AppData/Local/Programs/Python/Python313/python.exe" "c:/Users/Rishitha Reddy/OneDrive/Desktop/AIAC/lab1/task_5.py"

```
{'this': 2, 'is': 2, 'a': 1, 'test': 2, 'simple': 1}
```

PS C:\Users\Rishitha Reddy\OneDrive\Desktop\AIAC\lab1>

Ln 1, Co