SCHOOL OF COMPUTER SCIENCE AND ARTIFICIAL INTELLIGENCE		DEPARTMENT OF COMPUTER SCIENCE ENGINEERING	
ProgramName: B. Tech		**Assignment Type: Lab**	**AcademicYear:** 2025-2026
CourseCoordinatorName	Venkataramana Veeramsetty		
Instructor(s)Name	Dr. V. Venkataramana (Co-ordinator) Dr. T. Sampath Kumar Dr. Pramoda Patro Dr. Brij Kishor Tiwari Dr.J.Ravichander Dr. Mohammand Ali Shaik Dr. Anirodh Kumar Mr. S.Naresh Kumar Dr. RAJESH VELPULA Mr. Kundhan Kumar Ms. Ch.Rajitha Mr. M Prakash Mr. B.Raju Intern 1 (Dharma teja) Intern 2 (Sai Prasad) Intern 3 (Sowmya) NS_2 (Mounika)		
CourseCode	24CS002PC215	**CourseTitle**	AI Assisted Coding
Year/Sem	II/I	**Regulation**	R24
Date and Day of Assignment	Week2 - Wednesday	**Time(s)**	
Duration	2 Hours	**Applicableto Batches**	
AssignmentNumber: **4.3**(Present assignment number)/**24**(Total number of assignments)			

Q.No.	Question	*ExpectedTime to complete*
1	Lab 4: Advanced Prompt Engineering – Zero-shot, One-shot, and Few-shot Techniques **Lab Objectives:**	Week2 - Wednesday

- To explore and apply different levels of prompt examples in AI-assisted code generation.
- To understand how zero-shot, one-shot, and few-shot prompting affect AI output quality.
- To evaluate the impact of context richness and example quantity on AI performance.
- To build awareness of prompt strategy effectiveness for different problem types.

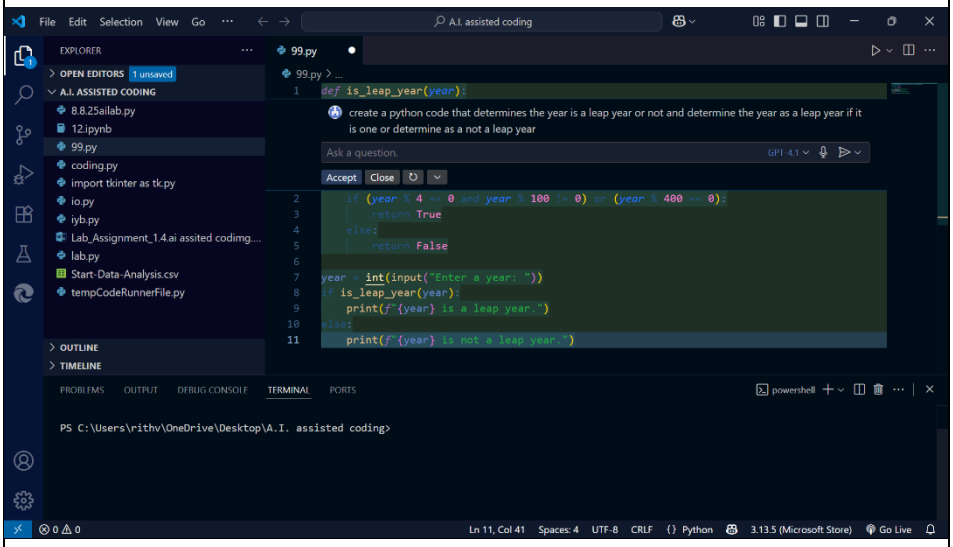
Lab Outcomes (LOs):
After completing this lab, students will be able to:

- Use zero-shot prompting to instruct AI with minimal context.
- Use one-shot prompting with a single example to guide AI code generation.
- Apply few-shot prompting using multiple examples to improve AI responses.
- Compare AI outputs across the three prompting strategies.

Task Description#1

- Zero-shot: Prompt AI to write a function that checks whether a given year is a leap year.

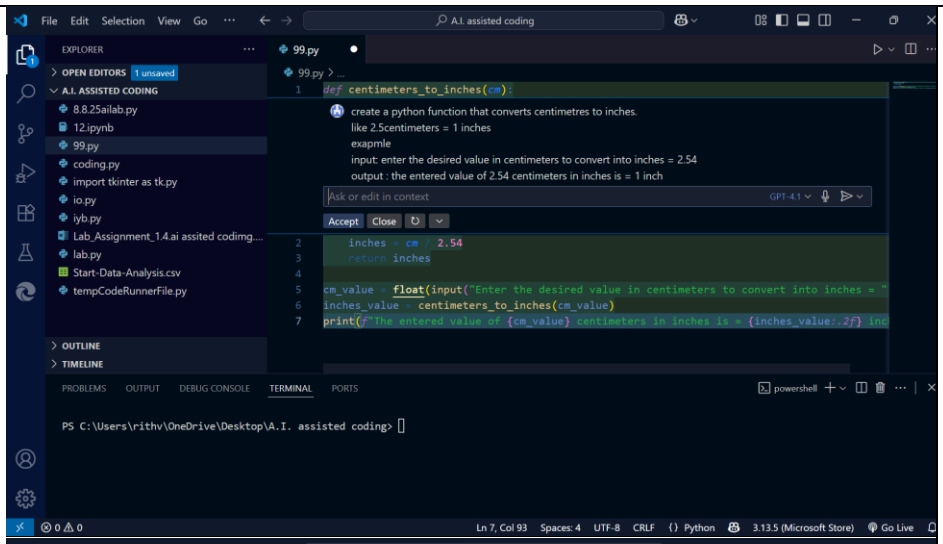
Expected Output#1
Promt: Create a Python code that determines the year is a leap year or not and determine it as a leap year if it is one or determine as a not a leap year

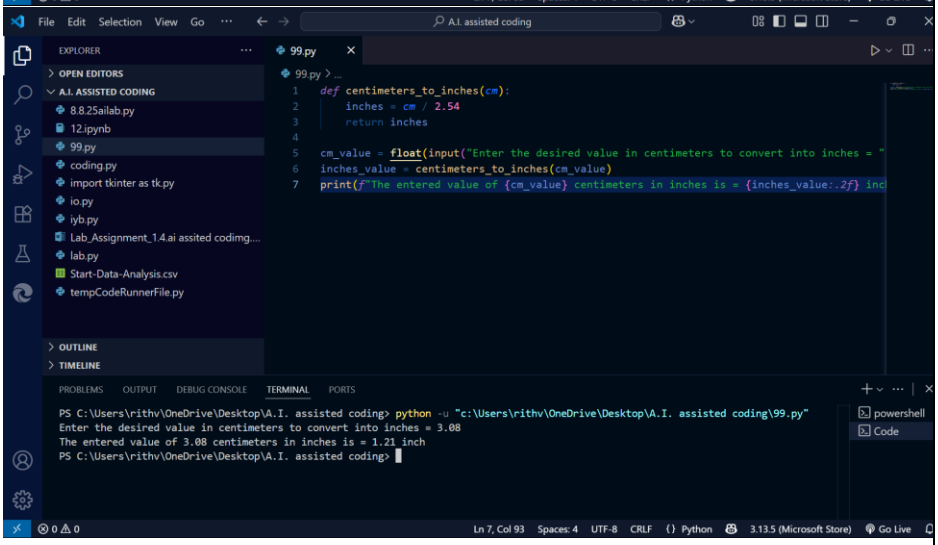


Task Description#2

- One-shot: Give one input-output example to guide AI in writing a function that converts centimetres to inches.

Expected Output#2
Prompt: create a python function that converts centimetres to inches.
like 2.5centimeters = 1 inches
exapmle
input: enter the desired value in centimeters to convert into inches = 2.54
output : the entered value of 2.54 centimeters in inches is = 1 inch





Task Description#3

- Few-shot: Provide 2–3 examples to generate a function that formats full names as "Last, First".

Expected Output#3

Promt: generate a function that formats full names as "Last, First".

example 1

input: enter a name: Rithvik Gona

output: last name = Gona

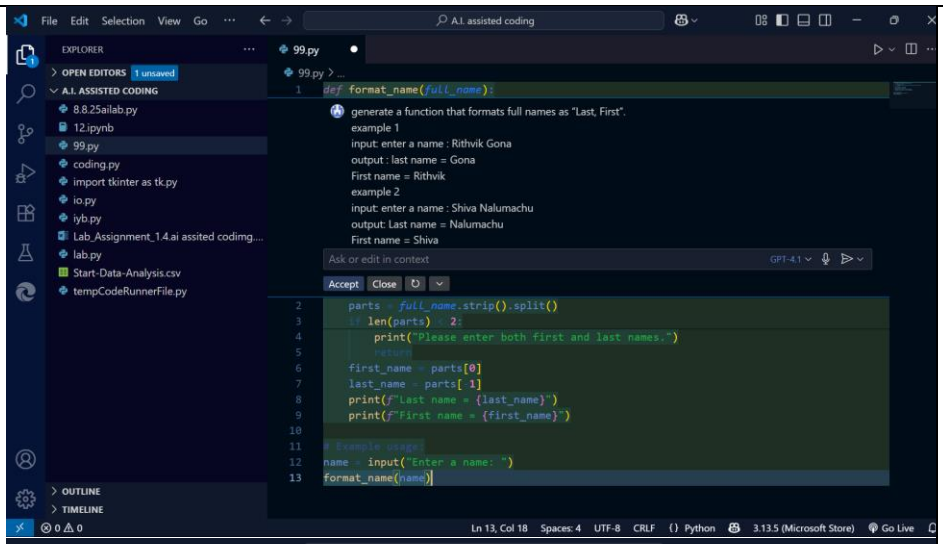
First name = Rithvik

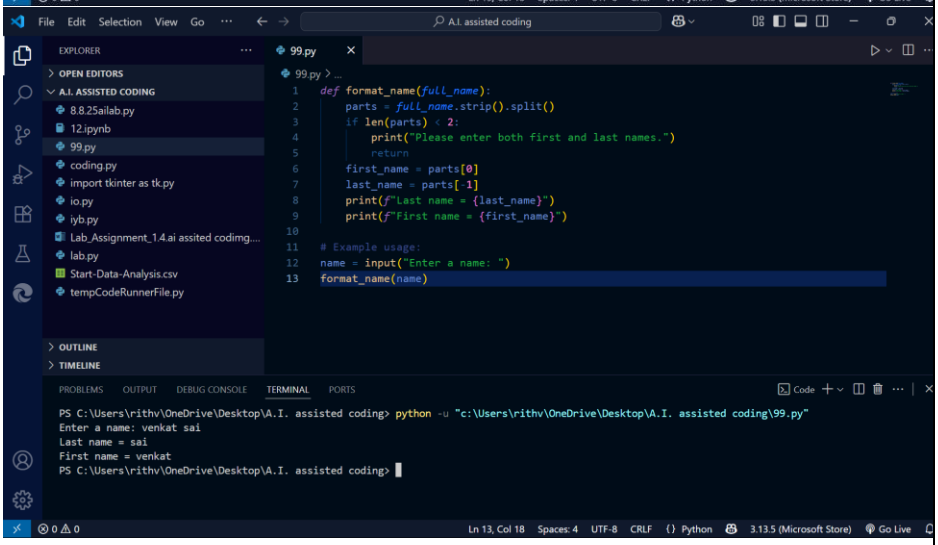
example 2

input: enter a name: Shiva Nalumachu

output: Last name = Nalumachu

First name = Shiva



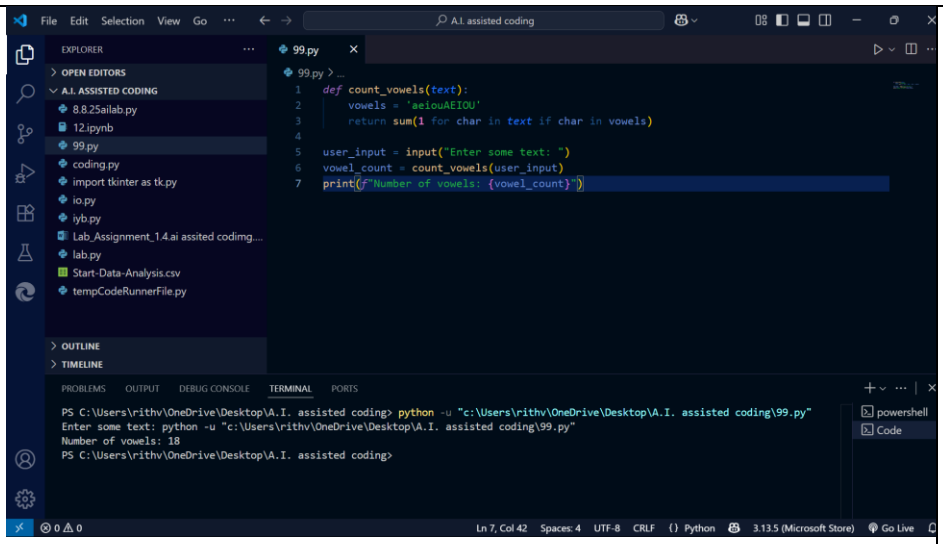


Task Description#4

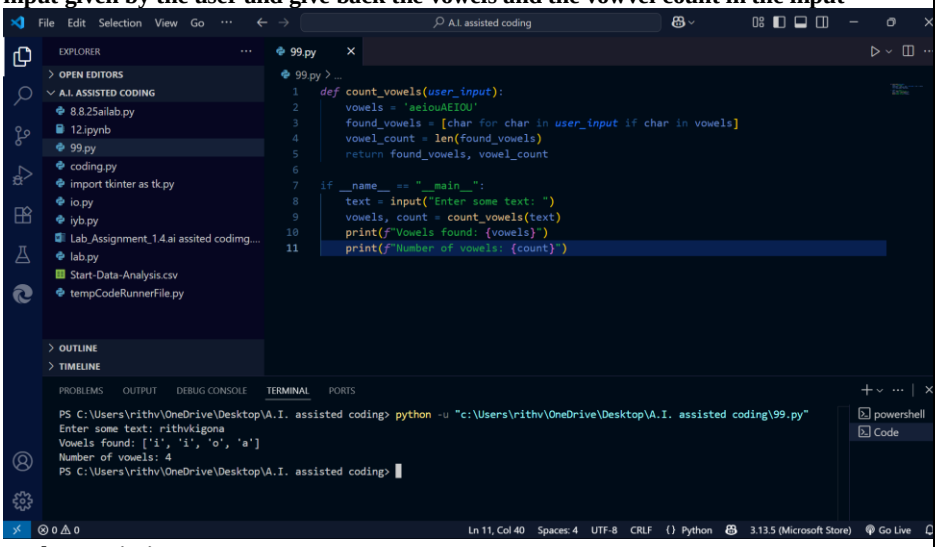
- Compare zero-shot and few-shot prompts for writing a function that counts the number of vowels in a string.

Expected Output#4

Zero shot prompt : generate a python function to count the number of the vowels in the input string



Few shot prompt : create a python function that counts the numbers of the vowvels in the input given by the user and give back the vowels and the vowvel count in the input

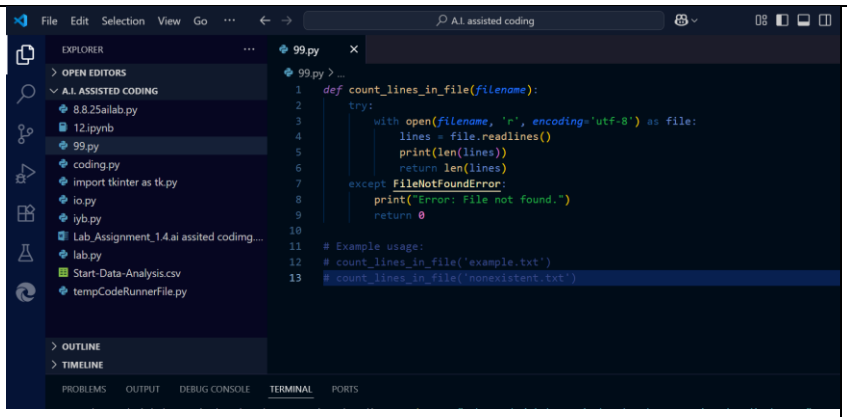


Task Description#5

- Use few-shot prompting to generate a function that reads a .txt file and returns the number of lines.

Expected Output#5

Prompt : generate a Python function that reads a .txt file and returns the number of lines
Example 1
Input: A text file named example.txt with the following content:
Line 1
Line 2
Line 3
Expected Output:3
Example 2
Input: A non-existent text file named nonexistent.txt
Expected Output:
0 (with an appropriate error message indicating the file was not found)



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
Zero Shot (Task #1)	0.5
One Shot (Task#2)	0.5
Few Shot (Task#3 & Task #5)	1.0
Comparison (Task#4)	0.5
Total	**2.5 Marks**