AI ASSISTED CODING

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BATCH – 03 **20 – 01 – 2026**

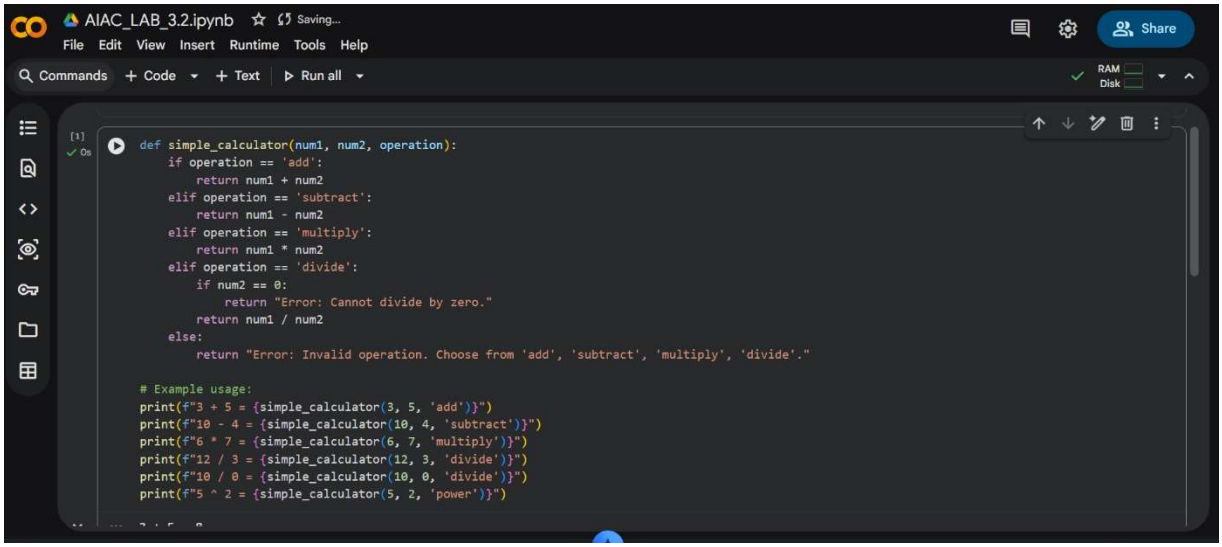
ASSIGNMENT – 3.2

LAB – 03 : Prompt Engineering – Improving Prompts and Context Management.

TASK - 01 : Progressive Prompting for Calculator Design.

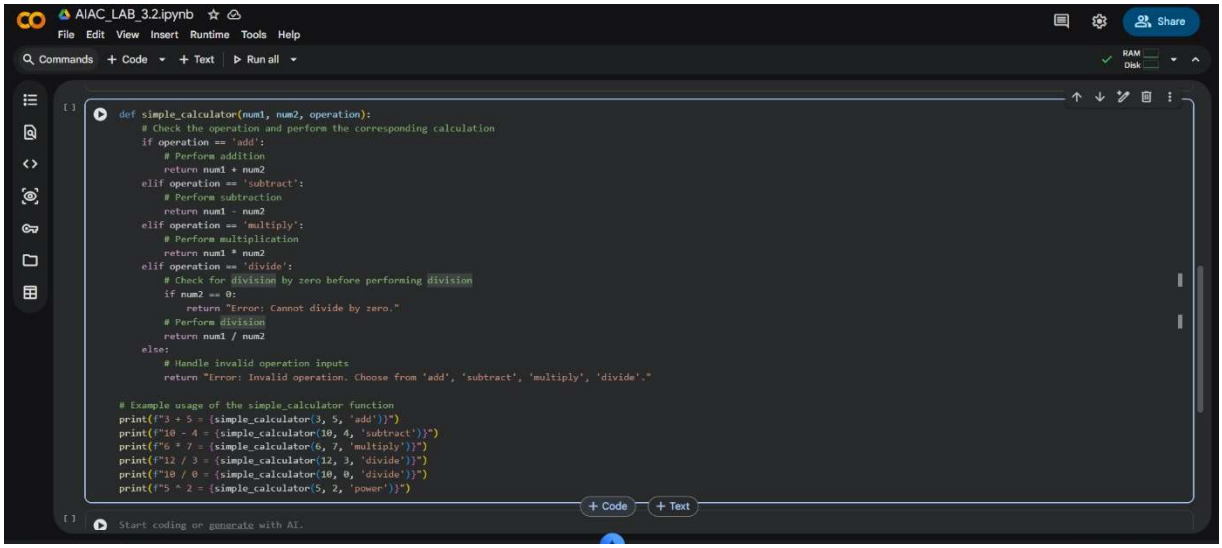
Prompt – 01: Create a Python function named simple_calculator.

Code :



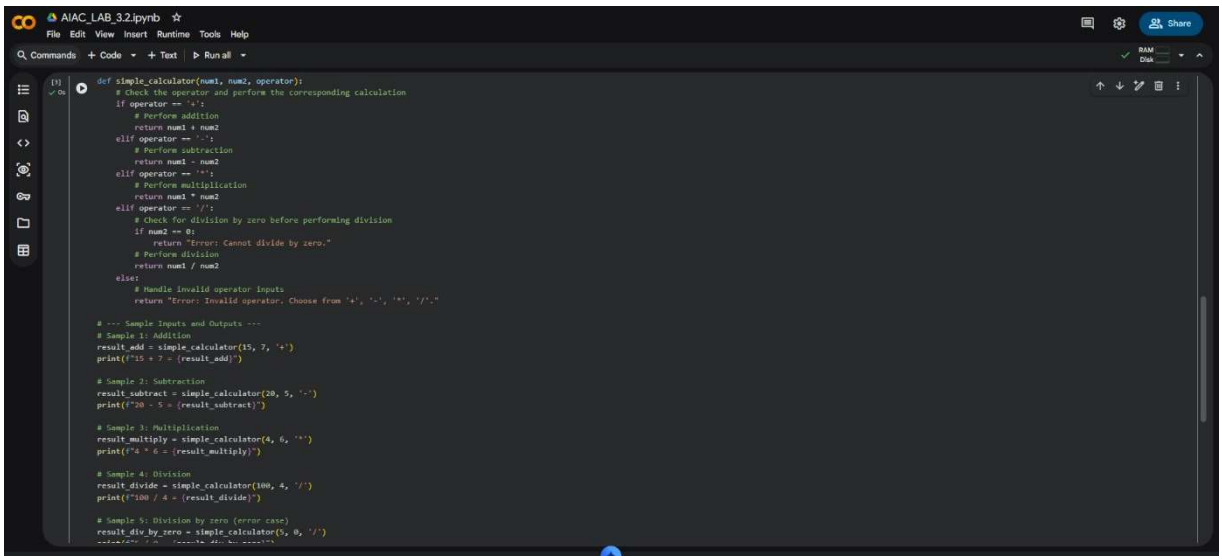
Prompt – 02 : Create a Python function named simple_calculator that performs basic arithmetic operations (addition, subtraction, multiplication, division). Add comments explaining each step.

Code:



Prompt – 03 : Create a Python function named simple_calculator that takes two numbers and an operator (+, -, , /) as input and returns the result. Include comments and provide at least two sample inputs with outputs.

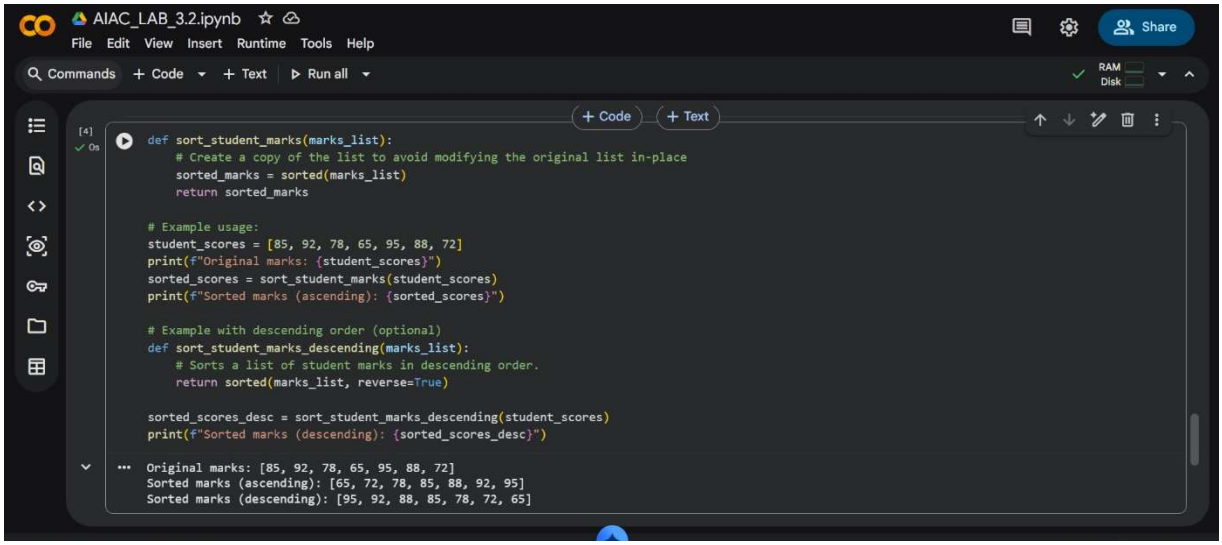
Code :



TASK – 02 : Refining Prompts for Sorting Logic

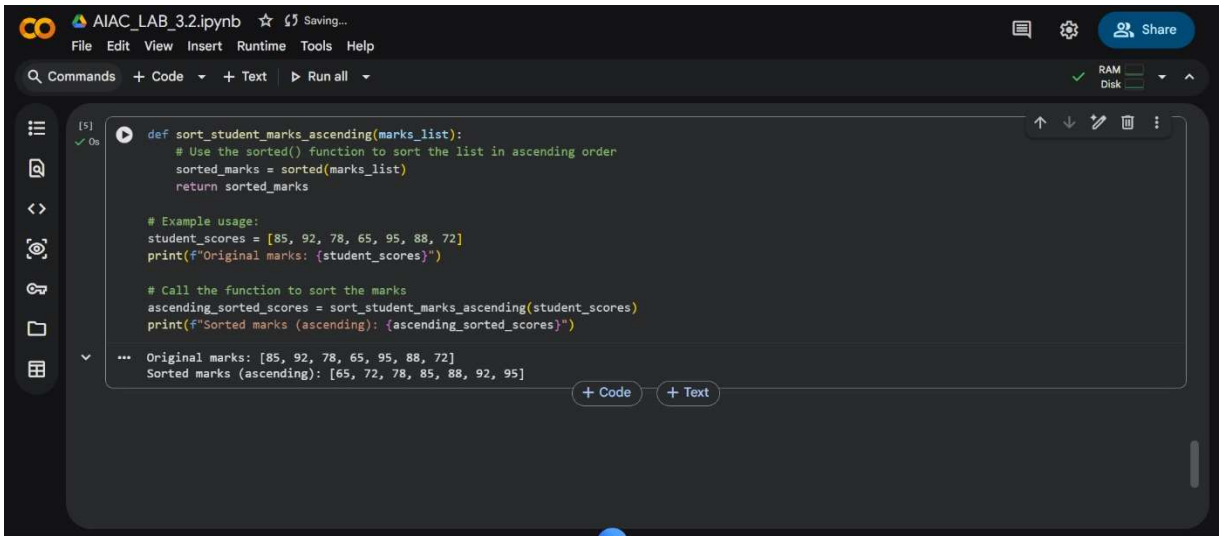
Prompt – 01 : Write a Python Function to sort the Student Marks.

Code :



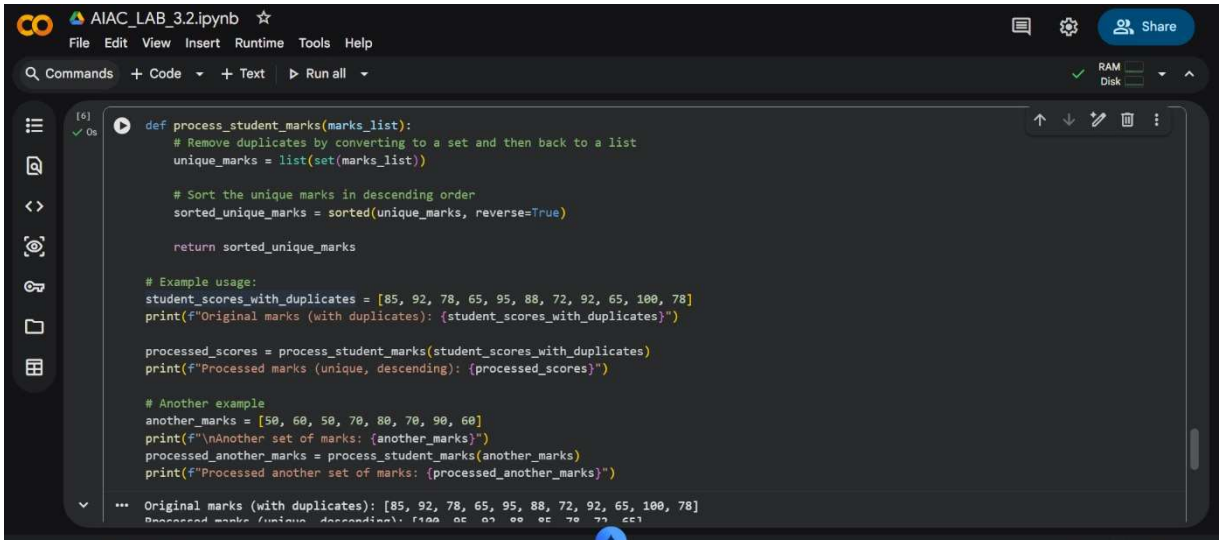
Prompt – 02 : Write a Python function that takes a list of student marks and sorts them in ascending order.

Code :



Prompt – 03 : Write an efficient Python function that takes a list of student marks (0–100), sorts them in descending order, removes duplicates, and returns the sorted list.

Code :



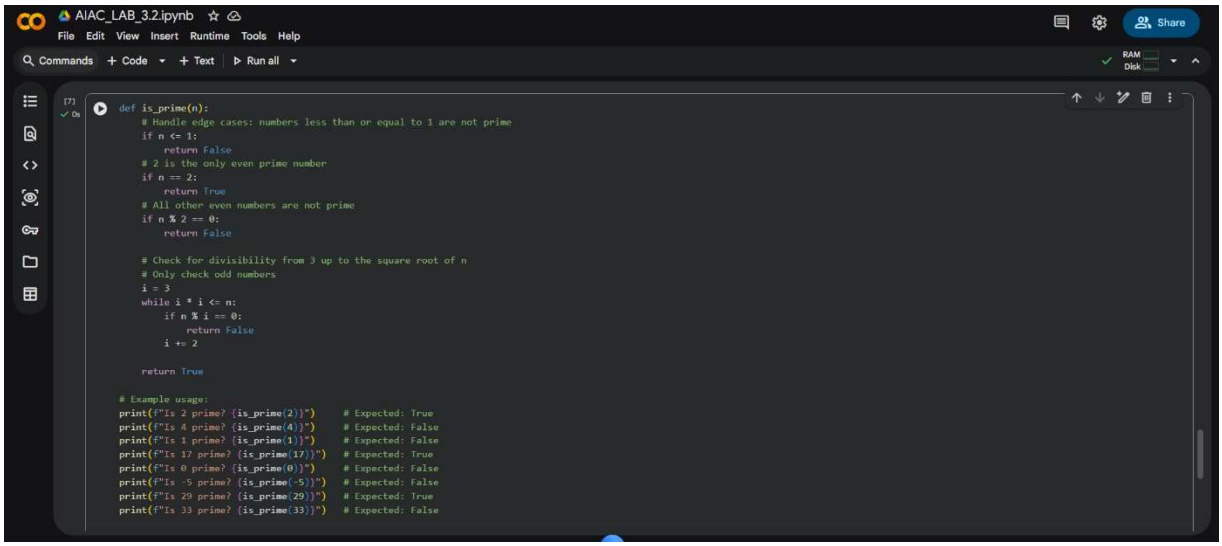
TASK – 03 : Few-Shot Prompting for Prime Number Validation. **Prompt :** Write a Python function is_prime(n) that checks whether a given is Prime or Not, Using Examples:

I/P: 2 -> O/P True

I/P: 4 -> O/P False

Handle edge cases like negative numbers and 0 properly.

Code:



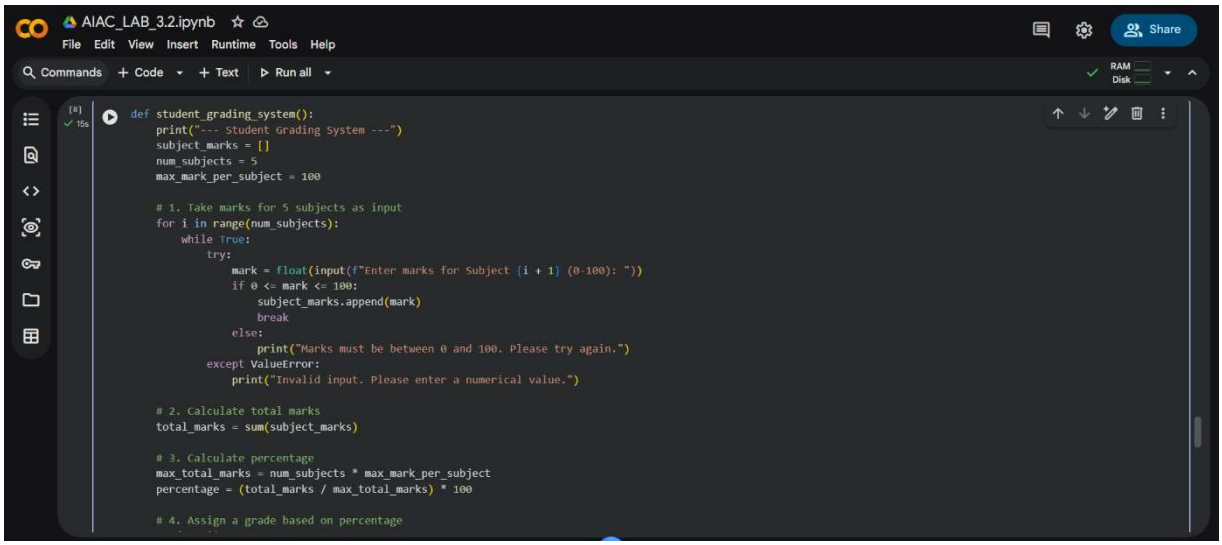
TASK – 04 : Prompt-Guided UI Design for Student Grading System.

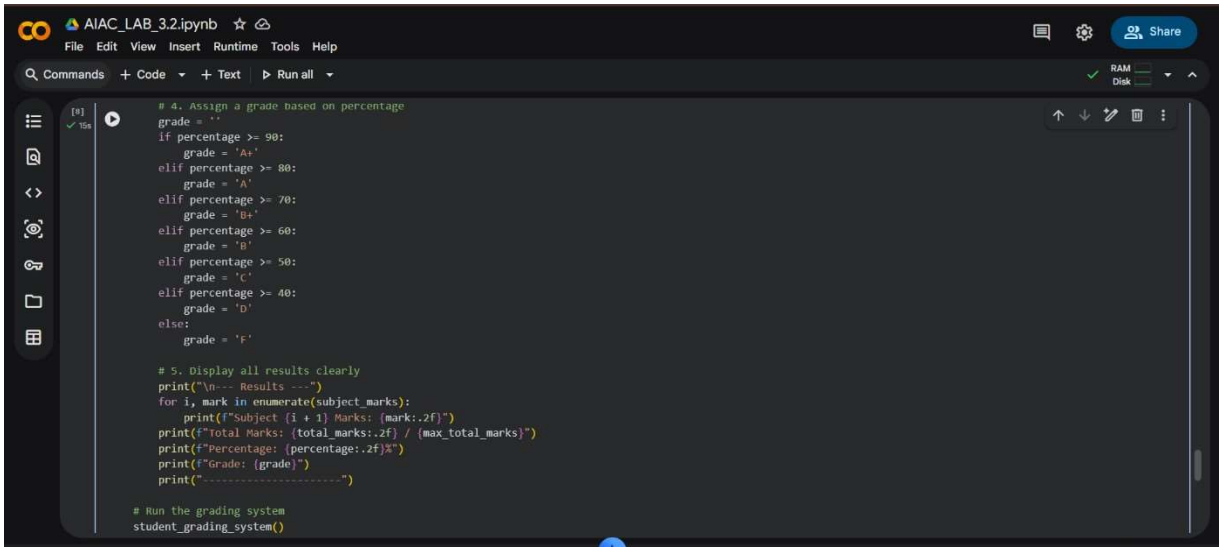
Prompt : Design a simple Python-based user interface (CLI or GUI) for a student grading system.

The program should:

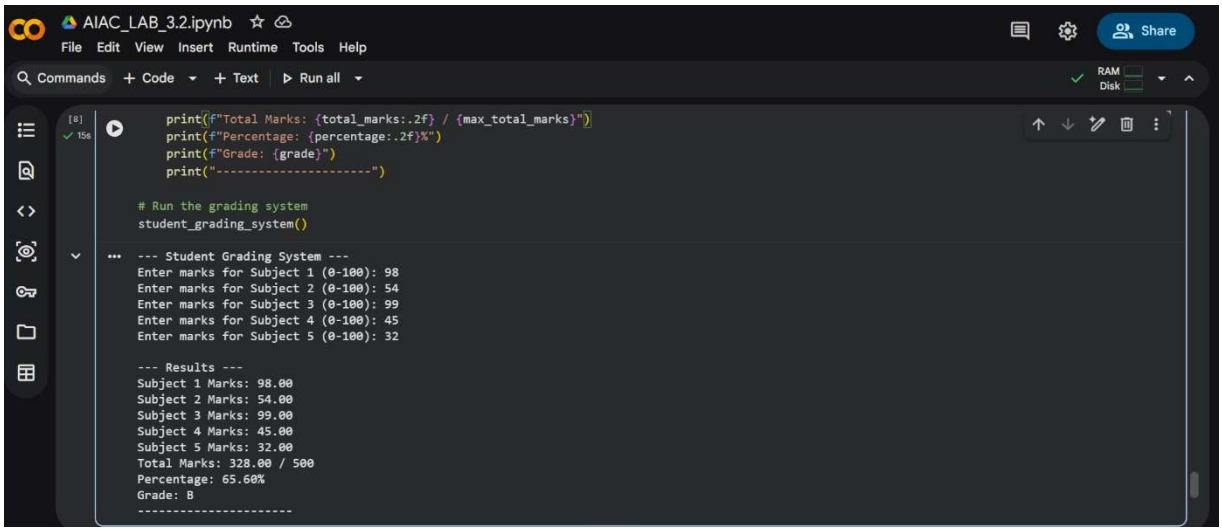
- Take marks for 5 subjects as input
- Calculate total marks
- Calculate percentage
- Assign a grade based on percentage
- Display all results clearly.

Code :





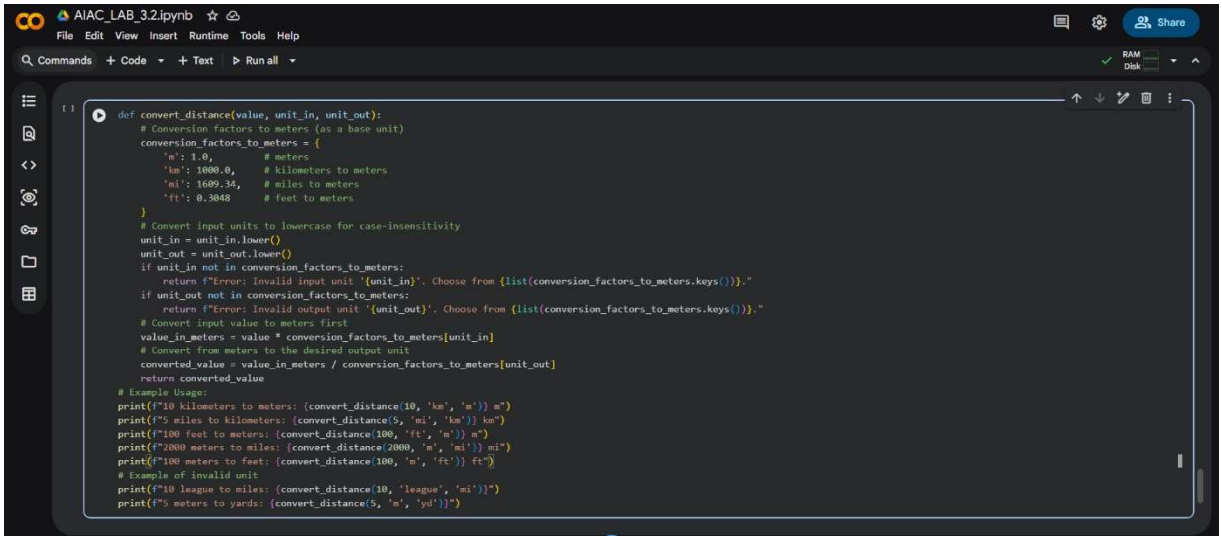
Output:



TASK – 05 : Analyzing Prompt Specificity in Unit Conversion Functions.

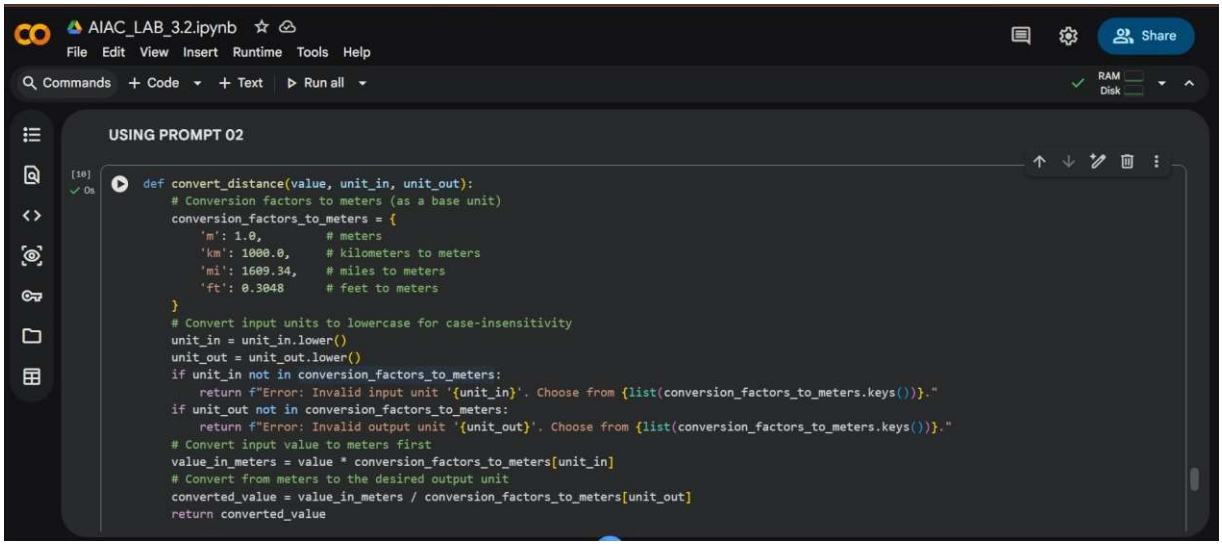
Prompt – 01 : Write a function to convert distance.

Code:



Prompt – 02: Write a Python function to convert kilometers to miles.

Code :



Prompt – 03 : Write two Python functions:

1. km_to_miles(km)
2. miles_to_km(miles)
   Use correct conversion factors, add comments, and provide sample inputs and outputs.

Code :