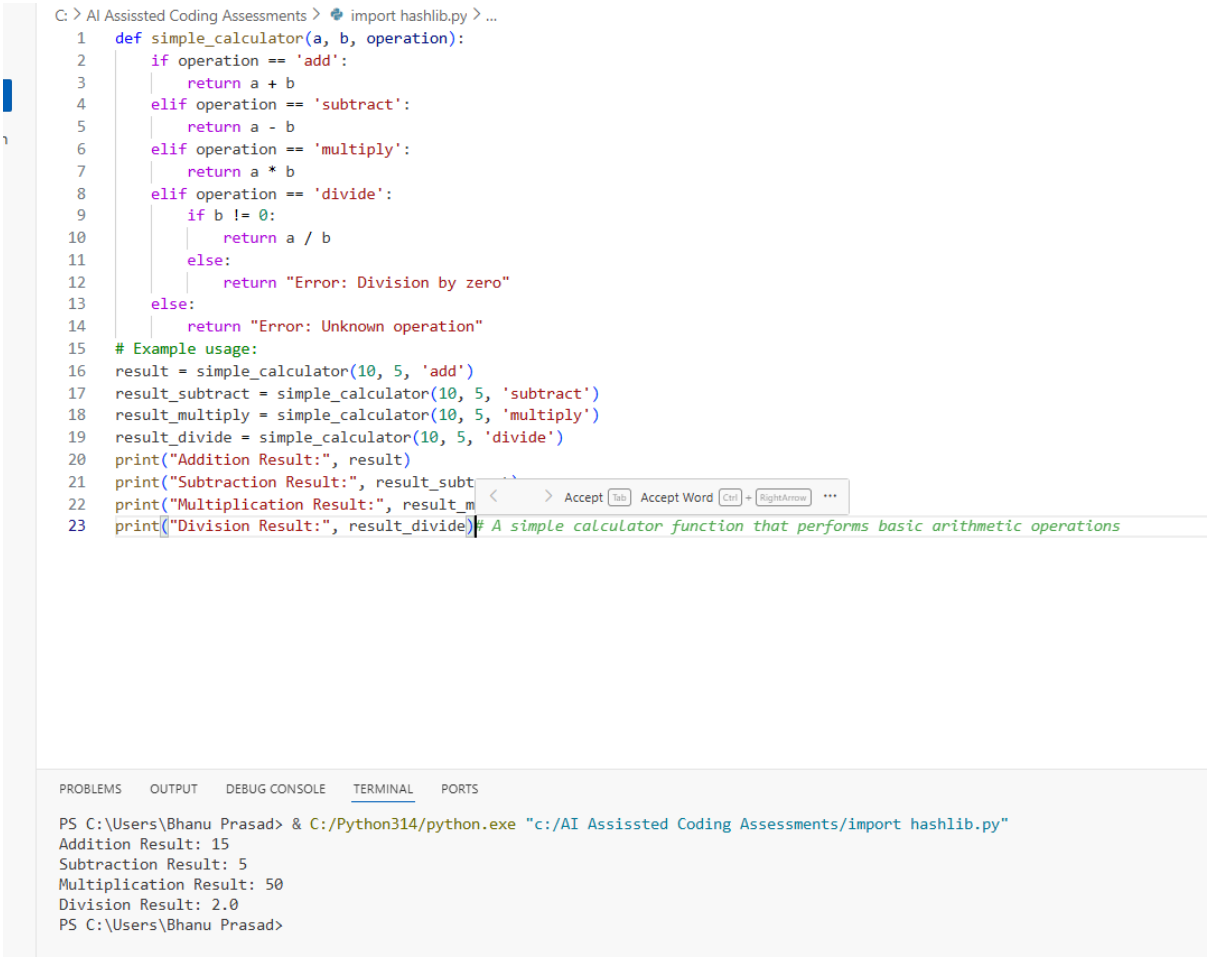
Task Description-1

• Progressive Prompting for Calculator Design: Ask the AI to design a simple calculator program by initially providing only the function name. Gradually enhance the prompt by adding comments and usage examples.

Expected Output-1

• Comparison showing improvement in AI-generated calculator logic and structure.



EXPLANATION:

In the above we created a function we the basic operations like addition ,substraction,multiplication and division are performed.We need to enter the input and tand the operation which we need to perform

Task Description-2

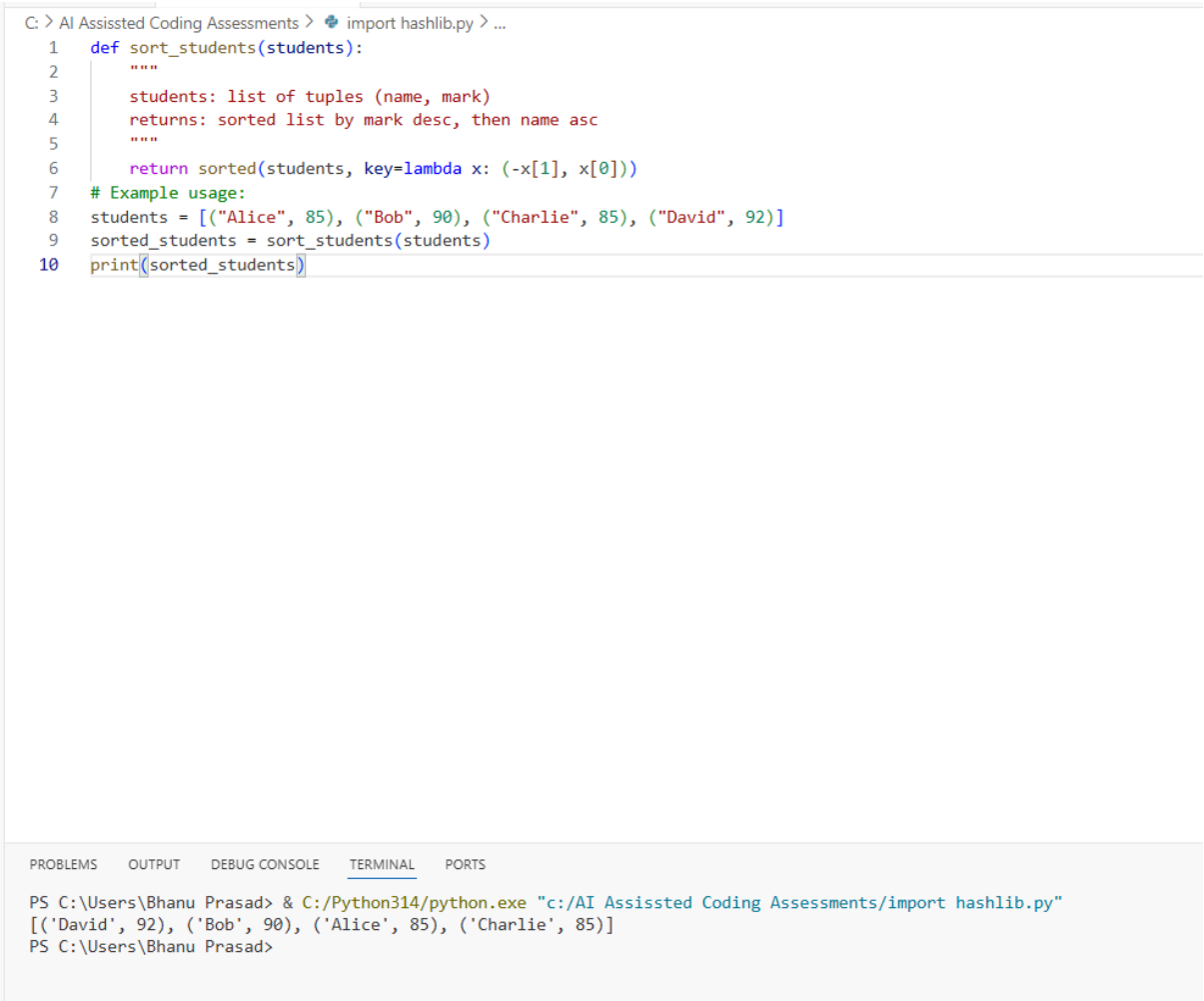
• Refining Prompts for Sorting Logic: Start with a vague prompt for sorting student marks,

then refine it to clearly specify sorting order and constraints.

Expected Output-2

• AI-generated sorting function evolves from ambiguous logic to an accurate and efficient

implementation.



EXPLANATION:

In the above code we are sorting the students marks based on the desending order.

In this I used a function called the sorted function which returs the values based on the desending order.

Task Description-3

• Few-Shot Prompting for Prime Number Validation: Provide multiple input-output

examples for a function that checks whether a number is prime. Observe how few-shot

prompting improves correctness.

Expected Output-3

• Improved prime-checking function with better edge-case handling.

```python
def is_prime(n: int) -> bool:
    if n <= 1:
        return False
    if n == 2:
        return True
    if n % 2 == 0:
        return False

    # Only check up to sqrt(n)
    for i in range(3, int(n//2) + 1, 2):
        if n % i == 0:
            return False
    return True
print(is_prime(29))  # Example usage
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

PS C:\Users\Bhanu Prasad> & C:/Python314/python.exe "c:/AI Assissted Coding Assessments/import hashlib.py"
True
PS C:\Users\Bhanu Prasad>
```

EXPLANATION:

In the code we are checking the number whether the number is prime or not .

Based on the input the checks the number result the output in the Boolean format .

Task Description-4

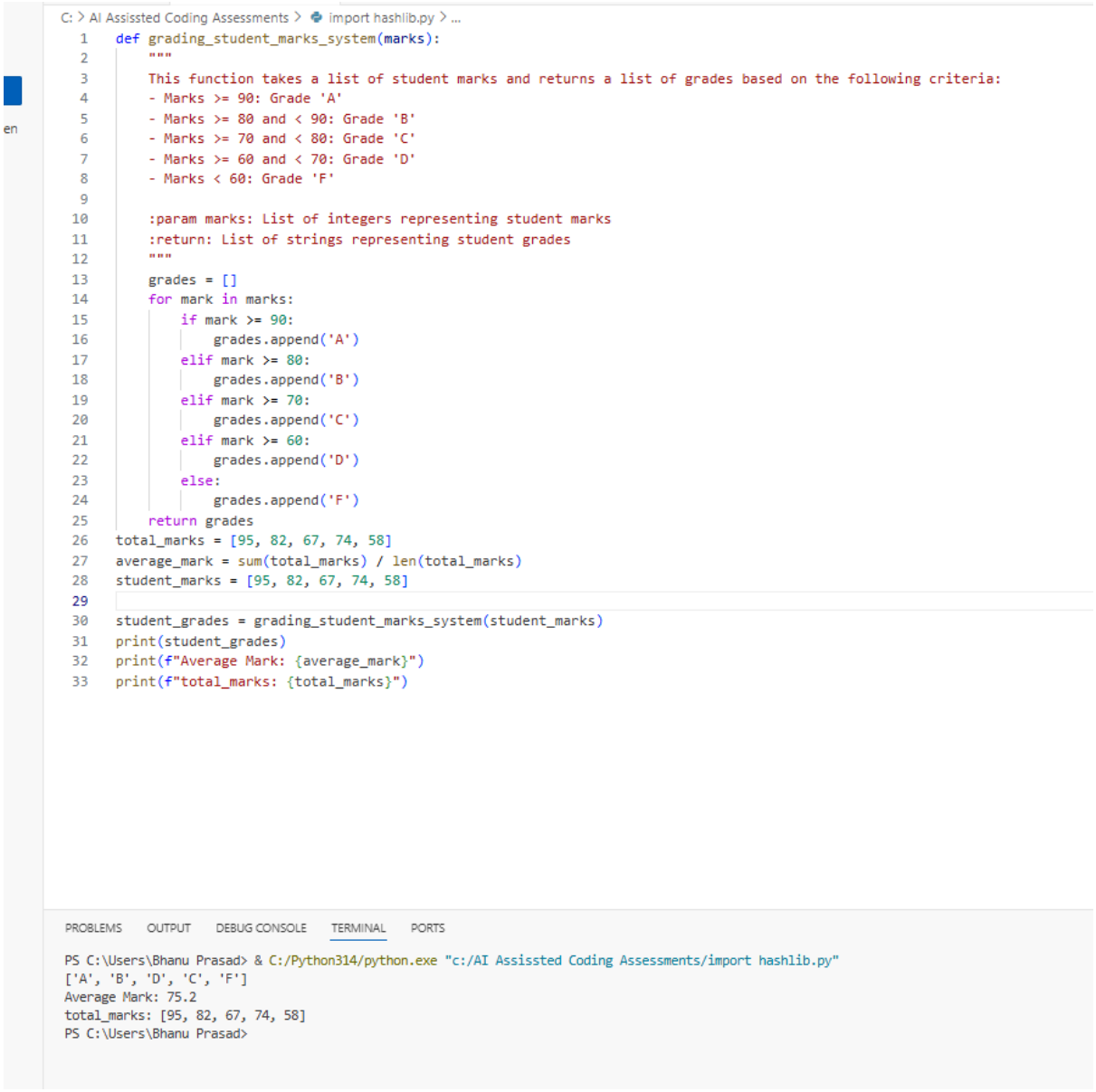
• Prompt-Guided UI Design for Student Grading System: Create a user interface for a

student grading system that calculates total marks, percentage, and grade based on user

input.

Expected Output-4

• Well-structured UI code with accurate calculations and clear output display.



EXPLANATION:

In the code we are calculating the grades based on the marks. And diplaying the total and the average marks of the students .

Analyzing Prompt Specificity in Unit Conversion Functions: Improving a Unit

Conversion Function (Kilometers to Miles and Miles to Kilometers) Using Clear

Instructions.

Expected Output-5

• Analysis of code quality and accuracy differences across multiple prompt variations.

C: > AI Assissted Coding Assessments > import hashlib.py > ...

```python
def Unit_Convert(value, from_unit, to_unit):
    """
    Convert a value from one unit to another.

    Parameters:
    value (float): The numerical value to convert.
    from_unit (str): The unit of the input value.
    to_unit (str): The unit to convert the value to.

    Returns:
    float: The converted value.
    """
    # Define conversion factors
    conversion_factors = {
        'meters': 1.0,
        'kilometers': 1000.0,
        'centimeters': 0.01,
        'millimeters': 0.001,
        'miles': 1609.34,
        'yards': 0.9144,
        'feet': 0.3048,
        'inches': 0.0254
    }

    # Check if units are valid
    if from_unit not in conversion_factors or to_unit not in conversion_factors:
        raise ValueError("Invalid unit provided.")

    # Convert the value to meters first
    value_in_meters = value * conversion_factors[from_unit]

    # Convert from meters to the target unit
    converted_value = value_in_meters / conversion_factors[to_unit]

    return converted_value
# Example usage:
result = Unit_Convert(10, 'meters', 'kilometers')
print(f"10 meters is equal to {result} kilometers.")
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\Bhanu Prasad> & C:/Python314/python.exe "c:/AI Assissted Coding Assessments/import hashlib.py"
10 meters is equal to 0.01 kilometers.
PS C:\Users\Bhanu Prasad>
```

EXPLANATION:

In the code I declared a function which converts the units in to another units based on the user needs.