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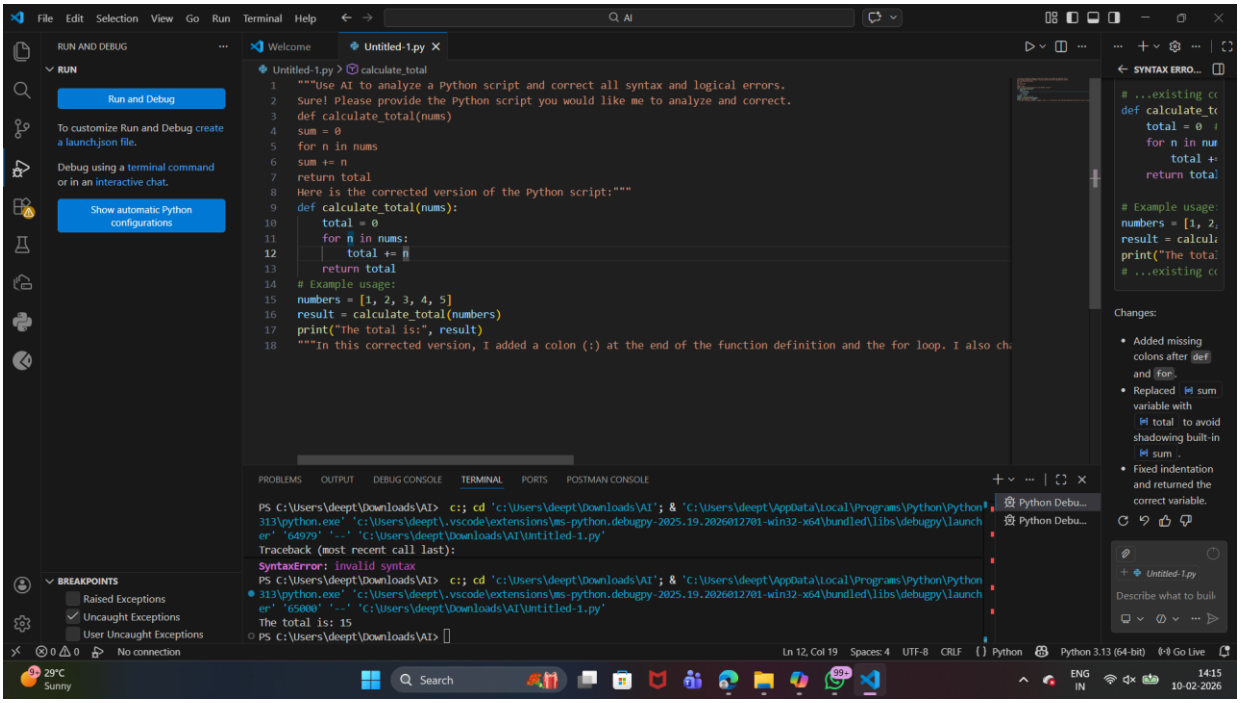
ASSIGNMENT-10.2

Code Review and Quality: Using AI to Improve Code Quality and Readability

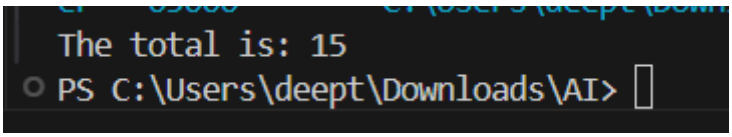
Task Description -1(Error Detection and Correction)

Prompt: Analyze the given Python code, identify all syntax and logical errors, and provide a corrected executable version with brief explanations

AI-Generated Code:



Output:



Justification:

Missing colon after function definition → Added :

Missing colon in for loop → Added :

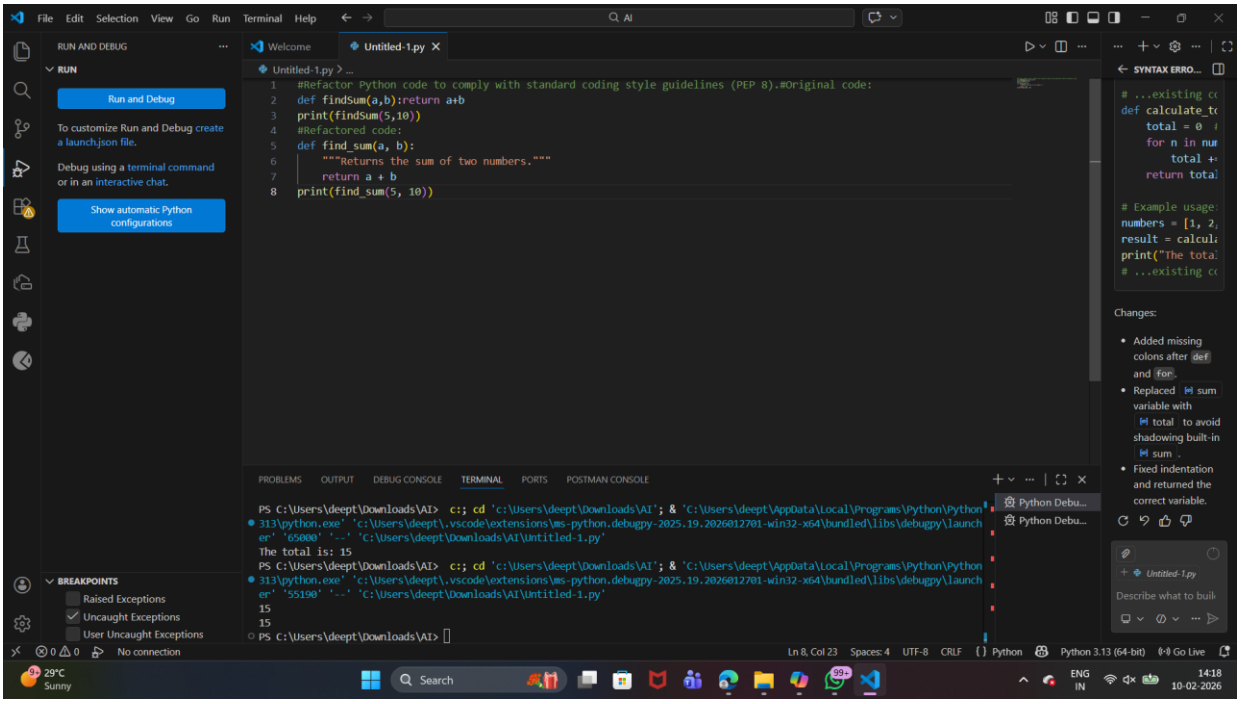
Used sum as variable name (overwrites built-in) → Renamed to total

Returned total though variable was named sum → Corrected consistency

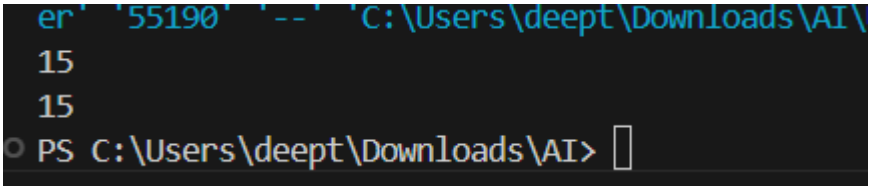
Task Description -2(Code Style Standardization)

Prompt : Refactor the Python code to follow PEP 8 coding standards with proper formatting and readability

AI-Generated Code:



OUTPUT:



Justification:

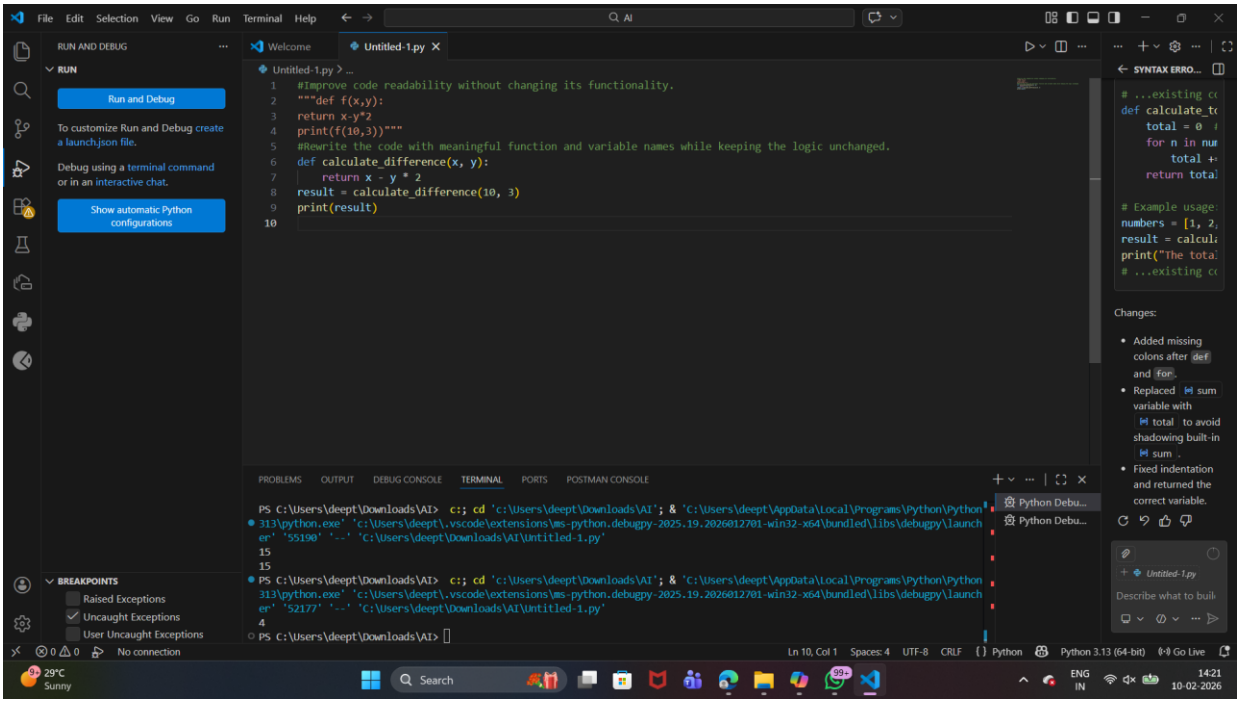
Added proper indentation and spacing

Used snake_case naming (PEP-8 standard)

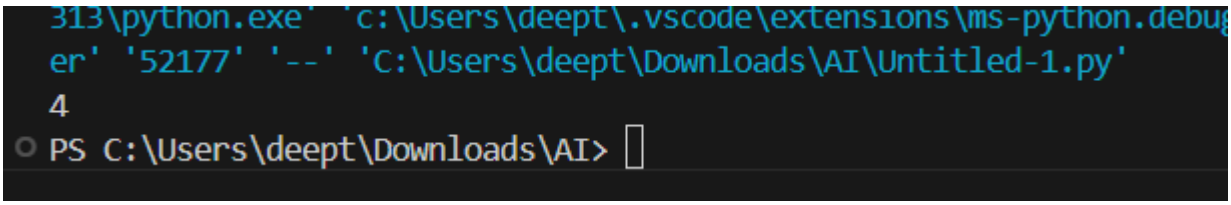
Split single-line function into readable multi-line format

Task Description -3(Code Clarity Improvement)

Prompt: Rewrite the code with meaningful function and variable names while keeping the logic unchanged.



OUTPUT:



Justification:

Meaningful function and variable names

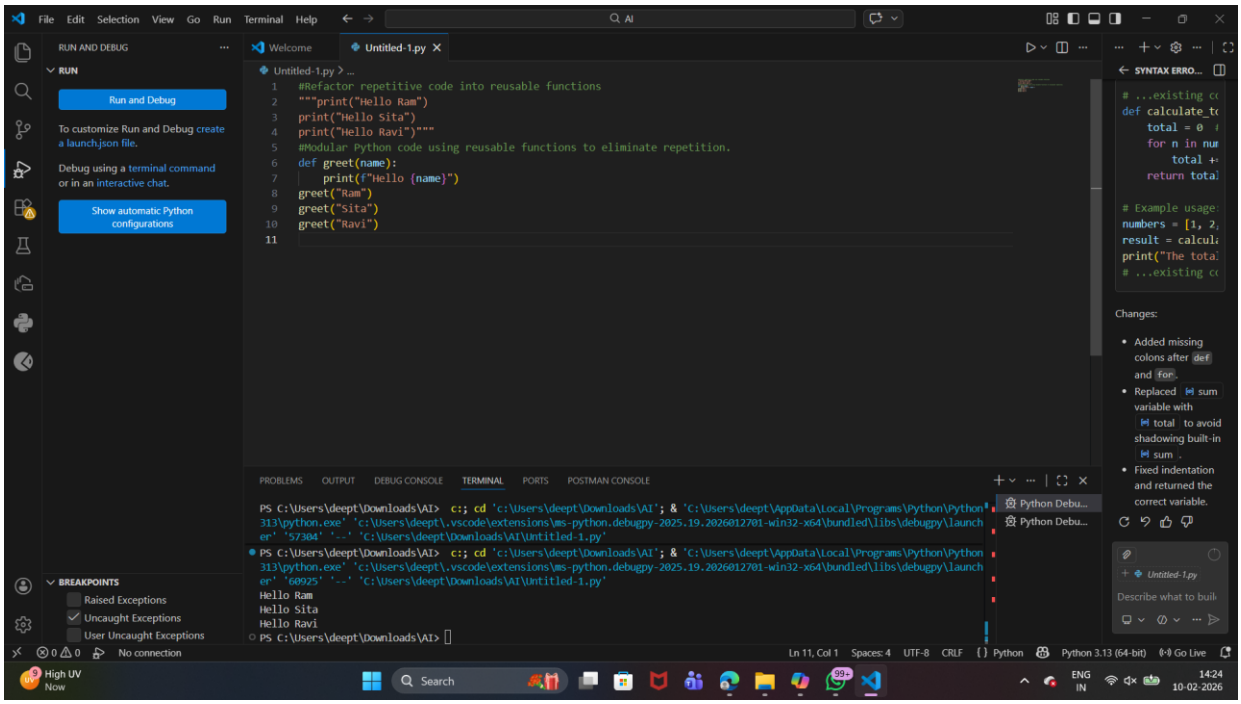
Docstring for clarity

Proper indentation and spacing

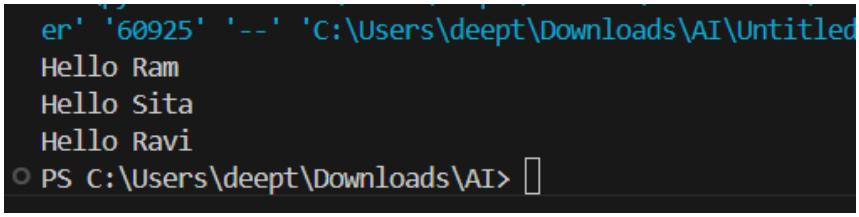
Task Description -4(Structural Refactoring)

Prompt: Refactor the repeated print statements into a reusable function.

AI-Generated Code:



OUTPUT:



Justification:

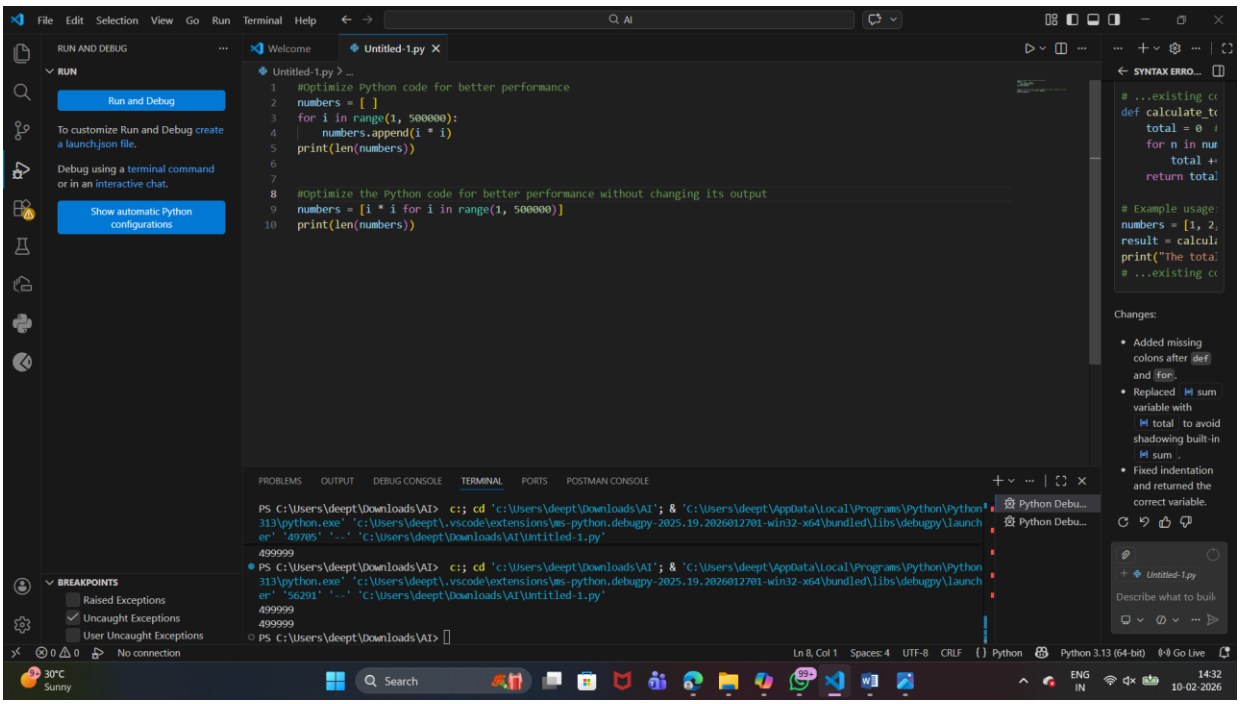
Eliminated repetition

Created reusable function greet()

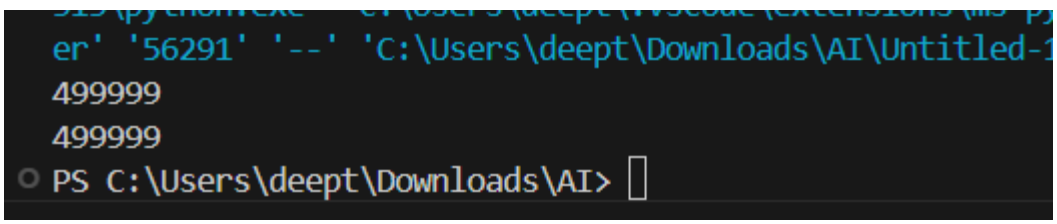
Task Description -5(Efficiency Enhancement):

Prompt: Optimize the Python code for better performance without changing its output.

AI-Generated Code:



OUTPUT:



Justification:

- Performance Improvements
- Used list comprehension instead of loop
- Faster execution
- Cleaner and more Pythonic code