LabAssignment-10.2

Subject Name :AI Assisted Coding

Semester : VI

Name : A.Sumanth

Hall Ticket No. : 2303A52191

Batch No. : 34

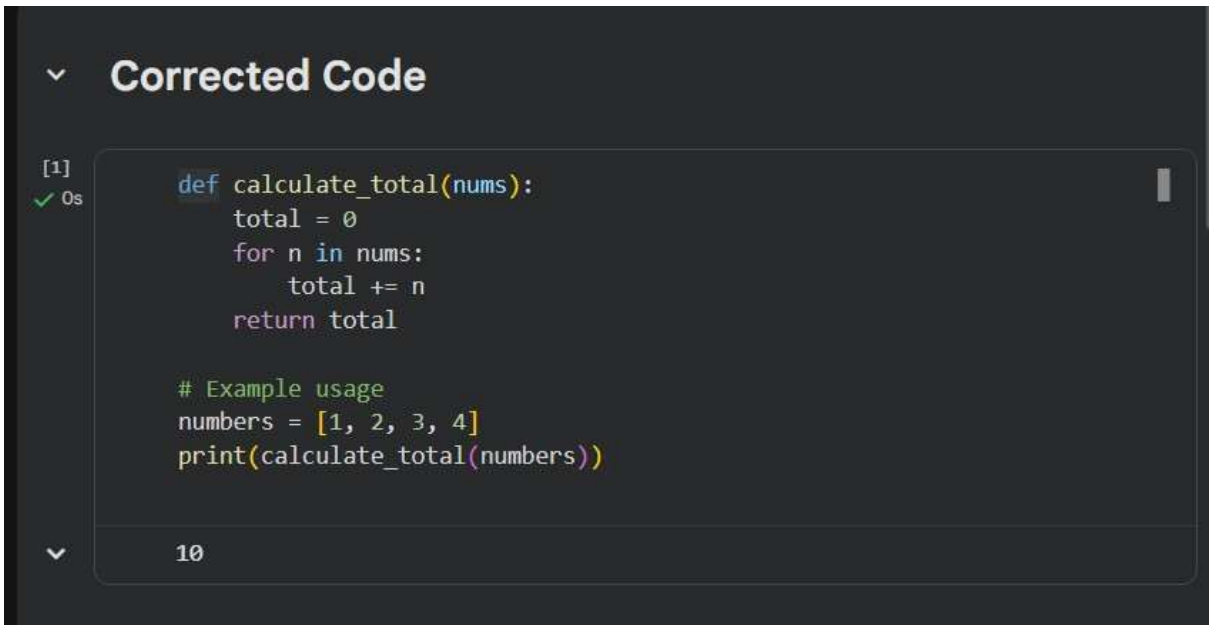
Lab 10 – Code Review and Quality: Using AI to Improve Code Quality and Readability

Lab Objectives

• Use AI for automated code review and quality enhancement.
• Identify and fix syntax, logical, performance, and security issues in Python code.
• Improve readability and maintainability through structured
Week5 - Tuesday
refactoring and
comments.
• Apply prompt engineering for targeted improvements.
• Evaluate AI-generated suggestions against PEP 8 standards and software engineering best practices

Task 1 – Error Detection and Correction Issues in Given Code

- Missing colon : after function definition.
- Wrong indentation.
- Missing colon in for loop.
- Variable total not defined (should return sum).
- Avoid using built-in name sum as a variable.

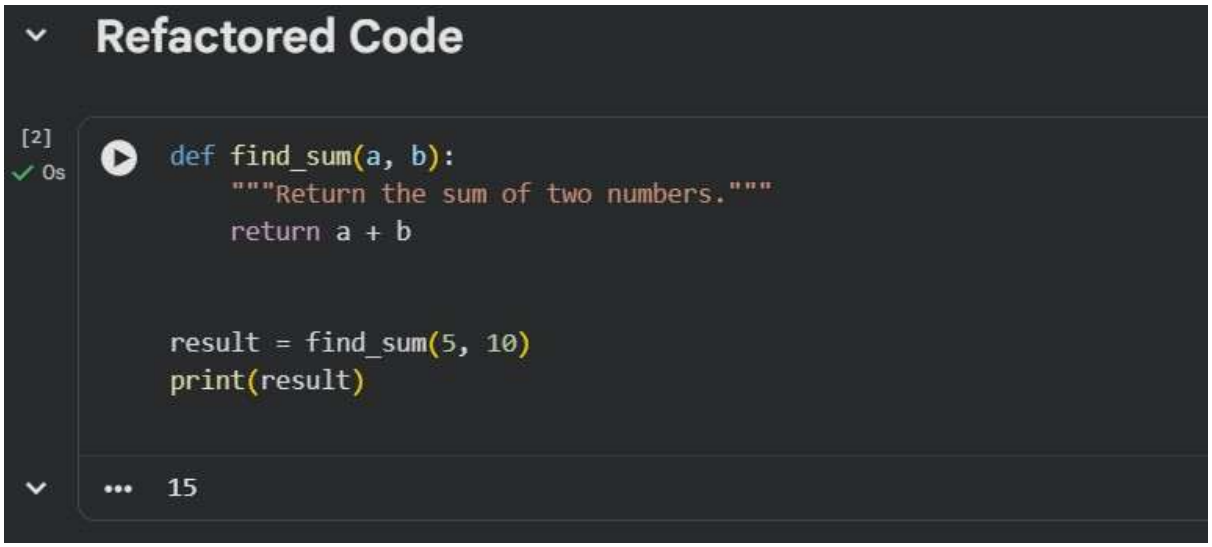


Fix Summary

- Added missing : symbols.
- Corrected indentation.
- Replaced undefined variable.

- Used total instead of built-in sum.

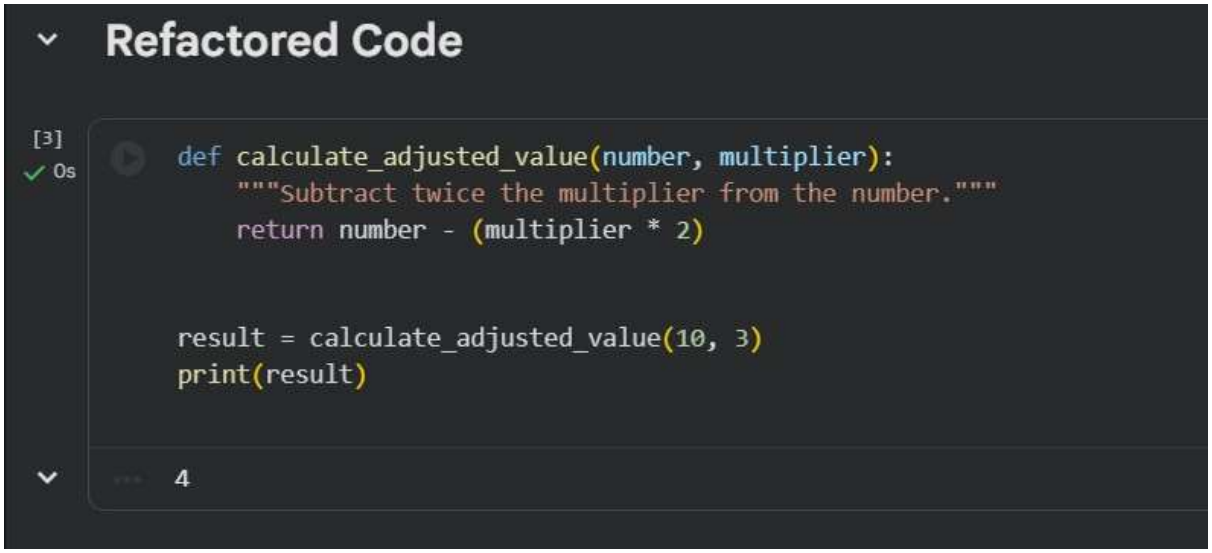
Task 2 – Code Style Standardization (PEP 8)



Improvements

- Function name changed to snake_case.
- Added docstring.
- Proper spacing and formatting.

Task 3 – Code Clarity Improvement



Improvements

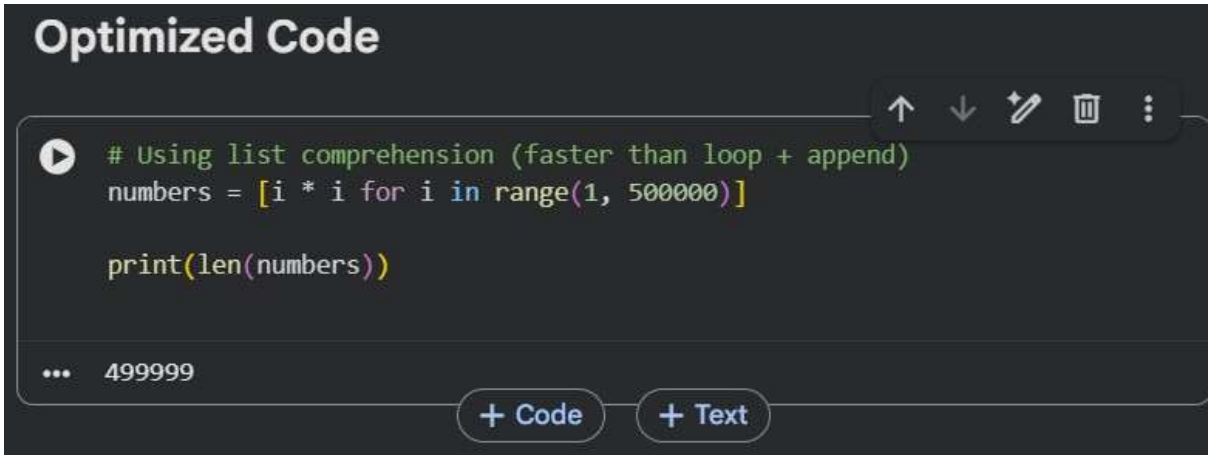
- Meaningful function and variable names.
- Added explanation through docstring.
- Improved readability.

Task 4 – Structural Refactoring (Reusable Functions)

Improvements

- Removed repetition.
- Created reusable function.
- Used loop for scalability.

Task 5 – Efficiency Enhancement



Why Faster?

- List comprehensions are optimized in Python.
- Avoids repeated method calls (append).
- Cleaner and more memory-efficient.

Conclusion (For Lab Submission)

Using AI-assisted review helped to:

- Fix syntax and logical errors.
- Improve code readability and structure.
- Ensure compliance with **PEP 8**.
- Reduce redundancy through modular design.
- Optimize performance using Python best practices.