# AI Assisted Coding

# Assignment – 9.3

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## Task 1: Basic Docstring Generation

Scenario

You are developing a utility function that processes numerical lists and must be properly

documented for future maintenance.

Requirements

• Write a Python function to return the sum of even numbers and sum of odd numbers in a

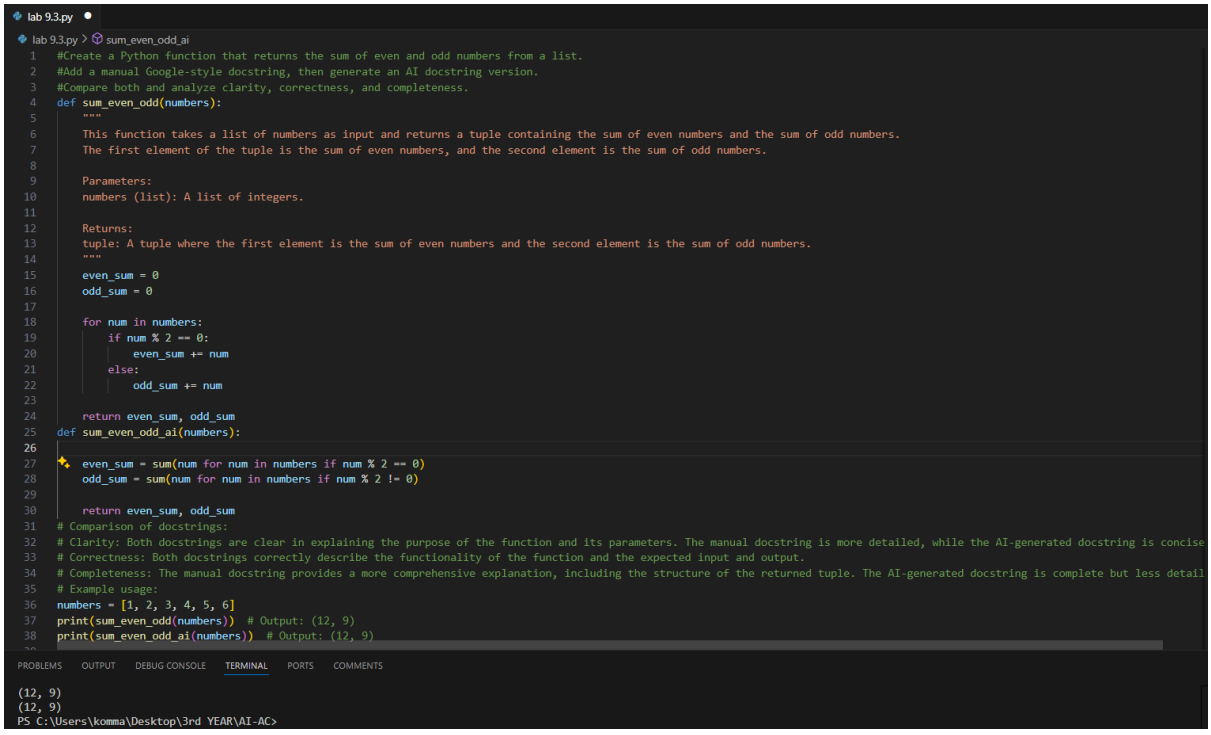
given list

• Manually add a Google Style docstring to the function

• Use an AI-assisted tool (Copilot / Cursor AI) to generate a function-level docstring

• Compare the AI-generated docstring with the manually written docstring

• Analyze clarity, correctness, and completeness



## Task 2: Automatic Inline Comments

Scenario

You are developing a student management module that must be easy to understand for new

developers.

Requirements

• Write a Python program for an sru_student class with the following:

– Attributes: name, roll_no, hostel_status

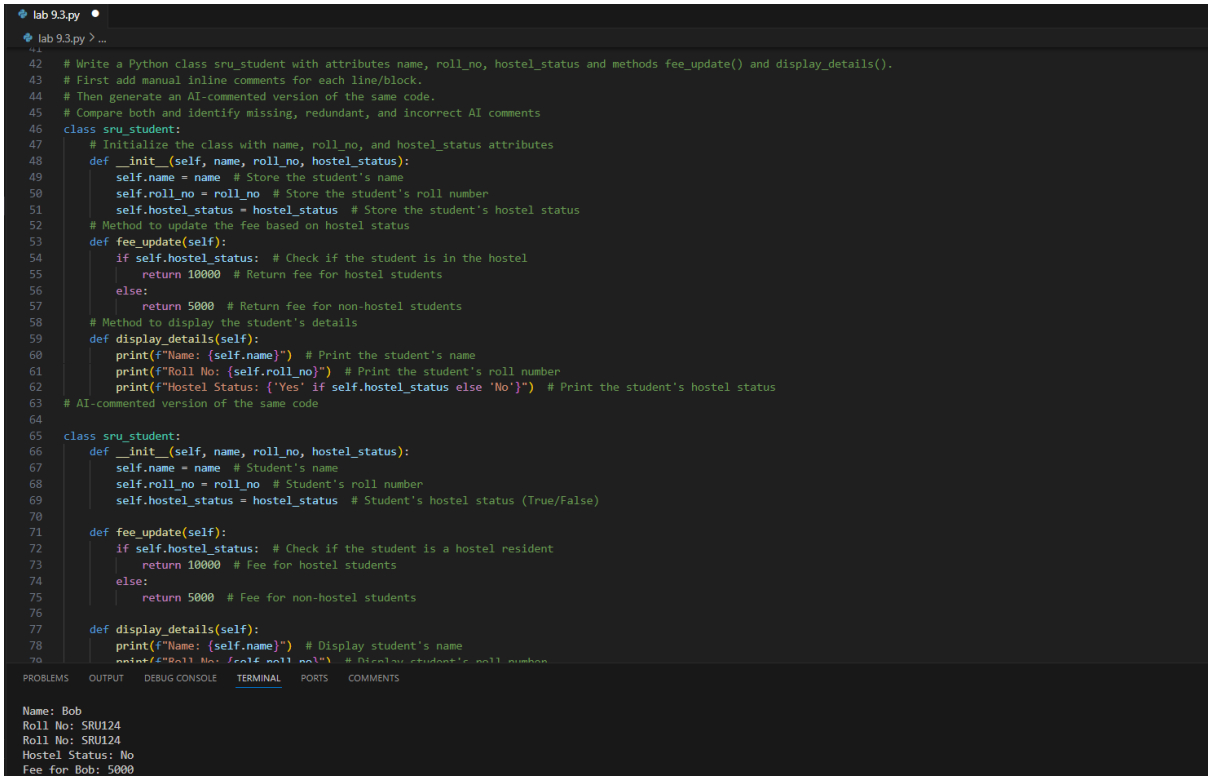
– Methods: fee_update() and display_details()

• Manually write inline comments for each line or logical block

• Use an AI-assisted tool to automatically add inline comments

• Compare manual comments with AI-generated comments

• Identify missing, redundant, or incorrect AI comments



## Task 3: Module-Level and Function-Level Documentation

Scenario

You are building a small calculator module that will be shared across multiple projects and

requires structured documentation.

Requirements

• Write a Python script containing 3–4 functions (e.g., add, subtract, multiply, divide)

• Manually write NumPy Style docstrings for each function

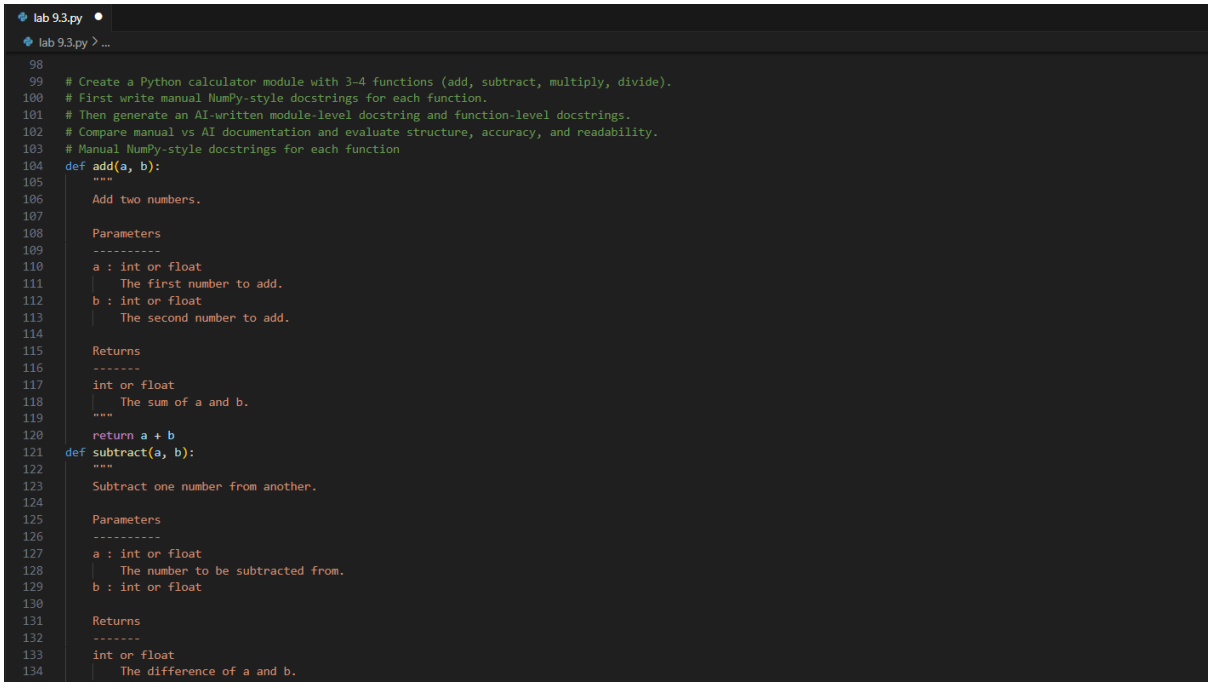
• Use AI assistance to generate:

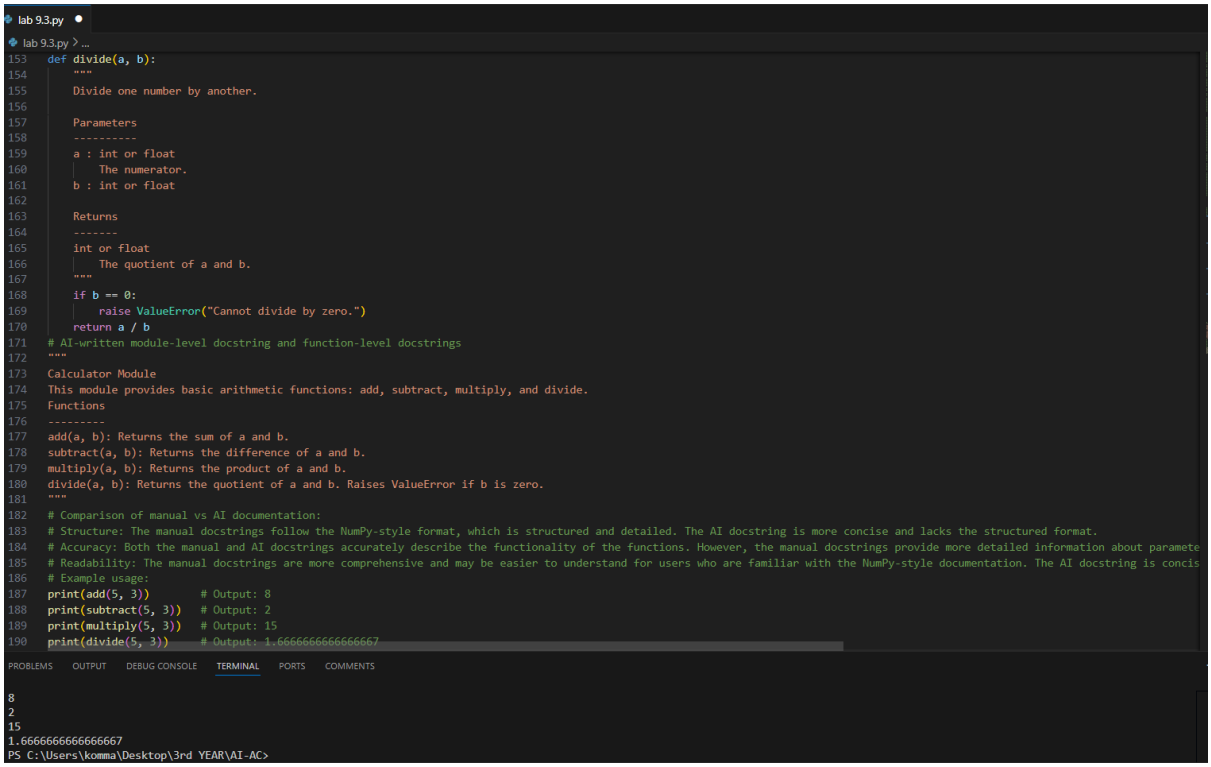
– A module-level docstring

– Individual function-level docstrings

• Compare AI-generated docstrings with manually written ones

• Evaluate documentation structure, accuracy, and readability




lab 9.3.py
lab 9.3.py > ...
def divide(a, b):
"""
Divide one number by another.
Parameters
----------
a : int or float
The numerator.
b : int or float
Returns
-------
int or float
The quotient of a and b.
"""
if b == 0:
raise ValueError("Cannot divide by zero.")
return a / b
# AI-written module-level docstring and function-level docstrings
"""
Calculator Module
This module provides basic arithmetic functions: add, subtract, multiply, and divide.
Functions
---------
add(a, b): Returns the sum of a and b.
subtract(a, b): Returns the difference of a and b.
multiply(a, b): Returns the product of a and b.
divide(a, b): Returns the quotient of a and b. Raises ValueError if b is zero.
"""
# Comparison of manual vs AI documentation:
# Structure: The manual docstrings follow the NumPy-style format, which is structured and detailed. The AI docstring is more concise and lacks the structured format.
# Accuracy: Both the manual and AI docstrings accurately describe the functionality of the functions. However, the manual docstrings provide more detailed information about paramete
# Readability: The manual docstrings are more comprehensive and may be easier to understand for users who are familiar with the NumPy-style documentation. The AI docstring is concis
# Example usage:
print(add(5, 3))  # Output: 8
print(subtract(5, 3))  # Output: 2
print(multiply(5, 3))  # Output: 15
print(divide(5, 3))  # Output: 1.6666666666666667
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
COMMENTS
8
2
15
1.6666666666666667
PS C:\Users\komma\Desktop\3rd YEAR\AI-AC>