Assignment-6.3
Hall ticket no:2303A51523

Task Description #1: Classes (Student Class)

Scenario

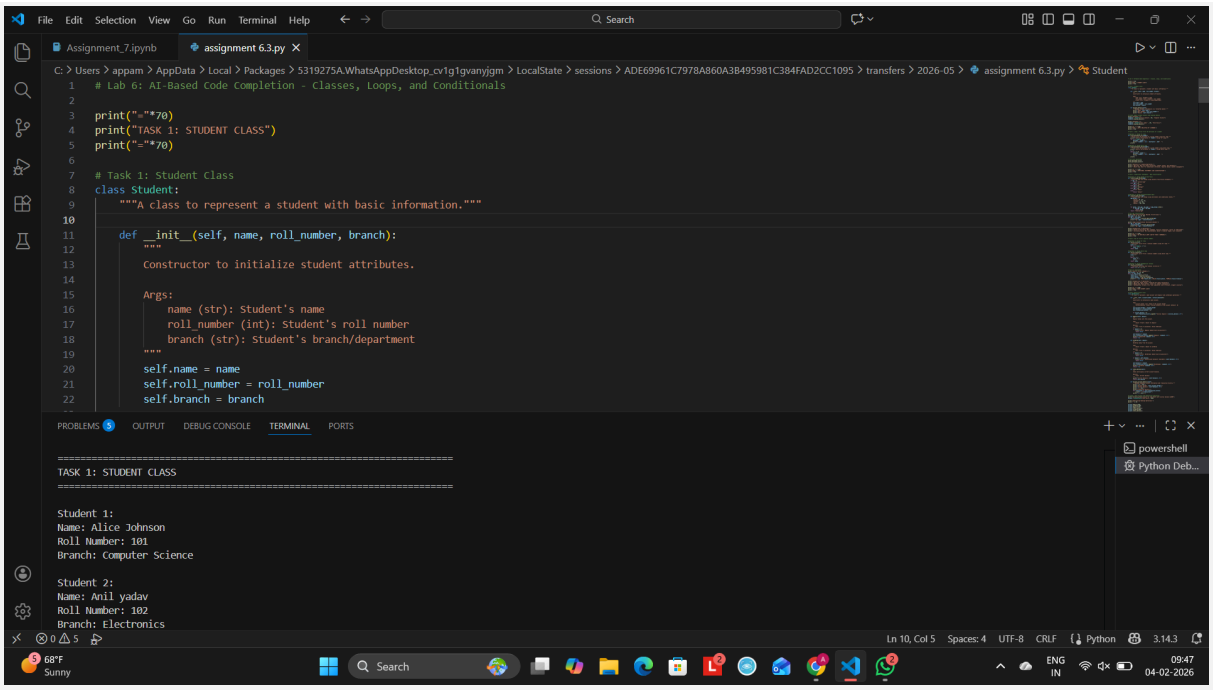
You are developing a simple student information management module.

Task

- Use an AI tool (GitHub Copilot / Cursor AI / Gemini) to complete a Student class.
- The class should include attributes such as name, roll number, and branch.
- Add a method display_details() to print student information.
- Execute the code and verify the output.
- Analyze the code generated by the AI tool for correctness and clarity.

Prompt:develop a simple student information management module using python

In this task, an AI tool was used to generate a Python `Student` class with attributes such as name, roll number, and branch. The class included a constructor to initialize values and a `display_details()` method to print student information. The generated code was clear, correct, and followed basic object-oriented programming principles.



Task Description #2: Loops (Multiples of a Number)

Scenario

You are writing a utility function to display multiples of a given number.

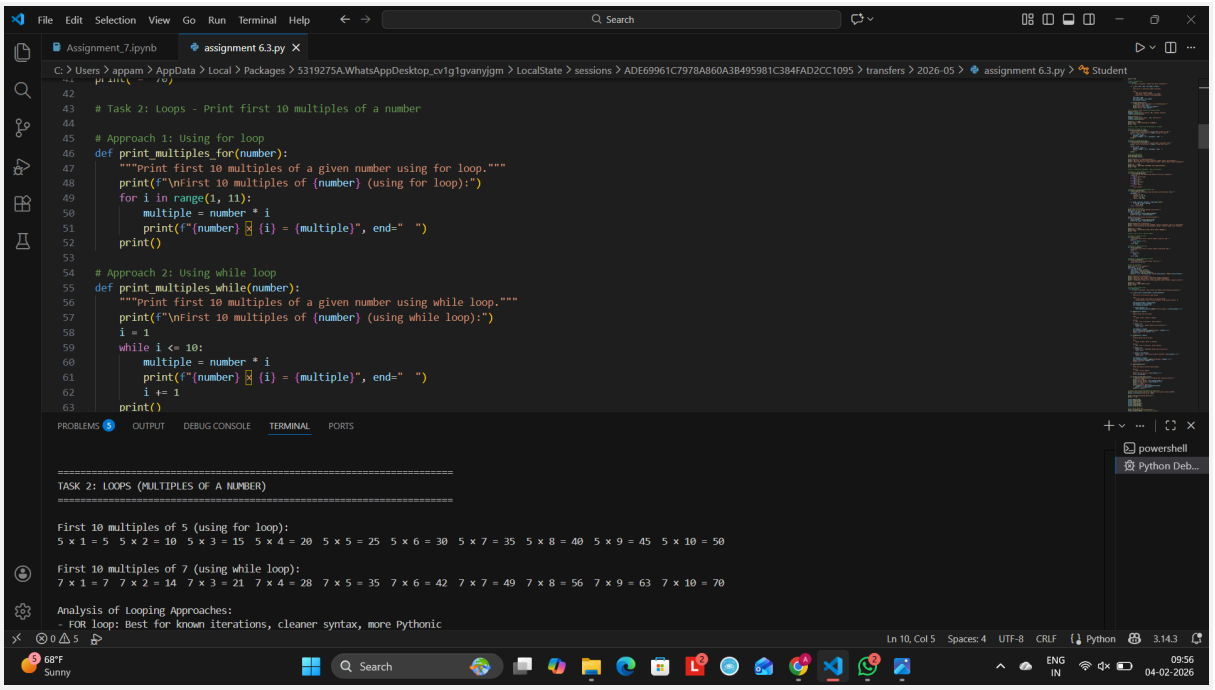
Task

- Prompt the AI tool to generate a function that prints the first 10 multiples of a given number using a loop.
- Analyze the generated loop logic.
- Ask the AI to generate the same functionality using another controlled looping structure (e.g., while instead of for).

Prompt:print first 10 multiples of a number

AI assistance was used to create a function that prints the first ten multiples of a given number using a `for` loop. The same logic was also generated using a `while`

loop. Both approaches produced correct results, with the `for` loop being simpler and more readable, while the `while` loop offered more control.



Task Description #3: Conditional Statements (Age Classification)

Scenario

You are building a basic classification system based on age.

Task

- Ask the AI tool to generate nested if-elif-else conditional statements to classify age groups

(e.g., child, teenager, adult, senior).

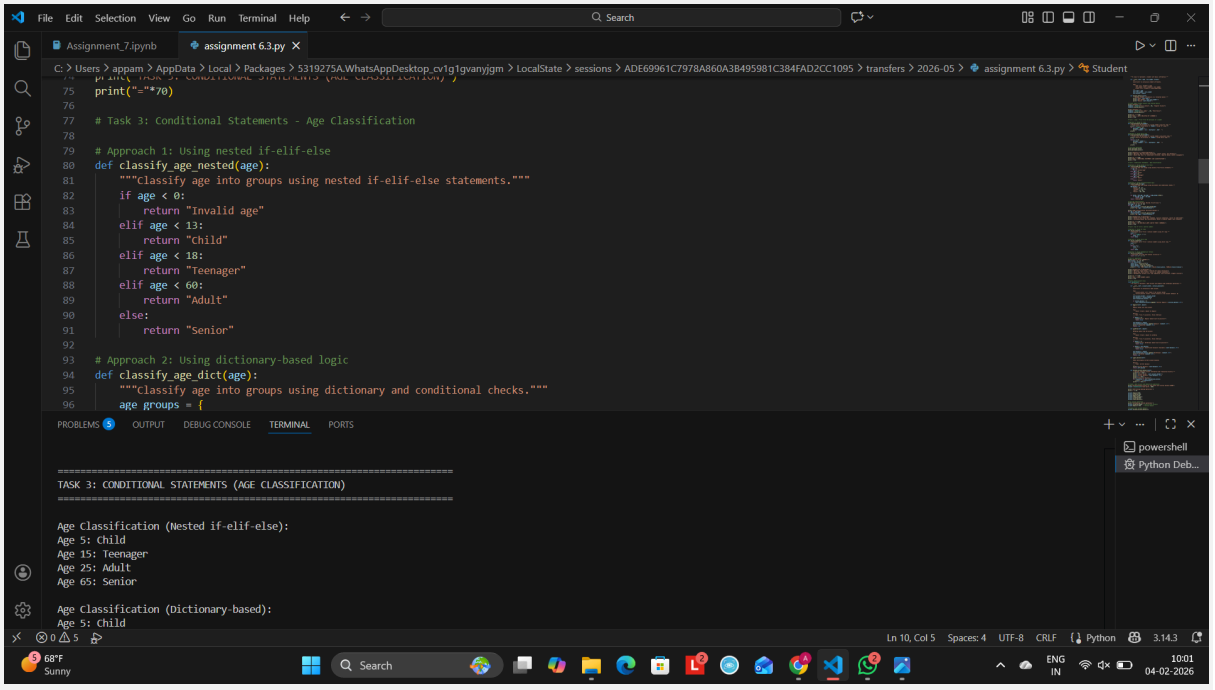
- Analyze the generated conditions and logic.

- Ask the AI to generate the same classification using alternative conditional structures (e.g.,

simplified conditions or dictionary-based logic).

Prompt:conditional statements and age qualification using nested if-elif-else

explanation:The AI generated a function using `if-elif-else` statements to classify age into child, teenager, adult, and senior categories. The conditions were logically ordered and easy to understand. An alternative approach showed how the same classification could be done using simplified or dictionary-based logic.



Task Description #4: For and While Loops (Sum of First n Numbers)

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task4:Scenario

You need to calculate the sum of the first n natural numbers.

Task

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Use AI assistance to generate a sum_to_n() function using a for loop.

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Analyze the generated code.

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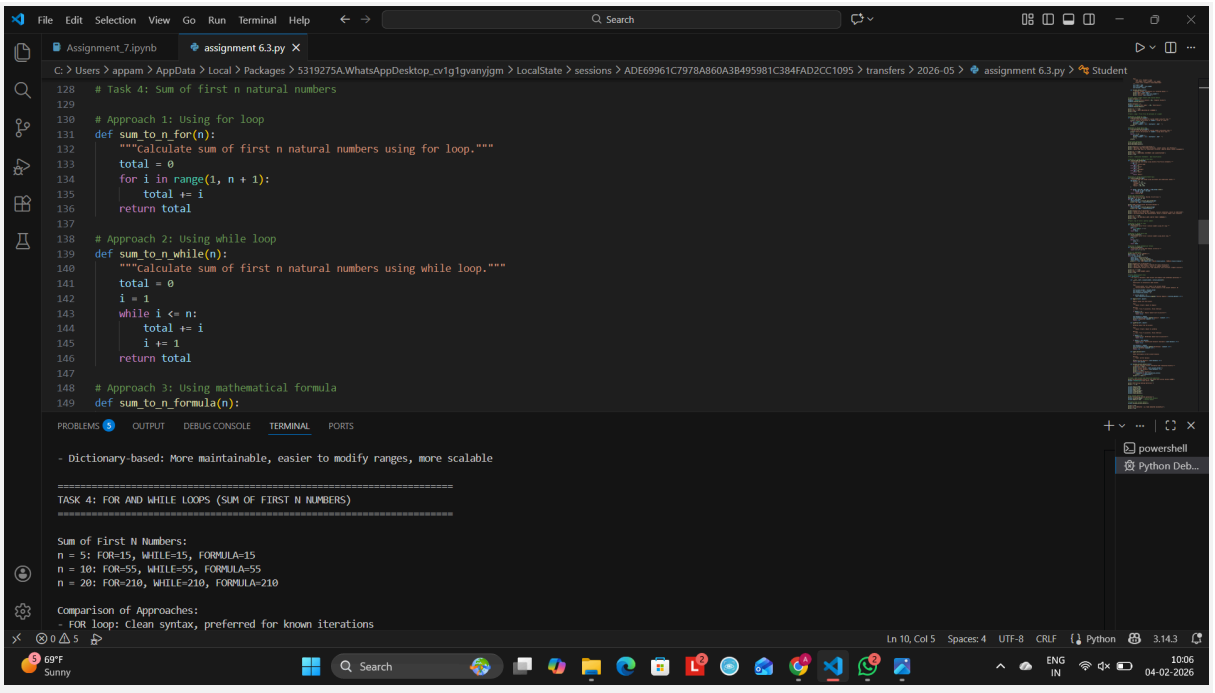
Ask the AI to suggest an alternative implementation using a while loop or a mathematical

Formula.

Prompt:give first sum of n natural numbers using for loop and whi le loop

explanation:AI was used to generate a function that calculates the sum of the first `n` natural numbers using a `for` loop. Alternative solutions using a `while` loop and a mathematical formula were also suggested. The formula-based approach was the most efficient, while loop-based solutions were easier forbeginners.



task5:Classes (Bank Account Class)

Scenario

You are designing a basic banking application.

Task

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Use AI tools to generate a Bank Account class with methods such as deposit(), withdraw(),

and check_balance().

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Analyze the AI-generated class structure and logic.

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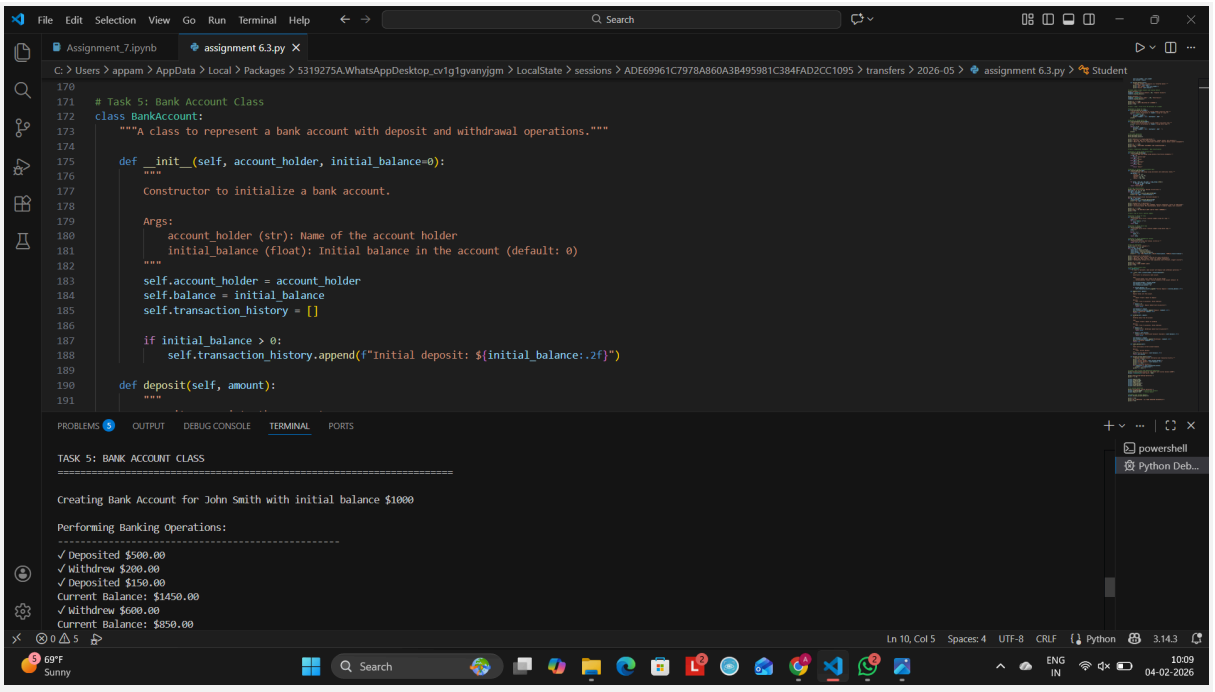
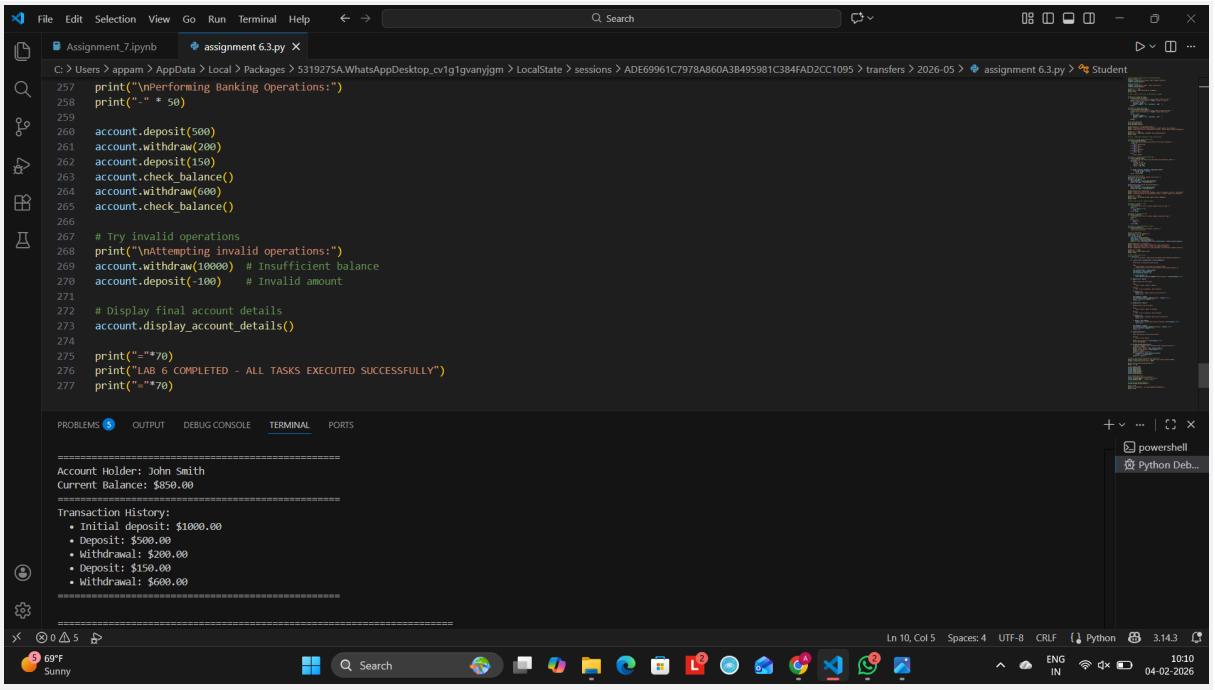
Add meaningful comments and explain the working of the code

Prompt:create bank account class and demonstrate





Task Description #4: For and While Loops (Sum of First n Numbers)

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