AI ASSISTED CODING

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B-34

LAB-7:

Task 1 – Runtime Error Due to Invalid Input Type

- A Python program accepts user input and performs arithmetic operations. However, the program throws a runtime error because the input is treated as a string instead of a numeric type.

Example (Buggy Code):

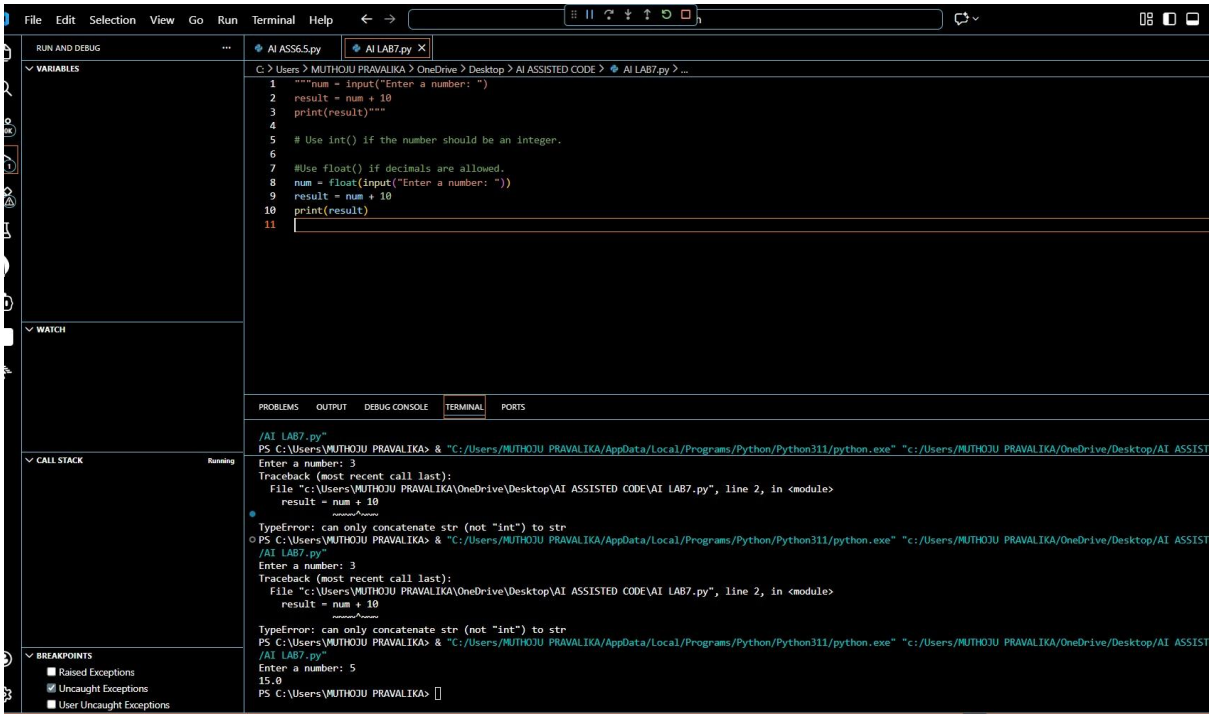
```
num = input("Enter a
number: ") result = num
+ 10 print(result)
```

- **Task:**

Use AI tools to identify the cause of the runtime error and modify the program so it executes correctly.

Expected Output -1:

- AI converts the input to the appropriate numeric type and eliminates the runtime error.



Task Description

Task 2 – Incorrect Function Return Value

A function is designed to calculate the square of a number, but it does not return the computed result properly.

Example (Buggy Code):

def square(n): result =

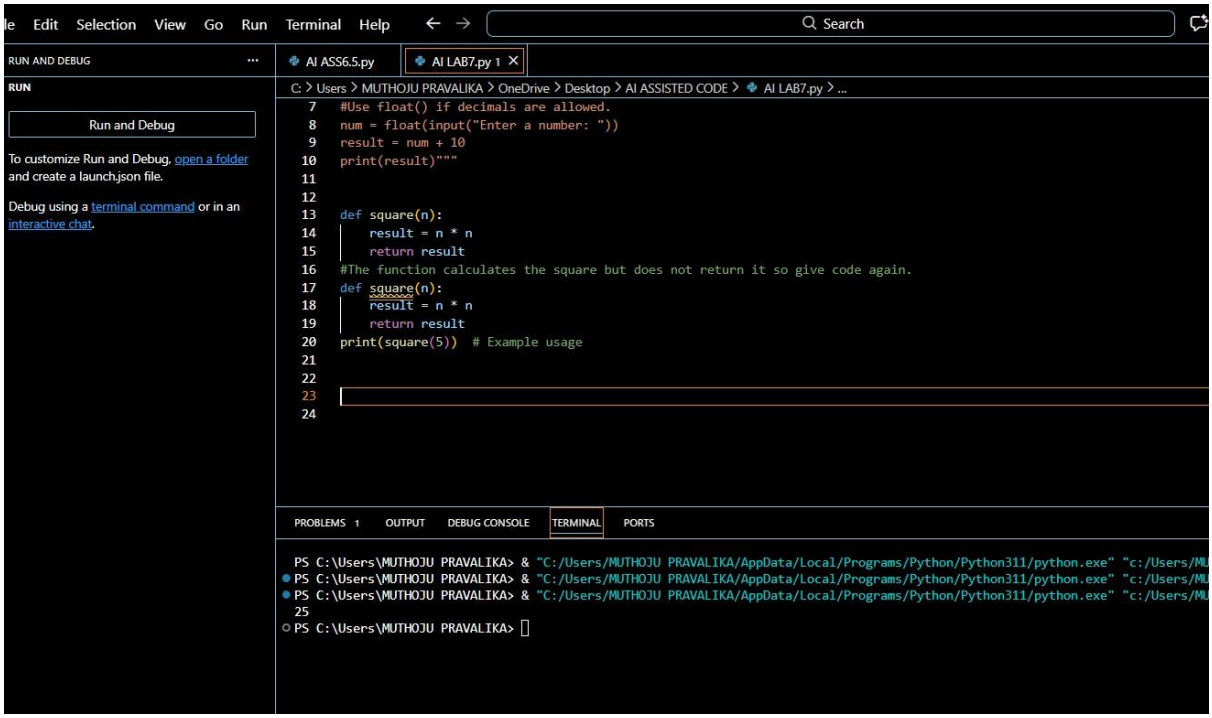
n * n

Task:

Use AI assistance to analyze the function and ensure the correct value is returned.

Expected Output -2:

AI fixes the missing return statement and the function returns the correct output.



Task Description

Task 3 – IndexError in List Traversal

A Python program iterates over a list using incorrect index limits,

causing an IndexError. Example (Buggy Code): numbers = [10, 20,

30] for i in range(0, len(numbers)+1):

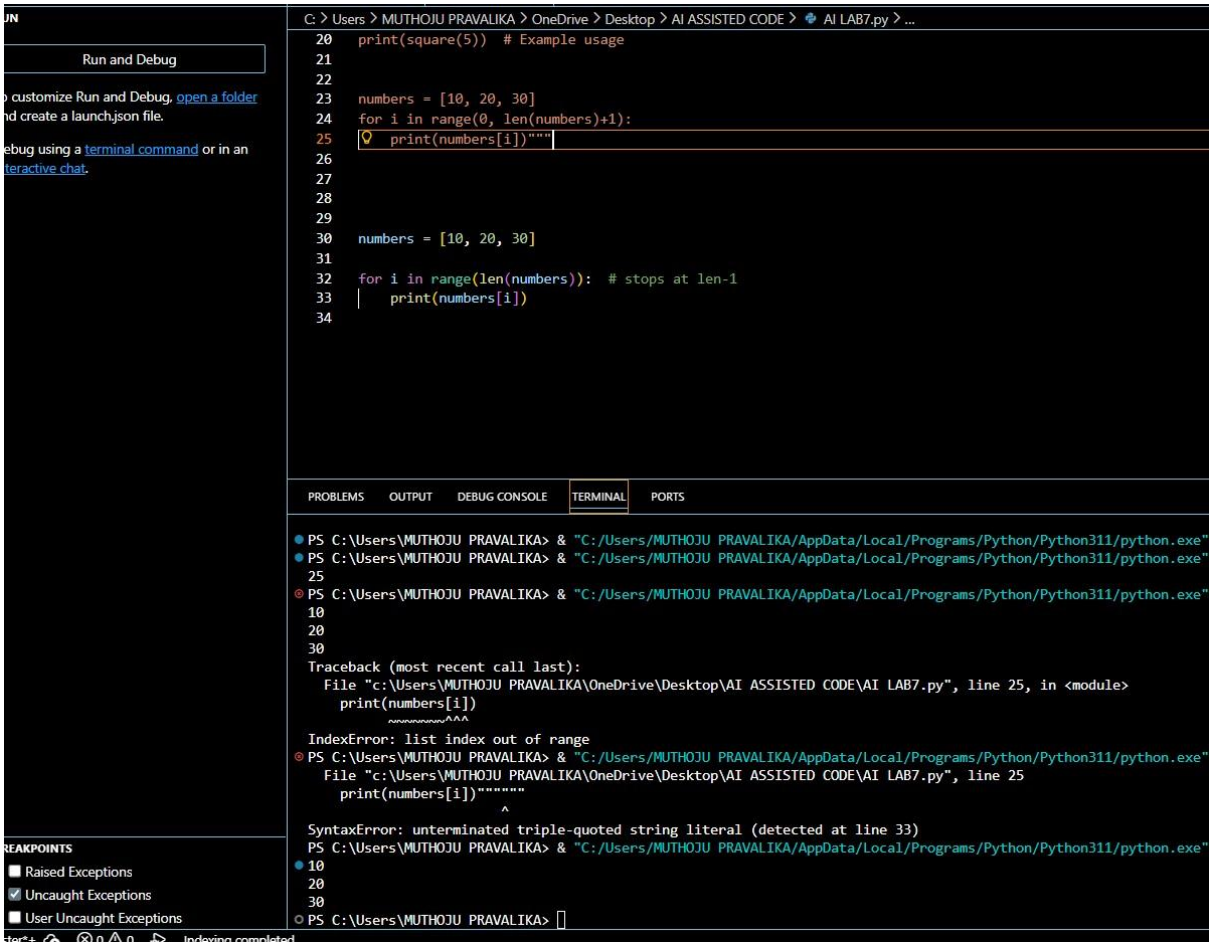
print(numbers[i])

Task:

Use AI to identify the incorrect loop boundary and correct the iteration logic.

Expected Output -3:

AI fixes the loop condition and prevents out-of-range list access.



Task 4 – Uninitialized Variable Usage

A program uses a variable in a calculation before assigning it any value.

Example (Buggy Code):

if True:

pass

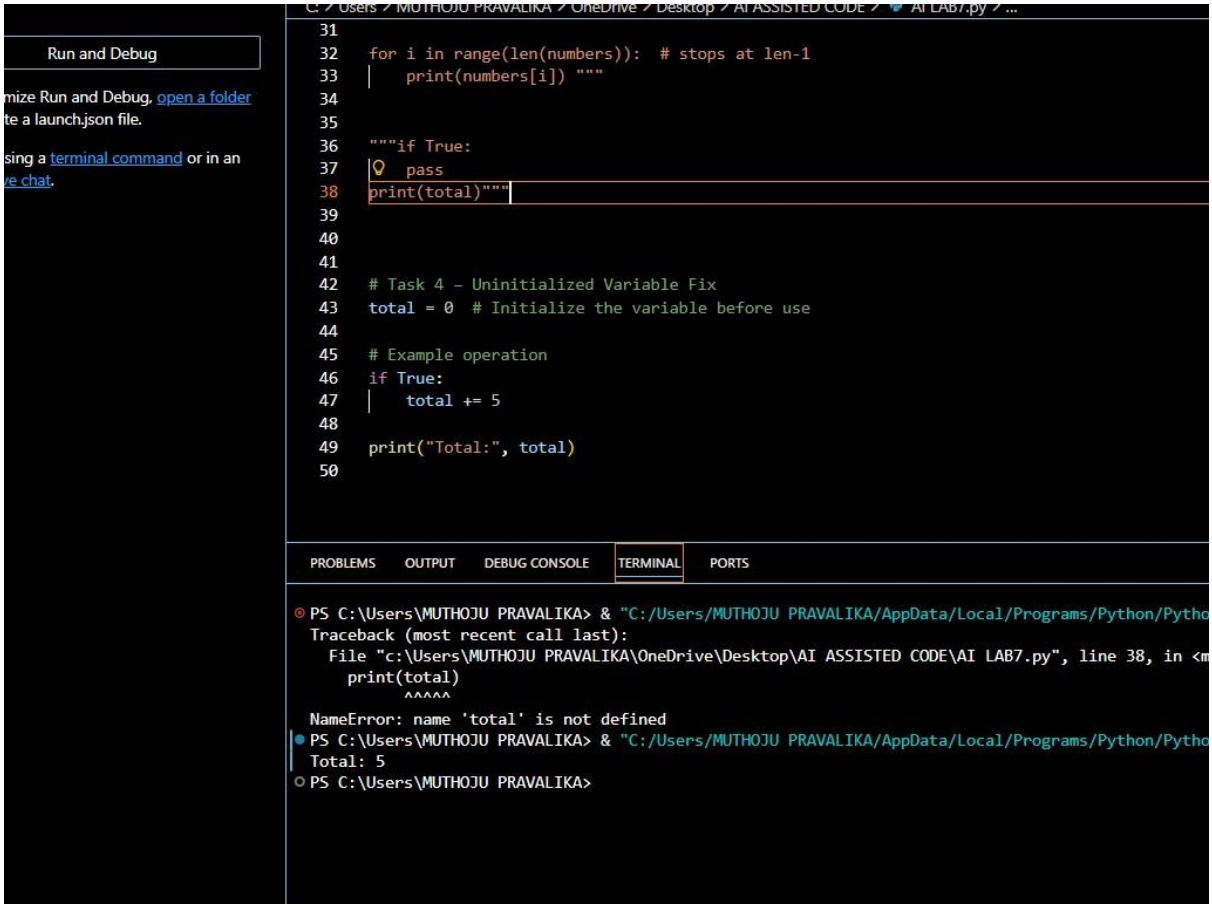
print(total)

Task:

Use AI tools to detect the uninitialized variable and correct the program.

Expected Output -4:

AI initializes the variable correctly before it is used



Task Description

Task 5 – Logical Error in Student Grading System

A grading program assigns incorrect grades due to improper conditional

logic.

Example (Buggy Code):

marks = 85 if

marks >= 90:

grade = "A" elif

marks >= 80:

grade = "C" else:

grade = "B" print(grade)

Task:

Use AI to analyze the grading conditions and correct the logical flow.

Expected Output -5:

AI corrects the conditional logic so grades are assigned accurately.