Course Name:AI Assistant For Coding

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Batch:33

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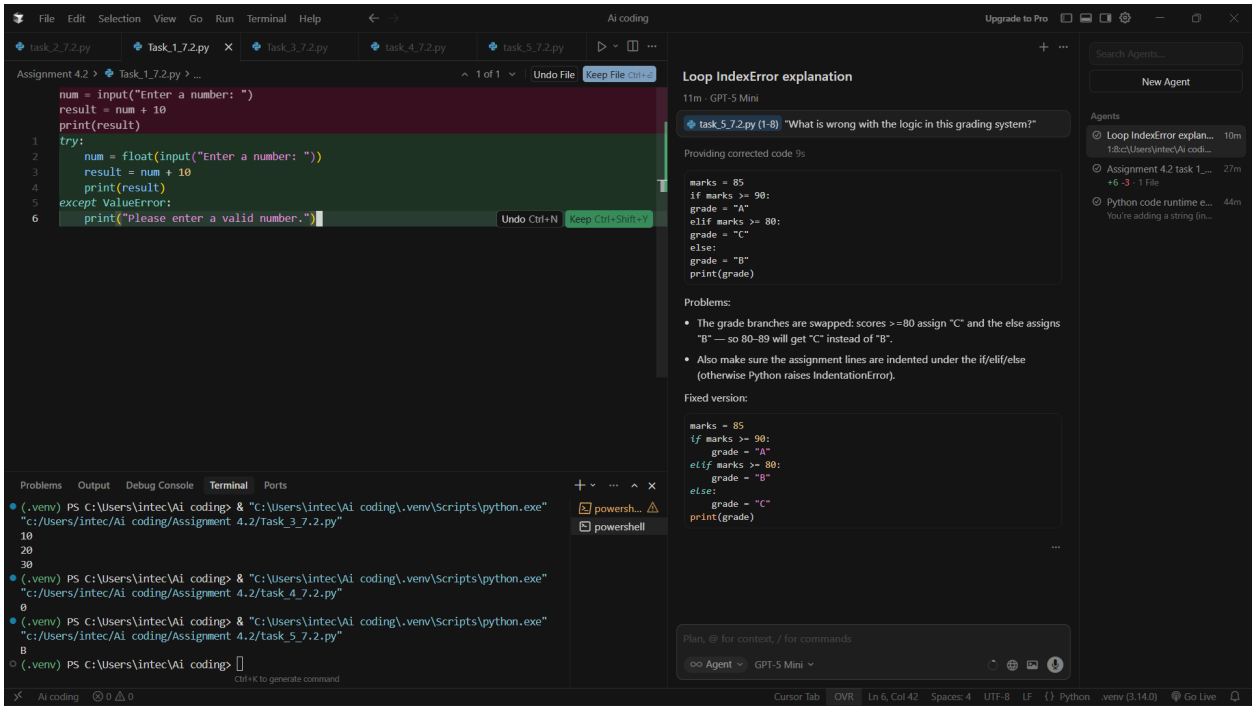
Assignment:7.2

Task 1:
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



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):

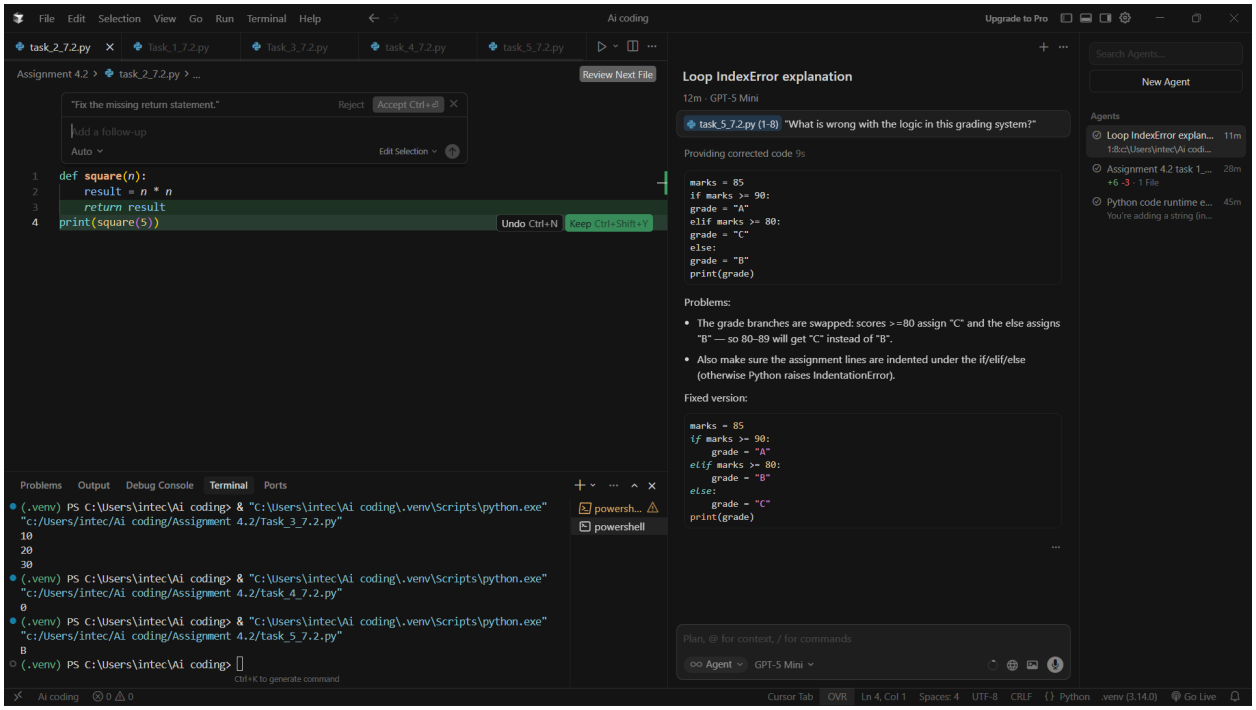
```
def square(n):
result = n * n
```

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



Task 3 – IndexError in List Traversal

A Python program iterates over a list using incorrect index limits,
causing an IndexError.

Example (Buggy Code):

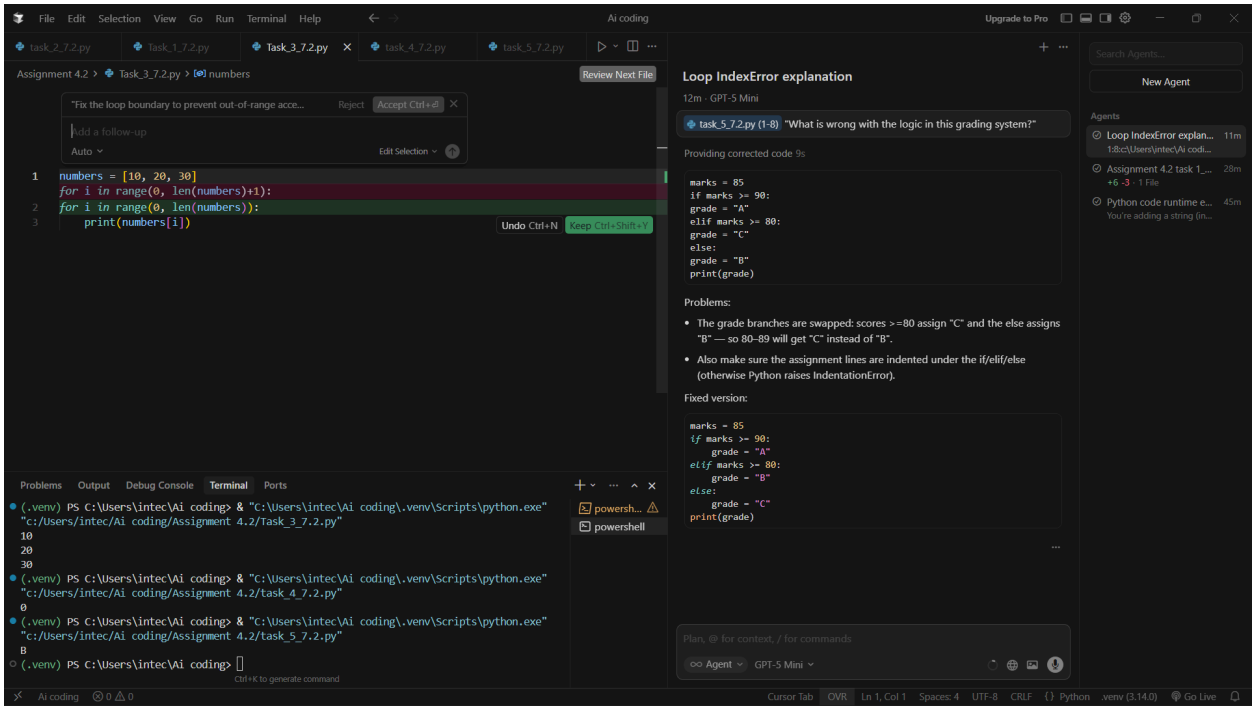
```
numbers = [10, 20, 30]
for i in range(0, len(numbers)+1):
print(numbers[i])
```

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

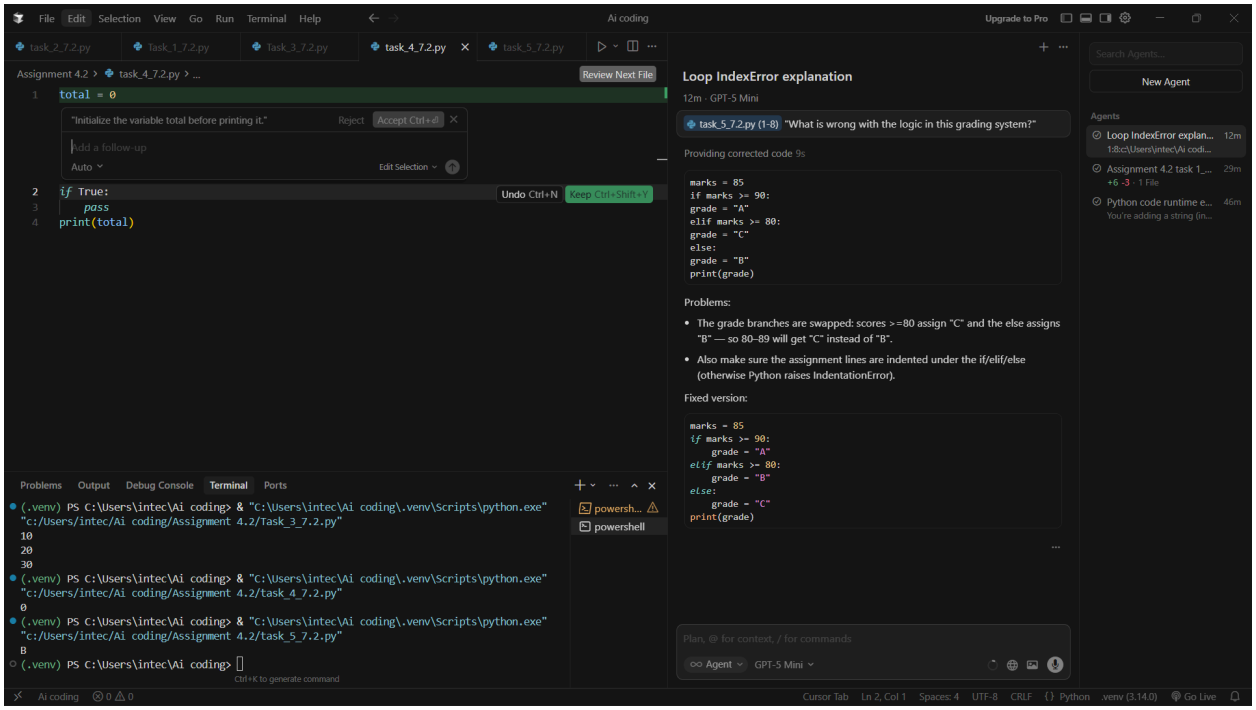
print(total)

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 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.