School of Computer Science and Artificial Intelligence

Lab Assignment -7.2

Program   :B. Tech (CSE)

Specialization   :AIML

Course Title   : AI Assisted Coding

Course Code   : 23CS002PC304

Semester   : VI

Academic Session   : 2025-2026

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Enrollment No.   : 2303A52160

Batch No.   : 34

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

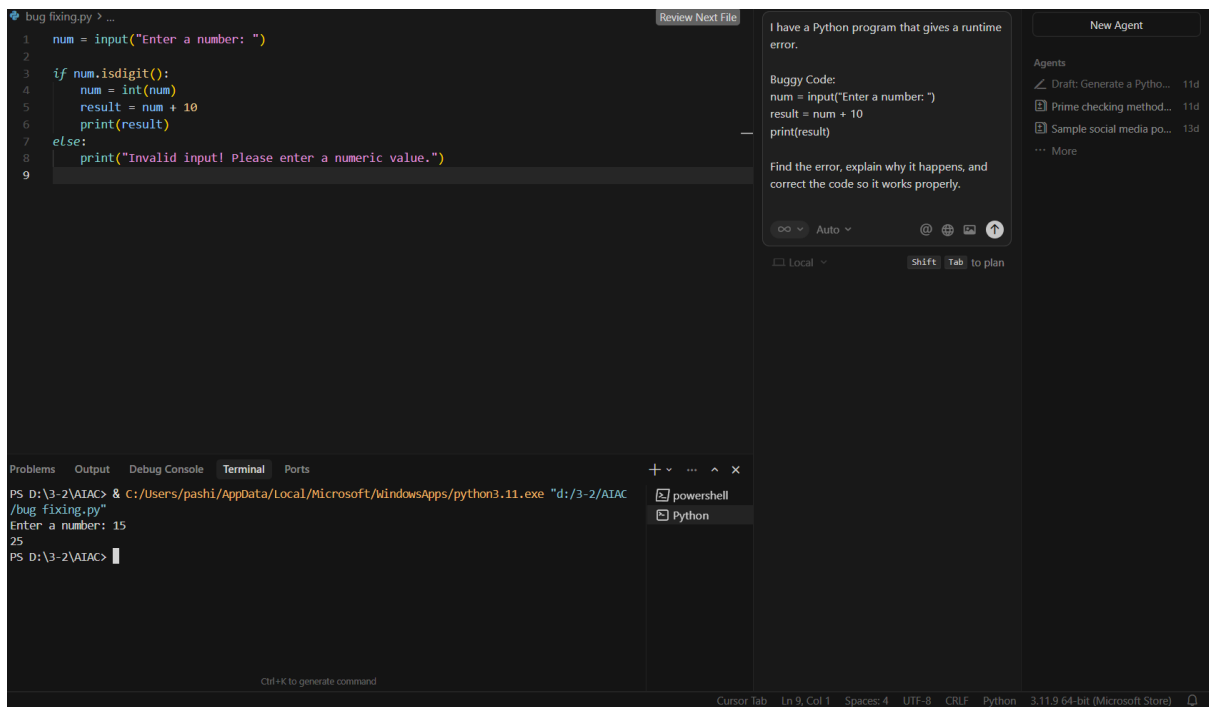the input is treated as a string instead of a numeric type.

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):
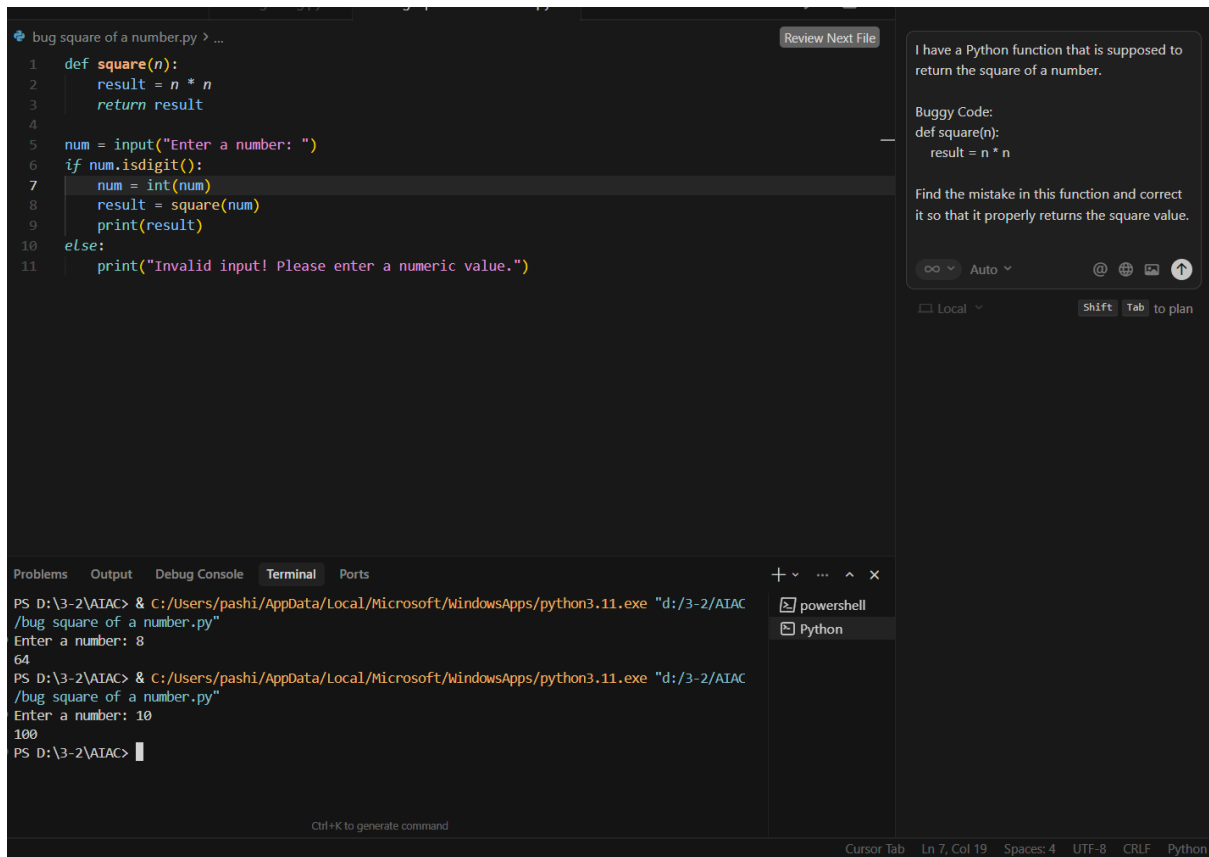
def square(n):

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.

```
bug square of a number.py > ...                                                    Review Next File
1    def square(n):
2        result = n * n
3        return result
4
5    num = input("Enter a number: ")
6    if num.isdigit():
7        num = int(num)
8        result = square(num)
9        print(result)
10   else:
11       print("Invalid input! Please enter a numeric value.")
```

I have a Python function that is supposed to return the square of a number.

Buggy Code:
def square(n):
    result = n * n

Find the mistake in this function and correct it so that it properly returns the square value.

```
Problems   Output   Debug Console   Terminal   Ports                          + v  ...  ^  X
PS D:\3-2\AIAC> & C:/Users/pashi/AppData/Local/Microsoft/WindowsApps/python3.11.exe "d:/3-2/AIAC    powershell
/bug square of a number.py"                                                         Python
Enter a number: 8
64
PS D:\3-2\AIAC> & C:/Users/pashi/AppData/Local/Microsoft/WindowsApps/python3.11.exe "d:/3-2/AIAC
/bug square of a number.py"
Enter a number: 10
100
PS D:\3-2\AIAC>
```

Task Description

Task 3 – IndexError in List Traversal

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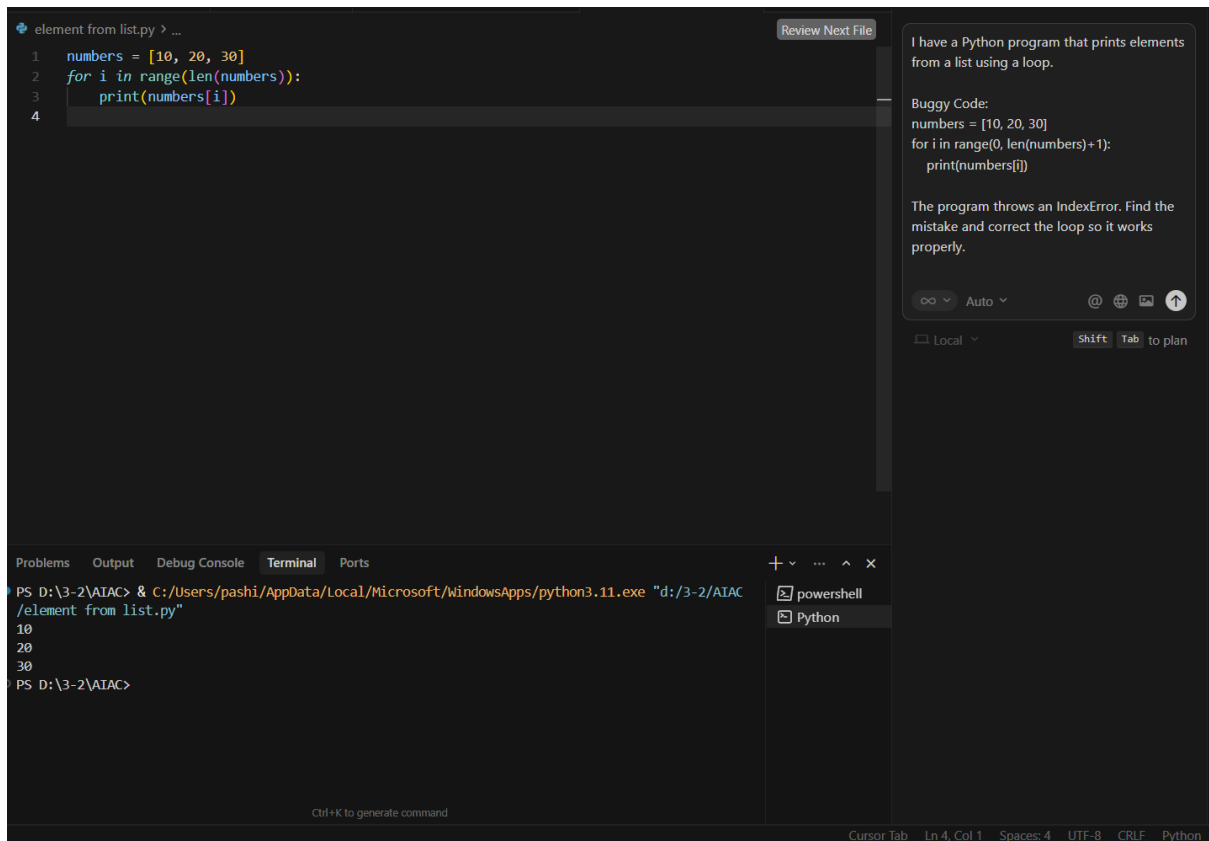
causing an IndexError.

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.

The screenshot shows a code editor with the following content:

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

Chat panel:

I have a Python program that prints elements from a list using a loop.

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

The program throws an IndexError. Find the mistake and correct the loop so it works properly.

Terminal:
```
PS D:\3-2\AIAC> & C:/Users/pashi/AppData/Local/Microsoft/WindowsApps/python3.11.exe "d:/3-2/AIAC
/element from list.py"
10
20
30
PS D:\3-2\AIAC>
```

Task Description

Task 4 – Uninitialized Variable Usage

A program uses a variable in a calculation before assigning it any value.
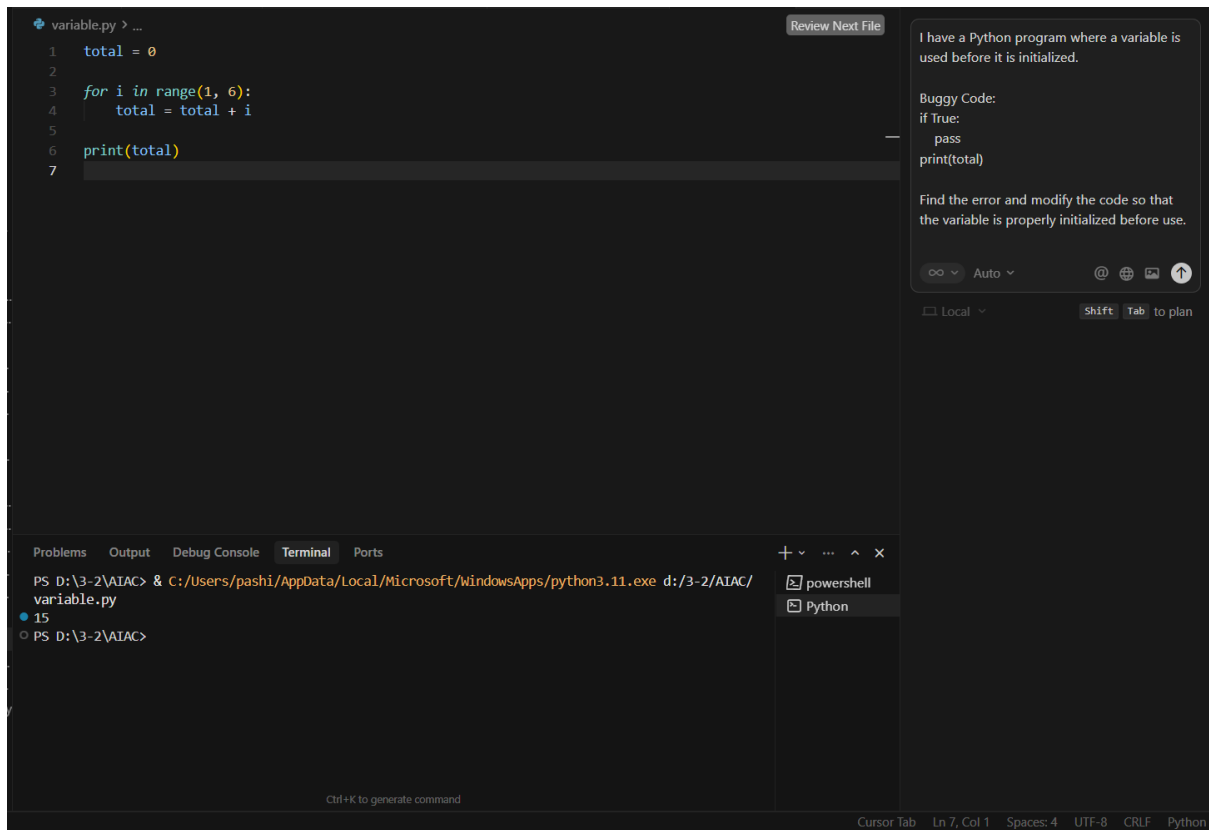
Example (Buggy Code):

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

```python
1    total = 0
2
3    for i in range(1, 6):
4        total = total + i
5
6    print(total)
7
```

Terminal output:

```
PS D:\3-2\AIAC> & C:/Users/pashi/AppData/Local/Microsoft/WindowsApps/python3.11.exe d:/3-2/AIAC/
variable.py
15
PS D:\3-2\AIAC>
```

Review Next File

I have a Python program where a variable is used before it is initialized.

Buggy Code:
if True:
  pass
print(total)

Find the error and modify the code so that the variable is properly initialized before use.

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:

```python
grades.py > ...
 1    marks = 85
 2
 3    if marks >= 90:
 4        grade = "A"
 5    elif marks >= 80:
 6        grade = "B"
 7    else:
 8        grade = "C"
 9
10    print(grade)
11
```

Review Next File

Problems **Output** **Debug Console** **Terminal** **Ports**

```
PS D:\3-2\AIAC> & C:/Users/pashi/AppData/Local/Microsoft/WindowsApps/python3.11.exe d:/3-2/AIAC/
grades.py
B
PS D:\3-2\AIAC>
```

Ctrl+K to generate command

powershell
Python

I have a Python grading program, but it assigns wrong grades due to incorrect conditional logic.

Buggy Code:
marks = 85
if marks >= 90:
    grade = "A"
elif marks >= 80:
    grade = "C"
else:
    grade = "B"
print(grade)

Analyze the logic, find the mistake, and correct the conditions so that proper grades are assigned.

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⊡ Local ∨   Shift Tab to plan

Cursor Tab   Ln 11, Col 1   Spaces: 4   UTF-8   CRLF   Python