

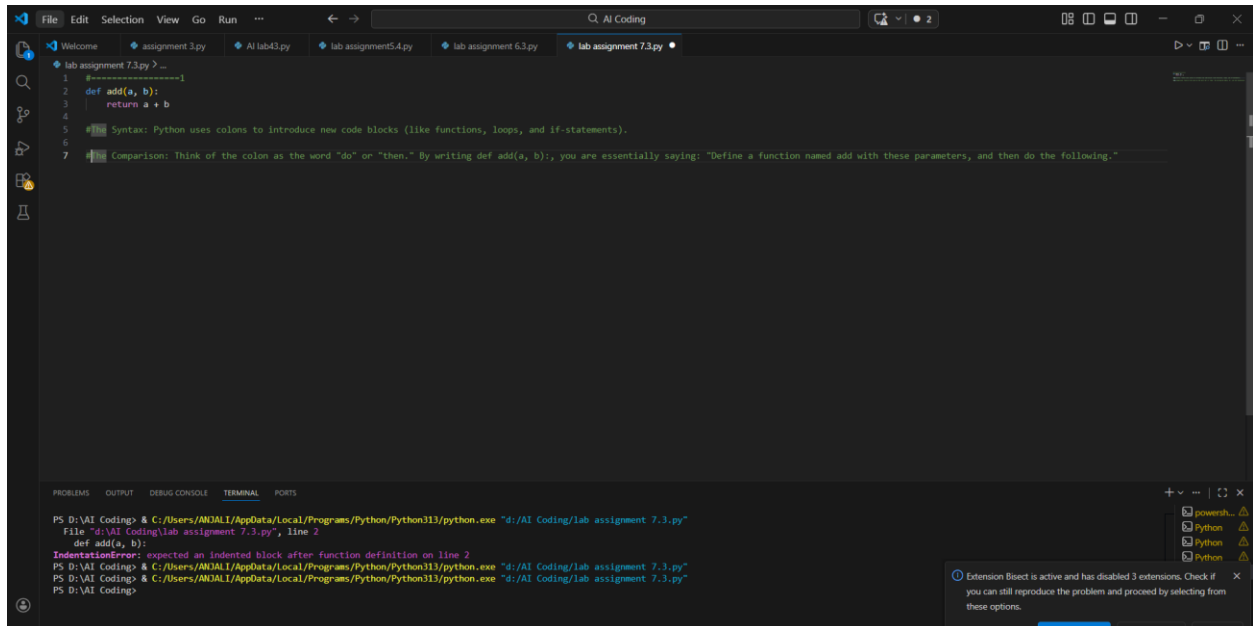
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Lab assignment – 7.3

Task 1: Fixing Syntax Errors

Scenario

You are reviewing a Python program where a basic function definition contains a syntax error.



```
1 #=====
2 def add(a, b):
3     return a + b
4
5 # Syntax: Python uses colons to introduce new code blocks (like functions, loops, and if-statements).
6
7 # Comparison: Think of the colon as the word "do" or "then." By writing def add(a, b):, you are essentially saying: "Define a function named add with these parameters, and then do the following."
```

PS D:\AI Coding> & C:/Users/ANDALI/AppData/Local/Programs/Python/Python313/python.exe "d:/AI Coding/lab assignment 7.3.py"

File "d:\AI Coding\lab assignment 7.3.py", line 2

def add(a, b):

IndentationError: expected an indented block after function definition on line 2

PS D:\AI Coding> & C:/Users/ANDALI/AppData/Local/Programs/Python/Python313/python.exe "d:/AI Coding/lab assignment 7.3.py"

PS D:\AI Coding> & C:/Users/ANDALI/AppData/Local/Programs/Python/Python313/python.exe "d:/AI Coding/lab assignment 7.3.py"

PS D:\AI Coding>

Extension Bisect is active and has disabled 3 extensions. Check if you can still reproduce the problem and proceed by selecting from these options.

Task 2: Debugging Logic Errors in Loops

Scenario

You are debugging a loop that runs infinitely due to a logical mistake.

```
File Edit Selection View Go Run ...
lab assignment 7.3.py > ...
1 #-----2
2 i = 1
3 while i <= 5:
4     print(i)
5     # i += 1 # This increments i by 1 each time the loop runs
6 #Start: i is 1.
7
8 #Check: Is i <= 5? Yes.
9
10 #Action: Print i.
11
12 #The Loopback: Without i += 1, the code jumps back to the Check step. Since i is still 1, it enters a "Groundhog Day" scenario where it prints 1 forever.
13
14 #By adding i += 1, you ensure that i reaches 2, then 3, then 4, then 5. Once it hits 6, the condition i <= 5 becomes False, the gate closes, and the loop finishes.
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

File "d:\AI Coding\lab assignment 7.3.py", line 2
def add(a, b):
IndentationError: expected an indented block after function definition on line 2

PS D:\AI Coding> & C:/Users/MJALI/AppData/Local/Programs/Python/Python313/python.exe "d:/AI Coding/lab assignment 7.3.py"

PS D:\AI Coding> & C:/Users/MJALI/AppData/Local/Programs/Python/Python313/python.exe "d:/AI Coding/lab assignment 7.3.py"

PS D:\AI Coding> & C:/Users/MJALI/AppData/Local/Programs/Python/Python313/python.exe "d:/AI Coding/lab assignment 7.3.py"

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PS D:\AI Coding>

Extension Bisect is active and has disabled 3 extensions.
you can still reproduce the problem and proceed by selecting these options.

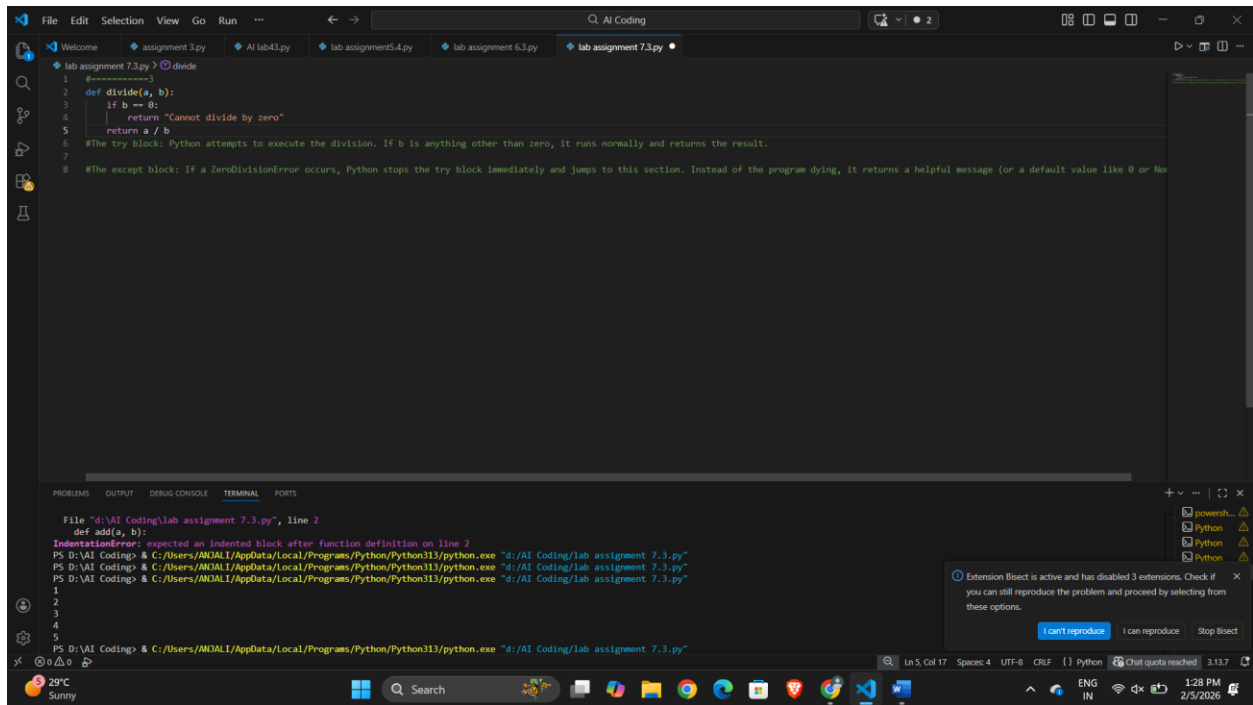
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Task 3: Handling Runtime Errors (Division by Zero)

Scenario

A Python function crashes during execution due to a division by zero error.



```
File Edit Selection View Go Run ...
lab assignment 7.3.py > divide
1 #-----
2 def divide(a, b):
3     if b == 0:
4         return "Cannot divide by zero"
5     return a / b
6 #The try block: Python attempts to execute the division. If b is anything other than zero, it runs normally and returns the result.
7
8 #The except block: If a ZeroDivisionError occurs, Python stops the try block immediately and jumps to this section. Instead of the program dying, it returns a helpful message (or a default value like 0 or No
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

File "d:\AI Coding\lab assignment 7.3.py", line 2
def add(a, b):
IndentationError: expected an indented block after function definition on line 2

PS D:\AI Coding> & C:/Users/ANJALI/AppData/Local/Programs/Python/Python311/python.exe "d:/AI Coding/lab assignment 7.3.py"

PS D:\AI Coding> & C:/Users/ANJALI/AppData/Local/Programs/Python/Python311/python.exe "d:/AI Coding/lab assignment 7.3.py"

1
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PS D:\AI Coding> & C:/Users/ANJALI/AppData/Local/Programs/Python/Python311/python.exe "d:/AI Coding/lab assignment 7.3.py"

Extension Bisect is active and has disabled 3 extensions. Check if you can still reproduce the problem and proceed by selecting from these options.

I can't reproduce I can reproduce Stop Bisect

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Search

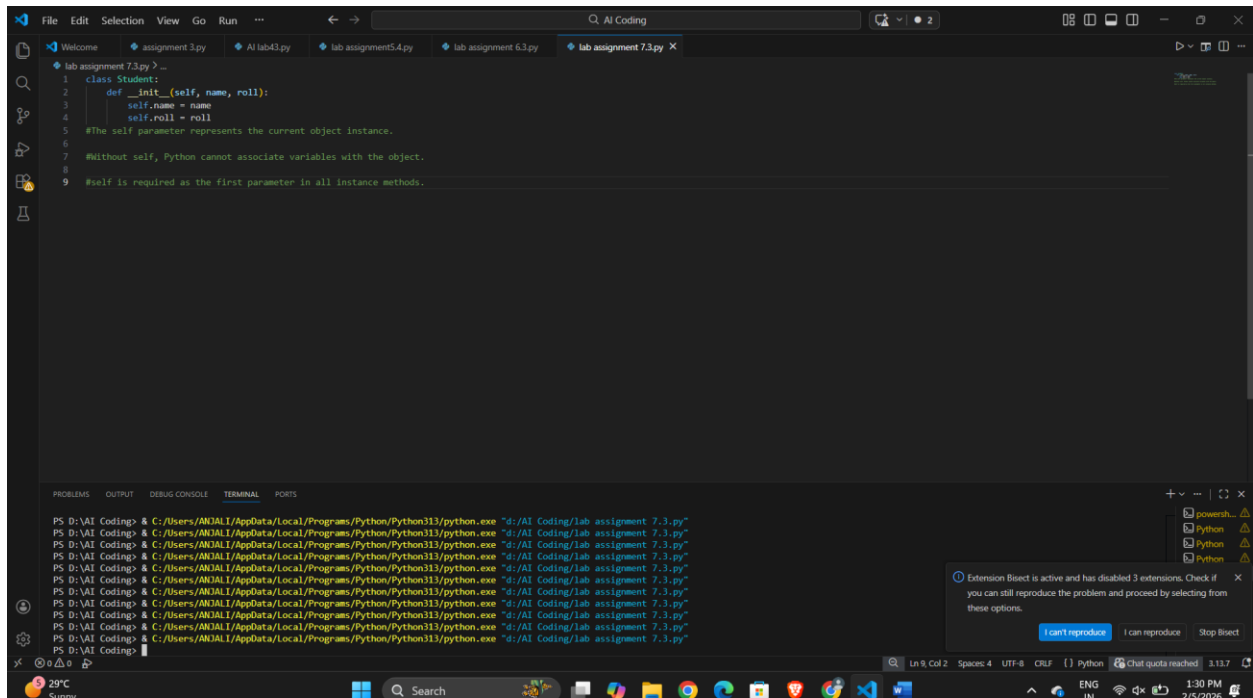
ln 5, Col 17 Spaces 4 UTF-8 CRLF Python Chat quota reached 3,137

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Task 4: Debugging Class Definition Errors

Scenario

You are given a faulty Python class where the constructor is incorrectly defined.



Scenario

A program crashes when accessing an invalid index in a list.

The screenshot shows a Visual Studio Code editor window with a file explorer on the left displaying several files named "lab assignment X.py". The main editor area contains a Python script:

```
1 numbers = [10, 20, 30]
2
3 index = 5
4 if index < len(numbers):
5     print(numbers[index])
6 else:
7     print("Index out of range")
8
9
10 #The list has only 3 elements, so index 5 is invalid.
11
12 #Accessing an invalid index raises an IndexError.
13
14 #Bounds checking or exception handling prevents crashes and improves robustness.
```

The bottom panel shows the TERMINAL tab with multiple instances of the command prompt running the script:

```
P5 D:\AI Coding> C:\Users\MDALI\AppData\Local\Programs\Python\Python313\python.exe "d:/AI Coding/lab assignment 7.3.py"
P5 D:\AI Coding> C:\Users\MDALI\AppData\Local\Programs\Python\Python313\python.exe "d:/AI Coding/lab assignment 7.3.py"
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P5 D:\AI Coding> C:\Users\MDALI\AppData\Local\Programs\Python\Python313\python.exe "d:/AI Coding/lab assignment 7.3.py"
```

A notification bubble from the Extension Bisect tool is visible in the bottom right corner, stating: "Extension Bisect is active and has disabled 3 extensions. Check if you can still reproduce the problem and proceed by selecting from these options." It includes buttons for "I can't reproduce", "I can reproduce", and "Stop bisecting".