

AI ASSISTED CODING LAB - 7.5

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BATCH-12

Task 1 (Mutable Default Argument – Function Bug)

Task: Analyze given code where a mutable default argument causes unexpected behavior. Use AI to fix it. # Bug: Mutable default argument

```
def add_item(item, items=[]):  
    items.append(item)  
    return items  
print(add_item(1))  
print(add_item(2))
```

Expected Output: Corrected function avoids shared list bug.



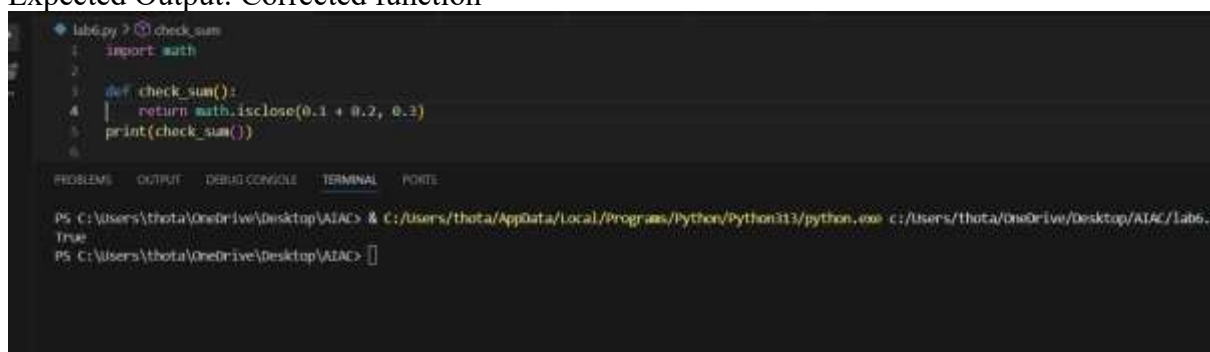
```
lab6.py > ...  
1 def add_item(item, items=[]):  
2     items.append(item)  
3     return items  
4 print(add_item(1))  
5 print(add_item(2))  
  
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS  
1  
PS C:\Users\thota\OneDrive\Desktop\AIAC> & C:\Users\thota\AppData\Local\Programs\Python\Python313\python.exe c:/Users/thota/OneDrive/Desktop/AIAC/lab6.py  
[1]  
[1, 2]  
PS C:\Users\thota\OneDrive\Desktop\AIAC>
```

Task 2 (Floating-Point Precision Error)

Task: Analyze given code where floating-point comparison fails. Use AI to correct with tolerance. # Bug: Floating point precision issue

```
def check_sum():  
    return (0.1 + 0.2)
```

Expected Output: Corrected function



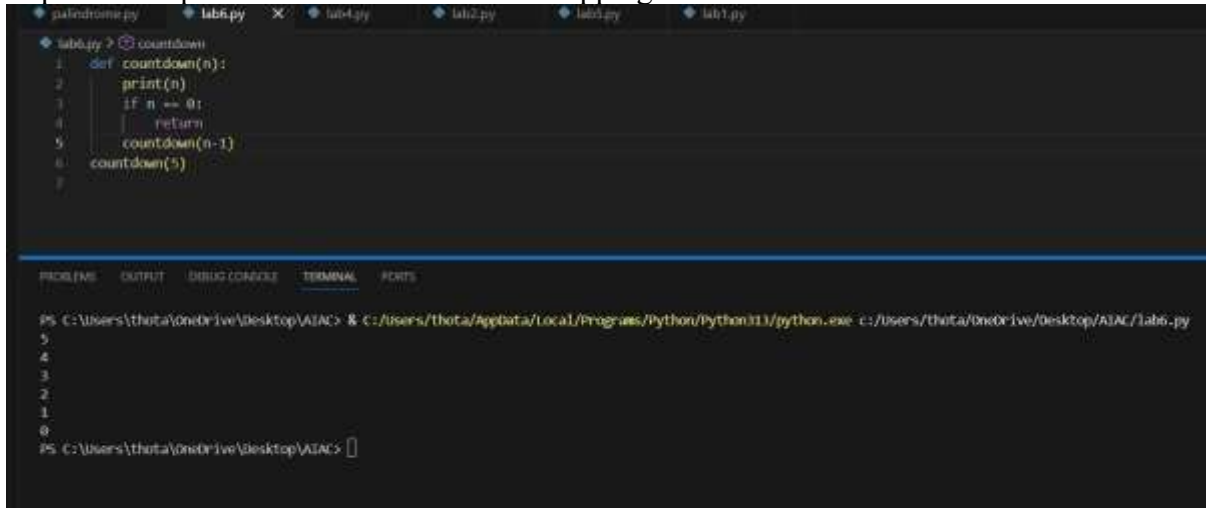
```
lab6.py > check_sum  
1 import math  
2  
3 def check_sum():  
4     return math.isclose(0.1 + 0.2, 0.3)  
5 print(check_sum())  
6  
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS  
PS C:\Users\thota\OneDrive\Desktop\AIAC> & C:\Users\thota\AppData\Local\Programs\Python\Python313\python.exe c:/Users/thota/OneDrive/Desktop/AIAC/lab6.py  
True  
PS C:\Users\thota\OneDrive\Desktop\AIAC>
```

Task 3 (Recursion Error – Missing Base Case)

Task: Analyze given code where recursion runs infinitely due to missing base case. Use AI to fix. # Bug: No base case

```
def countdown(n):  
    print(n)  
    return countdown(n-1)  
countdown(5)
```

Expected Output : Correct recursion with stopping condition



The screenshot shows a code editor with a file named `lab6.py`. The code defines a `countdown` function with a base case. The terminal output shows the function being called with `countdown(5)`, resulting in the numbers 5, 4, 3, 2, 1, and 0 being printed in sequence.

```
lab6.py > def countdown(n):  
1:     print(n)  
2:     if n <= 0:  
3:         return  
4:     return countdown(n-1)  
5:     countdown(5)  
6:  
7:  
  
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS  
  
PS C:\Users\thota\OneDrive\Desktop\AIAC> & c:\Users\thota\AppData\Local\Programs\Python\Python111\python.exe c:/Users/thota/OneDrive/Desktop/AIAC/lab6.py  
5  
4  
3  
2  
1  
0  
PS C:\Users\thota\OneDrive\Desktop\AIAC>
```

Task 4 (Dictionary Key Error)

Task: Analyze given code where a missing dictionary key causes error. Use AI to fix it.

Bug: Accessing non-existing key

```
def get_value():  
    data = {"a": 1, "b": 2}  
    return data["c"]  
print(get_value())
```

Expected Output: Corrected with `.get()` or error handling.



The screenshot shows a code editor with a file named `lab6.py`. The code defines a `get_value` function that uses the `.get()` method to safely access a dictionary key. The terminal output shows the function being called, resulting in the string "Key not found" being printed.

```
lab6.py > def get_value():  
1:     data = {"a": 1, "b": 2}  
2:     return data.get("c", "Key not found")  
3:     print(get_value())  
4:  
5:  
  
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS  
  
PS C:\Users\thota\OneDrive\Desktop\AIAC> & c:\Users\thota\AppData\Local\Programs\Python\Python111\python.exe c:/Users/thota/OneDrive/Desktop/AIAC/lab6.py  
Key not found  
PS C:\Users\thota\OneDrive\Desktop\AIAC>
```

Task 5 (Infinite Loop – Wrong Condition)

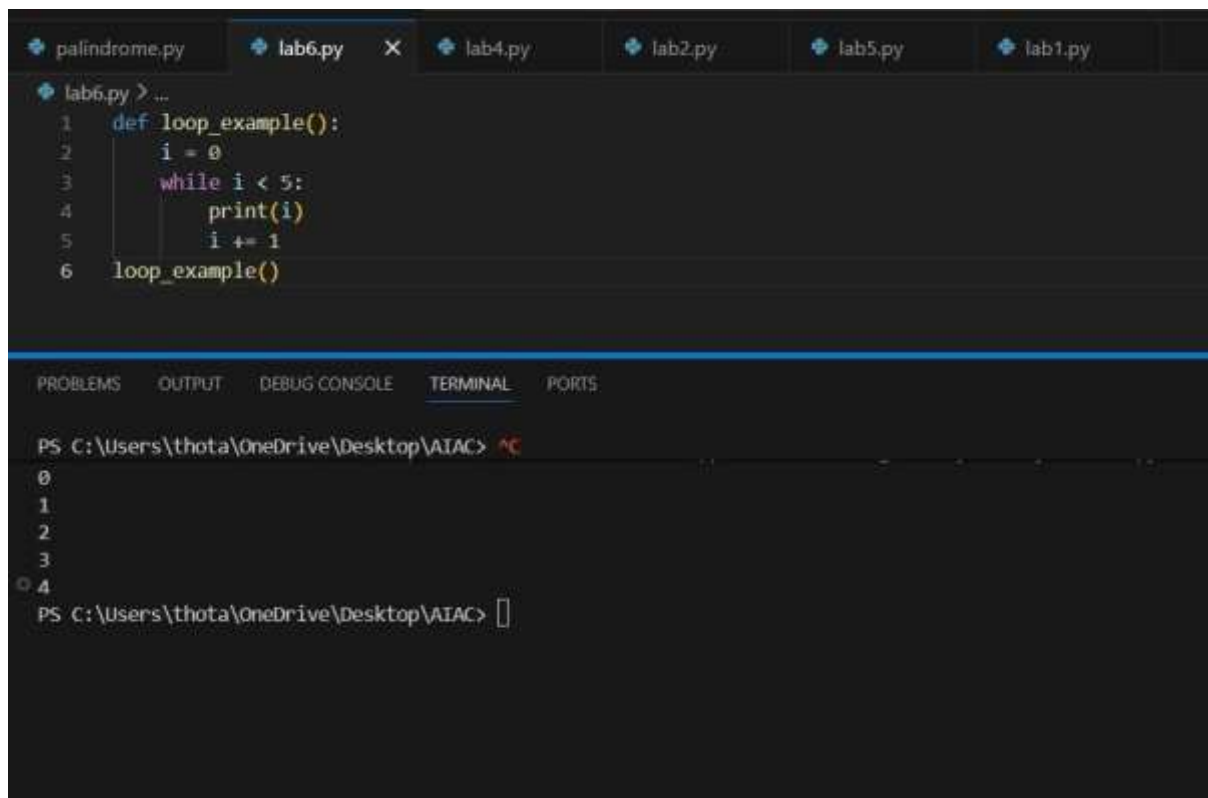
Task: Analyze given code where loop never ends. Use AI to detect and fix it.

Bug: Infinite loop

```
def loop_example():  
    i = 0  
    while i < 5:
```

```
        print(i)
```

Expected Output: Corrected loop increments `i`.



The screenshot shows a Python IDE with several tabs: `palindrome.py`, `lab6.py` (active), `lab4.py`, `lab2.py`, `lab5.py`, and `lab1.py`. The `lab6.py` tab contains the following code:

```
1 def loop_example():
2     i = 0
3     while i < 5:
4         print(i)
5         i += 1
6 loop_example()
```

The bottom panel shows the `TERMINAL` tab with the following output:

```
PS C:\Users\thota\OneDrive\Desktop\AIAC> ^C
0
1
2
3
4
PS C:\Users\thota\OneDrive\Desktop\AIAC> 
```

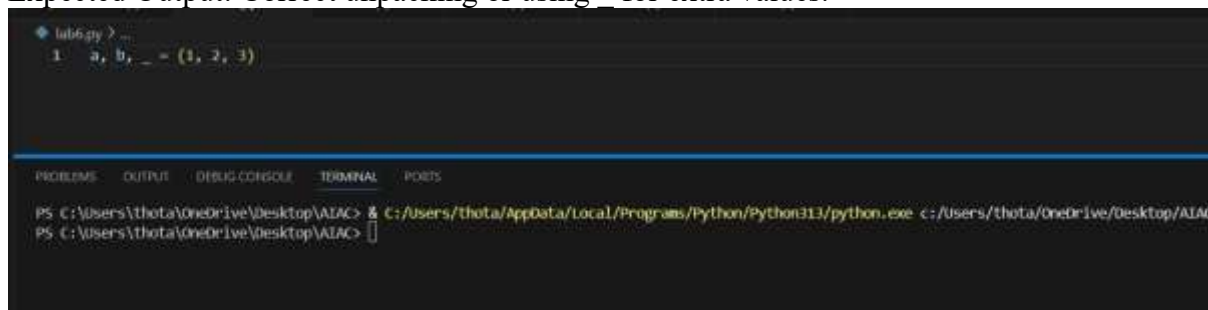
Task 6 (Unpacking Error – Wrong Variables)

Task: Analyze given code where tuple unpacking fails. Use AI to fix it.

Bug: Wrong unpacking

`a, b = (1, 2, 3)`

Expected Output: Correct unpacking or using `_` for extra values.



The screenshot shows a Python IDE with the `lab6.py` tab active. The code in the editor is:

```
1 a, b, _ = (1, 2, 3)
```

The bottom panel shows the `TERMINAL` tab with the following output:

```
PS C:\Users\thota\OneDrive\Desktop\AIAC> & C:/Users/thota/AppData/Local/Programs/Python/Python313/python.exe c:/Users/thota/OneDrive/Desktop/AIAC
PS C:\Users\thota\OneDrive\Desktop\AIAC> 
```

Task 7 (Mixed Indentation – Tabs vs Spaces)

Task: Analyze given code where mixed indentation breaks execution. Use AI to fix it. # Bug: Mixed indentation `def func(): x = 5 y = 10 return x+y`

Expected Output : Consistent indentation applied.

```
lab6.py ? _
1 def func():
2     x = 5
3     y = 10
4     return x*y
5 print(func())

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\thota\OneDrive\Desktop\AIAC> & C:\Users\thota\AppData\Local\Programs\Python\Python311\python.exe c:\Users\thota\OneDrive\Desktop\AIAC\lab6.py
PS C:\Users\thota\OneDrive\Desktop\AIAC> & C:\Users\thota\AppData\Local\Programs\Python\Python311\python.exe c:\Users\thota\OneDrive\Desktop\AIAC\lab6.py
15
PS C:\Users\thota\OneDrive\Desktop\AIAC> 
```

Task 8 (Import Error – Wrong Module Usage)

Task: Analyze given code with incorrect import. Use AI to fix.

Bug: Wrong import import maths
print(maths.sqrt(16)) Expected Output:
Corrected to import math

```
lab6.py
1 import math
2 print(math.sqrt(16))

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\thota\OneDrive\Desktop\AIAC> & C:\Users\thota\AppData\Local\Programs\Python\Python311\python.exe c:\Users\thota\OneDrive\Desktop\AIAC\lab6.py
PS C:\Users\thota\OneDrive\Desktop\AIAC> 
PS C:\Users\thota\OneDrive\Desktop\AIAC> & C:\Users\thota\AppData\Local\Programs\Python\Python311\python.exe c:\Users\thota\OneDrive\Desktop\AIAC\lab6.py
4.0
PS C:\Users\thota\OneDrive\Desktop\AIAC> 
```