

# AI ASSISTED CODING

## LAB - 7.5

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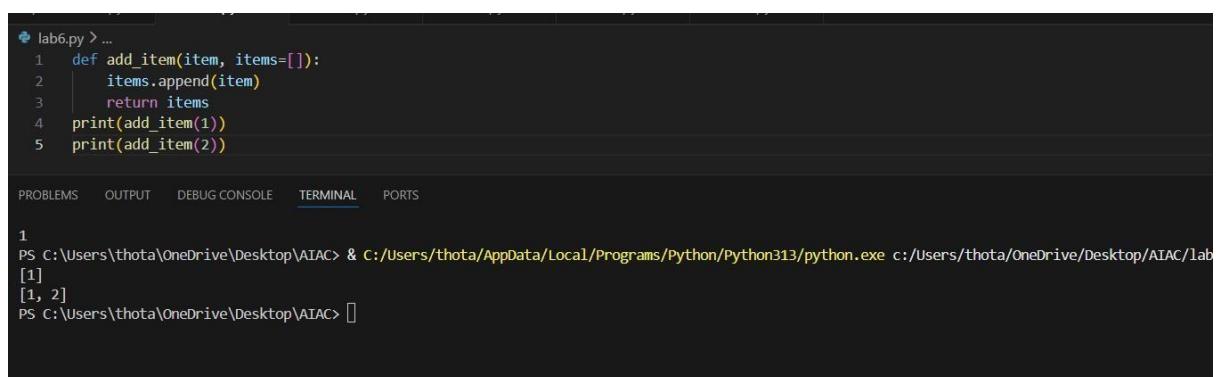
BATCH-12

### 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.



The screenshot shows a terminal window with the following content:

```
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/lab  
[1]  
[1, 2]  
PS C:\Users\thota\OneDrive\Desktop\AIAC>
```

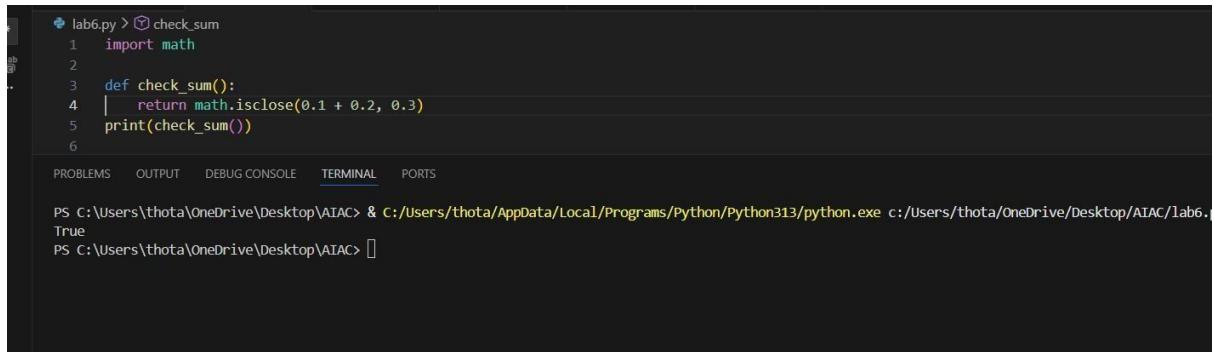
## Task 2 (Floating-Point Precision Error)

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)  
== 0.3 print(check_sum())
```

Expected Output: Corrected function



The screenshot shows a terminal window with the following content:

```
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

```
palindrome.py lab6.py lab4.py lab2.py lab5.py lab1.py
lab6.py > countdown
1 def countdown(n):
2     print(n)
3     if n == 0:
4         return
5     countdown(n-1)
6 countdown(5)
7

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
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.

```
palindrome.py lab6.py lab4.py lab2.py lab5.py lab1.py
lab6.py > ...
1 def get_value():
2     data = {"a": 1, "b": 2}
3     return data.get("c", "Key not found")
4 print(get_value())
5

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\Users\thota\OneDrive\Desktop\AIAC> ^C
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
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 code editor interface with several tabs at the top: palindrome.py, lab6.py (which is the active tab), lab4.py, lab2.py, lab5.py, and lab1.py. Below the tabs is a code editor pane containing the following Python code:

```
lab6.py > ...
1  def loop_example():
2      i = 0
3      while i < 5:
4          print(i)
5          i += 1
6  loop_example()
```

Below the code editor is a terminal window with the following output:

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

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.

A screenshot of a terminal window from a code editor. The terminal tab is selected at the bottom. The code in the editor is:

```
lab6.py > ...
1   a, b, _ = (1, 2, 3)
```

The terminal output shows the command run and its result:

```
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.

A screenshot of a terminal window from a code editor. The terminal tab is selected at the bottom. The code in the editor is:

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

The terminal output shows the command run and its result:

```
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
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
15
PS C:\Users\thota\OneDrive\Desktop\AIAC> 
```

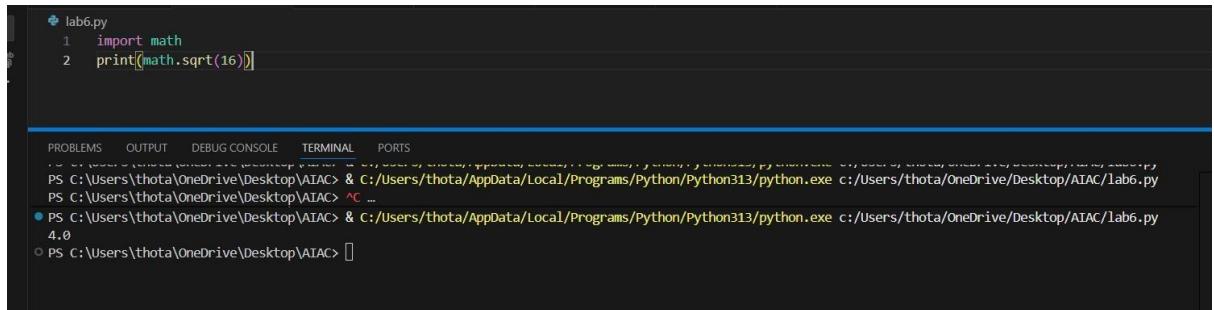
## Task 8 (Import Error – Wrong Module Usage)

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/Python313/python.exe c:/Users/thota/OneDrive/Desktop/AIAC/lab6.py
PS C:\Users\thota\OneDrive\Desktop\AIAC> ^C ...
● 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
4.0
○ PS C:\Users\thota\OneDrive\Desktop\AIAC>
```