

AI ASSISTED CODING

LAB - 7.5

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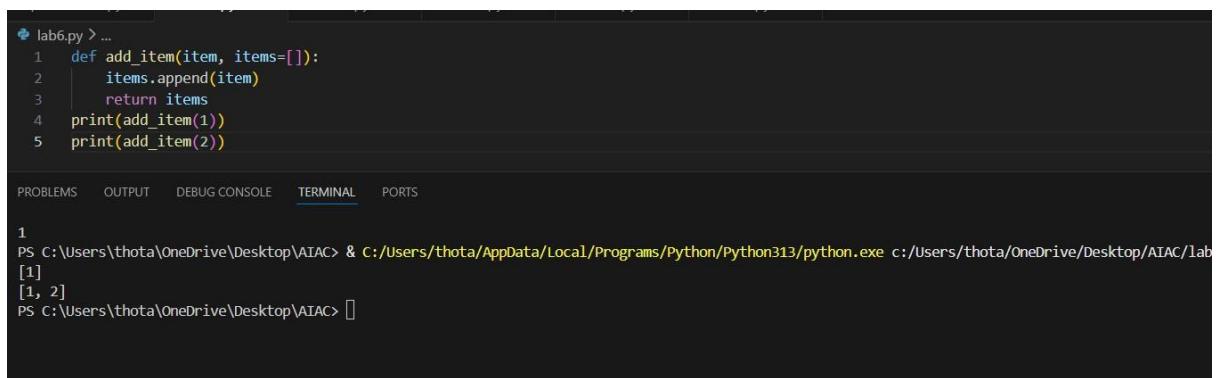
BATCH-12

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

```
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 X 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>
```

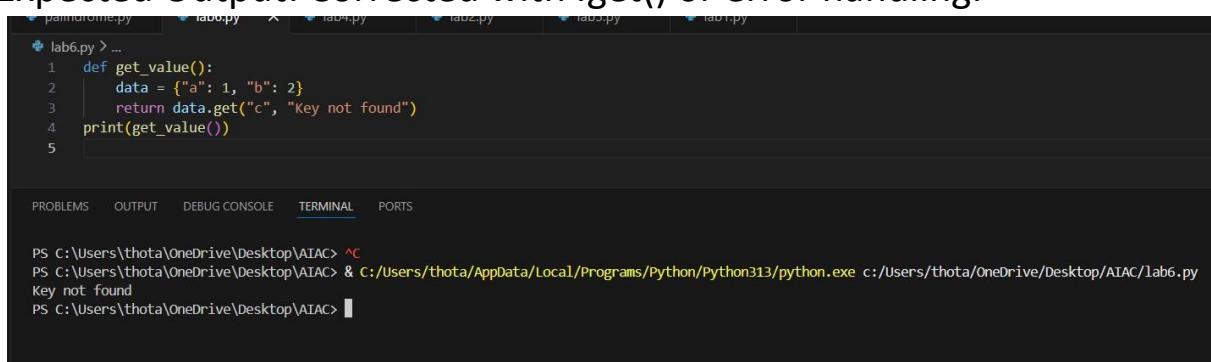
Task 4 (Dictionary Key Error)

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.



The screenshot shows a code editor with several tabs at the top, one of which is 'lab6.py'. The code in the editor is:

```
def get_value():  
    data = {"a": 1, "b": 2}  
    return data.get("c", "Key not found")  
print(get_value())
```

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

```
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 VS Code interface with multiple tabs at the top: palindrome.py, lab6.py (which is active), lab4.py, lab2.py, lab5.py, and lab1.py. The lab6.py tab contains the following Python code:

```
def loop_example():
    i = 0
    while i < 5:
        print(i)
        i += 1
loop_example()
```

Below the editor is a terminal window titled "TERMINAL". It shows the command PS C:\Users\thota\OneDrive\Desktop\AIAC> followed by the output of the script:

```
0
1
2
3
4
```

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 VS Code interface with a terminal window titled "TERMINAL". The terminal shows the command PS C:\Users\thota\OneDrive\Desktop\AIAC> & C:/Users/thota/AppData/Local/Programs/Python/Python313/python.exe c:/Users/thota/OneDrive/Desktop/AIAC and the resulting error message:

```
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
```

x = 5 y =

10 return

x+y

Expected Output : Consistent indentation applied.

The screenshot shows a terminal window with the following content:

```
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/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

The screenshot shows a terminal window with the following content:

```
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>
```

