AI ASSISTED CODING

LAB - 7.5

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BATCH-12

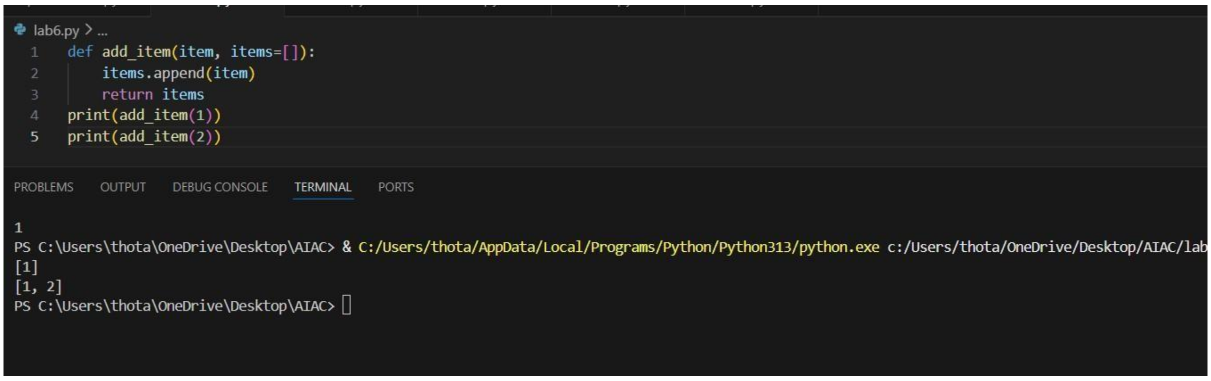
Task 1 (Mutable Default Argument – Function Bug)

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.



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

```
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>
```

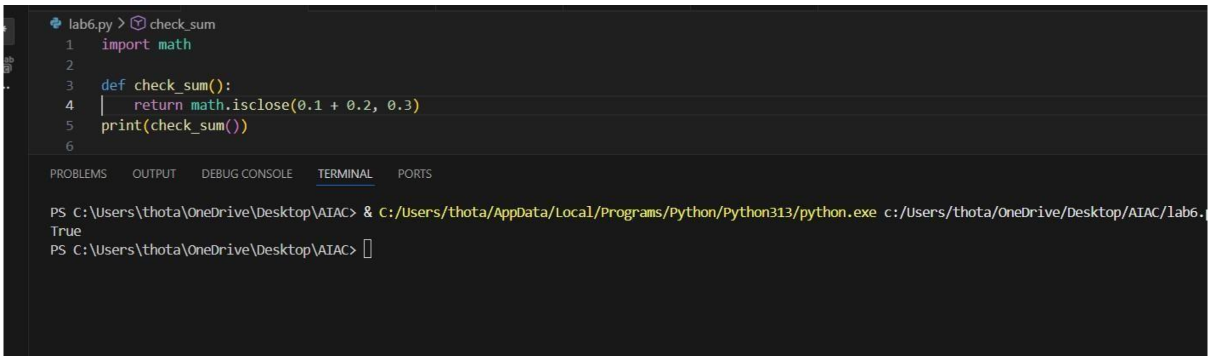
Task 2 (Floating-Point Precision Error)

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

```python
import math

def check_sum():
    return math.isclose(0.1 + 0.2, 0.3)
print(check_sum())
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

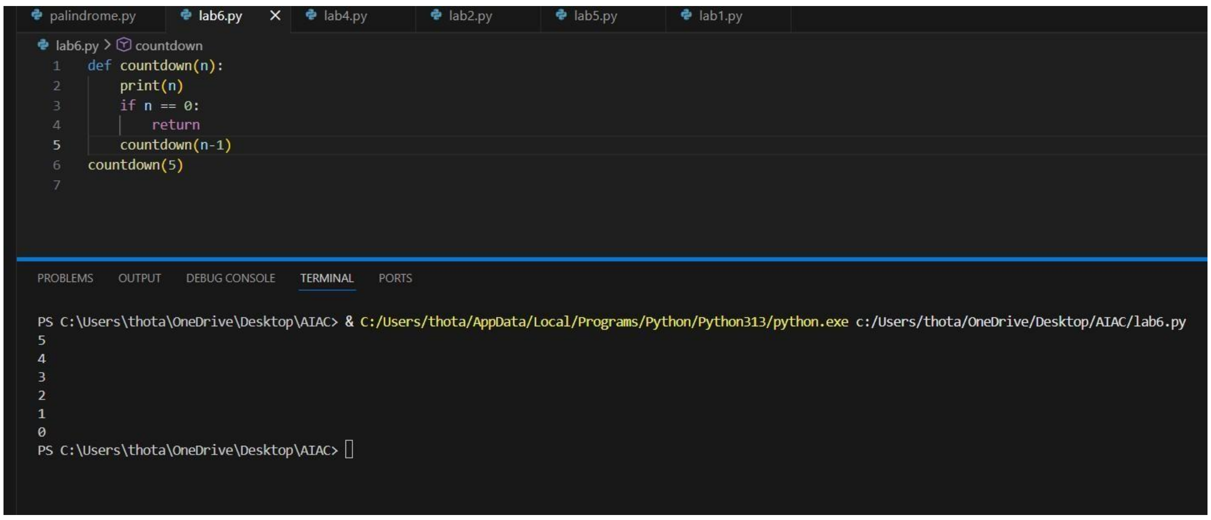
```
PS C:\Users\thota\OneDrive\Desktop\AIAC> & C:/Users/thota/AppData/Local/Programs/Python/Python313/python.exe c:/Users/thota/OneDrive/Desktop/AIAC/lab6.
True
PS C:\Users\thota\OneDrive\Desktop\AIAC> 
```

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

```python
def countdown(n):
    print(n)
    if n == 0:
        return
    countdown(n-1)
countdown(5)
```

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.

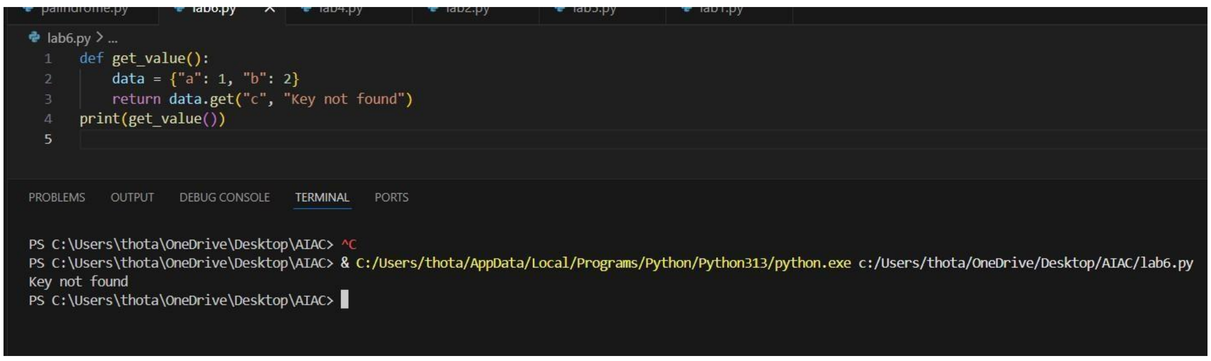
# Bug: Accessing non-existing key

def get_value(): data = {"a": 1, "b":

2} return data["c"]

print(get_value())

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



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

```
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)

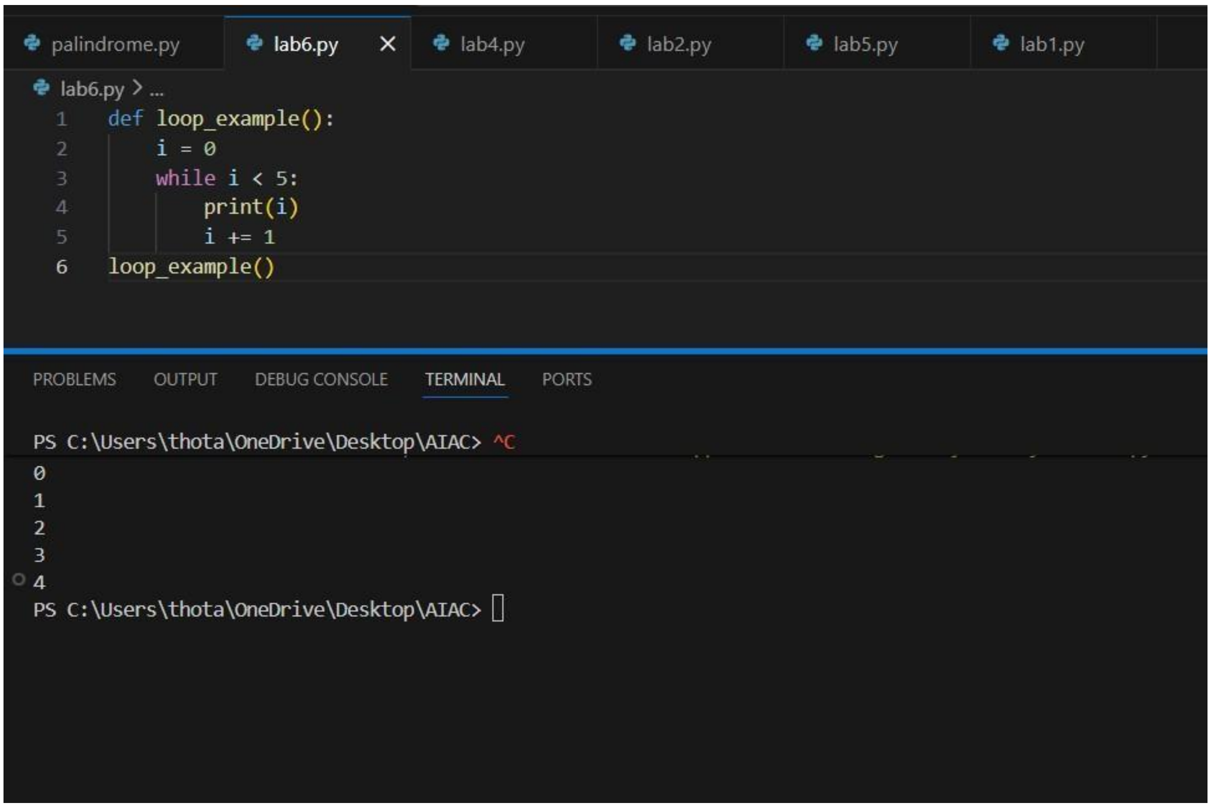
Task: Analyze given code where loop never ends. Use AI to detect and fix it.

# Bug: Infinite loop def loop_example():

i = 0 while

i < 5: print(i)

Expected Output: Corrected loop increments i.



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

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

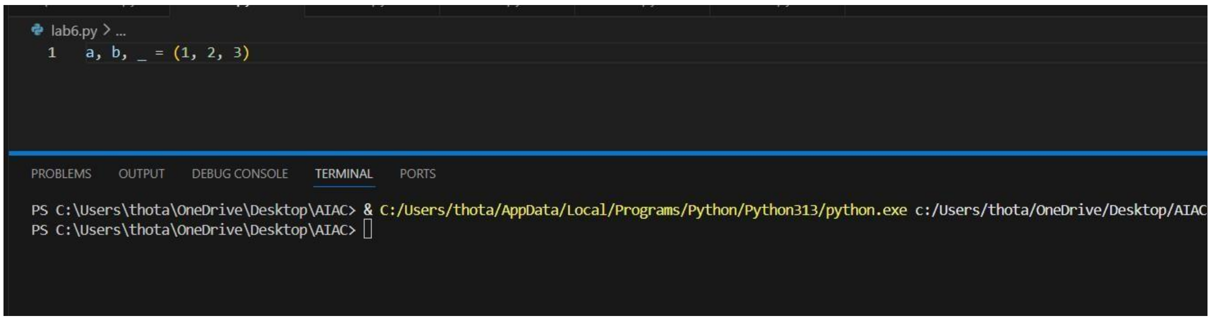
Task 6 (Unpacking Error – Wrong Variables)

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.



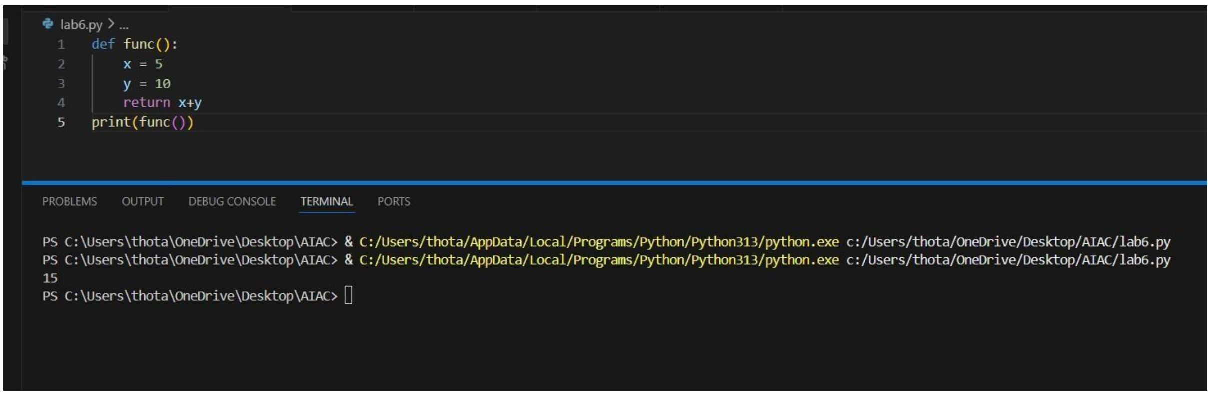
```
a, b, _ = (1, 2, 3)
```

```
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.



```python
def func():
    x = 5
    y = 10
    return x+y
print(func())
```

```
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)

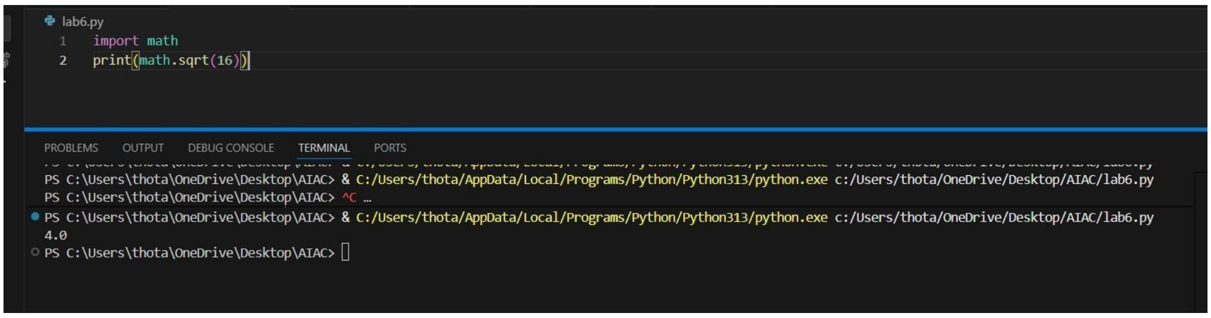
Task: Analyze given code with incorrect import. Use AI to fix.

# Bug: Wrong import import

maths print(maths.sqrt(16))

Expected Output: Corrected to

import math



```python
import math
print(math.sqrt(16))
```

```
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> 
```