AI ASSISTED CODING

LAB-7.5

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Batch-11

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.

Given Code and Output:

```
1   # Bug: Mutable default argument
2   def add_item(item, items=[]):
3       items.append(item)
4       return items
5   print(add_item(1))
6   print(add_item(2))
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL
PS C:\Users\katta\OneDrive\Desktop\AIAC> &
[1]
[1, 2]
PS C:\Users\katta\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

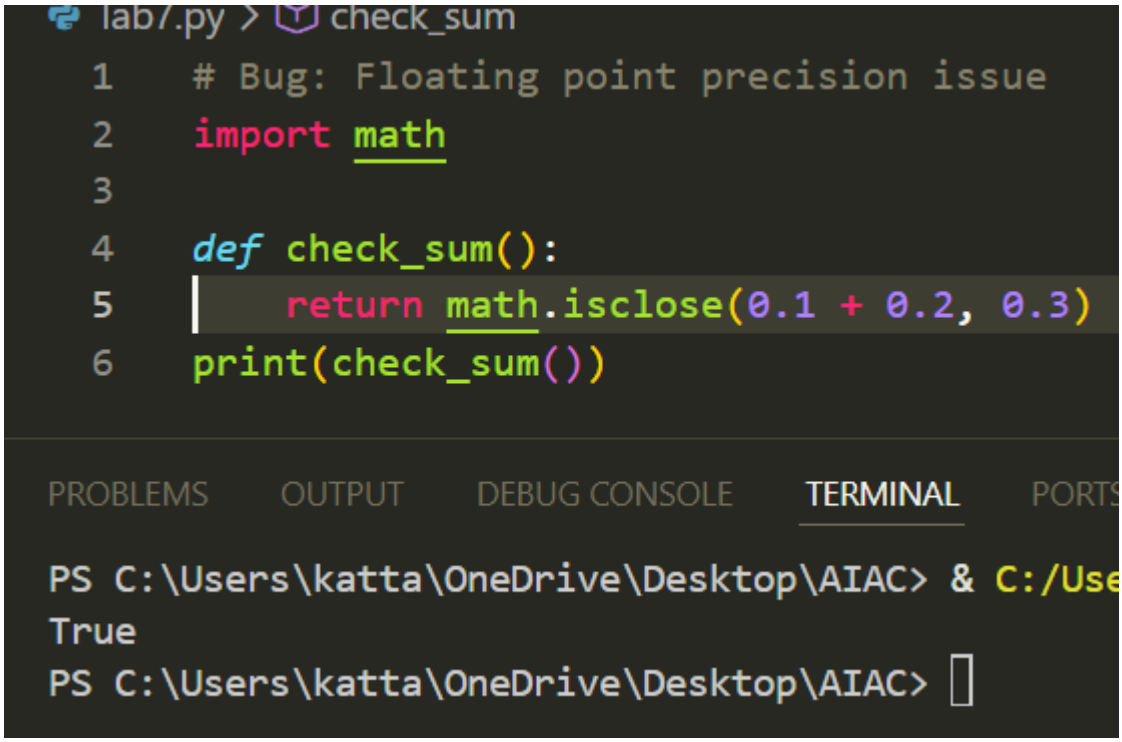
def check_sum():

return (0.1 + 0.2) == 0.3

print(check_sum())

Expected Output: Corrected function

Given Code and Output:



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):

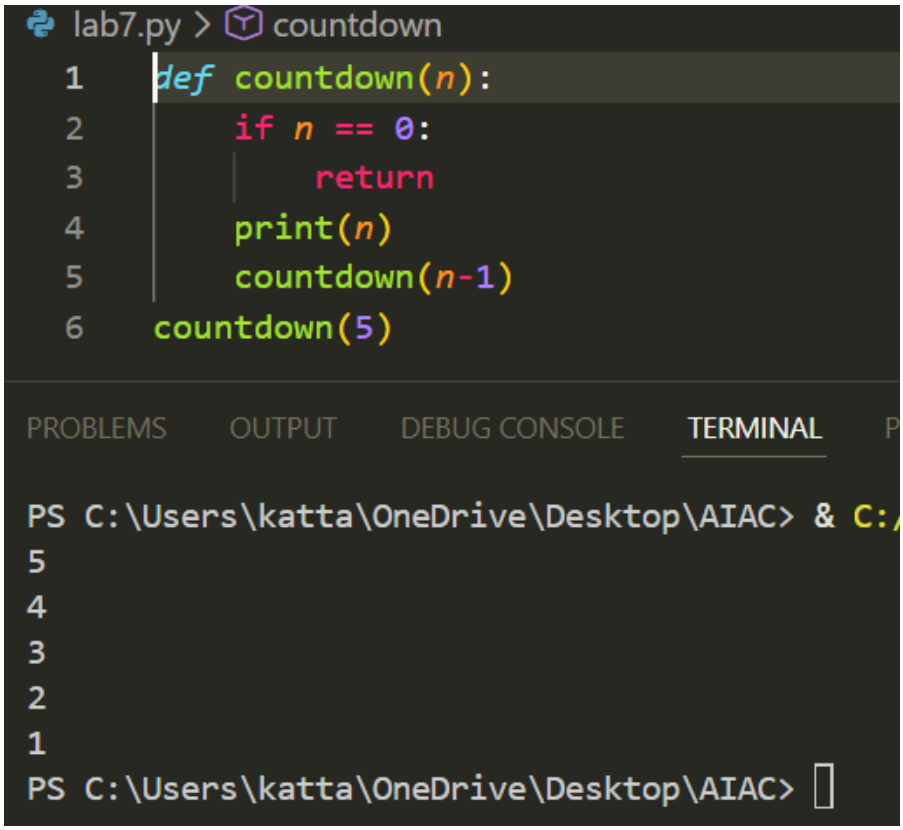
print(n)

return countdown(n-1)

countdown(5)

Expected Output : Correct recursion with stopping condition.

Given Code and Output:



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():

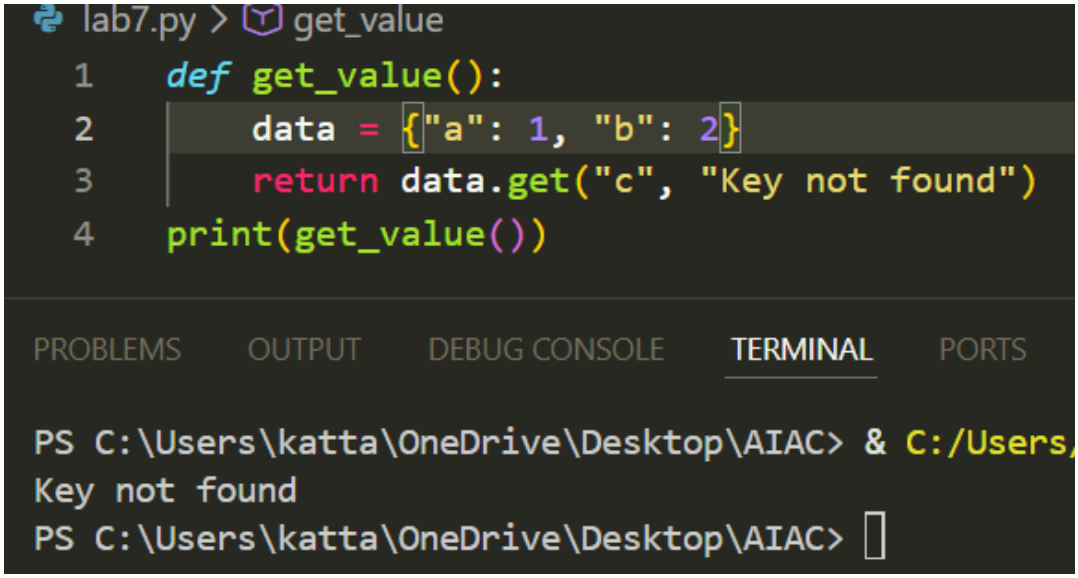
data = {"a": 1, "b": 2}

return data["c"]

print(get_value())

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

Given Code and output:



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.

Given Code and Output:

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

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL

PS C:\Users\katta\OneDrive\Desktop\AIAC> & C:
0
1
2
3
4
PS C:\Users\katta\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.

Given Code:

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

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():

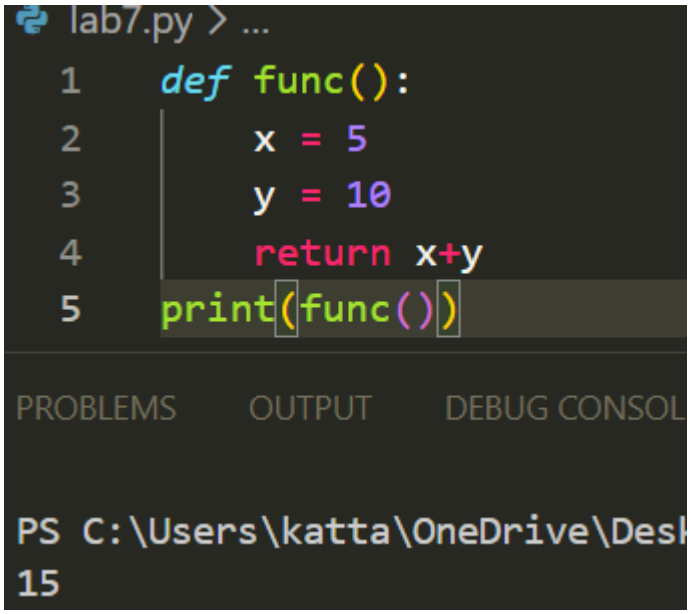
x = 5

y = 10

return x+y

Expected Output : Consistent indentation applied.

Given Code and Output:



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

Given Code and Output: