Lab Assignment – 7.5

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Batch - 48

Lab 7: Error Debugging with AI: Systematic approaches to finding and fixing bugs

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))
```

Prompt Used :

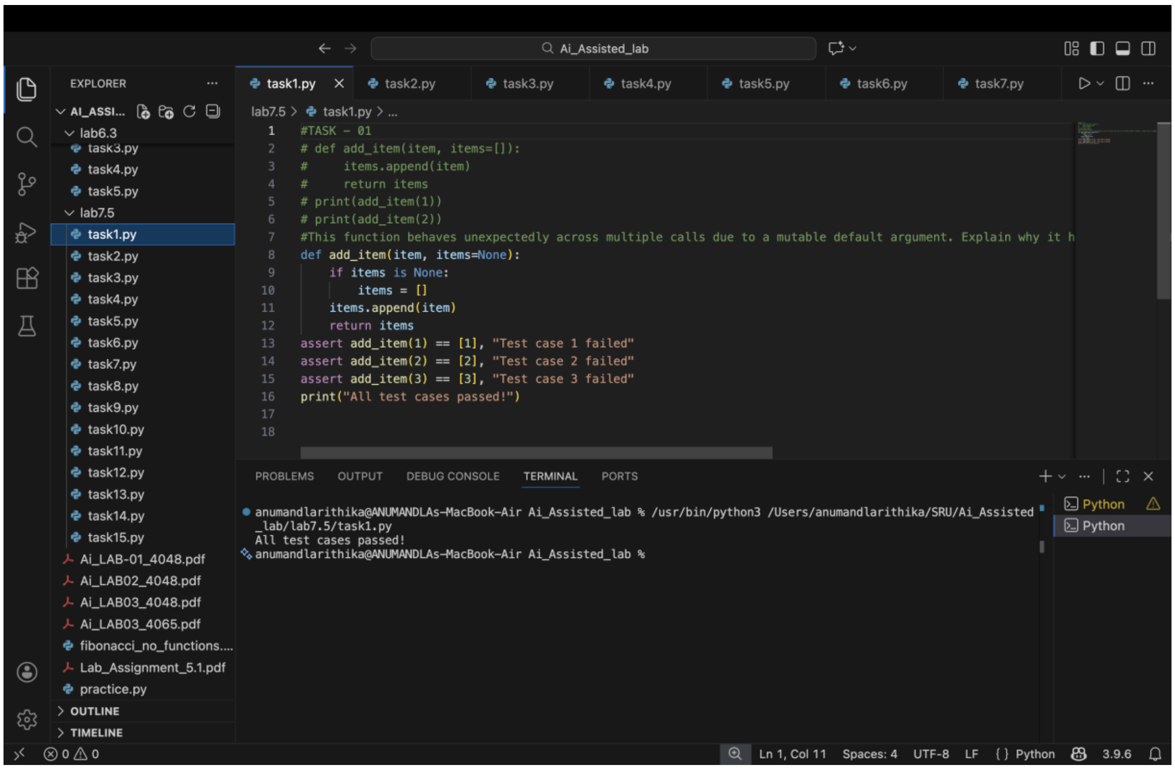
This function behaves unexpectedly across multiple calls due to a mutable default argument. Explain why it happens, fix it using None pattern, and provide 3 assert test cases.

Fixed Code :

```
def add_item(item, items=None):
if items is None:
items = []
items.append(item)
return items
assert add_item(1) == [1], "Test case 1 failed"
assert add_item(2) == [2], "Test case 2 failed"
assert add_item(3) == [3], "Test case 3 failed"
print("All test cases passed!")
```

Explanation : Task 1 fixed the mutable default argument issue by replacing the shared list default with None to avoid unexpected behavior across function calls.

Output :



```python
#TASK - 01
# def add_item(item, items=[]):
#     items.append(item)
#     return items
# print(add_item(1))
# print(add_item(2))
#This function behaves unexpectedly across multiple calls due to a mutable default argument. Explain why it h
def add_item(item, items=None):
    if items is None:
        items = []
    items.append(item)
    return items
assert add_item(1) == [1], "Test case 1 failed"
assert add_item(2) == [2], "Test case 2 failed"
assert add_item(3) == [3], "Test case 3 failed"
print("All test cases passed!")
```

```
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % /usr/bin/python3 /Users/anumandlarithika/SRU/Ai_Assisted
_lab/lab7.5/task1.py
All test cases passed!
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab %
```

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())

Prompt Used :

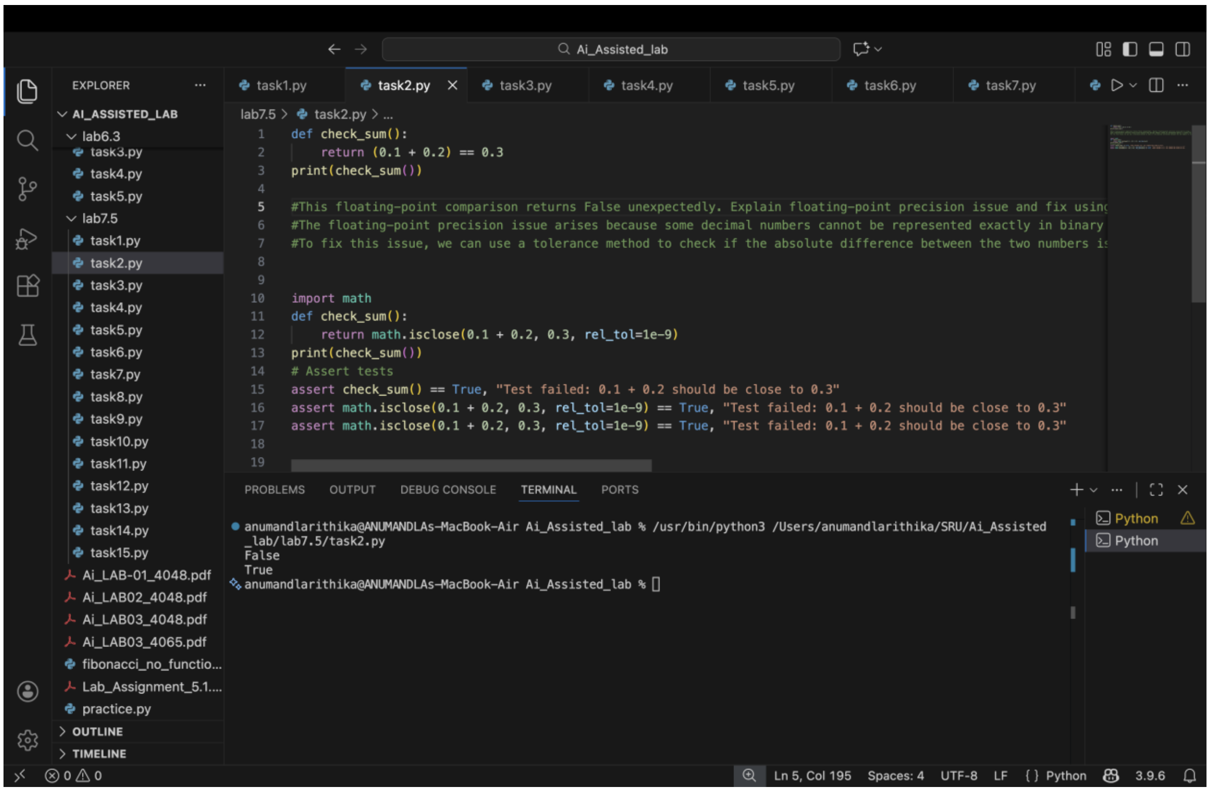
This floating-point comparison returns False unexpectedly. Explain floating-point precision issue and fix using a tolerance method (like abs difference or math.isclose). Provide 3 assert tests.

Fixed Code :

```python
import math
def check_sum():
return math.isclose(0.1 + 0.2, 0.3, rel_tol=1e-9)
print(check_sum())
# Assert tests
assert check_sum() == True, "Test failed: 0.1 + 0.2 should be close to 0.3"
assert math.isclose(0.1 + 0.2, 0.3, rel_tol=1e-9) == True, "Test failed: 0.1 + 0.2 should be close to 0.3"
assert math.isclose(0.1 + 0.2, 0.3, rel_tol=1e-9) == True, "Test failed: 0.1 + 0.2 should be close to 0.3"
```

Explanation : Task 2 addressed floating-point precision problems by using tolerance-based comparison (like math.isclose) instead of direct equality.

Output :



```
def check_sum():
    return (0.1 + 0.2) == 0.3
print(check_sum())

#This floating-point comparison returns False unexpectedly. Explain floating-point precision issue and fix using
#The floating-point precision issue arises because some decimal numbers cannot be represented exactly in binary
#To fix this issue, we can use a tolerance method to check if the absolute difference between the two numbers is


import math
def check_sum():
    return math.isclose(0.1 + 0.2, 0.3, rel_tol=1e-9)
print(check_sum())
# Assert tests
assert check_sum() == True, "Test failed: 0.1 + 0.2 should be close to 0.3"
assert math.isclose(0.1 + 0.2, 0.3, rel_tol=1e-9) == True, "Test failed: 0.1 + 0.2 should be close to 0.3"
assert math.isclose(0.1 + 0.2, 0.3, rel_tol=1e-9) == True, "Test failed: 0.1 + 0.2 should be close to 0.3"
```

```
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % /usr/bin/python3 /Users/anumandlarithika/SRU/Ai_Assisted
_lab/lab7.5/task2.py
False
True
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab %
```

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)
```

Prompt Used :

This recursion runs infinitely. Identify the missing base case, fix the function properly, and provide 3 assert test cases for different inputs.

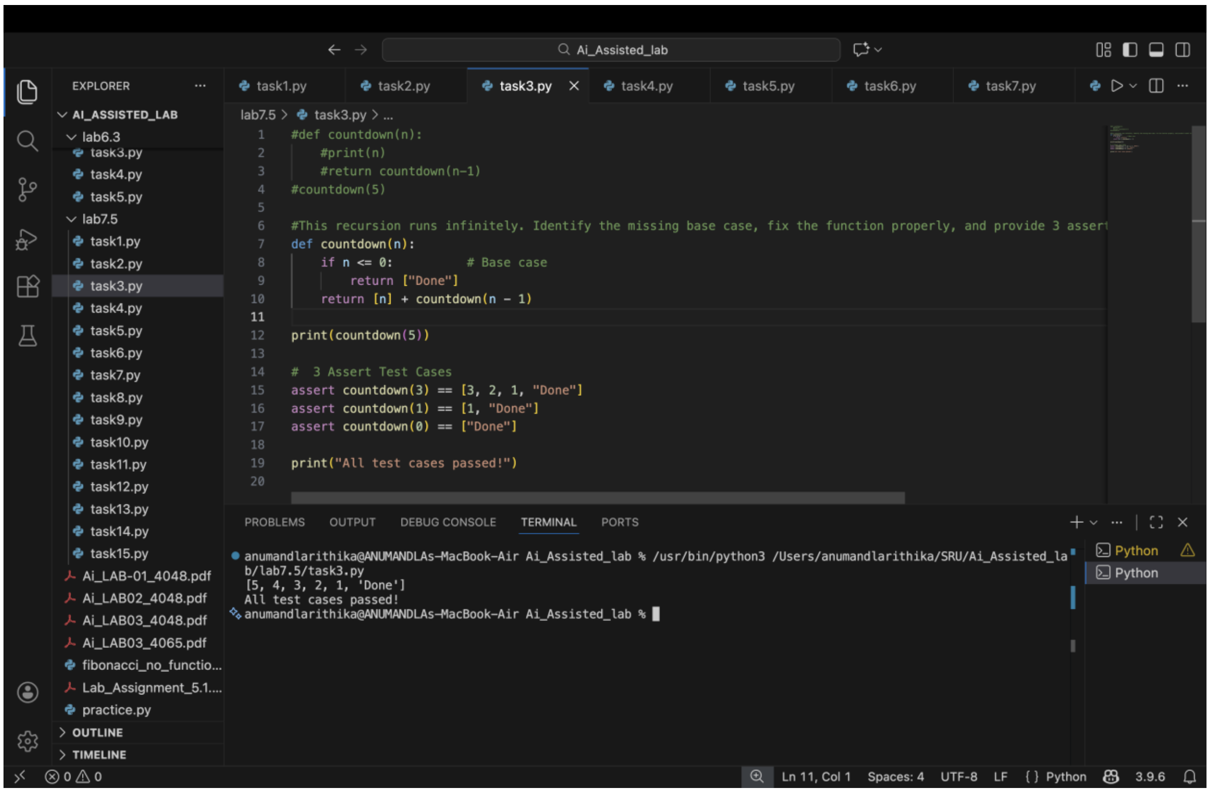
Fixed Code :

```
def countdown(n):
if n <= 0: # Base case
return ["Done"]
return [n] + countdown(n - 1)


print(countdown(5))


# 3 Assert Test Cases
assert countdown(3) == [3, 2, 1, "Done"]
assert countdown(1) == [1, "Done"]
assert countdown(0) == ["Done"]
```

```
print("All test cases passed!")
```

Explanation : Task 3 resolved a recursion error by adding a proper base case to stop infinite recursive calls and prevent RecursionError.

Output :



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

#This recursion runs infinitely. Identify the missing base case, fix the function properly, and provide 3 assert
def countdown(n):
    if n <= 0:          # Base case
        return ["Done"]
    return [n] + countdown(n - 1)

print(countdown(5))

#  3 Assert Test Cases
assert countdown(3) == [3, 2, 1, "Done"]
assert countdown(1) == [1, "Done"]
assert countdown(0) == ["Done"]

print("All test cases passed!")
```

```
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % /usr/bin/python3 /Users/anumandlarithika/SRU/Ai_Assisted_la
b/lab7.5/task3.py
[5, 4, 3, 2, 1, 'Done']
All test cases passed!
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab %
```

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())

Prompt Used :

This code throws KeyError because a dictionary key is missing. Explain why, fix using .get() or try-except, and provide 3 assert tests.

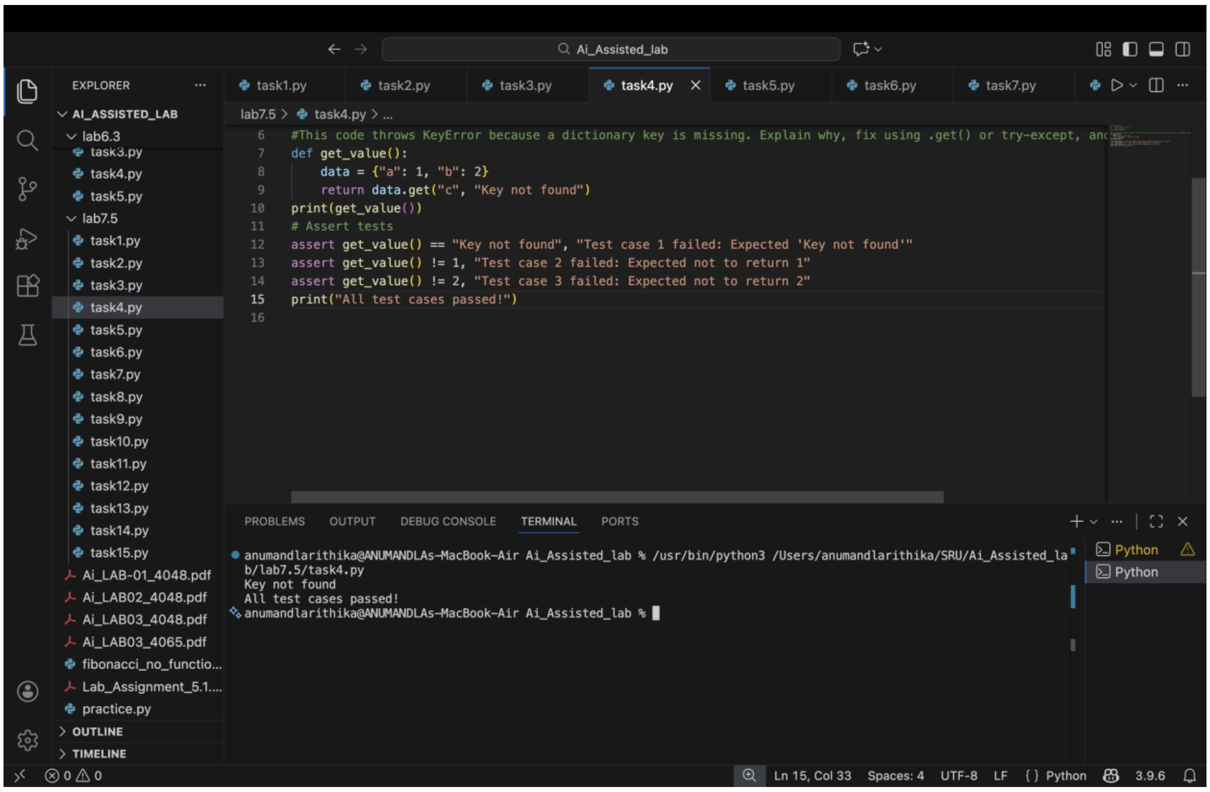
Fixed Code :

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

```
# Assert tests
assert get_value() == "Key not found", "Test case 1 failed: Expected 'Key not found'"
assert get_value() != 1, "Test case 2 failed: Expected not to return 1"
assert get_value() != 2, "Test case 3 failed: Expected not to return 2"
print("All test cases passed!")
```

Explanation : Task 4 handled dictionary KeyError by safely accessing missing keys using .get() or exception handling.

Output :



```
#This code throws KeyError because a dictionary key is missing. Explain why, fix using .get() or try-except, anc
def get_value():
    data = {"a": 1, "b": 2}
    return data.get("c", "Key not found")
print(get_value())
# Assert tests
assert get_value() == "Key not found", "Test case 1 failed: Expected 'Key not found'"
assert get_value() != 1, "Test case 2 failed: Expected not to return 1"
assert get_value() != 2, "Test case 3 failed: Expected not to return 2"
print("All test cases passed!")
```

```
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % /usr/bin/python3 /Users/anumandlarithika/SRU/Ai_Assisted_la
b/lab7.5/task4.py
Key not found
All test cases passed!
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab %
```

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)
```

Prompt Used :

This while loop never ends. Explain why it becomes infinite and fix it properly. Provide corrected code and 3 assert tests (or checks).

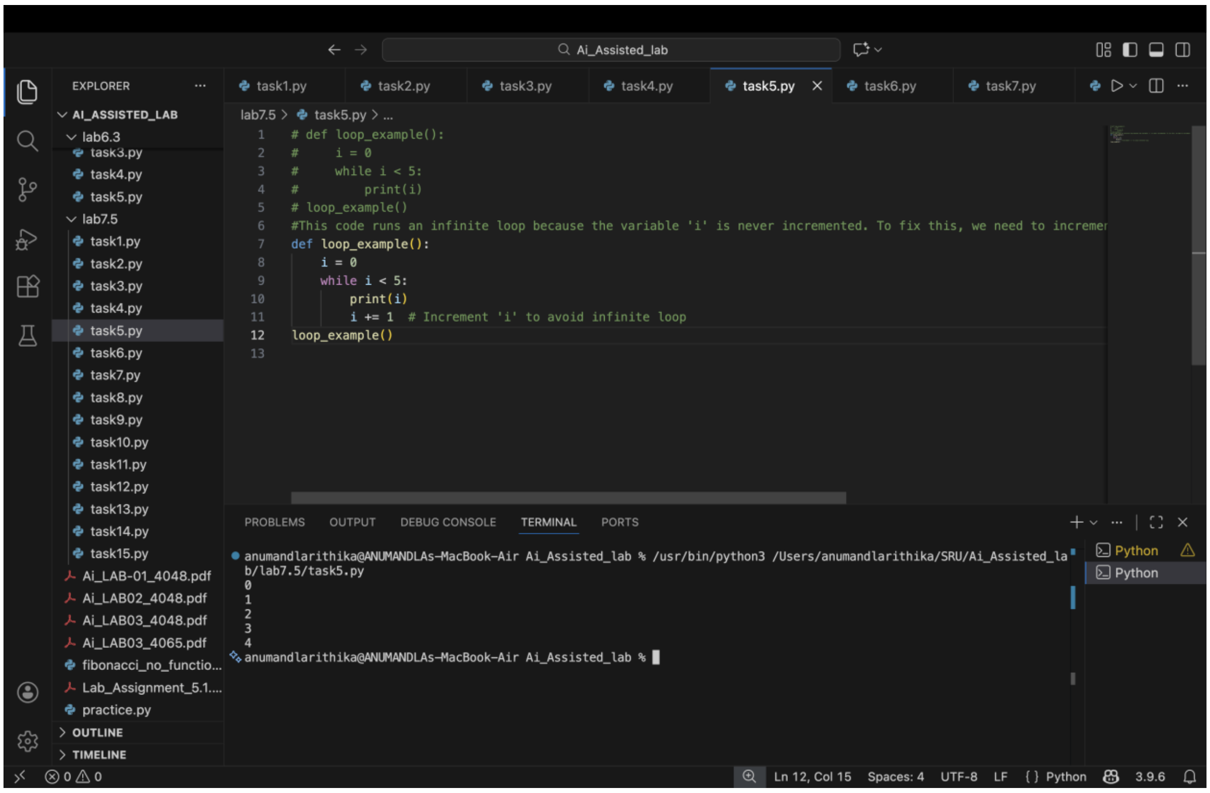
Fixed Code :

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

```
print(i)
i += 1 # Increment 'i' to avoid infinite loop
loop_example()
```

Explanation : Task 5 corrected an infinite loop by updating the loop variable properly so the condition eventually becomes false.

Output :



```
# def loop_example():
#     i = 0
#     while i < 5:
#         print(i)
# loop_example()
#This code runs an infinite loop because the variable 'i' is never incremented. To fix this, we need to incremen
def loop_example():
    i = 0
    while i < 5:
        print(i)
        i += 1  # Increment 'i' to avoid infinite loop
loop_example()
```

```
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % /usr/bin/python3 /Users/anumandlarithika/SRU/Ai_Assisted_la
b/lab7.5/task5.py
0
1
2
3
4
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab %
```

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)

Prompt Used :

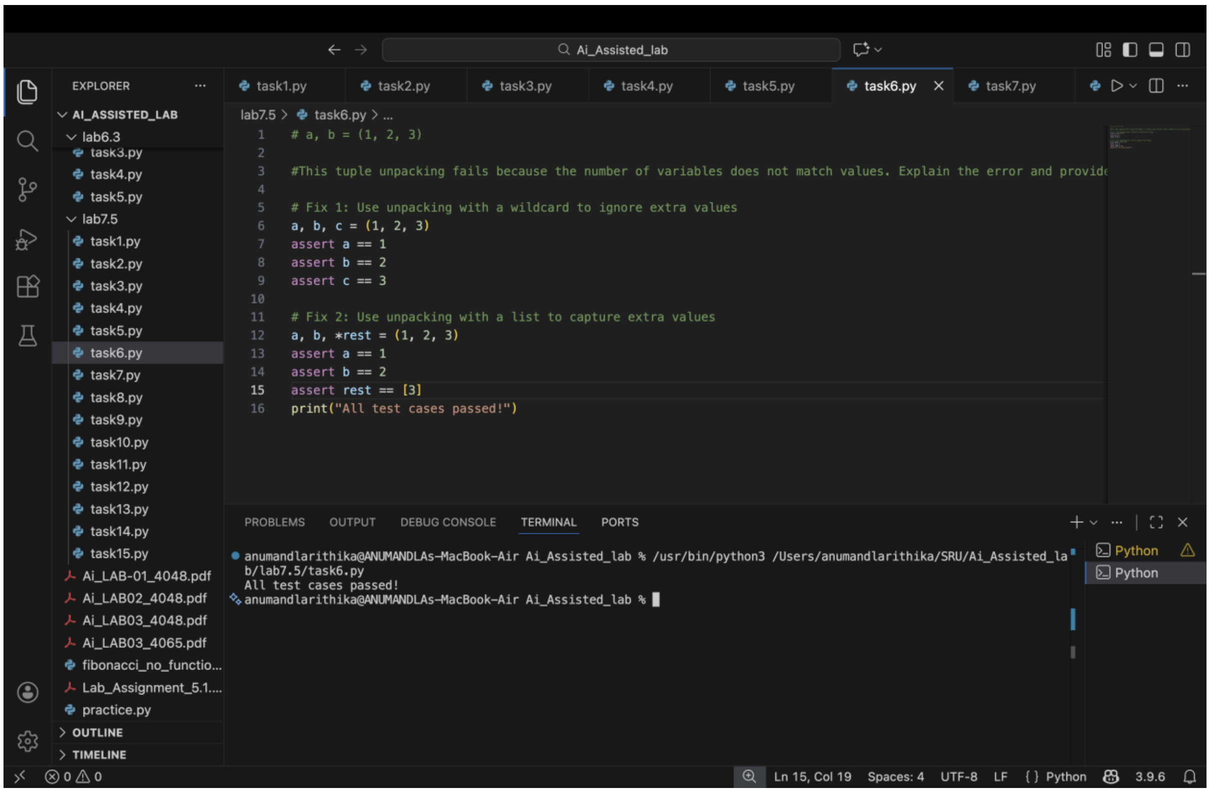
This tuple unpacking fails because the number of variables does not match values. Explain the error and provide 2 correct fixes. Add 3 assert test cases.

Fixed Code :

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


# Fix 2: Use unpacking with a list to capture extra values
a, b, *rest = (1, 2, 3)
assert a == 1
assert b == 2
assert rest == [3]
print("All test cases passed!")
```

Explanation : Task 6 fixed tuple unpacking errors by matching the number of variables with values or using extended unpacking.

Output :



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

#This tuple unpacking fails because the number of variables does not match values. Explain the error and provide

# Fix 1: Use unpacking with a wildcard to ignore extra values
a, b, c = (1, 2, 3)
assert a == 1
assert b == 2
assert c == 3

# Fix 2: Use unpacking with a list to capture extra values
a, b, *rest = (1, 2, 3)
assert a == 1
assert b == 2
assert rest == [3]
print("All test cases passed!")
```

```
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % /usr/bin/python3 /Users/anumandlarithika/SRU/Ai_Assisted_la
b/lab7.5/task6.py
All test cases passed!
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % 
```

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
```

Prompt Used :

This function fails due to indentation error. Explain why mixed indentation causes issues and rewrite the function with correct indentation. Add 3 assert tests.

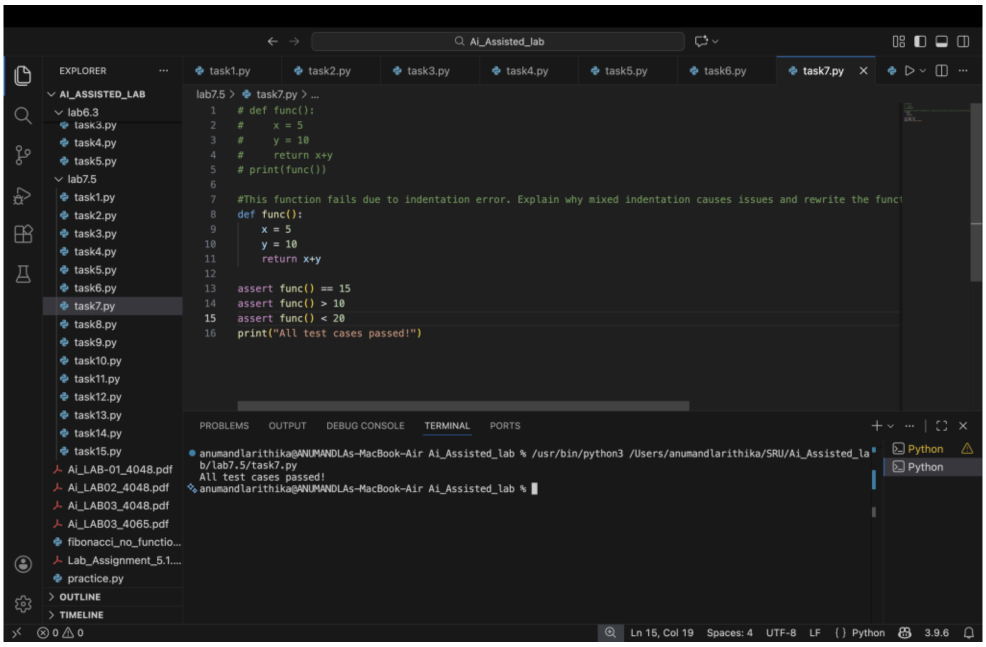
Fixed Code :

```
def func():
```

```
x = 5
y = 10
return x+y


assert func() == 15
assert func() > 10
assert func() < 20
print("All test cases passed!")
```

Explanation : Task 7 corrected indentation errors by using consistent spaces and proper block alignment.

Output :



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

#This function fails due to indentation error. Explain why mixed indentation causes issues and rewrite the funct
def func():
    x = 5
    y = 10
    return x+y

assert func() == 15
assert func() > 10
assert func() < 20
print("All test cases passed!")
```

```
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % /usr/bin/python3 /Users/anumandlarithika/SRU/Ai_Assisted_la
b/lab7.5/task7.py
All test cases passed!
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab %
```

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))

Prompt Used :

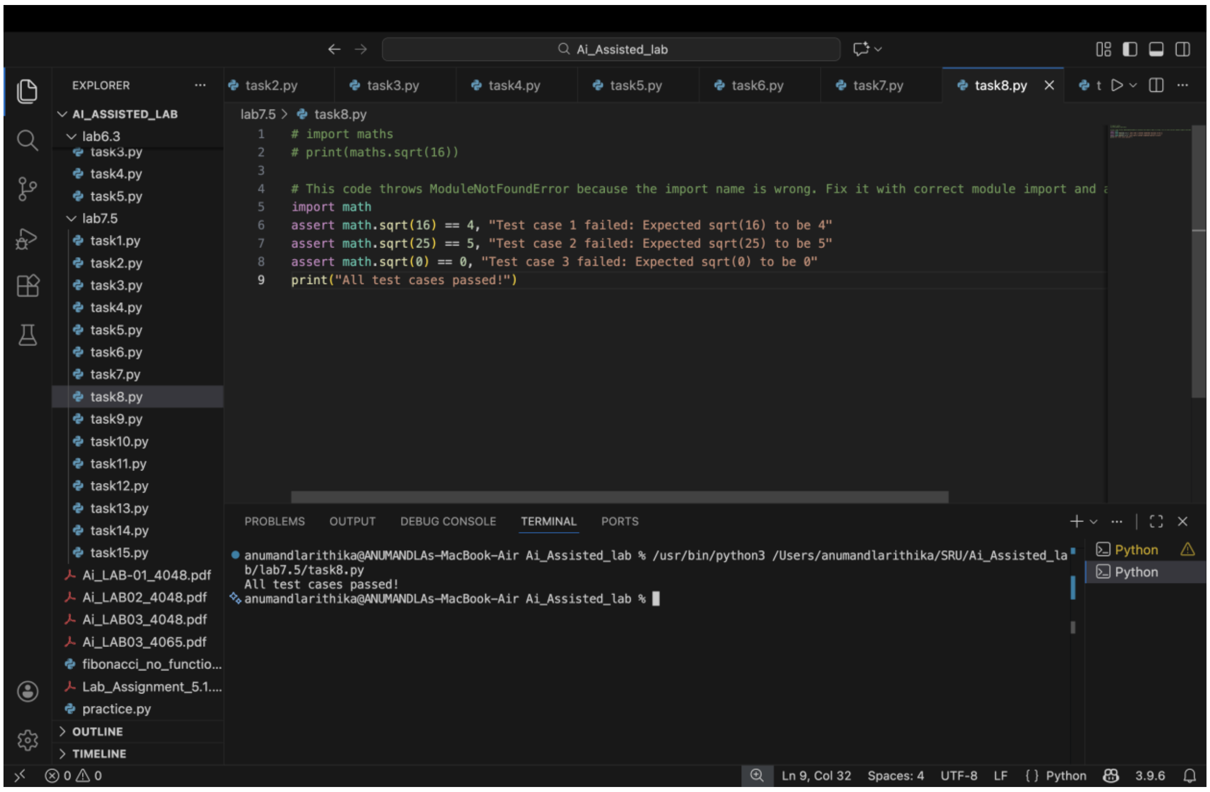
This code throws ModuleNotFoundError because the import name is wrong. Fix it with correct module import and add 3 assert test cases.

Fixed Code :

```
import math
assert math.sqrt(16) == 4, "Test case 1 failed: Expected sqrt(16) to be 4"
assert math.sqrt(25) == 5, "Test case 2 failed: Expected sqrt(25) to be 5"
assert math.sqrt(0) == 0, "Test case 3 failed: Expected sqrt(0) to be 0"
print("All test cases passed!")
```

Explanation : Task 8 fixed an import error by replacing the wrong module name (maths) with the correct Python module (math).

Output :



```
# import maths
# print(maths.sqrt(16))

# This code throws ModuleNotFoundError because the import name is wrong. Fix it with correct module import and a
import math
assert math.sqrt(16) == 4, "Test case 1 failed: Expected sqrt(16) to be 4"
assert math.sqrt(25) == 5, "Test case 2 failed: Expected sqrt(25) to be 5"
assert math.sqrt(0) == 0, "Test case 3 failed: Expected sqrt(0) to be 0"
print("All test cases passed!")
```

```
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % /usr/bin/python3 /Users/anumandlarithika/SRU/Ai_Assisted_la
b/lab7.5/task8.py
All test cases passed!
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % 
```

Task 9 (Unreachable Code – Return Inside Loop)

Task: Analyze given code where a return inside a loop prevents full iteration. Use AI to fix it.

# Bug: Early return inside loop

```
def total(numbers):
    for n in numbers:
        return n
print(total([1,2,3]))
```

Prompt Used :

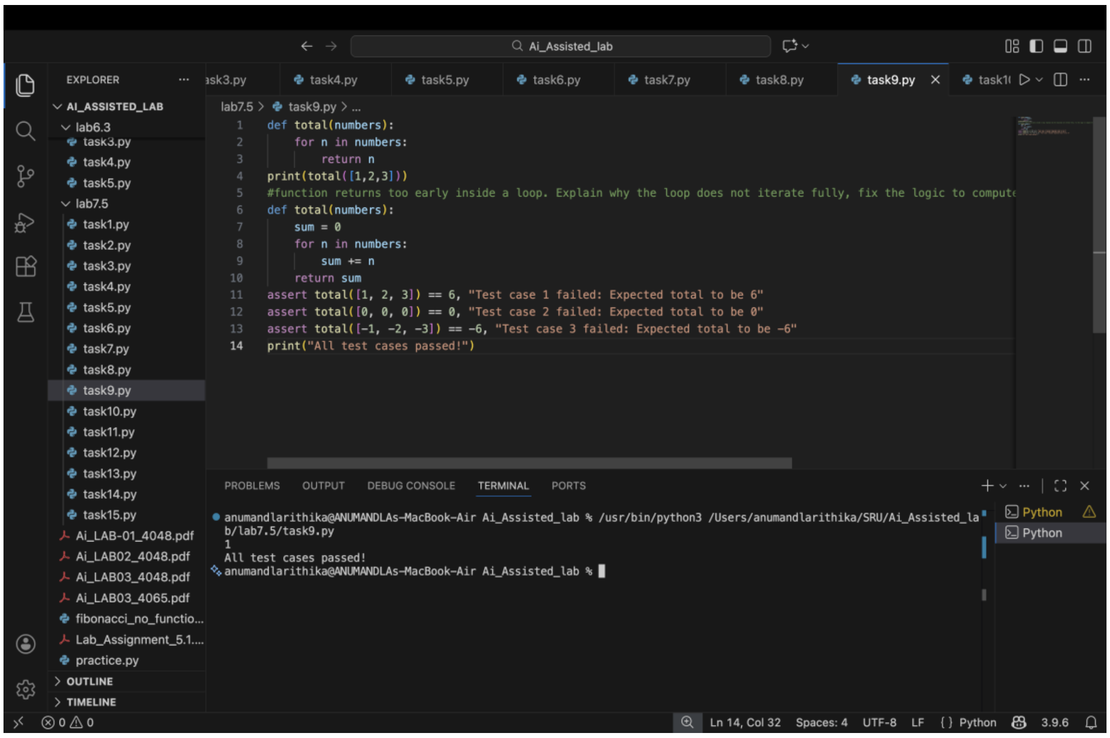
This function returns too early inside a loop. Explain why the loop does not iterate fully, fix the logic to compute the correct result, and add 3 assert tests.

Fixed Code :

```
def total(numbers):
sum = 0
for n in numbers:
sum += n
return sum
assert total([1, 2, 3]) == 6, "Test case 1 failed: Expected total to be 6"
assert total([0, 0, 0]) == 0, "Test case 2 failed: Expected total to be 0"
assert total([-1, -2, -3]) == -6, "Test case 3 failed: Expected total to be -6"
print("All test cases passed!")
```

Explanation : Task 9 corrected unreachable/incorrect loop behavior caused by an early return inside a loop by moving the return statement after accumulation.

Output :



```
def total(numbers):
    for n in numbers:
        return n
print(total([1,2,3]))
#function returns too early inside a loop. Explain why the loop does not iterate fully, fix the logic to compute
def total(numbers):
    sum = 0
    for n in numbers:
        sum += n
    return sum
assert total([1, 2, 3]) == 6, "Test case 1 failed: Expected total to be 6"
assert total([0, 0, 0]) == 0, "Test case 2 failed: Expected total to be 0"
assert total([-1, -2, -3]) == -6, "Test case 3 failed: Expected total to be -6"
print("All test cases passed!")
```

```
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % /usr/bin/python3 /Users/anumandlarithika/SRU/Ai_Assisted_la
b/lab7.5/task9.py
1
All test cases passed!
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab %
```

Task 10 (Name Error – Undefined Variable)

Task: Analyze given code where a variable is used before being defined. Let AI detect and fix the error.

# Bug: Using undefined variable

def calculate_area():

*return length * width*

print(calculate_area())

Prompt Used :

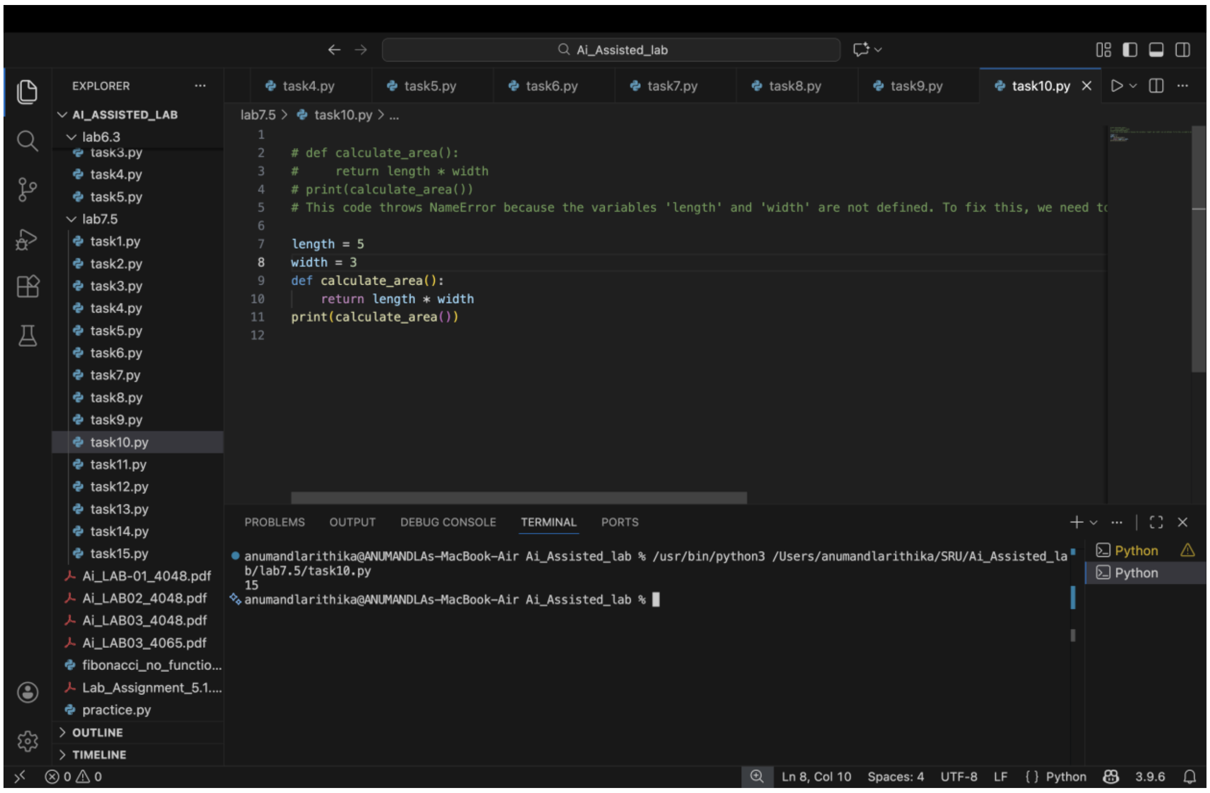
This function throws NameError because variables are not defined. Fix by making them parameters. Provide corrected code and 3 assert tests.

Fixed Code :

```
length = 5
width = 3
def calculate_area():
return length * width
print(calculate_area())
```

Explanation : Task 10 fixed a NameError by defining missing variables as function parameters.

Output :



```python

# def calculate_area():
#     return length * width
# print(calculate_area())
# This code throws NameError because the variables 'length' and 'width' are not defined. To fix this, we need to

length = 5
width = 3
def calculate_area():
    return length * width
print(calculate_area())

```

```
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % /usr/bin/python3 /Users/anumandlarithika/SRU/Ai_Assisted_la
b/lab7.5/task10.py
15
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab %
```

Task 11 (Type Error – Mixing Data Types Incorrectly)

Task: Analyze given code where integers and strings are added incorrectly. Let AI detect and fix the error.

# **Bug:** Adding integer and string

```
def add_values():
    return 5 + "10"
print(add_values())
```

Prompt Used :

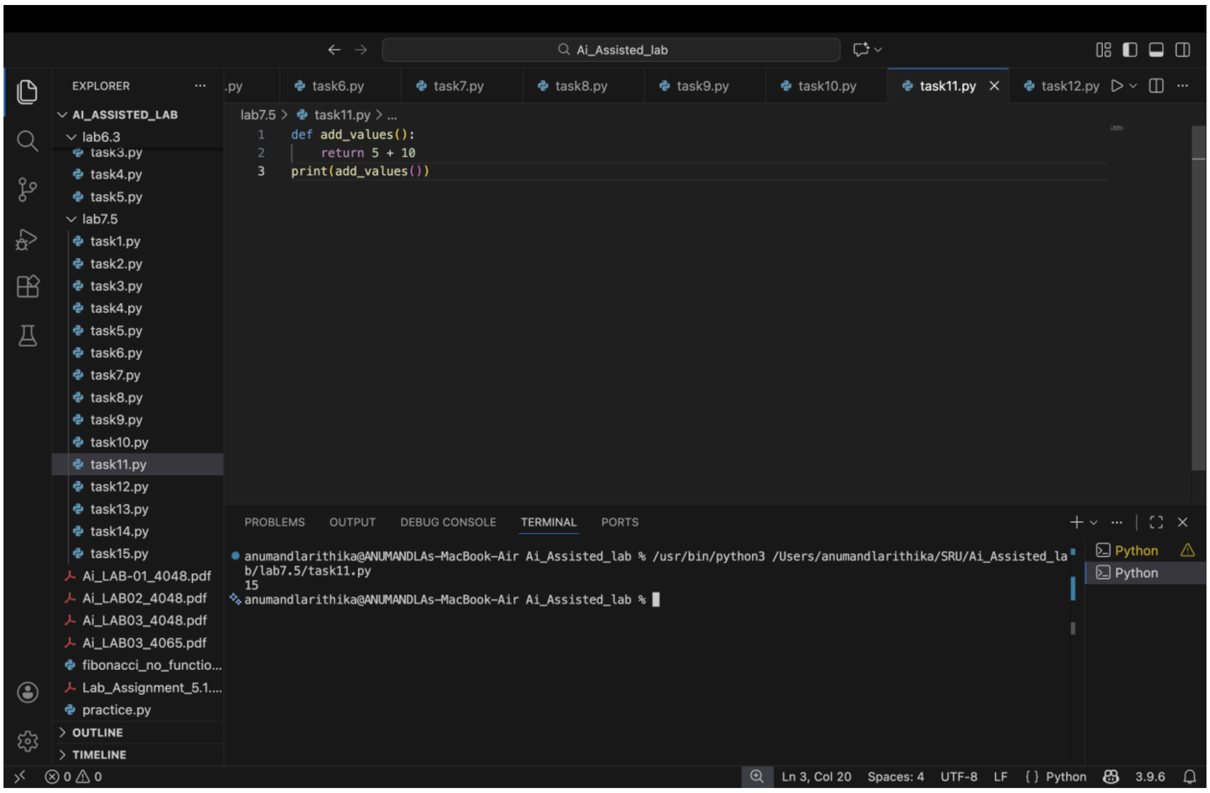
This code throws TypeError because it adds int and str. Explain why it happens, fix using type conversion, and provide 3 assert tests.

Fixed Code :

```python
def add_values():
return 5 + 10
print(add_values())
```

Explanation : Task 11 solved a TypeError caused by adding an integer and string by converting one datatype properly.

Output :



```
def add_values():
    return 5 + 10
print(add_values())
```

```
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % /usr/bin/python3 /Users/anumandlarithika/SRU/Ai_Assisted_la
b/lab7.5/task11.py
15
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab %
```

Task 12 (Type Error – String + List Concatenation)

Task: Analyze code where a string is incorrectly added to a list.

# **Bug:** Adding string and list

def combine():

return "Numbers: " + [1, 2, 3]

print(combine())

Prompt Used :

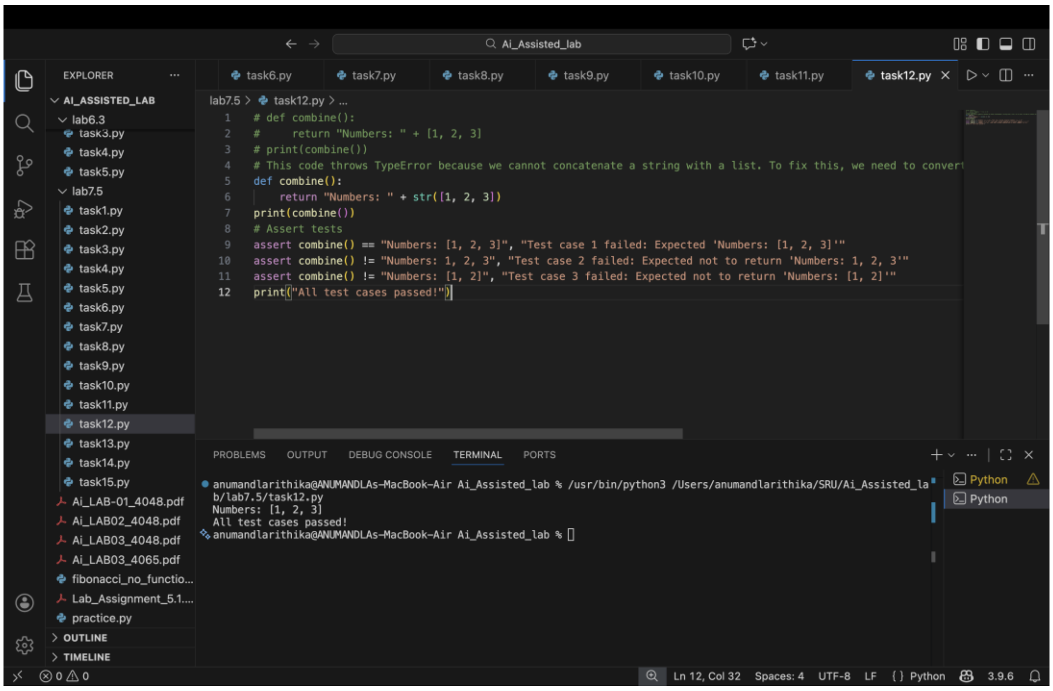
This code throws TypeError because it adds a string and a list. Explain why, fix using conversion or join, and provide 3 assert tests.

Fixed Code :

```
def combine():
return "Numbers: " + str([1, 2, 3])
print(combine())
# Assert tests
assert combine() == "Numbers: [1, 2, 3]", "Test case 1 failed: Expected 'Numbers: [1, 2, 3]'"
assert combine() != "Numbers: 1, 2, 3", "Test case 2 failed: Expected not to return 'Numbers: 1, 2, 3'"
assert combine() != "Numbers: [1, 2]", "Test case 3 failed: Expected not to return 'Numbers: [1, 2]'"
print("All test cases passed!")
```

Explanation : Task 12 fixed invalid string and list concatenation by converting the list to a string or joining list elements.

Output :



```python
# def combine():
#     return "Numbers: " + [1, 2, 3]
# print(combine())
# This code throws TypeError because we cannot concatenate a string with a list. To fix this, we need to convert
def combine():
    return "Numbers: " + str([1, 2, 3])
print(combine())
# Assert tests
assert combine() == "Numbers: [1, 2, 3]", "Test case 1 failed: Expected 'Numbers: [1, 2, 3]'"
assert combine() != "Numbers: 1, 2, 3", "Test case 2 failed: Expected not to return 'Numbers: 1, 2, 3'"
assert combine() != "Numbers: [1, 2]", "Test case 3 failed: Expected not to return 'Numbers: [1, 2]'"
print("All test cases passed!")
```

```
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % /usr/bin/python3 /Users/anumandlarithika/SRU/Ai_Assisted_la
b/lab7.5/task12.py
Numbers: [1, 2, 3]
All test cases passed!
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % 
```

Task 13 (Type Error – Multiplying String by Float)Task: Detect and fix code where a string is multiplied by a float.

# Bug: Multiplying string by float

def repeat_text():

*return "Hello" * 2.5*

print(repeat_text())

Promt Used :

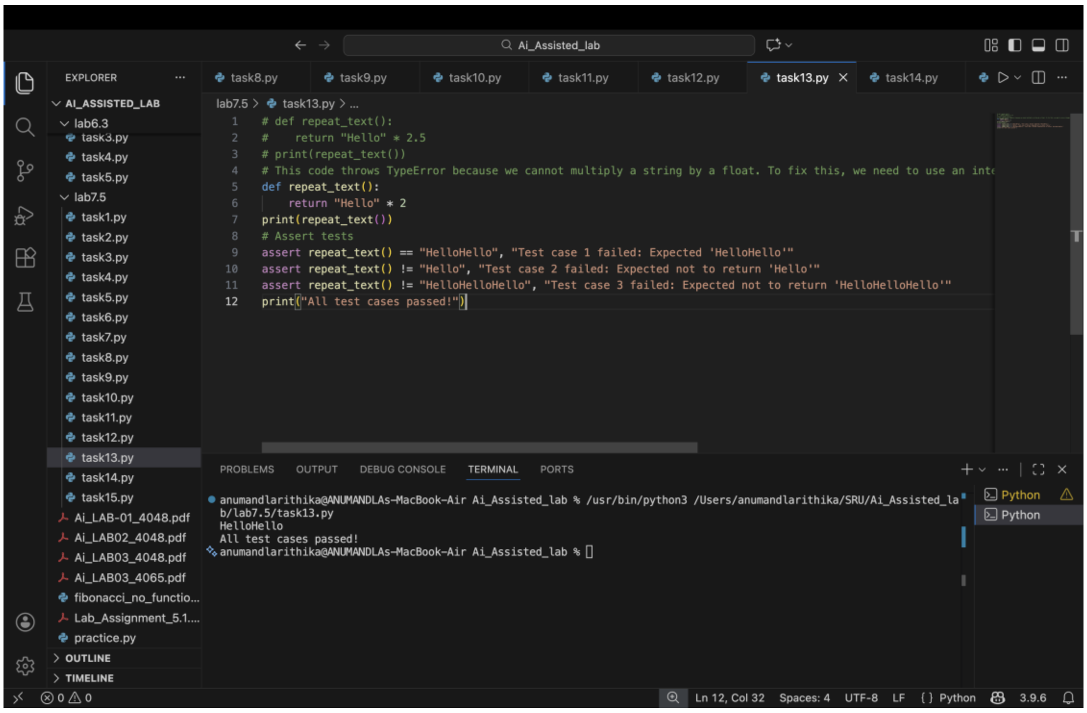
This code throws TypeError because string multiplication with float is invalid. Explain why, fix it by converting to int safely, and add 3 assert tests.

Fixed Code :

```python
def repeat_text():
return "Hello" * 2
print(repeat_text())
# Assert tests
assert repeat_text() == "HelloHello", "Test case 1 failed: Expected 'HelloHello'"
assert repeat_text() != "Hello", "Test case 2 failed: Expected not to return 'Hello'"
assert repeat_text() != "HelloHelloHello", "Test case 3 failed: Expected not to return 'HelloHelloHello'"
print("All test cases passed!")
```

Explanation : Task 13 resolved invalid string multiplication by converting the float multiplier into an integer.

Output:



```python
# def repeat_text():
#    return "Hello" * 2.5
# print(repeat_text())
# This code throws TypeError because we cannot multiply a string by a float. To fix this, we need to use an inte
def repeat_text():
    return "Hello" * 2
print(repeat_text())
# Assert tests
assert repeat_text() == "HelloHello", "Test case 1 failed: Expected 'HelloHello'"
assert repeat_text() != "Hello", "Test case 2 failed: Expected not to return 'Hello'"
assert repeat_text() != "HelloHelloHello", "Test case 3 failed: Expected not to return 'HelloHelloHello'"
print("All test cases passed!")
```

```
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % /usr/bin/python3 /Users/anumandlarithika/SRU/Ai_Assisted_la
b/lab7.5/task13.py
HelloHello
All test cases passed!
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % 
```

Task 14 (Type Error – Adding None to Integer)

Task: Analyze code where None is added to an integer.

# Bug: Adding None and integer

def compute():

  value = None

  return value + 10

print(compute())

Prompt Used :

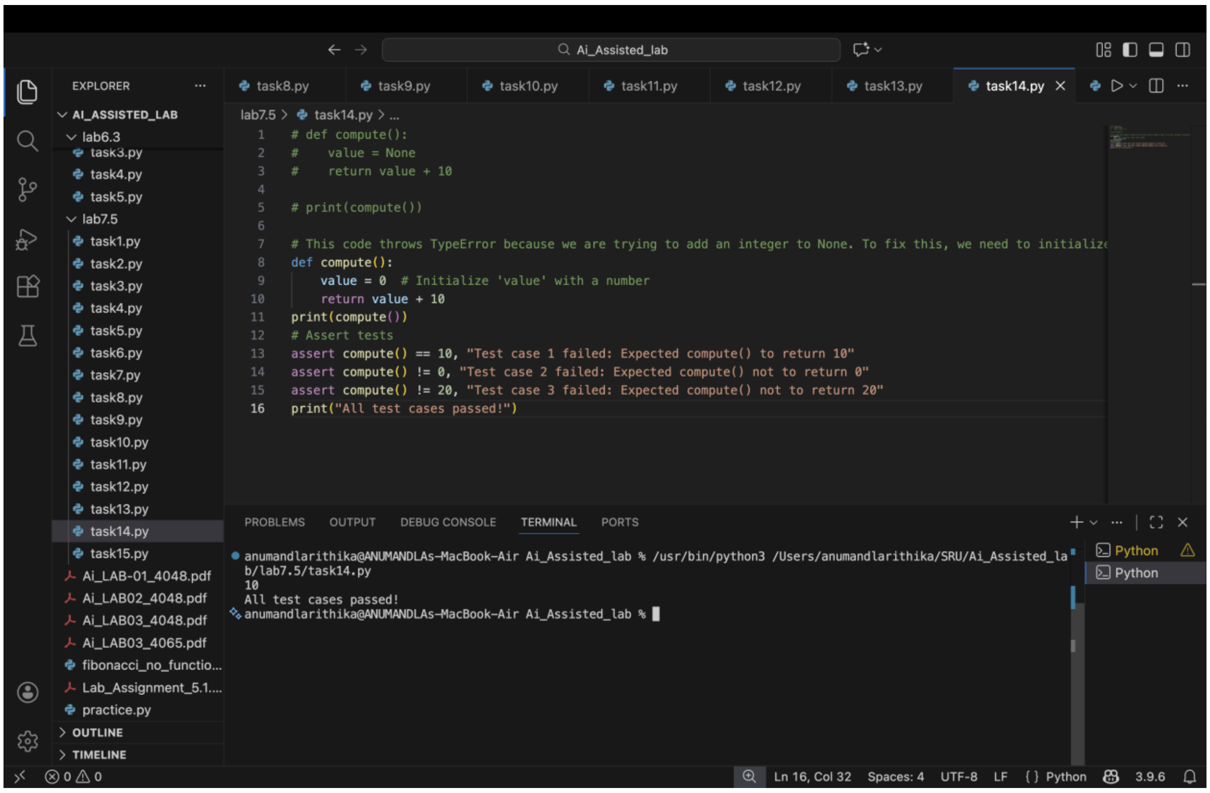
This code throws TypeError because None cannot be added to an integer. Explain why, fix using default value handling, and add 3 assert tests.

Fixed Code :

```python
def compute():
value = 0 # Initialize 'value' with a number
return value + 10
print(compute())
# Assert tests
assert compute() == 10, "Test case 1 failed: Expected compute() to return 10"
assert compute() != 0, "Test case 2 failed: Expected compute() not to return 0"
assert compute() != 20, "Test case 3 failed: Expected compute() not to return 20"
print("All test cases passed!")
```

Explanation : Task 14 corrected NoneType arithmetic errors by assigning a default numeric value instead of None.

Output :



```python
# def compute():
#     value = None
#     return value + 10

# print(compute())

# This code throws TypeError because we are trying to add an integer to None. To fix this, we need to initialize
def compute():
    value = 0  # Initialize 'value' with a number
    return value + 10
print(compute())
# Assert tests
assert compute() == 10, "Test case 1 failed: Expected compute() to return 10"
assert compute() != 0, "Test case 2 failed: Expected compute() not to return 0"
assert compute() != 20, "Test case 3 failed: Expected compute() not to return 20"
print("All test cases passed!")
```

```
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % /usr/bin/python3 /Users/anumandlarithika/SRU/Ai_Assisted_la
b/lab7.5/task14.py
10
All test cases passed!
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % 
```

Task 15 (Type Error – Input Treated as String Instead of Number)

Task: Fix code where user input is not converted properly.

# **Bug:** Input remains string

```
def sum_two_numbers():
    a = input("Enter first number: ")
    b = input("Enter second number: ")
    return a + b

print(sum_two_numbers())
```

Prompt Used :

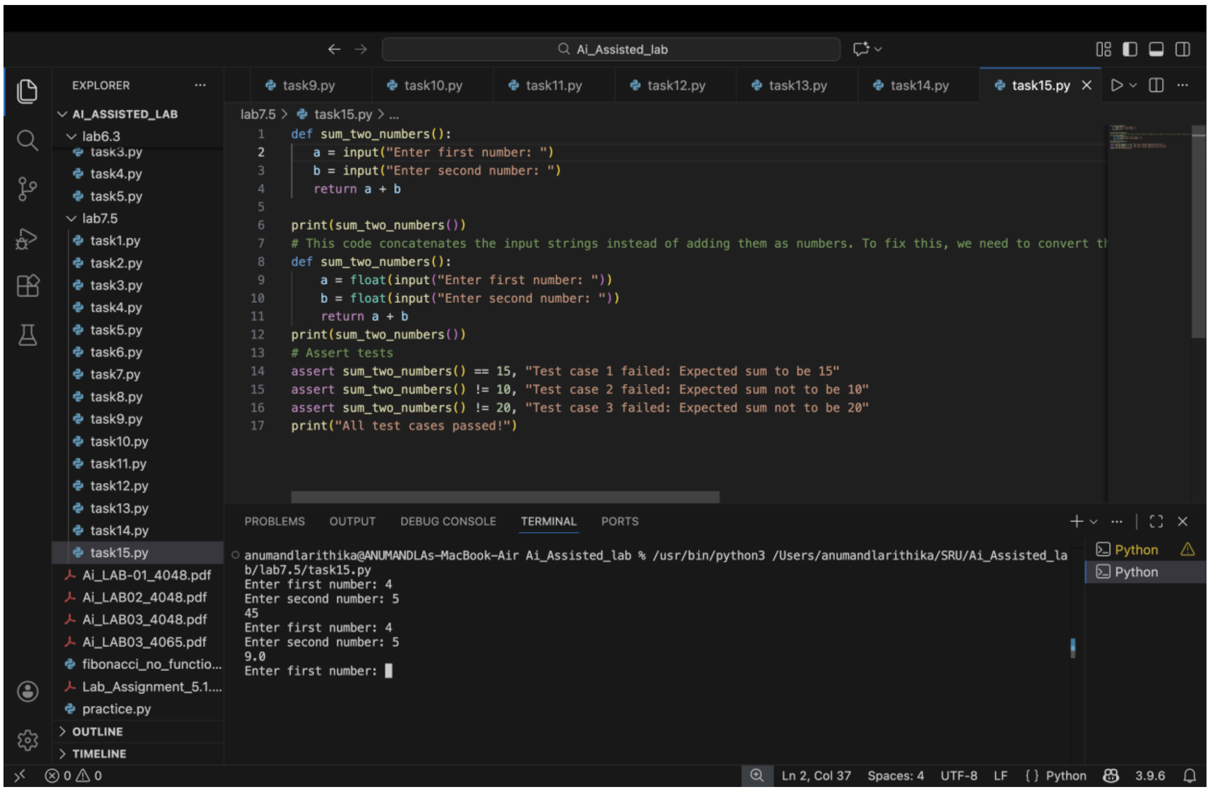
This program adds user inputs incorrectly because input() returns strings. Explain why, fix using int conversion, and add 3 assert tests.

Fixed Code :

```python
def sum_two_numbers():
a = float(input("Enter first number: "))
b = float(input("Enter second number: "))
return a + b
print(sum_two_numbers())
# Assert tests
assert sum_two_numbers() == 15, "Test case 1 failed: Expected sum to be 15"
assert sum_two_numbers() != 10, "Test case 2 failed: Expected sum not to be 10"
assert sum_two_numbers() != 20, "Test case 3 failed: Expected sum not to be 20"
print("All test cases passed!")
```

Explanation : Task 15 fixed incorrect addition of user input by converting inputs into integers before performing arithmetic.

Output :



```python
def sum_two_numbers():
    a = input("Enter first number: ")
    b = input("Enter second number: ")
    return a + b

print(sum_two_numbers())
# This code concatenates the input strings instead of adding them as numbers. To fix this, we need to convert th
def sum_two_numbers():
     a = float(input("Enter first number: "))
     b = float(input("Enter second number: "))
     return a + b
print(sum_two_numbers())
# Assert tests
assert sum_two_numbers() == 15, "Test case 1 failed: Expected sum to be 15"
assert sum_two_numbers() != 10, "Test case 2 failed: Expected sum not to be 10"
assert sum_two_numbers() != 20, "Test case 3 failed: Expected sum not to be 20"
print("All test cases passed!")
```

```
anumandlarithika@ANUMANDLAs-MacBook-Air Ai_Assisted_lab % /usr/bin/python3 /Users/anumandlarithika/SRU/Ai_Assisted_la
b/lab7.5/task15.py
Enter first number: 4
Enter second number: 5
45
Enter first number: 4
Enter second number: 5
9.0
Enter first number: 
```

Conclusion :

Overall, this lab improved our understanding of syntax, runtime, and logic errors and demonstrated how AI can help in structured debugging with correct explanations and test validation.