

AI ASSISTANT CODING

ASSIGNMENT-7.5

NAME:S SRINIDHI

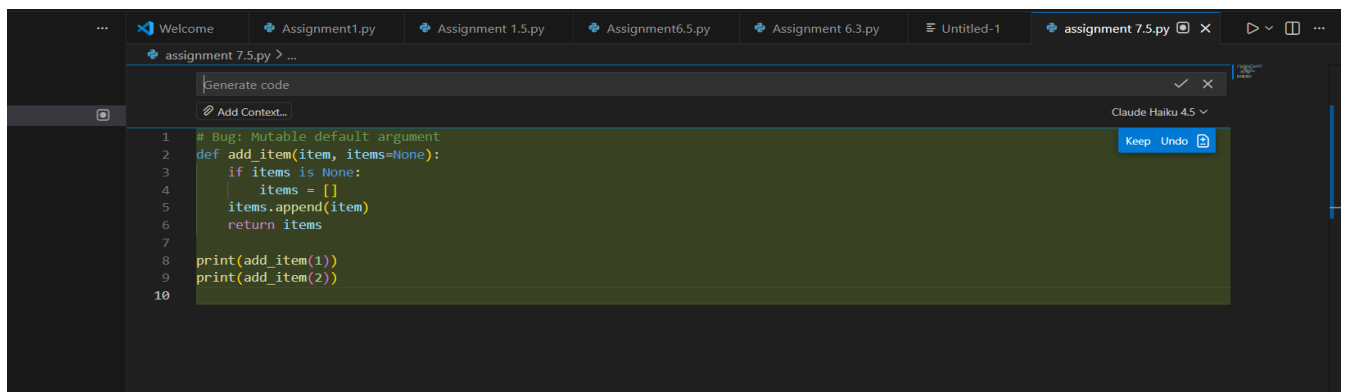
BATCH:20

HT NO:2303A51342

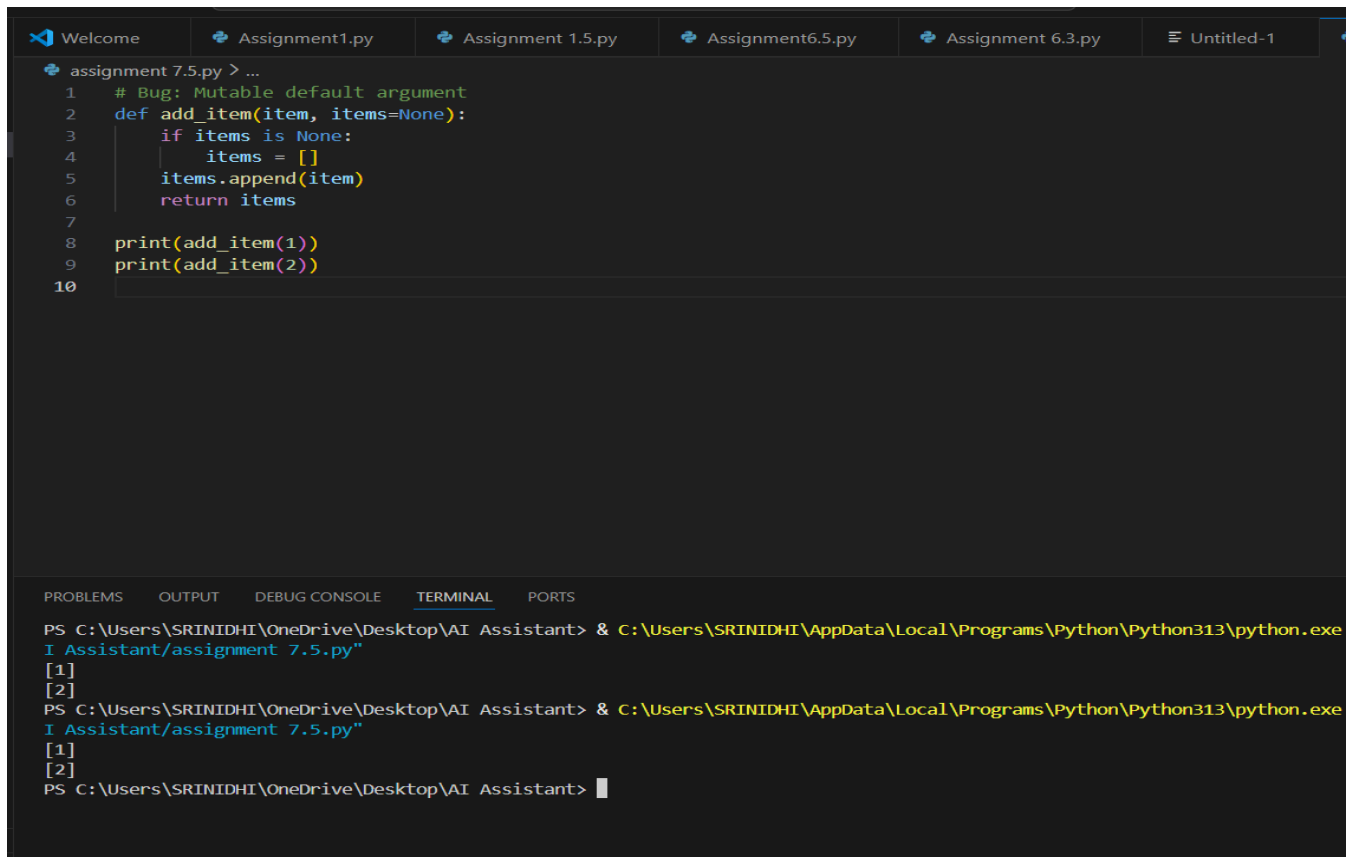
Lab 7: Error Debugging with AI: Systematic approaches to
finding and fixing bugs

Task 1 (Mutable Default Argument – Function Bug)

CODE & OUTPUT



```
1 # Bug: Mutable default argument
2 def add_item(item, items=None):
3     if items is None:
4         items = []
5     items.append(item)
6     return items
7
8 print(add_item(1))
9 print(add_item(2))
10
```

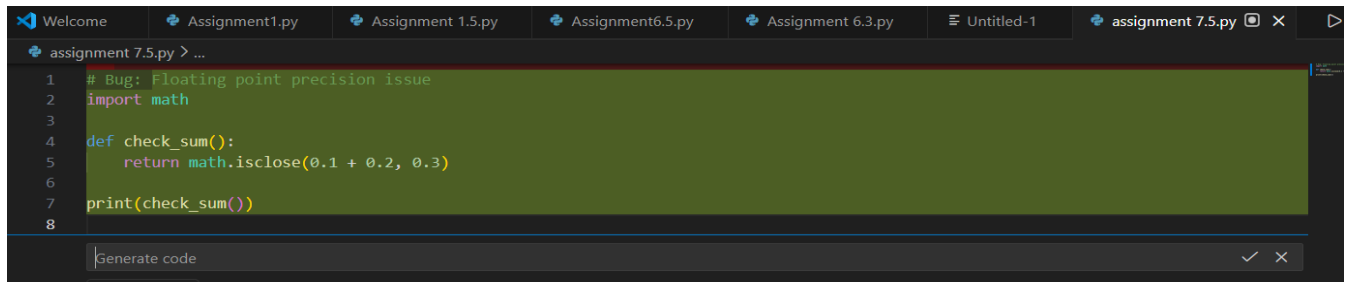


```
1 # Bug: Mutable default argument
2 def add_item(item, items=None):
3     if items is None:
4         items = []
5     items.append(item)
6     return items
7
8 print(add_item(1))
9 print(add_item(2))
10
```

```
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant> & C:\Users\SRINIDHI\AppData\Local\Programs\Python\Python313\python.exe I Assistant/assignment 7.5.py"
[1]
[2]
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant> & C:\Users\SRINIDHI\AppData\Local\Programs\Python\Python313\python.exe I Assistant/assignment 7.5.py"
[1]
[2]
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant>
```

Task 2 (Floating-Point Precision Error)

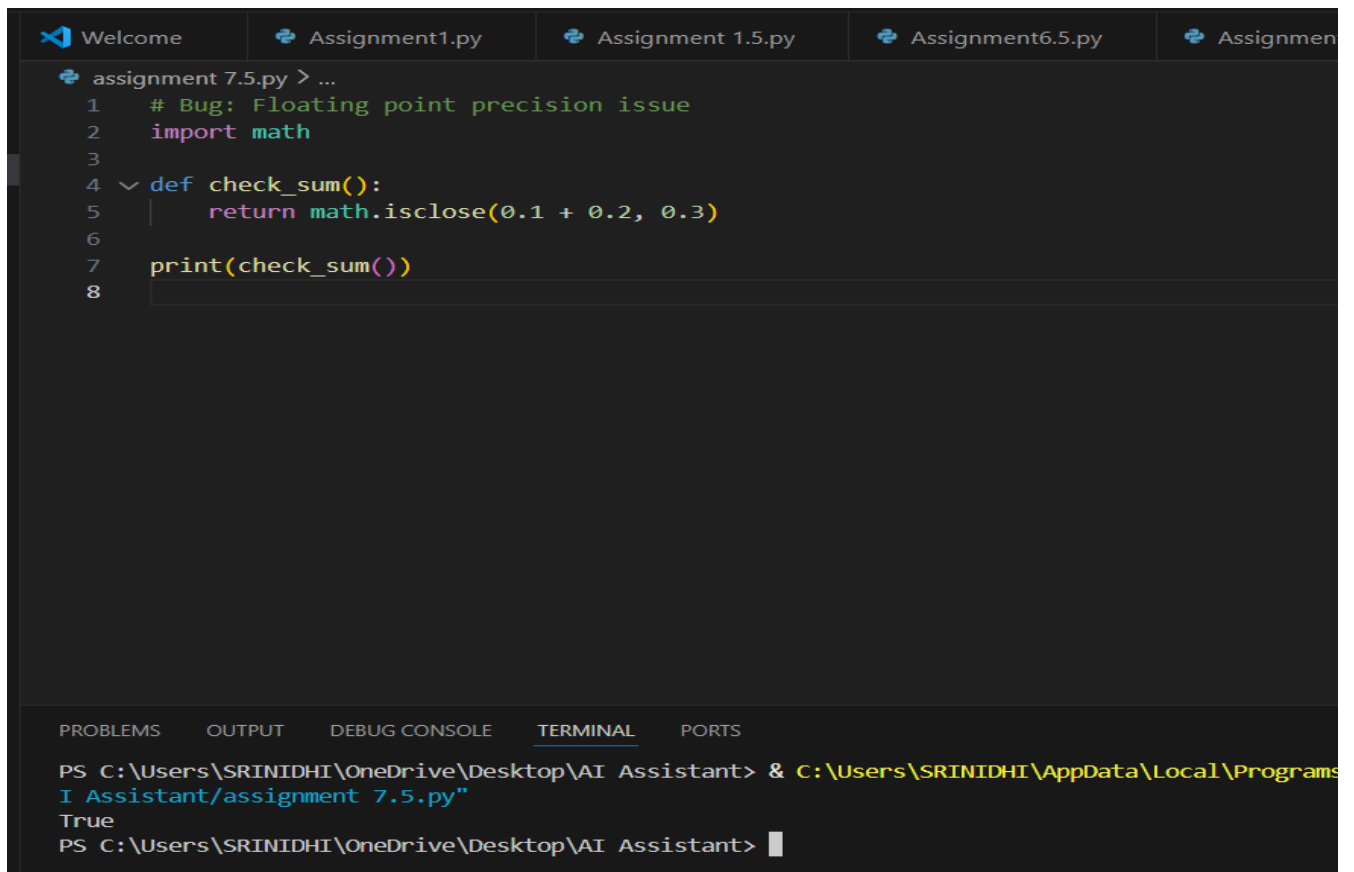
CODE & OUTPUT



The screenshot shows the Visual Studio Code editor with the file 'assignment 7.5.py' open. The code is as follows:

```
1 # Bug: Floating point precision issue
2 import math
3
4 def check_sum():
5     return math.isclose(0.1 + 0.2, 0.3)
6
7 print(check_sum())
8
```

Below the code editor, there is a 'Generate code' button with a checkmark and a close button.

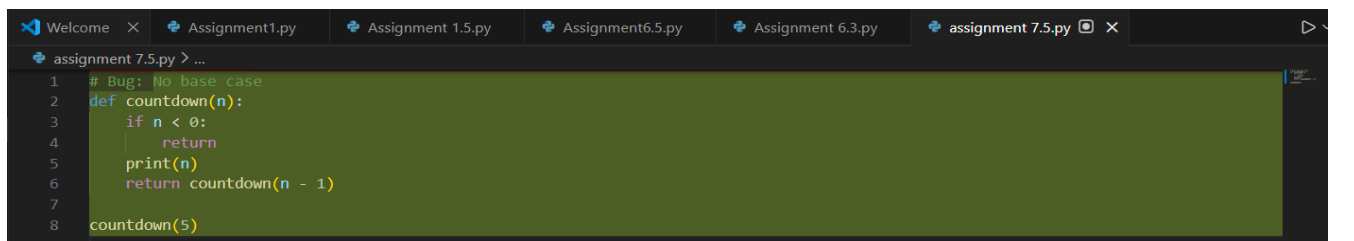


The screenshot shows the Visual Studio Code editor with the file 'assignment 7.5.py' open. The code is the same as in the previous screenshot. Below the code editor, the 'TERMINAL' tab is active, showing the command prompt output:

```
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant> & C:\Users\SRINIDHI\AppData\Local\Programs\Python\Python310\python.exe C:\Users\SRINIDHI\AppData\Local\Programs\Python\Python310\python.exe I Assistant/assignment 7.5.py"
True
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant>
```

Task 3 (Recursion Error – Missing Base Case)

CODE & OUTPUT



The screenshot shows the Visual Studio Code editor with the file 'assignment 7.5.py' open. The code is as follows:

```
1 # Bug: No base case
2 def countdown(n):
3     if n < 0:
4         return
5     print(n)
6     return countdown(n - 1)
7
8 countdown(5)
9
```

```
assignment 7.5.py > ...
1 # Bug: No base case
2 def countdown(n):
3     if n < 0:
4         return
5     print(n)
6     return countdown(n - 1)
7
8 countdown(5)
9
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant> & C:\Users\SRINIDHI\AppData\Local\Programs\Python\Python311\python.exe I Assistant/assignment 7.5.py"
5
4
3
2
1
0
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant>
```

Task 4 (Dictionary Key Error)

CODE & OUTPUT

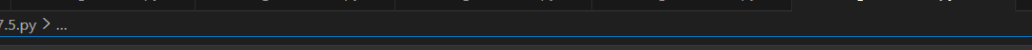
```
Generate code ✓ ✕
Add Context... Claude Haiku 4.5
1 # Bug: Accessing non-existing key
2 def get_value():
3     data = {"a": 1, "b": 2}
4     return data.get("c", "Key not found")
5
6 print(get_value())
7
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant> & C:\Users\SRINIDHI\AppData\Local\Programs\Python\Python311\python.exe I Assistant/assignment 7.5.py"
{'a': 1, 'b': 2}
Traceback (most recent call last):
  File "I Assistant/assignment 7.5.py", line 6, in <module>
    print(get_value())
          ^^^^^^^^^^
  File "I Assistant/assignment 7.5.py", line 4, in get_value
    return data.get("c", "Key not found")
           ~~~~~~^
KeyError: 'c'
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant>
```

Task 5 (Infinite Loop – Wrong Condition)

CODE & OUTPUT



The screenshot shows a code editor with a dark theme. At the top, there are several tabs: 'Welcome', 'Assignment1.py', 'Assignment 1.5.py', 'Assignment6.5.py', 'Assignment 6.3.py', and 'assignment 7.5.py'. The 'assignment 7.5.py' tab is active. Below the tabs, there is a search bar with the text 'assignment 7.5.py > ...'. The main editor area displays the following Python code:

```
1 # Bug: Infinite loop
2 def loop_example():
3     i = 0
4     while i < 5:
5         print(i)
6         i += 1
7
8 loop_example()
9
```

On the right side of the editor, there is a sidebar with the text 'Claude Haiku 4.5' and a dropdown arrow. Below this, there are buttons for 'Keep' and 'Undo'.

```
Welcome Assignment1.py Assignment 1.5.py Assignment6.5.py
assignment 7.5.py > ...
1 # Bug: Infinite loop
2 def loop_example():
3     i = 0
4     while i < 5:
5         print(i)
6         i += 1
7
8 loop_example()
9

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant> & C:\Users\SRINIDHI\AppData
I Assistant/assignment 7.5.py"
0
1
2
3
4
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant> 
```

Task 6 (Unpacking Error – Wrong Variables)

CODE & OUTPUT

```
1 # Bug: Wrong unpacking
2 # Fix: Use underscore to ignore extra values
3 a, b, _ = (1, 2, 3)
4 print(f"a = {a}, b = {b}")
5
```

```
Welcome Assignment1.py Assignment 1.5.py Assignment6.5.py
assignment 7.5.py > ...
1 # Bug: Wrong unpacking
2 # Fix: Use underscore to ignore extra values
3 a, b, _ = (1, 2, 3)
4 print(f'a = {a}, b = {b}')
5

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant> & C:\Users\SRINIDHI\AppData\Local\Microsoft\AI Assistant\assignment 7.5.py
a = 1, b = 2
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant>
```

Task 7 (Mixed Indentation – Tabs vs Spaces)

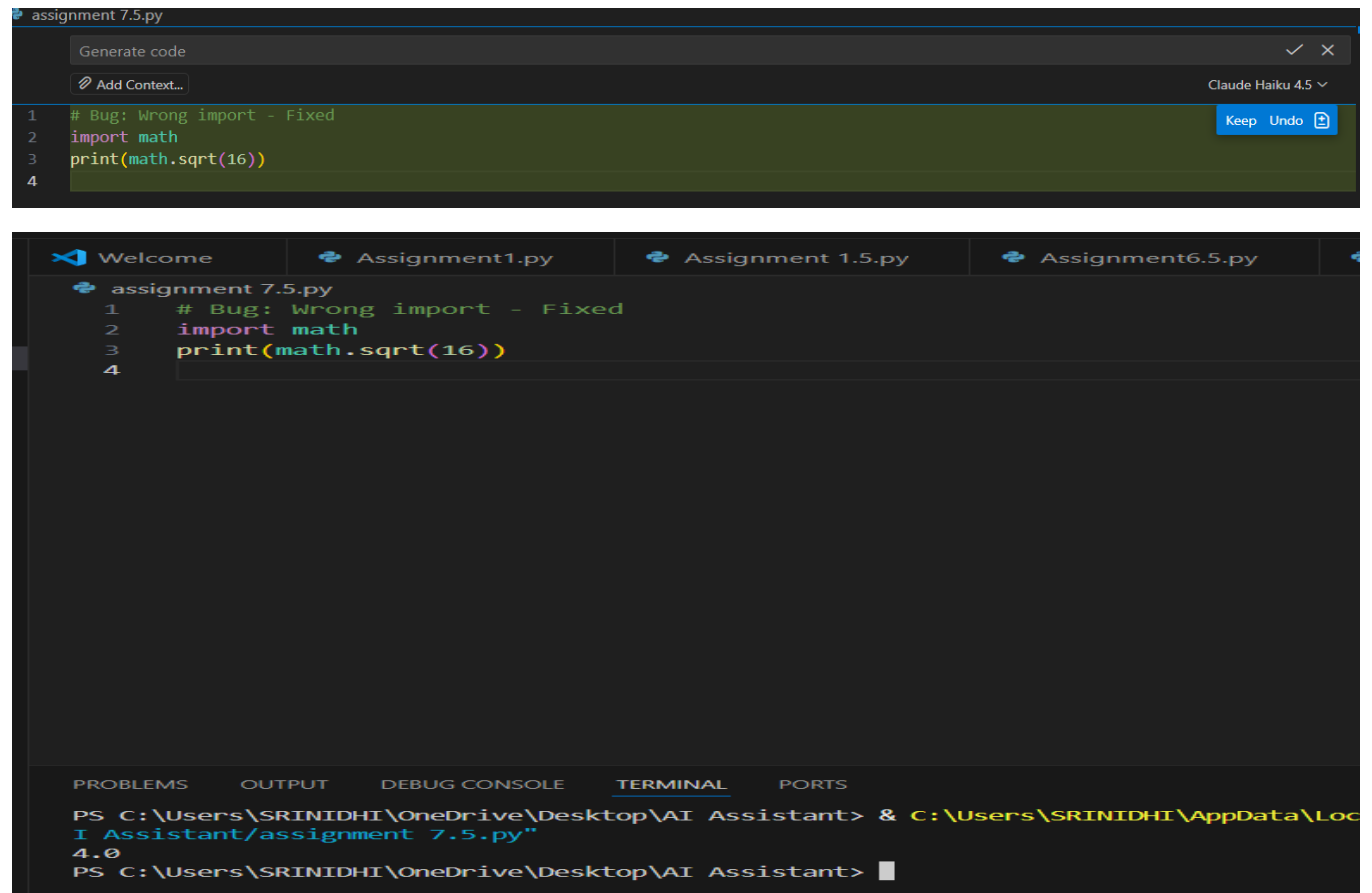
CODE & OUTPUT

```
1 # Bug: Mixed indentation
2 def func():
3     x = 5
4     y = 10
5     return x+y
6
7 print(func())
8

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant> & C:\Users\SRINIDHI\AppData\Local\Microsoft\AI Assistant\assignment 7.5.py
15
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant>
```

Task 8 (Import Error – Wrong Module Usage)

CODE & OUTPUT



The image displays two screenshots related to a Python task. The top screenshot shows a code editor window titled "assignment 7.5.py" with a dark theme. It contains a comment "# Bug: Wrong import - Fixed" and the following code:

```
1 # Bug: Wrong import - Fixed
2 import math
3 print(math.sqrt(16))
4
```

The bottom screenshot shows a VS Code editor window with the same code. The terminal window at the bottom shows the command prompt output:

```
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant> & C:\Users\SRINIDHI\AppData\Local\Microsoft\Windows\AI Assistant\AI Assistant/assignment 7.5.py"
4.0
PS C:\Users\SRINIDHI\OneDrive\Desktop\AI Assistant>
```