

ASSIGNMENT-1.5

HT.NO: 2303A510h6

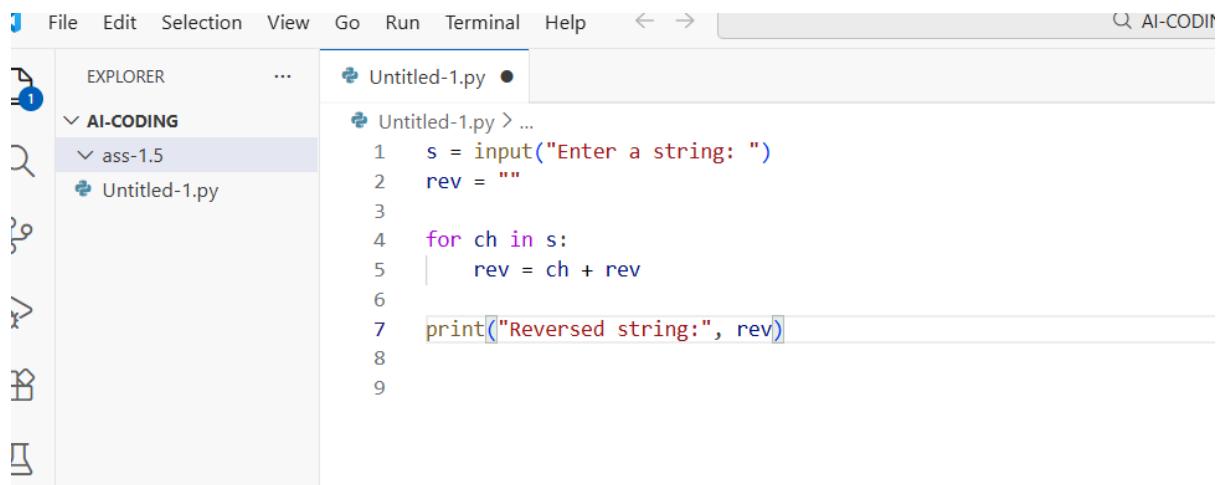
BATCH: 30

Task 1

PROMPT:

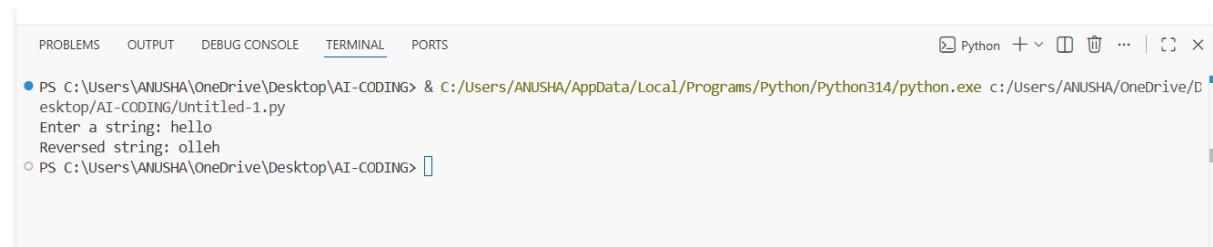
Write a Python program that takes a string as input and reverses it without using any user-defined functions.

CODE:



```
s = input("Enter a string: ")
rev = ""
for ch in s:
    rev = ch + rev
print("Reversed string:", rev)
```

OUTPUT:



```
PS C:\Users\ANUSHA\OneDrive\Desktop\AI-CODING> & C:/Users/ANUSHA/AppData/Local/Programs/Python/Python314/python.exe c:/Users/ANUSHA/OneDrive/Desktop/AI-CODING/Untitled-1.py
Enter a string: hello
Reversed string: olleh
PS C:\Users\ANUSHA\OneDrive\Desktop\AI-CODING>
```

OBSERVATION:

GitHub Copilot created a simple program to reverse a string. The code works correctly and takes user input. The logic is easy to understand but is written in one place without using functions.

Task 2

PROMPT:

Simplify this string reversal code and improve readability.

CODE:

```
10
11     s = input("Enter a string: ")
12     reverse = ""
13
14    for i in s:
15        reverse = i + reverse
16
17    print("Reversed string:", reverse)
18
19
20
```

OUTPUT:

```
● PS C:\Users\ANUSHA\OneDrive\Desktop\AI-CODING> & C:/Users/ANUSHA/AppData/Local/Programs/Python/Python314/python.exe c:/Users//esktop/AI-CODING/Untitled-1.py
Enter a string: hello
Reversed string: olleh
○ PS C:\Users\ANUSHA\OneDrive\Desktop\AI-CODING> □
```

OBSERVATION:

Copilot improved the code by making it shorter and cleaner. Unnecessary variables were removed and slicing was used to reverse the string. This made the program faster and easier to read.

Task 3

PROMPT:

Write a Python function that takes a string and returns the reversed string with comments.

CODE:

```

def reverse_string(text):
    reversed_text = ""
    for char in text:
        reversed_text = char + reversed_text
    return reversed_text

```

OUTPUT:

```

● PS C:\Users\ANUSHA\OneDrive\Desktop\AI-CODING> & C:/Users/ANUSHA/AppData/Local/Programs/Python/Python314/python.exe c:/Users//esktop/AI-CODING/Untitled-1.py
Enter a string: hello
Reversed string: olleh
○ PS C:\Users\ANUSHA\OneDrive\Desktop\AI-CODING> █

```

OBSERVATION:

Copilot generated a function to reverse a string. Using a function makes the code more organized and reusable. The program becomes easier to understand and maintain.

Task 4

Aspect	Without Functions	With Functions
Code Clarity	Code is written in one place and can look messy Code is neat and easy to understand Reusability Same code must be written again	Code is neat and easy to understand
Reusability	Same code must be written again	Same function can be used many times

Debugging	Not good for large programs	Easy to fix errors in one place
Maintenance	Takes more time to update	Easy to update and manage

Task 5

PROMPT:

Generate two string reversal implementations: loop-based and slicing-based.

CODE:

```

25 # ai generated iterative vs recursive fibonacci approaches
26 def iterative_fibonacci(n):
27     if n <= 0:
28         return 0
29     elif n == 1:
30         return 1
31     else:
32         a, b = 0, 1
33     for _ in range(2, n + 1):
34         a, b = b, a + b
35     return b
36

```

OUTPUT:

```

PS C:\Users\ANUSHA\OneDrive\Desktop\AI-CODING> & C:/Users/ANUSHA/AppData/Local/Programs/Python/Python314/python
esktop/AI-CODING/Untitled-1.py
Enter a string: 3
Reversed string: 3
Enter a string: 67
Reversed string: 76
PS C:\Users\ANUSHA\OneDrive\Desktop\AI-CODING>

```

OBSERVATION:

Copilot provided two ways to reverse a string. The loop method shows the step-by-step process but is slower. The slicing method is faster and simpler, so it is better for real applications.