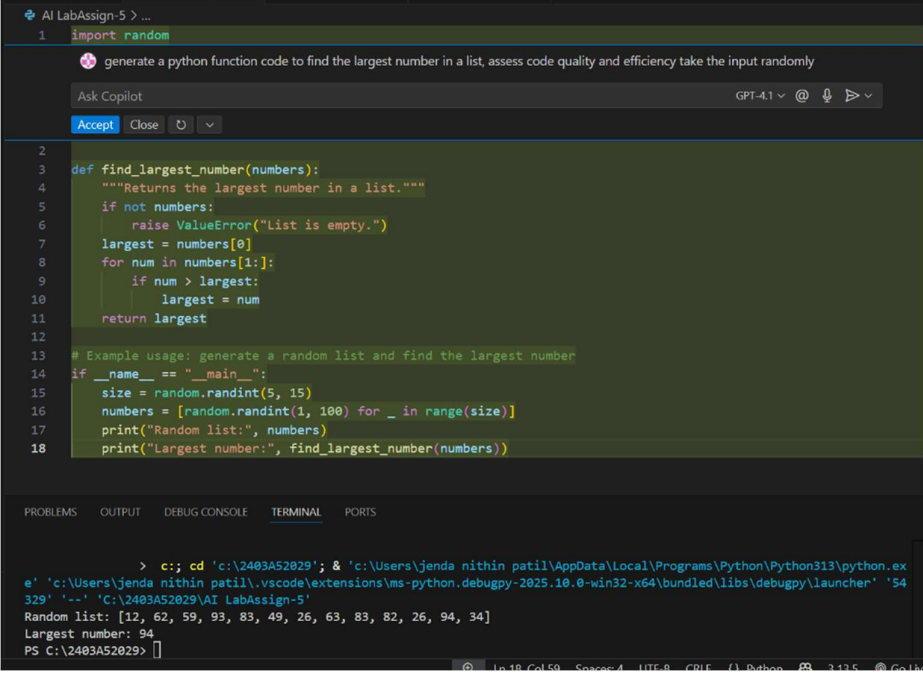


1Q- Generate a python function code to find largest number in a list, assess the quality and efficiency of code.



The screenshot shows a VS Code editor with a file named 'AI LabAssign-5'. The code defines a function `find_largest_number` that takes a list of numbers and returns the largest one. It includes a docstring, a check for an empty list, and a loop to find the maximum. Below the function, there's an example usage that generates a random list of 15 numbers and prints the largest one. The terminal output shows the execution of the code, displaying a random list and the largest number, 94.

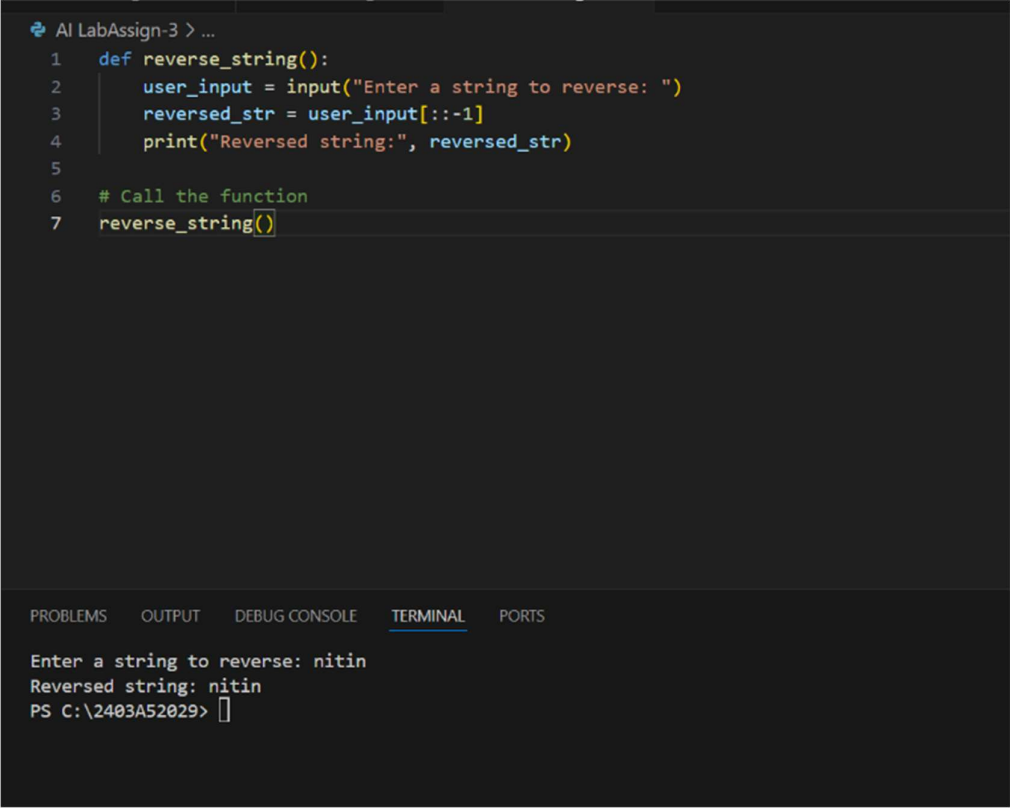
```
1 import random

2
3 def find_largest_number(numbers):
4     """Returns the largest number in a list."""
5     if not numbers:
6         raise ValueError("List is empty.")
7     largest = numbers[0]
8     for num in numbers[1:]:
9         if num > largest:
10             largest = num
11     return largest
12
13 # Example usage: generate a random list and find the largest number
14 if __name__ == "__main__":
15     size = random.randint(5, 15)
16     numbers = [random.randint(1, 100) for _ in range(size)]
17     print("Random list:", numbers)
18     print("Largest number:", find_largest_number(numbers))
```

Terminal Output:

```
> c::; cd 'c:\2403A52029'; & 'c:\Users\jenda nithin patil\AppData\Local\Programs\Python\Python313\python.exe' 'c:\Users\jenda nithin patil\.vscode\extensions\ms-python.debugpy-2025.10.0-win32-x64\bundle\libs\debugpy\launcher' '54329' '--' 'C:\2403A52029\AI LabAssign-5'
Random list: [12, 62, 59, 93, 83, 49, 26, 63, 83, 82, 26, 94, 34]
Largest number: 94
PS C:\2403A52029>
```

2Q- Generate a python function code to reverse a string



The screenshot shows a VS Code editor with a file named 'AI LabAssign-3'. The code defines a function `reverse_string` that takes a string as input and returns the reversed string. It includes a docstring, a check for an empty string, and a loop to reverse the string. Below the function, there's an example usage that prompts the user to enter a string and prints the reversed string. The terminal output shows the execution of the code, displaying the reversed string, 'nitiN'.

```
1 def reverse_string():
2     user_input = input("Enter a string to reverse: ")
3     reversed_str = user_input[::-1]
4     print("Reversed string:", reversed_str)
5
6 # Call the function
7 reverse_string()
```

Terminal Output:

```
Enter a string to reverse: nitin
Reversed string: nitiN
PS C:\2403A52029>
```

3Q-Generate a python function code to find factorial recursion and iteration.

```
AI LabAssign-4 > ...
1  # Recursive version of factorial
2  def factorial_recursive(n):
3      """
4      Returns the factorial of n using recursion.
5      """
6      if n == 0 or n == 1:
7          return 1
8      else:
9          return n * factorial_recursive(n - 1)
10
11 # Iterative version of factorial
12 def factorial_iterative(n):
13     """
14     Returns the factorial of n using iteration.
15     """
16     result = 1
17     for i in range(2, n + 1):
18         result *= i
19     return result
20
21 # Example usage:
22 if __name__ == "__main__":
23     num = 5
24     print("Recursive:", factorial_recursive(num)) # Output: 120
25     print("Iterative:", factorial_iterative(num)) # Output: 120
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS C:\2403A52029> c;; cd 'c:\2403A52029'; & 'c:\Users\jenda nithin patil\AppData\Local\Programs\Python\Python313\python.exe' 'c:\Users\jenda nithin patil\.vscode\extensions\ms-python.debugpy-2025.10.0-win32-x64\bundle\libs\debugpy\launcher' '54158' '--' 'C:\2403A52029\AI LabAssign-3'

Enter a string to reverse: nitin
Reversed string: nitin
PS C:\2403A52029> |

4Q- Generate a python function code to check number is a prime or not.

```
AI LabAssign-2.txt > is_prime
1  def is_prime(n):
2      """Check if a number is prime."""
3      if n <= 1:
4          return False
5      if n == 2:
6          return True
7      if n % 2 == 0:
8          return False
9      for i in range(3, int(n ** 0.5) + 1, 2):
10         if n % i == 0:
11             return False
12     return True
13
14 if __name__ == "__main__":
15     num = int(input("Enter a number: "))
16     if is_prime(num):
17         print(f"{num} is a prime number.")
18     else:
19         print(f"{num} is not a prime number.")
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

Enter a number: 11
11 is a prime number.
PS C:\2403A52029> |