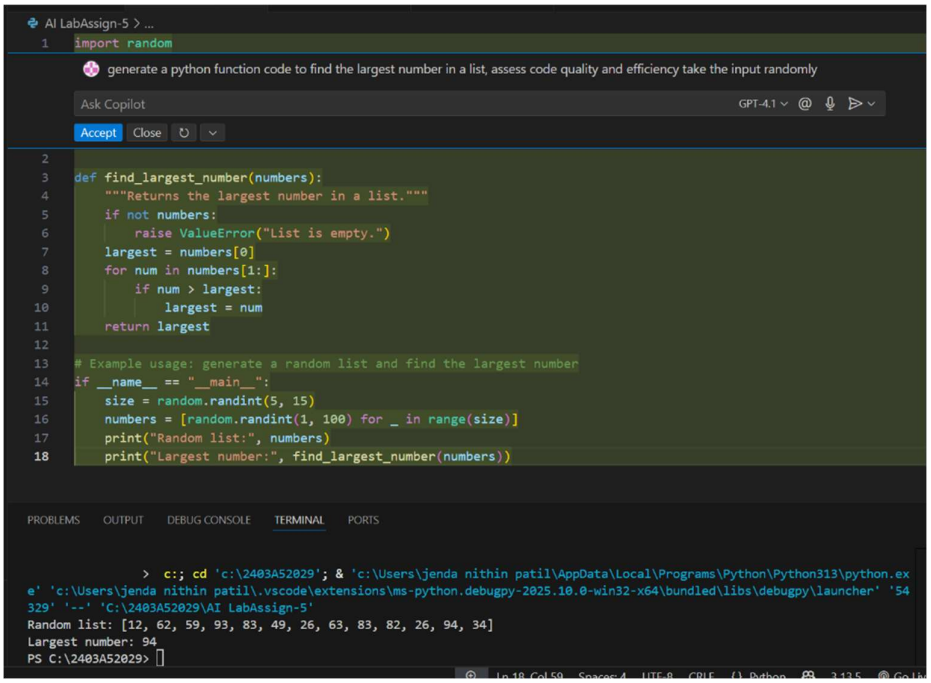
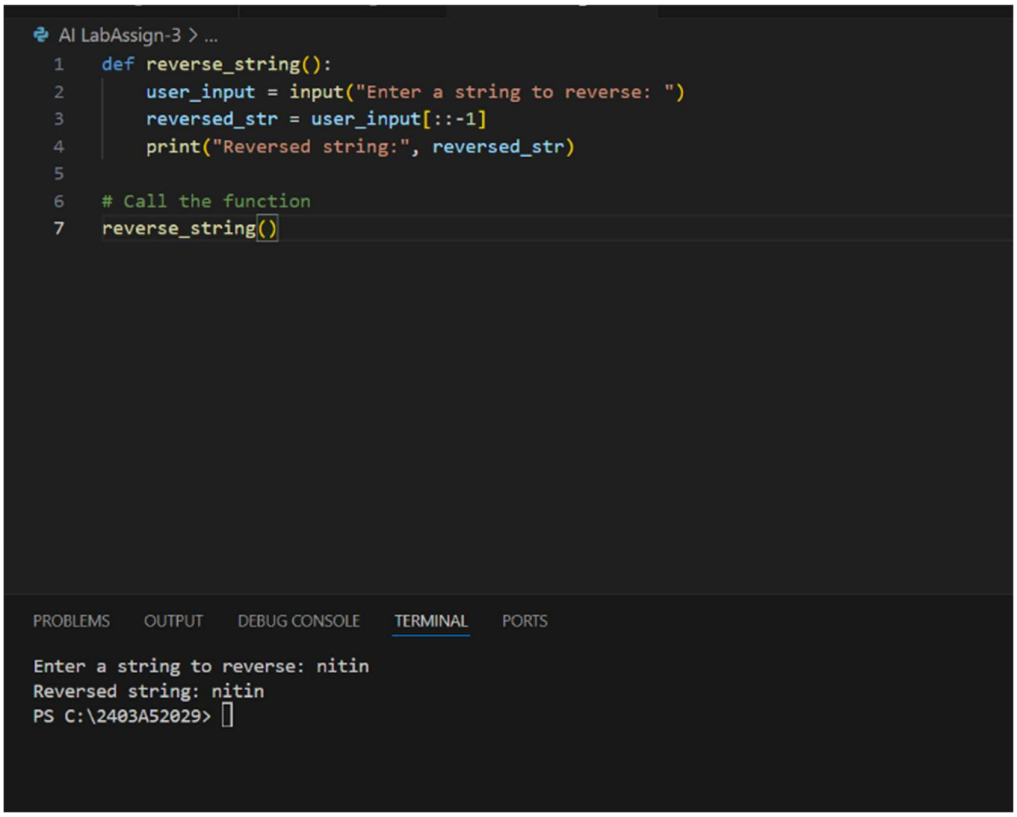
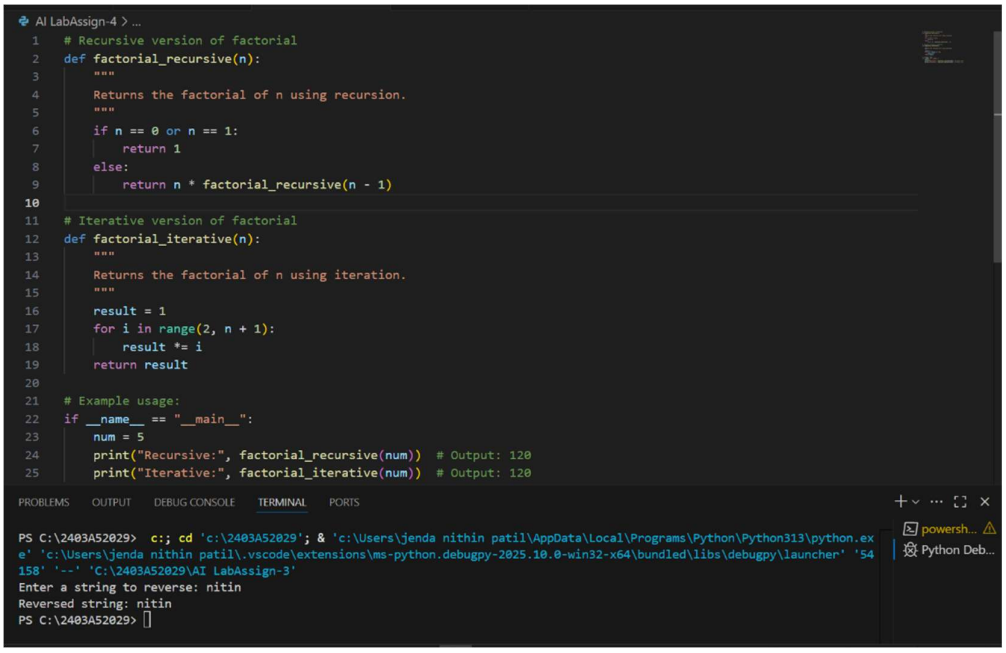
1Q- Generate a python function code to find largest number in a list, assess the quality and efficiency of code.



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



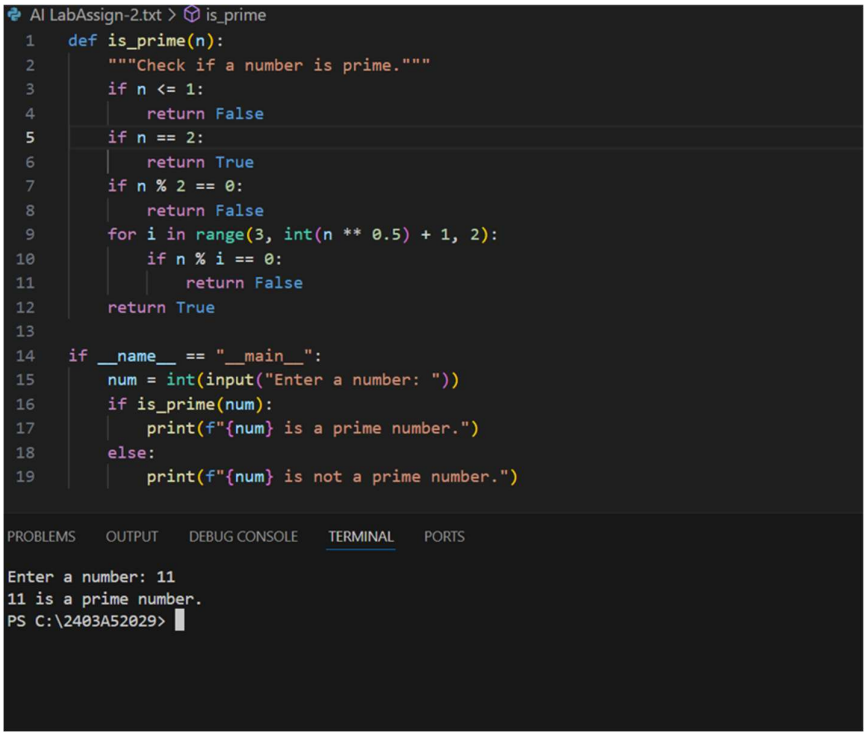
3Q-Generate a python function code to find factorial recursion and iteration.



```
AI LabAssign-4 > ...
# Recursive version of factorial
def factorial_recursive(n):
    """
    Returns the factorial of n using recursion.
    """
    if n == 0 or n == 1:
        return 1
    else:
        return n * factorial_recursive(n - 1)

# Iterative version of factorial
def factorial_iterative(n):
    """
    Returns the factorial of n using iteration.
    """
    result = 1
    for i in range(2, n + 1):
        result *= i
    return result

# Example usage:
if __name__ == "__main__":
    num = 5
    print("Recursive:", factorial_recursive(num))  # Output: 120
    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\bundled\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
def is_prime(n):
    """Check if a number is prime."""
    if n <= 1:
        return False
    if n == 2:
        return True
    if n % 2 == 0:
        return False
    for i in range(3, int(n ** 0.5) + 1, 2):
        if n % i == 0:
            return False
    return True

if __name__ == "__main__":
    num = int(input("Enter a number: "))
    if is_prime(num):
        print(f"{num} is a prime number.")
    else:
        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>
```