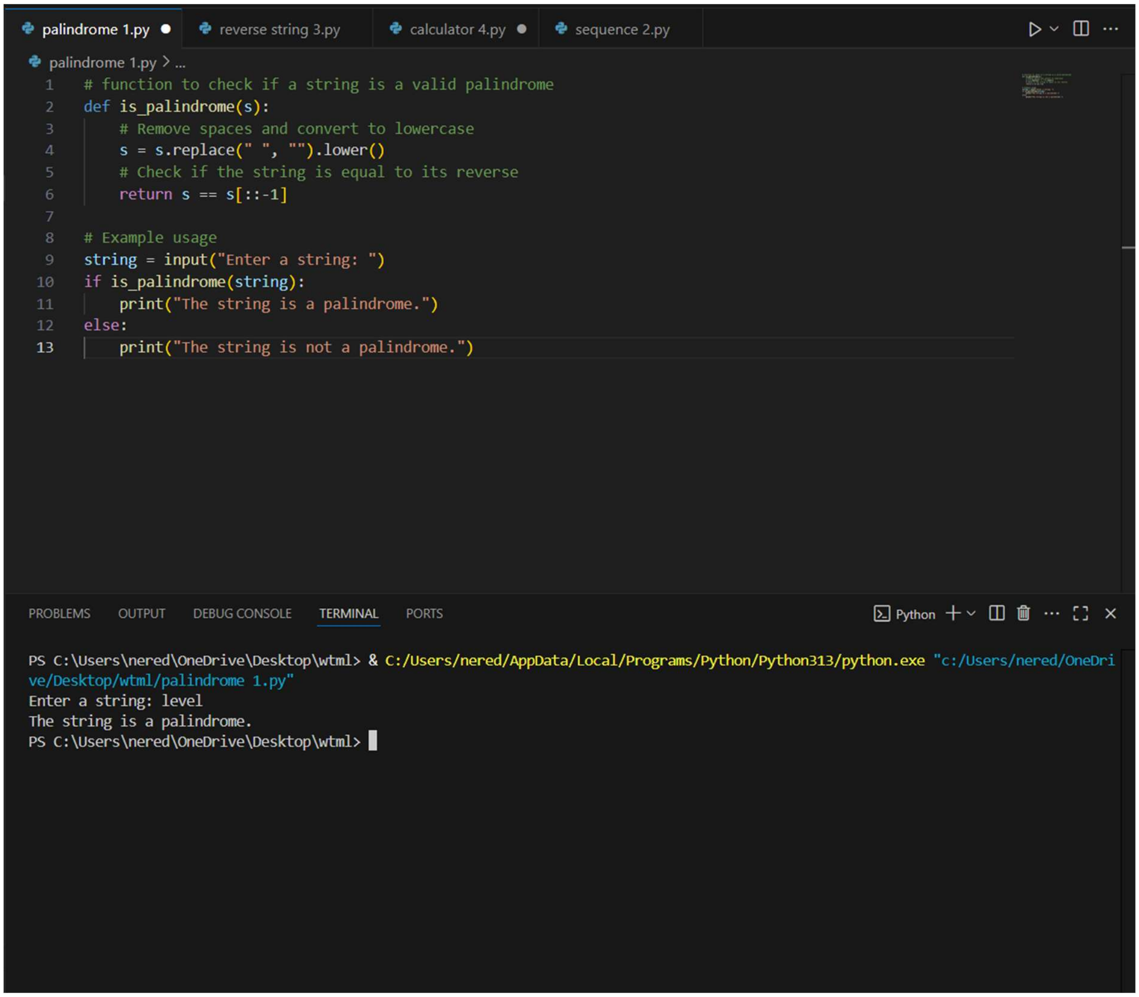
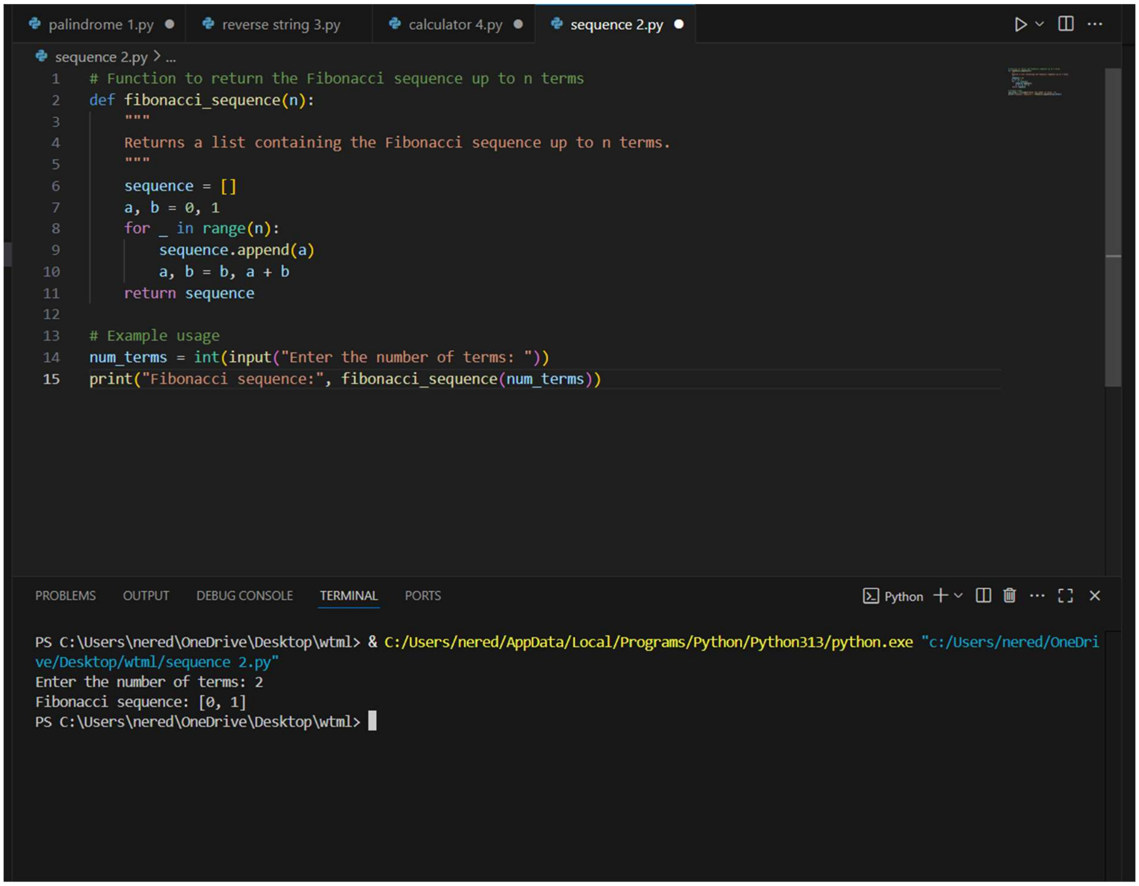
ASSIGNMENT 0.1



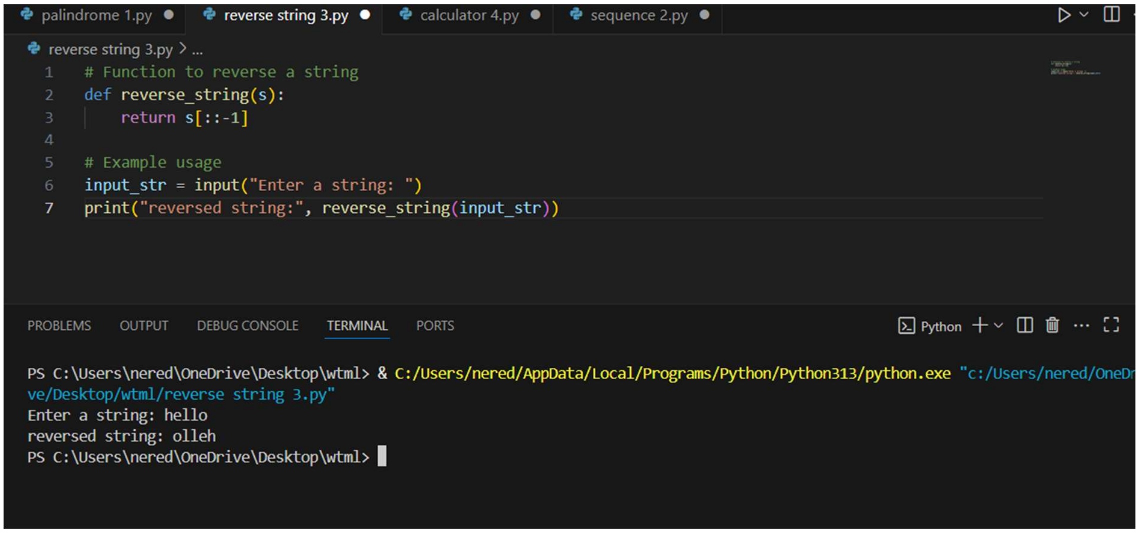
```python
# function to check if a string is a valid palindrome
def is_palindrome(s):
    # Remove spaces and convert to lowercase
    s = s.replace(" ", "").lower()
    # Check if the string is equal to its reverse
    return s == s[::-1]

# Example usage
string = input("Enter a string: ")
if is_palindrome(string):
    print("The string is a palindrome.")
else:
    print("The string is not a palindrome.")
```

```
PS C:\Users\nered\OneDrive\Desktop\wtml> & C:/Users/nered/AppData/Local/Programs/Python/Python313/python.exe "c:/Users/nered/OneDri
ve/Desktop/wtml/palindrome 1.py"
Enter a string: level
The string is a palindrome.
PS C:\Users\nered\OneDrive\Desktop\wtml>
```



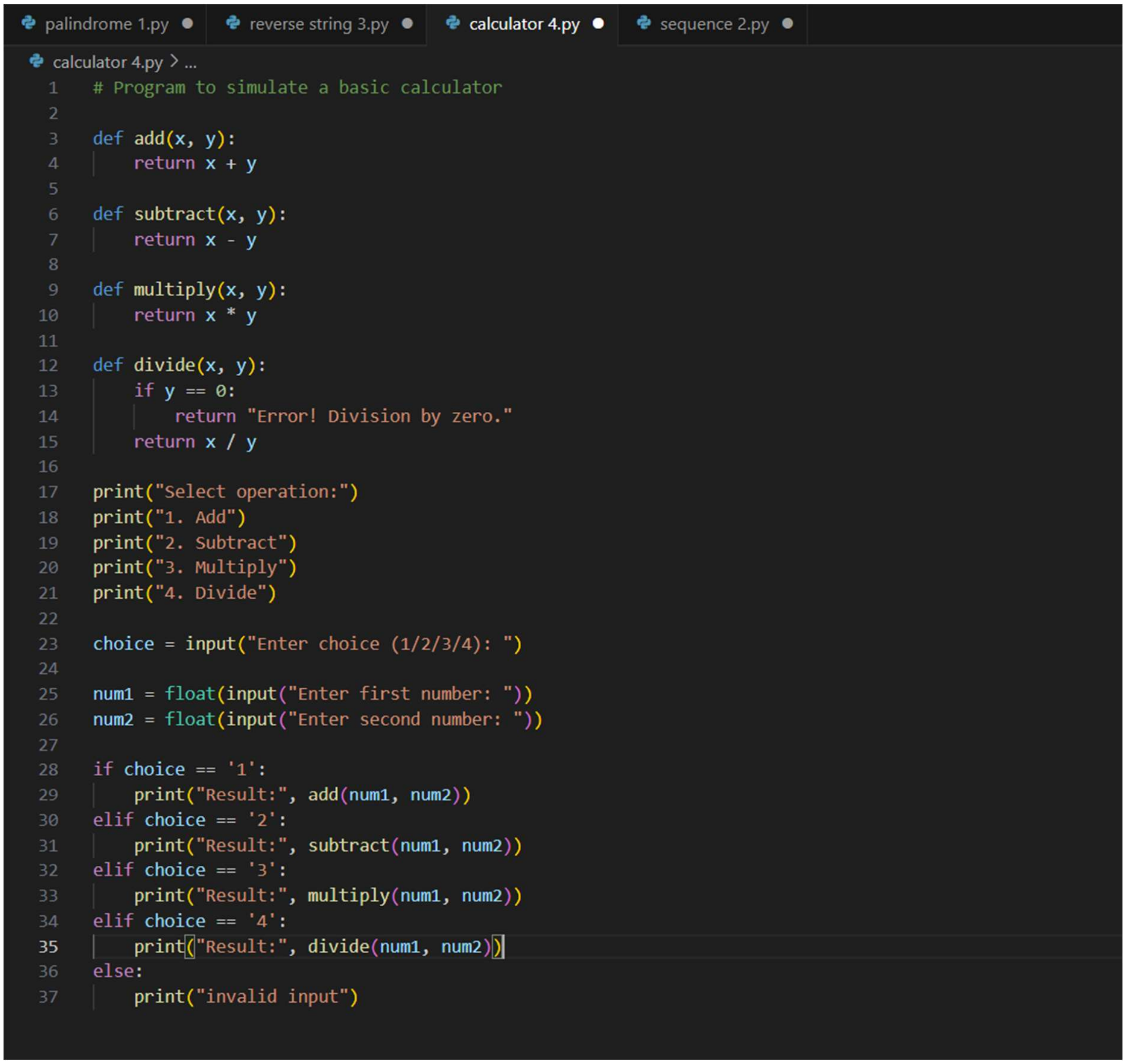
```python
# Function to return the Fibonacci sequence up to n terms
def fibonacci_sequence(n):
    """
    Returns a list containing the Fibonacci sequence up to n terms.
    """
    sequence = []
    a, b = 0, 1
    for _ in range(n):
        sequence.append(a)
        a, b = b, a + b
    return sequence

# Example usage
num_terms = int(input("Enter the number of terms: "))
print("Fibonacci sequence:", fibonacci_sequence(num_terms))
```

```
PS C:\Users\nered\OneDrive\Desktop\wtml> & C:/Users/nered/AppData/Local/Programs/Python/Python313/python.exe "c:/Users/nered/OneDri
ve/Desktop/wtml/sequence 2.py"
Enter the number of terms: 2
Fibonacci sequence: [0, 1]
PS C:\Users\nered\OneDrive\Desktop\wtml> 
```

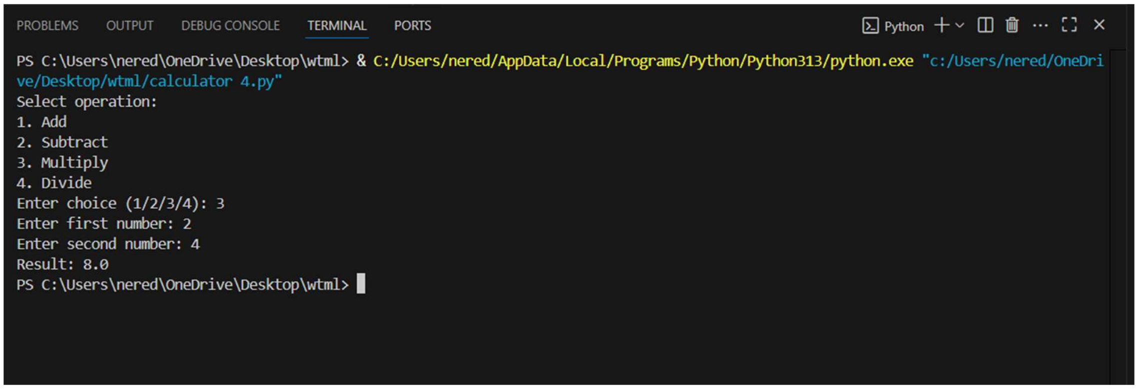


```python
# Function to reverse a string
def reverse_string(s):
    return s[::-1]

# Example usage
input_str = input("Enter a string: ")
print("reversed string:", reverse_string(input_str))
```

```
PS C:\Users\nered\OneDrive\Desktop\wtml> & C:/Users/nered/AppData/Local/Programs/Python/Python313/python.exe "c:/Users/nered/OneDr
ve/Desktop/wtml/reverse string 3.py"
Enter a string: hello
reversed string: olleh
PS C:\Users\nered\OneDrive\Desktop\wtml> 
```



```python
# Program to simulate a basic calculator

def add(x, y):
    return x + y

def subtract(x, y):
    return x - y

def multiply(x, y):
    return x * y

def divide(x, y):
    if y == 0:
        return "Error! Division by zero."
    return x / y

print("Select operation:")
print("1. Add")
print("2. Subtract")
print("3. Multiply")
print("4. Divide")

choice = input("Enter choice (1/2/3/4): ")

num1 = float(input("Enter first number: "))
num2 = float(input("Enter second number: "))

if choice == '1':
    print("Result:", add(num1, num2))
elif choice == '2':
    print("Result:", subtract(num1, num2))
elif choice == '3':
    print("Result:", multiply(num1, num2))
elif choice == '4':
    print("Result:", divide(num1, num2))
else:
    print("invalid input")
```



```
PS C:\Users\nered\OneDrive\Desktop\wtml> & C:/Users/nered/AppData/Local/Programs/Python/Python313/python.exe "c:/Users/nered/OneDri
ve/Desktop/wtml/calculator 4.py"
Select operation:
1. Add
2. Subtract
3. Multiply
4. Divide
Enter choice (1/2/3/4): 3
Enter first number: 2
Enter second number: 4
Result: 8.0
PS C:\Users\nered\OneDrive\Desktop\wtml>
```