Function Problem Set

1. Function to Find Maximum of Three Numbers: Write a Python function that finds the maximum of three numbers.

Sample Input: max_of_three(5, 10, 3)

Expected Output: 10

2. Function to Sum Numbers in a List: Write a Python function that sums all the numbers in a list.

Sample Input: sum_list([8, 2, 3, 0, 7])

Expected Output: 20

3. Function to Multiply Numbers in a List: Write a Python function that multiplies all the numbers in a list.

Sample Input: multiply_list([8, 2, 3, -1, 7])

Expected Output: -336

4. **Program to Reverse a String**: Write a Python program that reverses a given string.

Sample Input: "1234abcd"

Expected Output: "dcba4321"

5. Function to Calculate Factorial: Write a Python function to calculate the factorial of a nonnegative integer and return the factorial value.

Sample Input: factorial(5)

Expected Output: 120

6. Function to Check Number within Range: Write a Python function that checks whether a number falls within a given range.

Sample Input: in_range(5, 1, 10)

Expected Output: True

7. Function to Count Upper and Lower Case Characters: Write a Python function that accepts a string and counts the number of upper and lower case letters.

Sample Input: count_case('The quick Brow Fox')

Expected Output: No. of Upper case characters: 3, No. of Lower case characters: 12

8. **Function to Return Unique Elements from a List**: Write a Python function that takes a list and returns a new list with distinct elements from the first list.

Sample Input: unique_elements([1, 2, 3, 3, 3, 3, 4, 5])

Expected Output: [1, 2, 3, 4, 5]

9. **Function to Check Prime Number**: Write a Python function that takes a number as a parameter and checks whether the number is prime or not.

Sample Input: is_prime(7)

Expected Output: True

10. **Program to Print Even Numbers from a List**: Write a Python program to print the even numbers from a given list.

Sample Input: even_numbers([1, 2, 3, 4, 5, 6, 7, 8, 9])

Expected Output: [2, 4, 6, 8]

11. **Function to Check Perfect Number**: Write a Python function to check whether a number is "Perfect" or not.

Sample Input: is_perfect(28)

Expected Output: True

12. **Function to Check Palindrome**: Write a Python function that checks whether a passed string is a palindrome or not.

Sample Input: is_palindrome("madam")

Expected Output: True