Class 2

**Assignment 1:**

**Statement**: Write a Python program to find the factorial of a number.

**Input**:

num = 5

**Expected Output**:

Factorial of 5 is 120

**Constraints**: Ensure the input is a positive integer.

**Assignment 2**:

**Statement**: Write a Python program to check if a number is prime or not.

**Input**:

num = 11

**Expected Output**:

11 is a prime number

**Constraints**: Ensure the input is a positive integer.

**Assignment** **3**:

**Statement**: Write a Python program to generate Fibonacci series up to n terms.

**Input**:

terms = 10

**Expected Output**:

Fibonacci series up to 10 terms: 0 1 1 2 3 5 8 13 21 34

**Constraints**: Ensure the input is a positive integer.

**Assignment 4**:

**Statement**: Write a Python program to count the number of vowels in a string.

**Input**:

string = "Hello World"

**Expected Output**:

Number of vowels in the string: 3

**Constraints**: Input string can contain both uppercase and lowercase letters.

**Assignment** **5**:

**Statement**: Write a Python program to find the sum of digits in a number.

**Input**:

num = 12345

**Expected Output**:

Sum of digits in the number: 15

**Constraints**: Ensure the input is a positive integer.

**Assignment 6**:

**Statement**: Write a Python program to find the largest element in a list.

**Input**:

numbers = [10, 20, 5, 45, 60]

**Expected Output:**

Largest element in the list: 60

**Constraints**: None

**Assignment** 7:

**Statement**: Write a Python program to find the reverse of a given number.

**Input**:

num = 12345

**Expected Output:**

Reverse of the number: 54321

**Constraints**: Ensure the input is a positive integer.

**Assignment** 8:

**Statement**: Write a Python program to check if a string is a palindrome or not.

**Input**:

string = "radar"

**Expected Output:**

"radar" is a palindrome

**Constraints**: None

**Assignment 9**:

**Statement**: Write a Python program to find the LCM and GCD of two numbers.

**Input**:

num1 = 12

num2 = 20

**Expected Output**:

LCM of 12 and 20 is 60

GCD of 12 and 20 is 4

**Constraints**: Ensure both inputs are positive integers.

**Assignment 10:**

Statement: Write a Python program to find the sum of all prime numbers within a given range.

**Input**:

start = 10

end = 50

**Expected Output:**

Sum of prime numbers between 10 and 50 is 198

**Constraints**: Ensure both inputs are positive integers and start < end.

Assignment 11:

**Statement**: Write a Python program to print the following pattern.

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

**Input**: None

**Expected Output:**

1

1 2

1 2 3

1 2 3 4

1 2 3 4 5

**Constraints**: None

**Assignment 12:**

**Statement**: Write a Python program to print the following pattern.

**Input**: None

**Expected Output:**

**Constraints**: None

**Assignment 13:**

**Statement**: Write a Python program to print the following pattern.

1

2 3

4 5 6

7 8 9 10

**Input**: None

**Expected Output:**

1

2 3

4 5 6

7 8 9 10

**Constraints**: None

**Assignment 14:**

**Statement**: Write a Python program to print the following pattern.

A

B C

D E F

G H I J

K L M N O

**Input**: None

**Expected Output:**

A

B C

D E F

G H I J

K L M N O

**Constraints**: None

**Assignment 15:**

**Statement**: Write a Python program to print the following pattern.

1

2 4

3 6 9

4 8 12 16

5 10 15 20 25

**Input**: None

**Expected Output:**

1

2 4

3 6 9

4 8 12 16

5 10 15 20 25

**Constraints**: None