Registration id - SIRSS1066

Name - Himanshu Monat

College / Organization - MIT, Ujjain / Xoriant Solutions

Subject - Assignment 3 - Functions

Q1. Write a function to return nth term of Fibonacci sequence

In [2]:
```
def fibonacci(inp) :
    if inp <= 1 :
        return inp
    else :
        return (fibonacci(inp-1) + fibonacci(inp-2))

n = int(input("Enter a Number : "))

if n < 0 :
    print("Please Enter Positive Number ")
else :
    for i in range(n) :
        print(fibonacci(i), end = " ")
```

```
Enter a Number : 7
0 1 1 2 3 5 8
```

Q2. Write a function to find out GCD of two numbers using EUCLID'S algorithm

In [3]:
```
def gcd(n1, n2) :
    if n2 == 0 :
        return n1
    else :
        return gcd(n2, n1 % n2)

inp1 = int(input("Enter first Number : "))
inp2 = int(input("Enter second Number : "))

print(f"GCD of ({inp1},{inp2}) = ", gcd(inp1, inp2))
```

```
Enter first Number : 5
Enter second Number : 6
GCD of (5,6) =  1
```

Q3. Write a function to find LCM of two number in most optimizers way.

In [4]:
```
def gcd(n1, n2) :
    if n2 == 0 :
        return n1
    else :
        return gcd(n2, n1 % n2)

def lcm(n1, n2) :
    return (n1 / gcd(n1,n2)) * n2

inp1 = int(input("Enter first Number : "))
inp2 = int(input("Enter second Number : "))

print(f"LCM of ({inp1},{inp2}) = ", lcm(inp1, inp2))
```

```
Enter first Number : 6
Enter second Number : 29
LCM of (6,29) =  174.0
```