# Assignment 3

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

In [6]:

```
def fibo(num):
    a = 0
    b = 1
    c = 0
    fiboList = []
    fiboList.append(a)
    fiboList.append(b)
    for i in range(num):
        c = a + b
        fiboList.append(c)
        a = b
        b = c
    return fiboList[num]

n = int(input("Enter term value : "))
print("%dth term of Fibonacci sequence is %d."%(n,fibo(n)))
```

```
Enter term value : 7
7th term is 13.
```

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

In [18]:

```
def gcd(a, b):
    if a == 0 :
        return b
    return gcd(b%a, a)

n1 = int(input("Value 1 : "))
n2 = int(input("Value 2 : "))
print("GCD of %d and %d is %d."%(n1,n2,gcd(n1,n2)))
```

```
Value 1 : 90
Value 2 : 50
GCD of 90 and 50 is 10.
```

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

In [27]:

```
def lcm(a, b):
    n1 = a
    n2 = b
    while n2!=n1:
        if n2 > n1:
            n1 += a
        else:
            n2 += b
    return n2

a = int(input("Enter value 1 : "))
b = int(input("Enter value 2 : "))
print("LCM is :",lcm(a,b))
```

```
Enter value 1 : 10
Enter value 2 : 23
LCM is : 230
```