

Assignment 3

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GitHub : https://github.com/ORION-22/RegexSoftware_ASSIGNMENT.git

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

0, 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144,

In [12]:

```
def Fibonacci(n):
    if n<0:
        print("Incorrect input")
    elif n==0:
        return 0
    elif n==1:
        return 1
    else:
        return Fibonacci(n-1)+Fibonacci(n-2)

a = int(input("Enter the n'th number:"))
print(Fibonacci(a))
```

Enter the n'th number:11
89

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

In [8]:

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

a = int(input("Enter first number:"))
b = int(input("Enter second number:"))
if(gcd(a, b)):
    print('GCD of', a, 'and', b, 'is', gcd(a, b))
else:
    print('not found')
```

Enter first number:725
Enter second number:25
GCD of 725 and 25 is 25

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

In [3]:

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

def lcm(a,b):
    return (a / gcd(a,b)) * b

a = int(input("Enter first number:"))
b = int(input("Enter second number:"))
print('LCM of', a, 'and', b, 'is', lcm(a, b))
```

Enter first number:10
Enter second number:20
LCM of 10 and 20 is 20.0

In []: