Assignment 2

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Subject-Function

In [ ]:

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

nthterm=int(input("Enter the nth term:"))
num1=0
num2=1
for i in range(1,nthterm):
  print(num1)
  num3=num1+num2
  num1=num2
  num2=num3
```

```
Enter the nth term:10
0
1
1
2
3
5
8
13
21
```

In [ ]:

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

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

    return gcd(b%a, a)

a = 10
b = 15
print("gcd(", a , "," , b, ") = ", gcd(a, b))

a = 35
b = 10
print("gcd(", a , "," , b, ") = ", gcd(a, b))

a = 31
b = 2
print("gcd(", a , "," , b, ") = ", gcd(a, b))
```

```
gcd( 10 , 15 ) =  5
gcd( 35 , 10 ) =  5
gcd( 31 , 2 ) =  1
```

In [ ]:

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

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

# Function to return LCM of two numbers
```

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

# Driver program to test above function
a = 15
b = 20
print('LCM of', a, 'and', b, 'is', lcm(a, b))
```

```
LCM of 15 and 20 is 60.0
```