Assignment 1 :

Source Code :

Recursion –

```
# Python program to display the Fibonacci sequence

def recur_fibo(n):
  if n <= 1:
     return n
  else:
     return(recur_fibo(n-1) + recur_fibo(n-2))

nterms = 10

# check if the number of terms is valid
if nterms <= 0:
  print("Plese enter a positive integer")
else:
  print("Fibonacci sequence:")
  for i in range(nterms):
     print(recur_fibo(i))
```

Output :

Fibonacci sequence:

0

1

1

2

3

5

8

13

21

34

Without Recursion :

Source Code –

```
first = 0
second = 1
n = 10
print(first)
print(second)

for i in range(1, n):
   third = first+second
   first,second = second,third
   print(third)
```

Output :

```
0
1
1
2
3
5
8
13
21
34
55
```