Roll_NO:02

DAA Practical NO:1

#Fibonacci Sequence using **Non-recursive approach:**

#Code:

```
#include <iostream>
using namespace std;
int main()
{
int n;
   cin>>n;
   int a=0;
   int b=1;
   cout<<"Fibonacci sequence:"<<endl;
   cout<<a<<endl;
   cout<<b<<endl;
   for(int i=2;i<n;i++){
      int c=a+b;
      cout<<c<<endl;
      a=b;
      b=c;

   }
   return 0;
}
```

#Output:

```
5
Fibonacci sequence:
0
1
1
2
```

3

#Fibonacci Sequence using **Recursive approach**:

```
#include <iostream>
using namespace std;
int fib(int n){
   if(n==0){
      return 0;
   }
   if(n==1){
      return 1;

   }


   return fib(n-1)+fib(n-2);
}

int main()
{   int n;
   cin>>n;
   cout<<"Fibonacci Sequence:"<<endl;
   for(int i=0;i<n;i++){
     cout<<fib(i)<<endl;

   }
   return 0;
}
```

#output:

6

Fibonacci Sequence:

0

1

1

2

3

5