

## Implementation - 1

Let,  $n = 4$

fibonacci-1(4)

level-1  $\Rightarrow$  fib-1(3)

fib-1(2)

level-2  $\Rightarrow$  fib-1(2) fib-1(1)

fib-1(1) fib-1(0)

In level-1, function is called  $2^4$  times and  
in level-2, it is called  $2^2$  times.  
In the worst case scenario the time complexity  
will be can be  $2^n$ .  
 $\therefore$  Time complexity =  $O(2^n)$

## Implementation - 2

There is only one loop. Therefore.  
Time complexity =  $O(n)$

$\therefore$  Time complexity of  
Implementation 1 } Implementation 2