

Hands on-4

Problem-0:-

Implement the Fibonacci sequence

 $x = \text{fib}(n)$ If $n == 0$

return 0

If $n == 1$

return 1

return $\text{fib}(n-1) + \text{fib}(n-2)$ $\text{fib}(5) \rightarrow \text{fib}(4) \rightarrow \text{fib}(3) \rightarrow \text{fib}(2) \rightarrow \text{fib}(1) \rightarrow \text{fib}(0)$ $\text{fib}(2) \rightarrow \text{fib}(1) \rightarrow \text{fib}(0)$ $\text{fib}(3) \rightarrow \text{fib}(2) \rightarrow \text{fib}(1) \rightarrow \text{fib}(0)$ $\text{fib}(4) \rightarrow \text{fib}(3) \rightarrow \text{fib}(2) \rightarrow \text{fib}(1) \rightarrow \text{fib}(0)$ Time Complexity :-The time complexity is $O(2^n)$.