fibonacci

Recursive

$n > 1 \quad = \quad n-1$

and

$n-2$

$$T(n) = T(n-1) + T(n-2) + O(1)$$

$(n <= 1 \text{ or } n == 1)$

$$\Theta(2^n)$$

non-Recursive

Base conditions

$(n <= 0$ and $n == 1)$

$O(1)$

loop $n-2$

$(i = 2$ to $i = n-1)$

$O(n)$

$$O(1) + O(n) = O(n)$$

$$O(N)$$