

Primos

$$T(n) = 1 + \sum_{i=2}^{n-1} 1 + 1$$

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

$$T(n) = 2n$$

Complejidad: $O(n)$

Perfectos

$$T(n) = 1 + \sum_{i=1}^{n-1} 1 + 1$$

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

$$T(n) = 1 + n$$

Complejidad: $O(n)$

Primos

$$T(n) = 1 + \sum_{i=2}^{n-1} (1+1) + 1$$

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

$$T(n) = 2n - 2$$

Complejidad: $O(n)$

Perfectos

$$T(n) = 1 + \sum_{i=1}^{n-1} (1+1) + 1$$

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

$$T(n) = 2n$$

Complejidad: $O(n)$

⑦

~~$$T(n) = 1 + 1 + 1 + \sum_{i=1}^{n+1} n + \sum_{i=1}^{n+1} 1$$~~

⑦

$$T(n) = 1 + 1 + 1 + \sum_{i=1}^{n+1} (n+1 + n+1) + 1 + 1$$

$$T(n) = 5 + (2n+2) \cdot (n+1)$$

$$T(n) = 5 + 2n^2 + 2n + 2n + 2$$

$$T(n) = 2n^2 + 4n + 7$$

Complejidad: $O(n^2)$

③

$$T(n) = 1 + \sum_{i=1}^n 1 + \max(1+1, 1 + \sum_{j=1}^n \left(\sum_{k=1}^j 1 \right) + 1 + T\left(\frac{n}{2}\right) + 1)$$

$$T(n) = n^2 + n + 4 + T\left(\frac{n}{2}\right)$$

$$n \equiv 2^k$$

$$T(2^k) = 4 + 2^k + 4^k + T(2^{k-1})$$

$$T(2^k) \equiv x^k$$

$$x^k = 4 + 2^k + 4^k + x^{k-1}$$

HOMOGENEA

$$x^k - x^{k-1} = 0$$

$$x^{k-1}(x-1) = 0$$

$$x = 1$$

$$x^h = A \cdot 1^n = A$$

PARTICULAR

$$x^{k-1}(x-1) = 4 + 2^k + 4^k$$

$$x=2 \quad x=4$$

$$x^p = B \cdot 2^k + C \cdot 4^k$$

$$x = x^h + x^p = A + B \cdot 2^k + C \cdot 4^k$$

$$x = A + Bn + Cn^2$$

Complejidad: $O(n^2)$