

$Cont \leftarrow 2^n$
 For $j \leftarrow 1$ to n do
 $S \leftarrow Cont$
 While $S \geq 1$ do
 $S \leftarrow S/2$
 and while
 end For
 Return S

While

$$S_0 = 2^n$$

$$S_1 = \frac{S_0}{2} = \frac{2^n}{2^2}$$

$$S_2 = \frac{S_1}{2} = \frac{2^n}{2^3}$$

$$S_k = \frac{S_{k-1}}{2^k} = \frac{2^n}{2^k}$$

Despejando

$$\frac{2^n}{2^k} \leq 1 \Rightarrow 2^n \leq 2^k \Rightarrow n \leq k$$

$$O(f(n)) = O(n^2)$$

$$While = 3n$$

$$For = n$$

$$T(n) = 3n^2 + 2$$