

$$1) T(n) \begin{cases} c_1 & n \leq 1 \\ c_2 + T(n-1) & \end{cases}$$

paso 1 $c_2 + T(n-1) \quad n > 1$

paso 2 $c_2 + (c_2 + T(n-1-1)) \quad n-1 > 1$

paso 3 $c_2 + c_2 + c_2 + T(n-1-1-1) \quad n-2 > 1$

paso i $i c_2 + T(n-i)$

$$n-i \leq 1$$

$$n \leq 1+i$$

$$n-1 \leq i$$

$$(n-1)c_2 + T(n-(n-1))$$

$$nc_2 - c_2 + T(1)$$

$$nc_2 - c_2 + c_1$$

$$\begin{aligned} c_1 < n & \begin{cases} c = c_1 \\ N_0 = 1 \end{cases} & n < n & \begin{cases} c = c_2 \\ N_0 = 0 \end{cases} & -c_2 < n & \begin{cases} c = 0 \\ N_0 = 0 \end{cases} \\ c_1 < c_1 n & \begin{cases} N_0 = 1 \end{cases} & nc_2 < c_2 n & \begin{cases} N_0 = 0 \end{cases} & \end{aligned}$$

$$c_1 < n \begin{cases} c = c_1 \end{cases}$$

$$c_1 < c_1 n \begin{cases} N_0 = 1 \end{cases}$$

$$T(n) \leq O(n), \quad c = c_1 + c_2, \quad N \geq N_0, \quad N_0 = 1$$