

$$T(n) = \sum_{i=0}^{n-1} \sum_{j=0}^{n-1} T_1 + \sum_{k=0}^{n-1} \sum_{i=0}^{n-1} \sum_{j=0}^{n-1} T_2$$

$$\sum_{i=0}^{n-1} \sum_{j=0}^{n-1} T_1 = \sum_{i=0}^{n-1} (n \cdot T_1) = n \cdot (n T_1) = n^2 T_1$$

$$\sum_{k=0}^{n-1} \sum_{i=0}^{n-1} \sum_{j=0}^{n-1} T_2 = \sum_{k=0}^{n-1} \sum_{i=0}^{n-1} (n \cdot T_2) = \sum_{k=0}^{n-1} (n^2 T_2) = n \cdot (n^2 T_2) = n^3 T_2$$

$$T(n) = n^2 T_1 + n^3 T_2$$

**Verificación de cotas:**

$$\lim_{n \rightarrow \infty} \frac{T(n)}{n^3} = \lim_{n \rightarrow \infty} \frac{n^2 T_1 + n^3 T_2}{n^3} = \lim_{n \rightarrow \infty} (T_1 n^{-1} + T_2) = T_2 \quad (> 0) \implies T(n) \in \Theta(n^3), O(n^3), \Omega(n^3).$$

$$\lim_{n \rightarrow \infty} \frac{T(n)}{n^2} = \lim_{n \rightarrow \infty} (T_1 + T_2 n) = +\infty \implies T(n) \notin O(n^2).$$

$$\lim_{n \rightarrow \infty} \frac{T(n)}{n^4} = \lim_{n \rightarrow \infty} (T_1 n^{-2} + T_2 n^{-1}) = 0 \implies T(n) \in o(n^4).$$