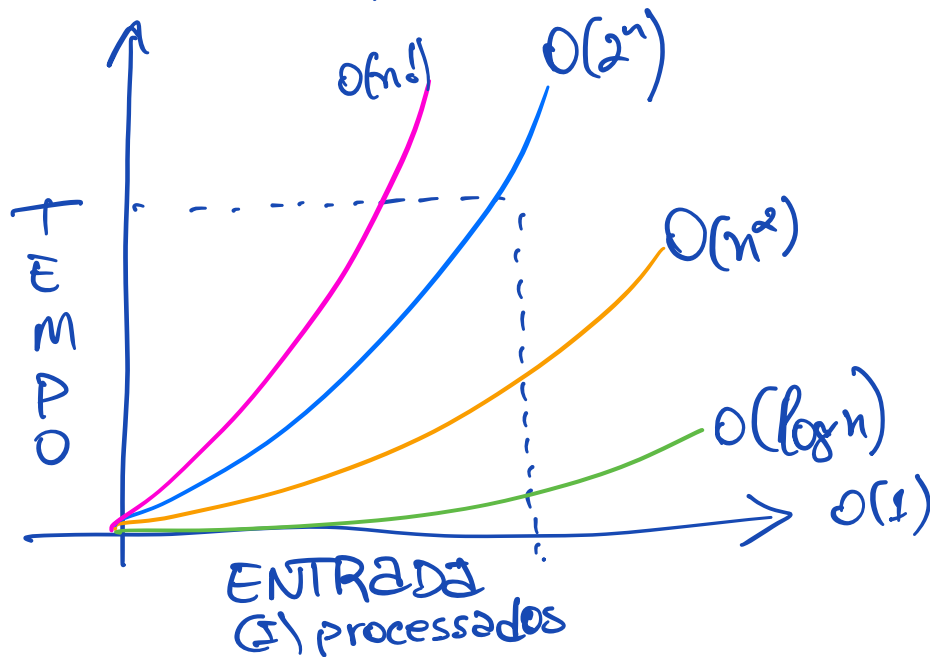


Big O Grande Ordem



$$\begin{array}{l}
 O(1) \leftarrow O(n^2) \\
 O(\log n) \leftarrow O(n^3) \\
 O(n) \leftarrow O(2^n) \\
 O(n \log n) \leftarrow O(n!)
 \end{array}
 \begin{array}{l}
 \uparrow \text{best } \oplus \\
 \downarrow \text{bad } \ominus
 \end{array}$$

função fatorial

①.

Análise Assintótica

Bubble sort: Custo quadrático, onde para cada elemento do array, ele varre todos os elementos do array.

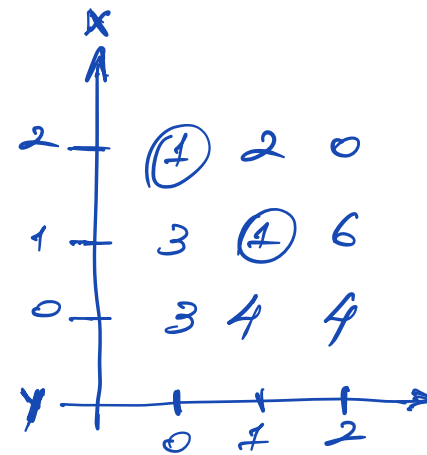
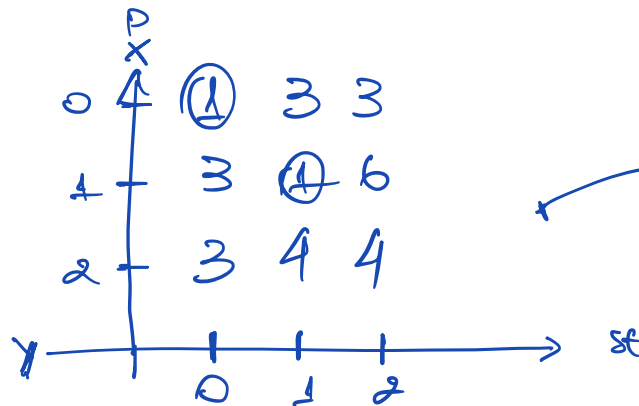
$$(n)^{n^2}$$

Quick Sort: Custo mais baixo, onde pode ser mais rápido.
 Onde Array particiona outros Arrays (matrizes).

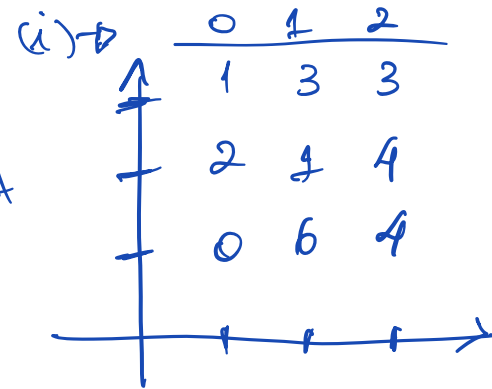
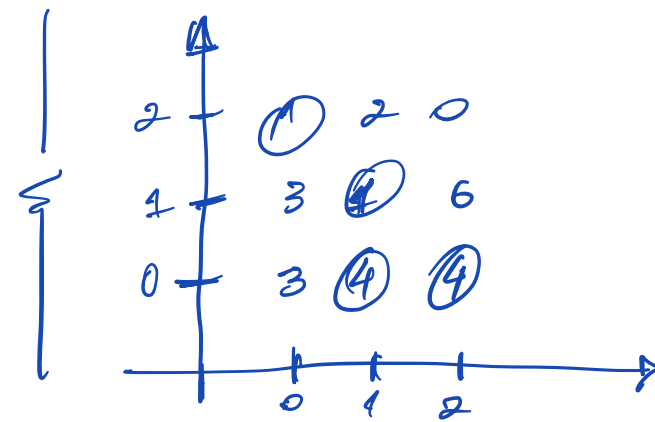
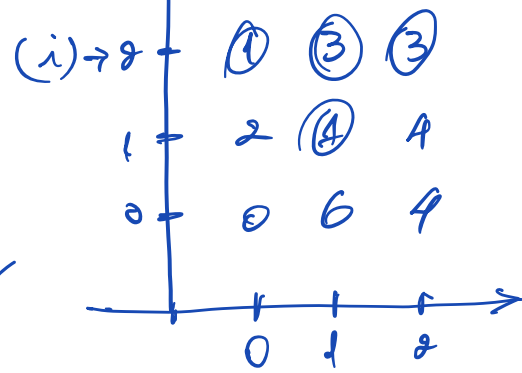
7 3 4
 5 5 3
 2 9 2

| P | L | St | Ste |
|---|---|----|-----|
| 0 | 7 | 0 | 0 |

7 5 2
 3 5 4
 4 3 2
 6 2 1



$(0,0): (0,1): (0,2)$



| | 0 | 1 | 2 |
|---|-----|-----|-----|
| 0 | q0 | q1 | q2 |
| 1 | 1,0 | 1,0 | 1,2 |
| 2 | 2,0 | 2,1 | 2,2 |