

Algorítmica: práctica 1

Análisis de la eficiencia de algoritmos

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Test

Hola a todos

Me gustan los ponies

Helicóptero

$$f_x = x^4 + 5$$

- Unicornio
- Pony
- Caballo

1. Unicornio
2. Pony
3. Caballo

Teorema

Esto es un teorema.

Corolario

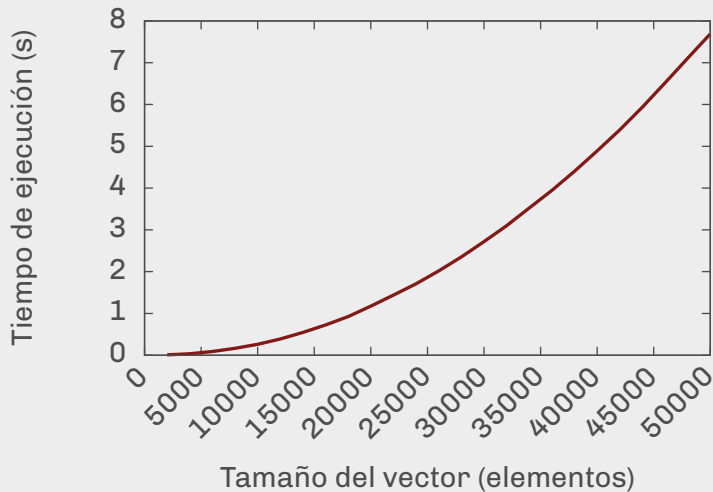
Esto es un corolario.

Demostración.

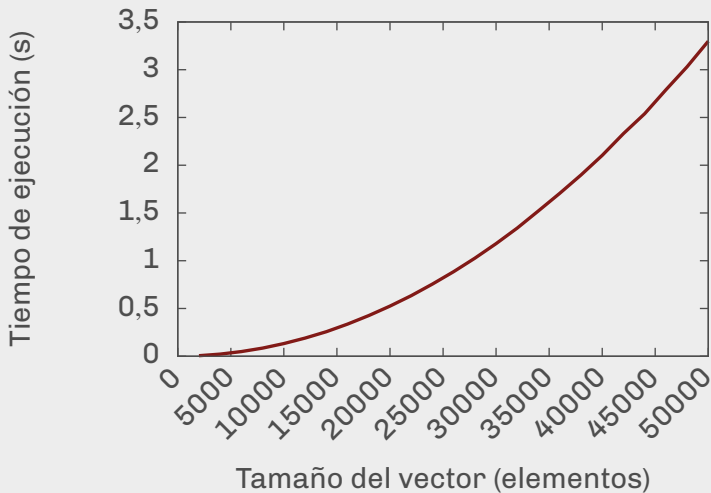
$$d((t, x), (t_0, x_0)) = \sqrt{(t - t_0)^2 + (x - x_0)^2} < \varepsilon_0$$



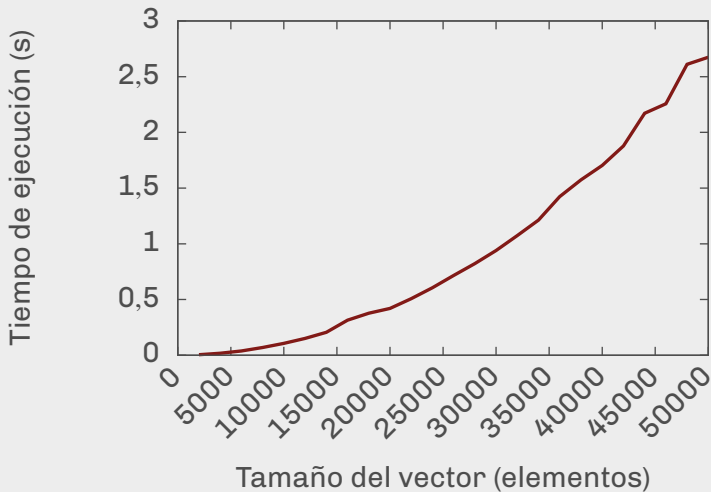
burbuja-linux-00



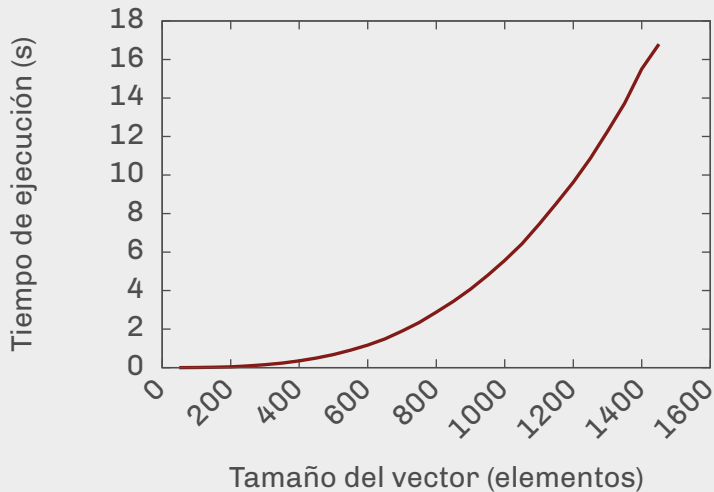
seleccion-linux-00



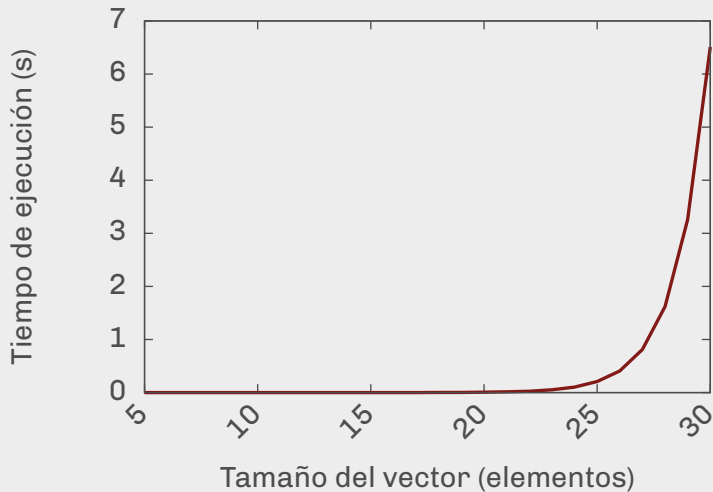
insercion-linux-00



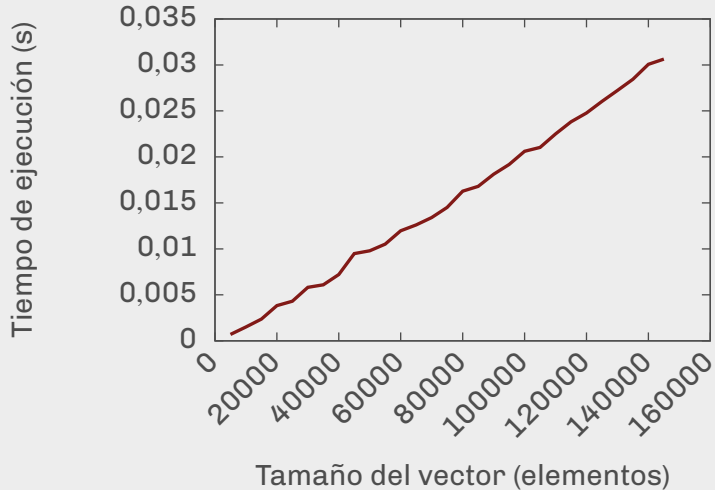
floyd-linux-00



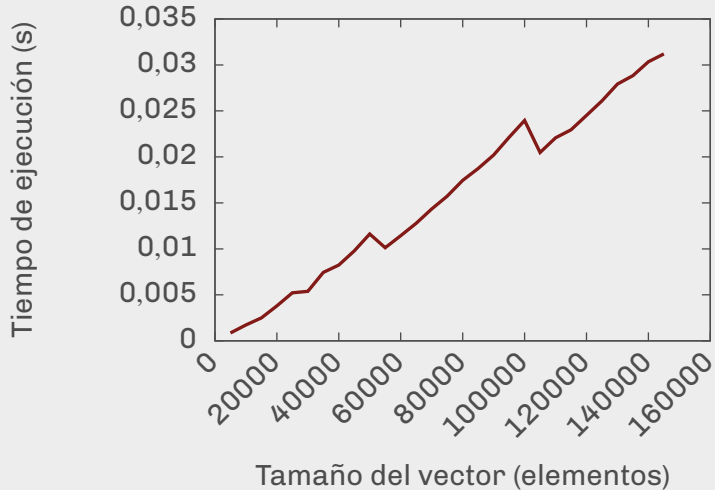
hanoi-linux-00

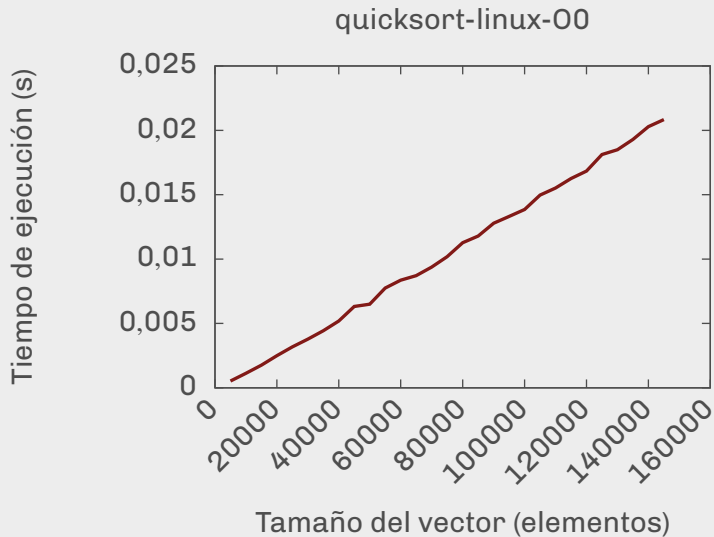


heapsort-linux-00

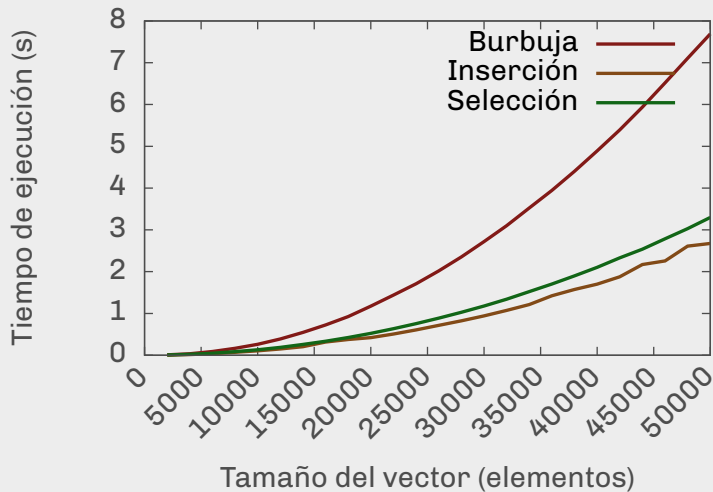


mergesort-linux-00

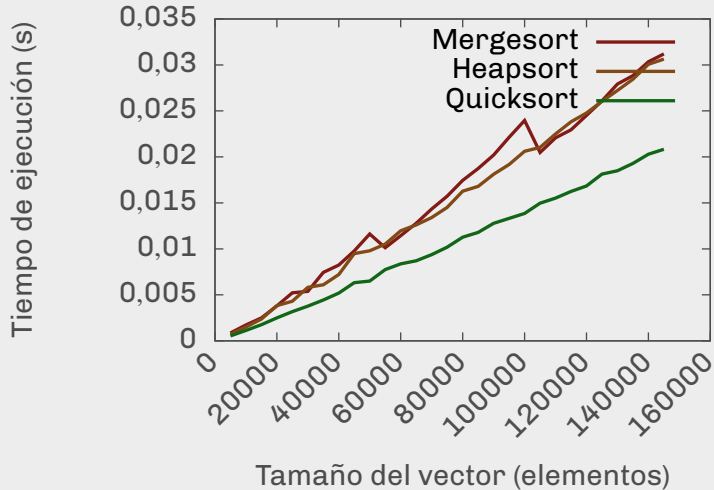




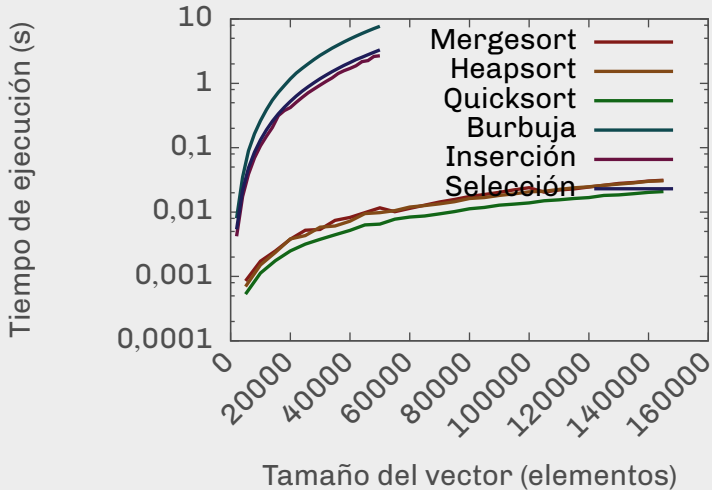
Algoritmos de ordenación $O(n^2)$



Algoritmos de ordenación $O(n \log n)$



Algoritmos de ordenación



| Elementos | Burbuja | Selección | Inserción |
|-----------|----------------------|----------------------|----------------------|
| 2,000 | $8,02 \cdot 10^{-3}$ | $5,4 \cdot 10^{-3}$ | $4,21 \cdot 10^{-3}$ |
| 4,000 | $3,5 \cdot 10^{-2}$ | $2,17 \cdot 10^{-2}$ | $1,74 \cdot 10^{-2}$ |
| 6,000 | $8,93 \cdot 10^{-2}$ | $4,84 \cdot 10^{-2}$ | $3,87 \cdot 10^{-2}$ |
| 8,000 | 0,16 | $8,52 \cdot 10^{-2}$ | $6,94 \cdot 10^{-2}$ |
| 10,000 | 0,26 | 0,13 | 0,11 |
| 12,000 | 0,39 | 0,19 | 0,15 |
| 14,000 | 0,55 | 0,26 | 0,21 |
| 16,000 | 0,73 | 0,34 | 0,32 |
| 18,000 | 0,93 | 0,43 | 0,38 |
| 20,000 | 1,18 | 0,52 | 0,42 |
| 22,000 | 1,44 | 0,63 | 0,51 |
| 24,000 | 1,71 | 0,76 | 0,61 |
| 26,000 | 2,02 | 0,89 | 0,72 |
| 28,000 | 2,35 | 1,03 | 0,82 |
| 30,000 | 2,72 | 1,18 | 0,94 |
| 32,000 | 3,1 | 1,34 | 1,07 |
| 34,000 | 3,53 | 1,52 | 1,21 |
| 36,000 | 3,95 | 1,71 | 1,42 |
| 38,000 | 4,4 | 1,9 | 1,57 |
| 40,000 | 4,89 | 2,1 | 1,7 |
| 42,000 | 5,39 | 2,33 | 1,88 |
| 44,000 | 5,94 | 2,54 | 2,17 |
| 46,000 | 6,52 | 2,79 | 2,26 |
| 48,000 | 7,11 | 3,03 | 2,61 |
| 50,000 | 7,69 | 3,3 | 2,67 |

Algoritmos que
son $O(n^2)$