

4.1.8:

- a) $O(n^4)$
- b) $O(n \cdot \lg^2(n))$
- c) $O(n)$
- d) $O(n^2)$
- e) $O(\log(n))$

4.1.10:

Quadratic time

4.1.11:

It will take about 125 seconds. The algorithm is quadratic.

4.1.27:

A. 5.4 seconds.

I assume it is quadratic time, the equation is

$$y = 4.265 \cdot 10^{-12} \cdot x^2 + 1.175 \cdot 10^{-6} \cdot x - 0.00011796.$$

B. 17 hours.

I assume it is linear time, the equation is $y = 0.001021 \cdot x - 0.1111$.

C. 11 days.

I assume it is quadratic time, the equation is $y = 1.007 \cdot 10^{-6} \cdot x^2 + 0.0001506 \cdot x - 0.1571$