1. For a given computer, it takes 100µs to find the minimum element in an unsorted array of 1,000 elements. How long will it take to find the minimum element in an unsorted array of 10,000 elements?

2. For a given computer, it takes 1µs to find the minimum element in a sorted array of 1,000 elements. How long will it take to find the minimum element in a sorted array of 100,000 elements?

3. For a given computer, it takes 1µs to insert an element in a heap of size 1,000. How long will it take to insert an element in a heap of size 1,000,000?

4. For a given computer, it takes 1ms to run Towers of Hanoi for 15 disks. How long will it take to solve the problem with 25 disks?

5. For a given computer, it takes 1ms to sort an array of 1,000 elements using selection sort. How long will it take to sort an array of 2,000 elements?

6. For a given computer, it takes 1µs to run sequential search for a problem of size 10,000. What is the largest instance of sequential search that it can solve in 2µs?

7. For a given computer, it takes 1µs to run binary search for a problem of size 10,000. What is the largest instance of binary search that it can solve in 2µs?

8. For a given computer, it takes 1ms to run Towers of Hanoi for a problem of size 20. What is the largest instance of Towers of Hanoi that it can solve in 4ms?

9. For a given computer, it takes 1ms to sort an array of 1,000 elements using insertion sort. What is the largest array that it can sort in 16ms?