



Check course website for course material

Done with learning new programming concepts in Javascript. Programs people use to do things change. It is good to know how the computer thinks. First apply more advanced computing topics to data using Javascript today.

Find the number 42. (Out of the 8 doors)

Randomly choose a door. No way to determine.

Strategy we are using is linear search.

If we know that data is sorted. Start from the middle. either to the left or to the right.

Called Binary Search.

If 7, then in linear search, how many time do we have to look to find the data.

1 2 3 4 5 6 7

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1 2 3

*

3

*

We had to make 3 comparisons to find the middle element.

Q1) What is the worst case running time for a binary search with 15 values?

A. 3

B. 4

C. 5

D. 15

Pick the middle element, eliminate half of them.

Q2) What is the worst case running time for a linear search with 31 values?

- A) 3
- B) 4
- C) 5
- D) 31

Q3) What is the worst case running time for a binary search with 31 values?

- A) 3
- B) 4
- C) 5
- D) 31

Facebook needs to use binary search. Just needs comparison 22 times to find someone out of a million.

SELECTION SORT

50	34	87	13	11	58	17	29	52
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swapped 11 with 50

11	34	87	13	50	58	17	29	52
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Repeat this with the rest of the data.

Smallest element with the rest of the data? → 13. Now first 2 elements are sorted. Continue the process.

50	34	87	13	11	58	17	29	52
11	34	87	13	50	58	17	29	52
11	13	87	34	50	58	17	29	52
11	13	17	34	50	58	87	29	52
11	13	17	29	50	58	87	34	52
11	13	17	29	34	58	87	50	52
11	13	17	29	34	50	87	58	52
11	13	17	29	34	50	52	58	87