

19 Binary search – Part 2 —Answers

Answers

Work through these after trying the questions yourself.

19.1 It must be sorted.

19.2 The middle element.

19.3 It halves it (keeps only the half that could hold the target).

19.4 About 20.

19.5 You must sort the list first.

19.6 Binary search throws away a half based on the assumption that the list is in order. If it is unsorted, the target may actually be in the half it discards, so it never finds it (or reports the wrong position).

19.7 Binary search halves the range each step, so each *doubling* of the list adds just one more step. Linear search checks items one by one, so doubling the list roughly doubles the number of comparisons.