

4 Searching and sorting – Part 2 — Answers

Answers

Work through these after you have tried the questions yourself.

2.1 it checks each element in turn, from the start, until it finds the target (or reaches the end).

2.2 the list must be sorted (in order).

2.3 about 4 comparisons ($\log_2 16 = 4$).

2.4 it halves the list at each step, so it reaches the answer in about $\log_2 n$ steps instead of checking all n items.

2.5 it could discard the half that actually contains the target, so it would give a wrong answer (fail to find an item that is present).