

Search algorithms practice

Credit: Sara Mathieson

Question 1. Consider searching for the value x in the sorted list ls shown below.

```
String ls = {"bear", "bird", "bug", "cat", "cow", "dog", "fish", "lion"}
index      0      1      2      3      4      5      6      7
```

(a). How many steps does it take to search for the value “cow” in the list using linear search?

(b). How many steps does it take to search for the value “cow” in the list using binary search? Show the steps in the chart below:

low	mid	high	ls[mid]
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(c). How many steps does it take to search for the value “bear” in the list using binary search? Show the steps in the chart below:

low	mid	high	ls[mid]
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(d). How many steps does it take to search for the value “elephant” in the list using binary search? Show the steps in the chart below:

low	mid	high	ls[mid]
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