Introduction to Linear Search

What is linear search?

Search for an item linearly, one after another

Examples:

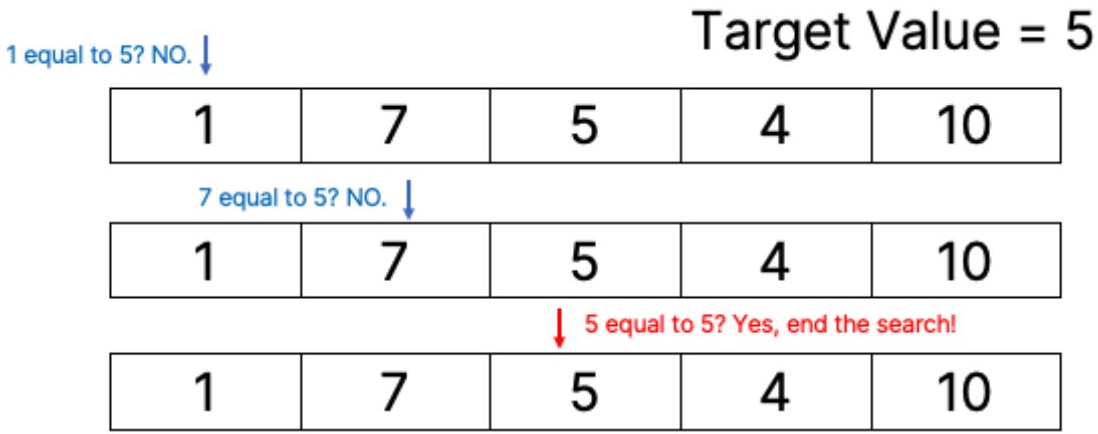
Looking for a shirt in your closet
Searching for an item at a grocery store
Finding a book on an unsorted shelf

Linear search

Iterate through the List, one at a time

Check if value at index is equivalent to the target value

Search stops when:
1) Target value is found
2) Or entire List is searched without finding target value



Linear search tradeoffs

Benefits

Linear search will always work, no matter whether items are sorted or unsorted
Easy algorithm to understand and implement

Disadvantages

Slows as the number of items increase in the data set
Will examine every value if a value is not in the data set

Binary search is faster, but requires items to be sorted

Linear search may be more useful on small, unsorted data sets