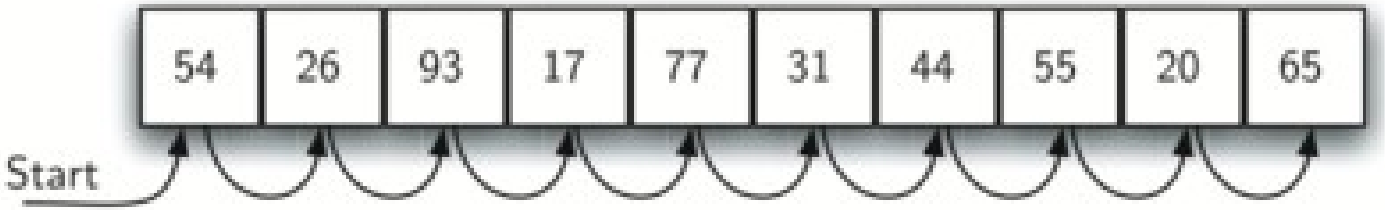
SEQUENTIAL SEARCH

Sequential Search

- Sequential Search
- Implementation of Sequential Search
- Analysis on Unordered List
- Analysis on Ordered List

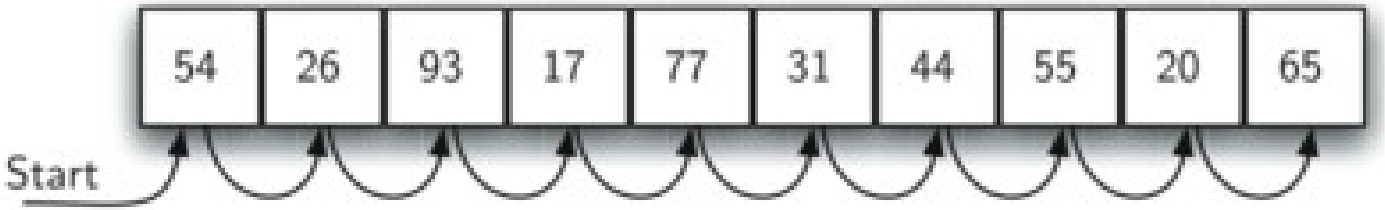
Sequential Search

- Basic searching technique, sequentially go through the data structure, comparing elements as you go along.
- For example, on an unordered list searching for the element **50**:



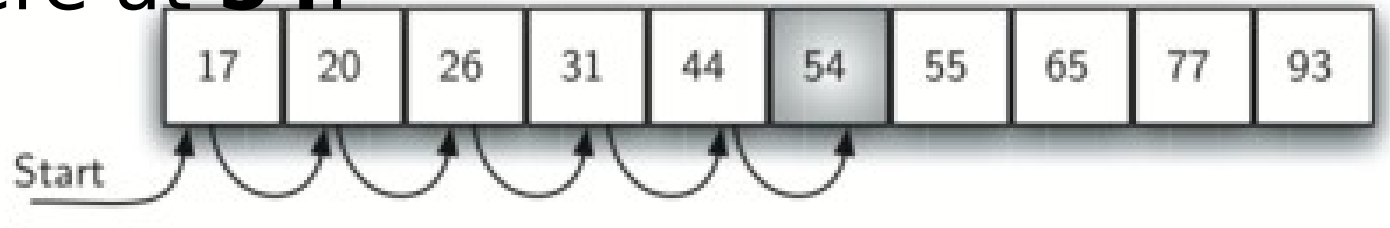
Sequential Search

- **50** was not present, but we still had to check every element in the array.
- But what if it was ordered?



Sequential Search

- If the list is ordered, we know we only have search until we reach an element which is a match or we reach an element which is greater than our search target.
- For example, searching for **50,** we can stop here at **54**.



Sequential Search Analysis

- Unordered List Analysis

Case	Best Case	Worst Case	Average Case
item is present	1	n	$\frac{n}{2}$
item is not present	n	n	n

Sequential Search Analysis

- Ordered List Analysis

item is present	1	n	$\frac{n}{2}$
item not present	1	n	$\frac{n}{2}$

Sequential Search Implementation

- Let’s do some basic implementations of Sequential Search!
- We’ll do both Ordered and Unordered implementations!