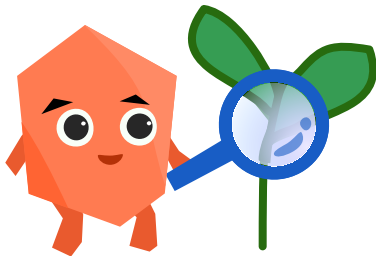


Animal Linear Search

Detective Mode

Are you ready to be a detective for the day? Join Ansel on a mission to search through information using the linear search algorithm!

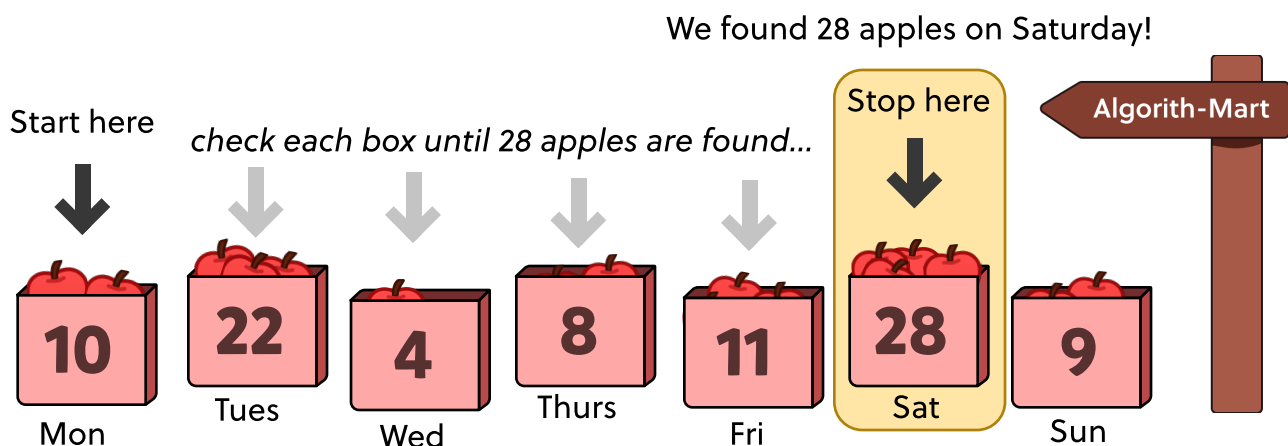


What is a Linear Search?

In computer science, linear search is the **simplest** algorithm used to search for an item in a list. To perform linear search, we check every item in a list from **beginning to end** (left to right) until we find the item. The word "linear" means "straight line", which is the direction our eyes travel when searching!

Take a Walk to Algorithm-Mart!

Let's take a look at an example. Below is a list of apples sold at Algorithm-Mart last week. Ansel wants to find the day Algorithm-Mart sold **28 apples**. Using linear search, we **start from the 10 apples** sold from Monday and keep on moving right **until we find 28 apples** sold on Saturday!



Note: We wouldn't check Sunday because we already found what we were looking for on Saturday!

Why is Linear Search Important?

As shown in Ansel's mission at Algorithm-Mart, we can use linear searches to **simply search for an item in a list**. For instance, we might want to find a specific food item in a grocery list. Or, we might want to find the highest number of soccer goals made in a match!

Animal Search

Below is a list of 10 animals. Fill in the star next to **only one** of the animals. That animal will be the one you are searching for!

Eli the Eagle	★	Belle the Bear	★
Dixie the Dog	★	Sal the Snail	★
Rex the Rabbit	★	Ben the Beaver	★
Leo the Lion	★	Coco the Cat	★
Will the Whale	★	Paris the Pig	★

Next, cut out the ten animal labels below and place them in a cup. With a friend, take turns drawing out a random animal from the pile (without looking) until the animal with a star is drawn.

Perform 3 trials and record how many draws you took.

Trial #1	Trial #2	Trial #3
Draws taken: _____	Draws taken: _____	Draws taken: _____

Reflection

Fantastic job! You just performed linear search by drawing each animal one-by-one until selecting the starred animal. Based on your experience, brainstorm 2-3 advantages and disadvantages of linear search in the table below. What went well? What could've gone better?

Advantages	Disadvantages