Sorting Sally

Selection sort

Try to find the lowest number in this table within 2 seconds!

57	53	67	99	64	83	63	75	94	47	28	92	36	51	71	77	90	58	67

Notice how you were not able to do so and required a bit more time as the numbers are in a completely random order.

Now try do the same with this table:

28	36	47	51	53	58	57	63	64	67	67	71	75	77	83	90	92	94	99

Notice how this was a lot easier as you knew that the numbers are sorted from smallest to biggest.

Scenario:

Picture a house where everything is in the wrong place or not where it would ‘usually be’. Then someone tells you to go find the toothbrush, imagine how long that would probably take. Now picture a house where everything was neat and tidy and everything is where it usually is. Now you are told to go find a toothbrush, the first thing you would do is go to the bathroom. This is the power of sorting things, and this not only applies to life but it also applies to computer data.

What is sorting?

Sorting is when one puts things in a specific order that is known to us, be it in alphabetical order or numeric order.

Sorting is incredibly useful for computers because just like in life, if computers know how files, games or student names on a list are ordered then it **makes finding and working with all of these values a lot easier.**

How Do we sort?

Oftentimes you need to choose the correct sorting method for the correct moment. Imagine we took your house and put all the blue items in your bedroom and all the red ones in the kitchen.

Whilst you may know where items are, it isn't very useful to sort out items like this as it will still make getting them a bit of a challenge.

How do we sort?

When it comes to computers, sometimes we work with **a lot of information**, and if you sort the information using the wrong method, it would firstly **take a long time** and secondly you wouldn't be able to find what you need easily.

This lesson will be teaching one of the **fastest and easiest to understand sorting methods** in order to make sure you sort your information quickly as well as find it quickly.

Selection Sort

What is it?

Selection sort is a method of sorting whereby step by step we **compare two values from the beginning of an unsorted list to try to find the smallest value.**

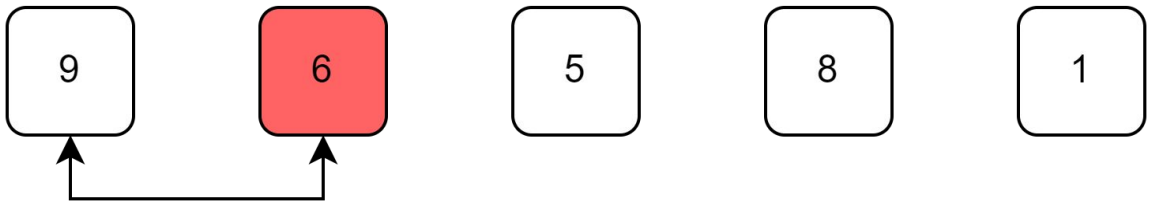
Once this is found it gets put at the beginning of the list and this process is repeated for the rest of the values until there are no more values to sort.

Step 1:

Select the first value as the smallest value.

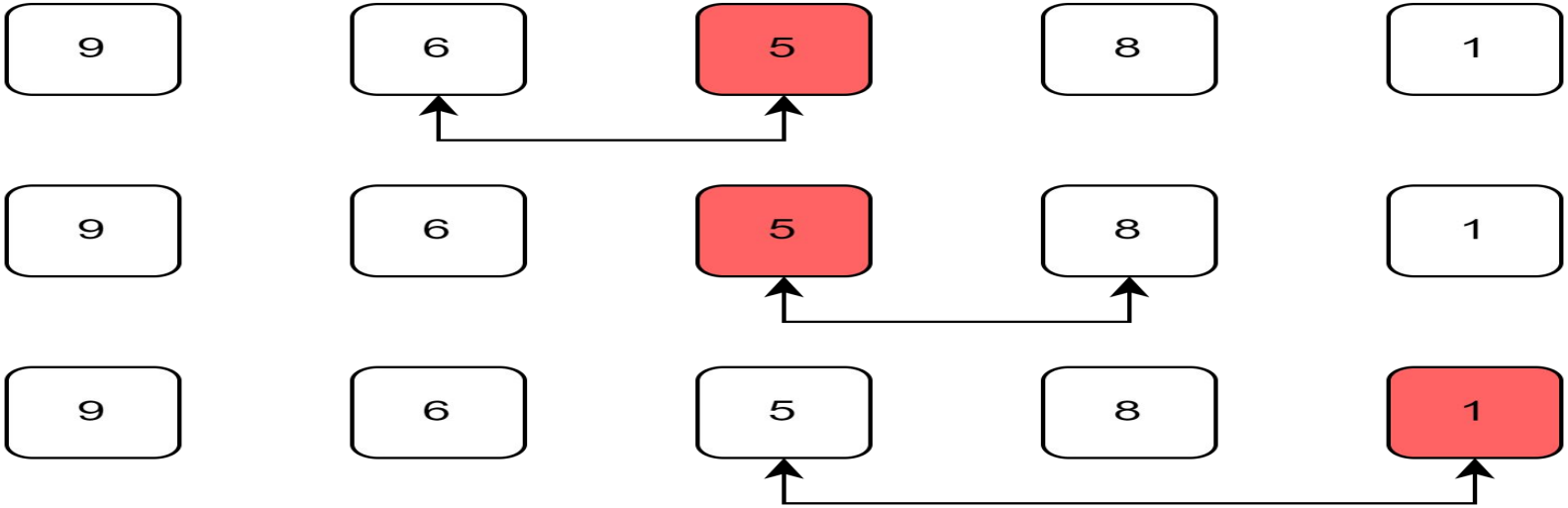
Step 2:

Compare the smallest with the second value in the list. If the second value is the smaller, then make that value the smallest one.



Step 3

Compare the new smallest with the next value in the list. Again if the next value is smaller then make that the smallest value otherwise do nothing. Repeat this until you get to the last value in the list.

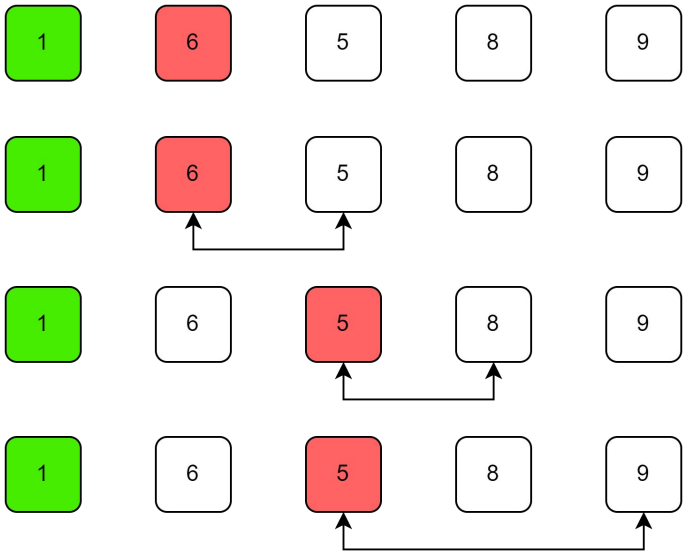


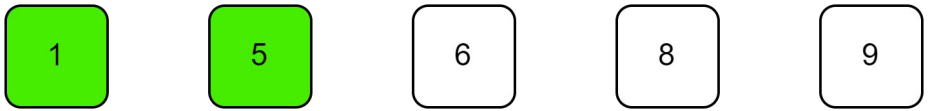
Step 4

Once you've gotten to the end of the list. Place the smallest value at the front of the list.

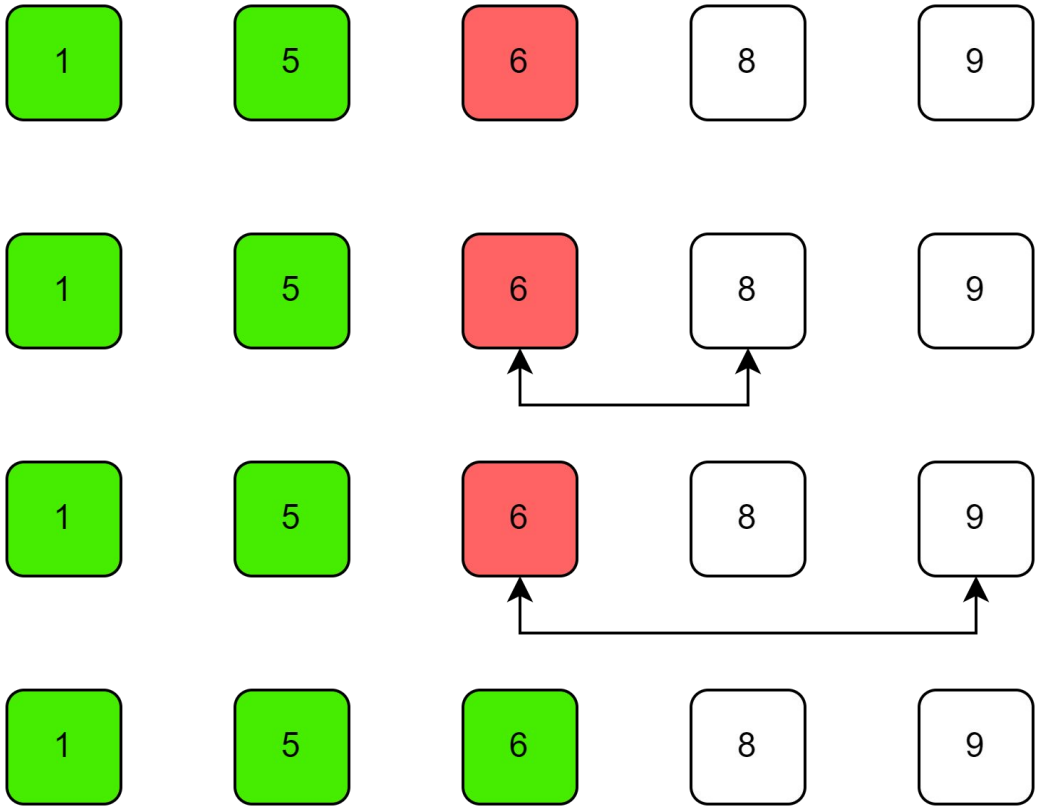
Round 2

Start the next round with the first value of the remaining unsorted values. Repeat step 1 - 4 every single round until all the values are put in their correct positions.

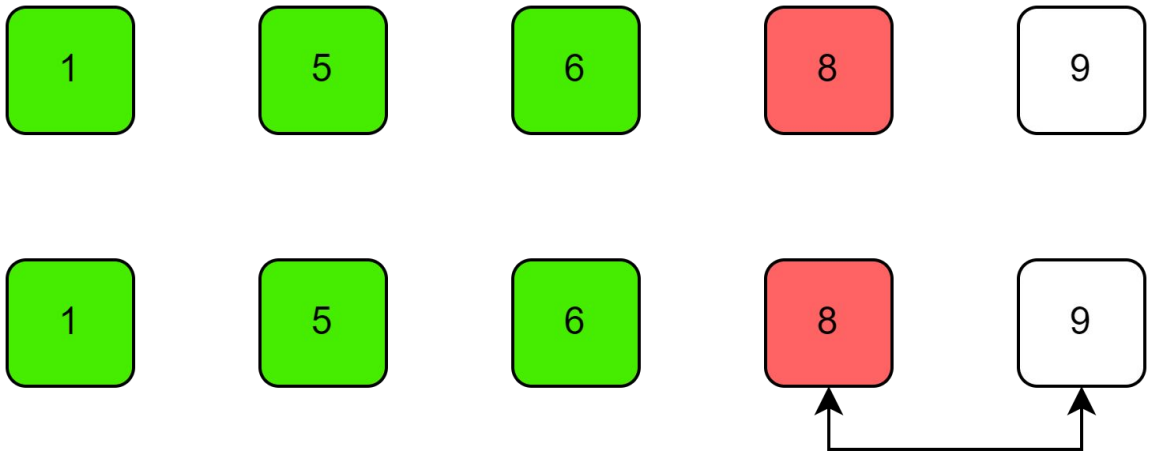




Round 3



Round 4



Sorted!