Selection Sort (Implementation)

(Reading time: 3 minutes)

First, we create a function that receives the array we want to sort as an argument.

```
function selectionSort(array) {
}
```

Then, we loop over our array. We create a variable that holds the minimum value.

```
for (let i = 0; i < array.length; i++) {
  let min = i;
}
```

For every item, we loop over the array from the element after the minimum value. We need to create another loop, which checks whether there is an item that's lower than the minimum value. If that is the case, then we set the min variable equal to that value!

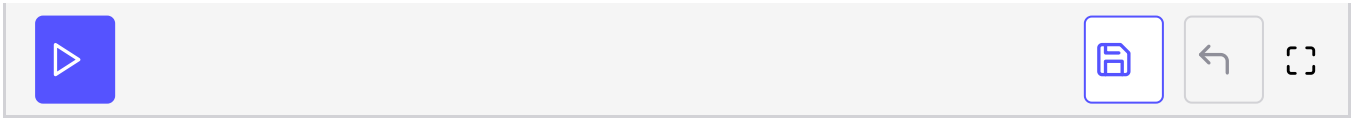
```
for (let j = i + 1; j < array.length; j++) {
  if (array[j] < array[min]) {
     min = j;
  }
}
```

However, we haven't swapped anything yet. We need to check whether the minimum value has been updated, meaning that we should swap values!

```
if (i !== min) {
   [array[i], array[min]] = [array[min], array[i]];
}
```

In the end, we return the sorted array. The entire function looks like:

```
function selectionSort(array) {
   for (let i = 0; i < array.length; i++) {
      let min = i;
      for (let j = i + 1; j < array.length; j++) {
         if (array[j] < array[min]) {
            min = j;
         }
      }
      if (i !== min) {
        [array[i], array[min]] = [array[min], array[i]];
      }
    }
  return array;
}
```



Now, let's talk about the time complexity of this algorithm.