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**Selection Sort Algorithm (Java)**

In the Selection Sorting algorithm we will sort values in an array by finding the minimum value and swapping it to the front of the array. Then, find the smallest value among the rest of the elements and swap it into the second position and so on. Repeat until all the values have been sorted.

Time Complexity: O(n2) because there are two nested loops.

Auxiliary Space: O(1)

To see how this works a little better, let’s use an example:

Let’s say we need to sort the following array:

arr[] = {3, 8, 1, 10, 2, 6}

Find the smallest value and swap it into first position

**1** 8 3 10 2 6

Find smallest value among the other 5 values and swap it into 2nd position

1 **2** 3 10 8 6

Find smallest value among the remaining 4 values and swap it into 3rd position

1 2 **3** 10 8 6 (already in the right place)

Find smallest value among the remaining 3 values and swap it into 4th position

1 2 3 **6** 8 10

Find smallest value among the remaining 2 values and swap it into 5th position

1 2 3 6 **8** 10 (already in the right place)

Done