# Java Basics – Algorithms

The goal of this lab is to practice **creation of algorithms**. Your task is to write your interpretation of the algorithm (without rewriting the entire code).

## Problem 1.a Bubble Sort

Write a sorting algorithm of type **Bubble sort**. It should iterate through a list of integers and sort them. The way bubble sort algorithm works is:

* Compare two adjacent elements in the list.
* Swap them if the first one has a bigger value than the second one.

More information about the bubble sorting algorithm could be found [here](http://visualgo.net/sorting.html).

After you get the expected output, uncomment the comments in the pseudo code to see how long does it take for your algorithm to execute. Test it with a lot of elements to see the difference.

### Output

You should print out the sorted list in the format described below.

### Constraints

* The input list will hold integers in the range [−2147483648 … 2147483647].
* The size of the list could be [10…50000].
* There could be elements in the list that hold the same values.
* **You are forbidden to use .sort() methods**

### Tests

|  |  |
| --- | --- |
| **Input** | **Expected Output** |
| [66, 43, 88, 46, 12, 32, 77, 24, 81, 14] | [12, 14, 24, 32, 43, 46, 66, 77, 81, 88] |
| [-29, 17, -38, 21, 11, -15, 49, 42, -49, -36] | [-49, -38, -36, -29, -15, 11, 17, 21, 42, 49] |