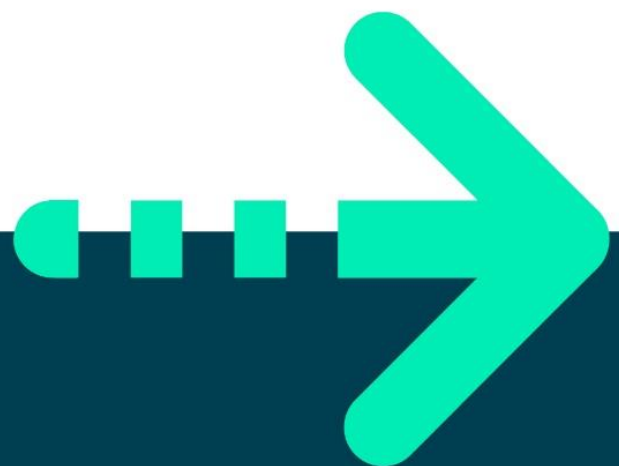




# **LAB 7,**

# **JAVA – ARRAYS**

## **JAVA FUNDAMENTALS**





# Lab 7, Java - Arrays

## Objective

The objectives of this practical are to get fully up to speed with array definition, creating, filling, and manipulation and to fully understand when is it appropriate to use a 'foreach' loop as opposed to a 'for' loop to process the array.

## Part 1

### Step by step

1. Back in the **labs** project which you created in **Lab1**, add a new package called **lab07**.

Please refer to lab1's instructions if you need help.

2. Add a class called **Program** with a `main()` method to this package.
3. Add a class called **Lab7**.
4. Add a method called `start()` to **Lab7** class.
5. Call the `start()` method from `main()`.

**Tip:** refer to instructions in previous labs if you're not sure how to do this.

6. Declare an array of integers in the `start` method as:

```
int[] numbers = { 1, 3, -5, 7, 0, 4, 6, 8 };
```

You can put all your code in the `start()` method or (even better) create individual methods for each one of the following tasks and then call them from the `start()` method.

7. Task 1: write code to find the sum of every number in `numbers`
8. Task 2: Find the average of these numbers
9. Task 3: Find the minimum number in `numbers`
10. Task 4: Find the maximum number in `numbers`
11. Task 5: Find the index of number zero in `numbers`



## Part 2

In this part you'll implement the bubble sort algorithm.

### Step by step

1. Create a method called `sort()` in `Lab7` class.  
This method should accept a parameter of type `int[]`
2. Call the `sort` method from the `start()` method and pass numbers as parameter.
3. Implement Bubble sort.

Here is an explanation from [Geeksforgeeks.org](https://www.geeksforgeeks.org/) site. Please do not go to this site because they provide the code!

Please have a look at [https://en.wikipedia.org/wiki/Bubble\\_sort](https://en.wikipedia.org/wiki/Bubble_sort) for an explanation of how a Bubble sort works and then write the code.

**\*\* End \*\***

