Lesson:

Problems based on sortings

Pre-Requisites

- Basics of java
- Arrays
- Sorting algorithms

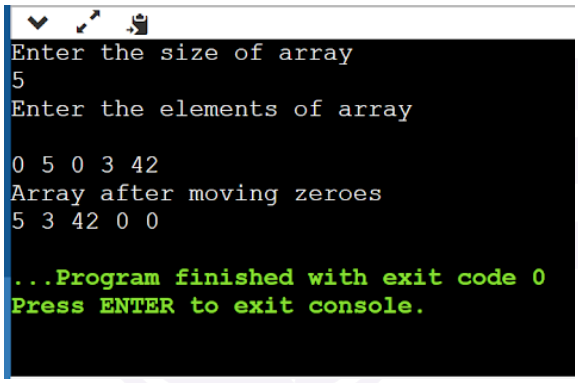
Problem 1: Given an integer array arr, move all 0's to the end of it while maintaining the relative order of the non-zero elements.

Note that you must do this in-place without making a copy of the array.

Input: arr = [0,5,0,3,42]
Output: [5,3,42,0,0]

Approach:
The main idea of bubble sort is swapping the smallest (or largest) element to the end of the array, in this problem, **we should swap '0' to the end.**

Code:
https://pastebin.com/EM35RUxp



Problem 2: Give an array of names of the fruits; you are supposed to sort it in lexicographical order using the selection sort.

Input : ["papaya","lime","watermelon","apple","mango","kiwi"]
Output: ["apple","kiwi","lime","mango","papaya","watermelon"]

Approach:

- Traverse the array to find the smallest value, then swap this value with the value at 0th index.
- Traverse the remaining values (except the value at 0th index), to find the next smallest, then swap this value with the value at index 1.
- Scan the remaining values (Except the first two values) to find the next smallest, then swap this value with the value at index 2.
- Continue until the array is sorted.

Code
https://pastebin.com/Z4CxYCyL

```
Sorted array is
apple kiwi lime mango papaya watermelon

...Program finished with exit code 0
Press ENTER to exit console.
```

Upcoming class Teaser

- Merge sort