Data structures
Practical lab 6 – Sorting algorithm
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****
If a programmer codes just for fun he has all his skill.
If he codes for score his hand tremble and his breath is uneasy
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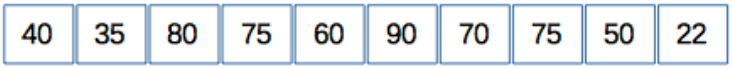
Submit your project via moodle
- First submission at the end of the session
- Second submission on 14th April 2017, before 12am

Create a new project in NeatBeans and name it PraticalLab6.

Exercise 1. Selection sort

Q1. Show the progress of each pass of the selection sort for the following array.

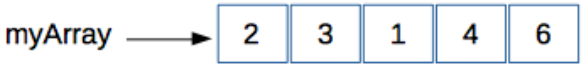


Create a java main class and name it SelectionSort.

Q2. Create a static method called swap allowing to exchange the values at index1 and index2 of an array.

```
public static void swap(int myArray[], int index1, int index2){
        //your code here
}
```

Example: swap(myArray, 1, 2), expected result: 2, 1, 3, 4, 6



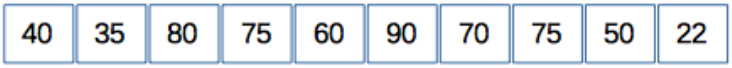
Q3. Create a static method called sort and implement selection sort algorithm

```
public static void sort(int myArray[]){
        //your code here
}
```

Test your sort method.

Exercise 2. Insertion sort

Q1. Show the progress of each pass of the insertion sort for the following array.

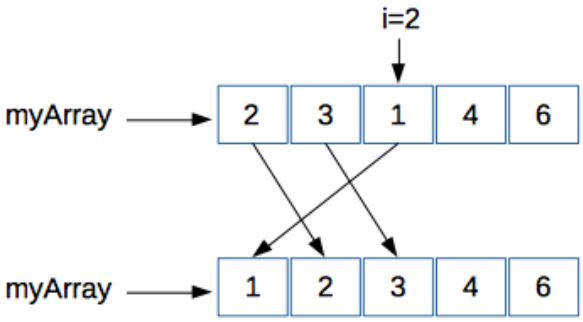


Create a java main class and name it InsertionSort.

Q2. Create a method called insert allowing to insert the value at index i its appropriate position so that the elements from index 0 to i is in ascendant order. Considering that the element from index 0 to i-1 is sorted in ascendant order.

```
public static void insert(int myArray[], int i){
        //your code here
}
```

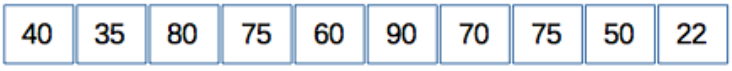
Example: insert(myArray, 2), expected result: 1, 2, 3, 4, 6



Q3. Create a static method called sort and implement insertion sort algorithm
Test your sort method.

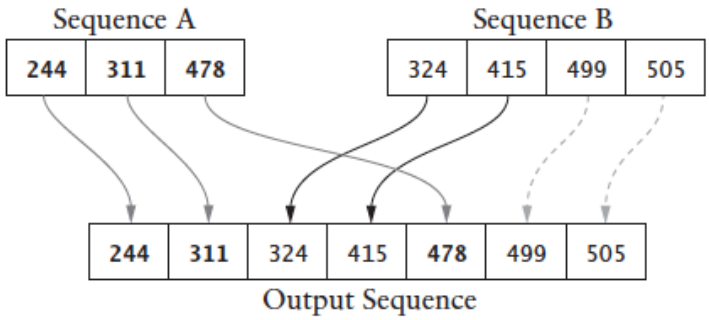
Exercise 3. Merge sort

Q1. Show the progress of each pass of the merge sort for the following array.



Create a java main class and name it MergeSort.

Q2. Create a method called merge allowing to merge two arrays A and B. We assume that the elements in each array is sorted in ascendant order. The elements in merged array must be sorted in ascendant order. See the following example:



Q3. Create a static method called sort and implement merge sort algorithm
Test your sort method.