LAB 11

Requirement

Create a reusable module containing **searching**, **sorting** and **filtering** functionality.
Develop the functionality such that the code can be reused in other projects.
The module should contain descriptions (comments specifications) and test cases to help others to understand and use the contained functionality. During the lab we will exchange modules

       Ex. For sorting: Given a sort algorithm (let us denote it by SA) that was already discussed at the class, you are required to write a generic SA sorting function. Your generic sorting function should take two parameters, a list of elements and a function to compare elements (comparison function). This comparison function has to be supplied when the sorting function is called. You are required to test your generic sorting function using TWO different comparison functions.

For the **sorting** algorithms. You will be assigned with a problem from the list below (1, 2, 3,4,5).

a) Algorithm already discussed
b) You have to implement a different sort algorithm than the ones we've already discussed. You will have to do a little research and find resources you can use to explore the sort algorithm assigned to you. Be able to describe the idea and the time complexity of the algorithm

1. a. Bubble sort
   b. Shell sort
2. a. Insertion sort
   b. Comb sort
3. a. Merge sort
   b. Bingo sort
4. a. Quick sort
   b. Gnome sort
5. a. Selection sort
   b. Shake sort