# Algorithms & Data Structures :

# Lab 8: 18th February 2019

**Sort and search methods of Arrays class**

1. Look at the sort method in Arrays class of java api.

There are 2 versions for each different type. E.g. for an array of int:

|  |  |
| --- | --- |
| static void | [**sort**](https://docs.oracle.com/javase/7/docs/api/java/util/Arrays.html#sort(int[]))(int[] a)  Sorts the specified array into ascending numerical order. |
| static void | [**sort**](https://docs.oracle.com/javase/7/docs/api/java/util/Arrays.html#sort(int[],%20int,%20int))(int[] a, int fromIndex, int toIndex)  Sorts the specified range of the array into ascending order. |

Look up the documentation on each version. What type of sorting algorithm is used?

The sorting algorithm is a Dual-Pivot Quicksort by Vladimir Yaroslavskiy, Jon Bentley, and Joshua Bloch.

Write a main method to test these methods. Output the contents of the sorted array and include the expected contents of this array as a comment.

2. You have been given class Town and TownSortDemo classes. Towns are sorted in order of population. Change this to sort towns in order of name.

3. Look at binarySearch method of Arrays class. Using the code for Q.2., use binarySearch to search for a town by name.