

1. Implement quick sort.
 - a. Only C++ and Java are allowed
 - b. You will need to take input from a file. The input format is described in the next section.
 - c. You cannot use built-in quick sort.

2. Input and output format:
 - a. The first line of the file will describe how many inputs there are in the file. Let us call this value k.
 - b. In each of the following k lines, there will be a series of integers:

| Input | Output |
|---|--|
| 2 1 9 6 2 -1 0 5 3 15 4 1 2 | -1 0 1 2 6 9 1 2 3 4 5 15 |
| 3 7 3 1 8 0 2 2 1 2 3 4 -1 0 1 3 1 2 4 | 0 1 2 3 7 8 -1 1 2 2 3 4 0 1 1 2 3 4 |

- c. The output will print the integers as sorted.
 - d. The output will have to be printed in a file.
3. Bonus task.
 - a. Use generics/template to handle any data type.
 - b. Report the depth of the tree.
4. Note that the spec might be updated a few times until the submission deadline with additional details and modifications. Check ELMS from time to time if there are any additional updates/requirements.
5. Submission requirements:
 - a. Take all the codes(only codes) and put them in a folder with your roll number as the name of the folder.
 - b. Compress it in .zip format and submit it.