

1. List the members of your group below:

2. Consider the process of sorting the array

50 40 60 70 65 75 62 63 41 42 51 52 53 54

in ascending order using *quicksort*.¹ Use *median of three* partitioning and a cutoff of 3 (artificially low, for this exercise). Depict the recursive invocations of the `quicksort` method using a tree similar to that used for merge sort earlier. Tree nodes represent `quicksort` invocations and are labeled with the indices of the sub-arrays sorted by them. Further, the parent of a node n is the node p corresponding to the `quicksort` invocation (if any) from which n 's invocation is called.

¹Mark Allen Weiss, *Data Structures and Problem Solving Using Java*, 3rd edition (Addison-Wesley, 2006), §8.6.

3. Augment, or redraw, the tree of Question 2 by adding to each node's label the state of the sub-array corresponding to that node's invocation (1) immediately before the invocation and (2) immediately after the invocation.