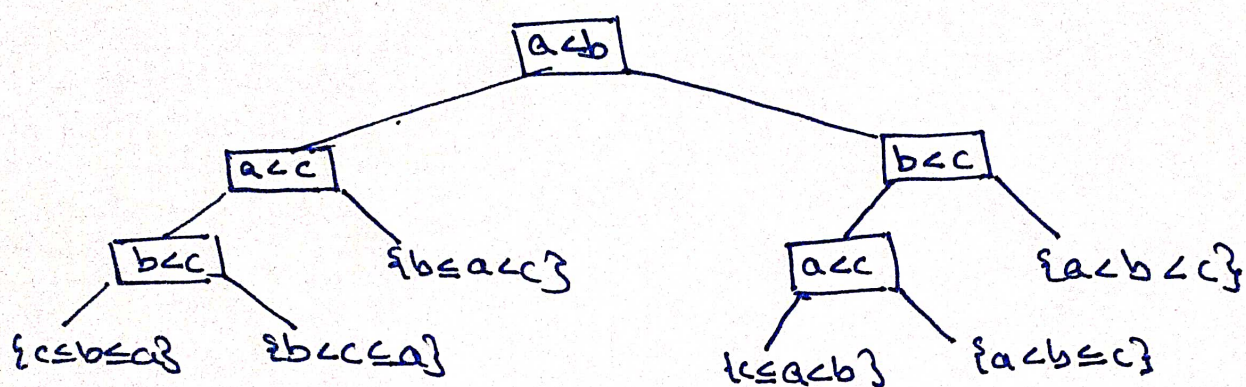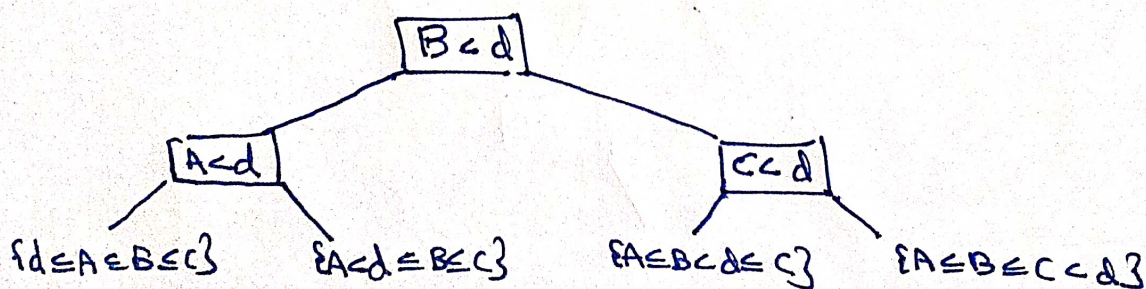We can find the minimum number comparisons by using a decision tree. Assume that the first two elements we compare are called a & b. Then, we need to find the position of another element, which we call c, with respect to a & b. We see from the decision tree that three comparisons are required to guarantee this knowledge.

At the end of the decision tree, we have the sorted list of a,b,c as $A \leq B \leq C$.

Now we have to find the position of d with respect to A, B & C. If we compare d to A or C, then in the worst case, a total of three comparisons might need to made. If we compare d to B first, then the worst case two comparisons would be made.

∴ A minimum of 5 comparisons must be made to sort a, b, c & d.