Problem set for Lab Exam 2 - Out of these 5 problems, at least 1 will be definitely given in Lab exam.

1) https://www.codechef.com/MAY17/problems/WSITES01

2) LIS on rooted directed tree - You are given a rooted(at node 0), directed tree with **N**(N<=5000) vertices. Every vertex has a unique number. Consider all paths from root to any leaf. For every such path you can write the sequence of numbers taken from vertices on this path. For every such sequence you can find the Longest Increasing Subsequence. Find the longest of all Longest Increasing Subsequences and print its length.

3) You are initially given an array A(Ai<=10^9) of N (N<=10^5) numbers. You have to support Q(Q<=10^5) queries which can be of 4 types.
1 i X - Increase the value of Ai to Ai + X(X is always positive)
2 - Print the value of current largest element
3 X- Add a new element X to the array as the element $A_{(\text{current size} +1)}$
4 - Delete the current maximum element. The indices of other elements won't change.(You can assume this operation to be setting that element to -Infinity)

4) http://www.spoj.com/problems/JANE/

5) https://www.codechef.com/problems/CL16BF