TASK-1

(A) First we check the cycle in the given graph. If a cycle is detected then print “Impossible” or else we run a topological sort using the DFS algorithm. Write the sorted vertex in the output file.

(B) First we check the cycle in the given graph. If a cycle is detected then print “Impossible” or else we run a topological sort using the BFS algorithm. Write the sorted vertex in the output file.

TASK-2

In this task we need to check we just have to check if the next value is smaller than the next one then we use the BFS on the smaller value.

TASK-3

Here we use a transpose graph. First we run DFS on the main graph. We store the vertex in a stack. After that we run DFS on the transpose graph but using the stack and popping it after.