Problem 2

Given a tree (represented as a graph) with n labeled nodes with labels from 1 to n, print the corresponding Prufer code.

First line of the input specifies the number of vertices.
Lines following are a pair of vertices (v_1, v_2) between which the edge is to be inserted.
Read the edges until '$' is encountered.

Sample Input:
6
1 2
2 3
2 4
3 5
3 6
$

Sample Output:
2 2 3 3