Homework week 5

Trees

1. Given a tree, your task is to write a program with following functions
   - Calculate the height of the tree.

   - Write out the order of nodes following the preorder traversal.

   - Write out the order of nodes following the postorder traversal.

   - Check if the given tree is a binary tree? If yes, write out the order of nodes in inorder traversal.

Input: Data come from the keyboard:

- The first line contains integer numbers *N, M* indicating the number of nodes, and edges, respectively.

- *M* following lines each contains two integer numbers *u, v* indicating that *u* is the parent of *v*.

Output: Data are written to the screen as following:

- The height of the tree

- The order of nodes in preorder traversal

- The order of nodes in postorder traversal

- The order of nodes in the inorder if the tree is binary. Otherwise, write the string 'NOT BINARY TREE'

Keyboard	Screen
5 4	2
1 2	1 2 4 5 3
1 3	4 5 2 3 1
2 4	4 2 5 1 3
2 5	