Diameter of tree

class Solution {

public int diameterOfBinaryTree(TreeNode root)

{

if(root==null)

return 0;

int l=height(root.left)+height(root.right);

int ldiameter=diameterOfBinaryTree(root.left);

int rdiameter=diameterOfBinaryTree(root.right);

return Math.max(l,Math.max(ldiameter,rdiameter));

}

public int height(TreeNode root)

{

if(root==null)

{

return 0;

}

return 1+Math.max(height(root.left),height(root.right));

}

}