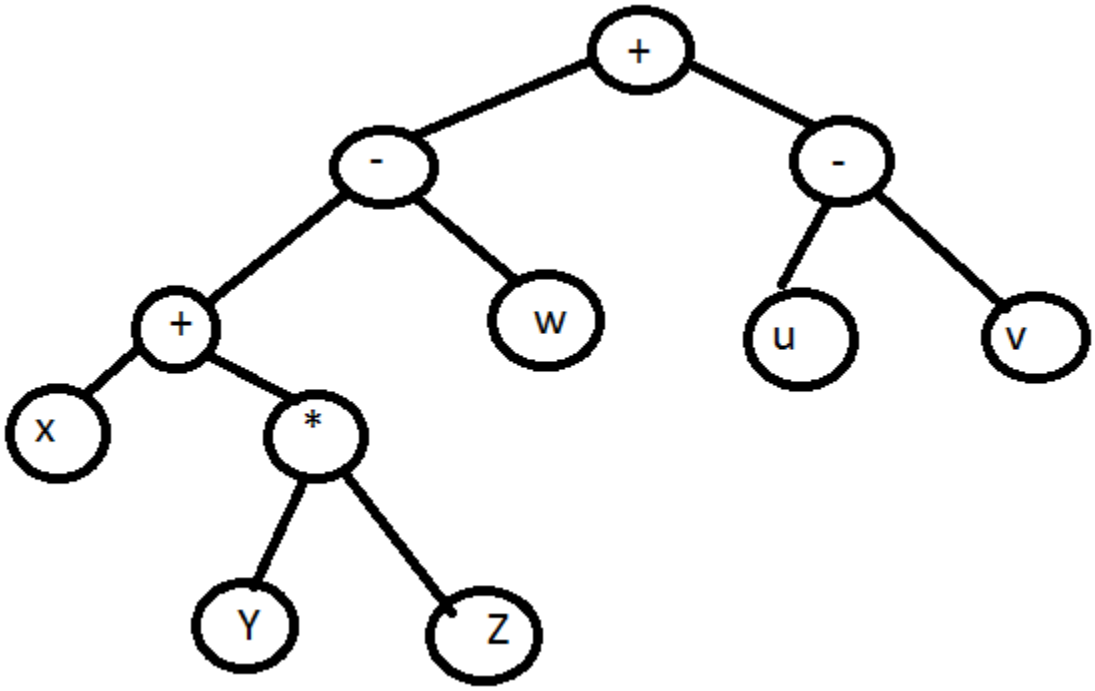
Lab Assignment-4

Trees

Consider the ADT provided in the attached file for Binary Tree data structure. Add following functions.

1. Build a tree for the expression (x+(y*z)-w) + (u-v) as follows



2. Replace x=3;y=2;z=1;w=6; u = 5;v=4; in the tree built in (a). Write a function to print the following arithmetic expression.

   (3+(2*1)-6) + (5-4)

3. Given tree T, Check if the Tree is Proper Binary Tree.

4. Find the depth of a node in the tree having value ‘x’. If such a node does not exist throw an exception.

5. Build a tree with following properties.

    a. Elements stored in the left subtree of a Node p are less than the value in Node p.
    b. Elements stored in the right subtree of a Node p are less than the value in Node p.