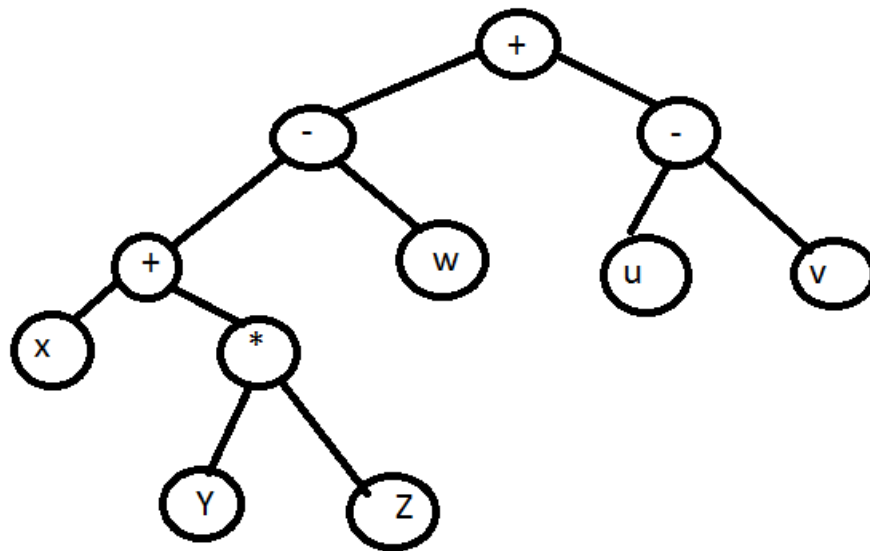


Data Structures and Algorithms – Assignment 8

Trees

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



Write a class Tree with the following functions.

2. Traverse the tree and replace $x=3; y=2; z=1; w=6; u=5; v=4$; in the tree built in (Q1).
3. Write a function to traverse the tree and print the following arithmetic expression.
 $(3+(2*1)-6) + (5-4)$
4. Write a function to find the level of a node with a given value. If there are multiple nodes with same value return the level of the first node.
5. Write a function to find the height of a node with a given value. If there are multiple nodes with same value return the level of the first node.
6. Write a function to count the number of leaves in the tree rooted at a given node.
