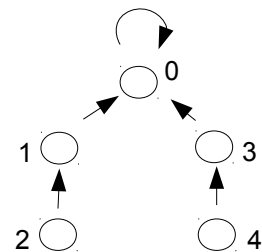CS 483
Homework 3
Due: June 24, 2015

1. Recall the three traversals for binary trees: preorder, inorder
    and postorder.

    a) Depth-First Search generalizes one of these three
        traversals. Which one?
    b) Is Breadth-First Search a generalization of one of the
        binary tree traversals? If yes say which, and if no give a
        convincing reason why not.

2. Give a sequence of UNION(x, y) operations
    which, starting from a discrete partition of
    {0, 1, 2, 3, 4}, will give the partition
    whose "tree picture" is shown at the right.

3. Use dynamic programming to compute a set of intervals chosen
    from the following set which gives a solution to the Weighted
    Interval Scheduling Problem.

        interval: (1, 4), value: 2
        interval: (6, 7), value: 8
        interval: (3, 8), value: 3
        interval: (5, 9), value: 5