Group HW3
CS 685-001/PPA 784-003/STA 695-001 Fall 2009
Due: September 17th, 2009

For Question 1 through Question 3, please ignore branch lengths in a tree.

Problem 1 *With three and four leaves how many unlabeled unrooted binary trees are there? How about for rooted binary trees?*

Problem 2 *For rooted and unrooted binary trees, how many le aves do there have to be to obtain more than one unlabeled trees? Other words, what is the minimum number of leaves in order to have at least two different (unlabeled) tree topologies for unrooted and rooted trees?*
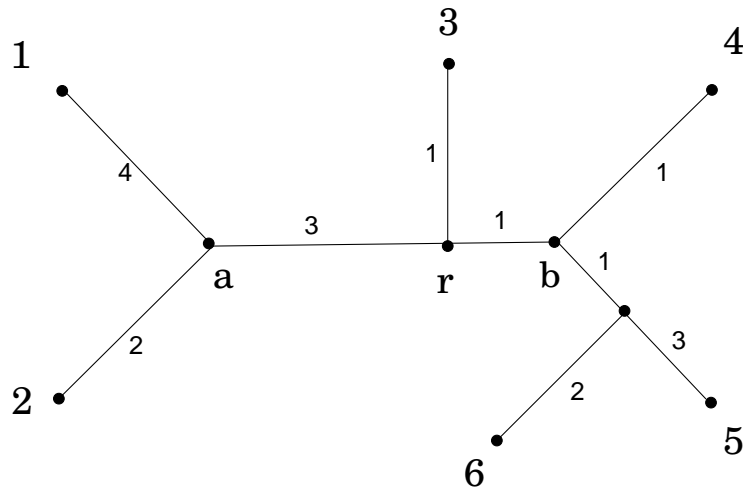
We have a tree

Figure 1: Tree with 6 leaves

Problem 3 *Apply NNI move about the edge between a and r in Figure 1. Draw all possible trees you can get by this NNI move.*

Problem 4 *Write a newick format on the following tree in Figure 1. Then use treeview to see them as cladegram, phylogram and unrooted tree.*