

Homework 2 – Due Wed. Sept. 1

Find the tree that displays the greatest number of splits (*not* the set of most strongly supported splits) from the table shown below. Write the tree in Newick notation with the ‘Freq’ shown as the branch length.

123456789	Freq
...*...*..	60
.....	55
.....**.	45
*..***.**	21
.****.*..	15

The recommended route to a solution is to:

1. Construct a split compatibility graph (the nodes represent splits and you put an edge to connect each pair of nodes if those nodes are compatible).
2. Identify the largest clique in the graph (the largest subgraph in which each node is adjacent to every other node).
3. Construct the tree that contains the splits that are represented by the nodes in the maximal clique.
4. Label the edges of the tree with the frequency value that corresponds to the split that the edge maps to.