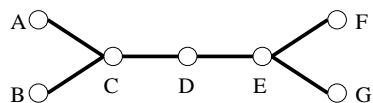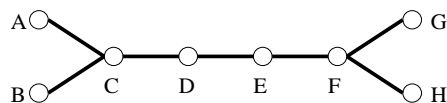# C-12.5

1. (a) Remove all leaves of T. Let the remaining tree be T_1.
   (b) Remove all leaves of T_1. Let the remaining tree be T_2.
   (c) Repeat the "remove" operation as follows: Remove all leaves of T_i. Let remaining tree be T_{i+1}.
   (d) Once the remaining tree has only one node or two nodes, stop! Suppose now the remaining tree is T_k.
   (e) If T_k has only one node, that is the center of T. The eccentricity of the center node is k.
   (f) If T_k has two nodes, either can be the center of T. The eccentricity of the center node is $k+1$.
2. No! Not always unique. It's possible that the remaining tree has two nodes. We don't like to remove the leaves of a two-node tree (there will be nothing left!). You can try the following two trees. The center of the first tree is D with eccentricity 2. The center of the second tree is either D or E with eccentricity 3.

Tree 1   Tree 2