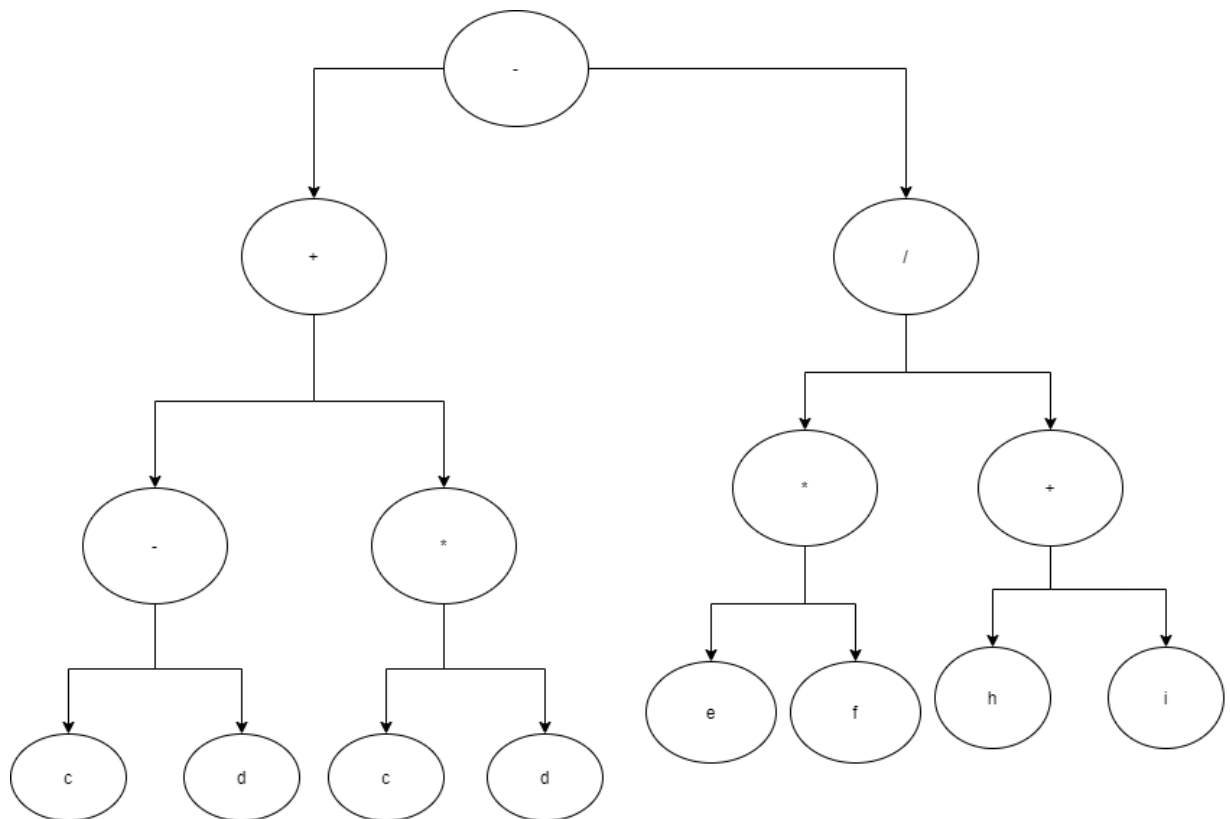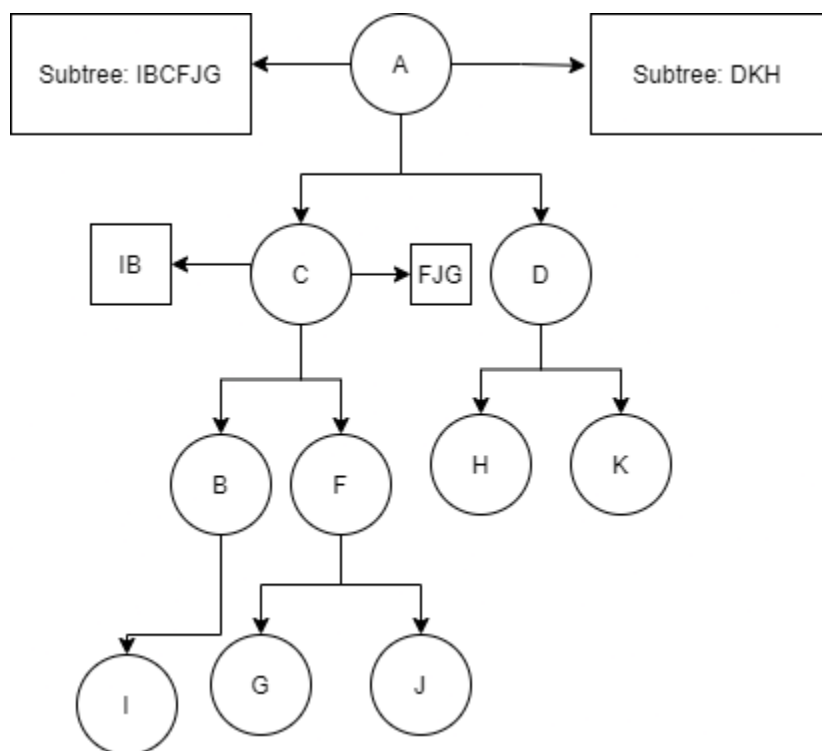Joseph Steeb

1.

2.
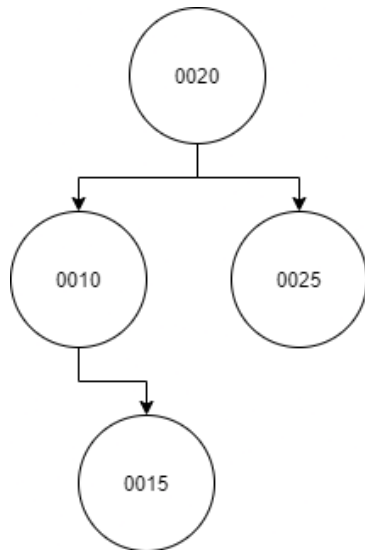
3.
   a. 4
   b. 0
   c. 0
   d. 3
   e. 0001, 0020, 0052, 0083, 0099, 0125, 0152
   f. 1
   g. Pre Order: 0100, 0050, 0003, 0001, 0020, 0080, 0052, 0090, 0083, 0099, 0150, 0125, 0152
      In Order: 0001, 0003, 0020, 0050, 0052, 0080, 0083, 0090, 0099, 0100, 125, 0150, 0152
      Post Order: 0001, 0020, 0003, 0052, 0083, 0099, 0090, 0080, 0050, 0125, 0152, 0150, 0100
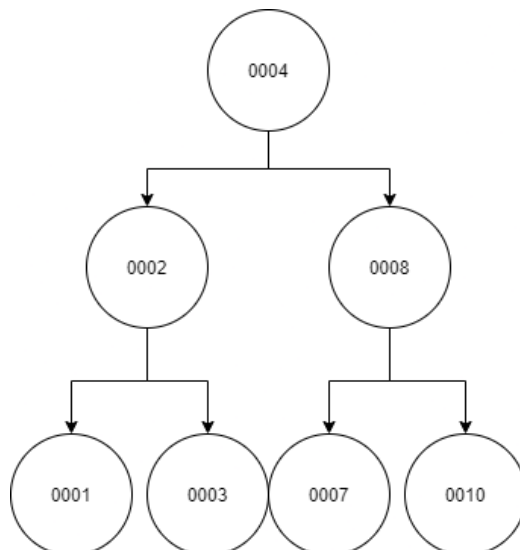
4.
   a. An AVL tree is a binary search tree that continuously balances itself as nodes are inserted
      and removed.
   b. AVL trees ensure that the search time for the tree will always be log(n).

5.

6.

7.