

1. How many nodes are in the smallest possible complete binary tree that has at least 100 nodes. Draw a full but not complete binary tree of 15 nodes. Draw a complete binary tree of 15 nodes.
2. Design an algorithm, that
  - (a) counts how many nodes a tree has
  - (b) counts how many leaves a tree has
  - (c) finds out what is height of a tree
3. Draw a complete binary tree consisting keys  $S = \{1, 3, 5, 7, 9, 13, 15\}$  In which order keys have to be inserted to get a complete tree?  
After that we insert keys 10 and 6 to tree and then delete keys 1, 5, 7 and 13. Draw tree after each insertion/deletion!

See Appendix B of Cormen for tree definitions and terminology.