EL9343 Homework 6

(Due March 11th, 2022)

No late assignments accepted

All problem/exercise numbers are for the third edition of CLRS text book

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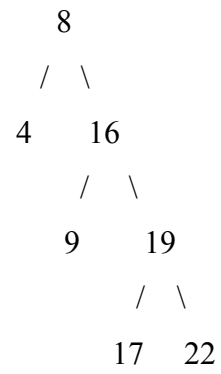
1. Demonstrate what happens when we insert the keys 10, 22, 35, 12, 1, 21, 6, 15, 36, 33 into a hash table with collisions resolved by chaining.

   Let the table have 9 slots, and let the hash function be h(k) = k mod 9.

2. Exercise 11.2-1 in CLRS Textbook.

3. Given a binary search tree in pre-order as {22,19,12,6,21,36,40,39}, draw this BST and determine if this BST is the same as one described in post-order as {6,12,21,19,36,40,39,22}.

4. For the following binary search tree, show the result of following operations (Please follow the algorithm from the lecture/textbook):



   a) Insert key 20;

   b) Delete 8 from the result of a);

   c) Delete 19 from the result of b);

   d) Delete 16 from the result of c).