Announcement

Exam 2 will be held at 4:00 pm on Wed., March 30. There will be a review class on Wed., March 23.

Homework Assignment #4 (Due Date: March 23)

Do the following problems:

(1) (a) Give the sequence of letters from an inorder traversal of the tree shown in Fig. 1.
    (b) Give the sequence of letters from a preorder traversal of the tree shown in Fig. 1.
    (c) Give the sequence of letters from a postorder traversal of the tree shown in Fig. 1.

![Figure 1:](tree.png)

(2) Draw an AVL tree for the following values inserted in this order and illustrate each rotation that occurs: 65, 13, 16, 52, 28, 11, 20, 14, 87, 50, 26.

(3) Draw an AVL tree for the following values inserted in this order and illustrate each rotation that occurs: 83, 12, 68, 55, 32, 6, 46, 57, 62.
Figure 2:

(4) For the B-tree where \( M = 3 \) and \( L = 5 \) shown in Fig. 2, show how inserting value 23 is handled.

Figure 3:

(5) For the B-tree where \( M = 3 \) and \( L = 4 \) shown in Fig. 3, show how inserting value 23 is handled.

(6) For the B-tree where \( M = 3 \) and \( L = 4 \) shown in Fig. 3, show how a sequence of deleting 50, 65, 70, 72 is handled.

(7) Given input 3823, 8806, 8783, 2850, 3593, 8479, 1941, 4290, 8818, 7413, and a hash function \( h(x) = x \mod 13 \), show the resulting separate chaining table.

(8) Repeat (7) using open addressing with linear probing.

(9) Repeat (7) using open addressing with quadratic probing.

(10) Repeat (7) using open addressing with double hashing where the second hash function is \( h'(x) = 11 - (x \mod 11) \).