Balanced Search Trees

The **hard deadline** for this quiz is **Sat 12 Dec 2015 8:59 PM PST (UTC -0800)**.

To specify an array or sequence of values in an answer, you must separate the values by a single space character (with no punctuation and with no leading or trailing whitespace). For example, if the question asks for the first ten powers of two (starting at 1), the only accepted answer is:

1 2 4 8 16 32 64 128 256 512

If you wish to discuss a particular question and answer in the forums, please post the entire question and answer, including the seed (which is used by the course staff to uniquely identify the question) and the explanation (which contains the correct answer).

☐ **In accordance with the Coursera Honor Code, I (Atul Gupta) certify that the answers here are my own work.**

Question 1

(seed = 673907)
Consider the 2-3 tree whose level order traversal is

49 23-39 71 15 36 41 51-64 88

What is the level order traversal of the 2-3 tree that results after inserting the following sequence of 3 keys?

85 54 86

As above, use the notation X-Y to specify a 3-node containing the two keys X and Y.

Question 2

(seed = 65772)
Consider the left-leaning red-black BST whose level-order traversal is:

59 26 81 14 35 71 91 12 17 34 55 63 48

List (in ascending order) the keys in the red nodes. A node is red if the link to its parent is red.

Question 3

(seed = 66327)
Consider the left-leaning red-black BST whose level order traversal is

58 32 92 10 57 64 98 35 63 75 (red links = 64 35)

What is the level order traversal of the red-black BST that results after inserting the following sequence of keys:

60 78 48

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You cannot submit your work until you agree to the Honor Code. Thanks!