

Interview Questions: Balanced Search Trees

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Warning: The hard deadline has passed. You can attempt it, but **you will not get credit for it**. You are welcome to try it as a learning exercise.

These interview questions are for your own enrichment and are not assessed. If you click the *Submit Answers* button, you will get a hint.

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Question 1

Red-black BST with no extra memory. Describe how to save the memory for storing the color information when implementing a red-black BST.

Question 2

Document search. Design an algorithm that takes a sequence of N document words and a sequence of M query words and find the shortest interval in which the M query words appear in the document in the order given. The length of an interval is the number of words in that interval.

Question 3

Generalized queue. Design a generalized queue data type that supports all of the following operations in logarithmic time (or better) in the worst case.

- Create an empty data structure.
- Append an item to the end of the queue.
- Remove an item from the front of the queue.
- Return the i^{th} item in the queue.
- Remove the i^{th} item from the queue.

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Submit Answers

Save Answers

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