- Filename: benchtree.pdf
- Name1: Derek Nguyen htn047@ucsd.edu A10625099
- Name2: Adrian Jimenez adj006@ucsd.edu A10748304
- Description: A brief of an analysis on the bst, rst, and set.
- Date: Oct 25, 2013.

/**********
SORTED
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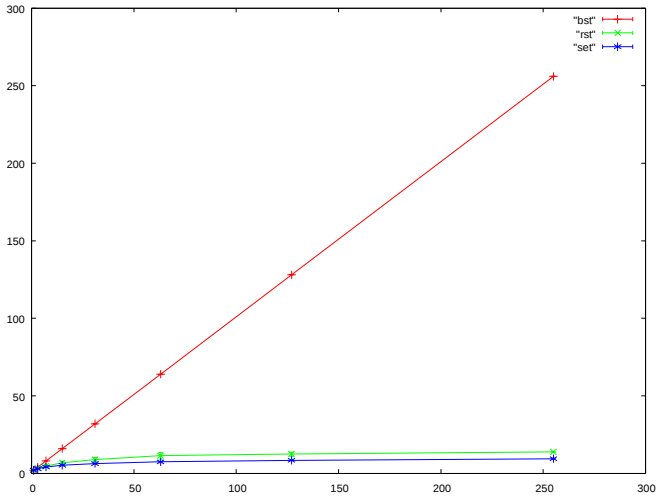
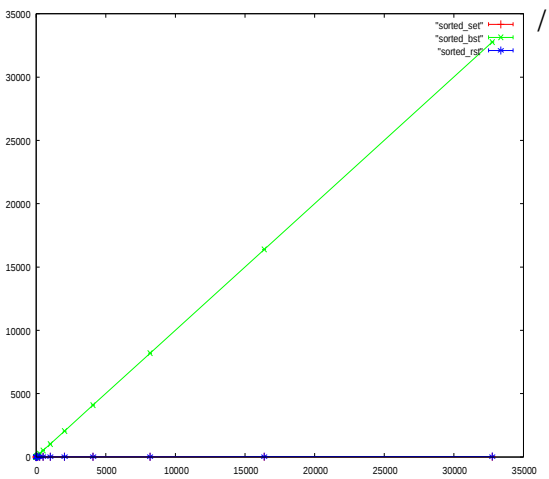
For the sorted tree, the bst takes longer time to search for a particular element than the rst and set. For the worst case, the bst is a straight line with a certain slop. So we conclude that the bst has the worst case of O(N). Since the bst can be a link list at worst case. However, the set and rst have the shape as log; so that it would have the worst case O(logN).





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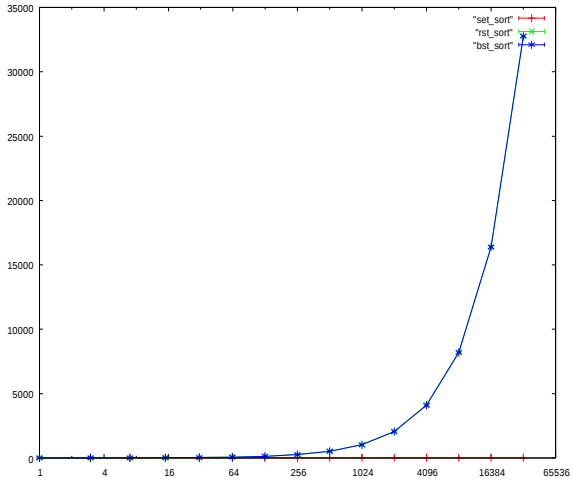

run with logscale

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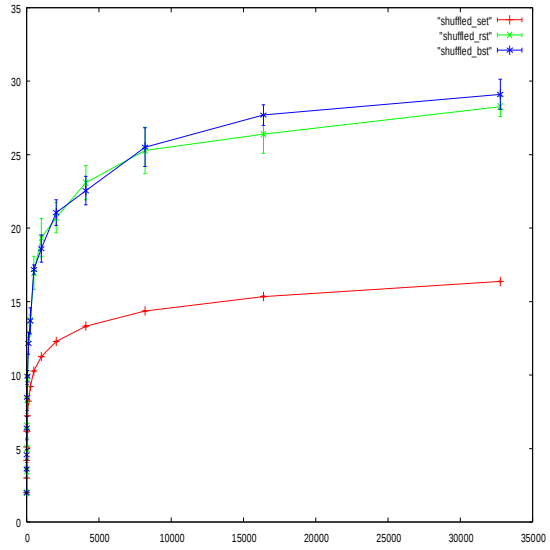
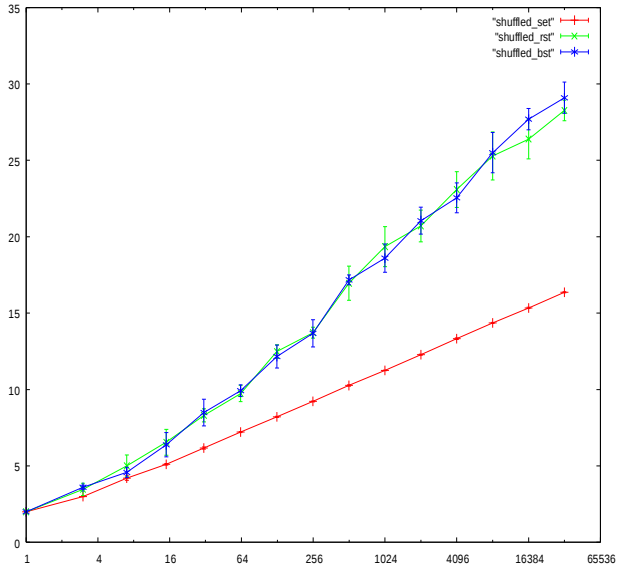
SHUFFLED
**********/

The bst, rst, and set have same graph shape, since the items that are being inserted into the tree are completely randomized. So we can conclude that the average case is O(logN) for all the data structures.





run with logscale