|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | BST | AVL | B-tree; M=7 | |
| Within nodes | Jumps |
| 1000 | 17583 | 14532 | 16175 | 5098 |
| 10 000 | 242902 | 195967 | 214725 | 66730 |
| 20 000 | 534422 | 424646 | 461791 | 138702 |

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Fundamental Data Structures

Homework #7

Prof. Christozov

An output of the program:

The results from the table show that for the Binary Search Tree in comparison to the AVL tree for the first two vectors the avl tree makes about 20% less comparisons than the binary search tree for the following vectors, in this comparison between the trees it is shown that the avl tree is faster than the binary search tree. On the other hand, the B-tree comparisons are about 15-20% less than the ones in the BST for the vectors, but the jumps in the B-tree are far less, with them being up to 60% less than the other trees. In conclusion, it is safe to say that the B-tree compares much better with large quantities of data and would have much quicker search, insert and delete and would minimize the jumps and comparisons as much as possible.