

Implementation of data structures and algorithms
Short Project 6: Binary Search Tree

Due: 11:59 PM, Wed, Oct 16.

Submission procedure: same as usual.

Team task:

1. Implement binary search tree as discussed in class . Starter code (BinarySearchTree.java) is provided.

Practice task (optional):

2. Implement a bounded-sized stack using arrays with the operations push, pop, and isEmpty. Use it to implement iterator(), without copying the elements into another data structure like array or list. The problem can be solved using just $O(h)$ extra space for stack of ancestors, where h is the height of the tree. In the iterator's constructor, find the height of the tree and allocate an array of size h for the stack.
3. Implement floor(), ceiling(), predecessor() and successor() methods also..