

ITI 1121. Introduction to Computer Science II

Laboratory 12

Objectives

- Introduction to binary search trees

Binary search tree

For this part of the laboratory, you will be using the class **BinarySearchTree**. The class **L13P1** contains test cases to help you better understand the questions. Write the following methods inside the class **BinarySeachTree**.

1 **E max()**

Returns the largest object stored in this tree. It throws **NoSuchElementException** if the tree is empty.

2 **E min()**

Returns the smallest object stored in this tree. It throws **NoSuchElementException** if the tree is empty.

3 **boolean isValid()**

Return true if for each element all left children are smaller and all right are larger.

4 **int depth()**

Returns the depth of the tree, i.e. the depth of the deepest node of the tree.

5 **boolean isTwoTree()**

A binary tree is a **two-tree** if either the tree is empty or all its internal nodes have two children.

File

- [BinarySearch.java](#)
- [L13P1.java](#)