

**Lab report**

|  |  |
| --- | --- |
| **Course**: | Class Libraries and Data Structures |
| **Semester**: | 1st semester of the academic year **2019-2020** |
| **Major**: | Software Engineering |
| **Class**: | 2018 |
| **Student Name**: |  |
| **Student ID:** |  |
| **Teacher:** | ZHAO, Hengjun (赵恒军) |

**School of Computer and Information Science**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | | Binary Search Tree | | | |
| Date | | Dec 26，2019 | Type | | □Confirmatory  √ Design  □Comprehensive |
| 1. **Objective & Requirements**    1. Understand the concept and property of binary search tree    2. Get familiar with the insert, delete and find operations on binary search tree    3. Grasp the design of recursive or iterative algorithms about binary search tree    4. Learn how to do data analysis | | | | | |
| 1. **Experimental environment (**platform and software**)**   Windows 7 (or higher versions) + Visual Studio 2010 (or higher versions) | | | | | |
| 1. **Experimental content and design** (Main Content, Procedure, Codes and Results)   Task 1  Accomplish the following tasks based on the codes to you:   * 1. Implement a method that can return the height of a binary search tree   2. Implement a method that can print a binary search tree in a tree-like way   3. Generate a series of integers (of size n) randomly and insert them into an empty binary search tree, and compute the height of the tree. Repeat this process for many times and compute the average height of a binary search tree with n nodes. Try to analyze the relationship of the average tree height with log(n) | | | | | |
| 1. **Result analysis and discussion**（Analysis of experimental results and summing up the harvest and the existing problems） | | | | | |
| Comments & Evaluation | Content & Design (A-E) | | |  | |
| Procedure & Codes (A-E) | | |  | |
| Results (A-E) | | |  | |
| Analysis & Discussion (A-E) | | |  | |
| Score (A-E):  Feedback comments: | | | | |