

Georgia State University  
Department of Computer Science

CSC 2720

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Fall 2017  
Programming Assignment #&  
Due November 29<sup>th</sup>, 2017

**Objectives:**

To gain experience with Binary Search Trees and building your own LinkedList.

**Documentation:**

1. Explain the purpose of the program as detail as possible - **8%**.
2. Develop a solution for the problem and mention algorithms to be used - **12%**
3. List data structures to be used in solution. - **5%**.
4. Give a description of how to use the program and expected input/output - **5%**
5. Explain the purpose of each class you develop in the program. - **5%**.

**Programming:**

1. For each method, give the pre and post conditions and invariant, if any - **10%**
2. Program execution **according to the requirements given** **50%**
3. Naming of program as required **5%**

**Description of Program**

You are to write a program name **BSTree.java** that will:

1. Generate 100 random integer numbers ranging from 1 – 99.
2. Store these numbers in a data structure of your choice and display the data on the screen.  
**DO NOT SORT THIS DATA STRUCTURE.**
3. Now build a Binary Search Tree using this set of numbers. You **MUST** insert the values into the tree starting from the first element of your Data Structure and go sequentially.
4. After building the tree, use an **infix recursive method** to display the data on the screen.
5. To build the Binary Search Tree, **you must create your own Linked List.**

**What to turn in**

Turn in **BSTree.java**, **BStree.class** **OR** **BSTree.jar** in the A#7 folder in iCollege (D2L) no later than 11:00 p.m. on the due date. You must put the program name, your name, the course number (CSC 2720) and the date at the beginning of the program along with all documentations.