

DATA STRUCTURES – FALL 2021

LAB 09

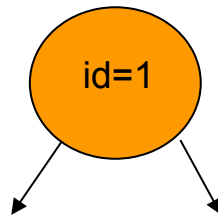
Learning Outcomes

In this laboratory, you will implement the Binary Search Tree ADT.

BST ADT

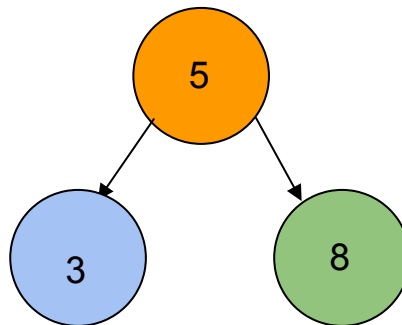
Data Items

The data items in a binary search tree are of generic data type. Each data item has a key (of generic type KF) that uniquely identifies the data item. Data items usually include additional data.



Structure

The data items form a binary tree. For each data item D in the tree, all the data items in D's left subtree have keys that are less than D's key and all the data items in D's right subtree have keys that are greater than D's key.



TASK 1

Keeping in mind the above information, implement the following operations of BST.

BSTree ()

Constructor. Creates an empty binary search tree.

~BSTree ()

Destructor. Deallocates (frees) the memory used to store a binary search tree.

insert ()

Inserts new DataItem into a BST.

display()

Displays data at each node in inorder fashion.