

BST Insert Logic

void insert (value) - Inserts a node with value into the tree.

Method: A new node will always be a leaf – so find the correct parent and then insert. The process of finding the parent is similar to that of the search logic. The correct parent will have no child on the new node's side. Start at root. Go down the left or right subtrees, depending on the key values that are encountered along the way. Repeat until we get to the parent. Then insert on either the left or right side of the parent depending on key values.

```
allocate new node
new node's value = value to insert
new node's Lchild = nullptr
new node's Rchild = nullptr
if root is null
    root = pointer to new node
else
    current = root
    while (current != nullptr)
        trailing = current
        if (current's value = value to insert)
            error – duplicate
        else if (current's value > value to insert)
            current = current's Lchild
        else
            current = current's Rchild
        endif
    end while
    if (trailing's value > value to insert)

        trailing's Lchild = pointer to new node
    else
        trailing's Rchild = pointer to new node
    endif
```

endif