Lab 7 – Fall 2015
Use Mac Terminal window to compile/run your programs and Xcode to edit your programs.

Create a folder called Lab9 and download the files from Resources/Labs/Lab9.

Implement the following methods in your BinarySearchTree.java program

```
/** Returns an ArrayList containing elements in the path from the root leading to the specified element, returns an empty ArrayList if no  such element exists. */
public ArrayList<E> path(E e) {

/* Returns the number of leaf nodes in this tree, returns 0 if tree is empty*/
public int getNumberOfLeaves(){ }

/* Returns an ArrayList containing all elements in preorder of the specified element's left sub-tree, returns an empty ArrayList if no  such element exists. */
public ArrayList<E> leftSubTree(E e) {}

/* Returns an ArrayList containing all elements in preorder of the specified element's right sub-tree, returns an empty ArrayList if no  such element exists. */
public ArrayList<E> rightSubTree(E e) {}

/* Returns the inorder predecessor of the specified element, returns null if tree is empty or element 'e' is not in the tree. */
public E inorderPredecessor(E e){}
```

Complete TestBinarySearchTree program to test the following methods

- search
- insert
- delete
- inorder
- preorder
- postorder
- path
- leftSubTree
- rightSubTree
- getNumberOfLeaves
- inorderPredecessor

All outputs must be properly labeled.

Turn in completed **BinarySearchTree.java and TestBinarySearchTree.java** programs with your **outputs** as attachments.