

CSC 383
Fall, 2011
Assignment 8
Due 11:59pm CT, Thursday, November 3rd

Requirements. Write a class called `BinarySearchTreeMap` that extends the abstract class `AbstractMap` found in the file `AbstractMap.java`. This file is available in the Documents section of the course web site.

An element stored in a map is actually a pair of objects: the key and the value. For example, the value could be a student object and the key would be the student's ID number.

The elements are ordered in the binary search tree by the key. To help this make sense, here is the first line of the class's definition:

```
public class BinarySearchTreeMap<KEY extends Comparable<? super KEY>, VALUE>
extends AbstractMap<KEY, VALUE> {
```

The abstract class requires you to implement all of these methods:

- `public VALUE contains(KEY key);`
- `public void insert(KEY key, VALUE value);`
- `public void remove(KEY key);`
- `public int size();`
- `public java.util.Iterator<VALUE> iterator();`
- `public java.util.Iterator<VALUE> reverseIterator();`
- `public ArrayList<KEY> getAllKeys();`
- `public ArrayList<VALUE> getAllValues();`

An explanation of what each method is supposed to do is included in the comments in `AbstractMap.java`. Their implementations will be similar to the implementations for the BST that only stores values so use those as models.