Discussion Questions for “Searching”

1. If you think of HashMap as a concrete class with a backing store, what kind of backing store might that be? How would you implement a backing store? How would you manage hash collisions?

2. Consider the following implementation of a equals method in the MyClass class…

   ```
   public boolean equals(obj that) {
           if (that==null) return false;
           if (!that instanceof MyClass) return false;
           if (that.hashcode()!=hashcode()) return false;
           // Normal equals processing for MyClass
           …
   }
   ```

   Is this implementation correct (assuming the normal equals processing is correct.) Would the use of hash codes save time?

3. Now that you have learned both hash and binary search techniques, are there applications where you might prefer binary search over a hash map?

4. The equals method in the Object code just returns this==that, and the hashcode method is documented as “The hashCode may or may not be implemented as some function of an object's memory address at some point in time.” (which means, it’s the object’s address but don’t count on it.) Does this satisfy the requirements of hashing? Does using the default result in good hash efficiency? Is there a high probability that different objects will hash to different bins?