Building a container class.

1. Questions?

2. Example: The Association class, a class that holds and association between an key and a value. The key is immutable and the value is mutable. Equality is based entirely on the equality of the keys. Since keys are immutable, it’s meaningful to have a hashCode method.

3. Building an extensible list, a Vector.
   (a) Based on arrays of objects. Notice that an array can be allocated with a specific length, but the length cannot be changed—that’s our motivation for a Vector.
   (b) What would be an appropriate constructor?
   (c) What would we need to keep track of, privately, to maintain state?
   (d) How do we implement int size()?
   (e) How do we implement boolean isEmpty()?
   (f) How do we implement void addElement(Object v)?
   (g) How do we implement Object elementAt(int n)?
   (h) How do we implement boolean contains(Object v)?