1. The DenseBag class implements a Set-like collection that allows duplicates (a lot of them). The DenseBag class provides Bag semantics: it represents a collection with duplicates. The Dense part of the class name comes from the fact that the class needs to efficiently handle the case where the bag contains 100,000,000 copies of a particular item (e.g., don't store 100,000,000 references to the item). In a Bag, removing an item removes a single instance of the item. For example, a Bag b could contain additional instances of the String "a" even after calling b.remove("a"). The iterator for a dense bag must iterate over all instances, including duplicates. In other words, if a bag contains 5 instances of the String "a", an iterator will generate the String "a" 5 times. In addition to the methods defined in the Collection interface, the DenseBag class supports several additional methods: uniqueElements, getCount, and choose. The class may extend AbstractCollection in order to get implementations of addAll, removeAll, retainAll and containsAll.

2. Write a class named Bag that implements the methods defined at the end.

3. To submit your work:
   a. Put the name of all the members of your group at the top of the Bag class.
   b. Export the folder representing your project, zip it, and upload to the submit server (the project name in the submit server is BagExerciseLab). Only one member of your group needs to upload the exercise.
   c. Notice you don’t need to complete the whole exercise to receive full credit. We will be grading on effort according to the following criteria:
      a. Around 15% of work completed → (25 pts)
      b. Around 30% of work completed → (50 pts)
      c. At least 60% of work completed → (100 pts)