

Lecture 8.2 Programming Exercise

A grocery item has an item code and a shelf life. The shelf life is measured in days, and can range from 1 day to 30 days. Both data elements are integers. Write a program that creates 50 `GroceryItem` objects. The item code for each object can be generated sequentially, and the shelf life should be generated randomly.

Using `ArrayList` objects, the program should put those items with a shelf life greater than 7 days into one `ArrayList` object and those with a shelf life of 7 days or less into another `ArrayList` object.

The program should display the number of items with a shelf life greater than seven days, the number of items with a shelf life of 7 days or less, and display each list of items.

For this exercise, you can use the `java.util.Random` class to generate random numbers, as follows:

```
Random rnGenerator = new Random( rnSeed );           // creates a Random object
shelfLife = rnGenerator.nextInt( 30 ) + 1;           // next int in range 0 to 30
```

The first statement above instantiates a `Random` object called `rnGenerator`. The constructor argument `rnSeed` is called a random number seed. It is of type `long`, and is used to help ensure that the same sequence of random numbers is generated each time your program is run. The `nextInt()` method returns a random integer in the range 0 to 29.