Homework 5

Due: Tuesday 1/26 at 11:59pm

Complete the following problems. Submit your code as a .zip (created by exporting your Eclipse project) attached to an email to dbunde@knox.edu. Name the file based on your Knox login (so mine would be dbunde.zip).

1. (6 points) The given code is the shell of an implementation of a guessing game. The program randomly selects 3 numbers in the range 1 to 5 and the user submits guesses, again as three numbers in this range. For each guess, the program indicates the number of guesses that are correct. Note that order doesn’t matter, but that each number in the guess can be used only once. Thus, if the program’s numbers are 1, 1, and 2, the user guesses of 1, 2, 3 or 3, 2, 1 would both have 2 correct numbers.

To complete this game, you need to implement the numGuessed method. This method takes a Bag of Integer objects and compares them to the program’s numbers, which are stored in its attribute toGuess, another Bag of Integer. (Note that you can pretend that the values stored in the Bag objects are of the primitive type int and Java will automatically convert back and forth between ints and Integers.) The way that I implemented this method was to check each of the numbers in the guess one at a time. Any that matched one of the computer’s numbers was removed from toGuess and stored in a different Bag<Integer> (a local variable). This let me count the number of matches without code to explicitly handle duplicate numbers, which can otherwise be tricky. Then, at the end of the method, I put the matched numbers back into toGuess.