CISY 254 – Project 2 – Linked List of Generic Objects
Due TBD [Last life happens TBD+7]

Create a program that allows a user to maintain a "Bag" of "Objects" using **your** Class from Lab 2 and your Node<E> and LinkedBag<E> from Lab 5.

Regarding your class:

- You will have to add an **equals()** method to your Class so that equals, remove() and countOccurrences() will work. [honors option will have to add **compareTo()** as well]
- You will also have to add a **toString()** method to your Class
- You *may* need to add a constructor that accepts ALL parameters to make the call of to the methods *easier.*
  example: after prompting user for yearEntered and makeEntered, then can execute:
  if (myBag.exists(new Car(yearEntered,makeEntered)))
- Your class from Lab 2 is subject to the same requirements as Lab 2.

Your program should have the following options:

- A – Add "Object" to bag
  - Asks the user to enter attributes for an "Object" and then adds the "Object" to the bag (calls .add() method)
  - **Honors Option:** maintain order on add()
- R – Remove "Object" from bag
  - Asks the user to enter attributes for an "Object" and then attempts to remove the "Object" from the bag – should return a success/failure message (calls .remove() method – need to use if for success/failure)
  - **Honors Option:** maintain order on remove()
- F – finds if an "Object" is in the bag
  - Asks the user to enter attributes for an "Object" and then a message based on whether the object is in the bag (calls exists() method)
- C – Counts the number of occurrences of an "Object" in bag
  - Asks the user to enter attributes for an "Object" and then displays the number of occurrences of that "Object" in the bag (calls countOccurrences() method)
- D – displays contents of bag
  - Honors Option: if you maintained order for add() and remove(), they should display in order
- S – Display Size of Bag
  - Displays the size of the bag (calls .size() method)
- X – gracefully exits

- Note: if user selects an invalid command – display an error

- G – grab – extra Credit

See **DemoDoWhileStrings.java** in **Java Review Part 1.zip** demo file

Submit via WebStudy. Attach 4 files(5 if in Honors Option): 1) LinkedBag.java,
2) Node.java, 3) your revised class .java file(Honors Option has 2 files), 4) Project 2 driver .java