CIS 1068

Assignment 4

99 Red Balloons

You are to write a program that will create a set of balloons (of any color). Each balloon will have a color, and an altitude (how high it is off the ground). You will have two classes: **Balloon.java** and **BalloonTester.java**.

The classes are defined as follows:

Balloon.java

- The class contains 2 properties:
  int altitude
  String color

- This class has 5 methods:

  public void setColor();
  public String getColor();
  public void increaseAltitude(int amount) – changes the altitude of the balloon relative to its previous altitude. You can have a negative increase (i.e., you can use this method to decrease the altitude of the balloon)
  public int getAltitude() - returns the current altitude of the balloon object.
  public boolean equals(Balloon balloon) – Returns **true** if a balloon has the same color (regardless of the case of the spelling) and the same altitude, and **false** otherwise.

- A balloon cannot have a negative altitude. Any attempt to place the balloon underground will result in the balloon having an altitude of zero.

BalloonTester.java

This class will contain your main method and perform the following (write the Java statements to accomplish each step):

1. Create two balloon object s1 and s2.
2. Set the color of s1 to "Red" and its altitude to 50
3. Set the color of s2 to "Blue" and its altitude to two times s1's altitude (Do not write the figure explicitly. Instead, get the altitude of s1 and use it to calculate s2's altitude. Your calculation

should work regardless of the current altitude of s1).
4. Check whether the objects are equal using s1's **equals** method and print a message stating the result.
5. Change the color of s2 to "red";
6. Decrease the altitude of balloon s2 by 90% (Do not write the figure explicitly. Instead you must calculate the required value. Your calculation should work regardless of the current altitude of the balloon object).
7. Set the altitude of s1 to -100 (negative 100);
8. Increase the altitude of s1 by 10.
9. Check whether the objects are equal using s2's **equals** method and print a message stating the result.

Upload a zip file containing both classes.

DUE DATE: October 28th, at 11:59 PM