Lab 7

Add three instance variables to your class RightTriangle from lab 5. The first two are of type int and are called xLoc and yLoc and the third is of type int called ID. Also add a static variable of type double called scaleFactor. This should be initialized to a default value of 1. Update the constructor to set the three new instance variables and add appropriate get and set methods for the four new variables. All set methods including those from lab 5 should verify that no invalid data is set. Also define a new method ScaleShape() which multiplies the base and height instance variables by the scaleFactor and then updates the hypotenuse.

Write an application which shows the user the following menu and implements all options. The program should continue to run and process requests until the user selects 9. The program should double-check that the user really wants to exit. You may use a limit of 10 possible triangles to simplify implementation. The program should assign new ids to assure their uniqueness, the user should not enter an id for a new object in option 1. All input must be validated and appropriate feedback given for invalid input. Option 4 should display all info about the object. This is 8 method calls.

1 – Enter a new right triangle

2 – Delete a right triangle

3 – Delete all right triangles

4 – Display all right triangles

5 – Move a triangle

6 – Resize a triangle

7 – Enter a scale factor

8 – Scale all triangles

9 – Exit program