COSC 2436 Lab 2 Instructions

**Carpet Calculator**

The Westfield Carpet Company has asked you to write an application that calculates the price of carpeting for rectangular rooms. To calculate the price, you multiply the area of the floor (width times length) by the price per square foot of carpet. For example, the area of floor that is 12 feet long and 10 feet wide is 120 square feet. To cover that floor with carpet that costs $8 per square foot would COM $960. (12 x 1 0 x 8 = 960.)

First, you should create a class named RoomDimension that has two fields: one for the length of the room and one for the width. The RoomDimension class should have a method that returns the area of the room. (The area of the room is the room's length multiplied by the room's width.)

Next you should create a RoomCarpet class that has a RoomDimension object as a field. It should also have a field for the cost of the carpet per square foot. The RoomCarpet class should have a method that returns the total cost of the carpet.

In addition to the above specs given please add the following methods in both classes:

* Copy constructor
* toString() method
* clone() method
* hashCode() method
* equals() method
* compareTo() method
* finalize() method

Once you have written these classes, use them in an application to test all methods you have created.

Create at least three RoomCarpet objects and add them into an ArrayList

**Resource:**

* UML
* Sample Program (Week\_2\_example)



Deliverables:

* RoomDimension.java (30 %)
* RoomCarpet.java (30%)
* CarpetCalculatorApp.java (30%)
* Screenshot(s)- 10%

Note: Sparingly comment your java source code, save all the files in ***your\_lastname\_lab\_2*** folder, zip it, and upload for grading.

Thank you!