**CSC 1302: PRINCIPLES OF COMPUTER SCIENCE II**

**Lab 8**

**How to Submit**

Please submit your answers to the iCollege ‘assignment’ dropbox for your lab, once you have completed. Failure to submit within your given time period will result in a **ZERO FOR THIS LAB. NO EXCEPTIONS**.

1. Write a class called ***Rectangle*** that implements the *Comparable* interface. The class should contain three fields: *height* (int), *width* (int), *topCorner* (***Point***). Write the necessary constructors, accessors, mutators and other methods. The Point class is given below.
2. Write a client class, ***RectangleClient*** that creates an ArrayList of ten ***Rectangle*** objects called list1.
   1. Print the list.
   2. Call Collections.sort(list1), to sort the elements according to the *height*. If the *height* of any objects are equal, then sort the list using the *width* of the rectangle and if the *width* of any objects are equal, as well, then sort them using the *topCorner* point (hint: call the ***Point***.*compareTo()* method).
   3. Print the sorted list.

public class Point implements Comparable<Point> {

private int x;

private int y;

public Point() {

this(0, 0);

}

public Point(int x, int y) {

this.x=x;

this.y=y;

}

public int getX() {

return x;

}

public int getY() {

return y;

}

public String toString() {

return "(" + x + ", " + y + ")";

}

public int compareTo(Point pt){

if(x==pt.x)

return y-pt.y;

else

return x-pt.x;

}

}