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

**Lab 6**

**How to Submit**

Please submit your answers to the lab instructor once you have completed.

Failure to submit will result in a **ZERO FOR THIS LAB. NO EXCEPTIONS**.

Given the following Coloring interface and Point class

//Coloring interface

public interface Coloring{

public String getColor();

}

//Point class

public class Point {

private int x;

private int y;

public Point() {

this(0, 0);

}

public Point(int x, int y) {

setLocation(x, y);

}

//compare the x and y of two points

public boolean equals(Object o) {

if (o instanceof Point) {

Point other = (Point) o;

return x == other.x && y == other.y; //TRUE if they are the same

} else {

return false;

}

}

public int getX() {

return x;

}

public int getY() {

return y;

}

public void setLocation(int x, int y) {

this.x = x;

this.y = y;

}

public String toString() {

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

}

}

Write the ***ColoringPoint*** class such that it implements the ***Coloring*** interface and extends the ***Point*** class so that it can have colors. Override the *toString()* method to print out the coordinates and color of the ***Point***, override the *equals()* method so that it compares color as well. Write the necessary constructors, accessors, and mutators.

Write a client class, ***ColoringClient***, and create two different objects of the ***ColoringPoint*** class (CP\_blue and CP\_orange). Print the color of each object and compare if they are equal (x=x, y=y, color=color).