CS 250 Circle Color Lab

For this lab, you are going to modify your Circle Animation assignment to handle colors. You will need to add the following classes to your Game2DUtilities project.

1. Add a **Color** class to Game2DUtilities: Create two new files in your Game2DUtilities called **Color.h** and **Color.cpp**. This Color class contains information about the colors that can be used, and functionality to return the RGB of the colors. In the CS 250 public folder you will find the content for those files. Copy the content of the files on Grace to the files in your project and make sure that your Game2DUtilities builds without errors.

2. Add more colors to the Color class: There are only two colors that are possible right now. Add the colors listed on the reverse of this page.

3. Add a ColorSet class to Game2DUtilities: This class will maintain a list of available colors to be used in Circle Animation. The **ColorSet** class is to have a constructor and methods isInSet, getRandomColorInSet, size, as well as overloaded operators + for adding a Color to the set and – for subtracting a Color from the set. I have provided you with just the .h file.

4. Add Color functionality to Circle class:
   - Add a Color object mColor to your Circle class
   - Add a setColor function to the Circle class that will accept a Color and set the value of mColor.

5. Add ColorSet functionality to the driver:
   - Create an object of ColorSet called cColorSet.
   - Populate your ColorSet object with the first two colors (0, 1, which are white and black).
   - After you create your circle object, set the color of that circle:
     ```
     Circle cCircle (x, y, r);
     cCircle.setColor (cColorSet.getRandomColorInSet());
     ```

6. Test your circle and make sure that it randomizes between circles that are white and circles that are black.

7. Add more colors to your color set using + and thoroughly test your program.

Color	RGB Value
White	255, 255, 255
Black	0, 0, 0
Red	255, 0, 0
Blue	0, 0, 255
Green	0, 108, 0
Purple	108, 0, 108
Yellow	255, 255, 0
Orange	255, 165, 0
Violet	238, 130, 238
Silver	192, 192, 192
Fuscia	255, 0, 255
Aqua	0, 255, 255