CS250 Assignment 5
SDL Introduction

Date assigned: Wednesday, March 30, 2016   Date due: Monday, April 6, 2016

Points: 40

Goals for this assignment

1. Read and use existing code
2 Write an object-oriented program using multiple classes.
3. Implement the Circle class designed in class
4. Practice with basic 2D graphics in SDL.

Create TWO new projects in your assignment solutions folder named 05_Graphics2D and 05_CircleTest.
You must link each of these projects with the SDL libraries (see your notes from class). The
05_CircleTest project must be linked to the 05_Graphics2D project.

05_Graphics2D must be a **Win32 Project**, and the Application Type is **Static library.**
05_CircleTest must be a **Win32 Project**.

05_Graphics2D must contain Circle.h and Circle.cpp
05_CircleTest must contain 05_CircleTestDriver.cpp and the specified text file.

You must finish implementing the Circle class we designed in class (in Circle.cpp).

Your **driver** (05_CircleTestDriver.cpp) must:

1. Initialize SDL
2. Build an SDL_Window of size 640 x 640 at position (100,100) on the screen.
3. Build an SDL_Render
4. Set the size of the SDL_Render to the size of the SDL_Window
5. Set the background color of the SDL_Renderer to {0, 128, 128, 255}
6. Read the file **Circles.txt** which will contain at most 5 circles into an array of Circles.
7. Places those circles on the screen.
8. Delay for 10 seconds so the user can see the circles.
9. Destroy all the SDL objects created above

Notes on Design

You must use the Circle.h provided on Grace that we designed in class. Later projects will rely on the Circle class so be sure to start early and test your code well.

Error Handling

The data file will not contain any errors and will always contain at most 5 circles.

Sample File: The file will end with a blank line

```
100 150 20 255 0 0 255
100 100 20 0 255 0 255
200 200 5 0 0 255 255
300 300 10 100 11 0 255
400 400 15 11 7 100 255
```
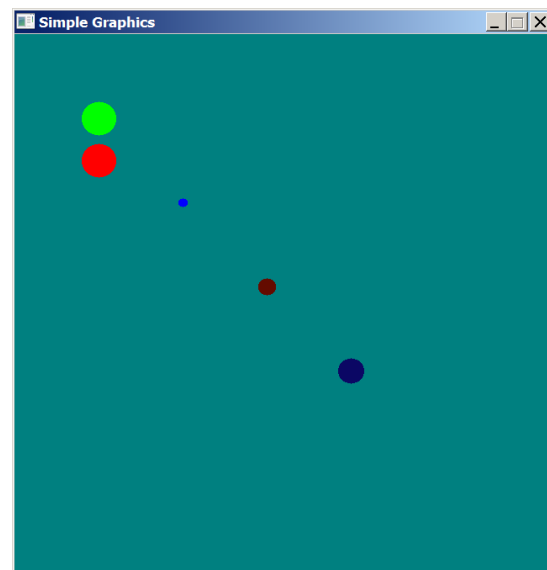
The values in the file are:

xposition yposition radius colorR colorG colorB colorA

NOTE: the members of SDL_Color are `unsigned char`, so you cannot read the rgba values directly from the file. You must read each individual value into an `int` and then assign that `int` to the correct r,g,b,a member in SDL_Color

Sample Output

Placement of the circles:

To complete this assignment you must submit the following:

1. An electronic copy of your program on Grace

a) Add a project named **05_Graphics2D and 05_CircleTest** to your assignment solutions folder. It is vital that you name your solution and your project correctly!

b) Type your program (fully documented/commented) into the project. You need to follow the coding standards from the CS250 Web page. These coding standards have been modified to include additional C++ language features introduced in CS250, so please be sure to read the new coding standards. Make sure that you include the hours you worked on the assignment in your header comments.

c) Pay attention to the example output. Your program's output must look **exactly** like the sample output.

d) Make sure that your program builds without errors & warnings and runs correctly. If you get any errors or warnings, double check that you typed everything correctly. Be aware that C++ is case-sensitive. You will lose 10% if there are any warnings and 70% if your program does not build successfully.

e) Once you are sure that the program works, it is time to submit your program. You do this by logging on to Grace and placing your complete solution folder in the **CS250-0X Drop** folder.

f) The solution must be in the drop folder by the time class starts on the day the assignment is due. Anything submitted after that will be considered late.

2. A hard copy of your program

a) The hard copy must be placed on the instructor's desk by the time class starts on the day that it is due.

b) **The hard copy must be printed in color, double-sided, and stapled in the upper left corner if your solution contains multiple pages**. Failure to print properly will result in loss of 4 points (10%)

c) Your tab size must be set to 2 and you must not go past column 80 in your output.

Remember, if you have any problems, come to me straight away

with your project on Grace. Good Luck!!!! :)