CS250 Assignment 6
Connect Four

Date assigned: Monday, March 18, 2013
Date due: Friday, April 5, 2013
Points: 50

Connect Four is a two-player game where players take turns dropping colored discs from the top into a seven-column, six-row grid. The pieces fall straight down occupying the next available row within the column. The purpose of the game is to connect four of one's own discs next to each other either horizontally, vertically, or diagonally before your opponent.

You are to write a project called **Connect Four** that implements the game just described. Here is a screen shot of our game.
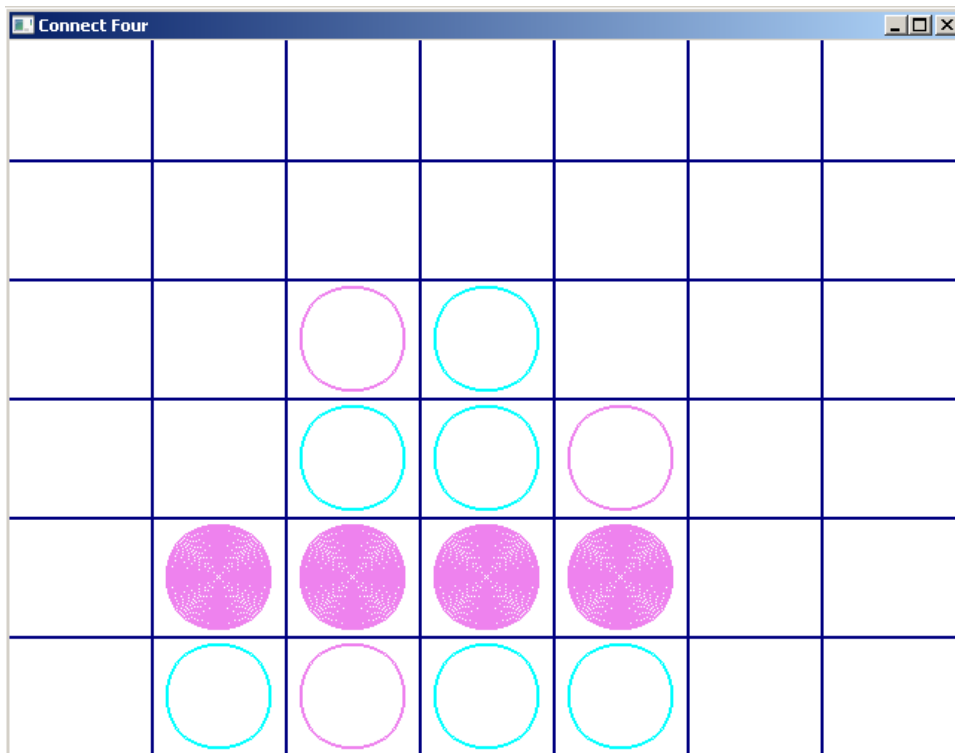
Here are the steps I went through when writing the solution to this assignment:

1. In the last assignment, you figured out how to place equally sized discs on the display screen. I would figure out how to place 42 discs on the screen all equally spaced. The above screen shows discs with a radius of 35. Initially give the discs a color of BLUE so that they display on the screen and you can see that the spacing looks good. Then all you need to do is to set the discs to the background color of white.

2. Place grid lines on the screen. The above screen shows grid lines that are 2 pixels wide so duplicate the line drawing (i.e. call dbLine twice).

3. A more complicated game would allow the players the ability to select the color they want to play with, but for this game, use Violet and Aqua as described in our color palette for player 1 and player 2 colors respectively.

4. Now it's time to start playing the game, so player 1 will click (using dbMouseClick ()) on any of the 7 available spots which is the entire bottom row when the game initially begins. Do not continue until a valid location is selected by the player. Once a valid location is selected by the user you are to place an unfilled disc into that square on the screen, so you will use the method draw and not drawFilled. Again, my draw is 2 pixels wide for each unfilled disc.

5. Once the user has placed a disc on the screen, you need to check if there is a winner by checking for four in a row horizontally, vertically, and diagonally UL to LR and UR to LL. If one of the players wins the game, then you are to drawFilled the four discs that are connected together showing the winning discs.

That's it. Add classes as you see fit. Your existing classes will be quite helpful in implementing the above described game. You should not have any method more than a single page with documentation. Remember, each method is to have a single well-defined function.

To complete this assignment you must:

1. Create a project called **Connect Four** with the proper interfaces and implementations for playing the game.

2. Type the solution (fully documented/commented) to the problem into your project. The hard copy must be placed on the instructor's desk by the time class starts on the day that it is due. The hard copy must be printed in color, double-sided, and stapled in the upper left corner.

3. Once you are sure that the program works correctly, it is time to submit your solution. You do this by logging on to Turing and placing your complete solution folder with all projects (**01_DNA**, **02_WordSearch**, **Random**, **Rational**, **Game2DUtilities**, **CircleAnimation**, and **Connect Four**) working correctly in the proper CS250 Drop folder. Make sure that you copy your program folder and don't move the folder. If you move the folder, then you will not have your own copy!

4. Play the game until you show a winner. Then using the snipping tool, make a copy of the entire Connect Four screen showing the winner and output the Connect Four screen content to a color printer. Staple the color output to the end of your print out.

I have given you enough time to finish this assignment without having to work over Spring Break. If I were you, I would have Steps 1. and 2. done by Friday, March 22, 2013. If you start this assignment when you get back from Spring Break, you will most likely not complete the assignment!!!! Good Luck.