Homework #2 - Drawing Lines

README.txt: From this point forward, you will email me your code (project.cpp) files along with a README (in txt format). The readme should completely describe each of the following (even if you feel it is stated by the assignment itself). Failure to do so will result in a loss of points. Itemize these in the readme to be sure you have covered each point.

1. Explain briefly the goal of the assignment and what you expect to accomplish by completing the assignment.
2. Fully describe the user interface to interact with and otherwise 'use' your project
3. Explain any assumptions you made during implementation
4. Describe any broken portions of your project
5. List and describe any difficult problems or obstacles you have encountered and how you overcame them.
6. Explain any other features, quirks, bugs or functionality of your project.
7. Fully answer any additional questions set forth or asked in the project description.

In this project you will draw lines entered by the user using the DDA line drawing method, the midpoint line drawing method and by using the Open GL commands. Your project should complete the following:

1. 'd' - Draw all lines in the system using the DDA method in red
2. 'm' - Draw all lines in the system using the midpoint method in green
3. 'g' - Draw all lines in the system using OpenGL in blue
4. 'a' - Draw all lines in the system using all three methods using the colors above. Draw the lines with the colors above and in this order: first Open GL, then DDA, and lastly the midpoint method. Thus, if all three methods choose the same pixels, the line will be green as the midpoint method is drawn last or "on top."

To implement this project, you will likely make use of a global variable. Let's call this variable drawmode. In essence, drawmode will be set when the 'd', 'm', 'g' or 'a' keys are pressed. The display function will determine which drawmode has been selected and it will draw lines appropriately.

To receive a few points of extra credit, implement these quick tools:

1. 'r' - Remove the last element drawn on the screen. In essence, undo the last line. This option should work repeatedly.
2. 'w' - Toggle anti-aliasing of Open GL lines on and off.
3. Enable rubberbanding in the project. In other words, as you are holding down the left mouse button, draw the "current" line as it would be drawn if you were to let go of the mouse button.
4. Provide accurate 'extensive' timings for each of the line drawing methods and report your findings.