

CSE 167, Winter 2003: Assignment 1

Due date: January 22, 3pm

Standard points: 25

Extra credit points: 10

Using Open GL, create a resizable window. Create a simple menu allowing you to choose between squares or circles. Once a primitive is chosen, it should be drawn in white (not-filled) on a black background. The objects should be sized relative to the window, so if the window is made smaller, the objects should become smaller (and vice-versa).

Use the code in the VC++ tutorial to setup the structure of your code. You will need to

Required steps:

1. Start with the VC++ tutorial.
2. Implement menu callback
3. Create menu, register callback and add entries
4. Implement display function to draw selected primitive
5. To draw the circle, you will have to approximate it by a polygon with several edges (minimum of 8).

Extra credit:

Add an additional menu entry to draw a filled square. When this is selected, draw a square rotated by 45 degrees, filled with white using a polygon scan-conversion algorithm. Note: you have to actually implement the scan-conversion algorithm, not just specify an OpenGL option to render a filled polygon.

Note: if you are planning to do the extra credit, ensure you first have a working version of the required assignment. Save the working version in a separate project and then embark upon the extra credit. If you can't demonstrate a working version of the required part, you will not get full credit for it.

Submission:

1. Report explaining the algorithm, description of functions, and any other implementation details that explain your code.
2. Entire Visual C++ project directory including source files, header files and the compiled executable.

Submission process: Zip up all of the above and email to farhana@cs.ucsd.edu .

Note: the actual submission process might change if the CS system group implements a submission functionality that they are working on. But you will be notified of any change well in advance of the due date

Late penalty will be applied to assignments turned in after the time stated above.