CSCI 4250/5250 Homework 2 (40 points)
Due beginning of class, Monday, September 12th **Name_____**

1. Compile the cube program discussed in class on your choice of platform for opengl programming. Modify the program to draw the cube in a color of your choice. Turn in a screen shot of your program output. (Make sure to label it with your name). (10 points)

2. Read chapter 3 of the textbook

3. Describe what each of these OpenGL extensions provide (1 point each)
   GLU
   GLUT
   GLUI

4. What is a callback? (1)

5. Describe the purpose of each of the following OpenGL/GLUT/GLU functions. Be specific and describe what the arguments will cause to happen. (2 points each)

```
glutInitWindowSize(400, 600);

glutMainLoop();

glClearColor(0.0, 1.0, 0.0, 1.0);

glClear(GL_COLOR_BUFFER_BIT);

glColor3f(1.0, 1.0, 0.0);

gluOrtho2D(-3.0, 3.0, -1.0, 1.0);
```

6. Consider the skeleton of an OpenGL program shown below. Fill in the appropriate parameters in the blanks and write additional functions necessary to produce a drawing of a polyline with vertices (0.0, 0.0), (1.0, 0.0), (1.0, 1.0), and (2.0, .5). The background color should be blue and the foreground color should be white. The window size should be 500 X 500, appears at location 50 rows and 20 columns down from the upper left corner of the screen, and should have "Polyline" on the title bar. (14 points)

```
#include <GL/glut.h>
void myinit()
{
        glClearColor (__________, ___________, _________, _________);
        glColor3f (__________,__________,__________);
        glMatrixMode (GL_PROJECTION);
        glLoadIdentity();
        gluOrtho2D(_________, ___________, __________, _________);
        glMatrixMode (GL_MODELVIEW);
}
```

```
int main(int argc, char** argv)
{
	glutInit(&argc, argv);
	glutInitDisplayMode( GLUT_SINGLE | GLUT_RGB);
	glutInitWindowSize(_____, _____);
	glutInitWindowPosition(_____,_____);
	glutCreateWindow(_____);
	glutDisplayFunc(_____);
	myinit();
	glutMainLoop();

	return 0;
}

//Place your functions below
```