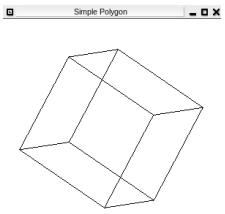
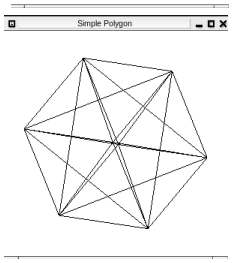
Assignment 1 :: Drawing Objects



Task 1: Drawing a Cube Mesh

Write code that is able to replicate drawing of a cube (as given on the left).

The cube should be rotatable by giving a response to the up, down, left, and right keys of the numeric keypad. Note that the task requires drawing of a mesh (no colors applied to surface)

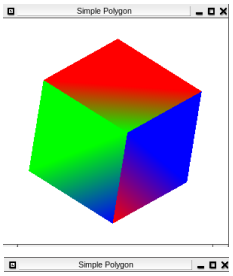


Task 2: Drawing a Cube Mesh (Triangular)

Modify the code in Task 1 such that the 4-side squares are converted to 3-side triangles.

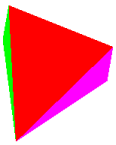
The cube should be rotatable by giving the same response to the up, down, left, and right keys.

Note that the task also requires a mesh (no colors applied to surface)



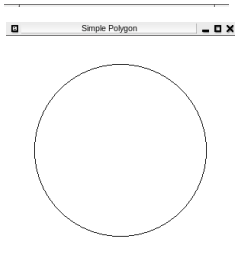
Task 3: Applying Surface Colors

Apply colors to the traingle meshes drawn in Task 2. You will need to move from mesh representation of triangle to a surface representation of the triangle.



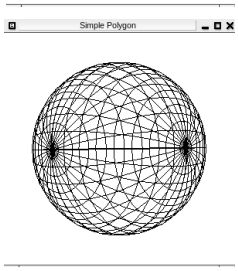
Task 4: Drawing a Pyramid

Practice drawing of points by making a pyramid with surface colors.



Task 5: Drawing a Circle

Practice drawing of points to make a circle. Try to use the polar method (single angle) method to estimate (x,y) positions. You will need just a single for loop.



Task 6: Drawing a Sphere (Mesh)

Extend task 5 but this time draw a sphere. You will need two for loops. Have a look at how to estimate (x, y, z) position on a sphere in polar coordinates (two angles).

Deliverables

I need exactly 6 source-codes named as follows:

12P-1234-task1.c, 12P-1234-task2.c, all the way to 12P-1234-task6.c

Remember that I use Linux. I should be able to compile your code.

Note: Do the code yourselves. Use only concepts studied in class. If your code has more than 70% similarity with other students, there will be penalty marks applied.