2146D Assignment No. 11.

Title : 3D transformations (scaling, rotation, translation)

Problem statement : write a C++ program to draw 3D cube and perform
a) scaling b) Translation c) Rotation about axis.

objective: To implement 3D object transformation using openGL

outcome: student will learn to implement 3D transformation scaling rotation using openGL.

theory:

OpenGL: Open Graphics Library is a cross language, cross platform application programming interface for rendering 3D and 2D vector graphics

The OpenGL specification describes an abstract API for drawing 2D and 3D graphics. The earliest version of OpenGL were residing with a companion library called OpenGL utility Library

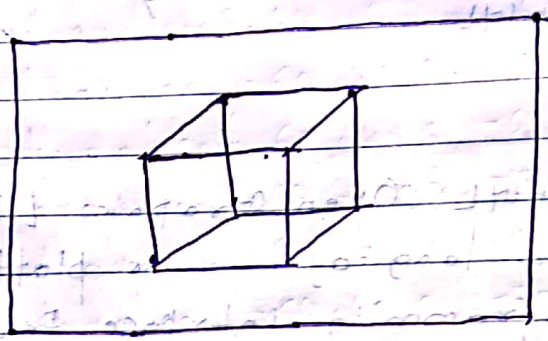
It provides simple, powerful features which were unlikely to be supported in contemporary hardware such as generating mipmaps and primitive shapes.

Algorithm:

1) start
2) Initialise GLUT.
3) create a window
4) call translate function
5) call rotate function for x, y, z axes
6) call the scale function.
7) stop

output:

cube rotating about an axis



conclusion:

we implemented all 3D transformations like translation, scaling and rotation using openGL library.