**Lab Assignment -5 CS362**

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**3D- Paint**

This assignment, 3D-Paint extends the functions of mini-Paint to 3D. The 3D paint consists of the following functions:

New Canvas

3D Line

Cube

Cuboid

Cone

Cylinder

Fill with Color

Crop

Erase

Save

For most of the objects i took the input as the diagnol and calcualted the corresponding information required to build the 3D object based on the ratios mentioned in the problem statement to calculate these lengths .

LINE:

The line end points are taken by mouse clicks and lines are drawn.

CUBE:

The end points of body diagonal are taken from mouse clicks and the other points are calculated using mathematics.

CUBOID:

The end points of body diagonal are taken from mouse clicks and the other points are calculated using mathematics.

CONE:

The end points of height of the cone are taken from mouse clicks and the other points are calculated using mathematics. Radius is calculated form height of the cone.

Cylinder:

The end points of height of the cylinder are taken from mouse clicks and the other points are calculated using mathematics. Radius is calculated form height of the cone.

Erase:

I will store the screen points which are need to be erased and then use glVertex2f function to draw black pixels

Crop:

I will erase all other parts of the screen except the selected area.

Save:

It is done using filestream writing in a file.

Open

The file contents can be retrieved from the file using fopen.

New

I will clear the entire screen.

Colour:

I can select respective colour from the dialog box provided and then we can draw the image using the selected colour