

Computer Graphics Lab 5

Drawing 3D

Setting Viewing Transformations

1. Download and run program and answer the following question:

<https://drive.google.com/drive/folders/1ry2qdh0l4vvGJUA-PYIrlFnhAG5nb1Uy?usp=sharing>

(Lab05_1.py, Cube.py, Mesh.py, LoadMesh.py and cube.obj)

Question1: Show the result of the program. Explain what happen to the result?

2. Add line number 31 as:

```
# modelview
glMatrixMode(GL_MODELVIEW)
glLoadIdentity()
glTranslated(0, 0,-1)
```

3. Observe the result
4. change form glTranslated(0, 0,-1) to glTranslated(0, 0,-2)
5. Observe the result
6. Try to change X and Y.

Question 2: Have we move the camera or we move the cube? (question 2) How we know ?

Moving and Aiming Camera

1. Down load lab05_2.py and teapot.obj
2. Run the program and **show the result**
3. Add line 33 as
`gluLookAt(0, 0, 5, 0, 0, 0, 0, 1, 0)`
4. **Show the result**

Question 3 what gluLookAt(0, 0, 5, 0, 0, 0, 0, 1, 0) do?

5. Move the camera up while still look at the same position.
6. Program the up and down arrow key to go other direction along Z direction