Daily Assignment 8

- Starting from the solution of 'Daily Assignment 7', write down a Python program that behaves exactly same to the 'Daily Assignment 7'
- But you have to draw a triangle using the **drawTriangle() & render()** function in the next slide.
- And You have to **add some lines to render()** function at '# edit here', using **glMultMatrixf()** call.
- You don't' need to use the matrix stack!
- **Set the window title to your student number.**

Key	Transformation
Q	Translate by -0.1 in x direction **w.r.t global coordinate**
E	Translate by 0.1 in x direction **w.r.t global coordinate**
A	Rotate about y axis by -10° **w.r.t local coordinate**
D	Rotate about y axis by +10° **w.r.t local coordinate**
W	Rotate about x axis by -10° **w.r.t local coordinate**
S	Rotate about x axis by +10° **w.r.t local coordinate**
1	Rotate camera -10°
3	Rotate camera +10°

```
def drawTriangle():
    glColor3ub(255, 255, 255)
    glBegin(GL_TRIANGLES)
    glVertex3fv(np.array([.0,.5,0.]))
    glVertex3fv(np.array([.0,.0,0.]))
    glVertex3fv(np.array([.5,.0,0.]))
    glEnd()

def render(M, camAng):
    glClear(GL_COLOR_BUFFER_BIT | GL_DEPTH_BUFFER_BIT)
    glEnable(GL_DEPTH_TEST)
    glLoadIdentity()
    glOrtho(-1,1, -1,1, -1,1)
    gluLookAt(.1*np.sin(camAng),.1,.1*np.cos(camAng),
0,0,0, 0,1,0)

    # draw cooridnate - x in red, y in green, z in blue
    glBegin(GL_LINES)
    glColor3ub(255, 0, 0)
    glVertex3fv(np.array([0.,0.,0.]))
    glVertex3fv(np.array([1.,0.,0.]))
    glColor3ub(0, 255, 0)
    glVertex3fv(np.array([0.,0.,0.]))
    glVertex3fv(np.array([0.,1.,0.]))
    glColor3ub(0, 0, 255)
    glVertex3fv(np.array([0.,0.,0]))
    glVertex3fv(np.array([0.,0.,1.]))
    glEnd()

    #################
    # edit here
```

How to Submit

- What you have to submit:
  - Only **one** .py file: ***main.py***
- Write down all your code to ***main.py***
- `> py -3 main.py` or `$ python3 main.py` should show your glfw window.

How to Submit

- Submit your assignment **only through the Assignment (과제) menu of the lecture home** at portal.hanyang.ac.kr.

- **Recommended due date: Today's lecture end time**

- (Hard due date: 23:59 Today)