Computer Graphics, Lab Assignment 9

Handed out: May 13, 2019

Recommended due: 12:00, May 13, 2019

Hard due: 23:59, May 13, 2019 **(NO SCORE for late submissions!)**

Submit your assignment only through the GitLab.

1. Write down a Python program to visualize ZXZ Euler angles.
   A. This is how ZXZ Euler angles works
      i. Rotate along Z-axis by α
      ii. Rotate along X-axis of the new frame by β
      iii. Rotate along Z-axis of the new frame by γ
   B. Start from 9-Orientation&Rotation practice code, implement ZXZ Euler angles and add code to change α, β, γ values in the following way.
      i. If you press or repeat a key, the value of α, β, γ should be changed as shown in the table:

Key	Transformation
A	Increase α by 10°
Z	Decrease α by 10°
S	Increase β by 10°
X	Decrease β by 10°
D	Increase γ by 10°
C	Decrease γ by 10°
V	Initialize orientation

   C. Hint: You do not need to store a composed rotation matrix as a global variable. **You can just store α, β, γ as global variables**.
   D. Set the window title to **[studentID]-[assignment#]-[prob#]** and the window size to (480,480).
   E. Expected result: Uploaded LabAssignment9-1.mp4
   F. Submit a single .py file - **[studentID]-[assignment#]-[prob#].py**