Computer Graphics, Lab Assignment 8

Handed out: May 27, 2020

Due: 23:59, June 4, 2020 **(NO SCORE for late submissions!)**

Submit your assignment only through Computer Graphics course page on Blackboard.

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 CG_weekly_practice_08_skeleton.py 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 **CG_weekly_practice_08_studentID** (e.g. **CG_weekly_practice_08_2017123456**) and the window size to (480,480).
   E. Expected result: Uploaded CG_weekly_practice_08_result.mp4.
   F. Submit a single .py file - **CG_weekly_practice_08_studentID.py** (e.g. **CG_weekly_practice_08_2017123456.py**).