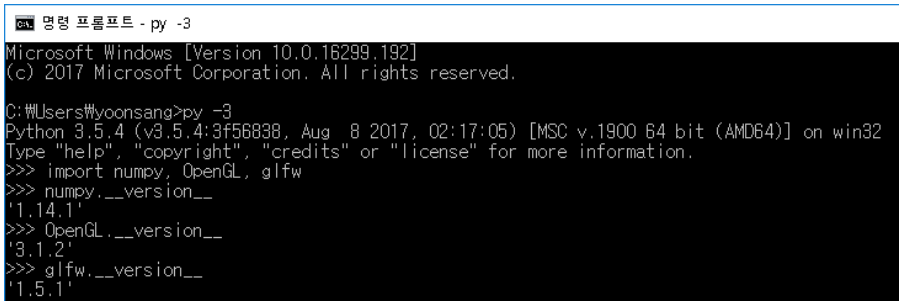
Computer Graphics, Lab Assignment 1

Handed out: March 13, 2023

due: 23:59, March 19, 2022 **(NO SCORE for late submissions!)**

Submit your assignment only through the lecture home at portal.hanyang.ac.kr.

1. This assignment aims to make you set up a Python environment and practice submitting an assignment. To do this,
   A. Install Python, NumPy, PyOpenGL, glfw as instructed in the Lab1-EnvSetting slides.
   B. Start the python interpreter in the interactive mode and import numpy, OpenGL, glfw and print the version of those modules and capture the screenshot. Refer the example screenshot 2017xxxxxx.jpg below.
   C. You can use Windows command prompt or Linux terminal or something like that to run Python interpreter in interactive mode.
   D. Submit a single image file - **[studentID]-[assignment#]-[prob#].**jpg (or png or gif) (e.g. **2017123456-1-1**.jpg)
      1. Example screenshot: 2017xxxxxx.jpg



2. Write down a Python program to:
   A. Create a 1d array M with values ranging from 2 to 26 and print M.
   B. Reshape M as a 5x5 matrix and print M.
   C. Set the first column of the matrix M to 0 and print M.
   D. Assign M^2 to the M and print M.

E. Now, let's consider the first row of matrix M as vector v. Calculate the magnitude of the vector v and print it.

   i. Hint: $\|\mathbf{x}\| = \sqrt{(x_1^2 + x_2^2 + \cdots + x_n^2)}$

   ii. Hint: Use np.sqrt()

F. Submit a single .py file - **[studentID]-[assignment#]-[prob#].py** (e.g. **2017123456-1-2.py**)