CS451 COMPUTER GRAPHICS

PROJECT SPECIFICATIONS

DUE: Week 14 (Sunday 29th of November 2020) **TOTAL GRADE:** 10%

1. PROJECT OVERVIEW

You are to write an application program that uses the OpenGL graphics package to draw a scene (or scenes) of your own design. Your scene must include one or more of each of the elements described below.

2. IMPORTANT ELEMENTS:

Your project should contain at least one instance of each topic covered during the labs:

- Primitive shapes: points, lines, polygons, …etc.
- 3d shapes: cubes, teapots, cones, … etc.
- Colors: background, filling objects
- Animators
- Modeling transformation or viewing transform/ projection transformations/ viewport transformations.
- Keyboard/ or muse events
- Lighting (optional)
- Texts (optional): Use the code provided below for drawing a text: http://www.lighthouse3d.com/tutorials/glut-tutorial/bitmap-fonts/

3. IDEAS:

You might display an object on the screen, labeling various parts of the object, and displaying lines, polylines, polygons, rectangles, and ellipses, filled and unfilled, in different colors (patterns) and styles. Your image(s) should also be interesting! Feel free to create more than one image; switch from one to the next when a key is pressed. Another more complex idea is to create a drawing tool that allows the user to select from all the various primitives, select their attributes and draw it on a canvas.

4. General Guidelines

1. Groups should be made up *of 3-4 m*embers. Each member of the group should be responsible for specified tasks.
2. Create a folder in which you include your project folder and a read-me file listing your group members. Name the folder with your group number. Group numbers will be given to you once you form your groups.
3. You have to prepare a weekly summary about your progress to be discussed during the lab time.
4. Projects/Assignments are set to help you learn, as well as to assess your progress. - It's NOT ALLOWED to copy another student's code in your program OR use code obtained from the web as if it were your own. Any detected plagiarism or unauthorized collaboration will receive zero out of 10.
5. Late submission will receive 25% penalty per day.
6. Read evaluation criteria to understand how you will be assessed and work accordingly.
7. Project demos will be arranged later and a schedule allocating times for each group will be released.

5. Evaluation criteria:

The marks are divided according to these criteria

Criteria	**Description**	**Marks**
Completing Tasks	The project contains all important elements.	**4**
Details of drawing	While the primary goal of this project is for you to draw something, a portion of your grade is based (subjectively) on how "interesting" (complex, unusual, etc.) your design is. I realize that not everyone is an accomplished artist; photo-realistic depiction of objects is not a requirement - effort is more important.	**3**
Code Correctness	The project does all tasks correctly.	**2**
Code Efficiency	The design of your code - is your coding style consistent, readable, commented, and modularized?	**1**
	Overall marks	**10**
	Failure to show clear understanding of the written code during the demo will result in up to 50% reduction of your total mark (this is evaluated individually)	