

Exercises of Lab #2

The zip file of Files4Lab2.zip contains one video clip lab2video.mp4 that illustrates the expected result after completing the lab exercises.

1. Within your package `codes**280`, create two new java files `Lab2Shapes**.java` and `Lab2**.java`, where `**` is your initials.
2. Create in your `Lab2Shapes**.java` file two new shapes as derived classes of the abstract super class that you had created in the previous lab. Though not required, students may find it helpful to update the scene graph of Lab #1 before coding.
 - (a) One shape is a self-made cone, which is spatially in symmetry to the orange-colored cone that had been created in the previous lab. The self-made cone is actually a pyramid in shape, and its curved shape is approximated by increasing the number of sides of the pyramid.
 - i. Its bottom side is a disk approximated by an n -sided regular polygon in solid blue color, whose illustration in the figure and video has n set to 15. The distance from the center point to the corners on the side of the polygon is 0.6.
 - ii. The height of the pyramid is 0.6 as well.
 - iii. The side of the pyramid is created with triangles that connect the apex point to corners of the bottom side.
 - iv. Color the apex point to blue and the sides in alternating colors that are listed in the provided Common's file for Lab #1.
 - (b) The other shape is a label in white color with a string identified with your initials and updated for this lab. In addition, the string label needs to be placed at the bottom of the new self-made cone as illustrated in the right figure below and in the video of lab2video.mp4 as well.
3. Code your `Lab2**.java` file to create a virtual world that consists a stationary three-axis frame and two new shapes that rotate with the orange-colored cone in the way as illustrated in lab2video.mp4.
4. Make your program easy to comprehend by adding adequate amount of comments.
5. Locate the folder that contains all files of your project `Comp2800`; produce a zip file of your project folder; and submit it online before due.

