

The world is round

In this assignment, you will continue to do 2D drawings in OpenGL, but with the additional components of animation. You are to create a scene of the solar system as illustrated in `sample.exe`. It only serves as an example and you are by no means confined to the example. So use your creativity to create your own universe!

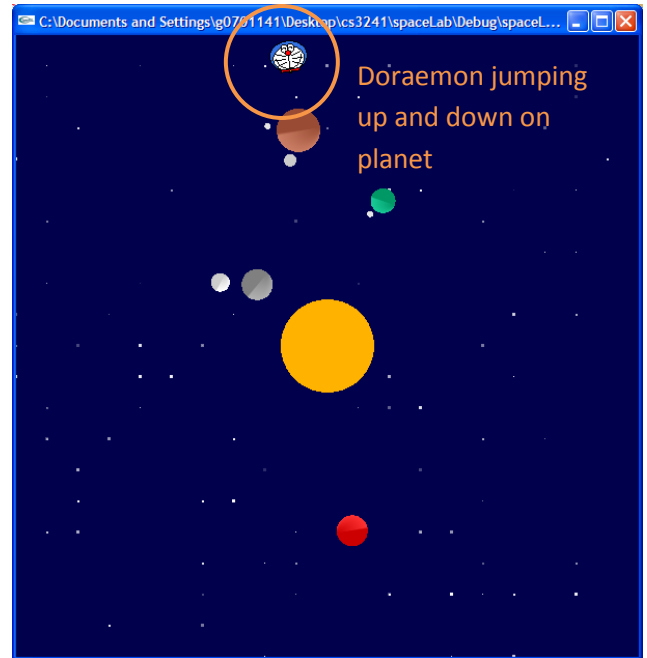
Instructions

Unzip `Lab2.zip` and click “`lab2.sln`” to open up the solution file. You can start drawing your solar system by adding your code in `display()` like in Lab 1. A `planet` class has also been provided with attributes for the planet. You may use that to create the planets and moons. To draw the solar system, follow the steps below:

Step 1: Create a function to draw a disk

Step 2: Set up the planets (as many as you want)

Step 3: Set up the moons and any jumping icons that will revolve about the planets



Next, to animate the planets and any animating icons, simply update the properties in the function `idle()`. It is registered by `glutIdleFunc(idle)` in the main program, and it will be executed whenever the program has nothing to do. Therefore, you can use it to update the scene at every frame. Your animation can be pegged to the frame rate or the system time. You can use the C++ time library to obtain time information.

You also animate objects in accordance to keyboard inputs. In `sample.exe`, press the “T” key on the keyboard to toggle the clock mode. Notice that once “T” is pressed, the planets reflect the current time and tick according to the time. As the final part of your project, you are to make your solar system display the time upon pressing a key.

Bonus

1. Populate the solar system with stars that fade and glow like in `sample.exe`.
2. Other features, e.g. elliptical orbits.

Handin Procedure

1. Please do a “**clean solution**” for your project to eliminate all unnecessary files
2. Write a `readme.txt` file including
 - Your matric number
 - Primitives and transformations you have used
 - What you are drawing
 - Methods you have modified – only `display()`?
 - Any other things I should know?
 - What is the coolest thing(s) in your drawing
3. Zip all your files up, rename it into your student number + “.zip” and submit it up to workbin in IVLE.