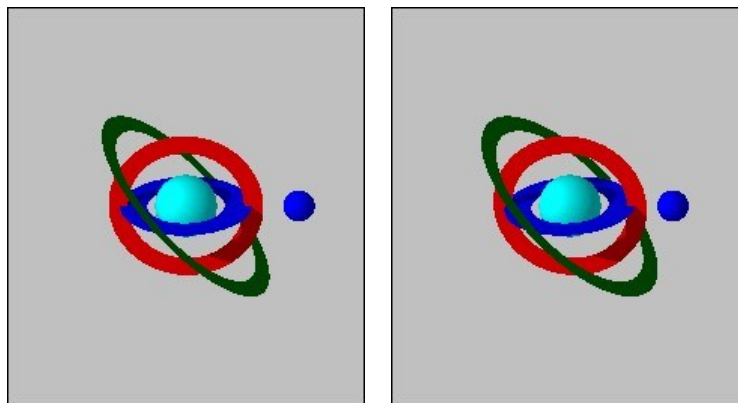


CMPSCI 119
LAB #11 – Wiggle Stereoscopy EXTRA CREDIT
Professor William T. Verts

This extra-credit assignment is worth HALF of a normal lab (5 points rather than 10). The goal is to create a simple animation from two images of the same scene from different viewpoints. By quickly switching back and forth between the two images, creating a “wiggle” effect, the relative motions of the objects in the images give an enhanced sense of three dimensions.

Download from the class site the file called **Rings.zip** and unpack its contents into your folder for your Python programs. The contents are two files, `Rings_Left.jpg` and `Rings_Right.jpg`, shown below. There isn't much difference between the images; you would see a difference if you configured the images to fix into an old-time stereoscope, but it is difficult to do otherwise.



Your program (which does not depend on any previous code) must allow the user to select the two images from files, then goes into a loop that copies each image successively onto the visible canvas as fast as possible. The loop is infinite, so the program must be halted by click the STOP button in the JES environment. You are allowed to have your program pause briefly between frames, but the process is slow enough in general that no delay will be required except for the very fastest machines.

The JES routines that you will need include some that you have used before, but also some new functions as well. Here is a list:

repaint(*Canvas*)

Updates and shows the canvas on screen.

Filename = **pickAFile**()

The `pickAFile` function brings up a dialog box that prompts the user for a file, and returns the name of the file as its result.

Canvas = **makePicture**(*Filename*)

The `makePicture` function is given the name of a file containing an image, and returns a new canvas containing the picture contained in the file. Crashes the program if the file is not of an image.

Canvas2 = **duplicatePicture**(*Canvas1*)

This new JES function creates and returns a second canvas containing a duplicate of the first. Your solution can take advantage of this function, or it can be omitted in some approaches.

copyInto(*Canvas2*, *Canvas1*, *X*, *Y*)

This new JES function draws *Canvas2* onto *Canvas1* with the upper-left corner of *Canvas2* at coordinate location $\langle X, Y \rangle$ in *Canvas1*. For this program *X* and *Y* are both zero. This function is critical to your solution; unfortunately it is also fairly slow.

Your final program using these functions will be quite short overall.

Finishing Up

Make certain that your name is in a comment at the beginning of your program.

Submit this assignment through the on-line form as Lab #11.