APPLET ANIMATION
Extra credit assignment for CSCI 1200
Due at 1200hw@earthlink.net by the final exam! May 3rd, Saturday, at 4:30 pm
Worth replacing your worst homework, or 10% of overall grade
Graded by Elizabeth

As you did in homework 2, write the paint method and add an .htm file to create an applet of great cleverness and beauty. See the recitation 4 handout to refresh your memory on how to do this. The applet must contain enough art to be judged on artistic merit—drawing a bunch of random shapes isn't enough for this. You will need to use 8 different *drawing commands* (not just 8 shapes). Include ellipses, rectangles, and polygons in these shapes.

Then, animate the applet. To do that, copy your paint method into the attached code. This code introduces the idea of a thread. Threads are separate program pieces executing simultaneously in memory. We only want to redraw the moving applet as many times as needed to make it appear to move, so we put the applet thread to sleep in between redraws. If the applet didn't run in its own thread, we couldn't do other things while it slept. Controlling different threads of program execution that all use the same memory is an important complication in computer science research.

Animation involves redrawing the applet in little steps so that parts of it are redrawn in slightly different places each time, and thus appear to move as the screen redraws over time. We must also rewrite the paint method to take inputs, and then use these to shift the picture over time. See the attached zip file for an example of an applet where the entire picture translates around. You'll do something more sophisticated than this; I am expecting that parts of your applet drawing can translate (move around on the page), or rotate (spin around some center point), or change shape (you might draw a rectangle with different lengths and widths at different times), relative to other parts.

The zip file gives you the modified applet code, to get you started. At present, the whole drawing moves. Your code should draw something different (unless you're the original artist) and should animate parts of the drawing so that they move relative to other parts. This means defining different offsets or shapes relative to other parts. You may want to create extra classes or variables to keep track of things like the center of a spinning shape or the maximum x coordinate before a shape starts to fall off the page. Good luck!

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