Homework Exercise 8: Putting Parts Together

**Goal:** To get practice working with functions, interrupts and interaction.

Two Basic Parts

Open a new Processing program with a canvas of 800x200.

In the last assignment you made the Blinky ghost with the property that its eyes and their irises could move left or right. It used two functions and several parameters. Copy/paste your Blinky code into your new Processing program, and adjust it so that you have a function that can be called with the code

> blinky(xpos, ypos, look);
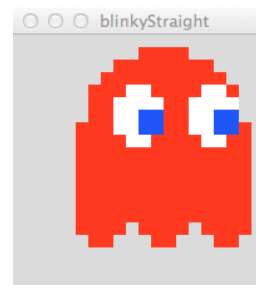
where xpos, ypos are the pixel coordinates where blinky should be drawn on the screen, and look is an integer variable with one of three values: 0, 1, 2 producing one of these three pictures:
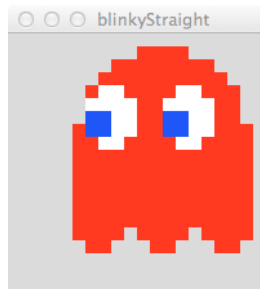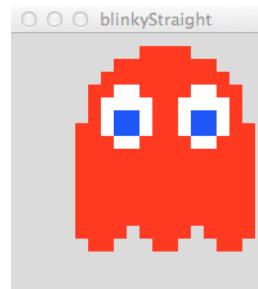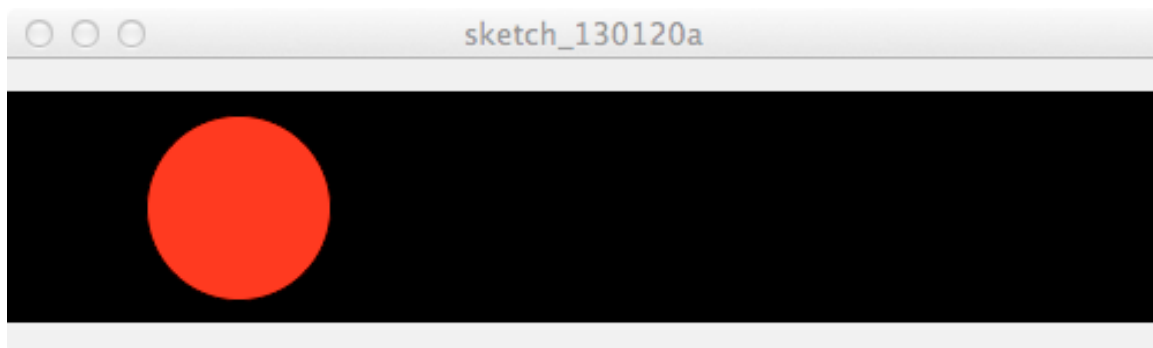

look == 0   look == 1   look == 2

By changing the parameters, we can move Blinky around on the screen and make it look different directions. If you didn't do the assignment, use the Basic Form code provided.

In lab 05 you wrote a Processing program to move a ball left and right, and change its color using `mousePressed( )` and `keyPressed( )` functions.

Review your code for lab05, or if you missed it, read how the computation works.

Combining Parts

Begin with a `draw( )` function that calls `background( )` and draws Blinky looking straight ahead.

- Following the ideas of the lab, make Blinky move left/right based on key presses; this will probably require you to add one or more integer variables.
- In the same place where you changed direction in the last step, change the direction that his looking. This may be done using an if-statement, but it can also be done simply by toggling between 0 and 2, which works like other toggling we've done between 0 and 1.

At this point Blinky either looks in the direction he's moving, or in the direction he's coming from – it's your choice.

Changing Colors

The ghosts came in four colors, as shown. We will change Blinky's color, cycling through the four. Declare four new variables of type color: `choice`, `b`, `c`, and `d`. `choice` will be initialized to red, Blinky's actual color, and each of `b`, `c` and `d` will be initialized to one of the other colors. (Use the Color Selector to get a reasonable color choice.)

Change the Blinky specification so that it draws using the color `choice`. Unlike the color change in Lab 05, where the "rotation" logic of `mousePressed( )` changed the R, G and B *numbers*, we will simply cycle through the actual *colors*. Change as follows:

- Save `choice` in `temp`.
- Assign `b` to `choice`.
- Assign `c` to `b`.
- Assign `d` to `c`.
- Assign `temp` to `d`.

Read those instructions carefully. The logic should rotate to the next color with each mouse click. Try it out!

Wrap Up

You have used your earlier work in a new program. Doing so required modification of what you did earlier. That's quite typical.

Be sure the portion of the program that you wrote for this assignment is commented, and submit to the homework dropbox.