Learning Processes

* If unclear on things go to labs- can go to any time slot

1. Before you run a new program you must stop the old one
2. Every statement must end in ;
   * 1. Size(x, y); is the canvas size
     2. Background(color#);
     3. Can mix color with background(color# R, color# G, color# B);
     4. Fill color fill(r,g,b);
        1. r — amount of red, from 0 (none) to 255 (maximum)
        2. g — amount of green, from 0 (none) to 255 (maximum)
        3. b — amount of blue, from 0 (none) to 255 (maximum)
        4. No fill doesn’t fill the shape noFill();
     5. Pixel location: point(x,y);
     6. strokeWeight is thickness of the pixel/pen
     7. stroke is the color of the pen/pixel
     8. line draws a line: line(1st x, 1st y, 2nd x, 2nd y);
        1. mouseX and mouseY goes to mouse location
3. The order of commands MATTER

Processing Coordinate system

* X-coordinate increases from left to right (to the right)
* Y-coordinate increases from up to down (downwards)

Shapes

To draw a rectangle: rect(a,b,c,d);

rect(x, y, width, height);  
To draw an ellipse: ellipse(a,b,c,d); (a,b) is the center  
  
a — X (horizontal) location of the shape's upper-left corner  
b — Y (vertical) location of the shape's uppper-left corner  
c — width of the shape  
d — height of the shape

void setup(){} sets the canvas and does one task once

void draw(){} draws on the canvas as many times as its asked for

void setup() {

size(500,400);

}

void draw() {

background(0,0,0);

fill(255,255,255);

ellipse(mouseX,mouseY,60,60);

}

If background() was under void setup() the background would only do its task once while under draw() many ellipses would appear on canvas

New commands:

* + rect()
  + stroke()
  + strokeWeight()
  + fill()
  + noFill()
  + rectMode() and ellipseMode()
    - now the (x,y) will be the center of the rectangle rather than the upper left hand corner of the shape
    - (CENTER) just centers the shape around x,y
    - (CORNER) is the default for rectMode
    - (CENTER) is the default for ellipseMode
    - (CORNERS) is x1, y1, x2, y2 with two points on a graph that makes a rectangle
* (RADIUS) uses center point x,y with radius of the size given of width w and height h
  + RADIUS the x, y is twice of CENTER
* triangle()
  + triangle(x1, y1, x2, y2, x3, y3)
* quad()
  + makes a shape with four points
* See processing reference
  + - arc()
    - beginShape()
    - vertex()
    - endShape()
* text output to message Window:
  + println(“”);
    - a string is a sequence of characters

System variables:

* width, height -> specialty size of the processing window

We can use system variable within a processing program

HSB/RGB Color

* HSB = hue saturation brightness
* colorMode(HSB, 360,100,100)
  + 0 < hue < 360 of color wheel
  + 0 < saturation < 100
  + 0 < brightness < 100; 0 is black
  + Can copy the color selector #hexidecimal into fill()
* Fill (r, g, b, x); x= opacity
  + 0 < opacity < 255
    - O is transparent, 255 is opaque