

Lab 1: Dynamic Pictures

due September 21st or 22nd, 2017

SKETCH 1: Warm-Up Exercise

```
void setup(){
  size(600, 600);
}

void draw(){
  fill(random(255), random(255), random(255));
  ellipse(random(width), random(height), random(40), random(40));
}
```

Improve the above program in the following ways (without `if` statements):

1. Clear the screen when a key is pressed.
2. Remove the black outline from the ellipses.
3. Generate randomly sized circles instead of ellipses.
4. Draw one randomly moving circle rather than a series of randomly placed circles.
5. Have the circle change color based on its position.
6. Have the circle change location based on the position of the mouse when pressed.
7. Use colors from one particular shade rather than the entire RGB cube; consider HSB.

SKETCH 2: Create your own “Dynamic Picture”¹

- BEFORE CODING: Write in a comment at the top what you hope to accomplish with your dynamic picture: specifically, detail its static, static animation, dynamic & interactive aspects. Chat with your instructor about your dynamic picture plan (during the lab period) before you start implementing it.
- DURING CODING: Be sure to indicate using comments the pieces of your program that realize the static, static animation, dynamic & interactive aspects of your dynamic picture.

Learning Objectives

- Employ randomness for variability.
- Use event handlers.
- Use variables to remember things
- Try not to use `if`-statements.
- Create a *Dynamic Picture* with code.

Deliverables

- Your programs should start with a comment that includes your name, email, date, assignment description & collaboration statement.
- Bring a hardcopy of your programs (the source code, not the graphics) to your next lab period.
- Be prepared to run the Processing sketches and demonstrate your “[Theory of the Program](#).”

¹ <http://worrydream.com/DynamicPicturesMotivation/>