

1 Lab 9 - Generative Art

Goals

The goals for this lab are:

1. Practice using a loop control structure to *generate* patterns/scenes
2. Practice using functions to re-draw parts of a scene
3. Practice using `random` to produce desirable colors and design layout
4. Practice using structured layout
5. Study the role of repetition in an image

Modality

Pair or Individual (per instructors specifications)

Details

Task: You must create two different images using Processing each of which are *generated* by an algorithm when your program is run. Each of the two different scene must use repetition (that is, some visual elements that are repeated, but that may be slightly different). One sketch should be more organic looking and the other must be more structured (intentionally laid out/designed). Your project must:

- include two different sketch elements (one for each sketch) that is encapsulated in two different functions (one which is organic looking and one which is more structured). These elements do not need to be exact copies, for example the color of each item can be different, the scale and placement (rotation) may also vary. Be sure to use code (function parameters) to control these aspects of this part of your sketch(es).

- repeated copies of these sketch elements - one which is random (organic) and one which is structured (for example, consider an urban city skyline, a fake 'microchip', farm or forrest).
- each of your scenes must include at least 10 copies of the repeated element
- be at least 400 x 400
- be in color
- use `random` appropriately

To complete this lab, you must:

- first design an organic looking design element to be included repeatedly in your sketch
- create a version of your scene with the organic design element repeated in random positions - you may need to implement some kind of 'stratified sampling' (for example divide your screen into four quadrants all which contain some number of randomly placed samples) - do this using a `loop` control structure!
- consider sketching a more structured generative scene (such as a city landscape) then create this scene (again using a `loop` control structure) with your more structured design element (like a building).

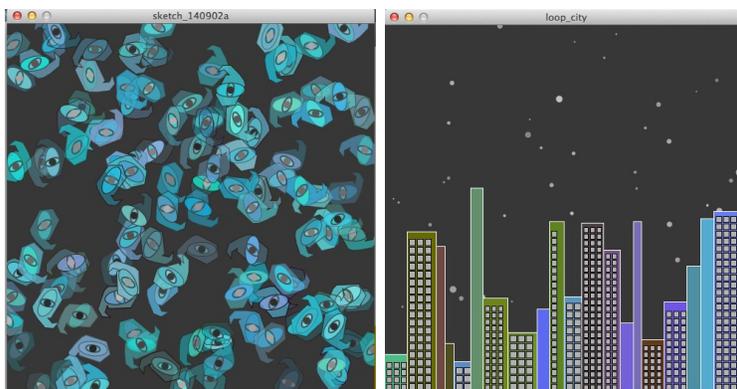


Figure 1: Output from two Processing sketches generated using a loop control structure. The one on the right is a more 'organic' shaped paisley like design that is layed out randomly (with 4 stratified sample grids). While the second is a more structured generated drawing of a city – the stars, building and windows are generated when the sketch is run all using `loop` control structures.

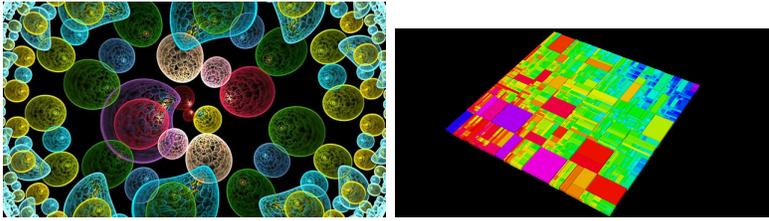


Figure 2: Some (non-Processing) examples of generative art. The first one (a more organic image) is from: <http://www.pbs.org/arts/gallery/off-book-episode-10-generative-art/off-book-episode-10-generative-art/> and the second (a more structured image) is from: <http://www.subblue.com/gallery/album/34>

Demo:

In order to receive credit for this lab, you and your partner must demo your sketch to your instructor.

Resources:

- <http://video.pbs.org/video/2170070010/>
- stratified sampling
- a simple for loop:

```
for (int i =0; i < 5; i++) { println("i: " + i); }
```