

Agenda 9/13

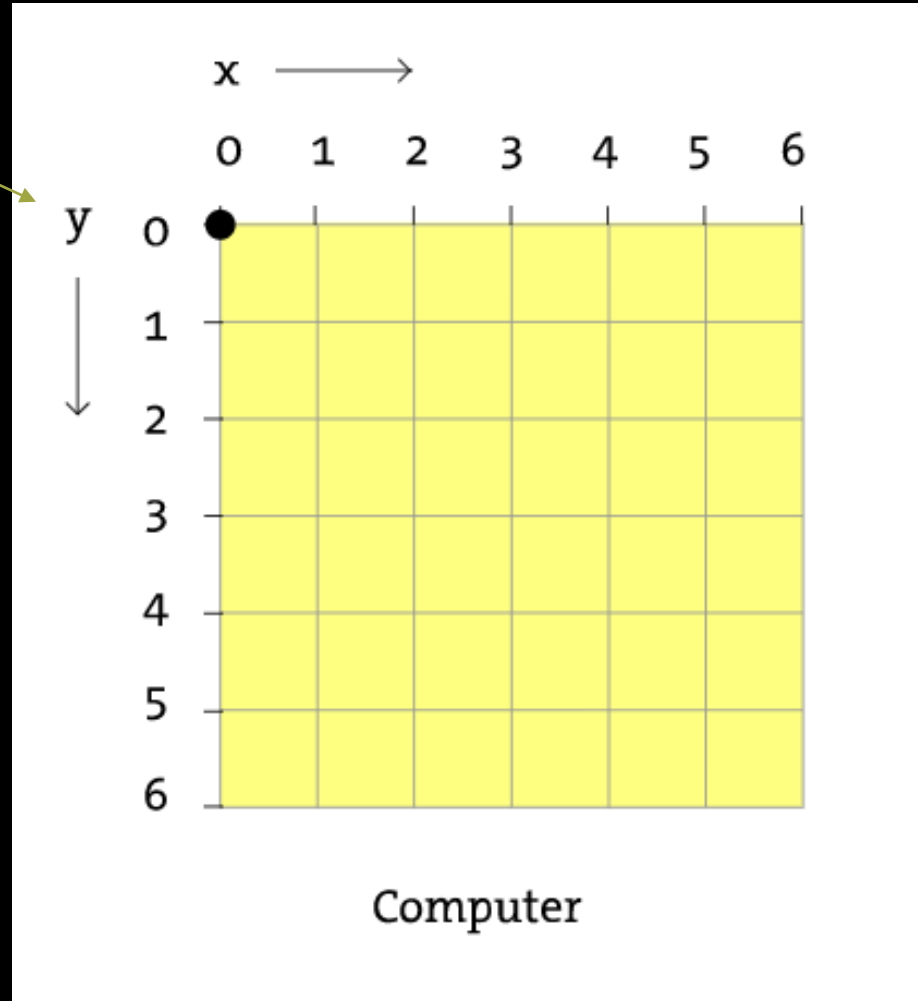
- Questions?
- MS Teams
- P5.js
 - rotate, translate, pop, push
 - for loops
- In-class exercise #3

p5.js recap

- **setup()** vs **draw()**
- **Commands** (aka functions): Have arguments or parameter that goes between parenthesis
 - **E.g.** circle(100,100,40)
- **Syntax**
 - **{ }**: Curly brackets define a chunk of code that belong in the same function.
 - In the p5.js web-editor, correct commands will become **bold**

p5.js Canvas | Grid system

Pixels



```
createCanvas(500, 700);
```

This will create a canvas that is
500 pixels wide and 700 pixel high

p5.js rotate

rotate(angle) uses radian but can be used to degrees by using **angleMode(DEGREES)** before rotate

rotate(angle) is a little tricky as it rotates the entire canvas

To use it correctly you must first move the origin to the shape you are trying to rotate with the **translate(x,y)**

Since **rotate(angle)** will rotate the entire canvas you should use these commands between **push()** & **pop()**

p5.js variables

Variables are **names** that hold **values**

There are 2 types:

- Built in variables
 - E.g. width & height
- The ones you create
 - E.g. let squareSize = 55

Variable are helpful because:

- Allows you to change your program dynamically
- You can do math with them!

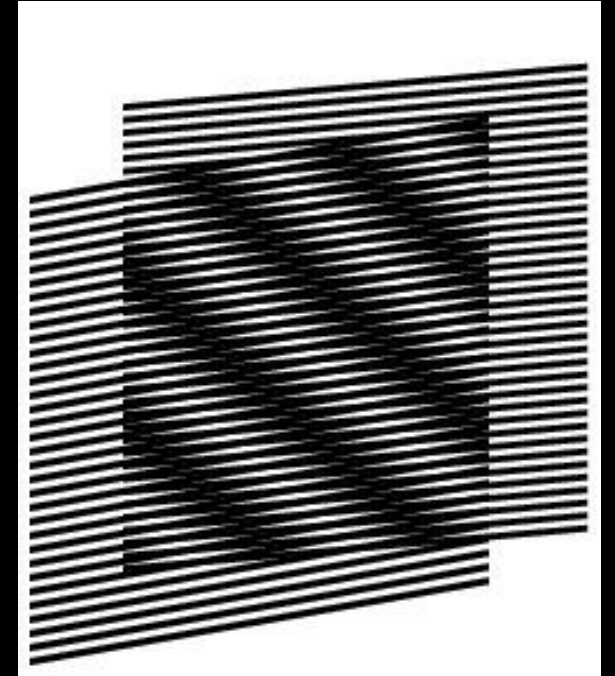
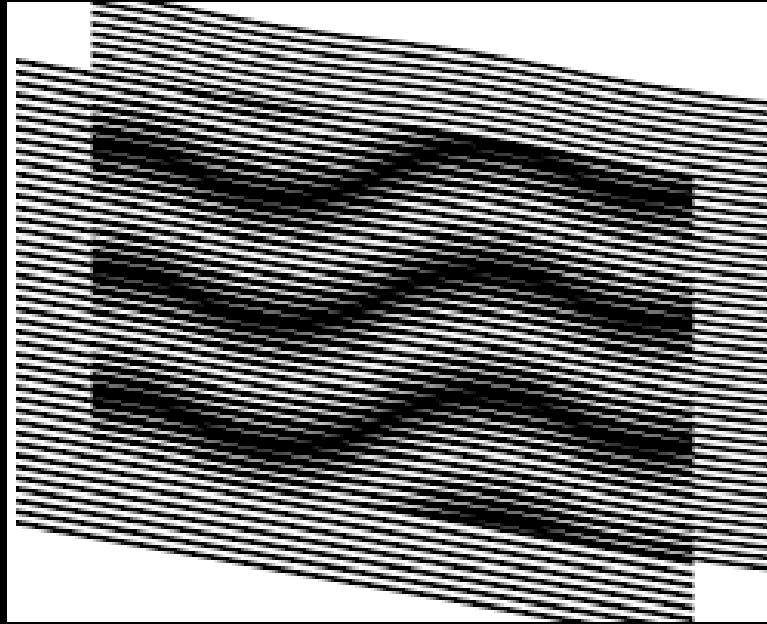
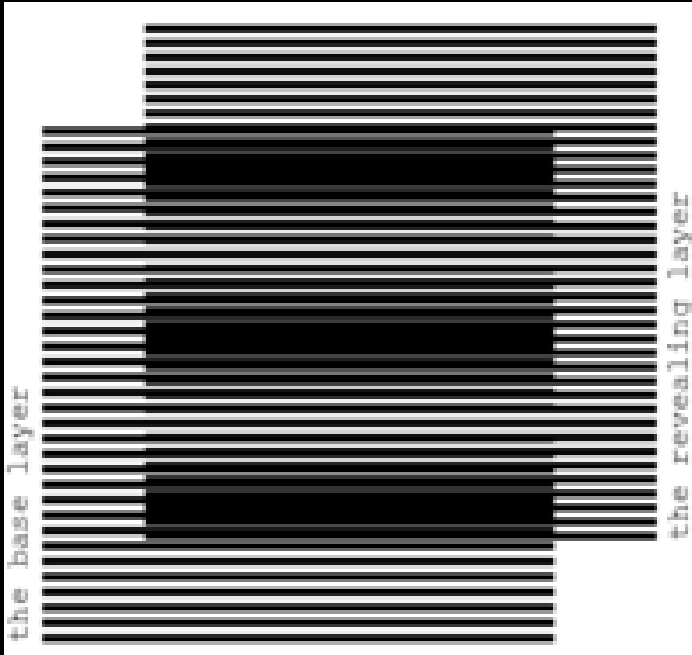
p5.js variables

Possible operations:

- Addition (+), Subtraction, (-), Multiplication (*), Division(/)
- Work on with both numbers and variable
 - `xLocation = 14 * 10`
 - `xLocation = yLocation + 15`
 - `xLocation = yLocation / shapeSize`
- Comparison
 - Less than(<), Greater than (>)

Try making this...

...with variables.



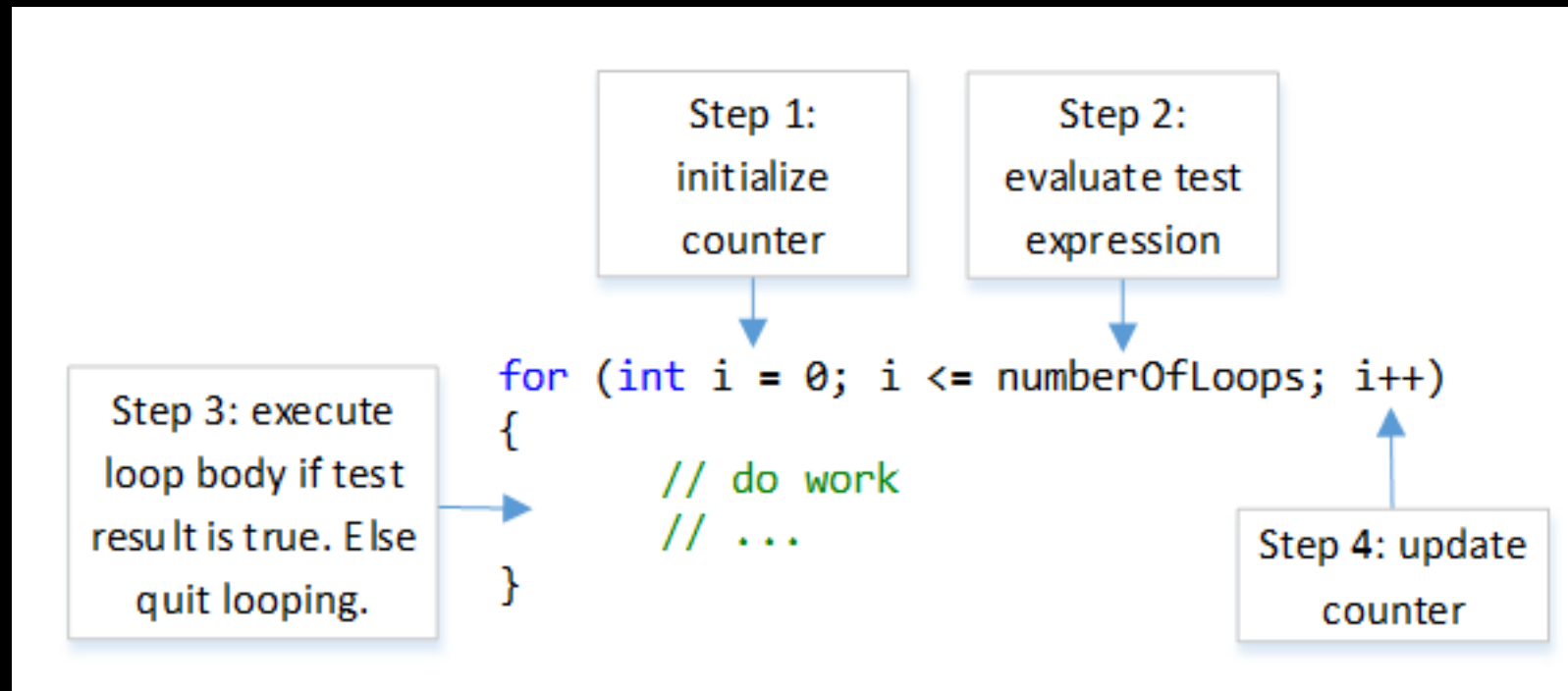
Line Moiré

p5.js loops

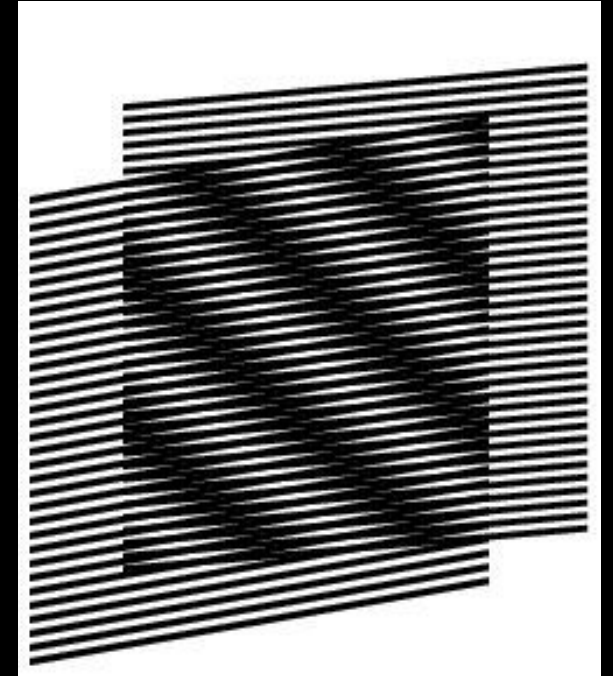
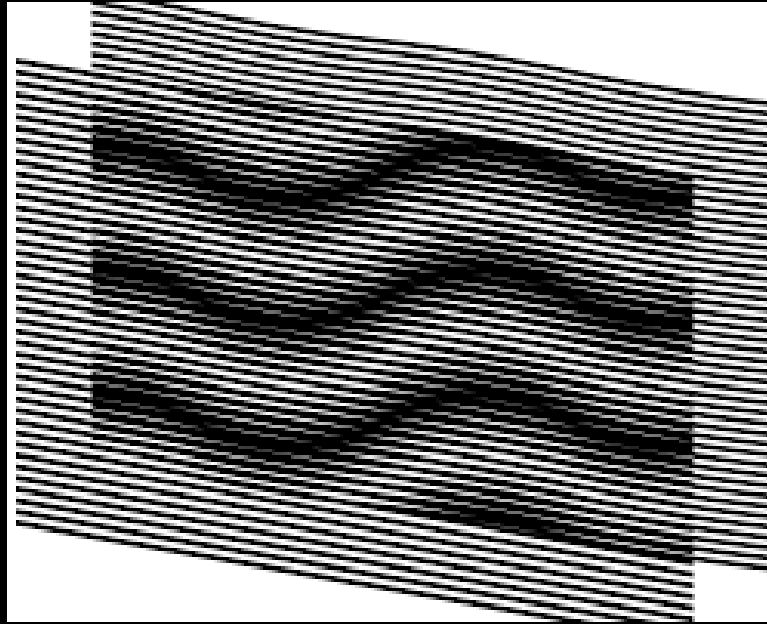
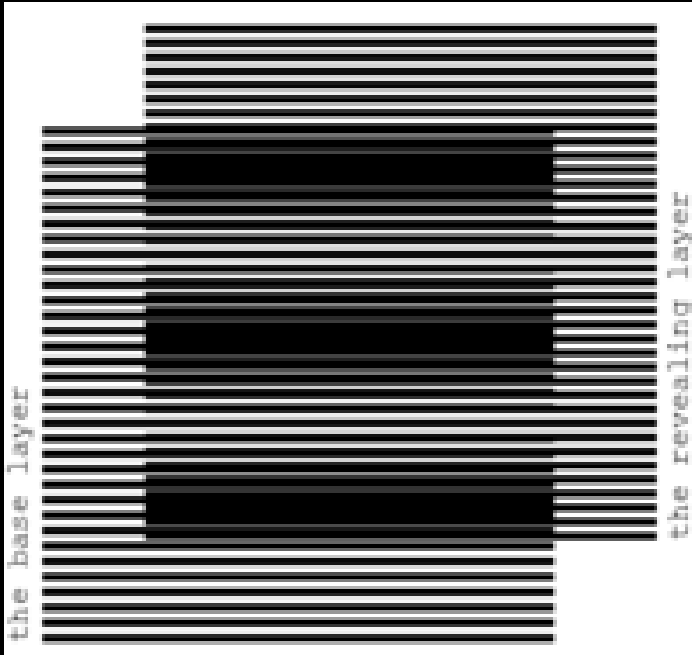
Much easier way to make with lesser code

p5.js loops

loops are basically counters



Let's try again with loops



Line Moiré

p5.js loops

Nested loops -> loop within loop

Really good for grid patterns

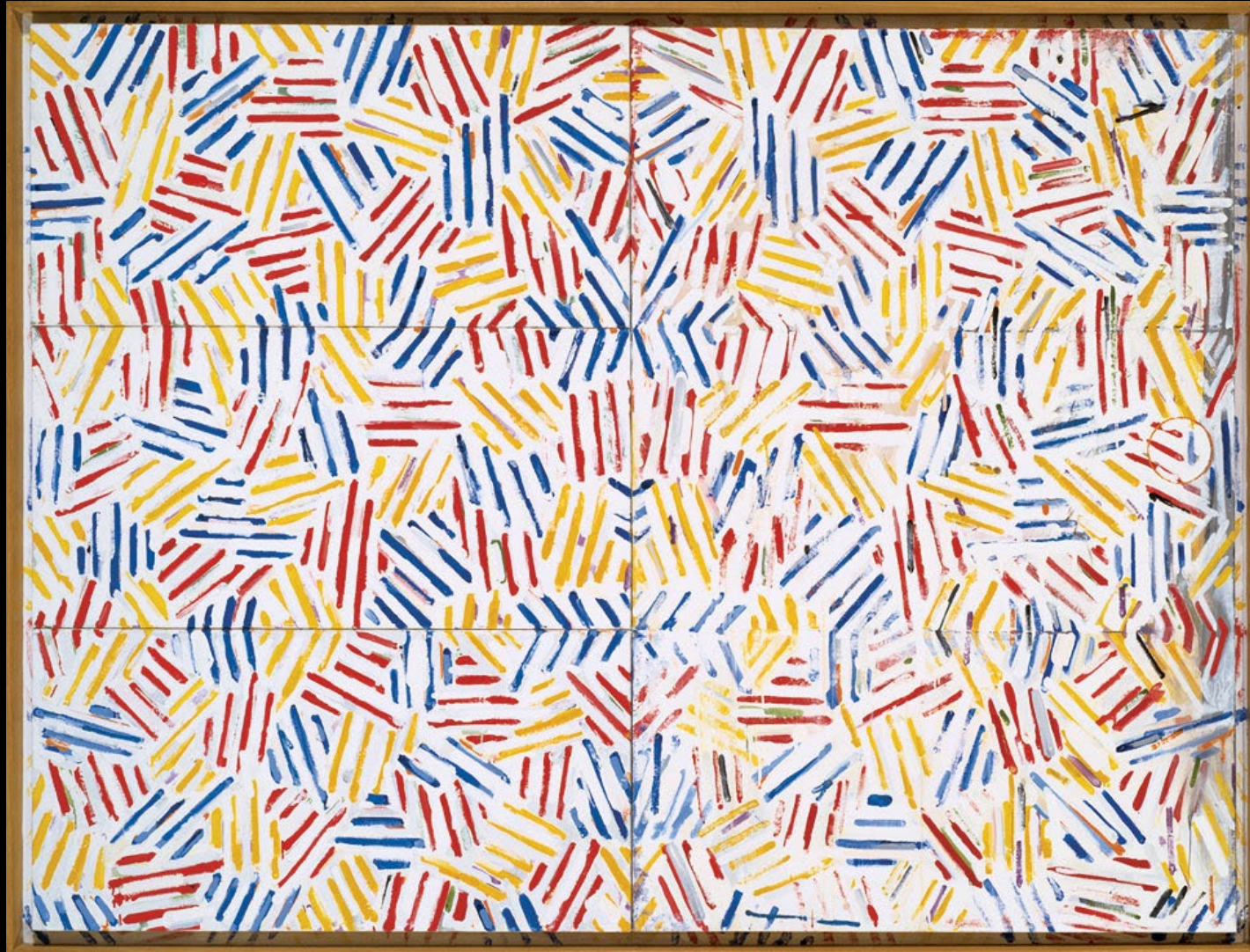
```
for (let j = 0; j < 5; j++) {  
  for (let i = 0; i < 9; i++) {  
    //do something  
  }  
}
```

p5.js randomness

random([min], [max]) -> this will give you a random number between min and max-1

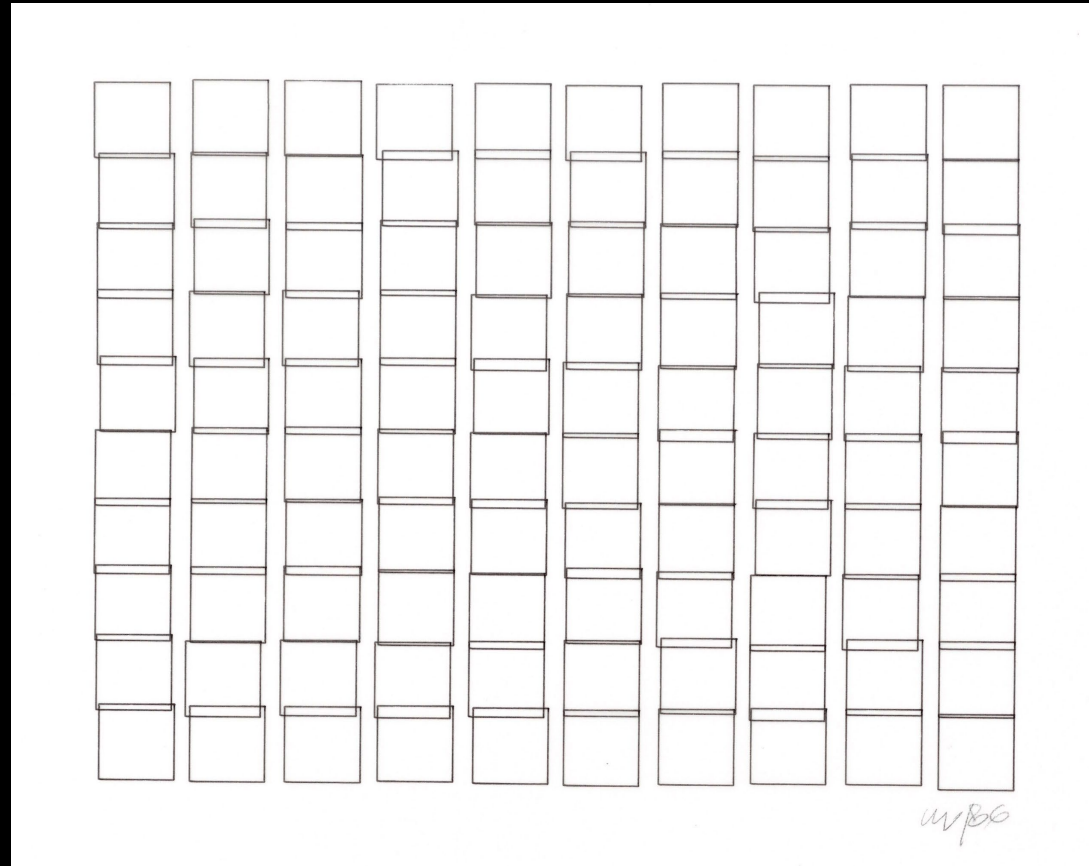
Great for creating Generative Forms that have *more** character

Art + Randomness



Jasper Jones

Try making this...



Vera Molnar

In-class exercise#3