WEEK TWO - MEMORY

Variables / draw loop / Random
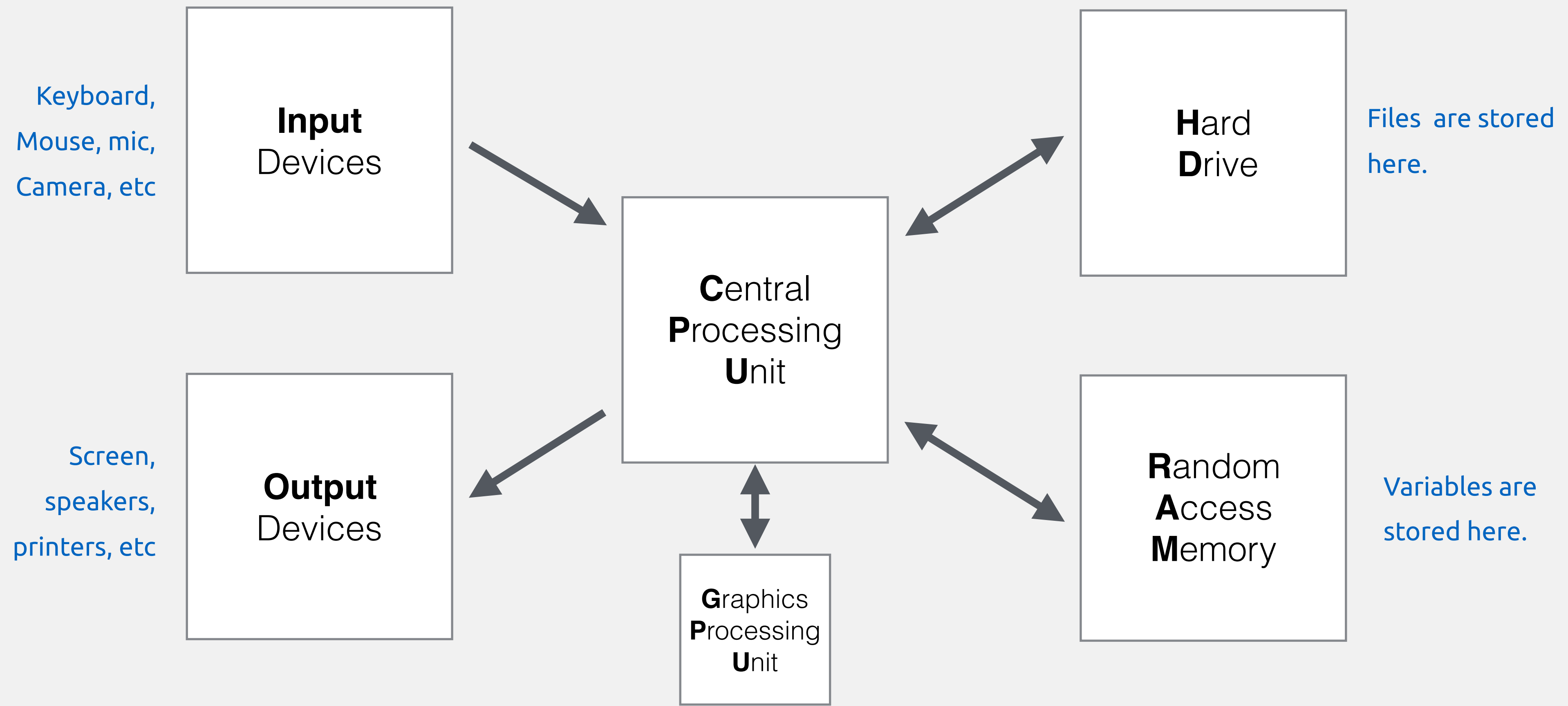
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MEMORY   DECISION   ACTION   REPETITION

HIGH LEVEL VIEW OF A COMPUTER

(very high level)

Keyboard, Mouse, mic, Camera, etc

Input Devices

Screen, speakers, printers, etc

Output Devices

Central **P**rocessing **U**nit

Graphics **P**rocessing **U**nit

Hard **D**rive

Files are stored here.

Random **A**ccess **M**emory

Variables are stored here.

RANDOM ACCESS MEMORY

https://codepen.io/soogbet/full/ExxLamW

https://www.youtube.com/watch?v=Xpk67YzOn5w
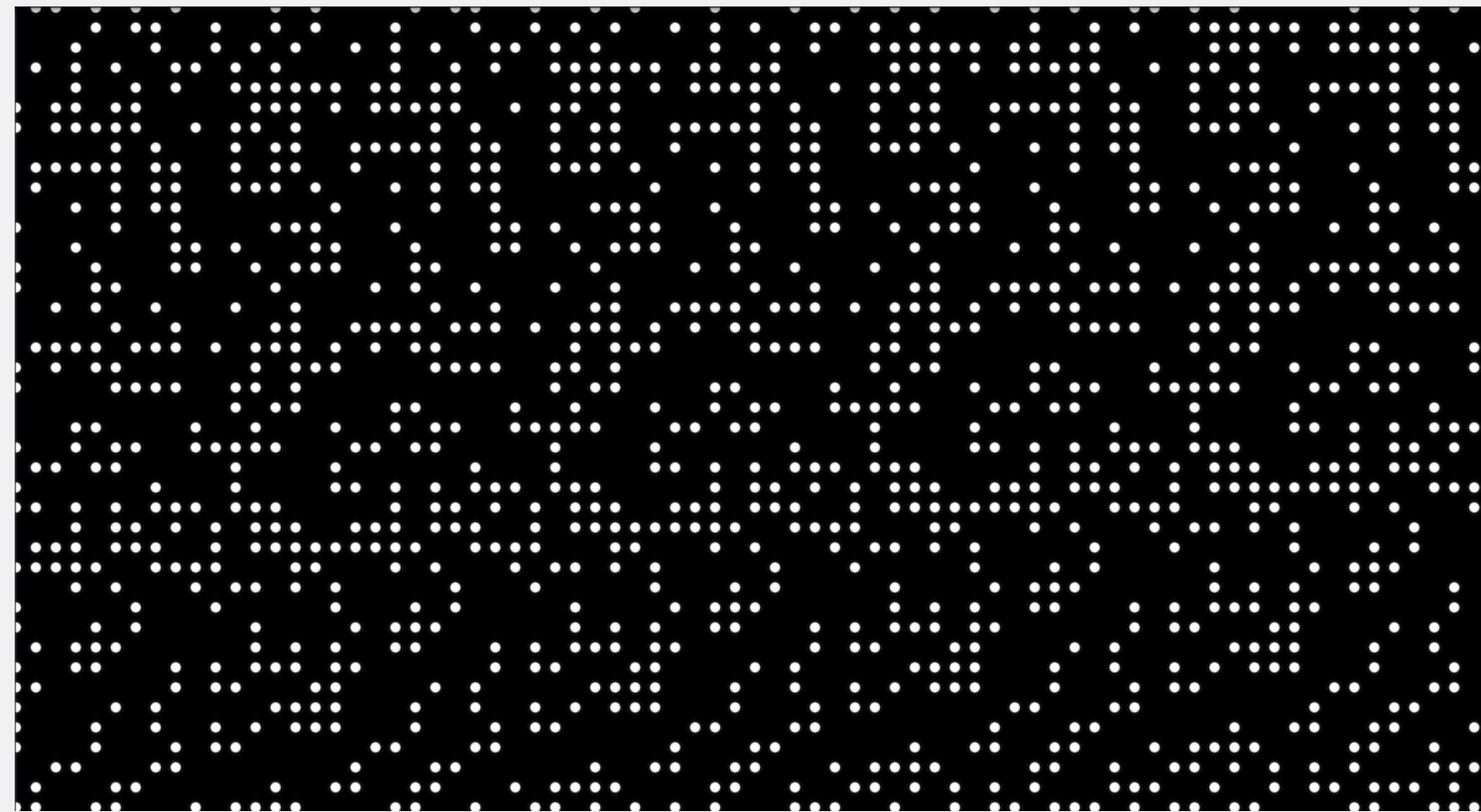
MEMORY

A variable is a space in **RAM** that is reserved for <u>data that can Change.</u>

<u>Variables</u> allow the program to keep track of what it is doing.

DEFINE A VARIABLE

```
var counter = 0;
```

DEFINE A VARIABLE

and assign it with:

A value

```
var counter = 0;
```

Please define

A place in RAM named:

EXAMPLE

```
var x = 0;
var y = 100;
point(x, y);
x = 100;
point(x, y);
```

VARIABLE SCOPE

Global variables are declared **OUTSIDE** of functions (typically at the beginning of the program). They are preserved through the program's lifetime.

Local variables are declared **INSIDE** functions and they are "thrown away" when the functions ends.

BUILT IN FUNCTIONS

```
function setup(){
    //...
}
```

```
function draw(){
    //...
}
```

BUILT IN FUNCTIONS

```
function setup(){

    //...

}
```

Only once when the program loads

```
function draw(){

    //...

}
```

~ 60 times per second

BUILT IN VARIABLES

width

height

mouseX

mouseY

USEFUL MATH FUNCTIONS

```
+ , - , * , / , %

random( min, max );
constrain( value, min, max);
round( value );
```

THE CONSOLE

```
console.log( "x is now: " + x );
```
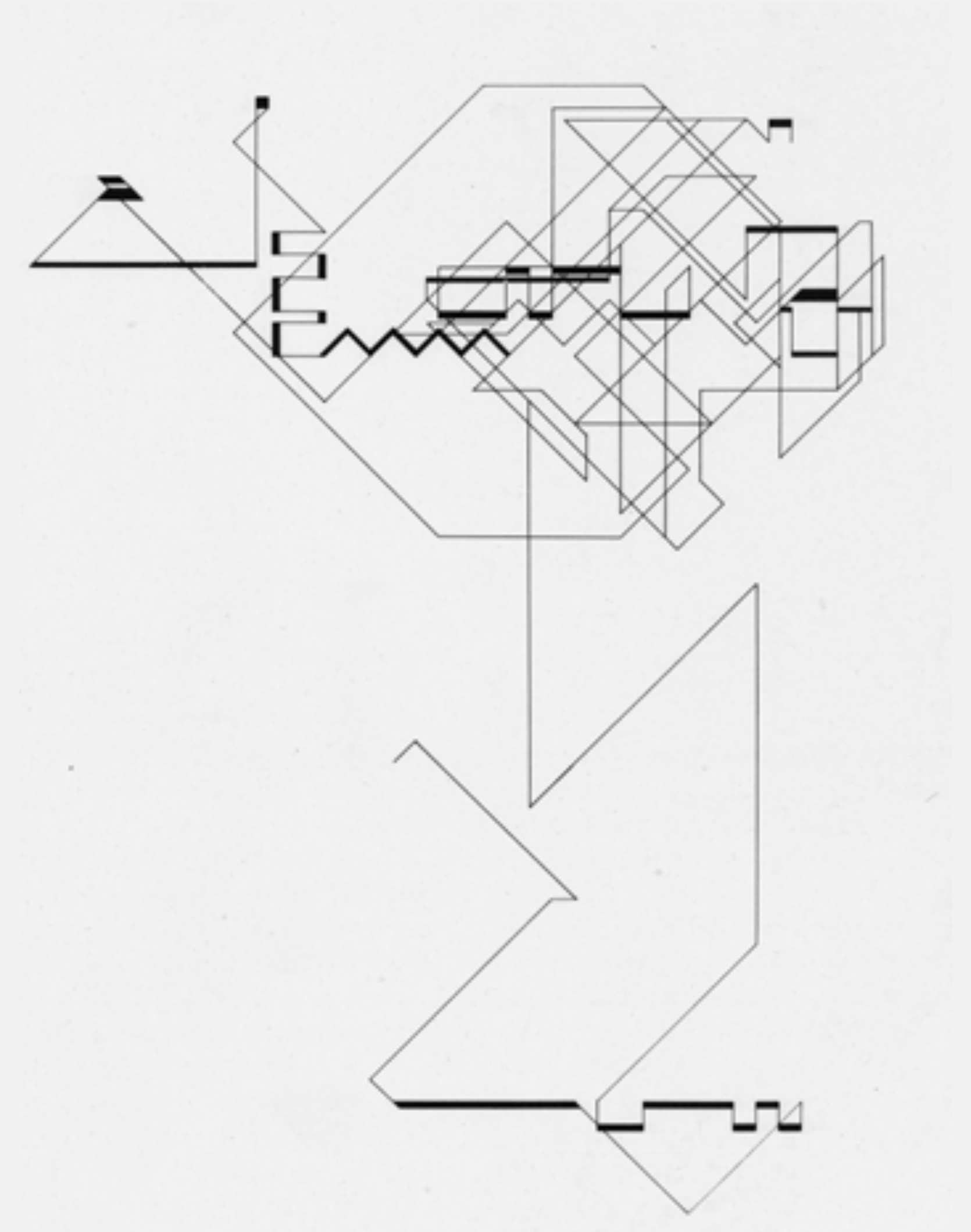
CLASS WORK

- Create a visual regular Pattern using the draw loop and math.

- Create simple drawing app that uses the mouse and random values

WEEK 2 HOMEWORK

Create an original **Random Walk.**

Experiment with random colors, strokeWeights,
try different shapes and try to have several
processes running at the same time.

Manfred Mohr 1969