

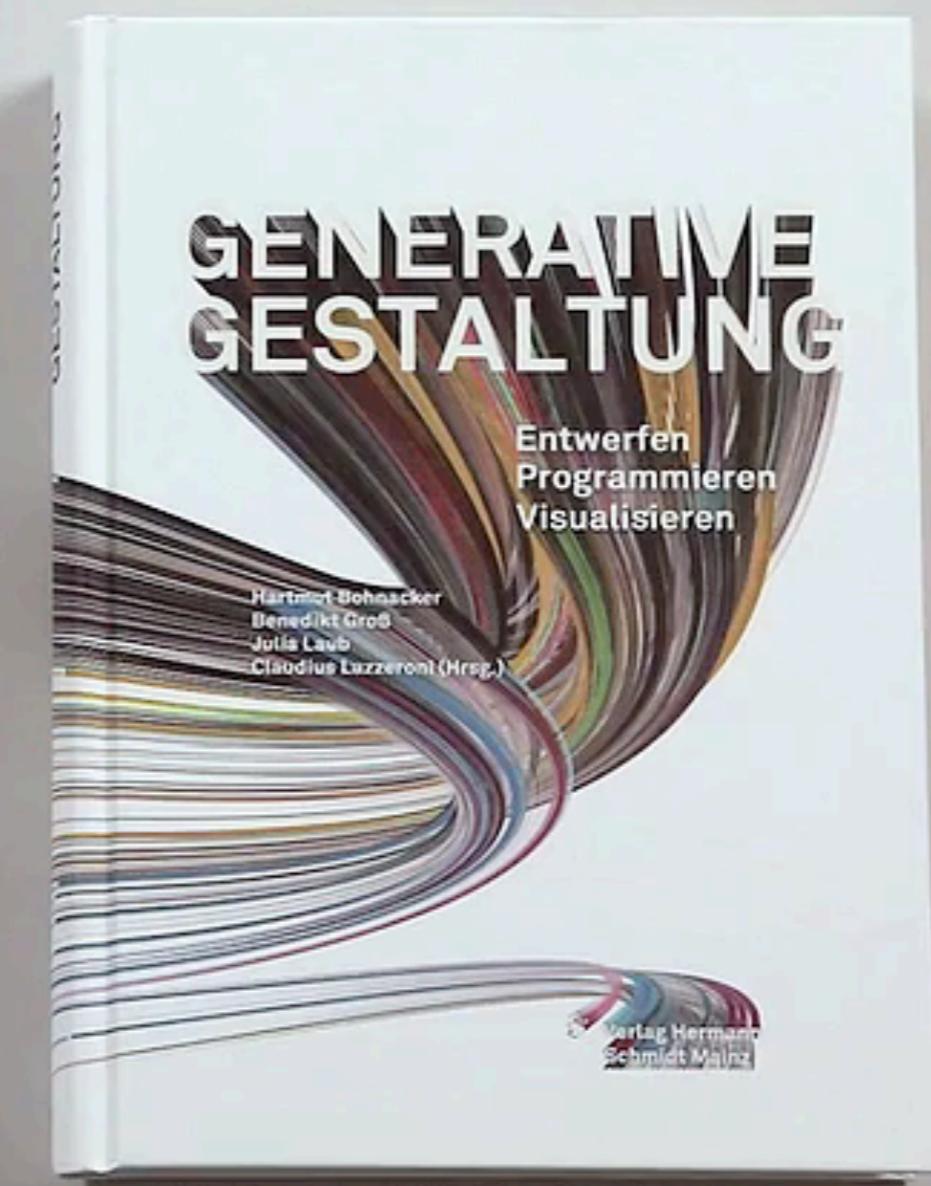
22/02/2017

LABORATÓRIO DE SOM E IMAGEM
2016/2017

*INTRODUÇÃO À PROGRAMAÇÃO
COM PROCESSING*

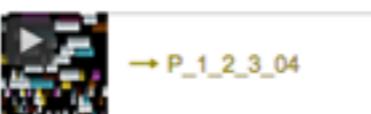
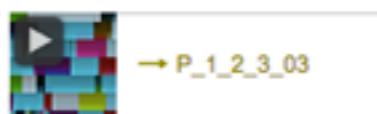
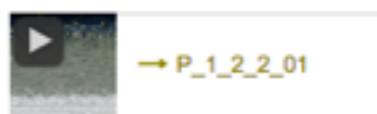
RODRIGO CARVALHO

MATERIAIS AULAS:
/GITHUB.COM/VISIOPHONE/LSI

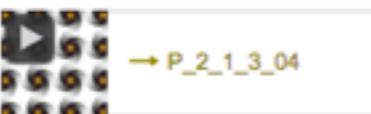
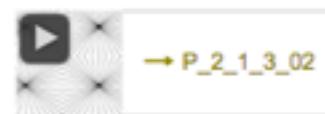
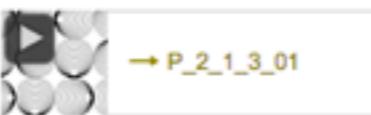
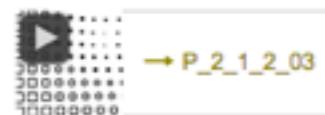
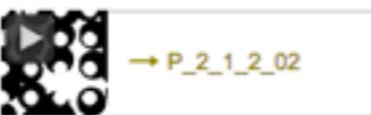
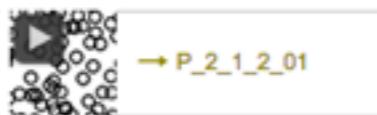
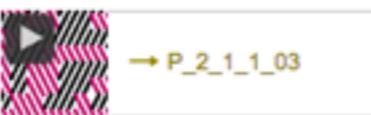
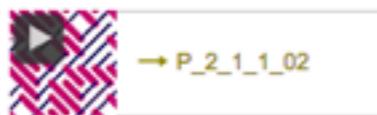


GENERATIVE GESTALTUNG
HARTMUT BOHNACKER, BENEDIKT GROß, JULIA LAUB,
CLAUDIUS LAZZERONI (HRSG.) 2012

P.1 Colour



P.2 Form



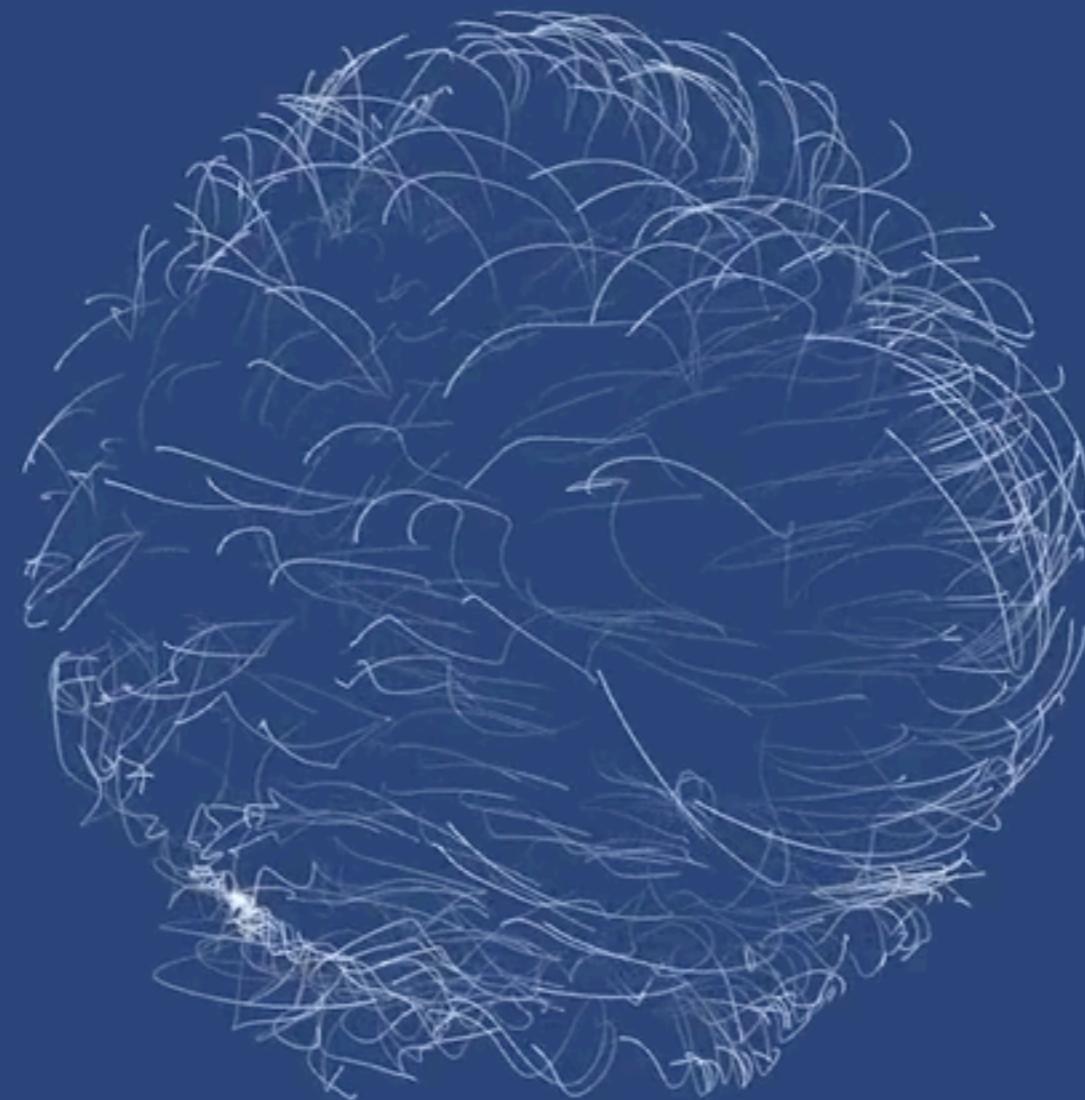
Code → P_2_1_1_02



- Download Code Processing 3.x
- Download Code Processing 2.x
- Download Code Processing 1.5.1
- Download Code vvvv

PAGES

WWW.GENERATIVE-GESTALTUNG.DE/CODE/



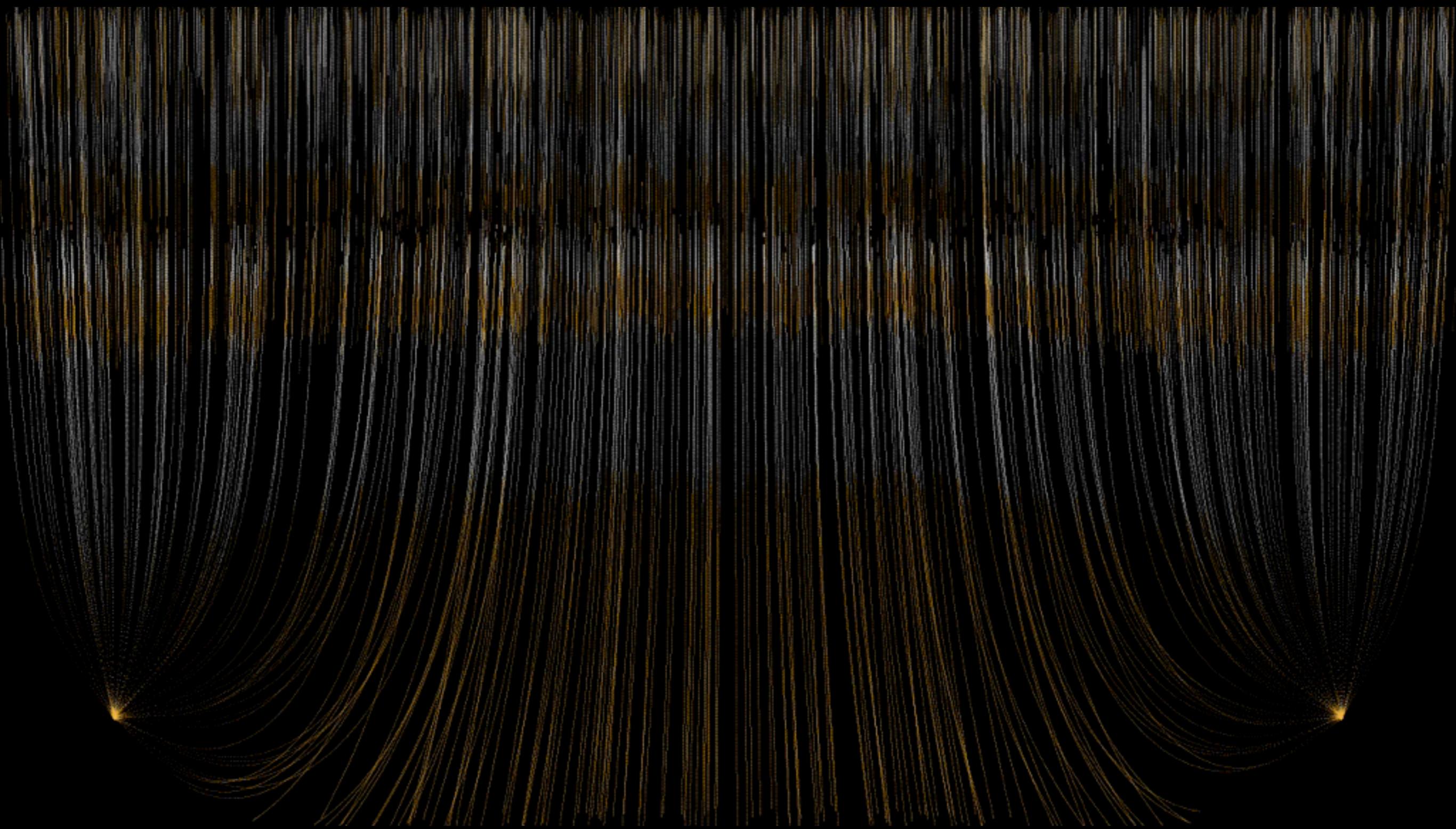
COP15 COPENHAGEN

UNITED NATIONS CLIMATE CHANGE CONFERENCE 2009

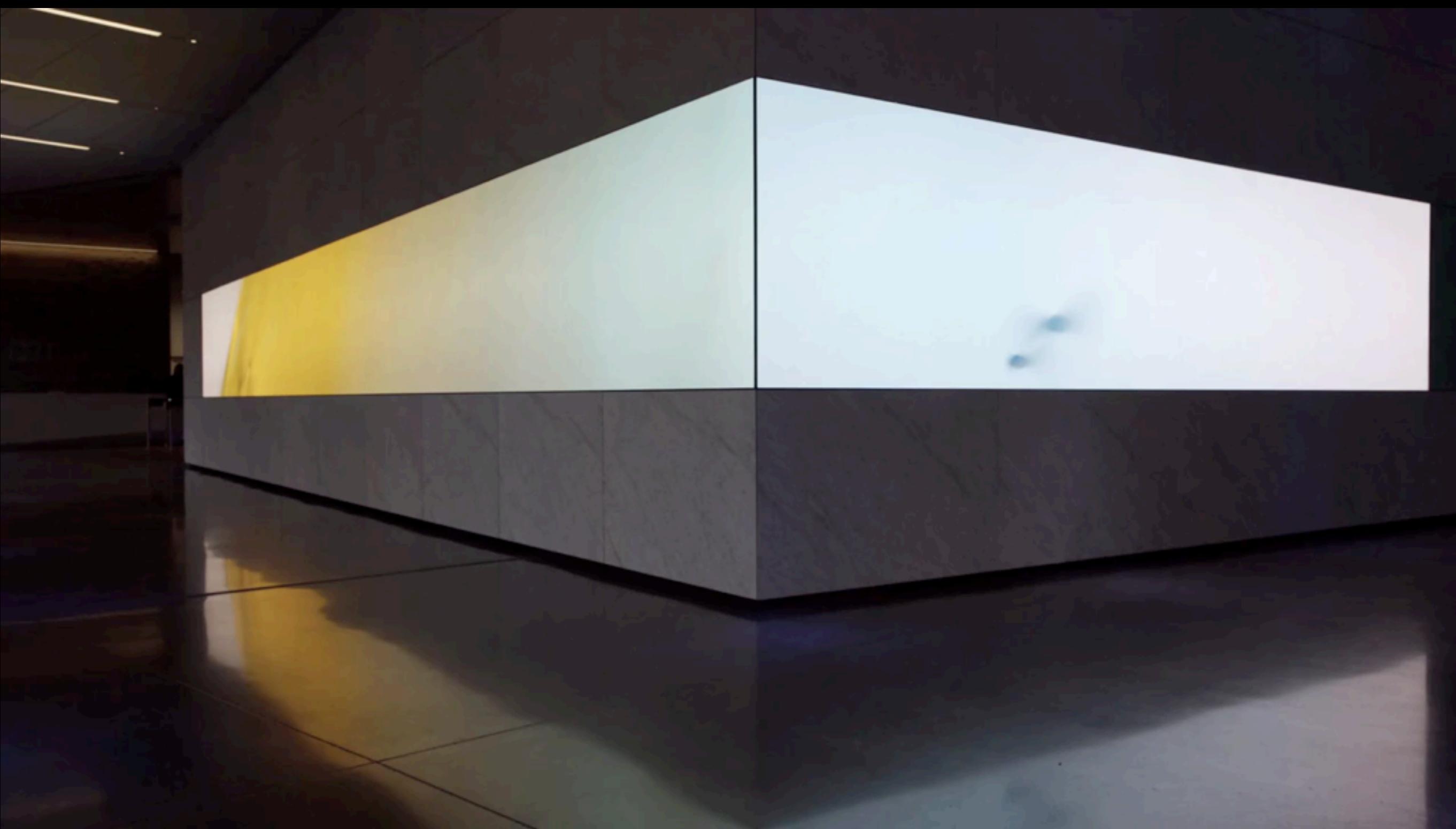
UNITED NATIONS CLIMATE CHANGE CONFERENCE
NR2154 / 2009



UNITED NATIONS CLIMATE CHANGE CONFERENCE
NR2154 / 2009



GOLD THINKINGS
ALBA CORRAL / 2009



COLLIDE
ONFORMATIVE / 2016

REVIEW

DEFINE SCREEN SIZE;

DEFINE BACKCOLOR;

CIRCLES:

COLORS;

CIRCLE SIZE;

POSITION;

VELOCITIES (RANDOM X/Y);

RULES:

IF CIRCLES GO OFF THE SCREEN

-> **START AGAIN**

IF CIRCLES SIZE IS ZERO

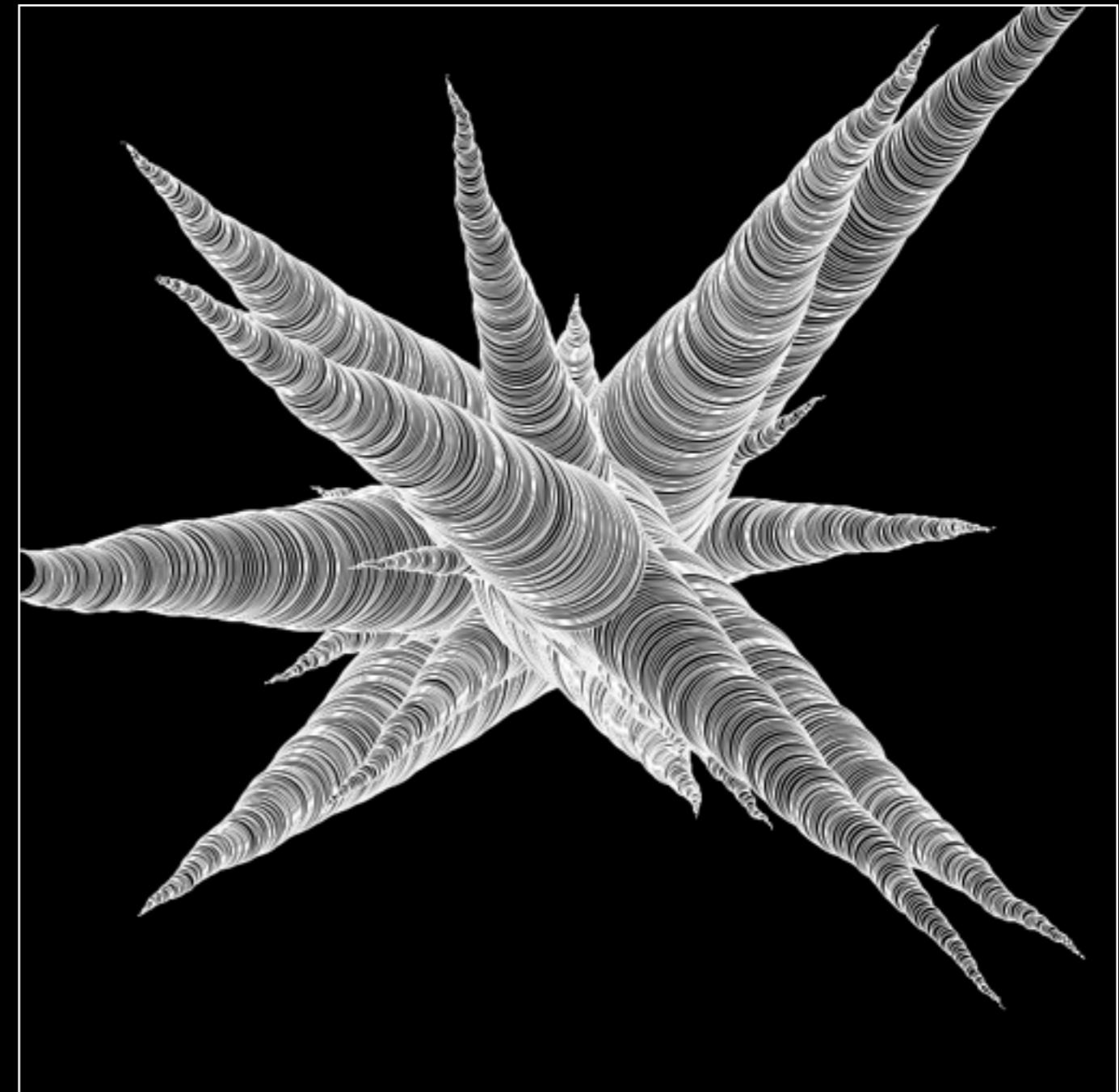
-> **START AGAIN**

START AGAIN:

CIRCLE CENTER;

RANDOM VELOCITY (X/Y);

RANDOM SIZE;



CHANGING PROBABILITIES

RANDOM(MIN,MAX);
-> INTERVALO RANDOM
NR **MIX** , NR **MAX**

RANDOM(0,100);
-> NR ENTRE 0 E 100;

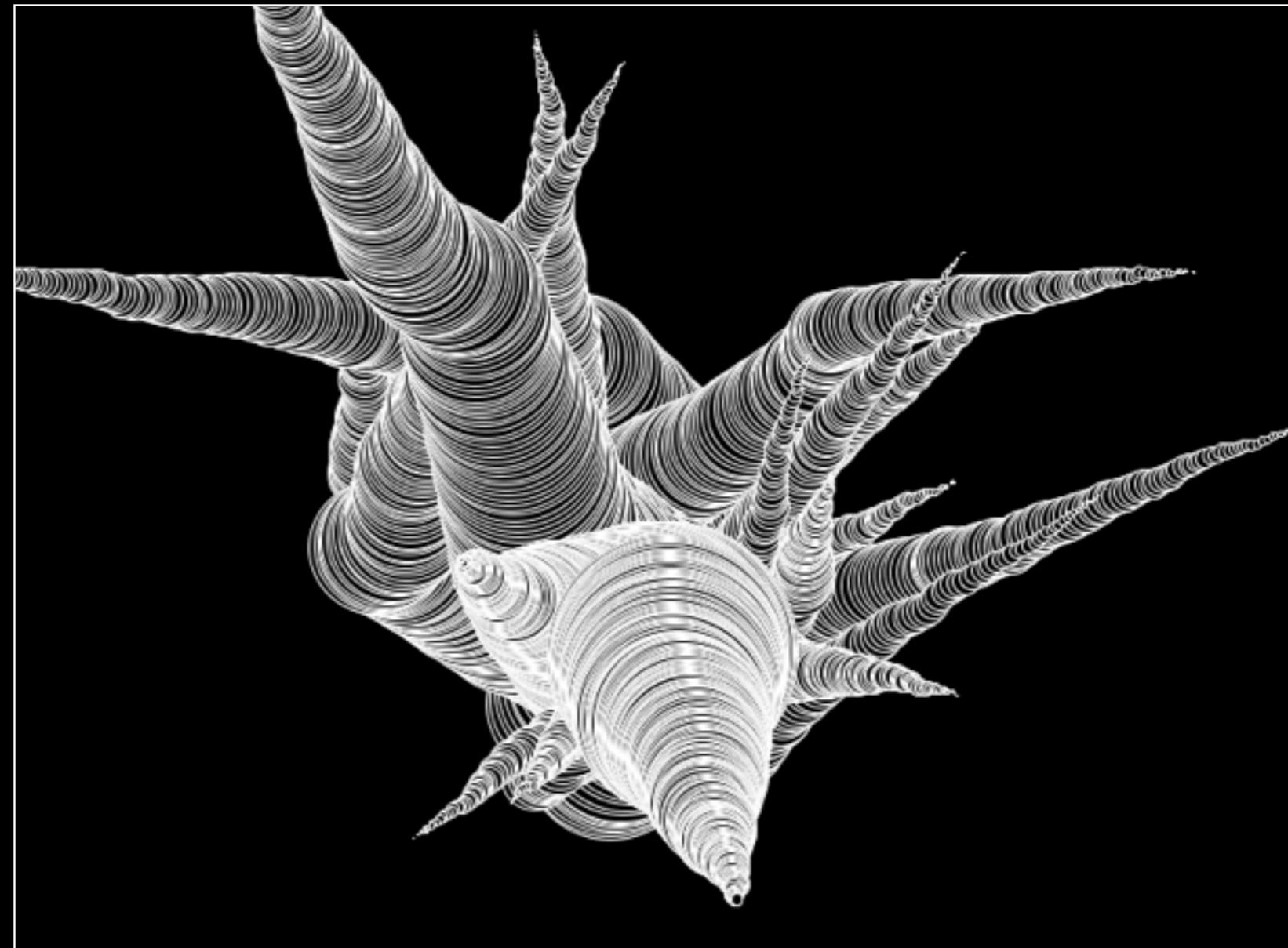
RANDOM(-10,10);
-> NR ENTRE -10 E 10;

VELX = RANDOM(-4,1);
-> MORE PROBABILITY TO GO LEFT

VELY = RANDOM(-1,4);
-> MORE PROBABILITY TO GO RIGHT

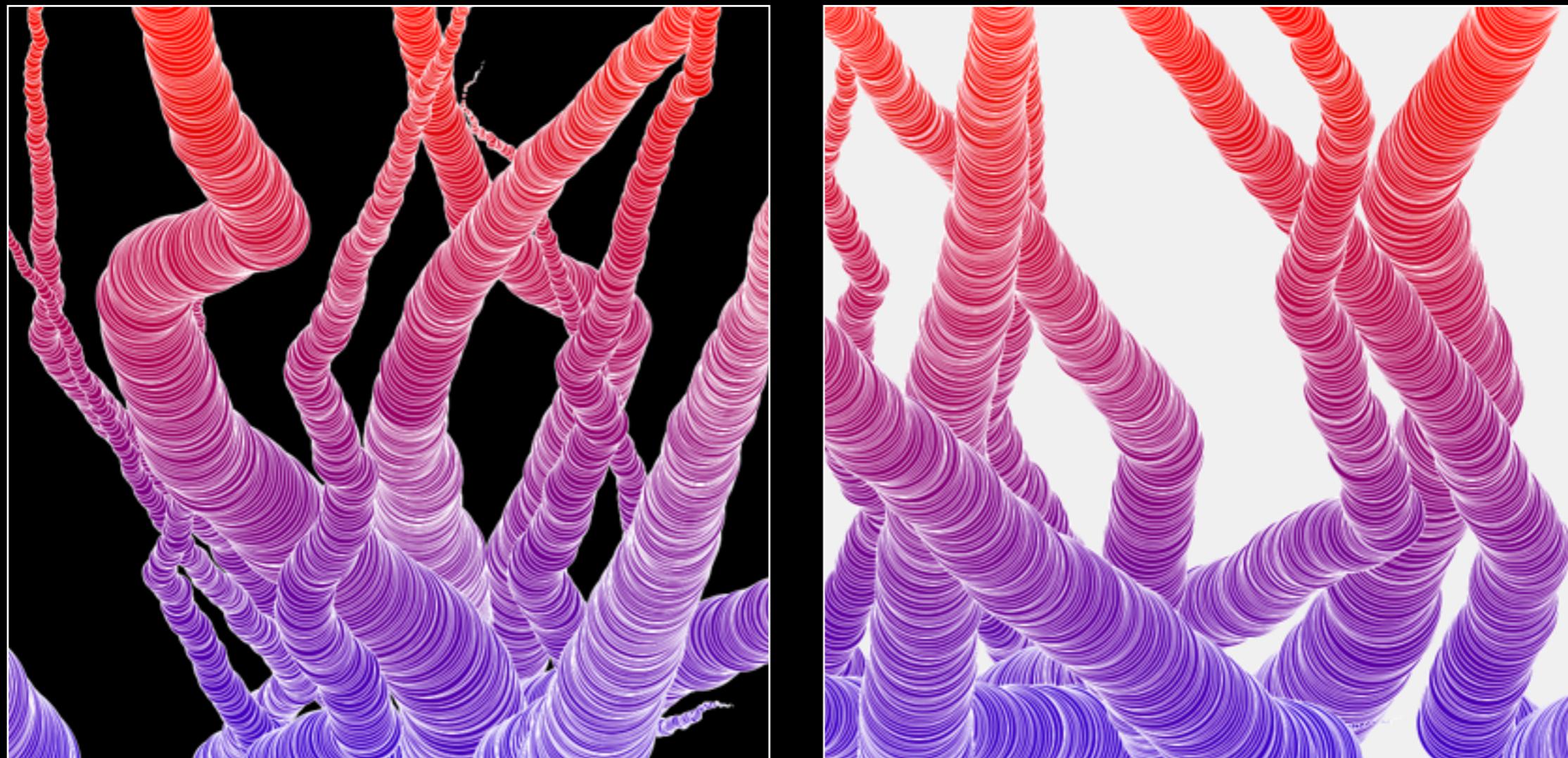
VELY = RANDOM(-5,0);
-> ONLY GOES UP

VELY = RANDOM(-2,2);
-> EQUAL PROBABILITY GO UP OR DOWN



CRIA UM NOVO PROGRAMA SEMELHANTE AO DO ANTERIOR.

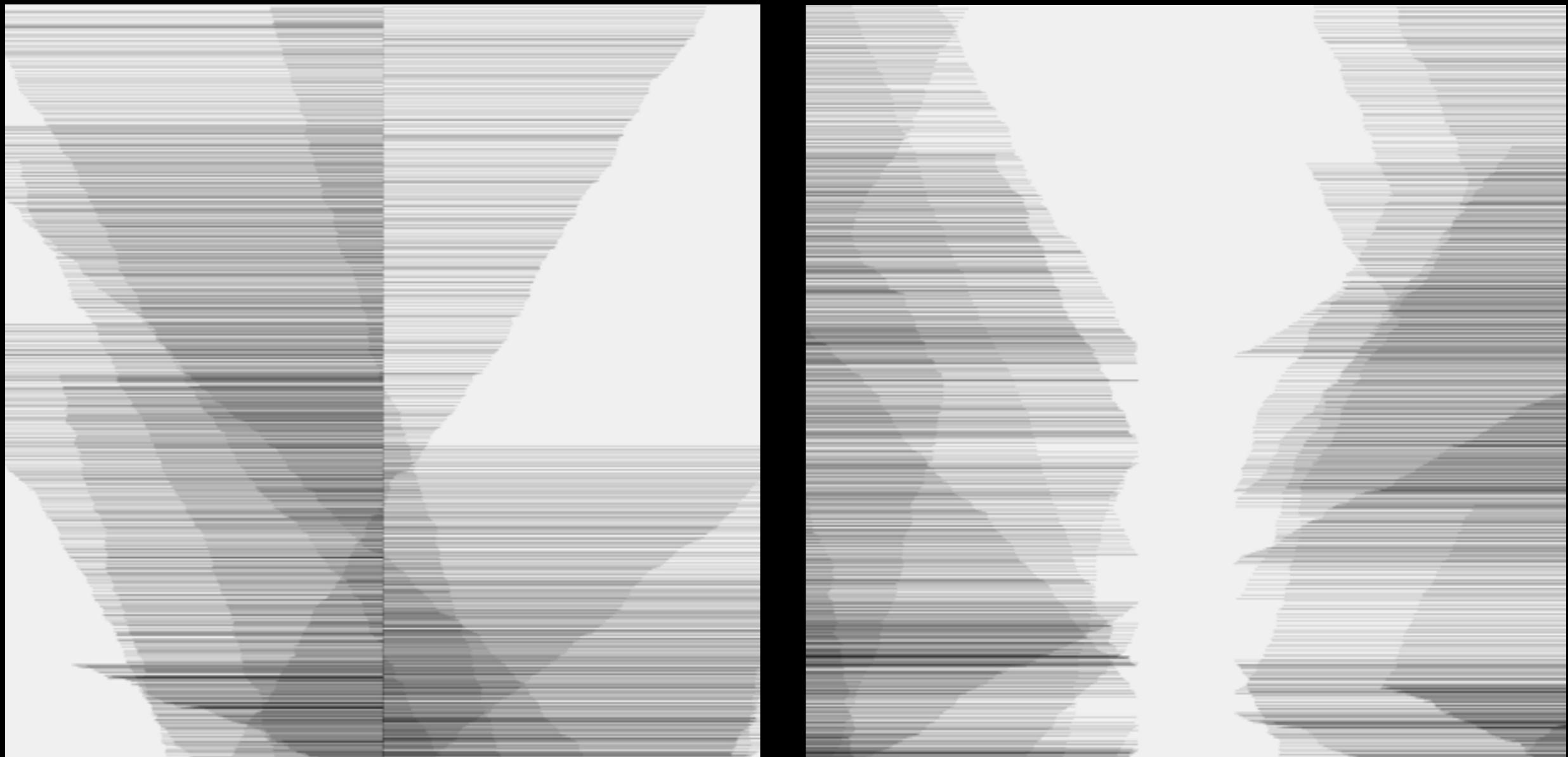
/ CHANGING COLORS, SIZE;
/ CHANGING PROBABILITIES WITH MOUSE INTERACTIONS / MOUSE POSITION;
VOID MOUSECLICKED() { }
/ CHANGING RULES / CONDITIONALS / START
/ KEYBOARD INTERACTIONS: BACKGROUND(); / SAVEFRAME(); / ...



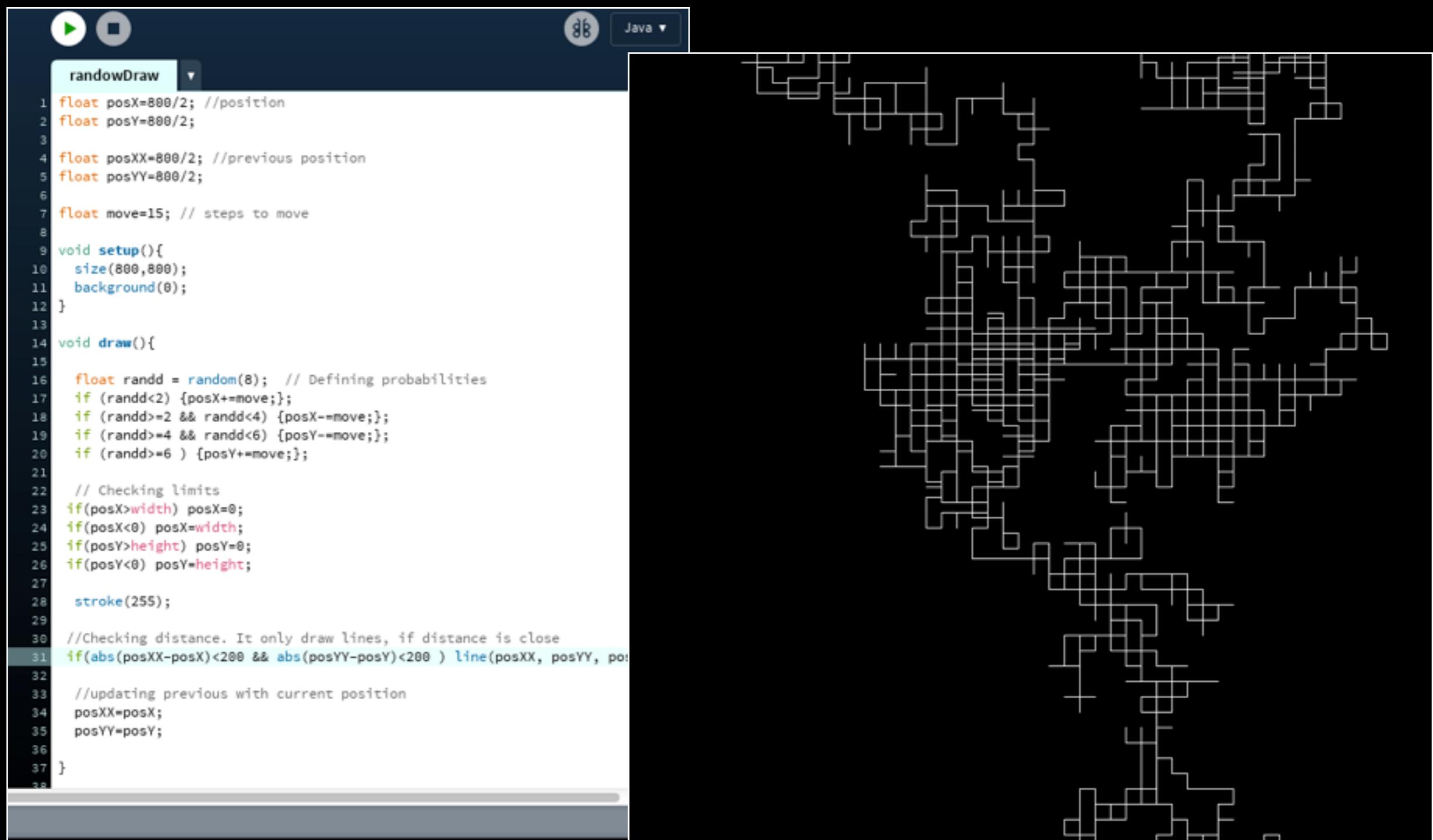
CRIA UM NOVO PROGRAMA SEMELHANTE AO DO ANTERIOR.

/ USING THE SAME CODE

/ BUT DRAWING DIFFERENT SHAPES WITH THE SAME POSX & POSY



RANDOM DRAWING



```
randomDraw
1 float posX=800/2; //position
2 float posY=800/2;
3
4 float posXX=800/2; //previous position
5 float posYY=800/2;
6
7 float move=15; // steps to move
8
9 void setup(){
10   size(800,800);
11   background(0);
12 }
13
14 void draw(){
15
16   float randd = random(8); // Defining probabilities
17   if (randd<2) {posX+=move;};
18   if (randd>=2 && randd<4) {posX-=move;};
19   if (randd>=4 && randd<6) {posY-=move;};
20   if (randd>=6 ) {posY+=move;};
21
22   // Checking limits
23   if(posX>width) posX=0;
24   if(posX<0) posX=width;
25   if(posY>height) posY=0;
26   if(posY<0) posY=height;
27
28   stroke(255);
29
30   //Checking distance. It only draw lines, if distance is close
31   if(abs(posXX-posX)<200 && abs(posYY-posY)<200 ) line(posXX, posYY, po
32
33   //updating previous with current position
34   posXX=posX;
35   posYY=posY;
36
37 }
38
```

Console Errors Updates 2

RANDOM DRAWING CHANGING PROBABILITIES:

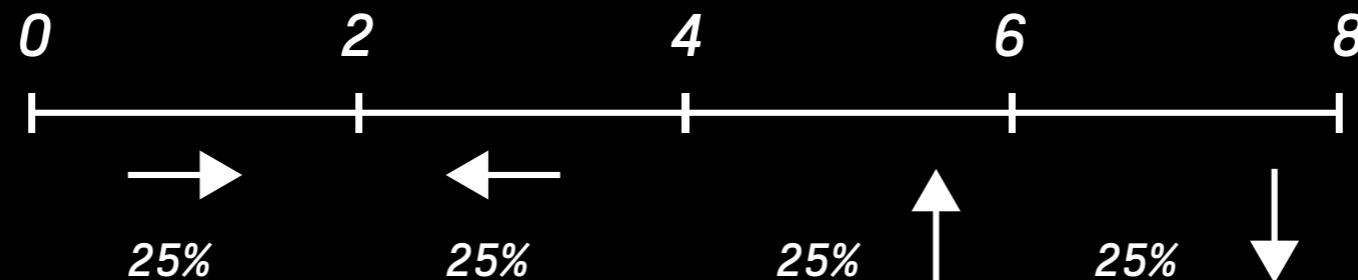
```
FLOAT RANDD = RANDOM(8); // RANDOM NUMBER BETWEEN 0 AND 8

IF (RANDD<2) {POSX=POSX+MOVE;}; // IF BIGGER SMALLER THEN 2, MOVE RIGHT

IF (RANDD>=2 && RANDD<4) {POSX=POSX-MOVE;}; // BIGGER THEN 2, SMALLER THEN 4

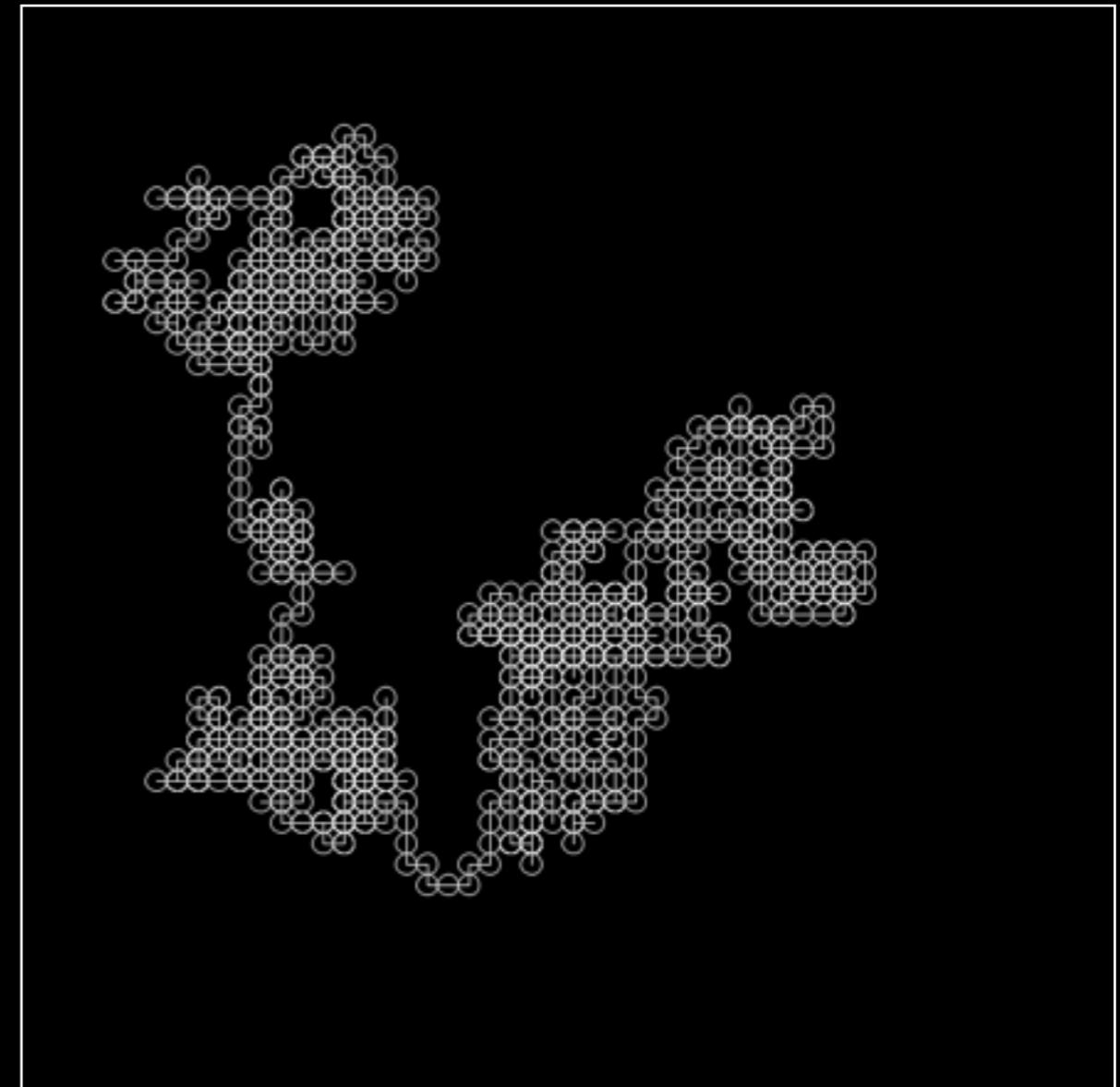
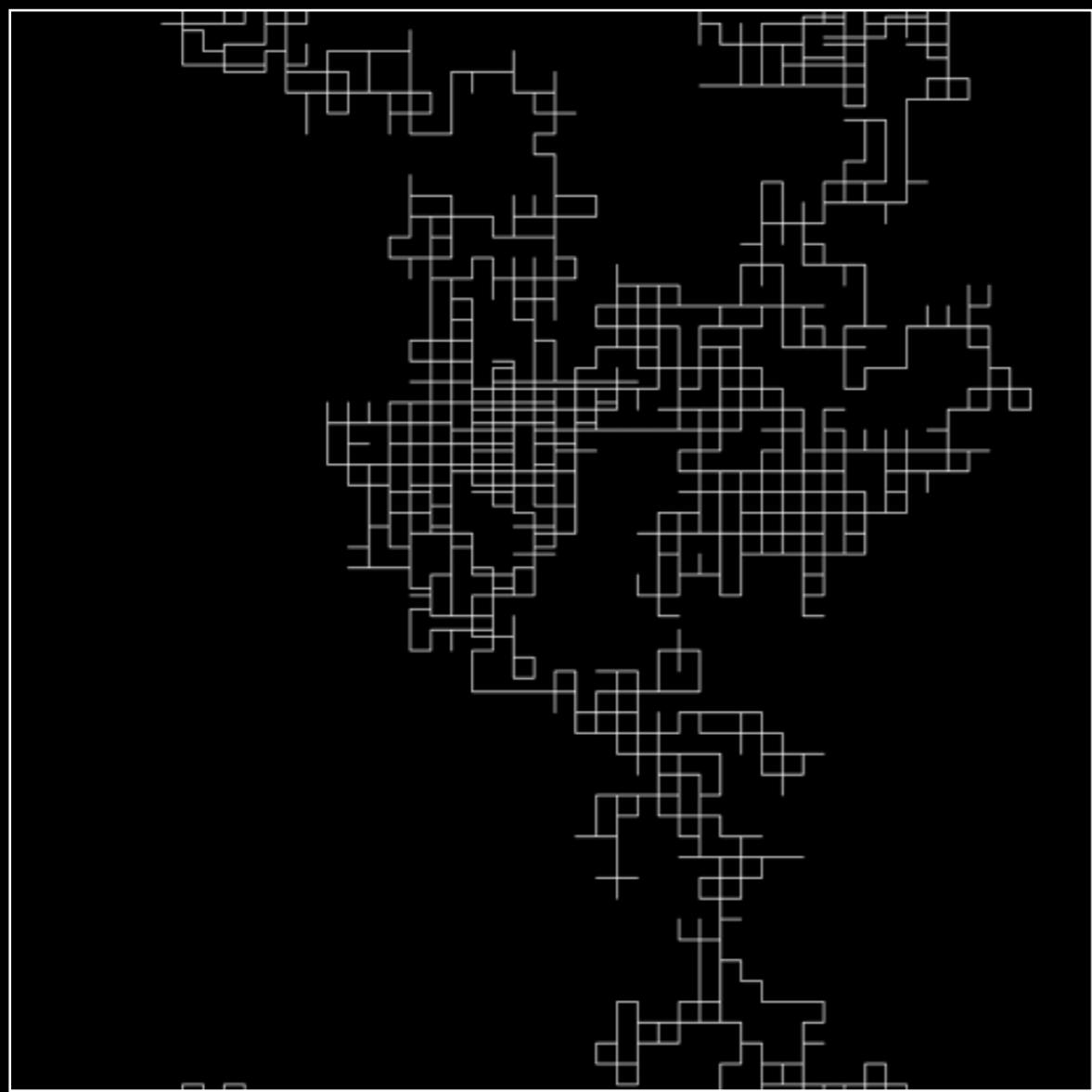
IF (RANDD>=4 && RANDD<6) {POSY=POSY-MOVE;}; // BIGGER THEN 4, SMALLER THEN 6

IF (RANDD>=6 ) {POSY=POSY+MOVE;}; // BIGGER THEN 6
```



RANDOM DRAWING

// DIFFERENT PROBABILITIES



COLLISIONS

```
LSI_016_circleBouncing
5
6 // variable to store circles velocities X/Y
7 float velX=random(-5,5);
8 float velY=random(-5,5);
9
10 // variable to store the size of the ball
11 float ballSize = 80;
12
13 void setup (){
14 size(800,800); // Display dimensions
15 }
16
17
18 void draw (){
19 background(0);
20
21 // circles color
22 fill(255);
23
24 // if circle goes out of the screen, velocity is inverted
25 if(posX<(0+ballSize/2) || posX > (width-ballSize/2) ) {velX=-velX;}
26 if(posY<(0+ballSize/2) || posY > (height-ballSize/2) ) {velY=-velY;}
27
28 posX=posX+velX;
29 posY=posY+velY;
30
31 //drawing circle
32 ellipse(posX,posY, ballSize,ballSize);
33
34 }
35 }
```

Console Errors Upd