GENERATIVE ART WITH PROCESSING

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FAB LAB .BERLIN

INTRODUCTION

Generative Art

Casey Reas

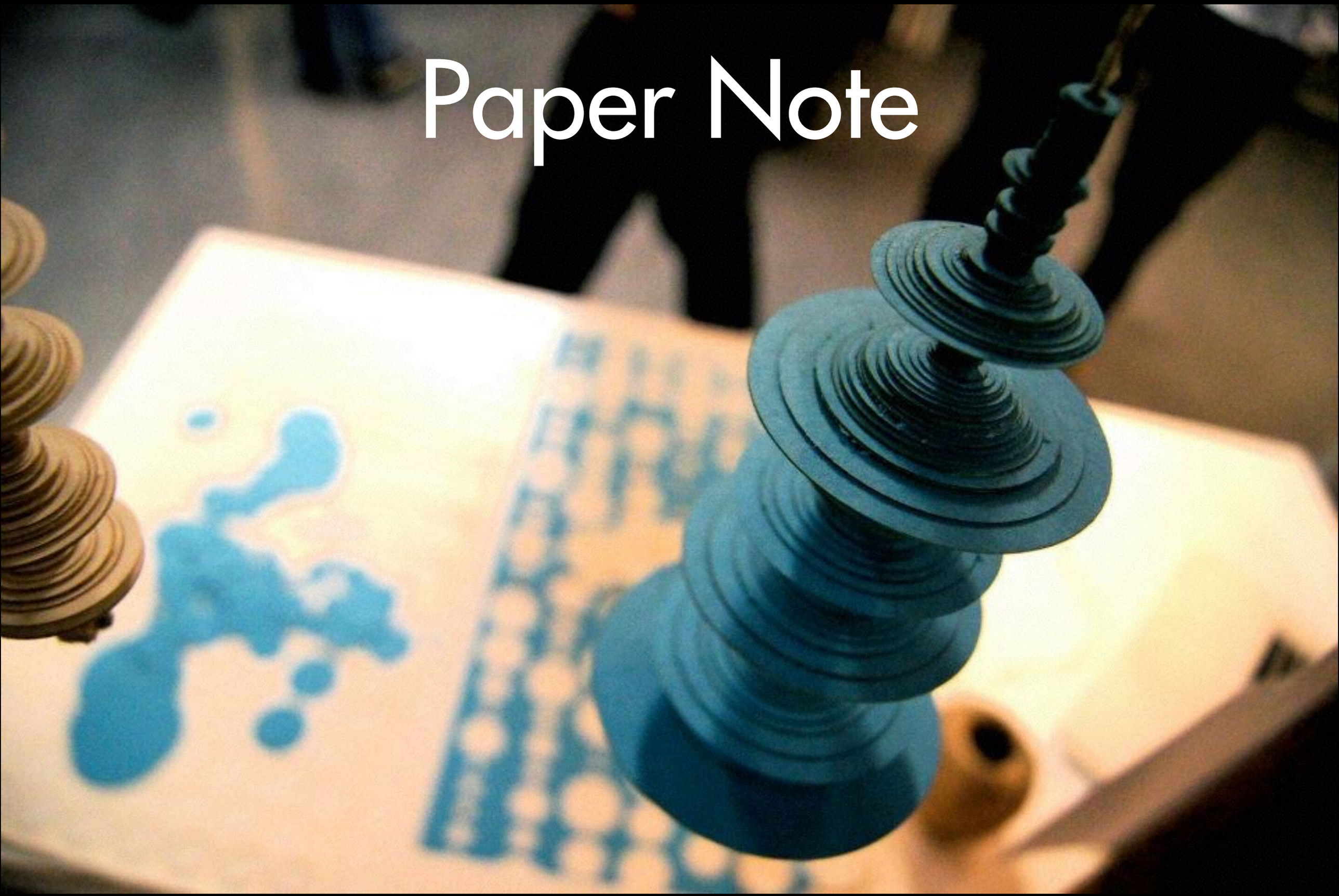
Quayola

Riyoji Ikeda

Sculpture
Patterns
Architecture
Fashion Design…

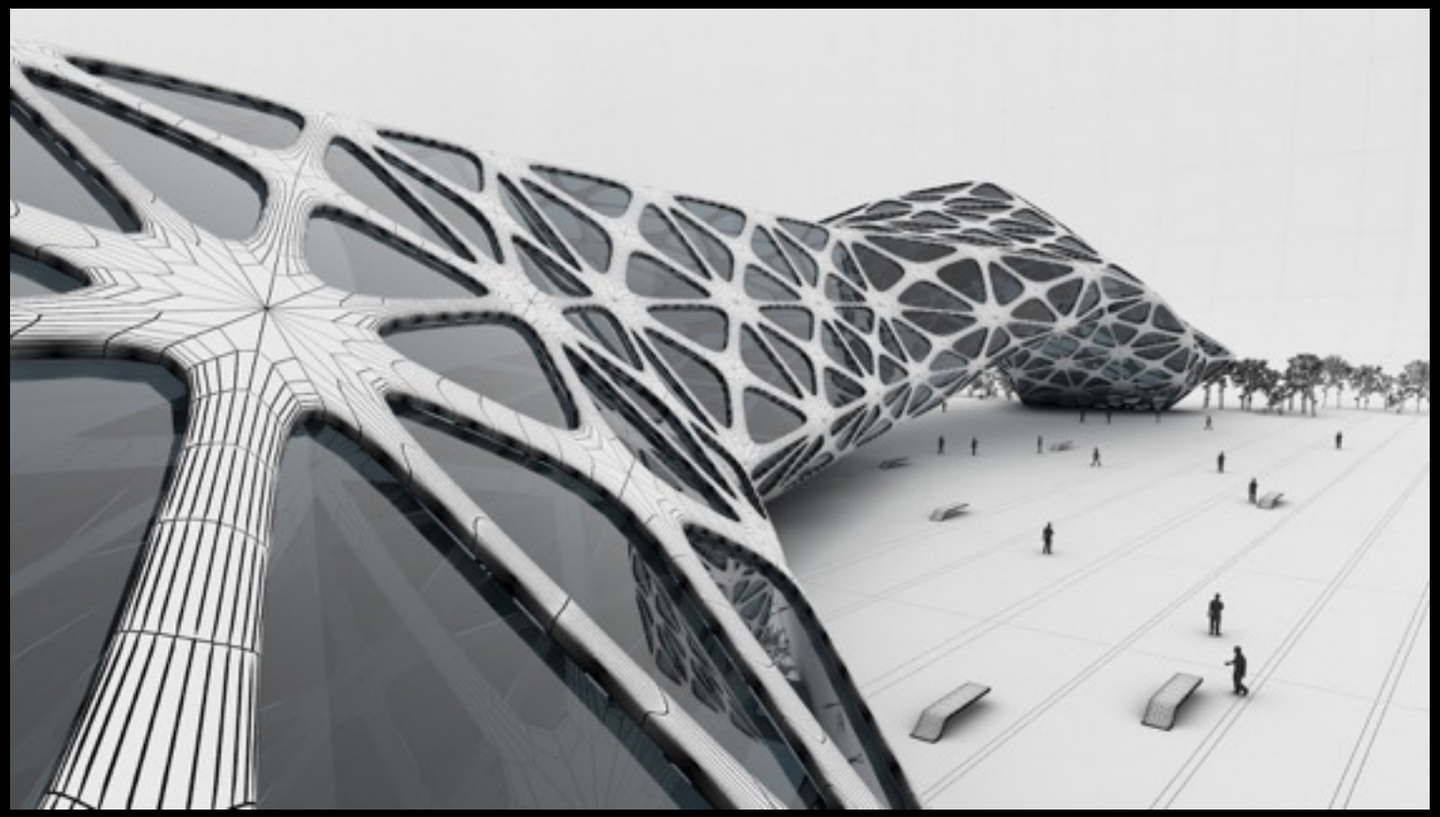
Unnamed Soundsculpture

Paper Note



The Abyss

Architecture



Jewelry

Creative Coding

Getting Started

sketch_151105a | Processing 3.0.1

Java ▼

sketch_151105a ▼

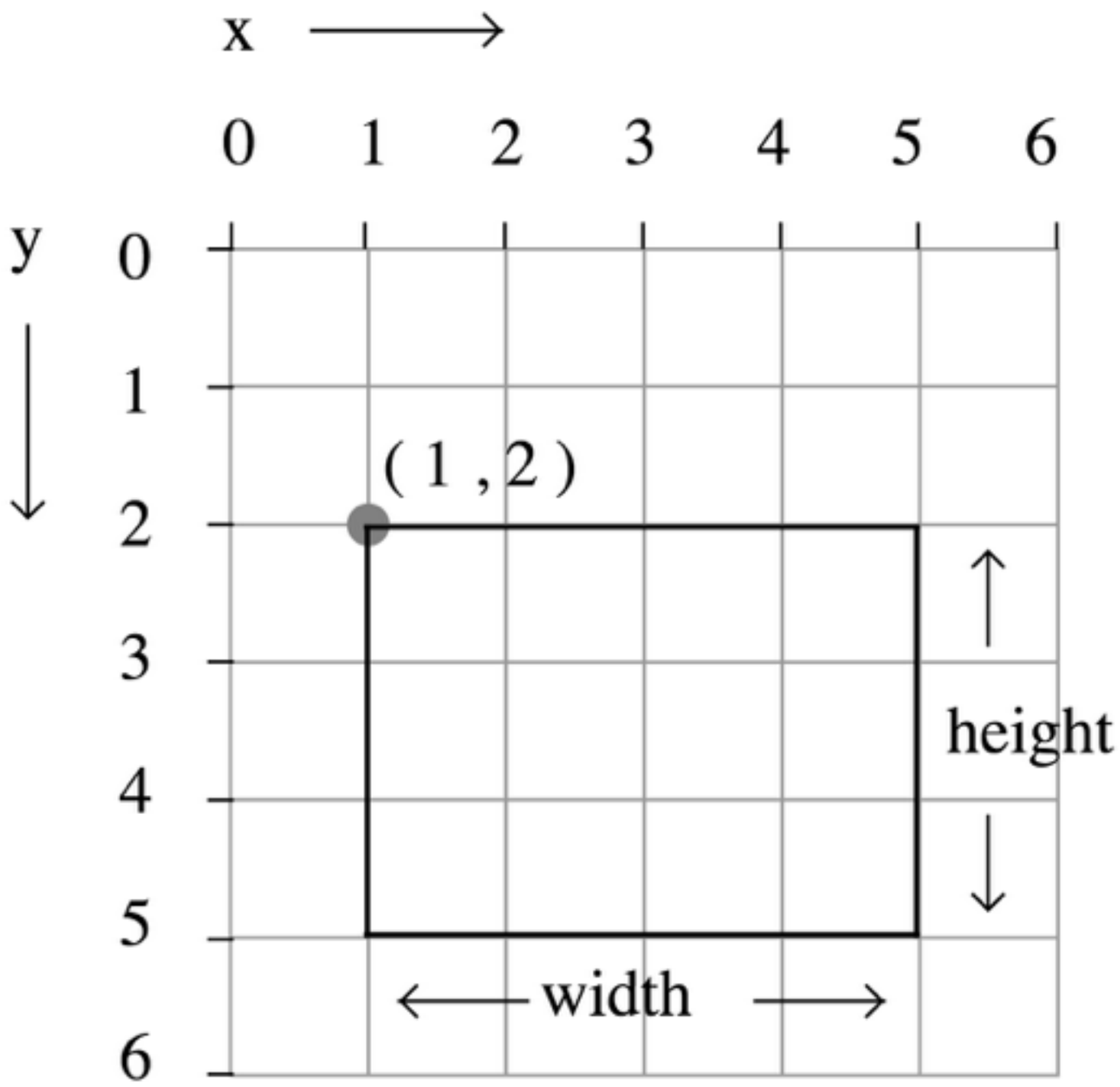
```
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
```

Problem | Tab | Line

Console | Errors

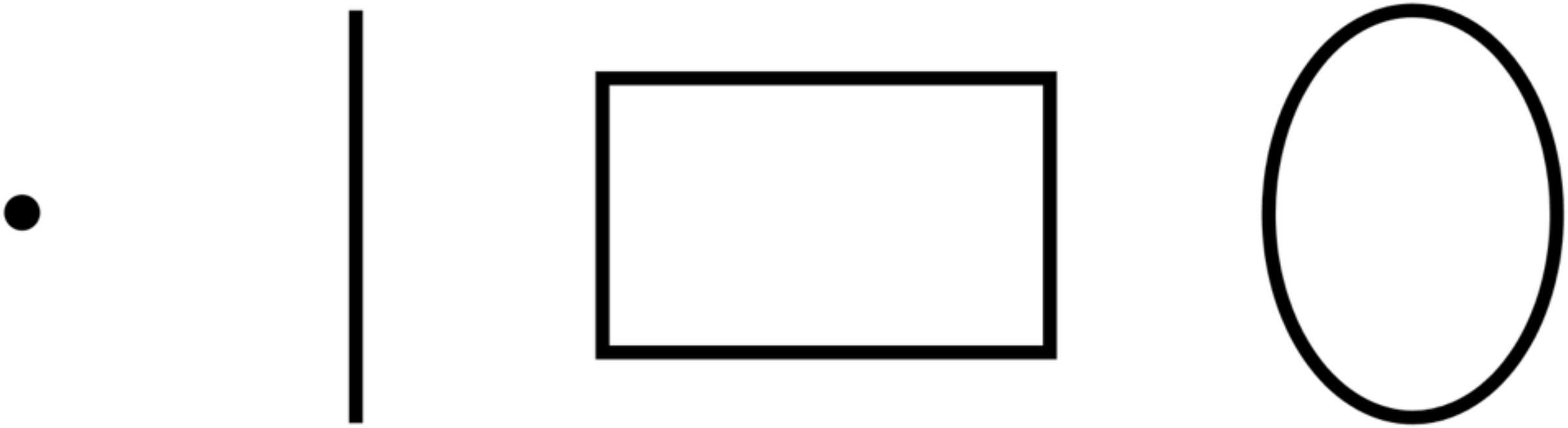
https://github.com/ImanolGo/GenerativeArtWorkshop

I. Shapes



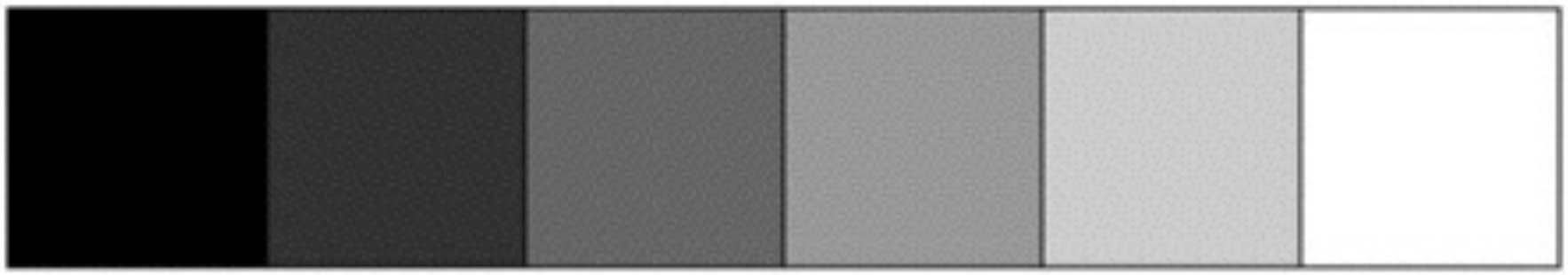
rect(x , y , width , height) ;

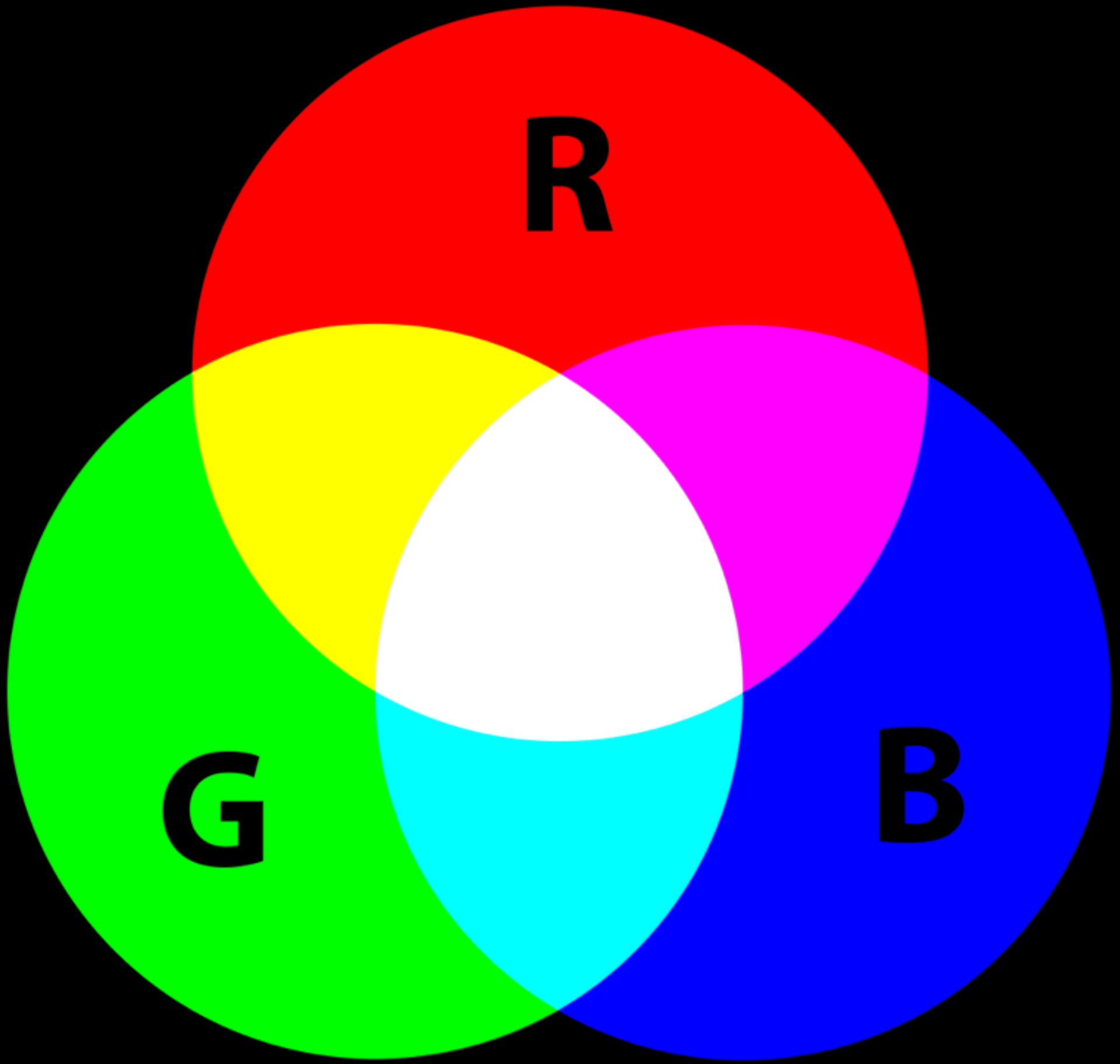
Example: rect (1 , 2 , 4 , 3) ;



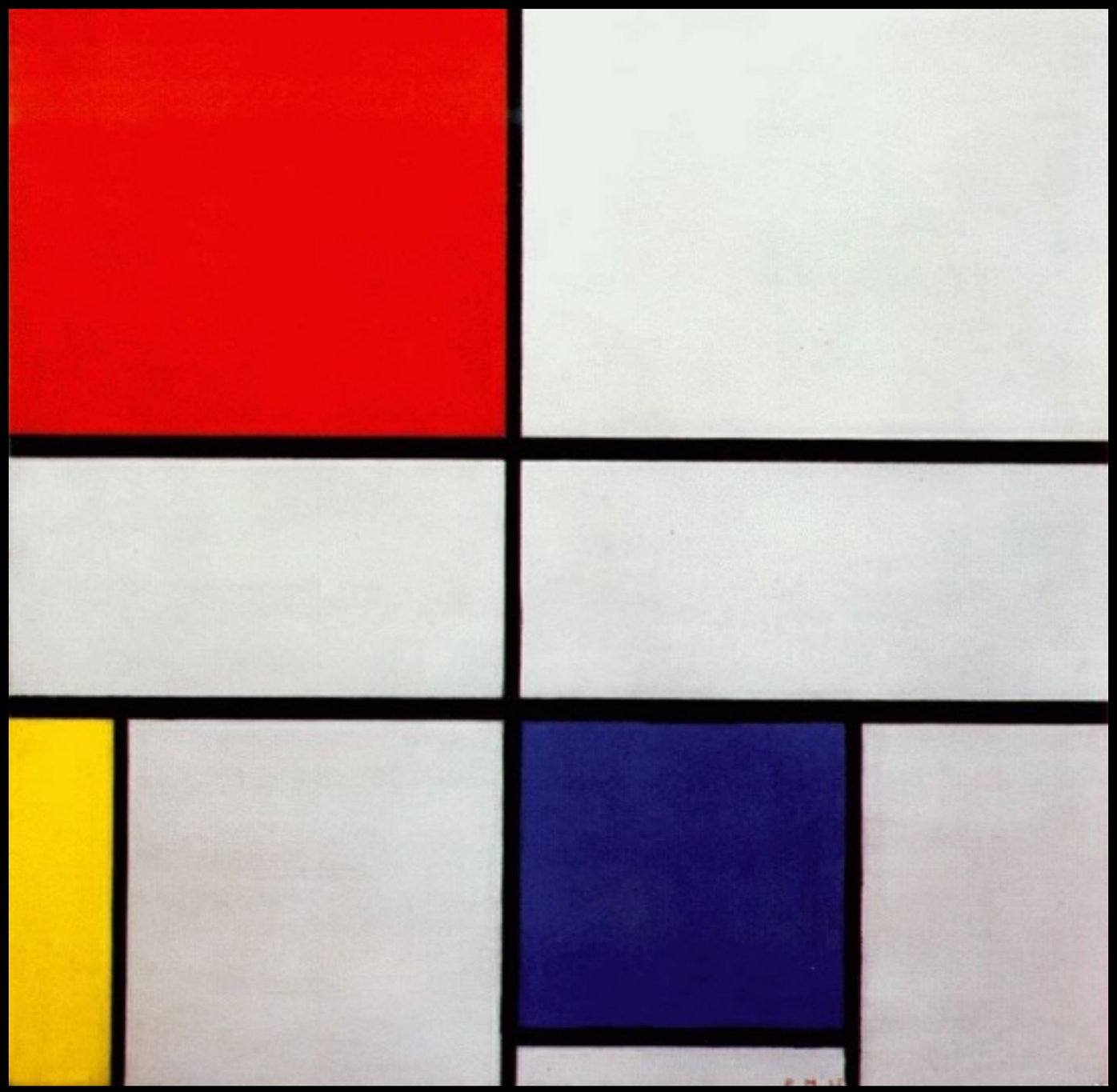
Point Line Rectangle Ellipse

Color


0
50
87
162
209
255


R
G
B

Exercise: Mondrian



III. Interactivity

sketch_151105a | Processing 3.0.1

Java ▾

sketch_151105a ▾

```
1  void setup() {
2    size(500,400);
3  }
4
5  void draw() {
6    background(0);
7
8    stroke(255, 255, 255);
9    fill(160, 220, 90);
10   ellipse(250, 200, 300, 300);
11
12   fill(160, 210, 230);
13   rect(250, 200, 100, 75);
14 }
15
16
17
18
19
20
21
22
23
```

Problem | Tab | Line

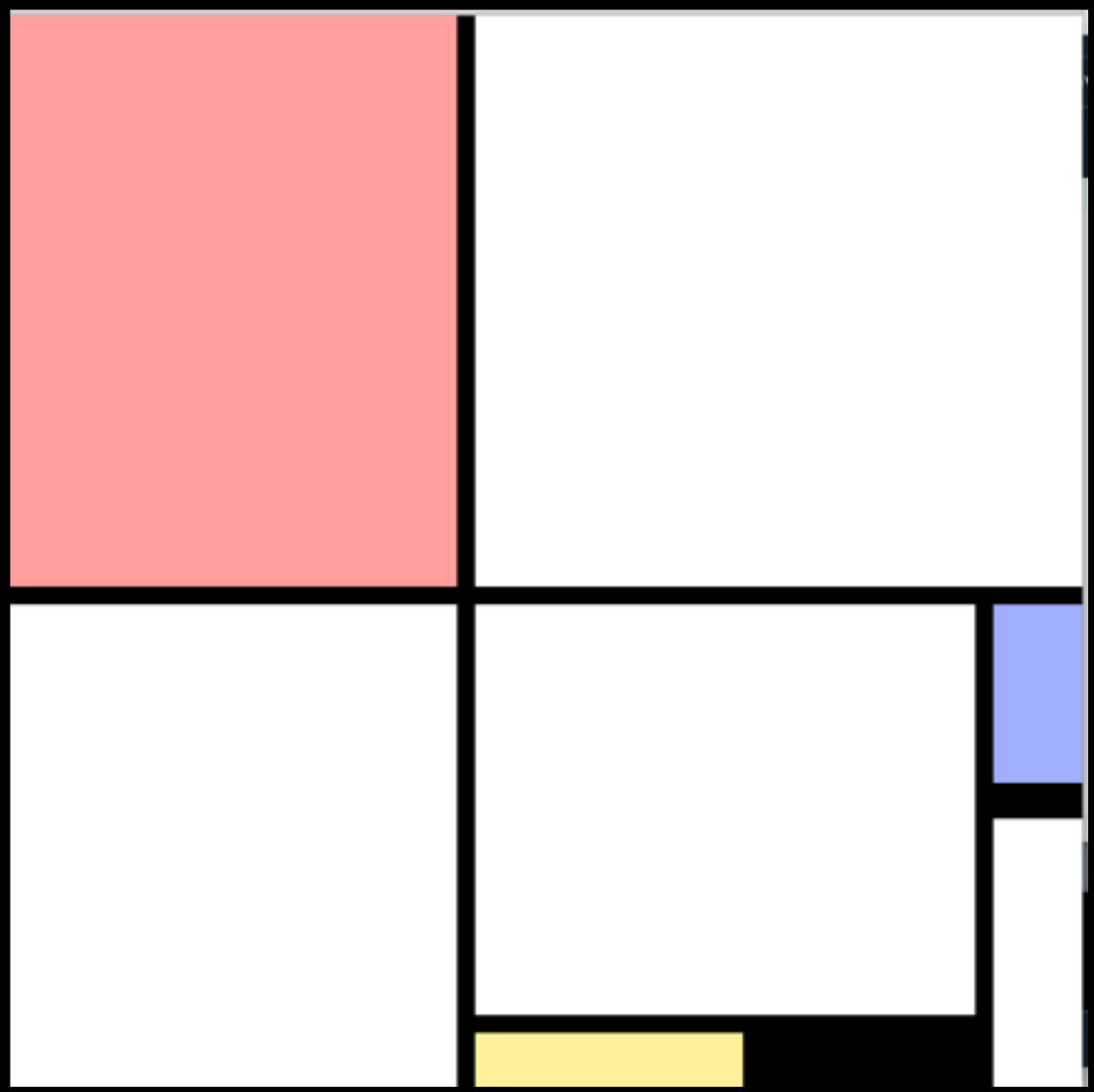
Console | Errors

if

else

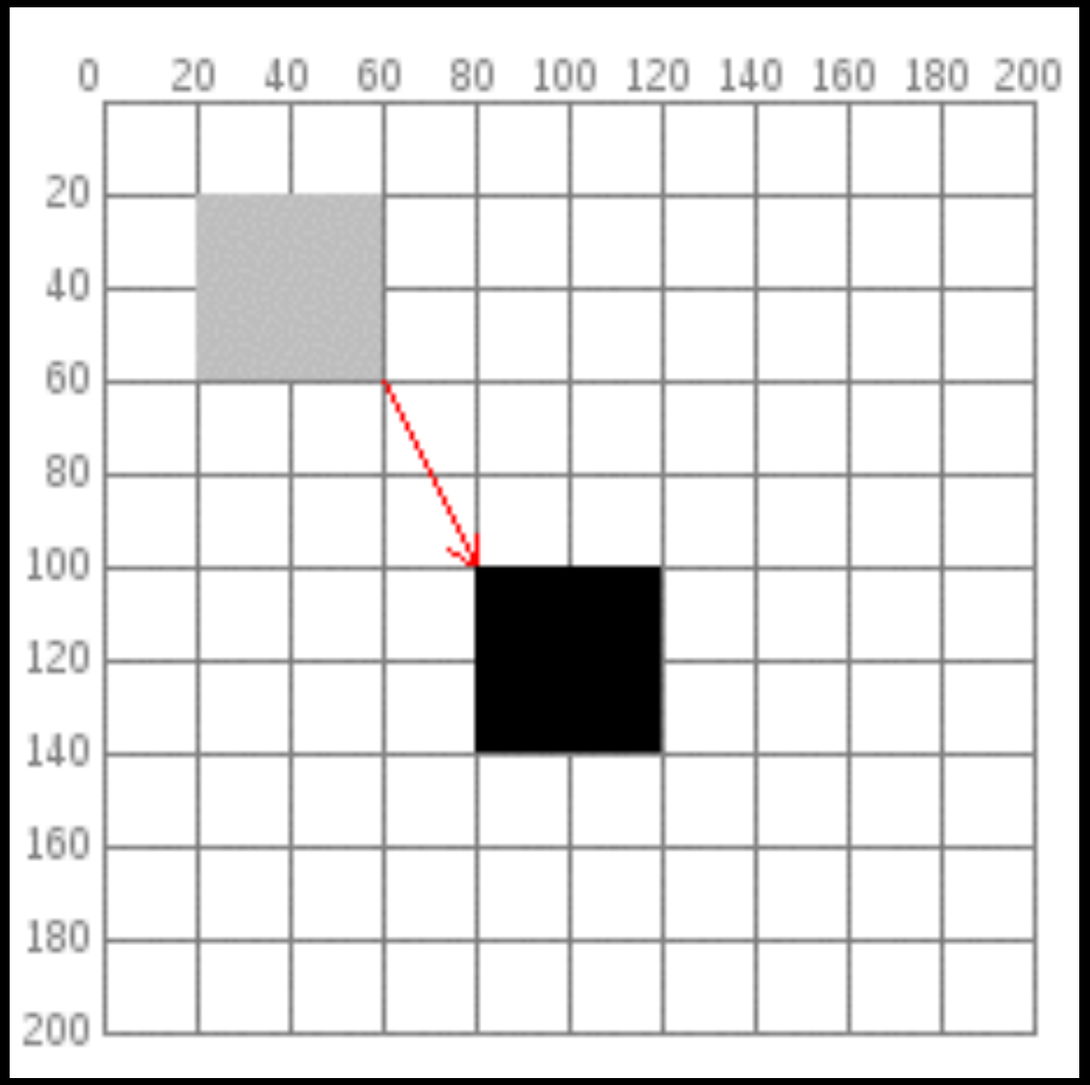
Mouse

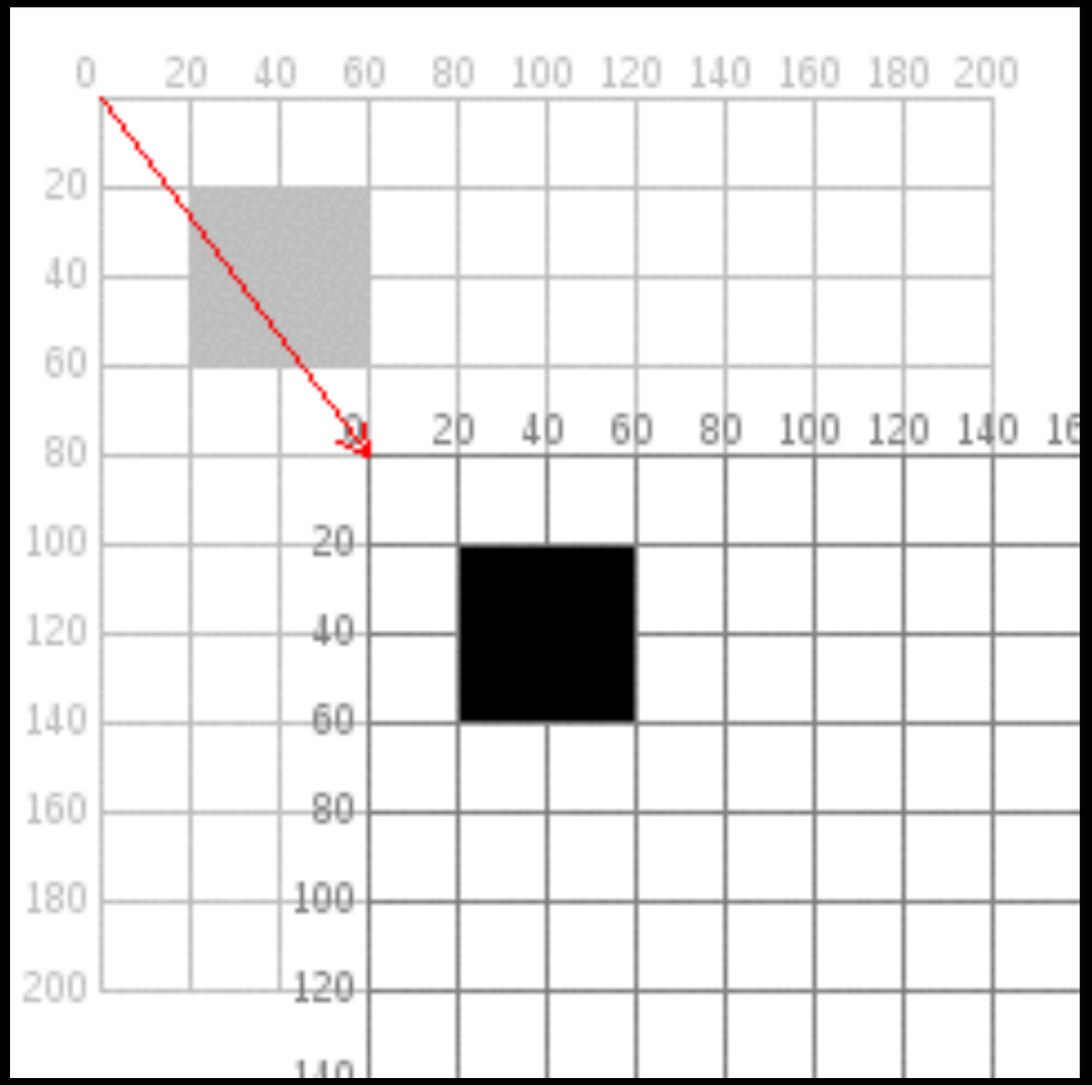
Exercise: Reactive Mondrian



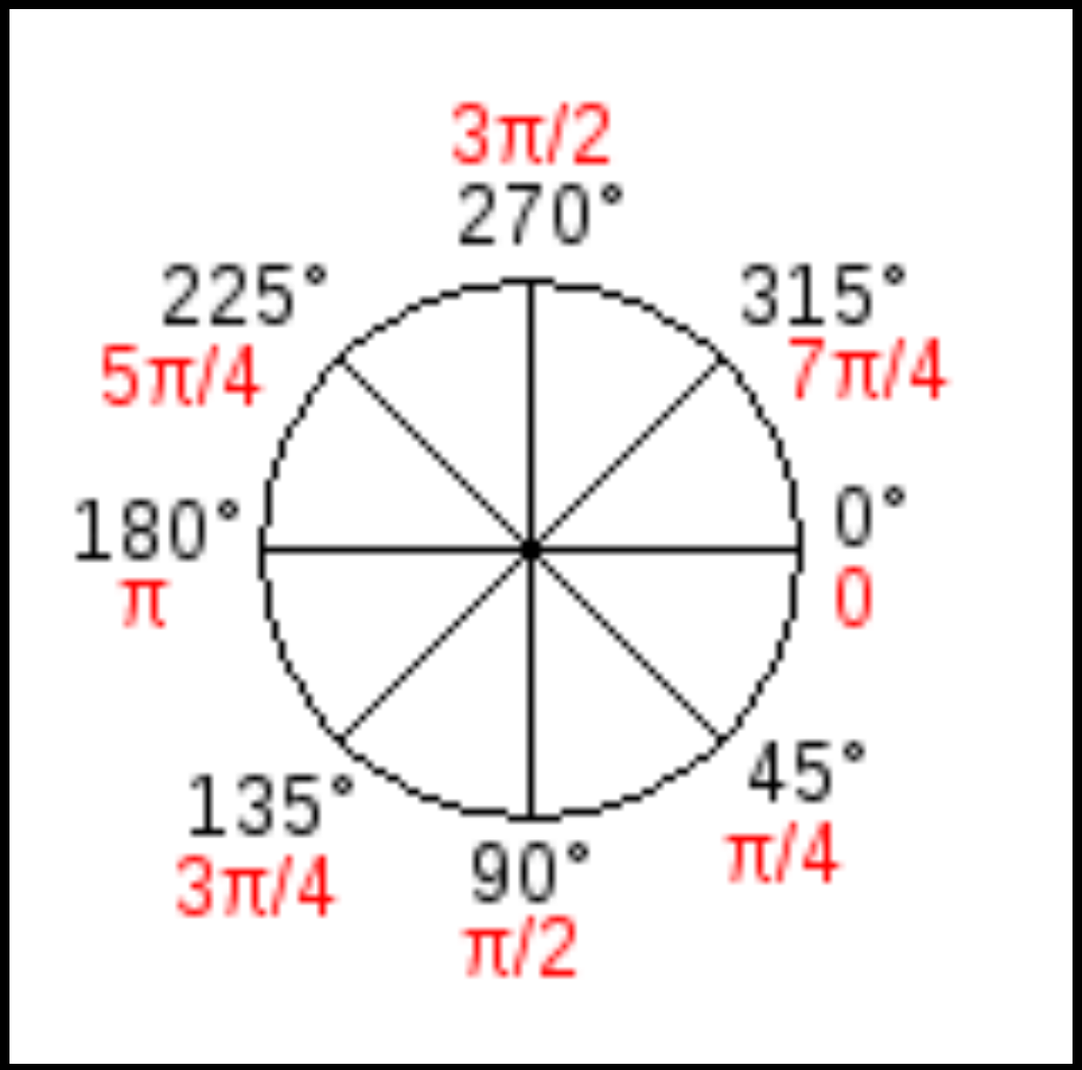
2D Transformations

Translate

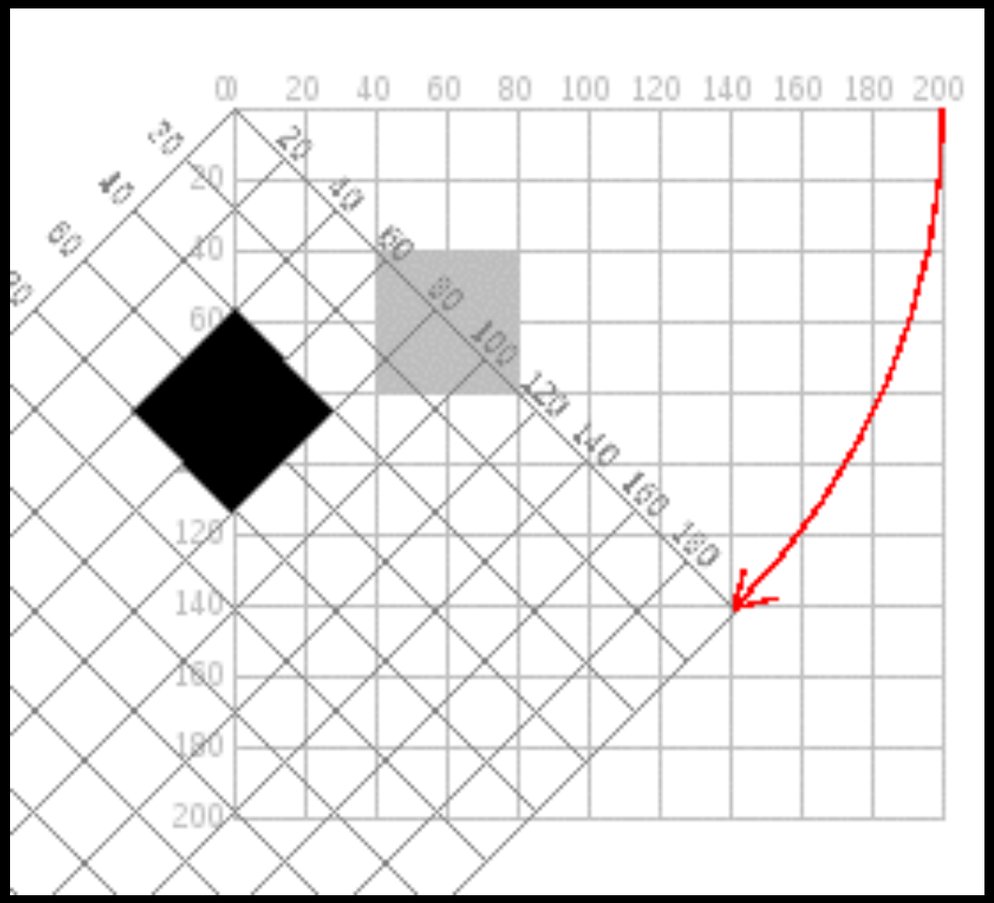

0 20 40 60 80 100 120 140 160 180 200
20
40
60
80
100
120
140
160
180
200

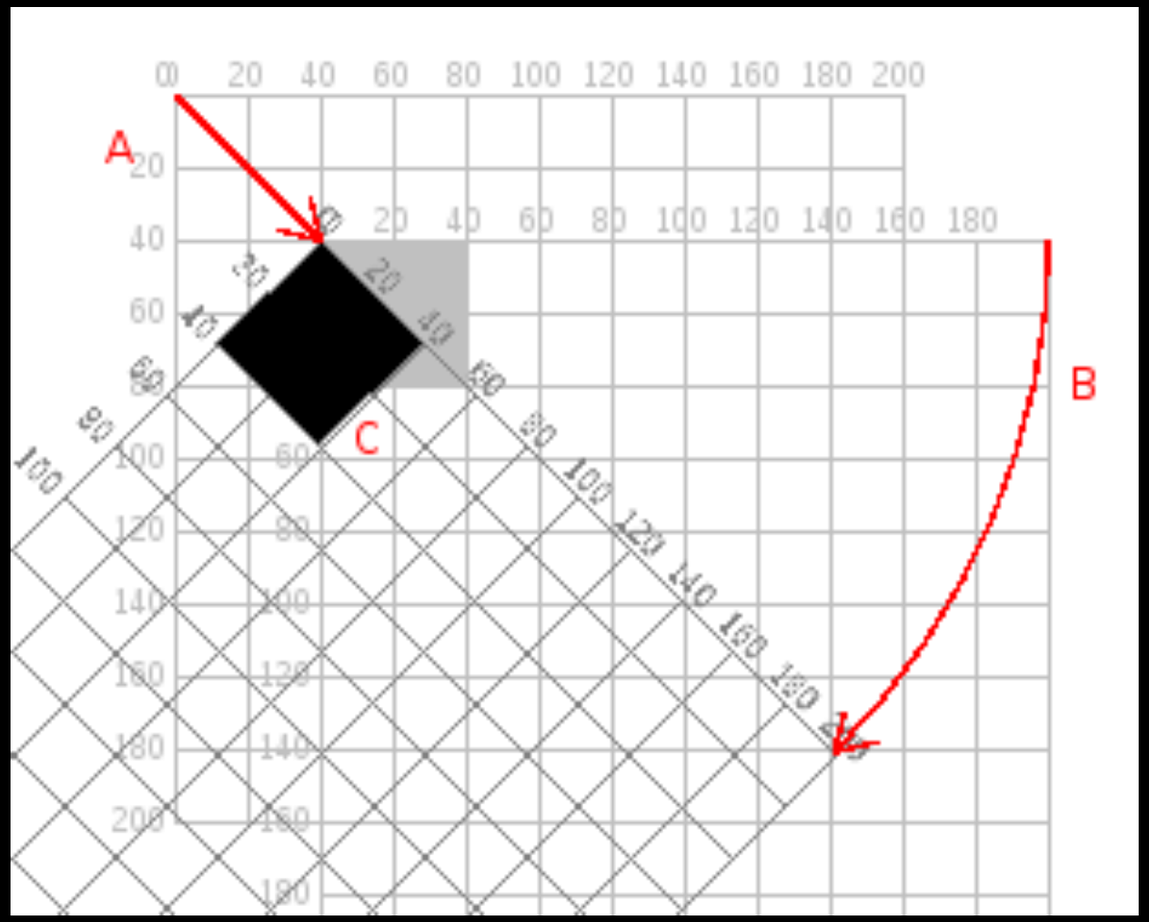

0 20 40 60 80 100 120 140 160 180 200
20
40
60
80
100
120
140
160
180
200
0 20 40 60 80 100 120 140 16
20
40
60
80
100
120

Rotation

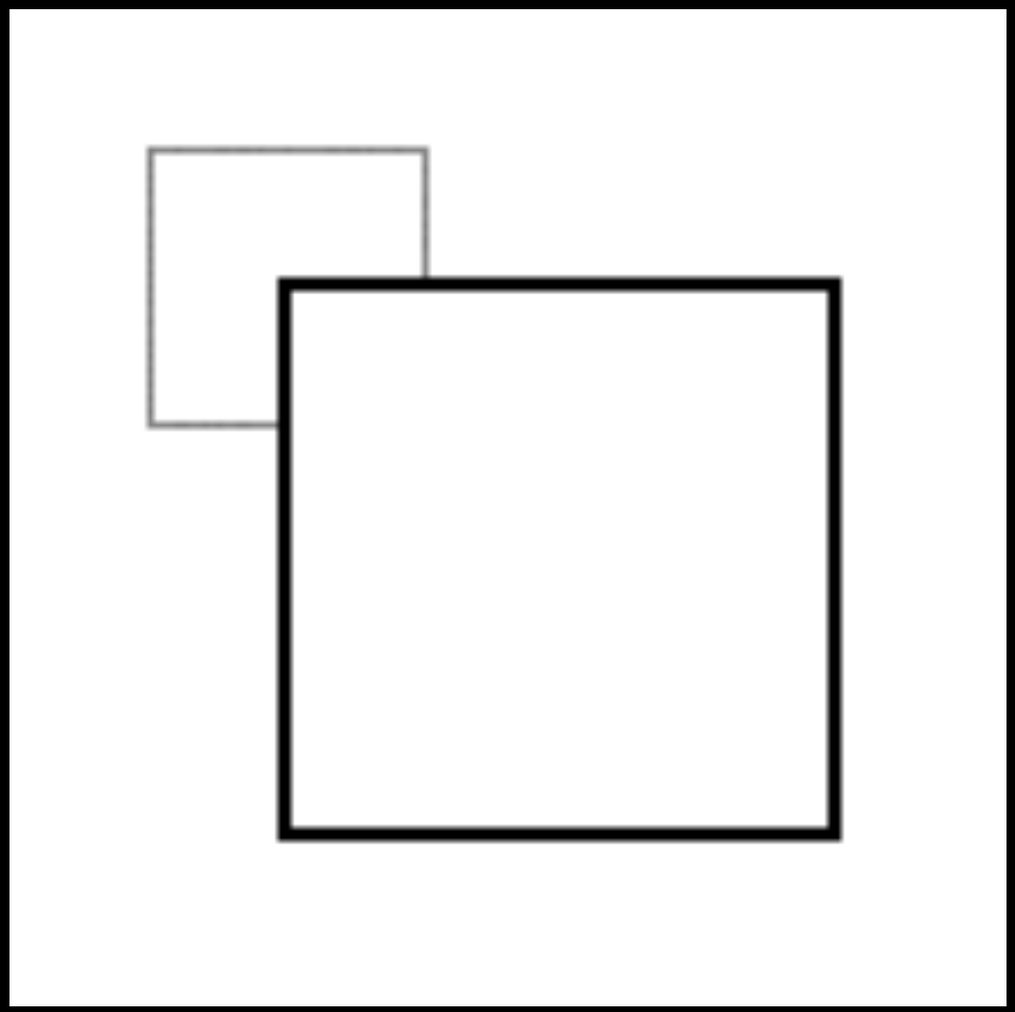


Rotation


0 20 40 60 80 100 120 140 160 180 200
20
40
60
80
100
120
140
160
180
200

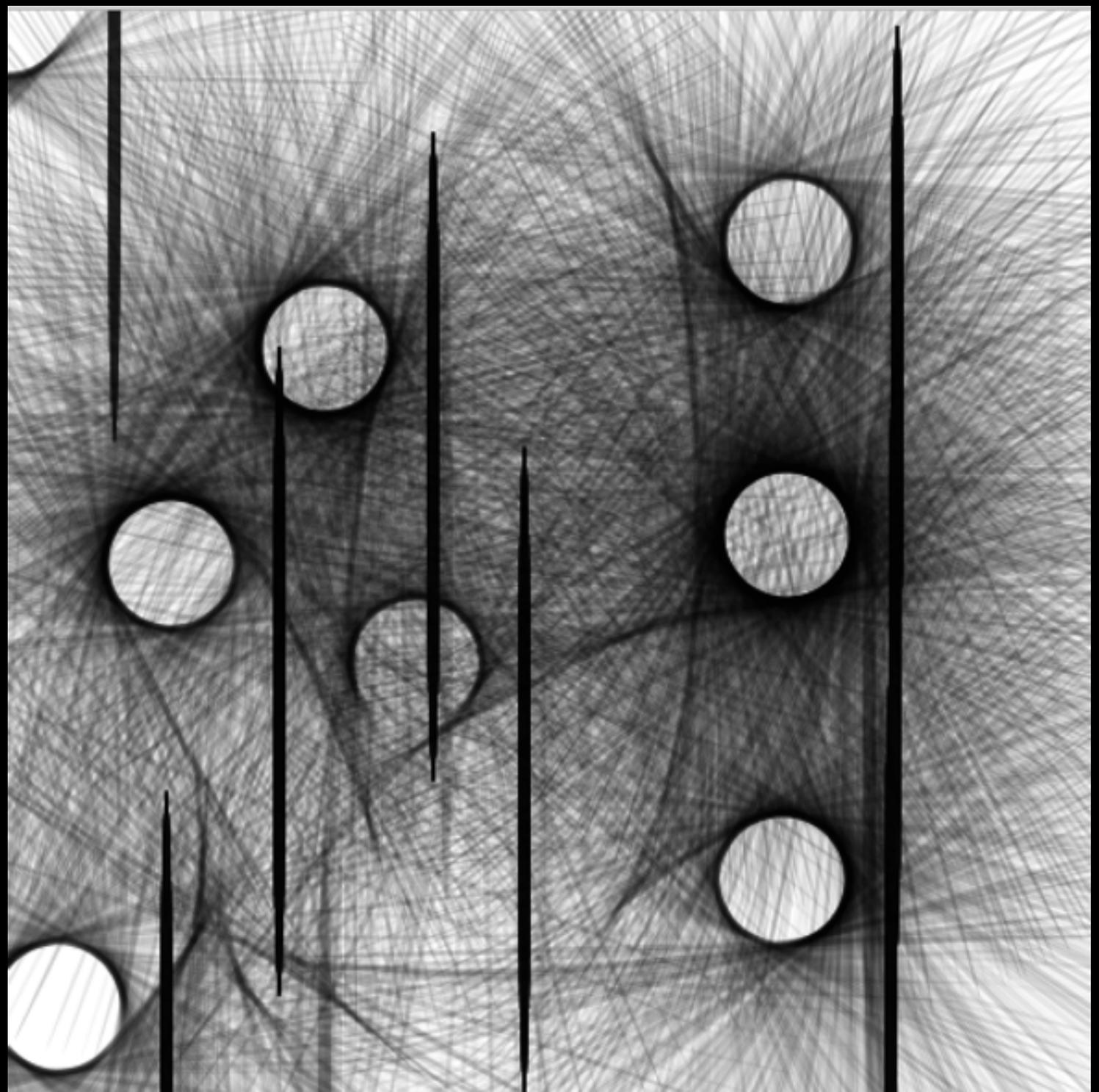

A
B
C
0 20 40 60 80 100 120 140 160 180 200

Scaling



The Transformation Matrix

Exercise: 2D Transformations



III. Loops

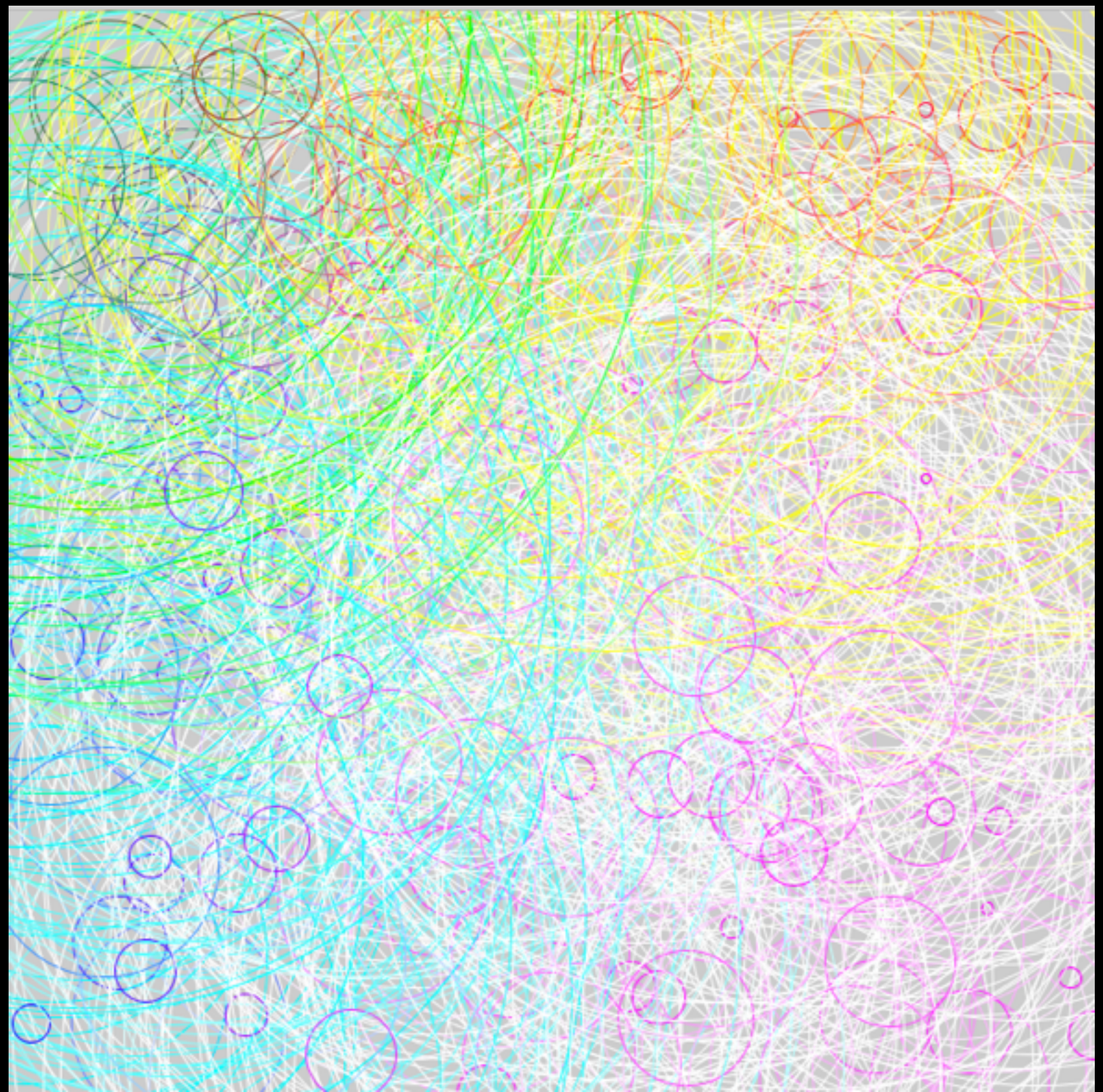
Variables

While

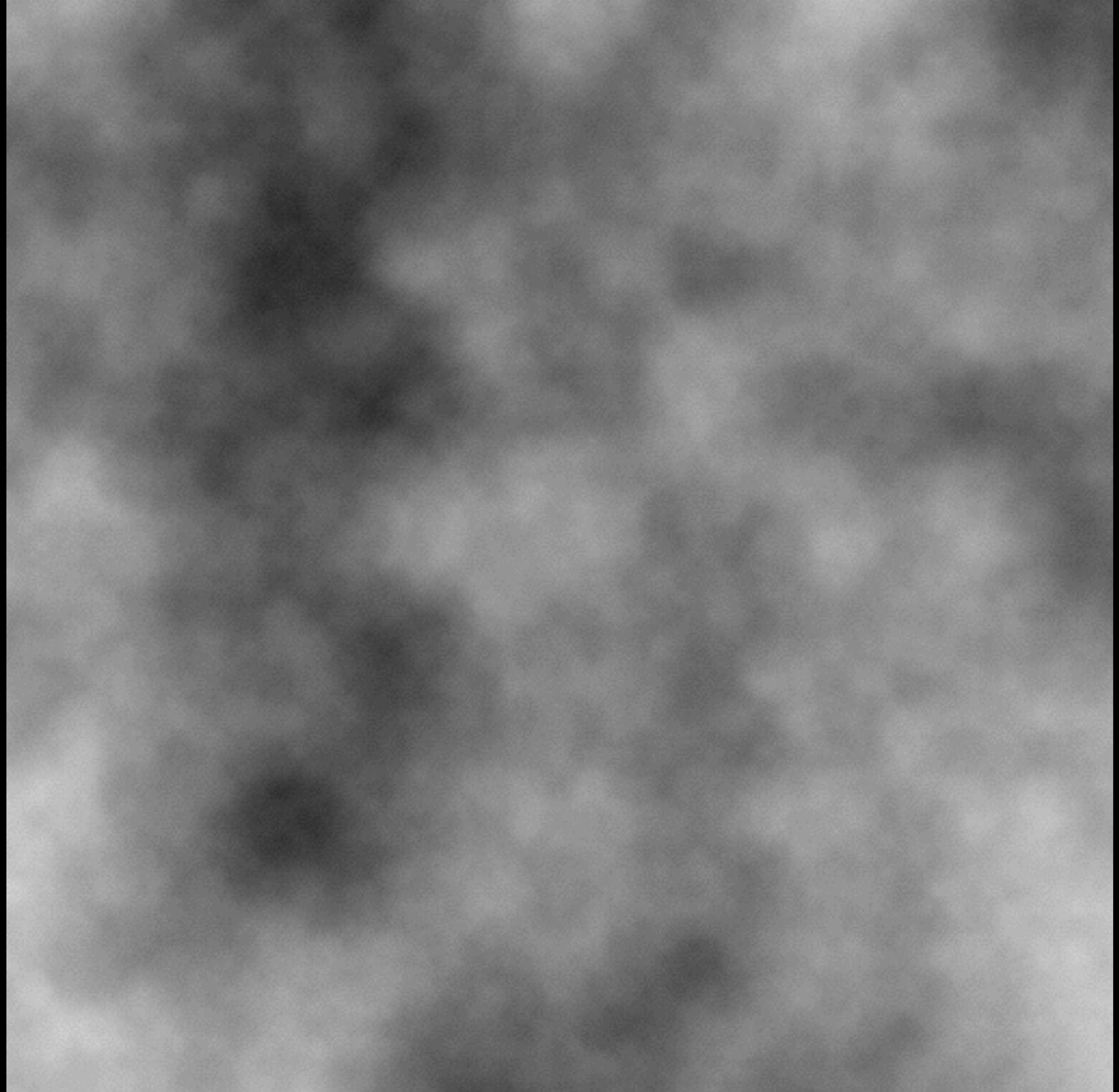
For

Random

Exercise: Circles

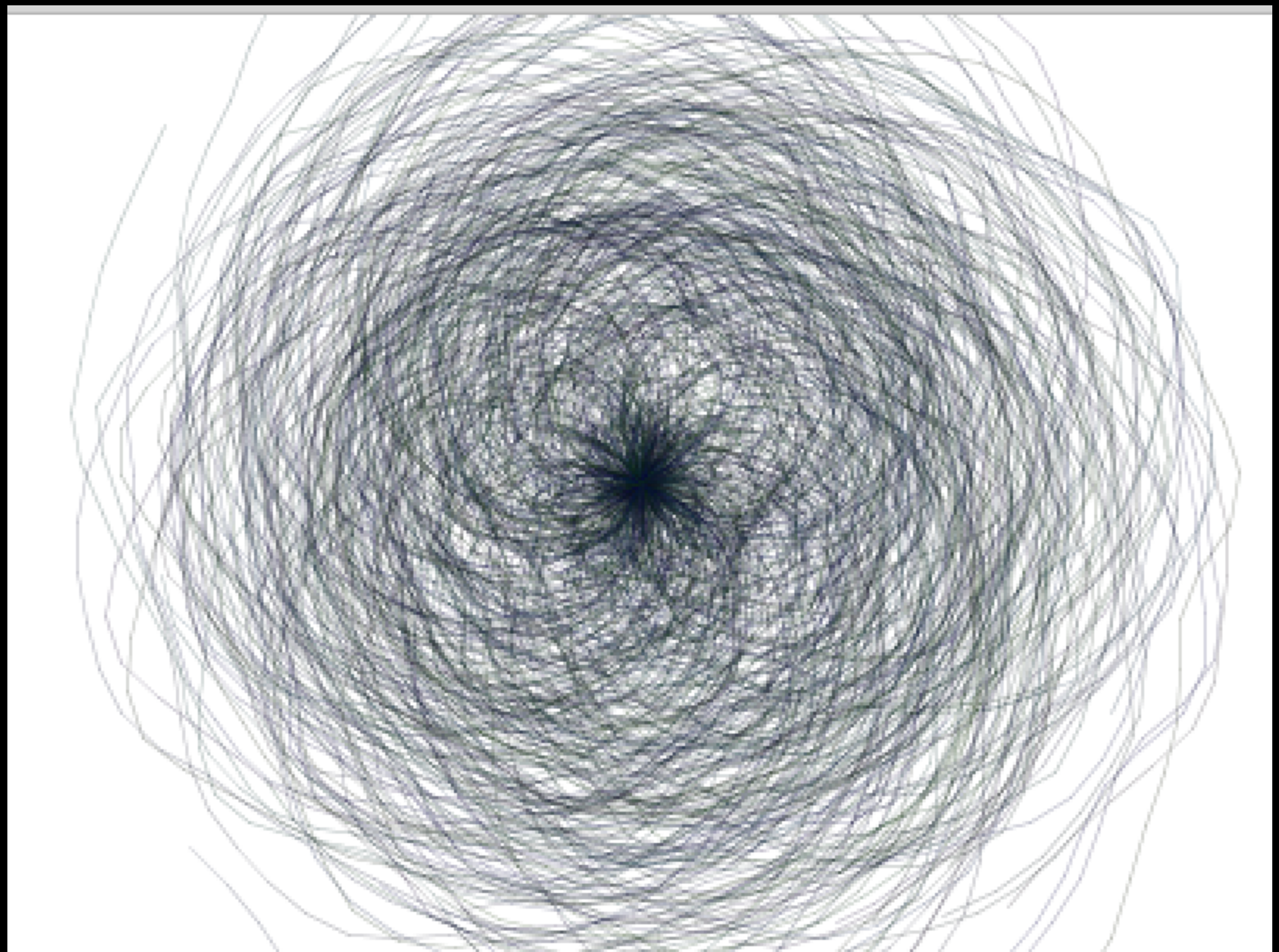


IV. Noise



Noise Function

Exercise: Noise



V. Images

Getting Started

Image Processing

Pixels

How the pixels look:

0	1	2	3	4
5	6	7	8	9
10	11	12	13	14
15	16	17	18	19
20	21	22	23	24

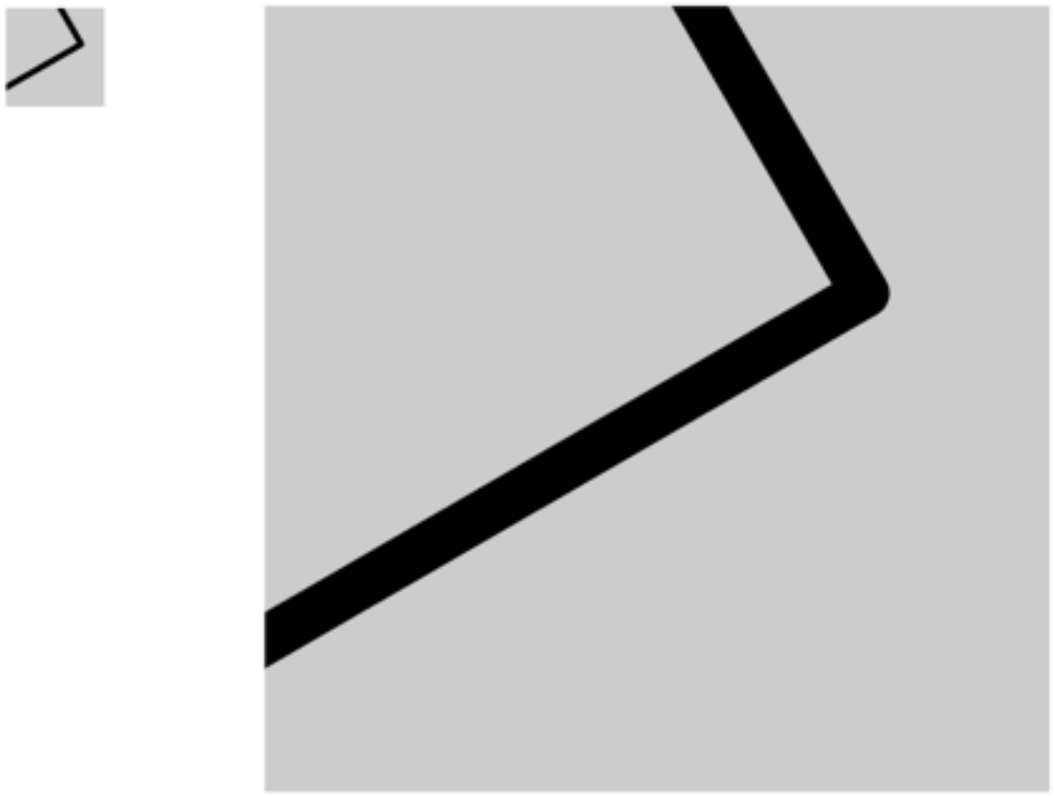
How the pixels are stored:

0	1	2	3	4	5	6	7	8	9	·	·	·		

VI. Print

Vector vs Raster

Vector image enlarged 800%



Raster image enlarged 800%

Exercise: Render to PDF

VII. Parametric

Goodbye!

Questions?

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