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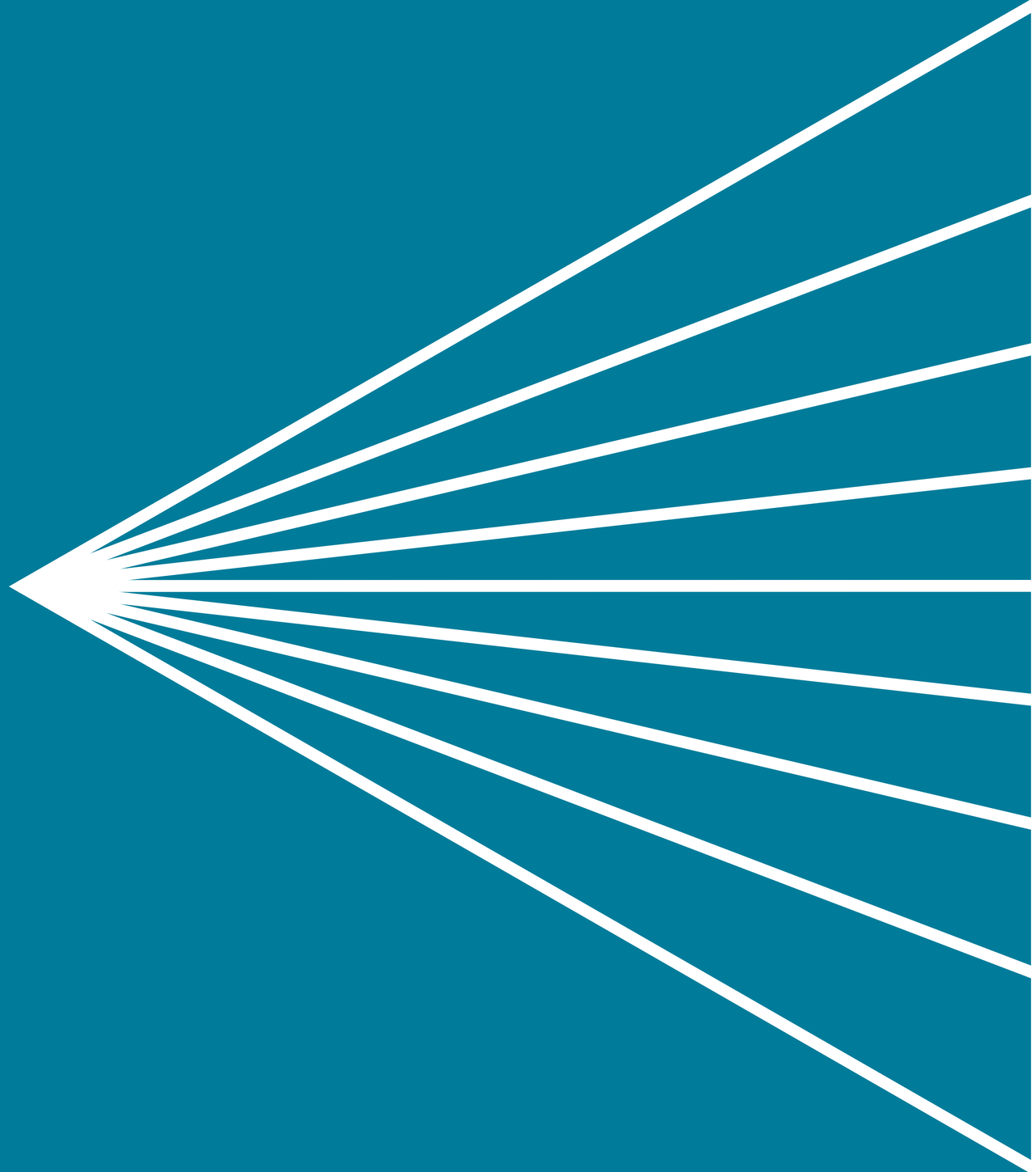
expand your toolbox



Introduction to creative coding

Nahuel Gerth,
London College of Contemporary Arts,
24.10.2023.

- hello :-)
- what is creative coding?
- early pioneers
- coding basics
- task

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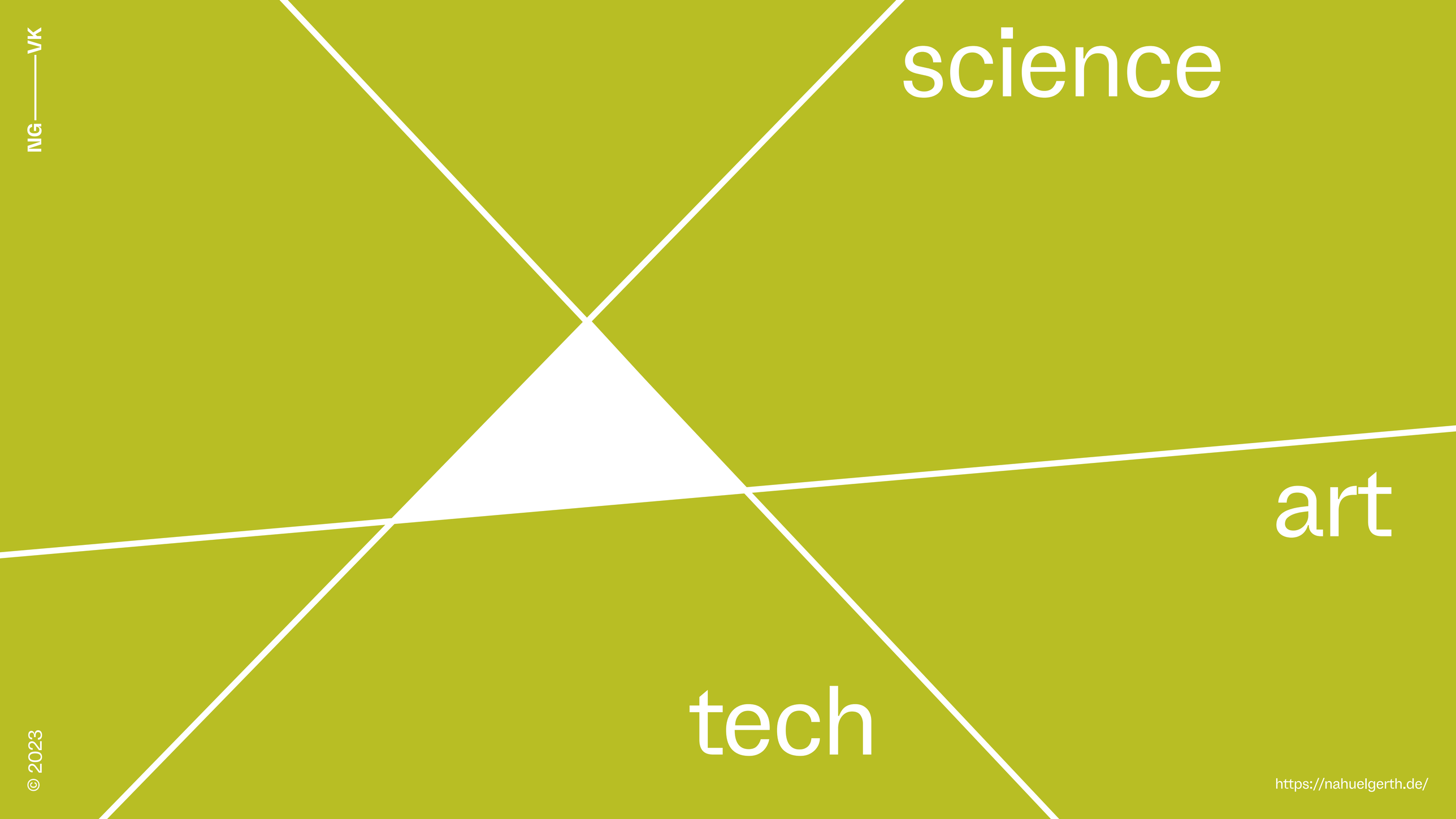
Prague
visual storytelling
design, code & web
science communication
creative coding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science
art
tech
© 2023
https://nahuelgerth.de/

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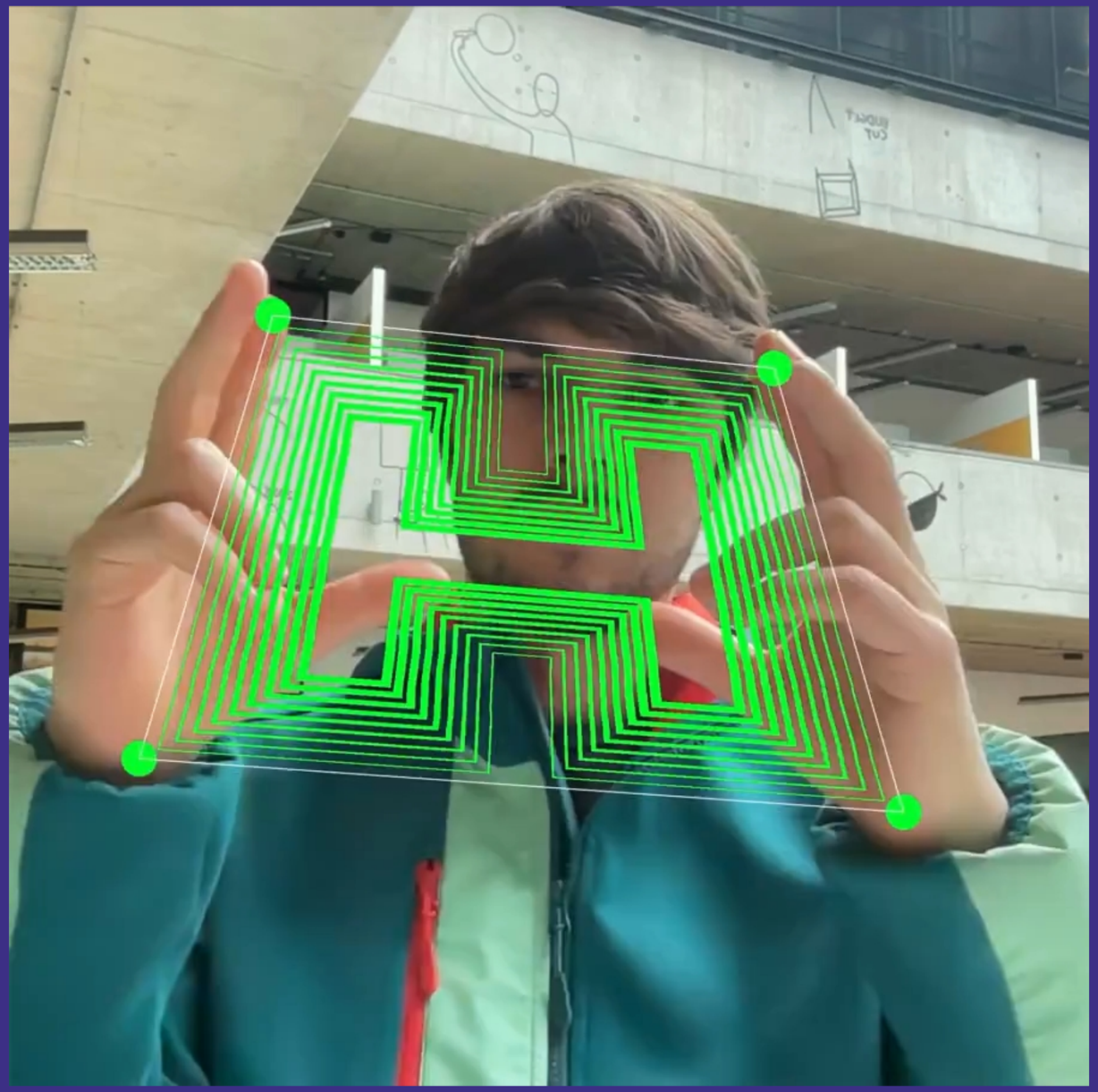
teach

explore

apply

NG——VK

Grids, type & embodied interaction



→ INPUT
body, webcam, photos, letters, drawings

→ OUTPUT
letters, typography, interactive applications, illustrations, icons

2023

https://nahuelgerth.de/lab

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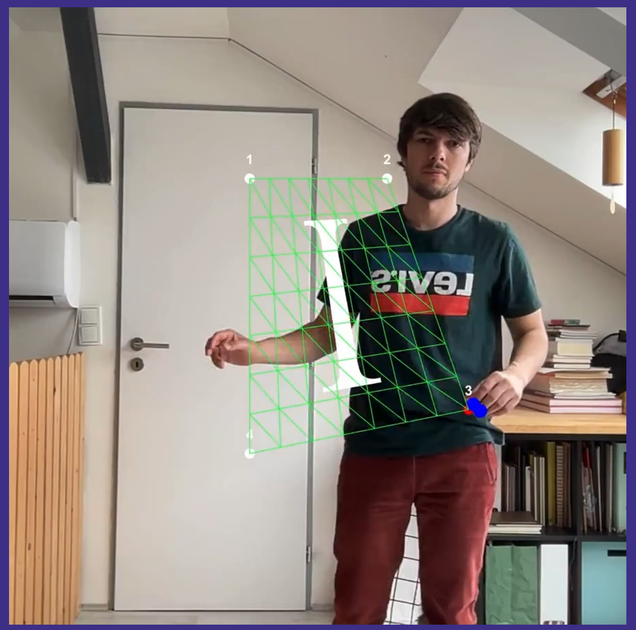

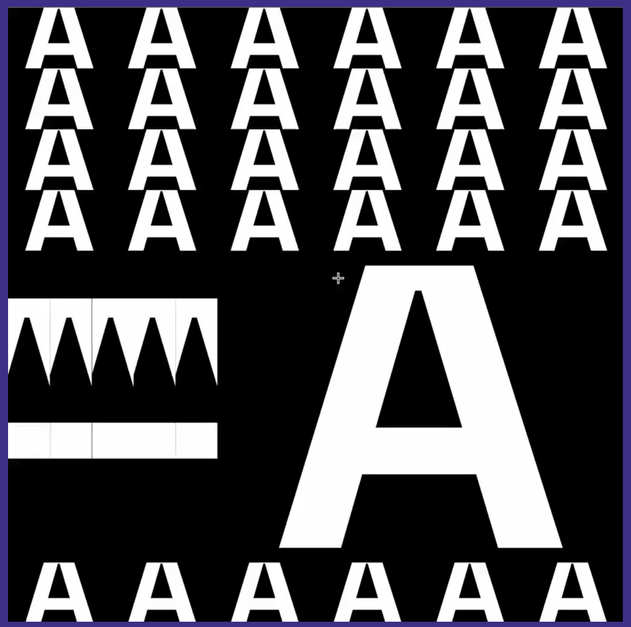

2023

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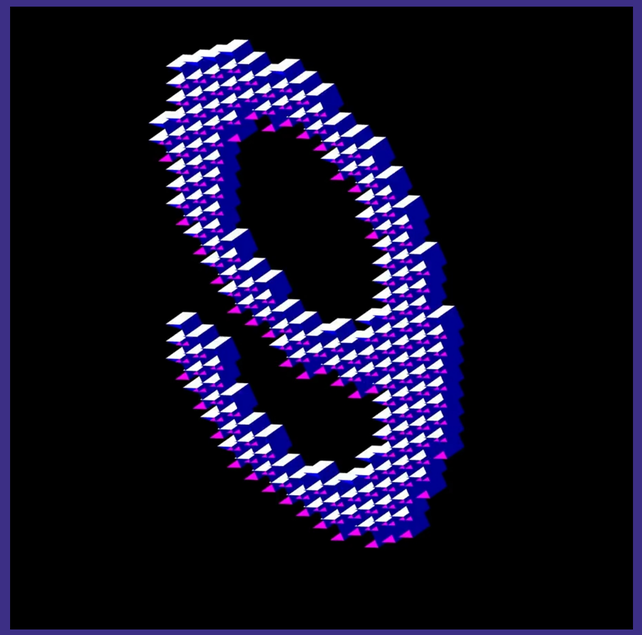

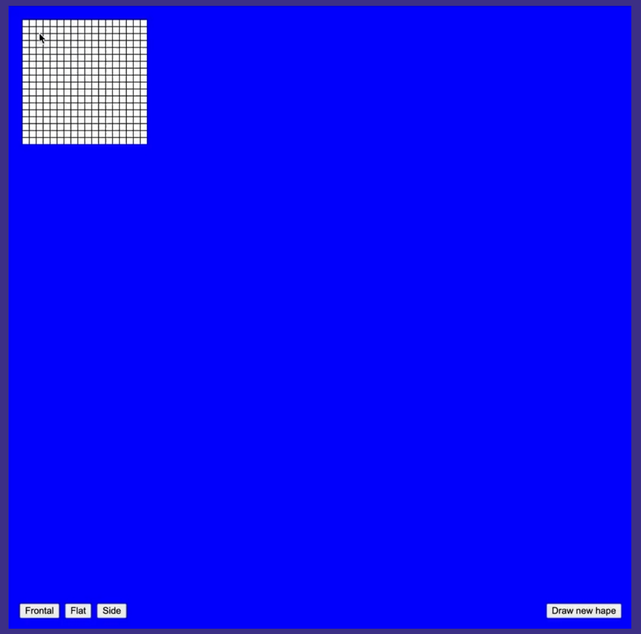

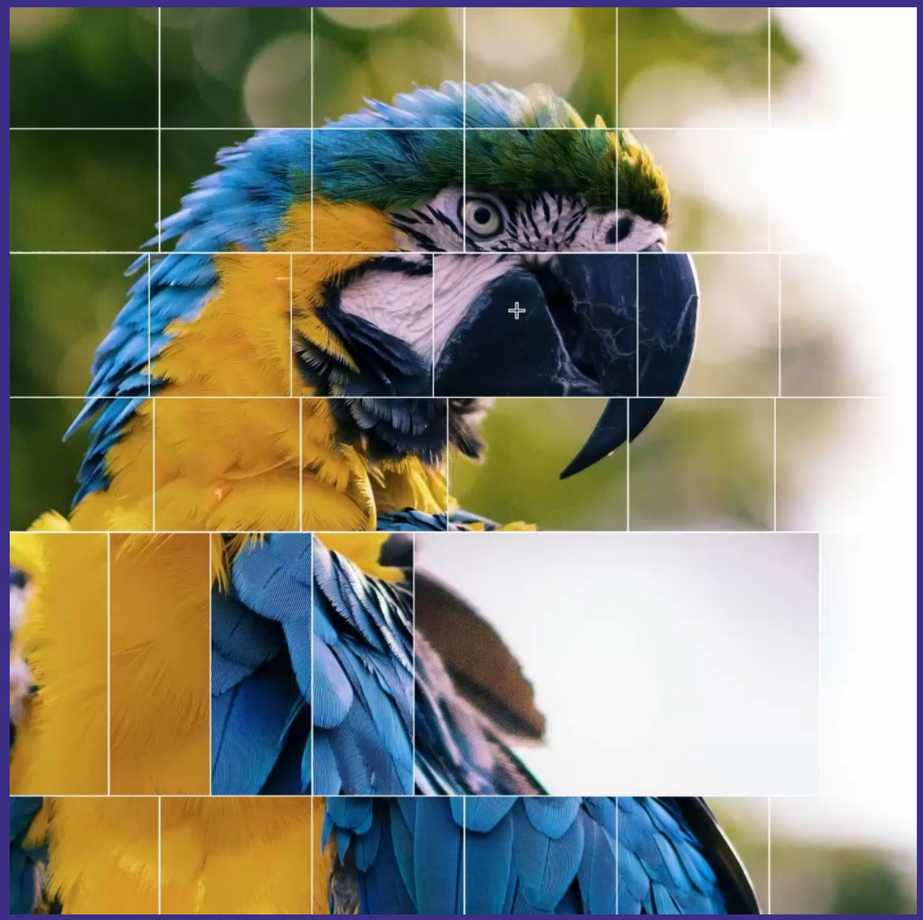

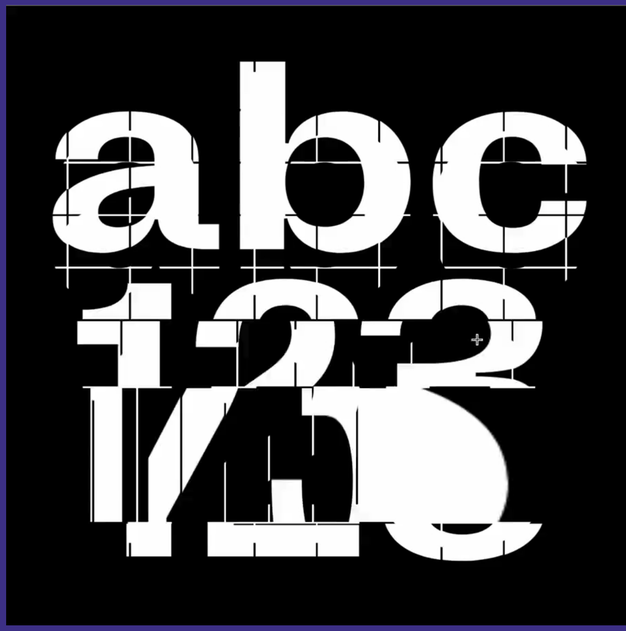

2023

https://nahuelgerth.de/lab/face-painter
https://nahuelgerth.de/lab/36-days-of-type
https://nahuelgerth.de/lab/organic-grids
https://nahuelgerth.de/lab/generating-albers
https://nahuelgerth.de/lab/typelabs

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What is creative coding?

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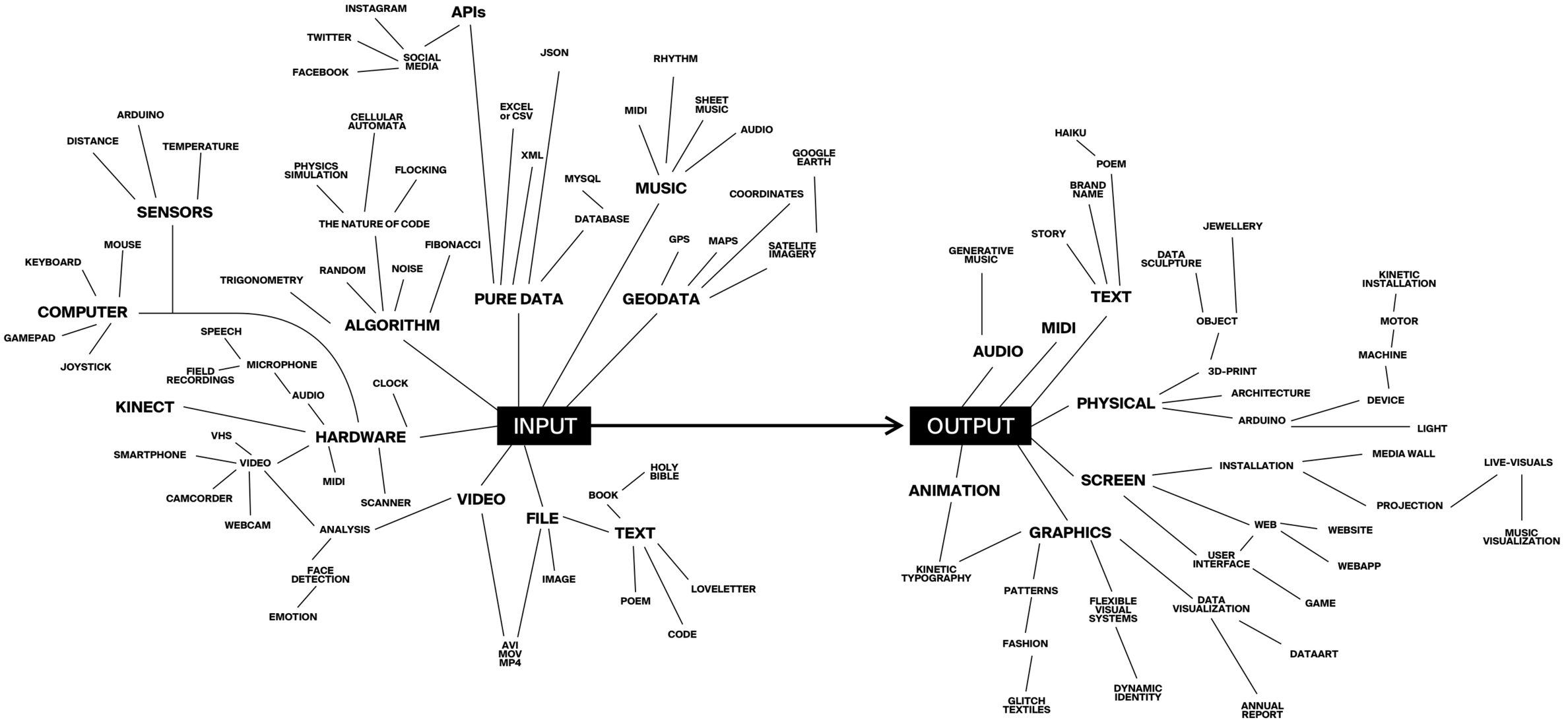

Patrik Hübner & Tim Rodenbröker
https://master.timrodenbroeker.de/definition.php

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A personal definition. Creative Coding is ...

→ an explorative method for playfully navigating and adapting to new technologies.

→ an experimental playground where code becomes both tool and artistic device.

→ an artistic journey with uncertain and unexpected outcome.

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Creative Coding applied in the wild

→ brands in motion
dynamic and animated visual identities.

→ design generators
flexible visual systems and asset generators.

→ interactive exhibitions
touch, move, feel —
your body as the input.

2023

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Brands in motion – squarespace

→ AGENCY
DIA Studio
dia.tv

→ INPUT
letters, logo, shapes

→ OUTPUT
branding , dynamic motion system, corporate visual language

https://dia.tv/project/squarespace/
https://dia.tv/project/squarespace-x-secret7s/

2023

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Brands in motion — North Sea Jazz

→ AGENCY
Studio Dumbar
studiodumbar.com

→ INPUT
letters

→ OUTPUT
branding , dynamic motion system, corporate visual language, posters

https://studiodumbar.com/work/north-sea-jazz

2023

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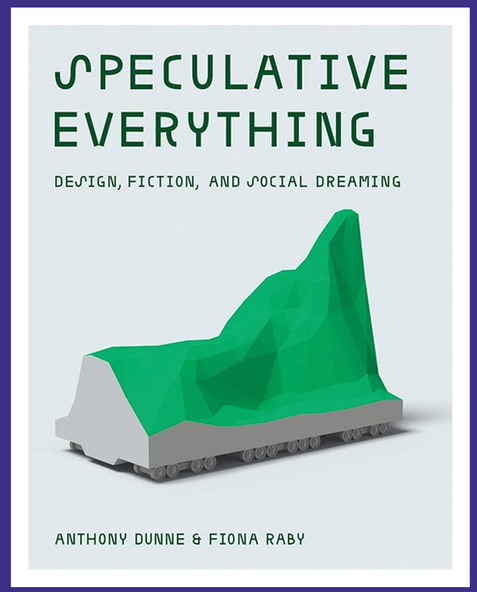
Design can give experts permission to let their imaginations flow freely

Dunne & F. Raby



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[a]

affirmative
problem solving
provides answers
design for production
design as solution
in the service of industry
fictional functions
for how the world is
change the world to suit us
science fiction
futures
the “real” real
narratives of production
applications
fun
innovation
concept design
consumer
makes us buy
ergonomics
user-friendliness
process

[b]

critical
problem finding
asks questions
design for debate
design as medium
in the service of society
functional fictions
for how the world could be
change us to suit the world
social fiction
parallel worlds
the “unreal” real
narratives of consumption
implications
humor
provocation
conceptual design
citizen
makes us think
rhetoric
ethics
authorship

A/B Manifesto was created by Anthony Dunne and Fiona Raby,
reprinted from *Speculative Everything: Design, Fiction, and Social Dreaming*,
reprinted courtesy of The MIT Press.

new now: critical, speculative and fictional

affirmative vs
speculative design
Dunne & F. Raby

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Early Pioneers

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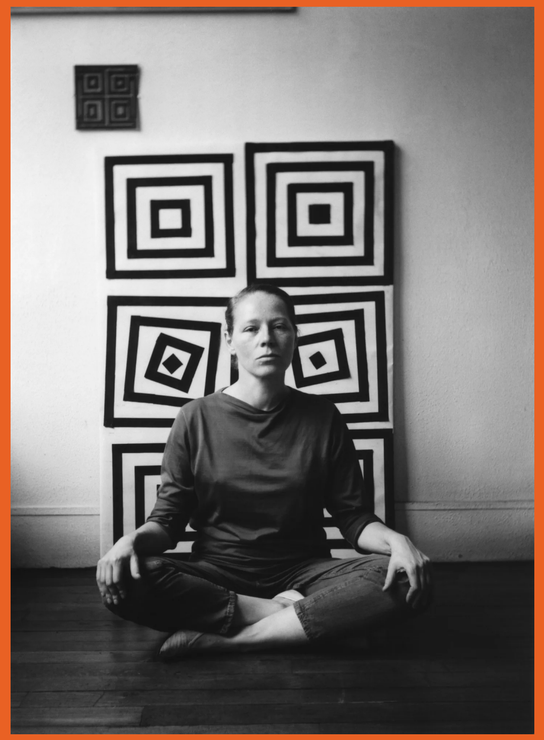
Vera Molnár

*1924



- → early pioneer of generative computer art
- → started analog, then began computing her artworks
- → geometric compositions based on simple rules with computed randomness

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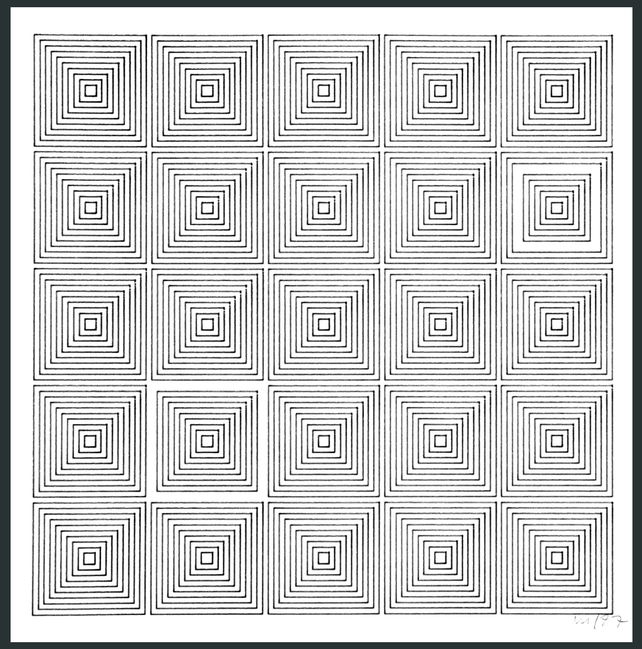

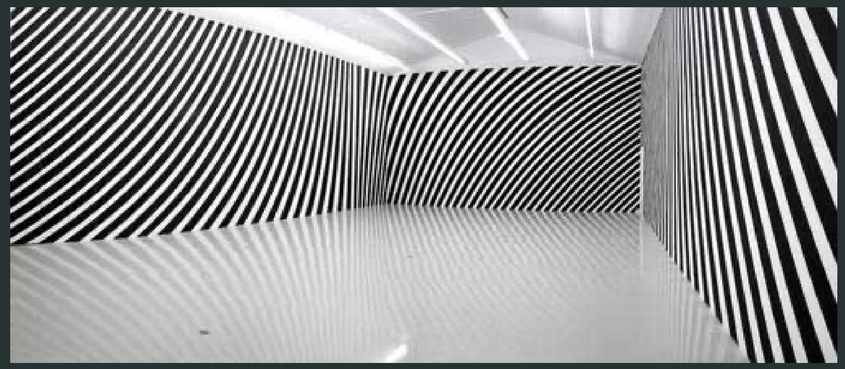

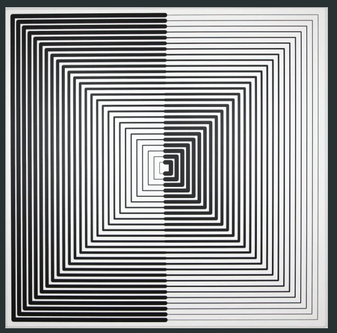

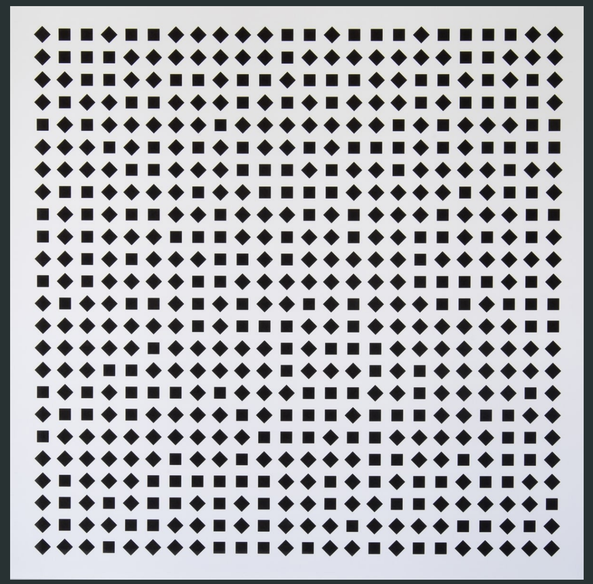

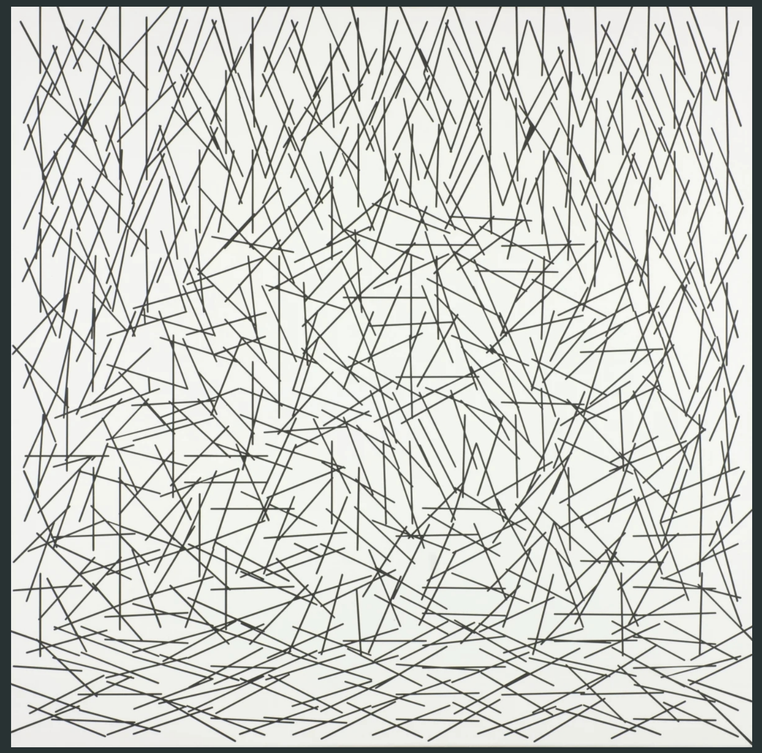

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Anton Stankowski

*1906–98

→ pioneer of functional abstract graphic design

→ analog geometric compositions based on grids and basic shapes

→ pictograms, corporate designs & logos

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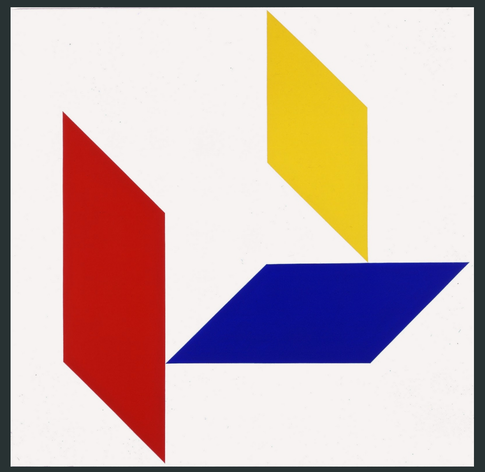
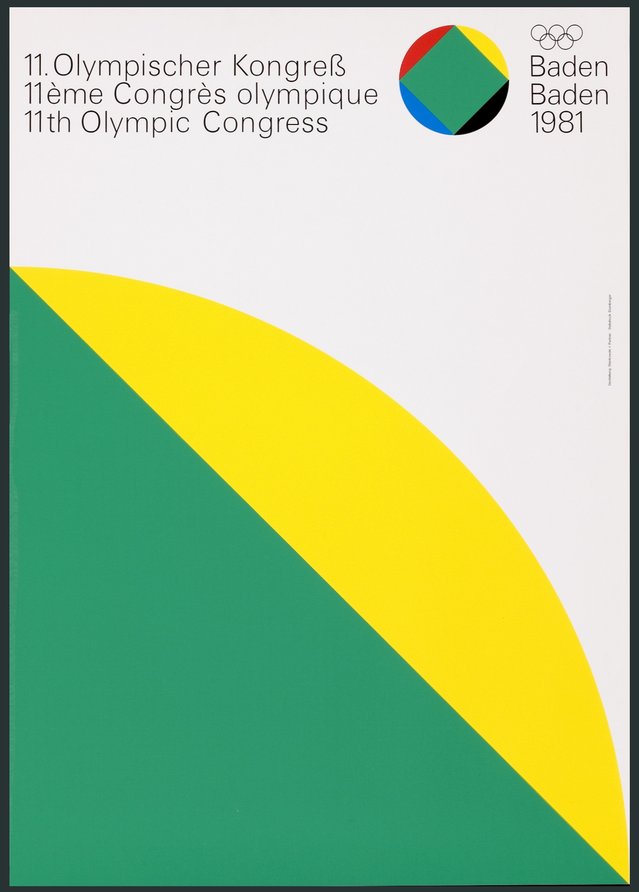
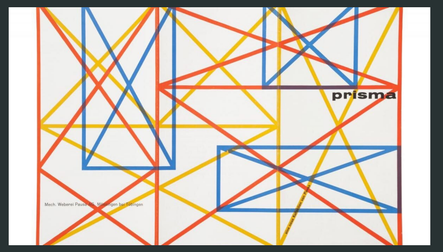
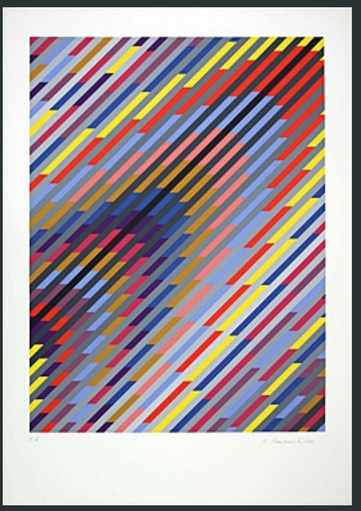
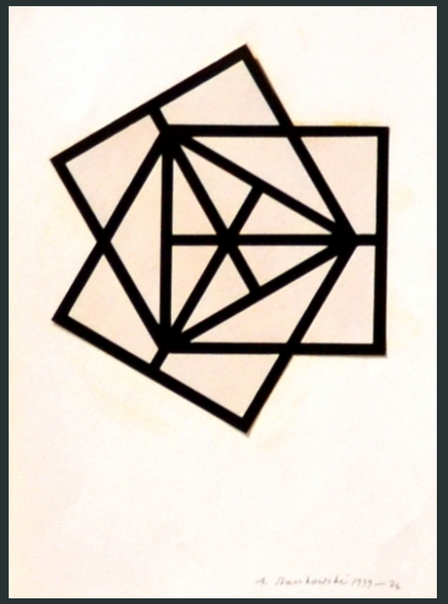
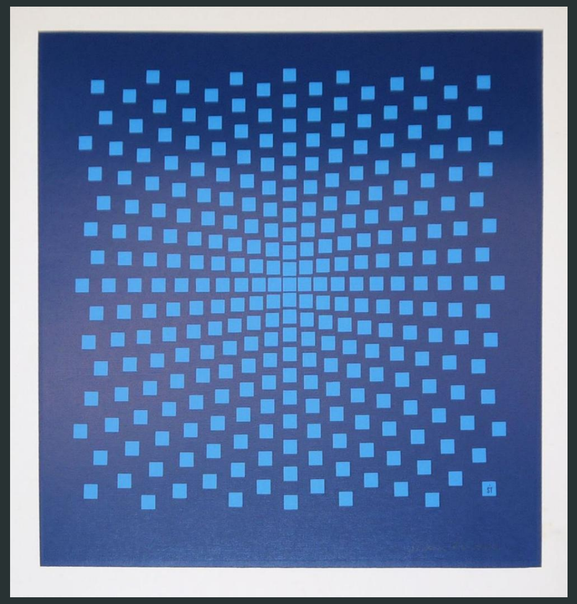


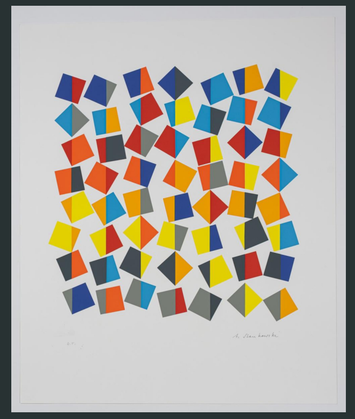

11. Olympischer Kongreß
11ème Congrès olympique
11th Olympic Congress
Baden
Baden
1981


prisma









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Coding basics

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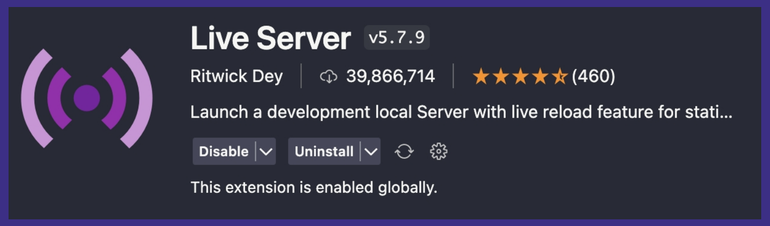
Install VS code

https://code.visualstudio.com/Download

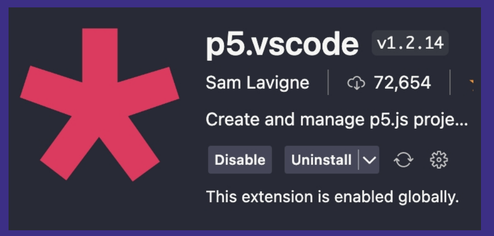
→ your first code editor

→ we need two extensions
view/extensions

→ Live Server (Ritwick Dey)



→ p5.vscode (Sam Lavigne)



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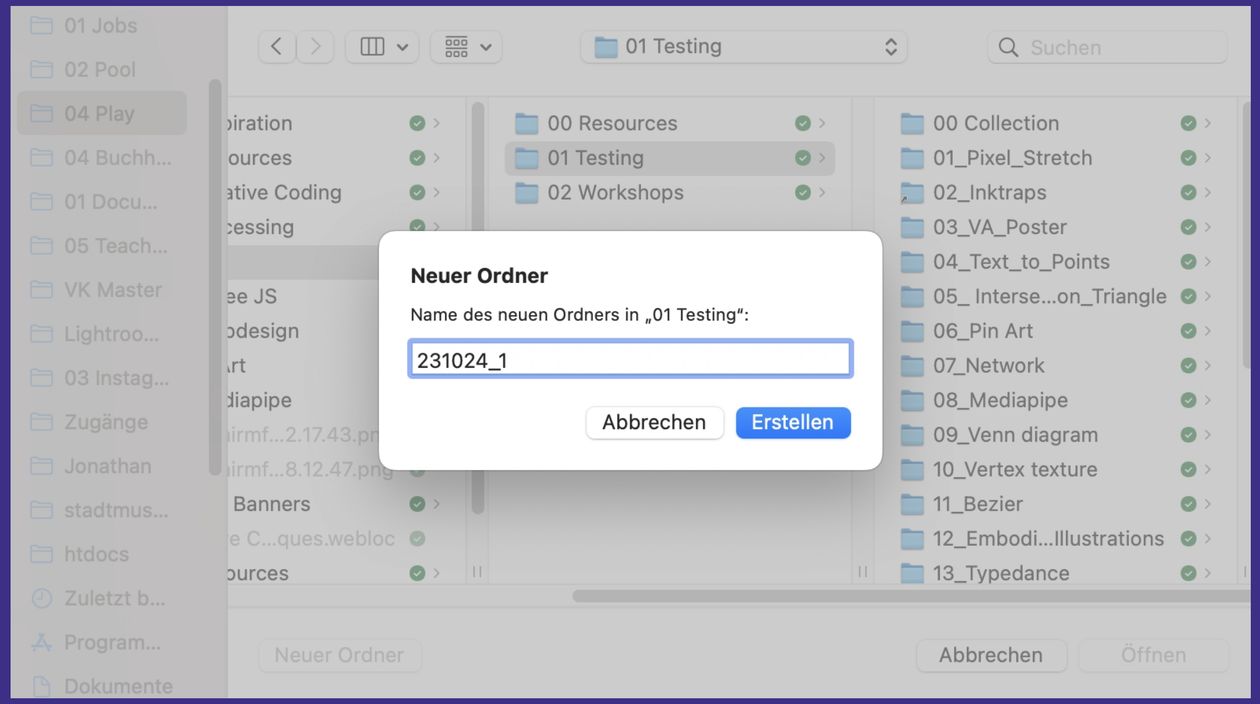
Create a new p5 project

→ cmd + shift + p (mac)
or view/command palette

→ type create p5.js project

→ create a new folder
and hit open



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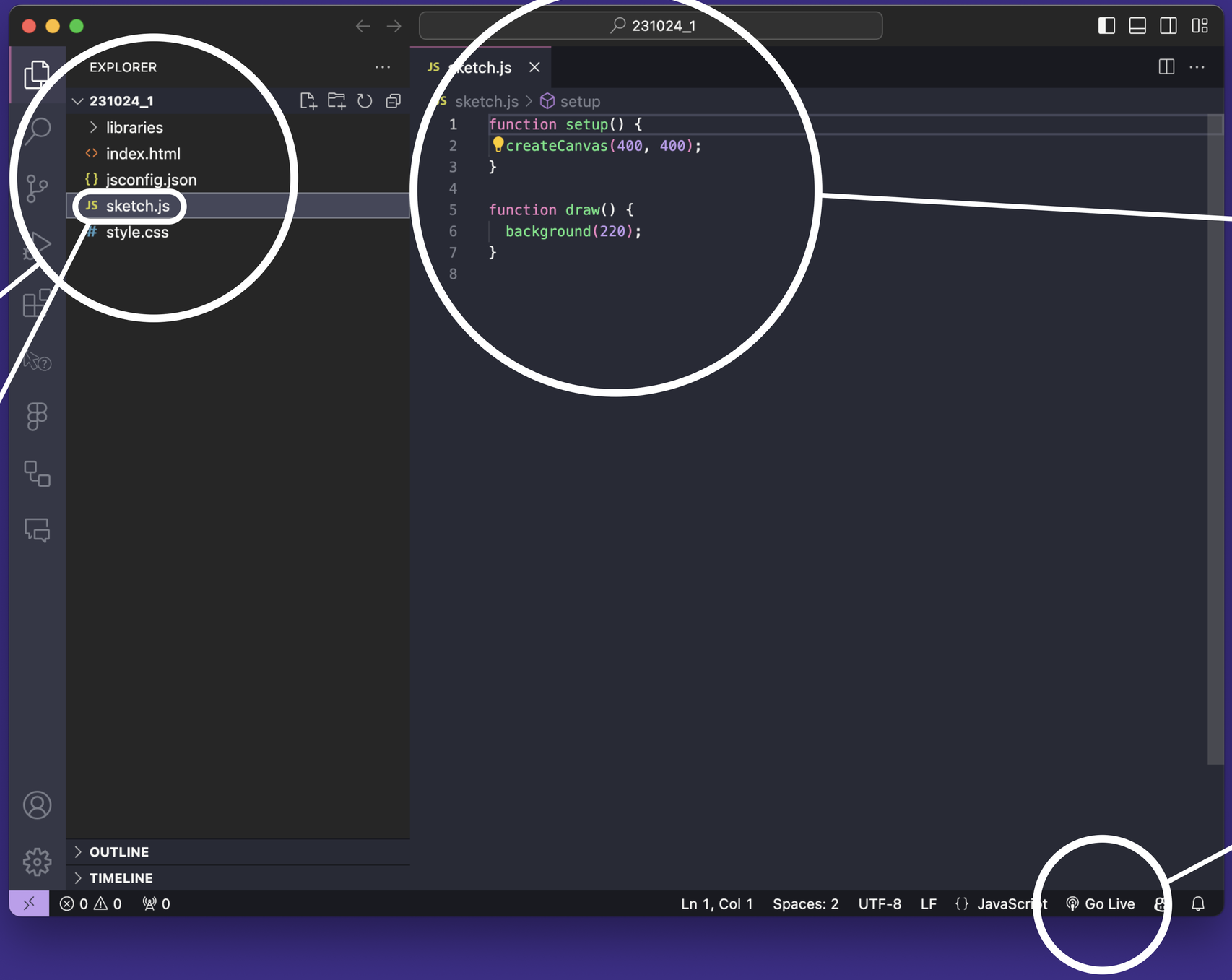


ignore for now

our working file

here goes our code

live preview in browser

Our starter template

```
function setup() {
  createCanvas(400, 400);
}

function draw() {
  background(220);

  // this is a comment
}
```

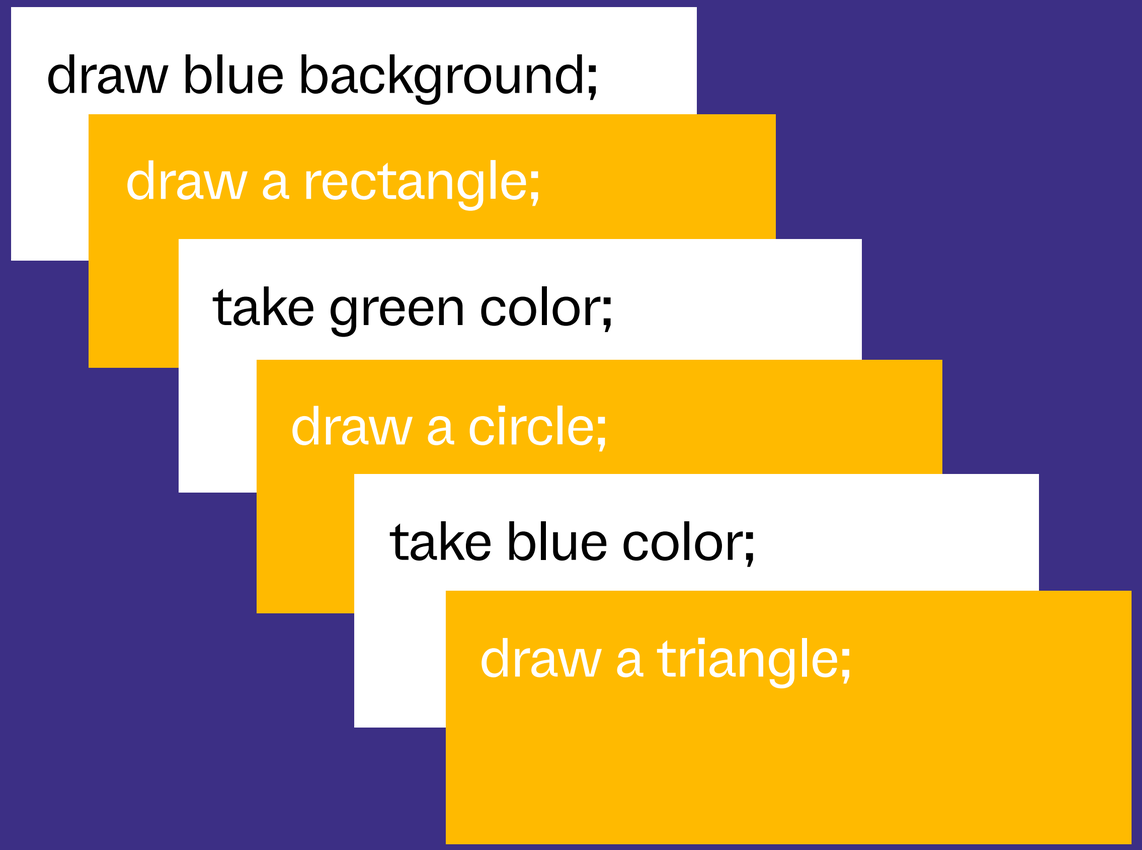
→ setup()
runs only once

→ draw()
loops continuously
(60 times per second)

→ createCanvas()
our window size
(width and height)

→ // comment
ignored by the program

Flow of the code



- → last line gets rendered on top (like the highest Photoshop layer)
- → we draw inside the draw() loop
- → always close your brackets! ( ) [ ] { }
- → separate functions with semicolons ;

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Structure your code with comments

```
// comments can be used to document and structure your code
// you can also use them to outline and sketch your code before you write it


// here starts our setup function, it only runs once!
function setup() {

  createCanvas(400, 400); // this defines the size of the canvas, width and height

}

// here starts our draw function, it runs 60 times per second!
function draw() {

  // this is our background color
  background(220);

  // here will be yellow sqare


  // here will be a blue triangle
}
```

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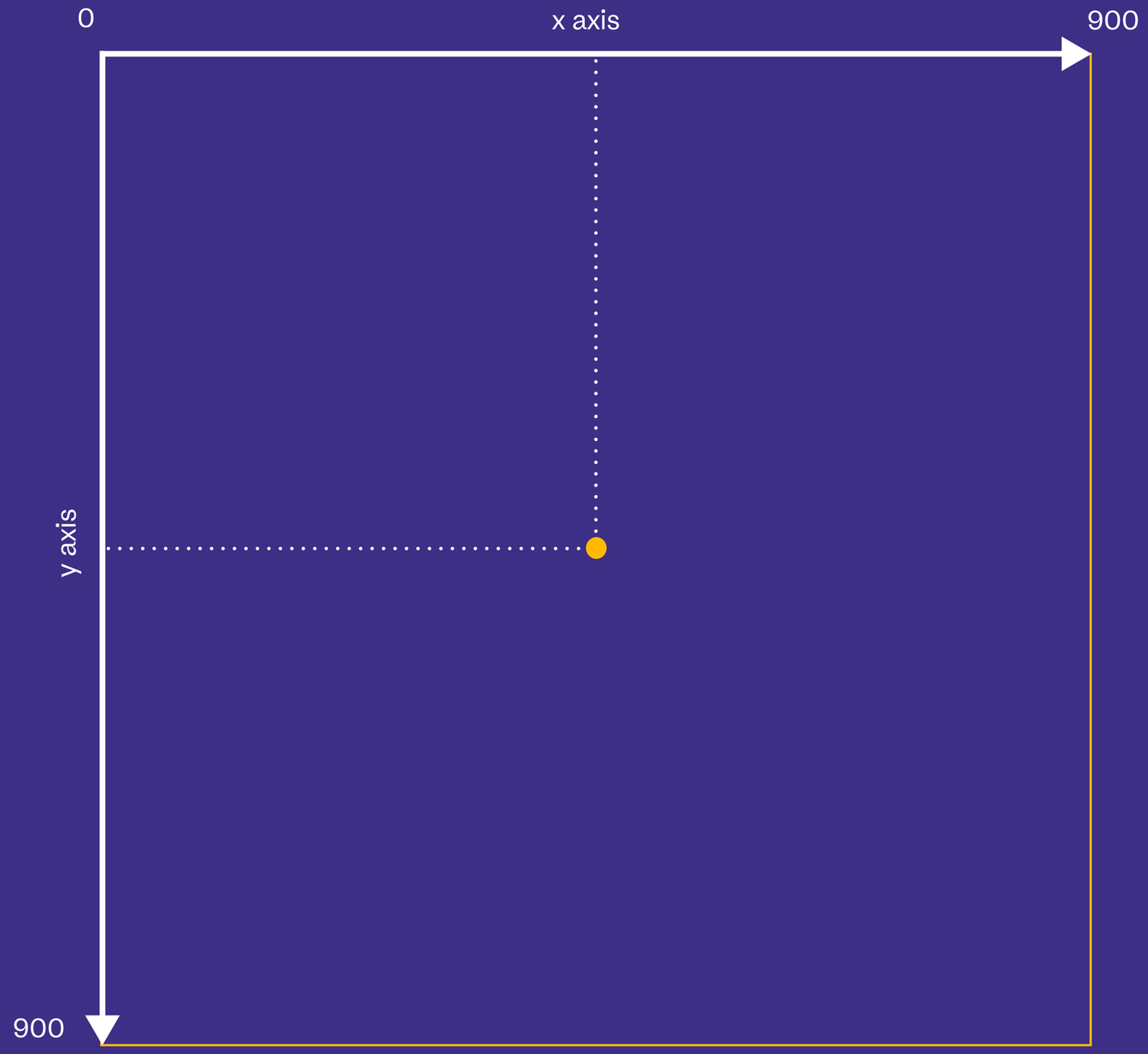
Coordinate system




```
point (450, 450);
point (width/2, height/2);
```

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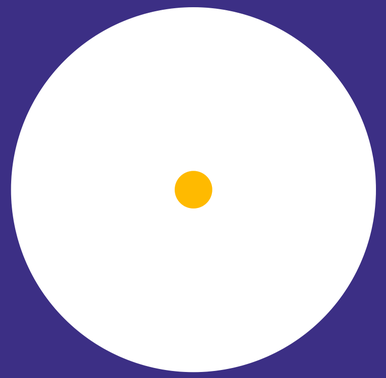
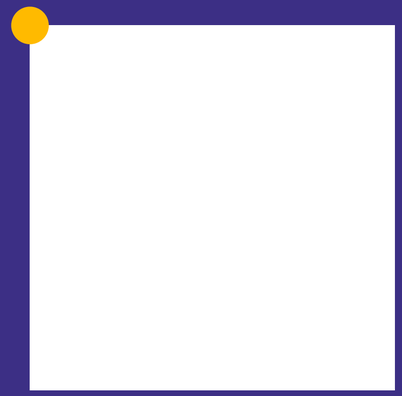
Basic geometric shapes





```
ellipse(x, y, w, h);
```

```
rect(x, y, w, h);
```

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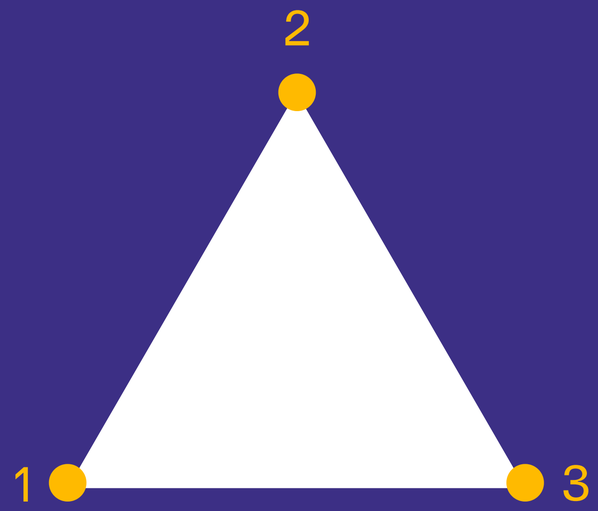
Basic geometric shapes



line(x1, y1, x2, y2);

triangle(x1, y1 ,x2, y2, x3, y3);

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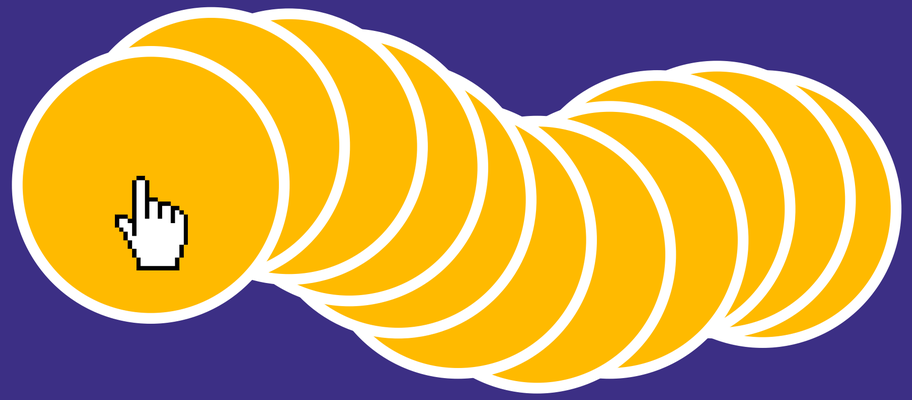
Colors & styling

hex color picker
https://g.co/kgs/9h4Esb

```
fill("#FFBA00");
noStroke();
```

```
stroke("#FFBA00");
strokeWeight(20);
noFill();
```

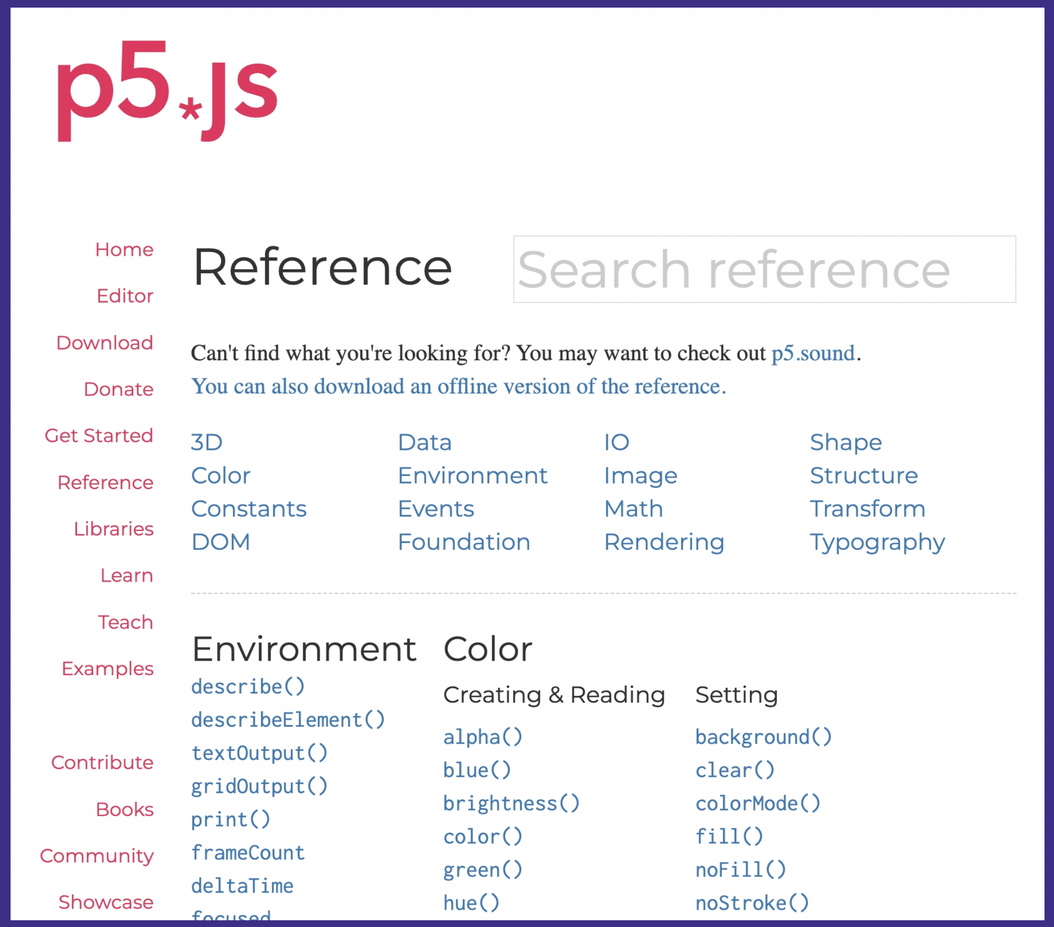
Interactivity



```
// background("black");
ellipse(mouseX, mouseY);
```

Reference

https://p5js.org/reference/



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Task

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Task

→ research Molnár and Stankowski, pick a few favorites

→ analyse simple rulesets that underly the composition & phrase them in words

→ build your own composition with geometric shapes (900x900px canvas)