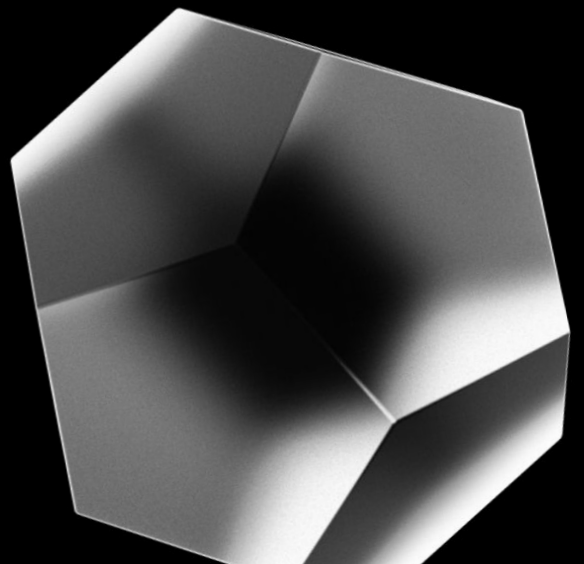
Generative Art

P5.js / *lab-1b*

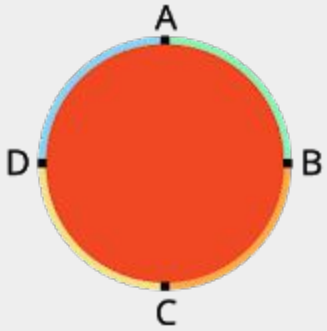

Show your concept!
Standup!

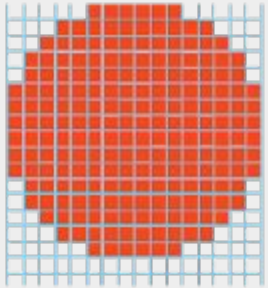
today

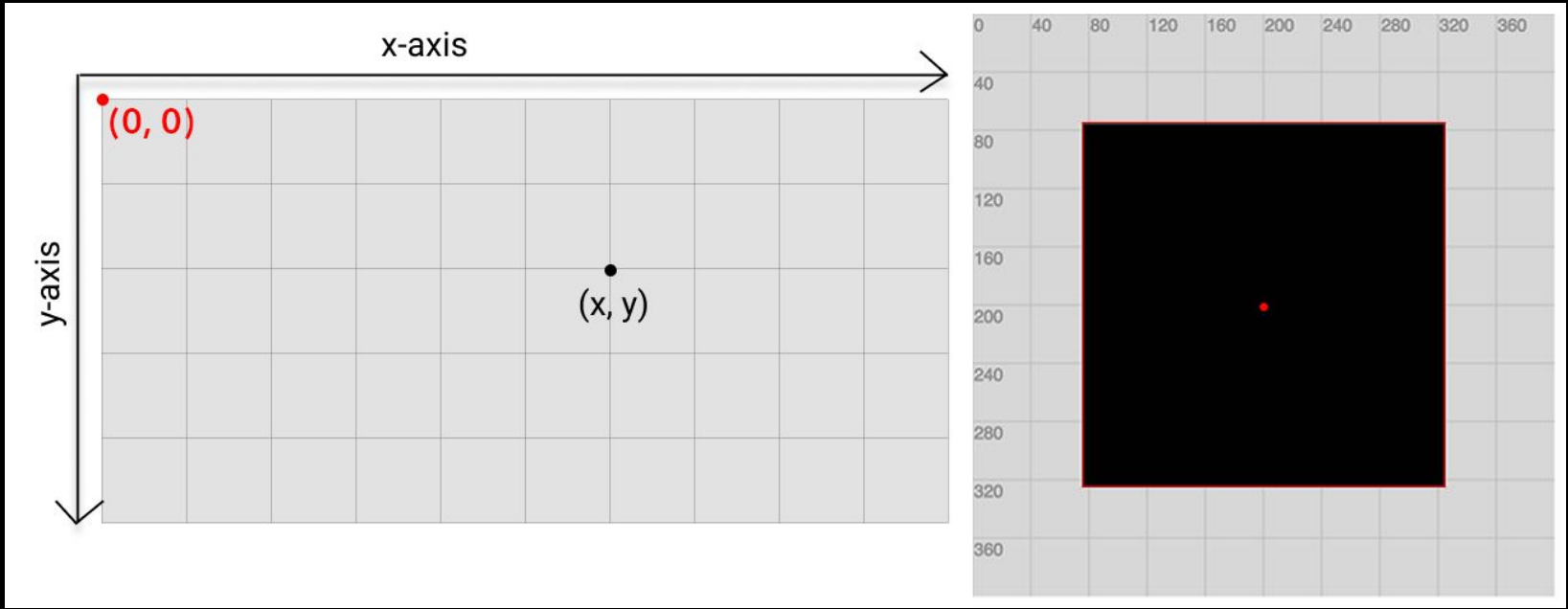
I. ~~Standup~~
II. Vectors
III. Programming Basics
IV. P5.js Basics



Vectors


A
D
B
C





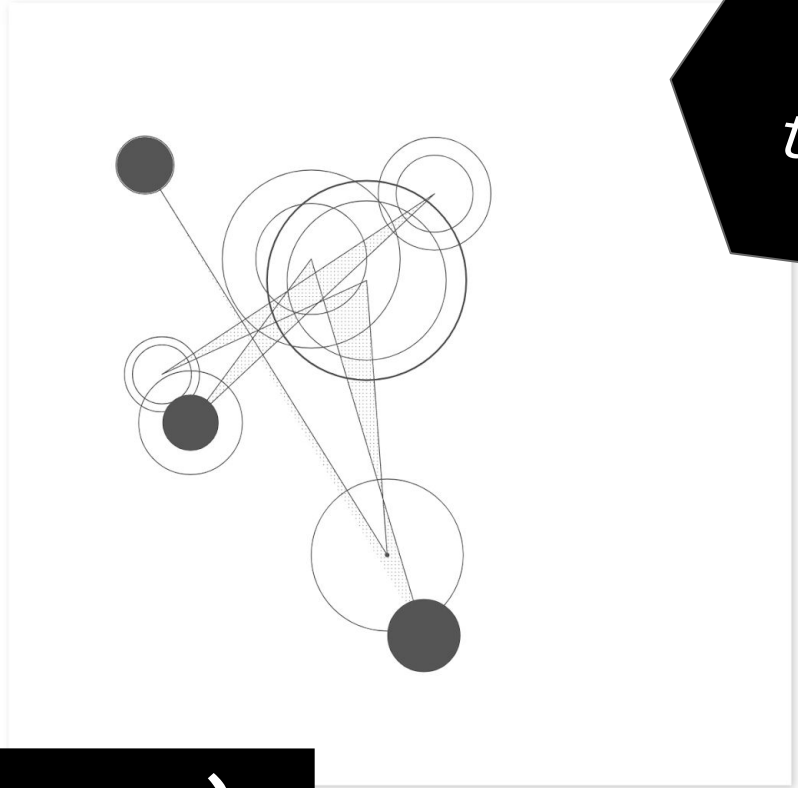
Cardinal **Rectmode**

Vectors

The great thing about vectors (and points) is that you can do **mathematical calculations** on them.

```
speed = speed + 100;
width = 0.3 * 10
```

Programming Basics



Focus *of this course*

Screen (browser)

HTML

CSS

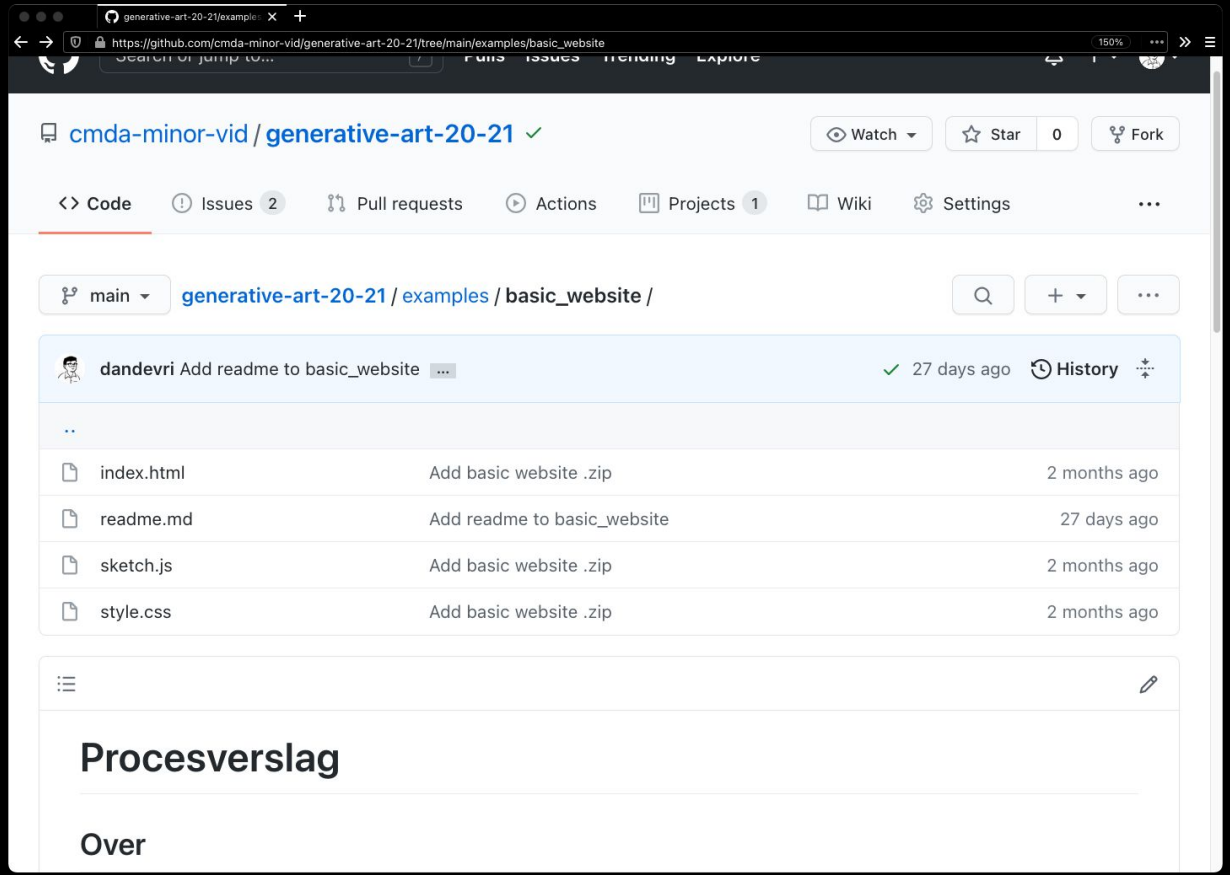
JS

~~HTML~~

~~CSS~~

JS

JavaScript


generative-art-20-21/examples
https://github.com/cmda-minor-vid/generative-art-20-21/tree/main/examples/basic_website
150%
cmda-minor-vid / generative-art-20-21
Watch
Star 0
Fork
Code
Issues 2
Pull requests
Actions
Projects 1
Wiki
Settings
main
generative-art-20-21 / examples / basic_website /
dandevri Add readme to basic_website
27 days ago
History
..
index.html Add basic website .zip 2 months ago
readme.md Add readme to basic_website 27 days ago
sketch.js Add basic website .zip 2 months ago
style.css Add basic website .zip 2 months ago
Procesverslag
Over

Programming

Instructions

JavaScript is the programming language for the browser.

You are providing instructions on what to appear on the screen. Instruct the computer a series of steps.

Variables

Functions

Operators

Conditionals

Loops

Data Types

Methods
(arguments &&
Parameters)

P5.js structure

Processing

?

Processing is a free graphical library and integrated development environment (IDE) built for the electronic arts.

In processing you create *‘sketches’ by writing functions.*

Processing

Processing

p5.js

p5.js is an open-source JavaScript library for creative coding. A **collection of pre-written code**, it provides us with tools that simplify the process of creating interactive visuals **with code in the web browser.**

Processing

Processing

p5.js

p5.js makes coding inclusive and accessible

What's cool about p5.js is if you *know very little*, you can get something on the screen pretty quickly.

Processing

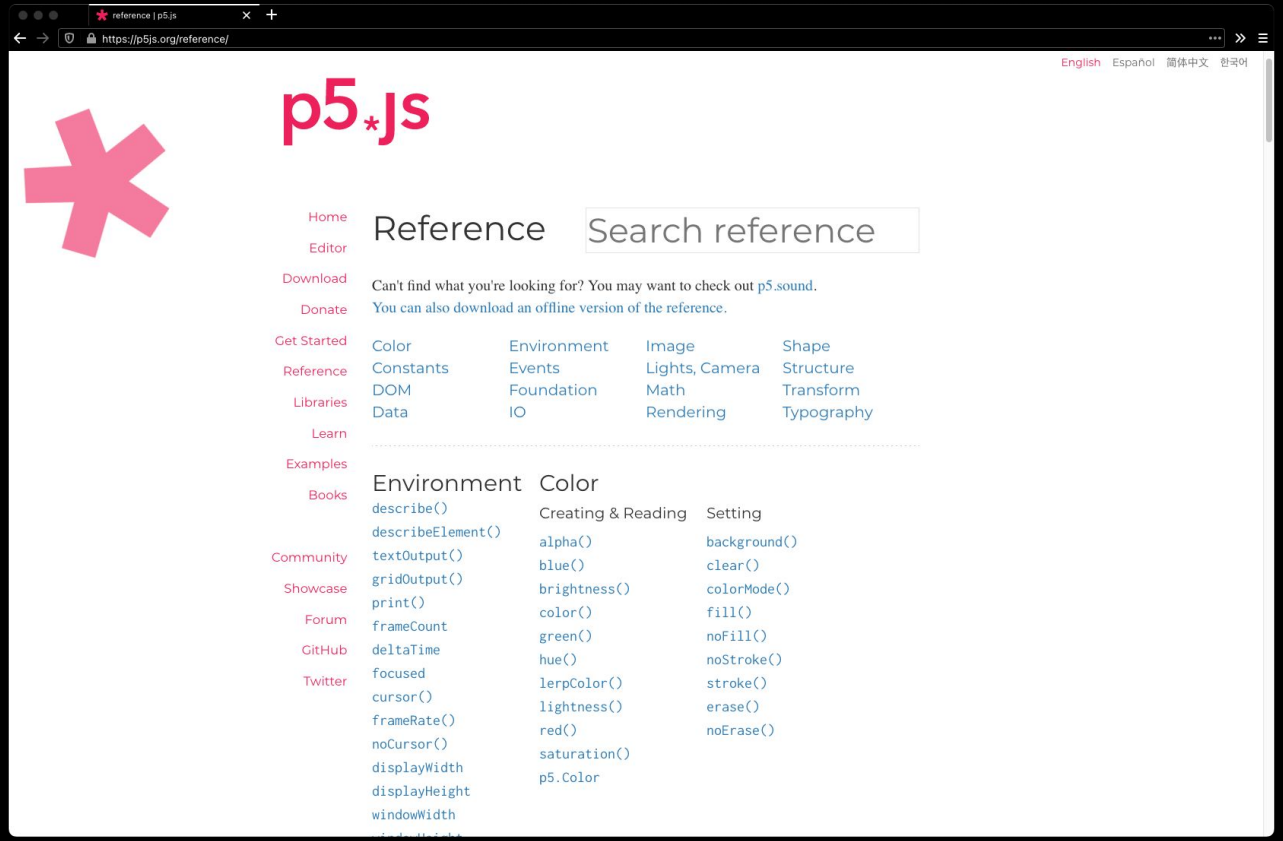
Processing

p5.js

p5.js has a full set of *drawing functionality.* But not limited to drawing. You can think of your whole browser page as your sketch […]

including HTML5 objects for text, input, video, webcam, and sound.

p5js.org


reference | p5.js
https://p5js.org/reference/
English Español 简体中文 한국어
p5.js
Home
Editor
Download
Donate
Get Started
Reference
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Learn
Examples
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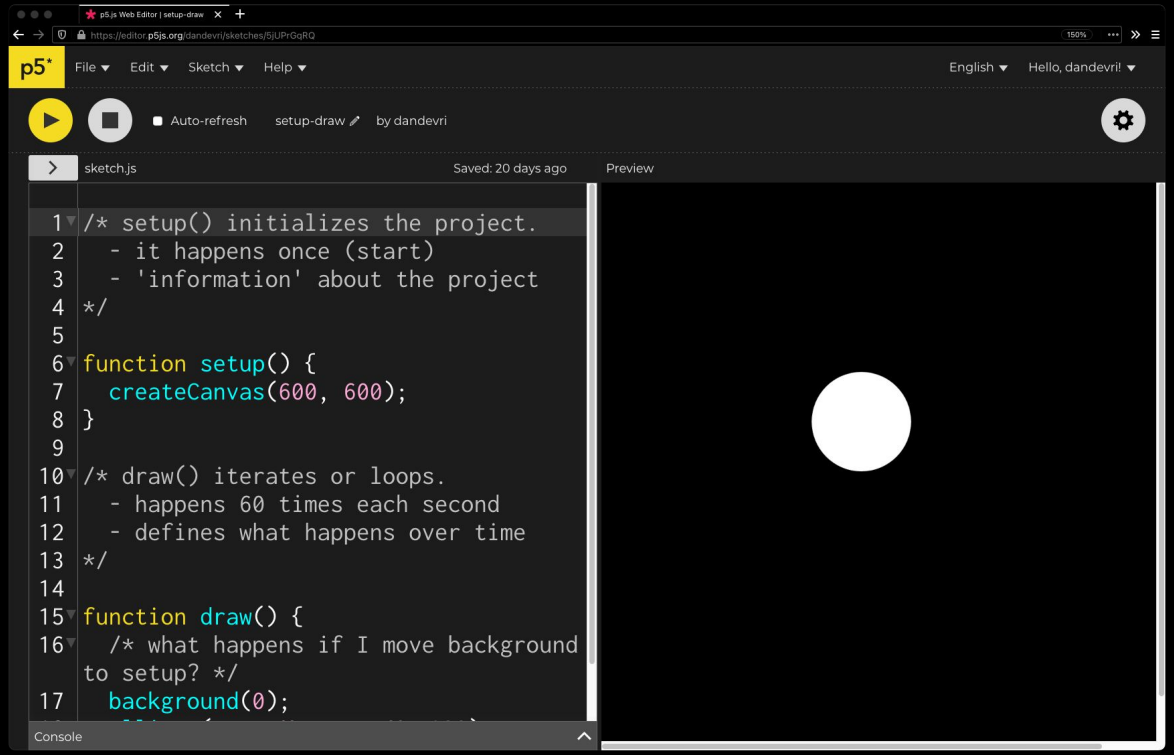
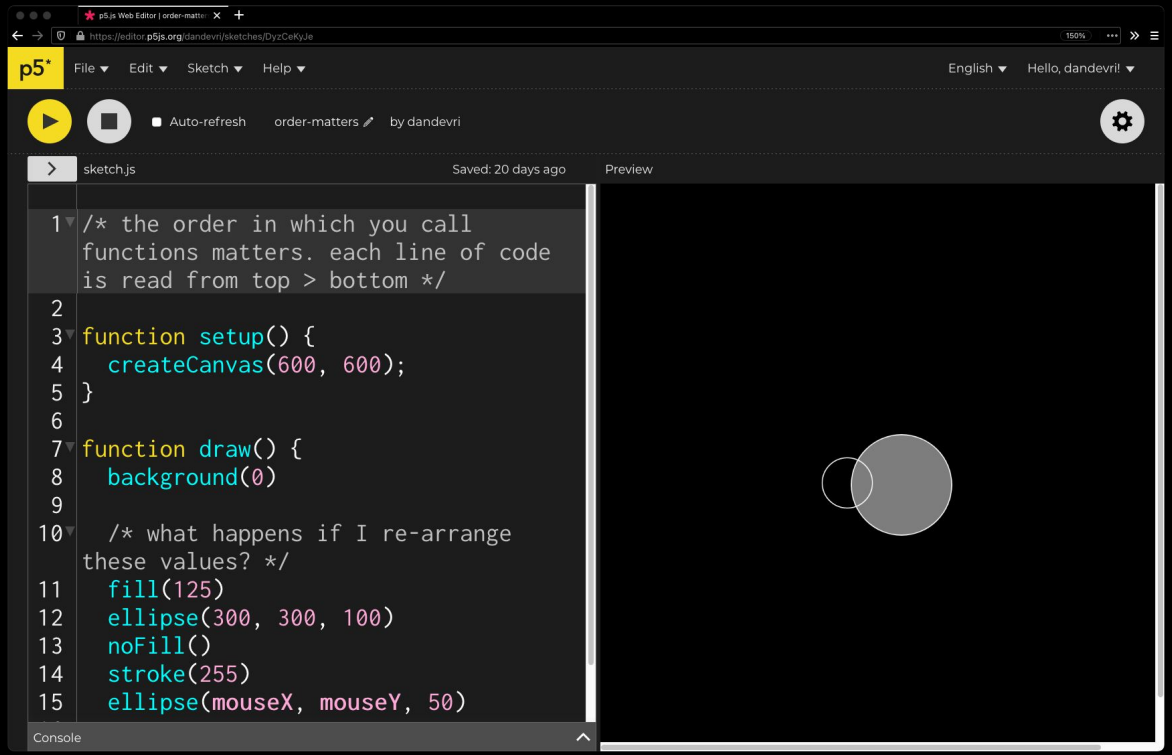
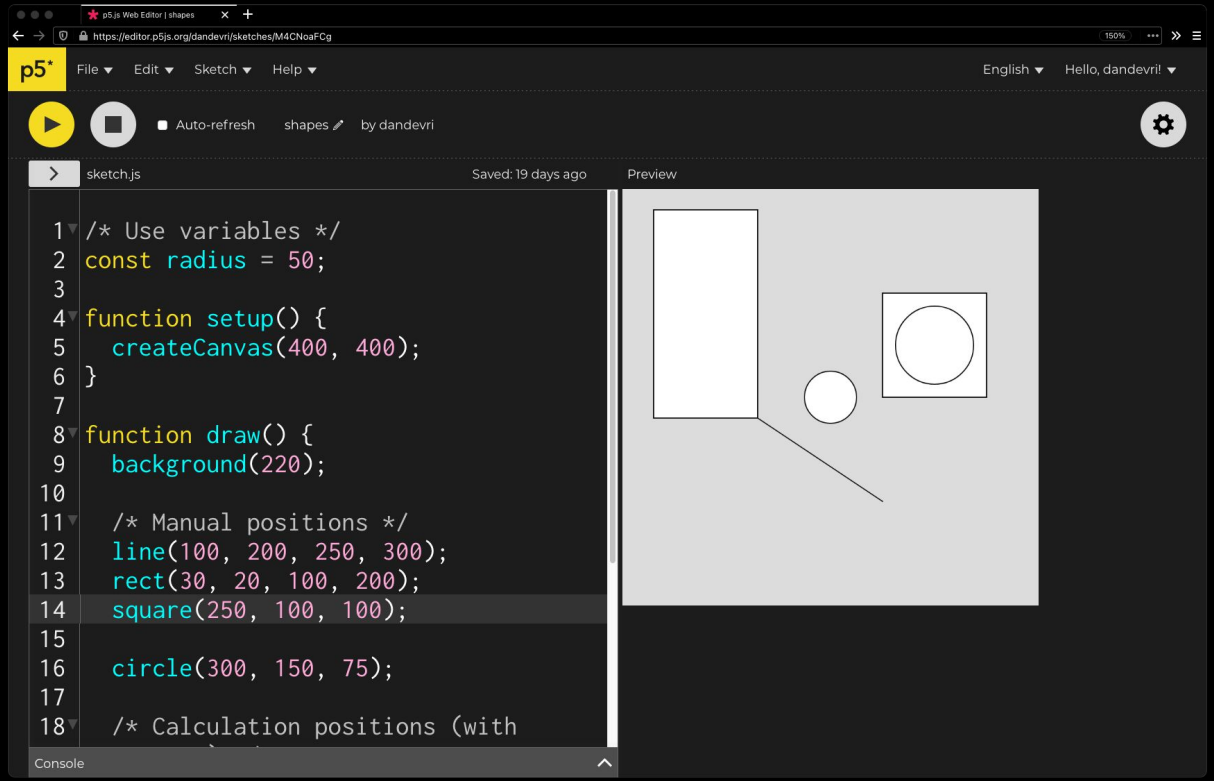
Search reference
Can't find what you're looking for? You may want to check out p5.sound.
You can also download an offline version of the reference.
Color
Constants
DOM
Data
Environment
Events
Foundation
IO
Image
Lights, Camera
Math
Rendering
Shape
Structure
Transform
Typography
Environment
describe()
describeElement()
textOutput()
gridOutput()
print()
frameCount
deltaTime
focused
cursor()
frameRate()
noCursor()
displayWidth
displayHeight
windowWidth
Color
Creating & Reading
alpha()
blue()
brightness()
color()
green()
hue()
lerpColor()
lightness()
red()
saturation()
p5.Color
Setting
background()
clear()
colorMode()
fill()
noFill()
noStroke()
stroke()
erase()
noErase()


p5.js Web Editor | setup-draw
https://editor.p5js.org/dandevri/sketches/5jUPrGqRQ
p5*
File
Edit
Sketch
Help
English
Hello, dandevri!
Auto-refresh
setup-draw
by dandevri
sketch.js
Saved: 20 days ago
Preview
1 /* setup() initializes the project.
2 - it happens once (start)
3 - 'information' about the project
4 */
5
6 function setup() {
7 createCanvas(600, 600);
8 }
9
10 /* draw() iterates or loops.
11 - happens 60 times each second
12 - defines what happens over time
13 */
14
15 function draw() {
16 /* what happens if I move background to setup? */
17 background(0);
Console

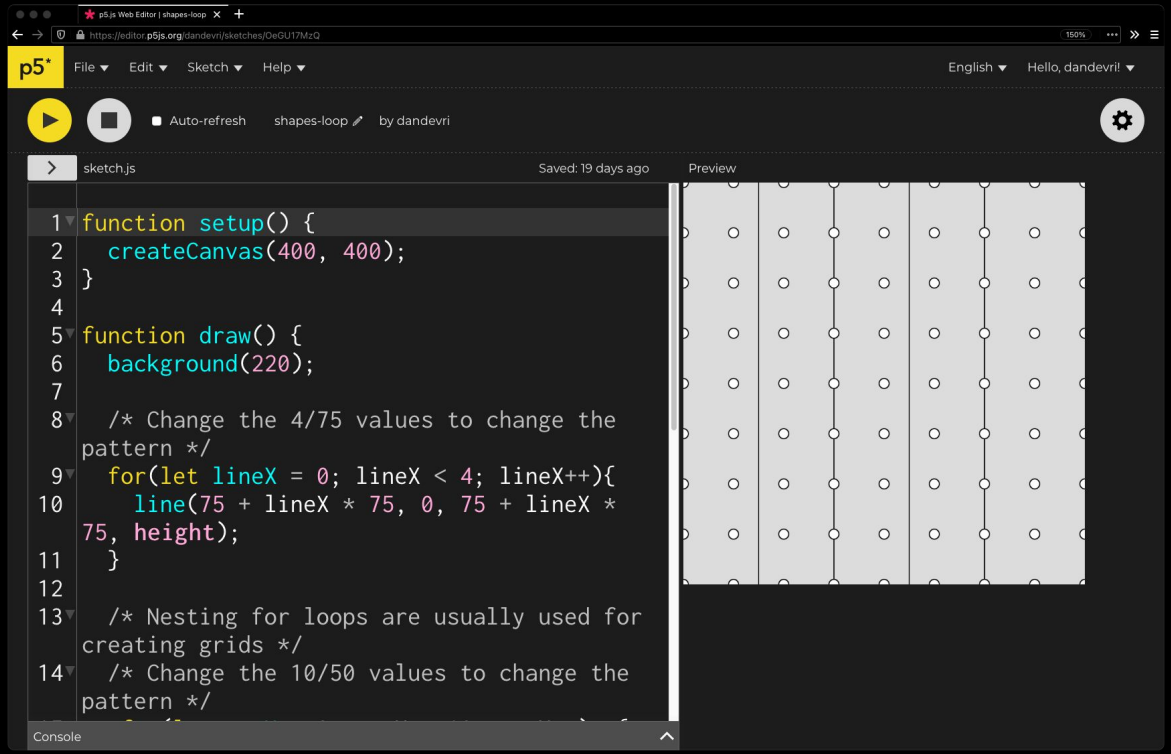
Set-up / Draw



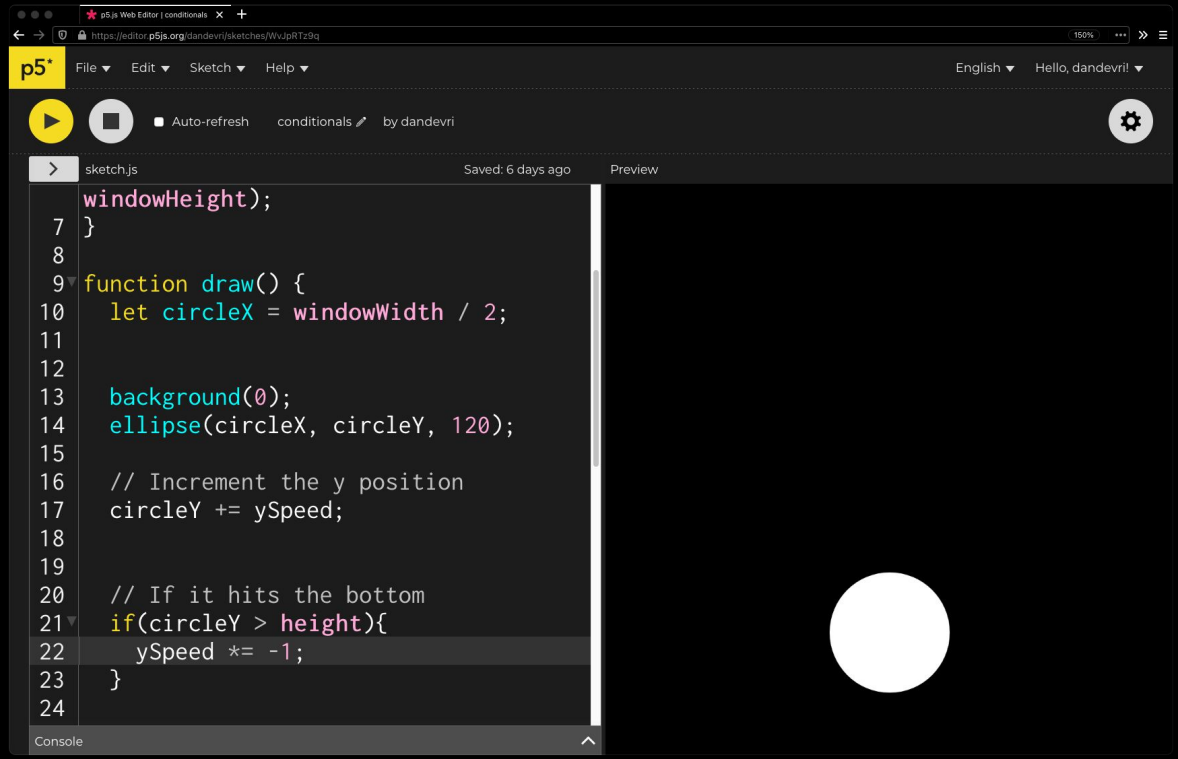
Order Matters


p5.js Web Editor | shapes
https://editor.p5js.org/dandevri/sketches/M4CNoaFCg
150%
p5*
File
Edit
Sketch
Help
English
Hello, dandevri!
Auto-refresh
shapes
by dandevri
sketch.js
Saved: 19 days ago
Preview
1 /* Use variables */
2 const radius = 50;
3
4 function setup() {
5 createCanvas(400, 400);
6 }
7
8 function draw() {
9 background(220);
10
11 /* Manual positions */
12 line(100, 200, 250, 300);
13 rect(30, 20, 100, 200);
14 square(250, 100, 100);
15
16 circle(300, 150, 75);
17
18 /* Calculation positions (with
Console

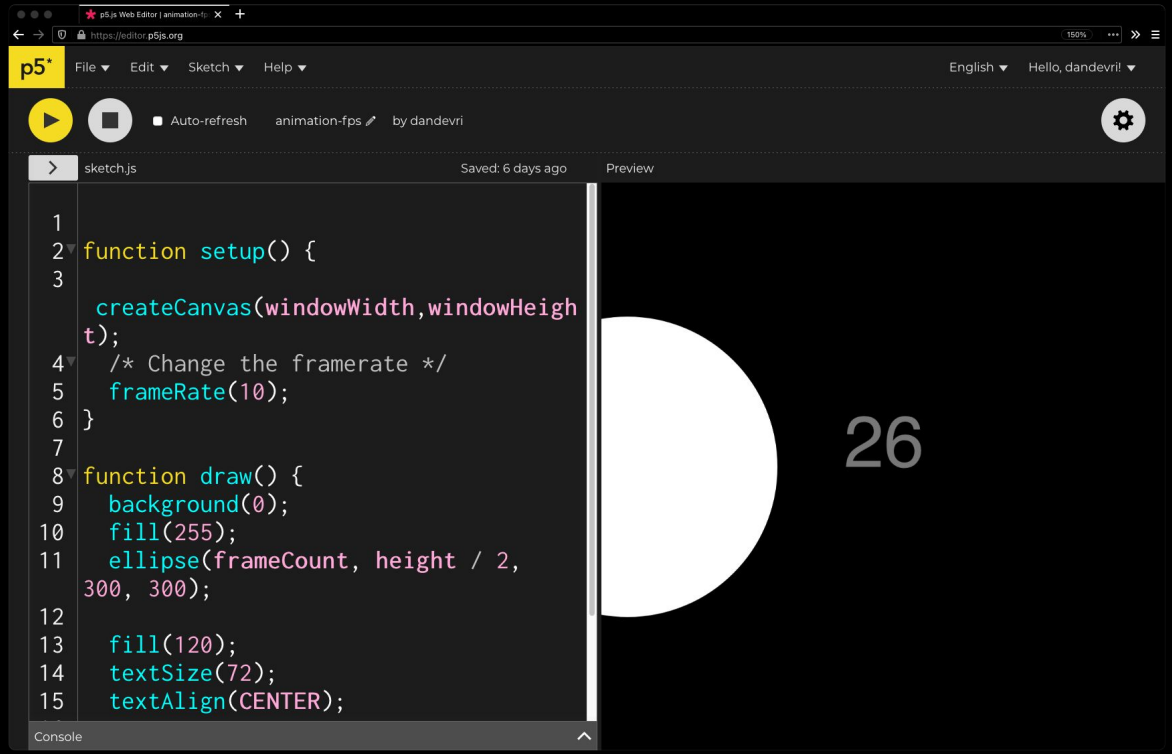
Shapes



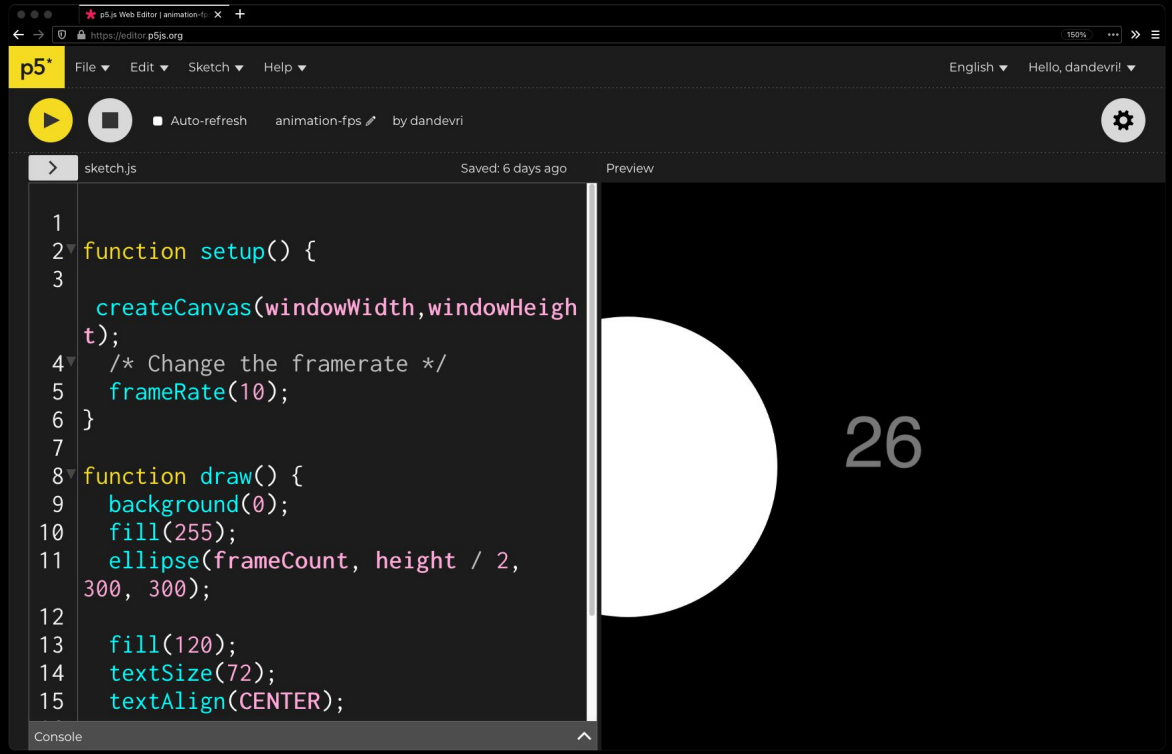
Shapes (loops)



Conditionals



Animation (incrementing)


p5.js Web Editor | animation-fps
https://editor.p5js.org
150%
p5*
File
Edit
Sketch
Help
English
Hello, dandevri!
Auto-refresh
animation-fps
by dandevri
sketch.js
Saved: 6 days ago
Preview
1
2 function setup() {
3
createCanvas(windowWidth,windowHeight);
4 /* Change the framerate */
5 frameRate(10);
6 }
7
8 function draw() {
9 background(0);
10 fill(255);
11 ellipse(frameCount, height / 2, 300, 300);
12
13 fill(120);
14 textSize(72);
15 textAlign(CENTER);
Console
26

Transforms

What to do?

Experiment with P5.js and start creating your concept!

exit;

see you in *lab-2a*