Instr. Ceren Kayalar Spring 2023-2024

# VCD436 - Introduction to Programming for Designers

## Lecture 1 - Hello Processing

İZMİR UNIVERSITY OF ECONOMICS

# Lecturer

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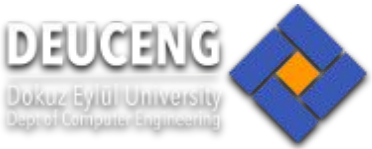
*Adjunct Instructor* Ceren Kayalar e-mail **cerenk@gmail.com**

Interaction Design / Human - Computer Interaction / Computational Media

Teaching portfolio https://www.behance.net/cerenkayalar/moodboards

Academic Education 2000 - 2015



Instructor 2016 - ...

Why did you take this class?

What are your questions?

Join at menti.com | use code 5620 4955

# Computing without a computer

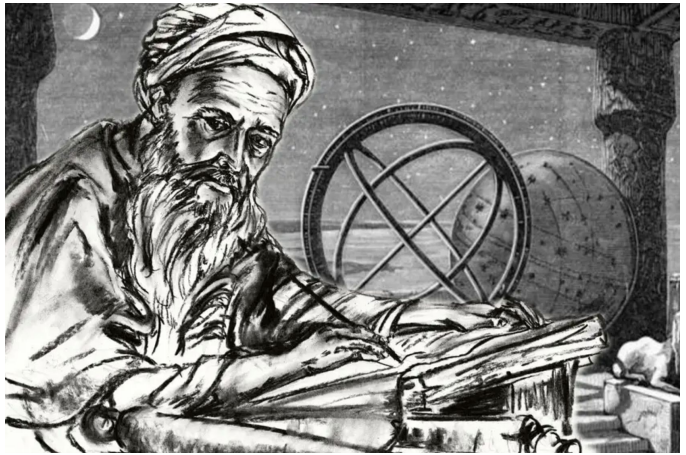
## Algorithms

## Exercise: Brushing my teeth

The word “algorithm” is derived from the Latinization of the Persian polymath Al-Khwarizmi’s name, which means a procedure or a technique. He produced critical works in mathematics, astronomy and geography

An algorithm is a sequence of steps to solve a particular problem or algorithm is an ordered set of **unambiguous steps** that produces a result and terminates in a **finite time**.

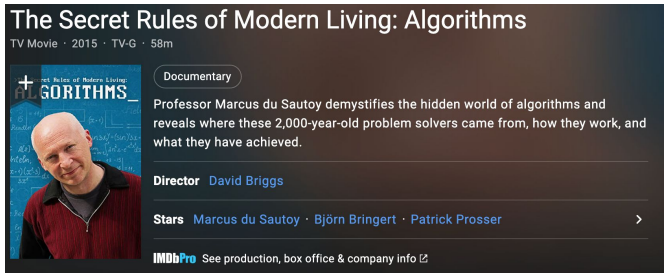
**tl;dr** a set of instructions



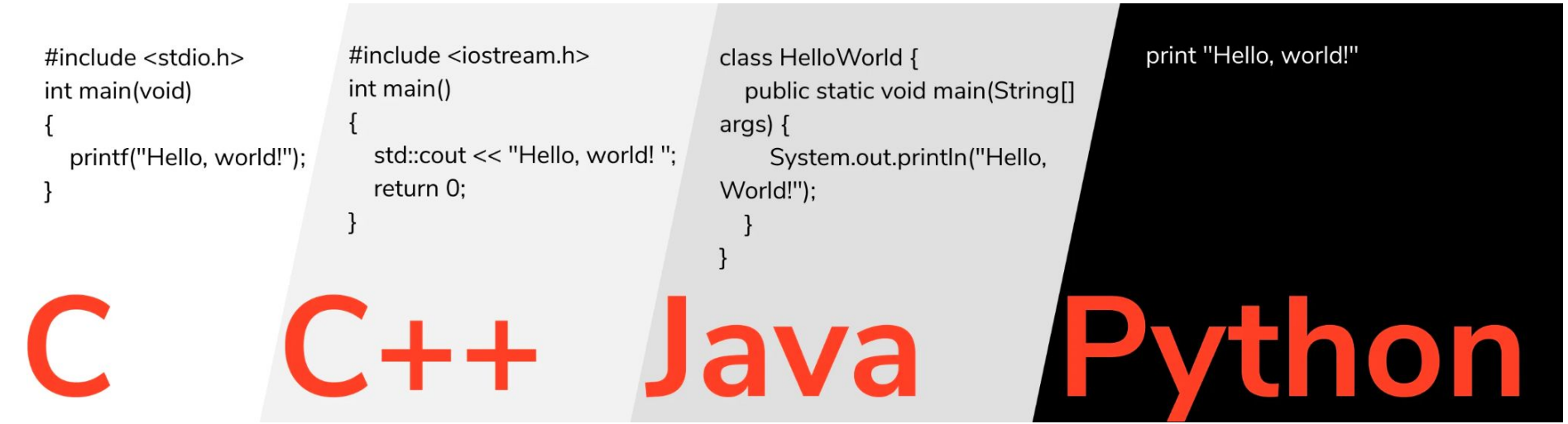
Al-Khwarizmi, *Father of Algebra*, early 9th Century

**Documentaries to Watch**

Al-Khwarizmi: The Father of Algebra @AlJazeera



## **Hello World** in different programming languages:

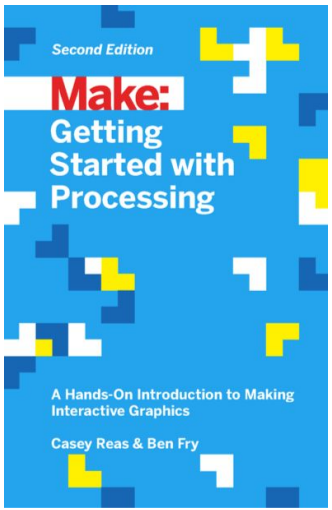


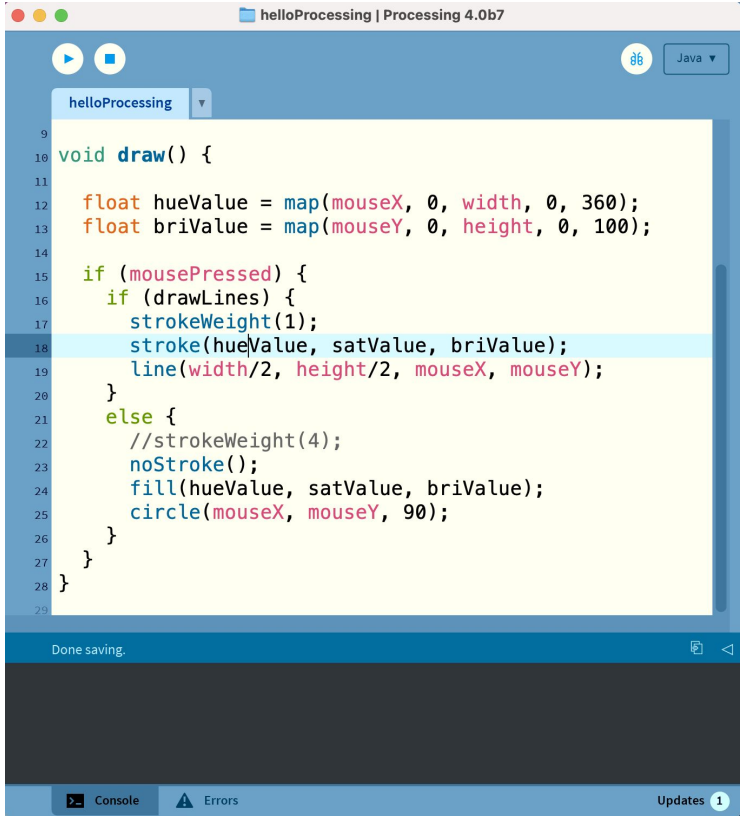

https://www.faceprep.in/python/hello-world-in-python/

... what about Processing?

# Processing

https://processing.org





# The Syllabus

“Creative coders” are artists, designers, architects, musicians and poets who use computer programming and custom software as their chosen media. Processing, p5.js, Tracery, Max/MSP/Jitter, Arduino, Cinder, openFrameworks and Unity. Many of these are free and open-source, democratizing software development.

Golan Levin and Tega Brain, Code as Creative Medium (2021)

ITP Winter Show 2016

Can you explain that word you said?

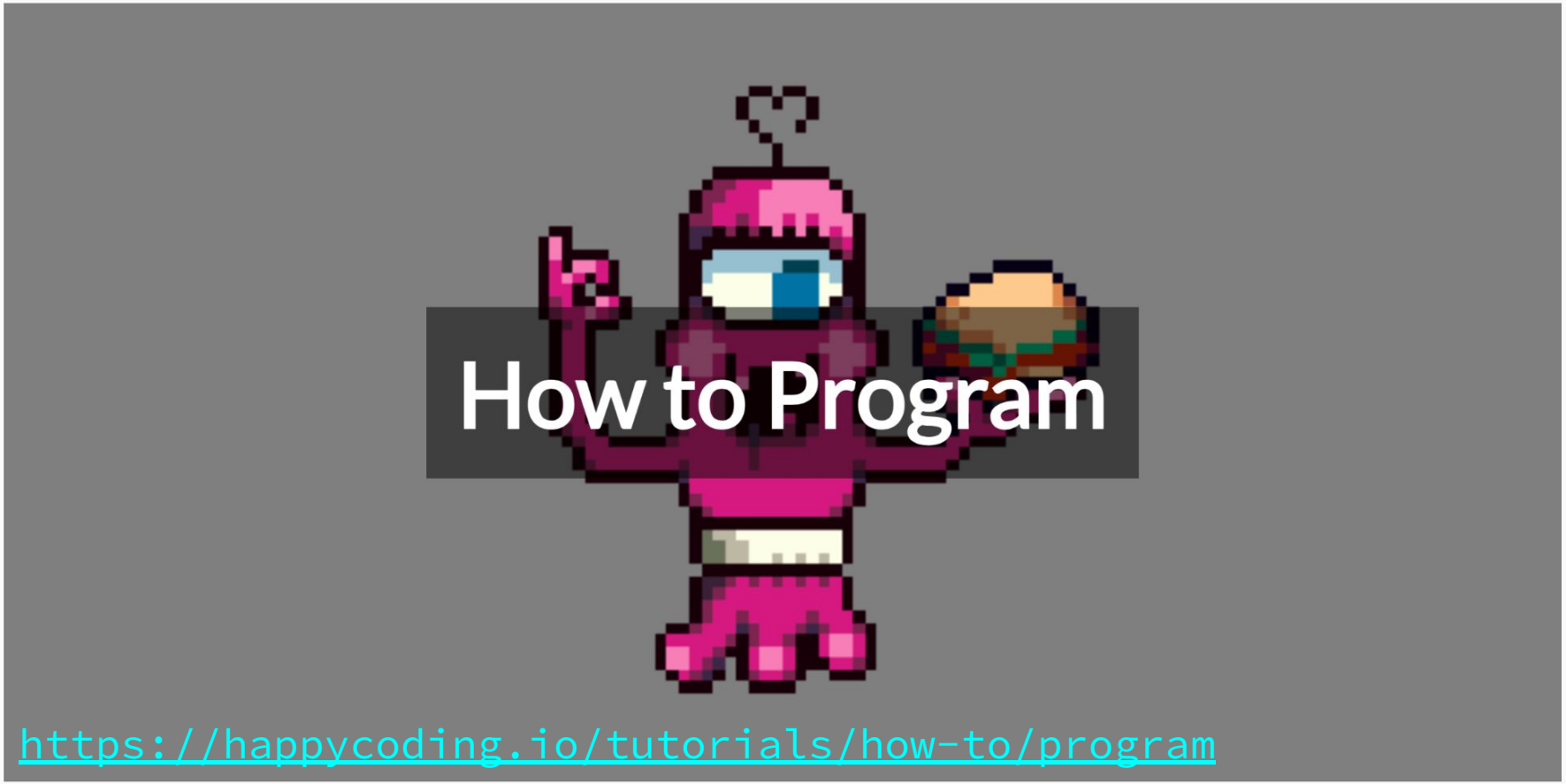
Could you go through that again, slower?

Will you repeat that last thing you said?

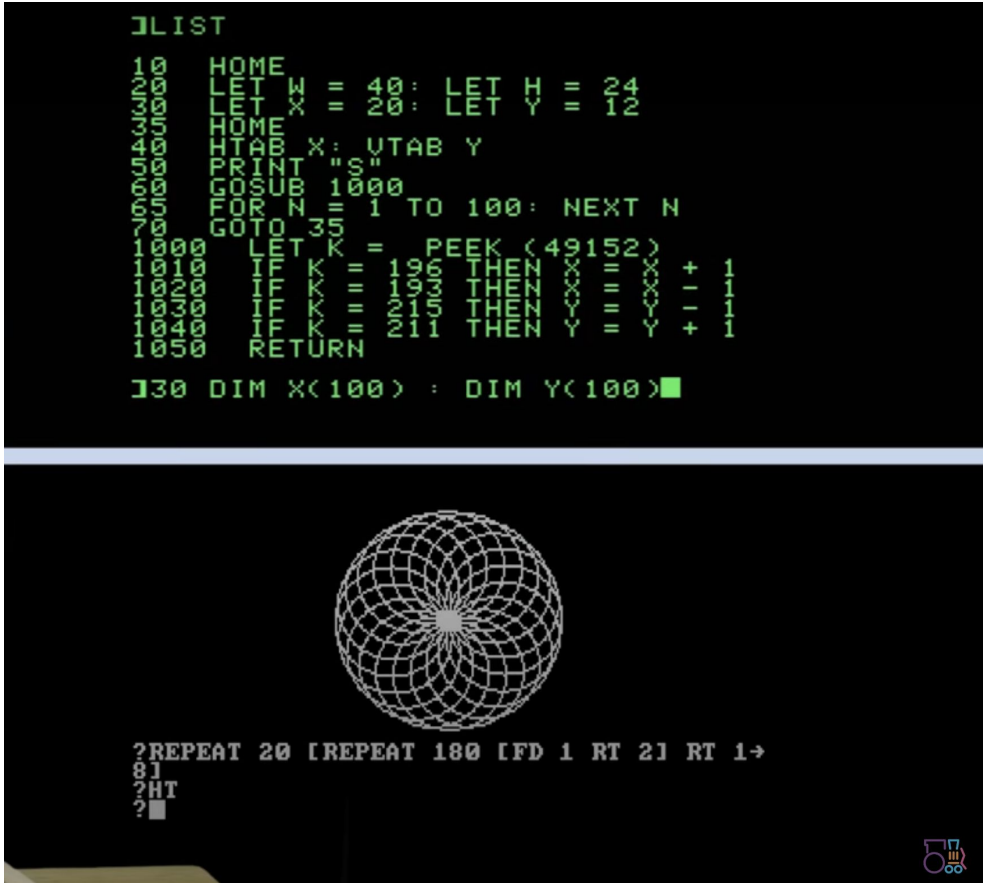
Will you explain that a different way?

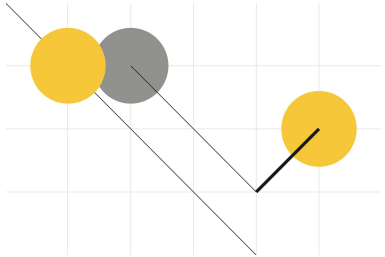
Could you do another example?

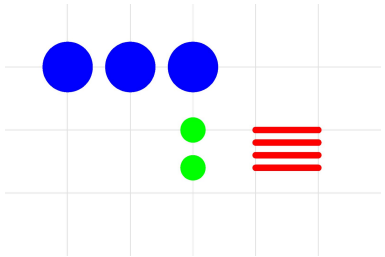
Asking questions are encouraged and mandatory in this class!

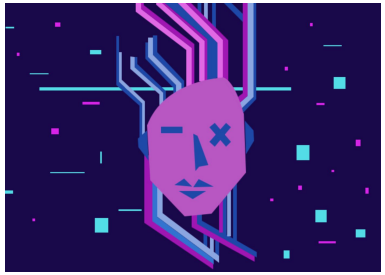


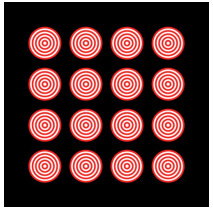

https://happycoding.io/tutorials/how-to/program

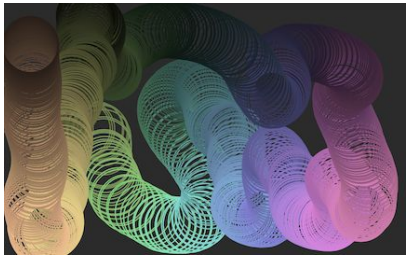

]LIST
10 HOME
20 LET W = 40: LET H = 24
30 LET X = 20: LET Y = 12
35 HOME
40 HTAB X: VTAB Y
50 PRINT "S"
60 GOSUB 1000
65 FOR N = 1 TO 100: NEXT N
70 GOTO 35
1000 LET K = PEEK (49152)
1010 IF K = 196 THEN X = X + 1
1020 IF K = 193 THEN X = X - 1
1030 IF K = 215 THEN Y = Y - 1
1040 IF K = 211 THEN Y = Y + 1
1050 RETURN
]30 DIM X(100) : DIM Y(100)
?REPEAT 20 [REPEAT 180 [FD 1 RT 2] RT 1→
8]
?HT
?

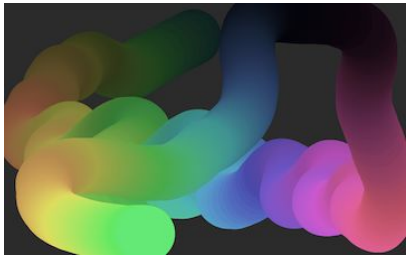


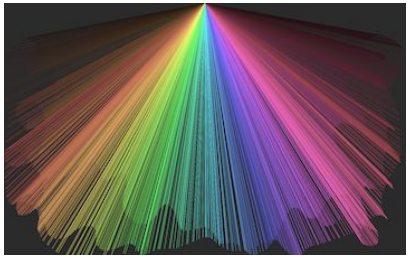


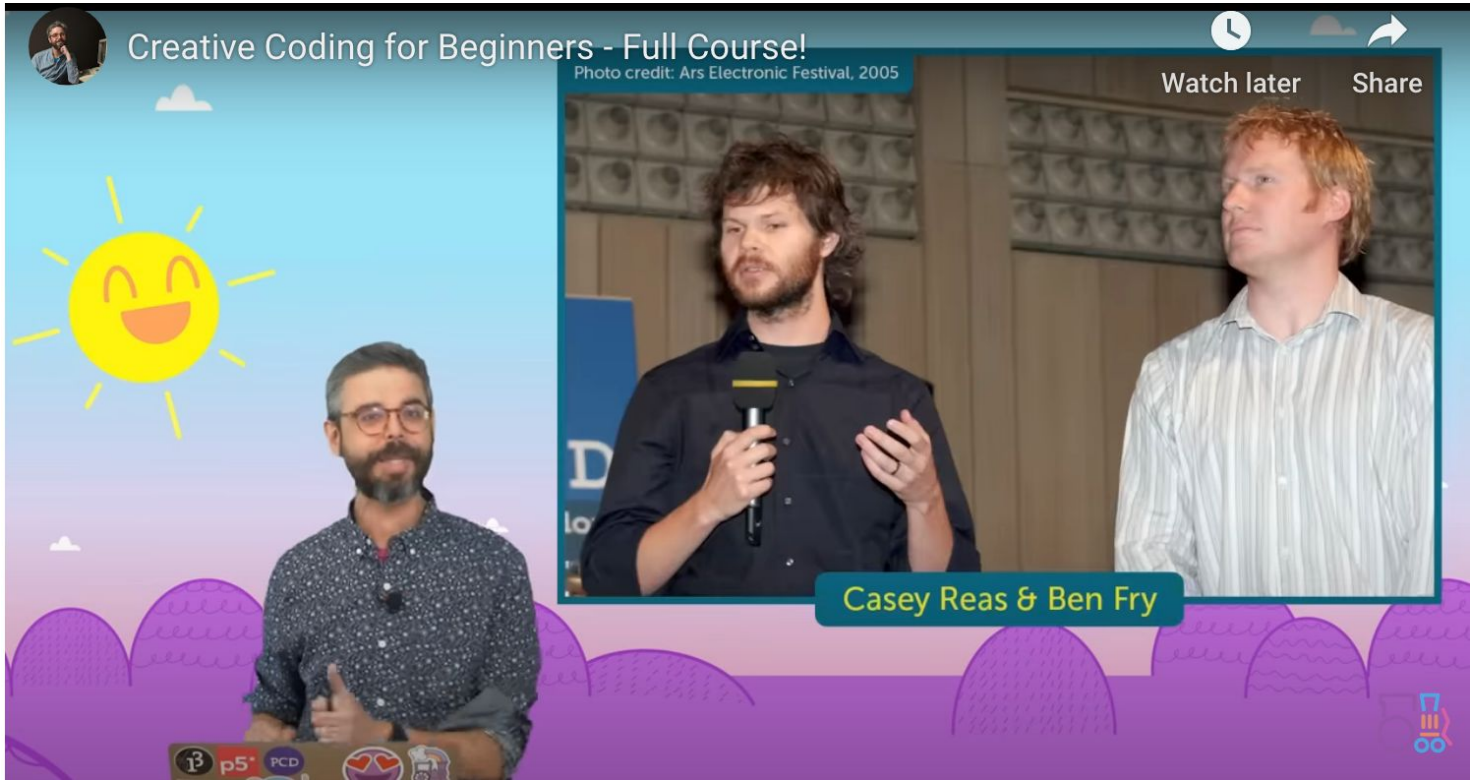




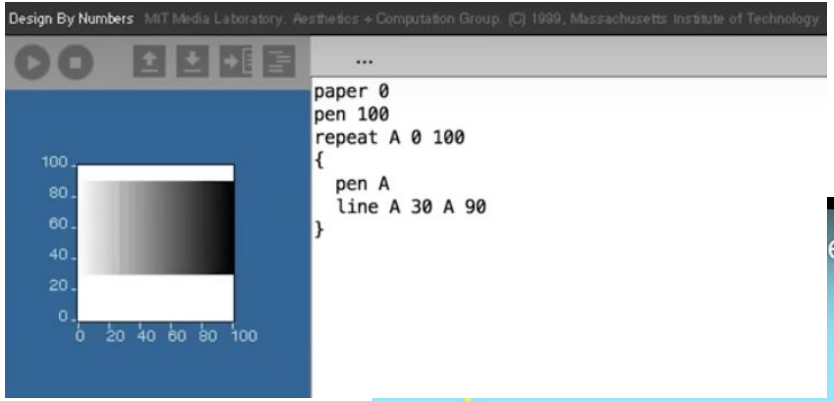




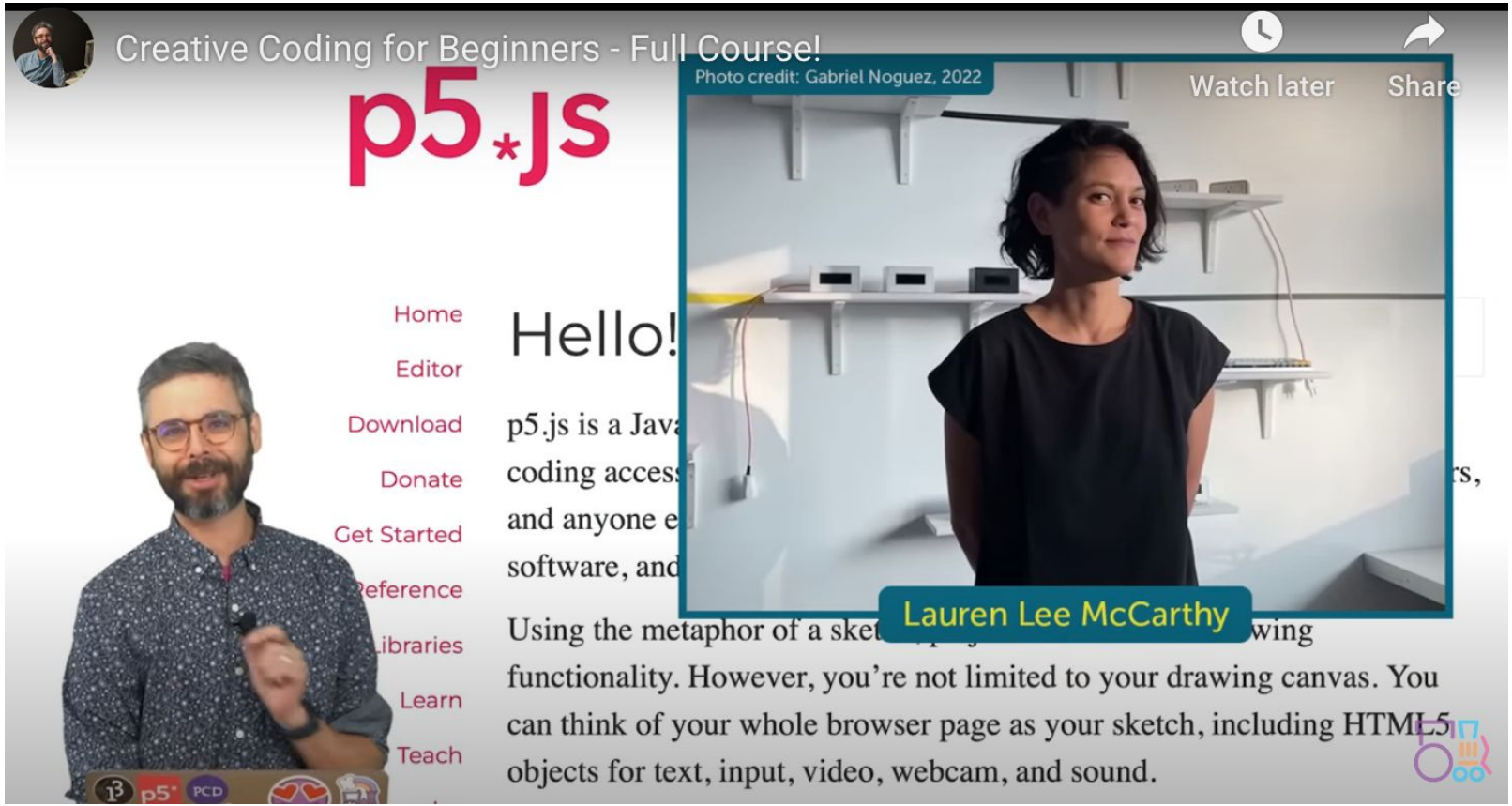





https://thecodingtrain.com/guides/getting-started


Design By Numbers MIT Media Laboratory, Aesthetics + Computation Group. (C) 1999, Massachusetts Institute of Technology
...
paper 0
pen 100
repeat A 0 100
{
pen A
line A 30 A 90
}
100
80
60
40
20
0
0 20 40 60 80 100

eginners - Full Course!
Photo credit: Robert Scoble, 2008
Watch later
Share
John Maeda


Creative Coding for Beginners - Full Course!
p5.js
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Lauren Lee McCarthy
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Reference
Libraries
Learn
Teach
Hello!
p5.js is a Java
coding acces
and anyone e
software, and
rs,
Using the metaphor of a sket
wing
functionality. However, you're not limited to your drawing canvas. You
can think of your whole browser page as your sketch, including HTML5
objects for text, input, video, webcam, and sound.

**Coding** is learning about how to think about a problem, break it down into pieces and solve it! Similar to learning a new language: Takes time and requires patience

- Download Processing
- Getting to know the Processing IDE (Integrated Development Environment)
- Coordinate systems: cartesian plane. Computer Graphics Window: pixels
- Your first Processing sketch!
- Creating a canvas: commands & arguments

```
size(400, 400);

background() // what can be the parameters of this function? Check the reference!
```

- 2D Primitives (+ processing.org/reference)
  - Draw a square, line and circle

```
line(x1, y1, x2, y2);
```

- Sketchbook organization: .pde (processing development environment) files
- The importance of code comments: `// this is a comment for my future self`
- Error messages
- sketch naming and organization

Study
(ungraded)
~ 1 hr

https://hello.processing.org

Watch
41 mins

Hello World! Processing on Vimeo (2013)