

Instr. Ceren Kayalar

Spring 2024-2025

VCD436 - Introduction to Programming for Designers

Lecture 1 - Hello Processing

Lecturer

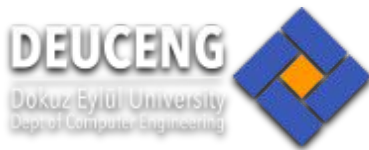
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Adjunct Instructor Ceren Kayalar e-mail **cerenk@gmail.com**

Interaction Design / Human - Computer Interaction / Computational Media

Teaching portfolio <https://cerenkayalar.github.io/teaching/>

Academic
Education
2000 - 2015



Instructor
2016 - ...



YAŞAR UNIVERSITY
Department of Visual Communication
Design



YAŞAR UNIVERSITY
Department of Graphic Design



Why did you take this class?

What are your questions?

Join at menti.com | use code **2195 2029**

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**.

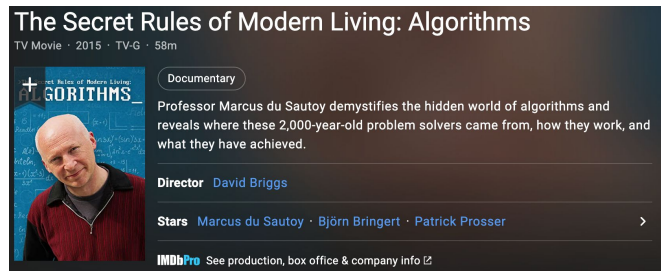
tl;dr a set of instructions



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

Documentaries to Watch

Al-Khwarizmi: The Father of Algebra @AlJazeera



Hello World in different programming languages:

```
#include <stdio.h>
int main(void)
{
    printf("Hello, world!");
}
```

C

```
#include <iostream.h>
int main()
{
    std::cout << "Hello, world! ";
    return 0;
}
```

C++

```
class HelloWorld {
    public static void main(String[]
args) {
        System.out.println("Hello,
World!");
    }
}
```

Java

```
print "Hello, world!"
```

Python

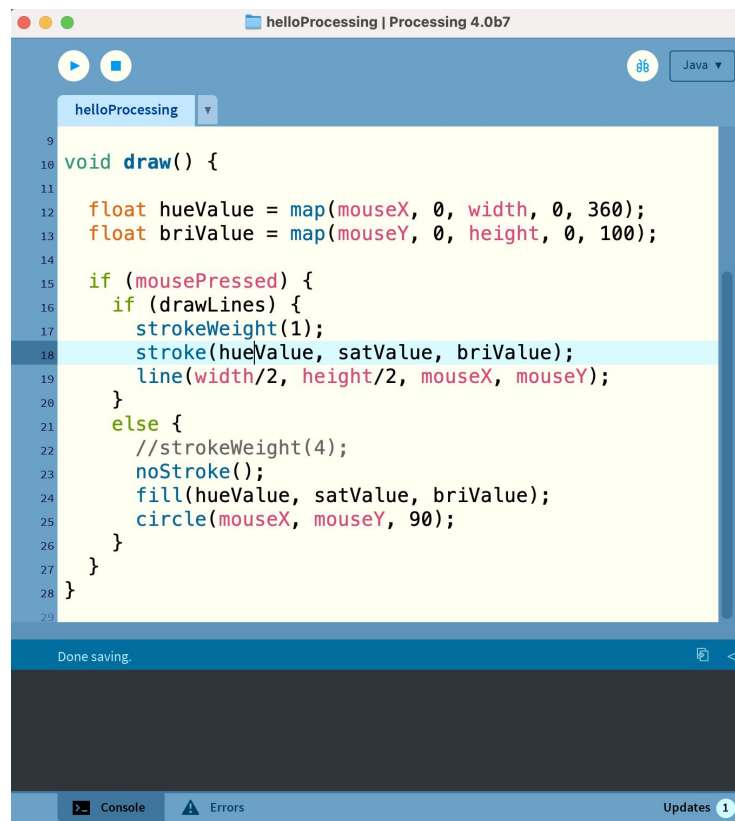
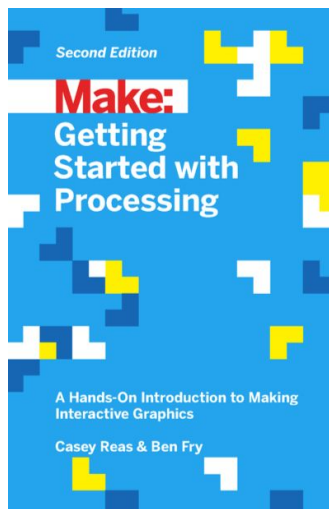
<https://www.faceprep.in/python/hello-world-in-python/>

... 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!

A pixel art illustration of a pink alien with a single antenna, large eyes, and a wide smile. It is holding a burger in its right hand. The alien is centered in the background.

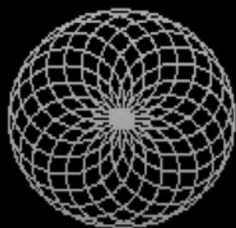
How to Program

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

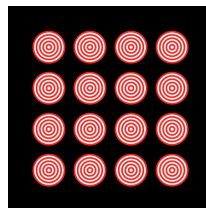
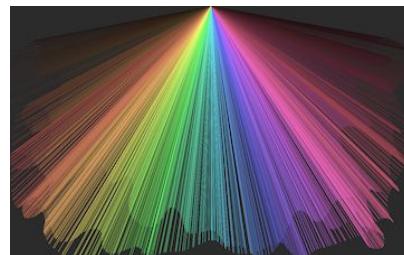
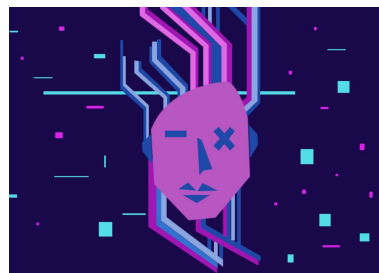
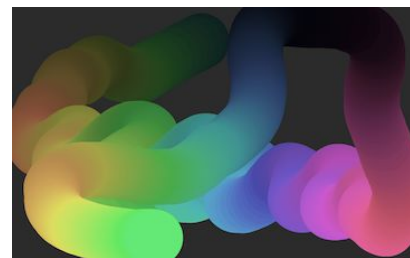
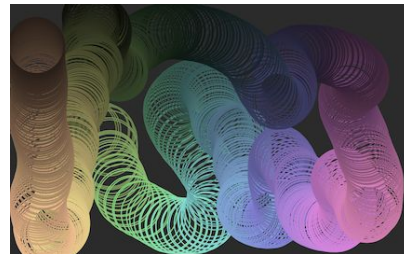
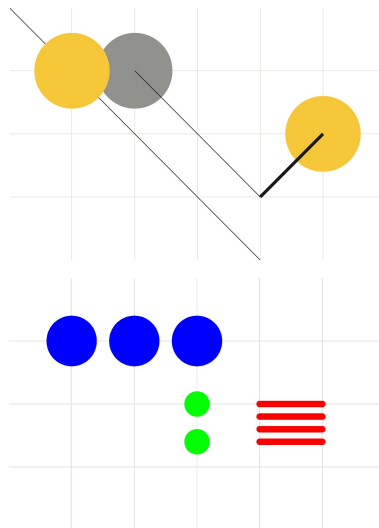
LIST

```
10 HOME
20 LET W = 40: LET H = 24
30 LET X = 20: LET Y = 12
40 HOME
50 HTAB X: UTAB Y
60 PRINT "S"
70 GOSUB 1000
80 FOR N = 1 TO 100: NEXT N
90 GOTO 30
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
```

```
130 DIM X(100) : DIM Y(100)■
```

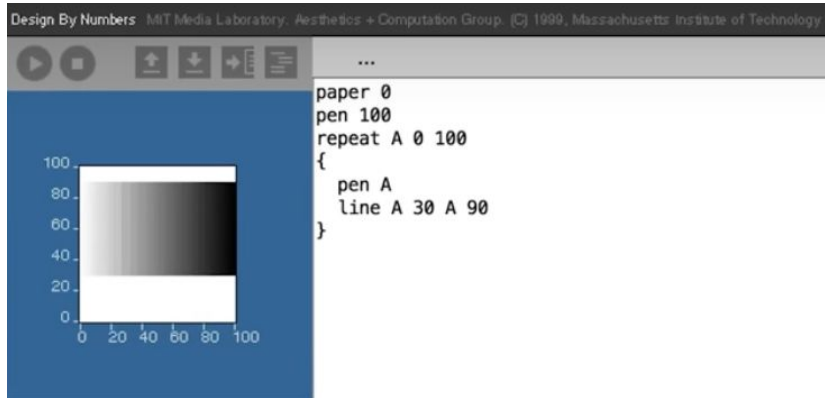


```
?REPEAT 20 [REPEAT 180 [FD 1 RT 2] RT 1→
8]
?HT
?■
```





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





Creative Coding for Beginners - Full Course!

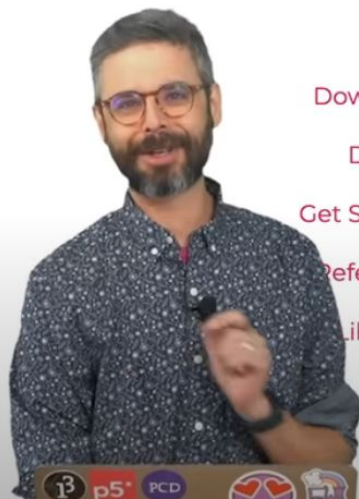


p5.js

Photo credit: Gabriel Noguez, 2022

Watch later

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Hello!

p5.js is a JavaScript library for creative coding access to the web browser and anyone can use it to create software, and



Lauren Lee McCarthy

Using the metaphor of a sketch, p5.js is a JavaScript library for creative coding access to the web browser and anyone can use it to create software, and

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.



Previously on VCD436



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)

+ <https://cerenkayalar.substack.com/p/hello-processing>