CODE });

//Day No. 1

WHAT IS CODE?

WHAT IS CODE?

```
//set of instructions
//for a computer
```

```
//computers store information as 1's and 0's
//perform math and logic operations on it
```

WHY DO WE CODE?

WHY DO WE CODE?

//Because it’s everywhere!

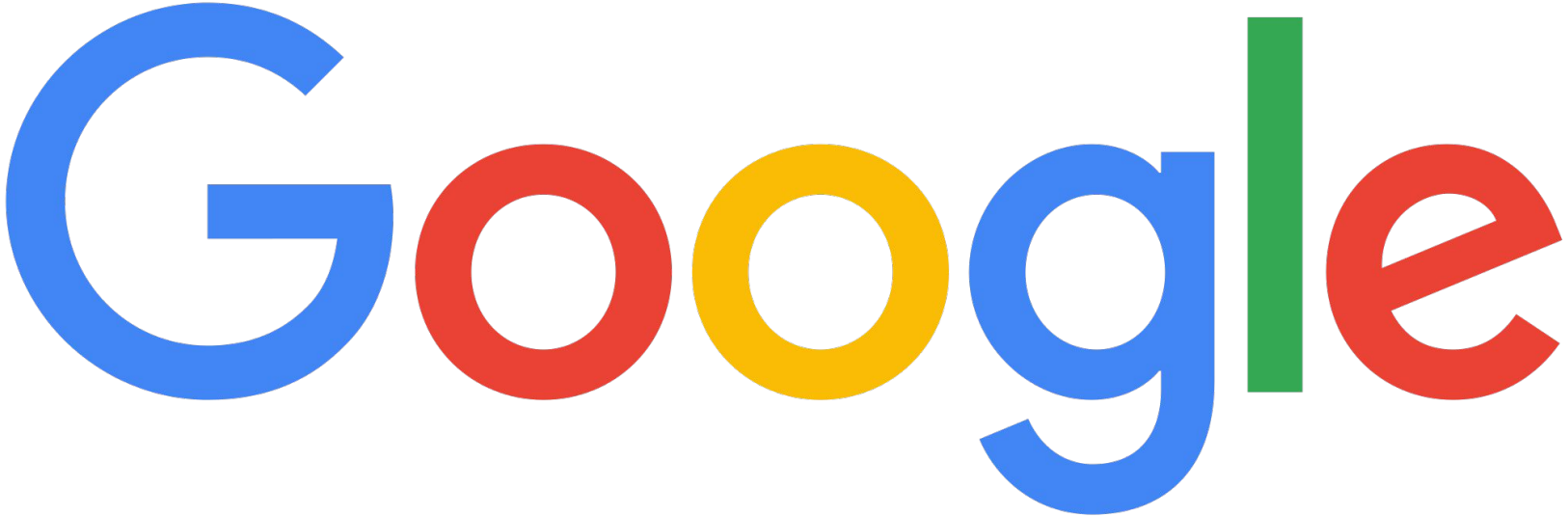
Communication

https://en.facebookbrand.com/

Efficiency

http://blog.nasafcu.com/2015/07/advantages-of-online-banking/

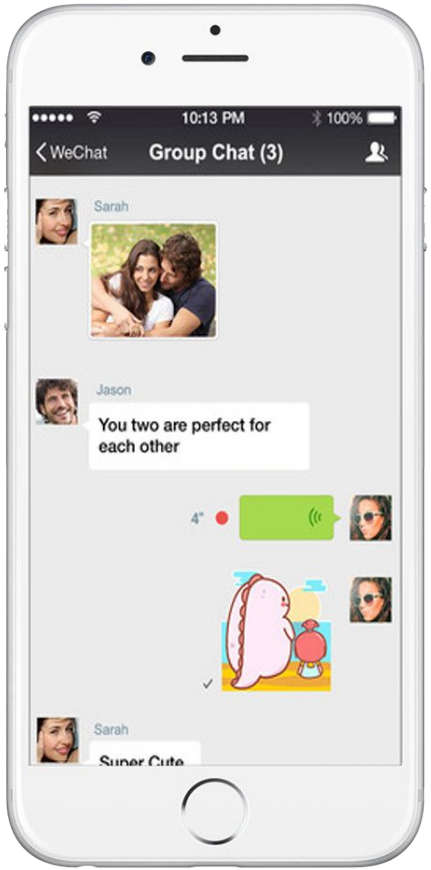
Information



https://commons.wikimedia.org/wiki/File:Google_2015_logo.svg

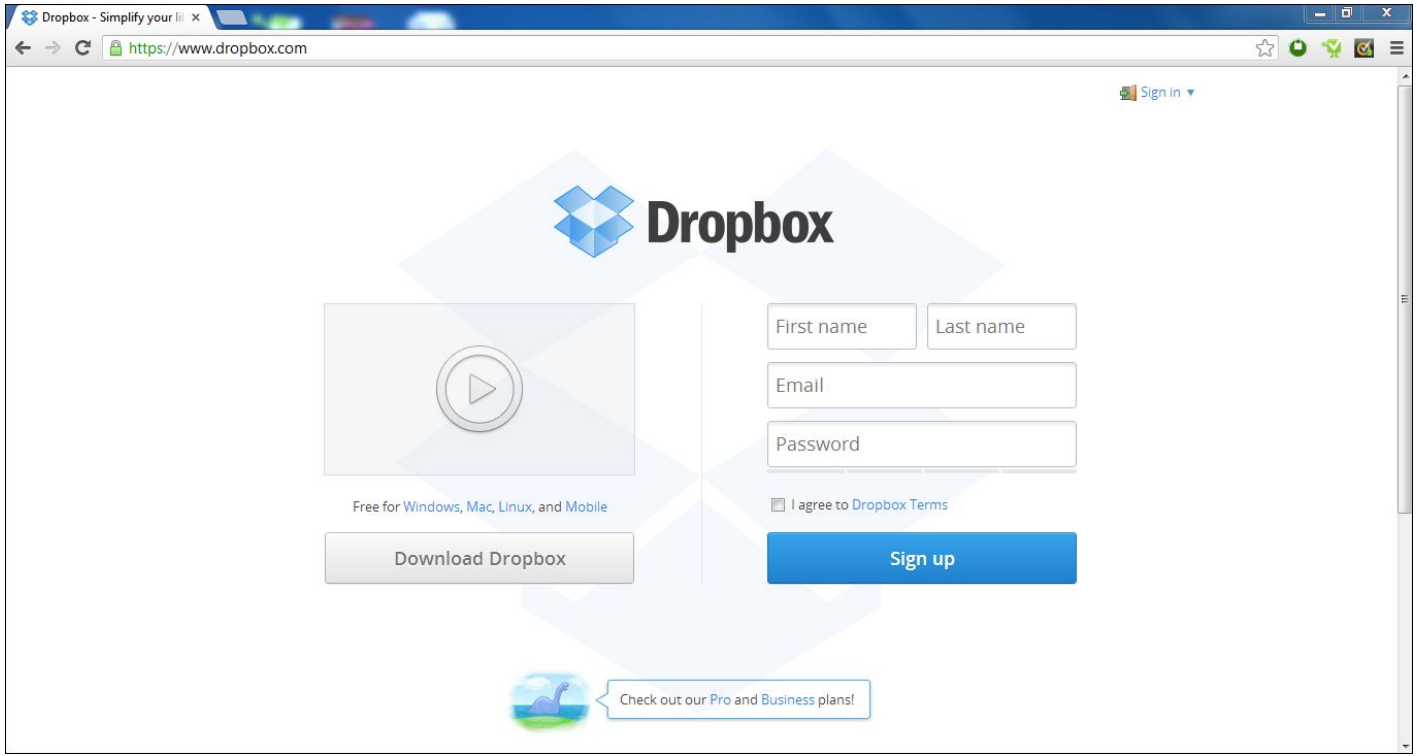
CODING
LANGUAGES && PLATFORMS

Swift



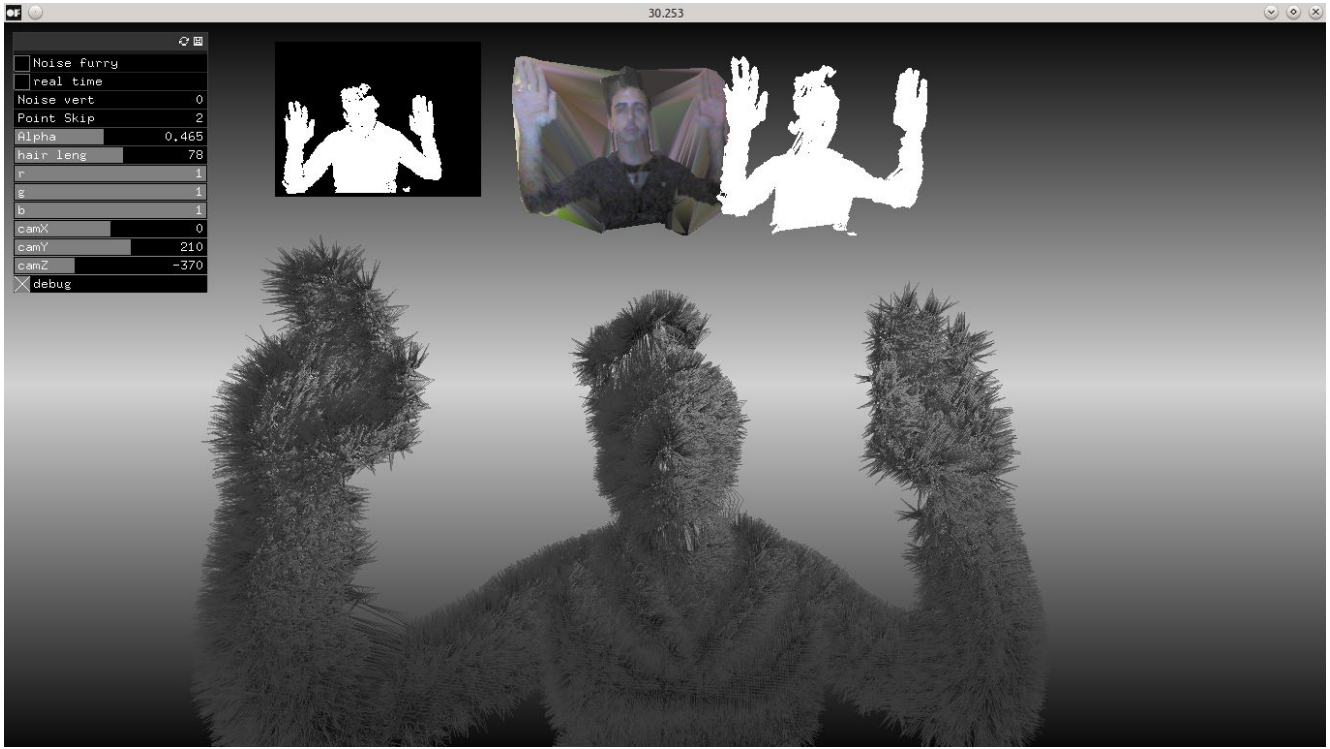
http://www.digitaltrends.com/mobile/best-messaging-apps-for-android-and-ios/

JavaScript



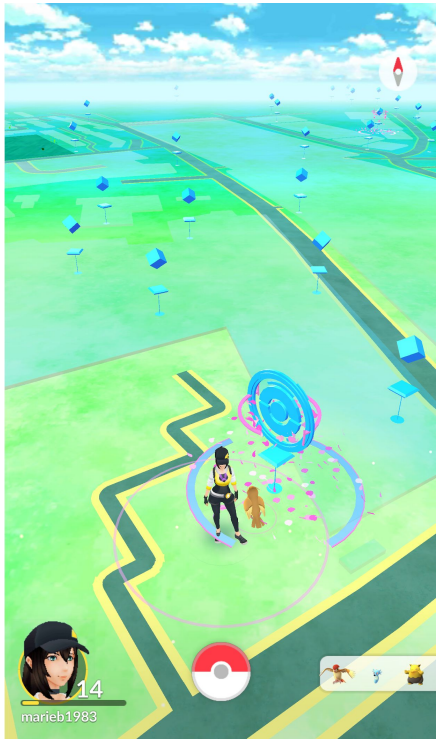
http://www.techfortips.com/2013/01/how-to-change-dropbox-language-from.html#.WNX6JxLyueE

C++



https://forum.openframeworks.cc/t/small-addons-furry-mesh/18931

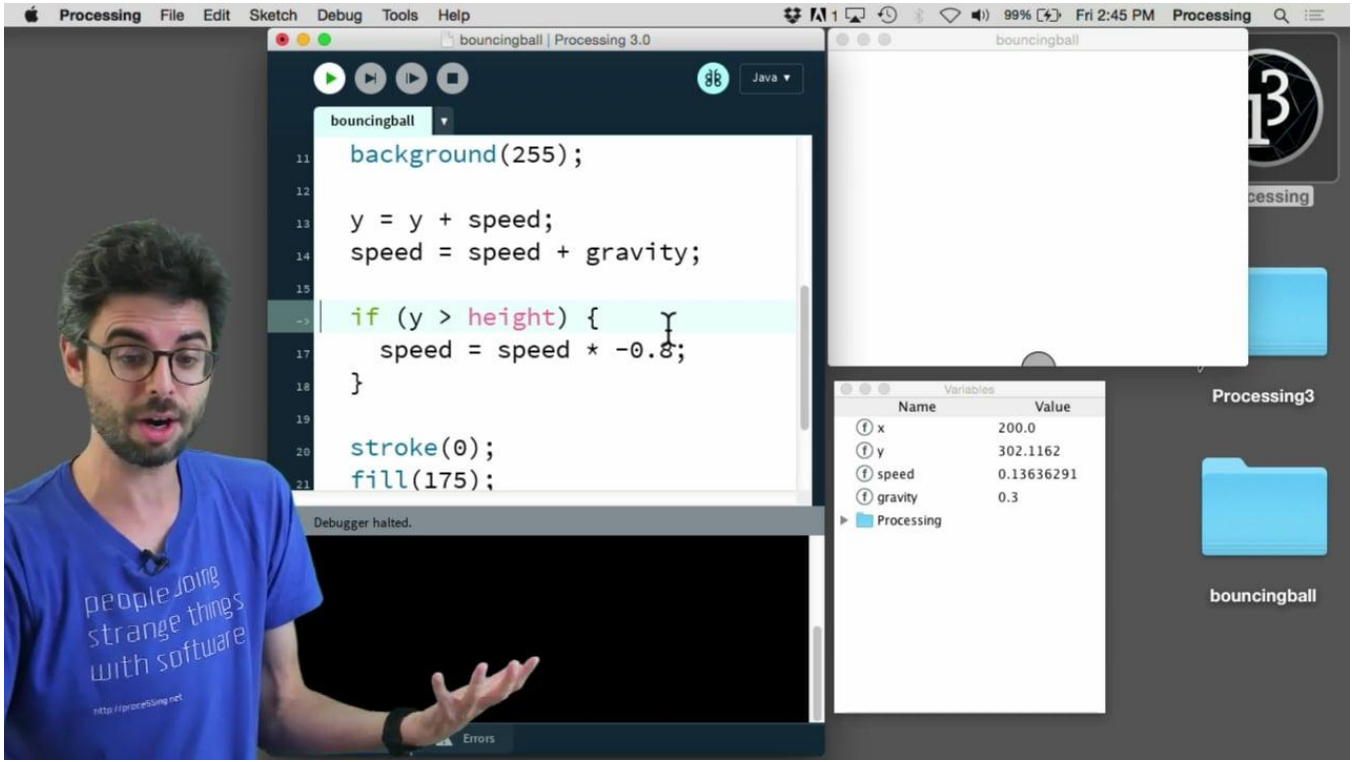
Unity



http://www.popcap.com/plants-vs-zombies-1

http://www.pcadvisor.co.uk/new-product/game/complete-guide-pokmon-go-how-play-news-updates-legendaries-3625388/

Processing

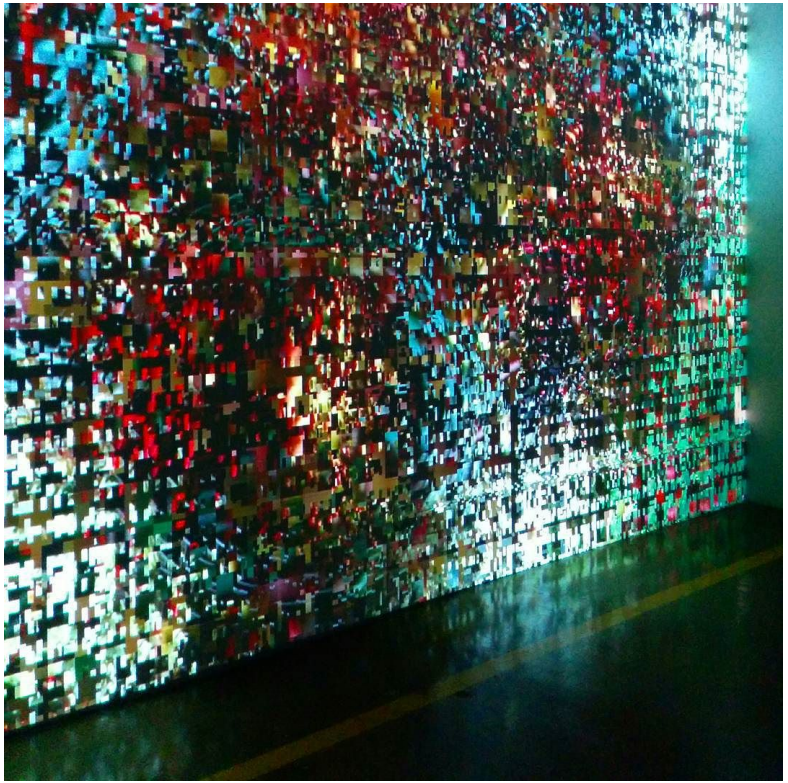


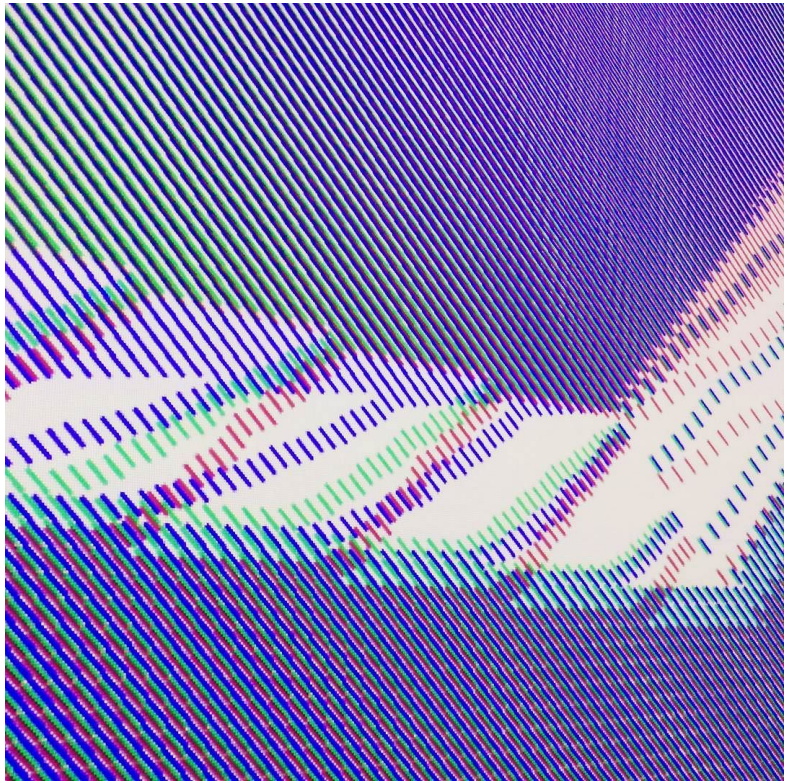
https://vimeo.com/processingfoundation

GREAT ARTISTS

//Look at them

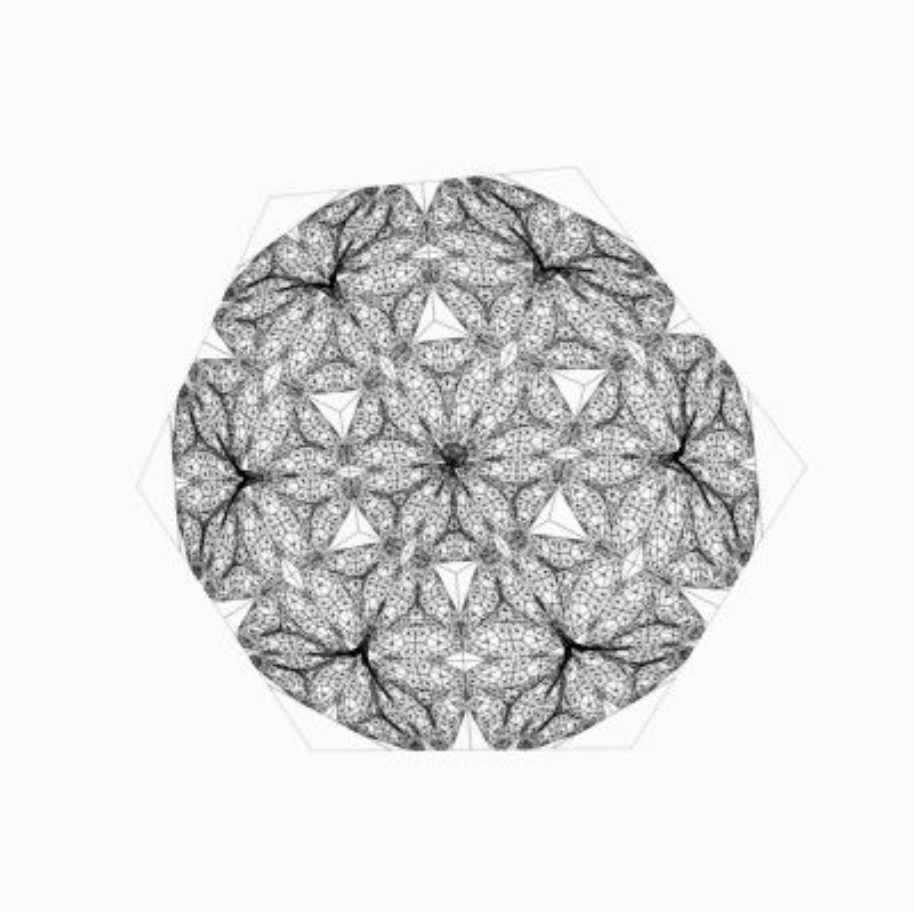
Casey Reas





http://reas.com/

Raven Kwok



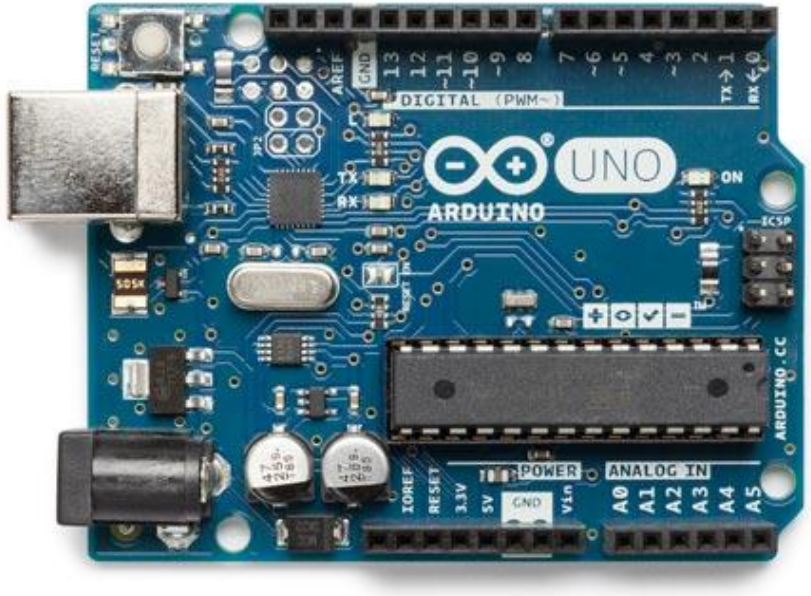
https://ravenkwok.tumblr.com/

PHYSICAL COMPUTING

Drink Up Fountain

http://www.yesyesno.com/drink-up-fountain/

Arduino



https://www.adafruit.com/product/170

https://www.arduino.cc/en/main/products

GAMES

Monument Valley

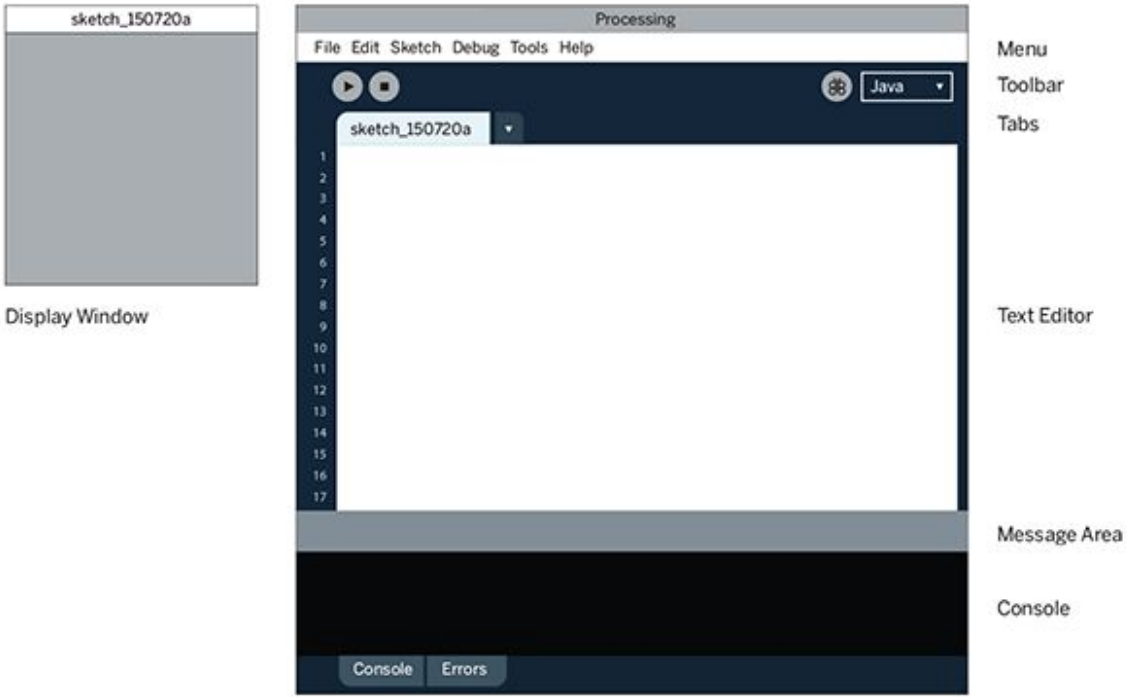
https://www.gamespot.com/forums/playstation-nation-1000002/ios-game-monument-valley-on-ps-vita-31225141/

P5

https://twitter.com/p5xjs

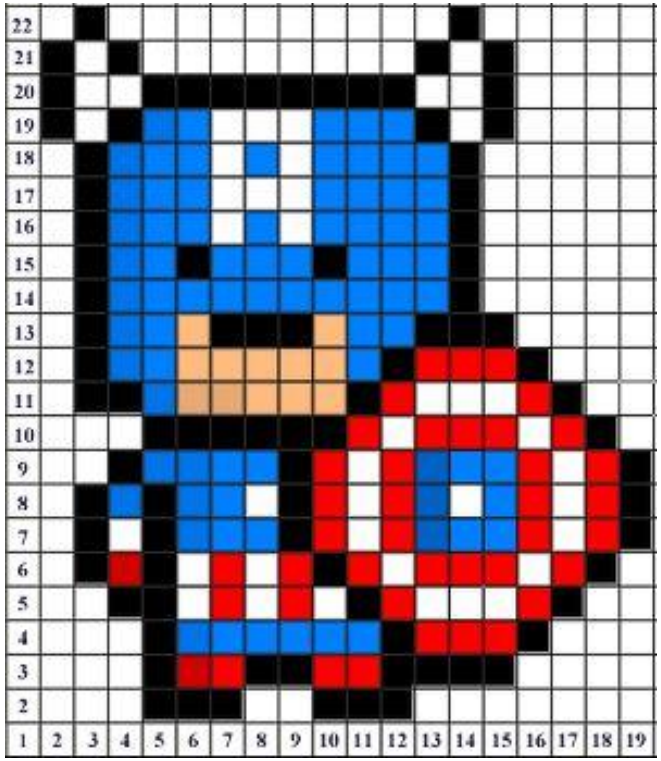
PROCESSING

Processing



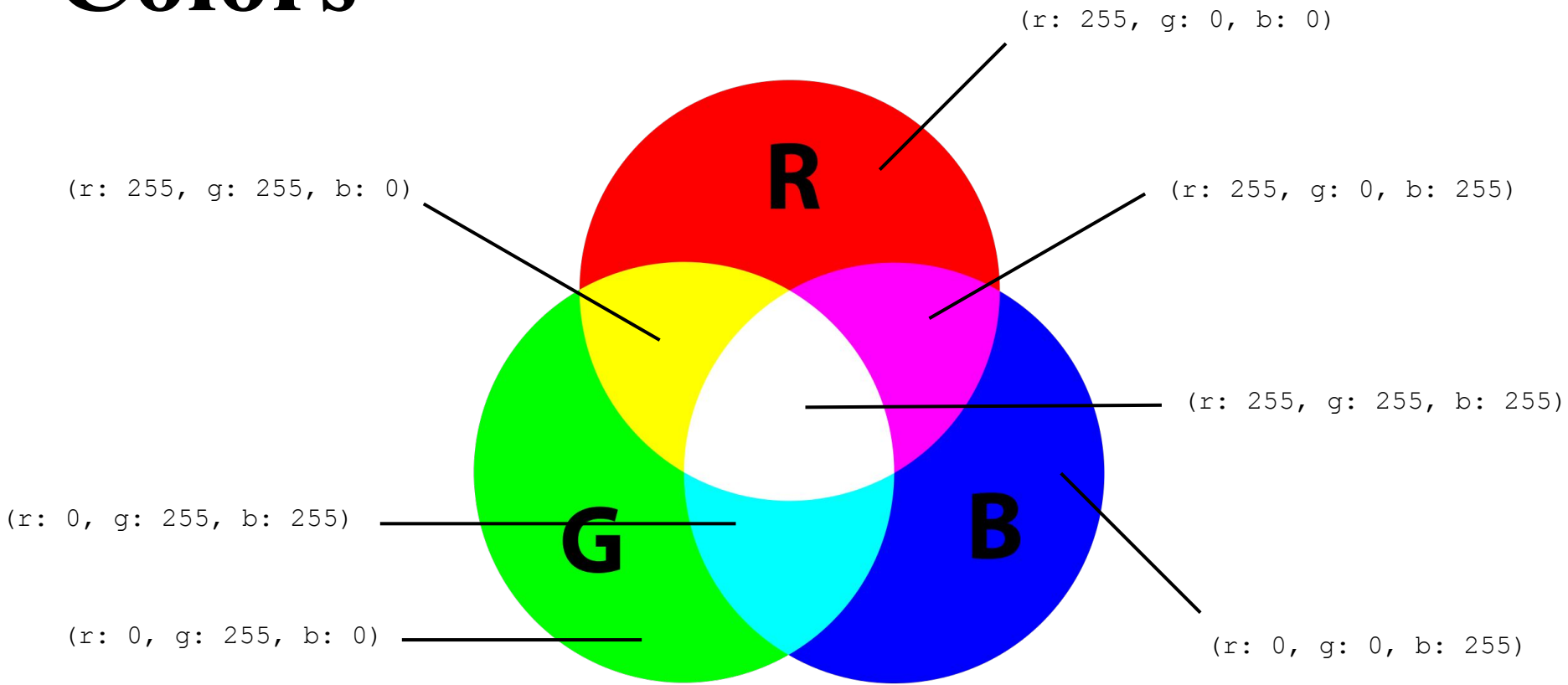
https://processing.org/tutorials/gettingstarted/

Pixels



https://www.pinterest.com/explore/pixel-art-pokemon-921407261279/

Colors


(r: 255, g: 0, b: 0)
(r: 255, g: 255, b: 0)
(r: 255, g: 0, b: 255)
(r: 255, g: 255, b: 255)
(r: 0, g: 255, b: 255)
(r: 0, g: 255, b: 0)
(r: 0, g: 0, b: 255)
R
G
B

//DOWNLOAD THIS:

https://en.wikipedia.org/wiki/Processing_(programming_language)

BREAK

LET’S START CODING

PSEUDOCODE

Pseudocode

```
//open your laptops
//drag your mouse to your Processing app
//click the mouse twice to open Processing
//start coding
```

VARIABLES

VARIABLES

//are values that can change, depending on
//conditions or information passed to the program

Types of Variables

int
- stores an integer: whole numbers (example: 1)

float
- stores numbers with decimal points (example: 1.23)

string
- stores text (example: “hello world”)

boolean
- true/false

...and more!

Using Variables

```
//DATA TYPE: int
//NAME: thisNum
```

```
code:
int thisNum;
thisNum = 1;
println (thisNum);

console:
>> 1

thisNum = thisNum + 1;
println (thisNum);

console:
>> 2
```

```
//DATA TYPE: string
//NAME: mySchool
```

```
code:
string mySchool;
mySchool = “Parsons”;
println (mySchool);

//when using string types
//variables need to be in “”
```

Using Variables

```
//DATA TYPE: int
//NAME: thisNum
```

```
code:
int thisNum;
thisNum = 1;
println (thisNum);

console:
>> 1

thisNum = thisNum + 1;
println (thisNum);

console:
>> 2
```

```
//DATA TYPE: string
//NAME: mySchool
```

```
code:
string mySchool;
mySchool = “Parsons”;
println (mySchool);

console:
>> Parsons

//when using string types
//variables need to be in “”
```

Global vs Local

```
int globalNum;
globalNum = 1;

void setup(){
    println (globalNum);

    console
    >> 1;
}

void draw(){
    println (globalNum);

    console
    >> 1;
}
```

```
void setup(){
    int localNum = 90;
    println (localNum);

    console:
    >> 90;
}

void draw(){
    println (localNum);

    console:
    >>null
}
```

Built-In Variables

```
void setup(){
    size (500, 500);
    println (width);

    console
    >> 500;
}
```

Best Practices

AVOID KEY WORDS

- Avoid using words that Processing or IDE's themselves already have definitions and keywords associated with.
- Example: **width** or **height**

NAME WITH A PURPOSE

- Easy to reference and recall when you're coding.

USE CAMELCASE

- Don't start names with capital letters. hashtagCamelCase

FUNCTIONS

Built-In Functions

```
void setup(){

}

void draw(){

}
```

```
int r = 50;

void setup(){
    size(500, 500);

}

void draw(){
    ellipse(width/2, height/2, r);
}
```

TEACH YOURSELVES

Resources

Daniel Shiffman

- The Coding Train (YouTube channel)
- The Nature of Book (Book: GitHub)
- Learning Processing (Book: Link)

Stack Overflow

- https://stackoverflow.com/

Khan Academy

- https://www.khanacademy.org/

Code Combat

- https://codecombat.com/

Code Academy

- https://www.codecademy.com/

CREDIT YOUR SOURCES

Homework

//Using the resources that were given to you
//recreate a portion this image (on next slide)

//Watch this video

//TODAY'S REFERENCE:
//DRINK UP FOUNTAIN

Draw This:

http://stedwards.scoilnet.ie/blog/kadinsky-art/

SEE YOU TOMORROW!