

# FEWD

Week 4 • Class 7

## Intro to Programming



# Quick Review

- Which CSS property smoothly transitions one property value to another over time?
- What's one difference between CSS keyframe animation and transitions?
- How do you create a new working context in Git so that you can make changes without affecting the master version of your repository?
- Did anyone solve the grid offset issue?

# Fixing the Relaxr Grid

# The Grid Problem

# Relaxr

div.row.main | 827.09 × 1330.44

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# How I implemented Relaxr in 2 weeks and changed my life.

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- Success stories
- Stats
- How tos
- Best of
- Business tips

## About Relaxr

Lorem ipsum dolor sit  
 amet, consectetur  
 adipiscing elit. Rerum  
 veritatis voluptas  
 quibusdam eum, non  
 quos itaque iure  
 pariatur laboriosam  
 excepturi vero.

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Ad Unit

📄 📄 | Elements Console >> | ⋮ ✕

```
<!DOCTYPE html>
<html lang="en">
  <head>...</head>
  <body>
    <header>...</header>
    <section class="container">
      ::before
...  <div class="row main">...</div> == $0
    </section>
    <footer>...</footer>
  </body>
</html>
```

html body section.container **div.row.main**

Styles Computed Event Listeners >>

```
Filter                                :hov .cls +_
element.style {
}

.row.main {                          base.css:135
    padding: ▶ 1rem 0 5rem;
}

.row {                               base.css:156
    width: 100%;
    margin: ▶ 0 -1rem;
    overflow: ▶ hidden;
}

* {                                  base.css:52
    box-sizing: border-box;
    margin: ▶ 0;
}

div {                                user agent stylesheet
    display: block;
}

Inherited from html
:root {                             base.css:39
```

# The Fix: Unset the Width

Relaxr Blog Page

local/blog.html

Apps Bookmarks phpMyAdmin:local Angular + RxJS: Ho...


Other Bookmarks

Relaxr

div.row.main | 863.09 x 1308.03

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## How I implemented Relaxr in 2 weeks and changed my life.



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### About Relaxr

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Read More

Ad Unit

Elements

Console

>>

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<!DOCTYPE html>  
<html lang="en">  
><head>...</head>  
><body>  
>><header>...</header>  
>><section class="container">  
>>>::before  
...>>><div class="row main">...</div> == \$0  
>></section>  
>><footer>...</footer>  
></body>  
></html>

html body section.container div.row.main

Styles Computed Event Listeners >>

Filter: :hov .cls +

element.style {  
}  
}.row.main {  
padding: 1rem 0 5rem;  
}  
}.row {  
width: 100%;  
margin: 0 -1rem;  
overflow: hidden;  
}  
\* {  
box-sizing: border-box;  
margin: 0;  
}  
div {  
display: block;  
}  
Inherited from html  
:root {  
background-color: #f0f0f0;

```
.container { padding: 15px; }  
.row { width: 100%; }
```




100% width = the width of the parent content box

```
.row { margin: 0 -15px; width: 100%; }
```



100% width is still relative to parent content box!

```
.row { margin: 0 -15px; }
```



no width specified, so content expands to fit within margins



# What We'll Cover

- Introduction To Programming
- Javascript and jQuery

# Introduction to Programming

# Objectives: Programming Basics

- Understand what a program is
- Use pseudocode to describe how a program should execute

# What is a program?

A program is a set of instructions.

# Are these programs?



```
var boolean
line('PSI_INTERNAL_XML', false);
(version_compare("5.2", PHP_VERSION, ">")) {
    die("PHP 5.2 or greater is required!!!");
}
(!extension_loaded("pcre")) {
    die("phpSysInfo requires the pcre extension to php
        properly.");
}
require_once APP_ROOT.'/includes/autoloader.inc.php';
/ Load configuration
require_once APP_ROOT.'/config.php';
if (!defined('PSI_CONFIG_FILE') || !defined('PSI_
    $tpl = new Template("/templates/html/error_co
    echo $tpl->fetch();
    die();
    javascript
```

# Programming

- Programming involves writing the instructions in a language that can be understood by humans and interpreted by computers...(more on that later)
- Before learning the specifics of a language, you need to learn to think like a programmer
- *Pseudocode* can help us do that

# Pseudocode

Pseudocode is the process of writing a program without using the syntax of a programming language.



# Pseudocode a Lightswitch



# Perfectly Fine Pseudocode

```
/* Go to the lightswitch and flip it.  
If the light is on, the light is turned off.  
Otherwise, the light is turned on. */
```

# Thinking More Like A Programmer

- Even though there are a lot of programming languages, there are many common structures that are found in most languages.
- Our pseudocode doesn't need to be written in a specific syntax, but identifying these common structures will make it easier for us to turn it into real code.

# Conditionals

- Like most instructions, programs are read in sequence from left to right and top to bottom.
- Control flow statements let us have control over the order in which the instructions are processed.
- The simplest are the **IF-then** and **IF-then-ELSE-then** statement.
- The instructions in the if block are only processed when the IF statement evaluates as true.

# Better Pseudocode

```
/* Go to the lightswitch.  
   When it is flipped:  
       IF the light is on  
           the light is turned off  
       ELSE  
           the light is turned on  
*/
```

# The Lightbulb in Javascript

```
//Go to the lightswitch. When it is flipped
document.querySelector('body').addEventListener('click', function() {
  //If the light is on
  if (this.classList.contains('bulb-on')) {
    //The light is turned off
    this.classList.remove('bulb-on');
    //Otherwise
  } else {
    //The light is turned on
    this.classList.add('bulb-on');
  }
});
```

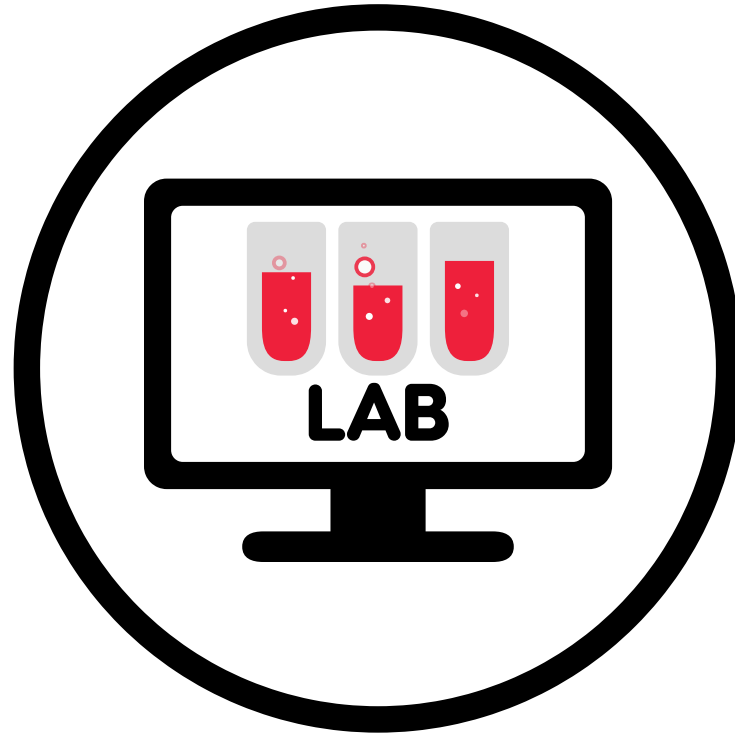
See it in action

# Loops

- Another common form of flow control is a loop.
- A common loop is the **WHILE** loop.
- It executes the code inside of it for as long as the **WHILE** statement is true.

# Math

- Universally, all programming languages can do Math
- Most will have a set of operators that include comparison ( $>$ ,  $<$ ,  $<=$ ,  $>=$ ) and arithmetic ( $+$ ,  $-$ ,  $*$ ,  $/$ ) operators for performing comparisons and calculations



**Pseudocode a Thermostat**



# Thermostat Pseudocode

```
target_temperature
current_temperature

SET target_temperature = 72

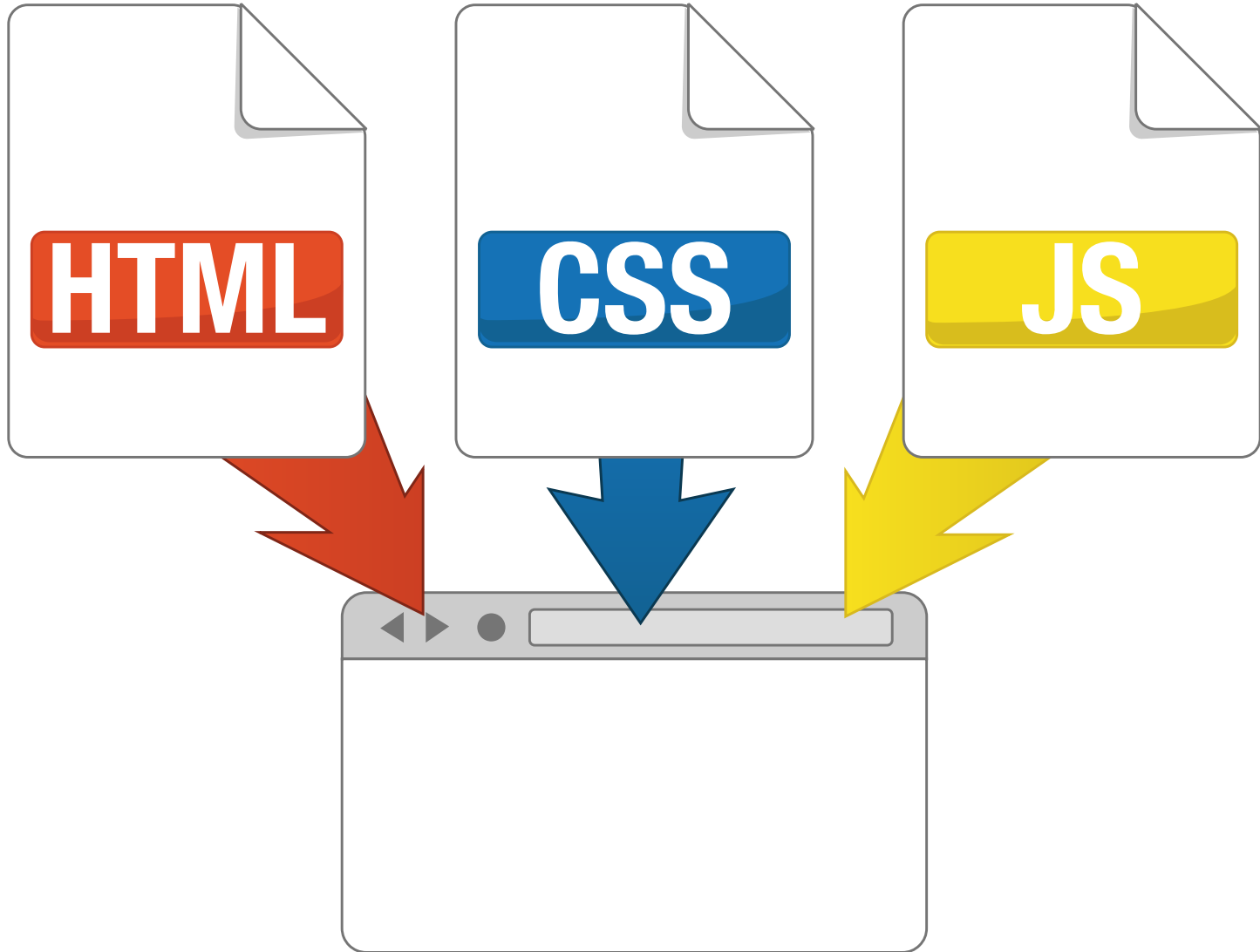
WHILE (thermostat_is_operating)
  GET current_temperature
  IF (target_temperature > (current_temperature + 5))
    turn_on_heater
  ELSE
    turn_off_heater
END WHILE
```

# Javascript and jQuery

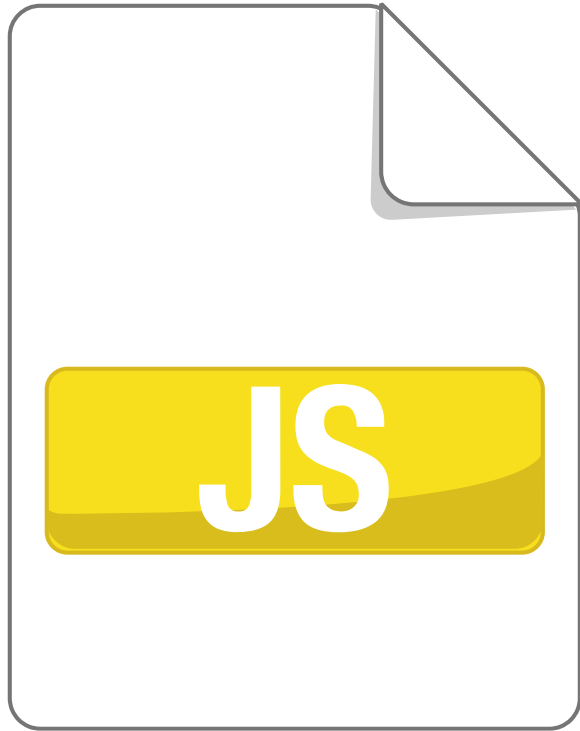
# Objectives: Javascript and jQuery

- Understand why Javascript is essential to this course
- Understand what jQuery is
- Describe the differences and similarities between Javascript and jQuery
- Read and modify Javascript and jQuery

# FEWD Trinity

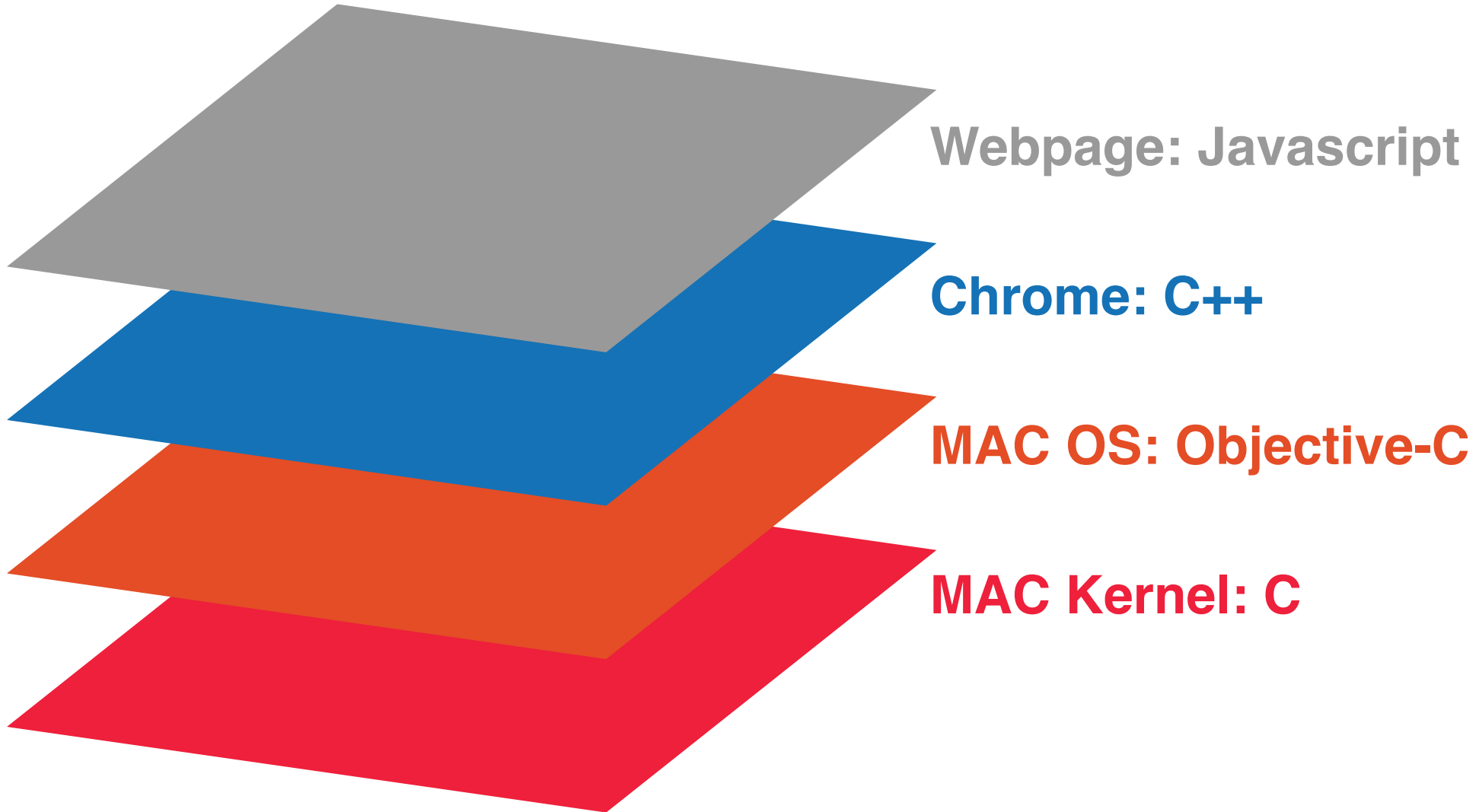


# Javascript



- Used to add interactivity
- Interpreted by the Javascript engine inside the browser
- Standards based

# Javascript is Higher Level



# Javascript vs. jQuery

- jQuery is a library written in Javascript
- It's just another layer of abstraction
- It is generally easier and faster than writing pure Javascript
- It has the benefit of including lots of helper functionality and it also helps to eliminate the differences in how browsers implement the Javascript standards.



# jQuery Lightbulb

Codepen

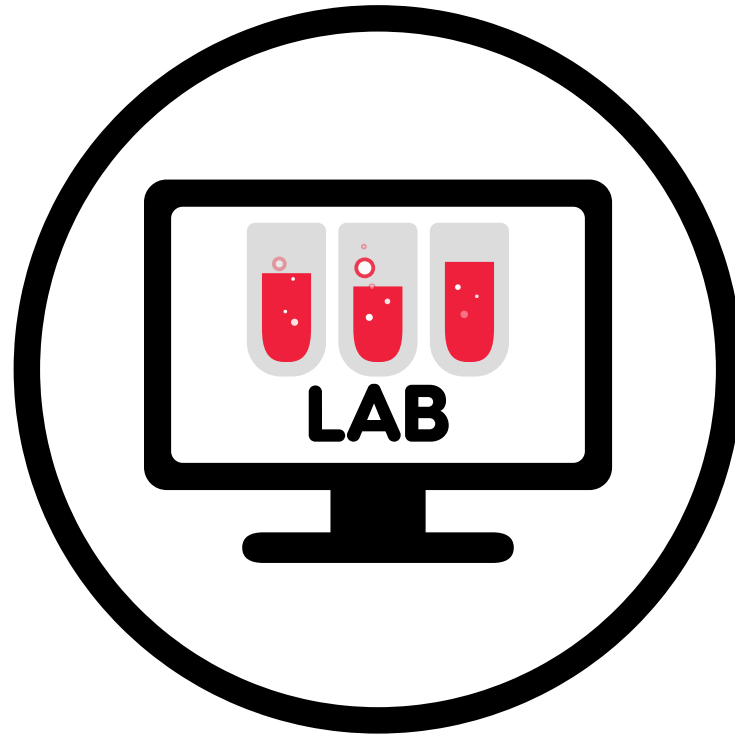


# Reading Code



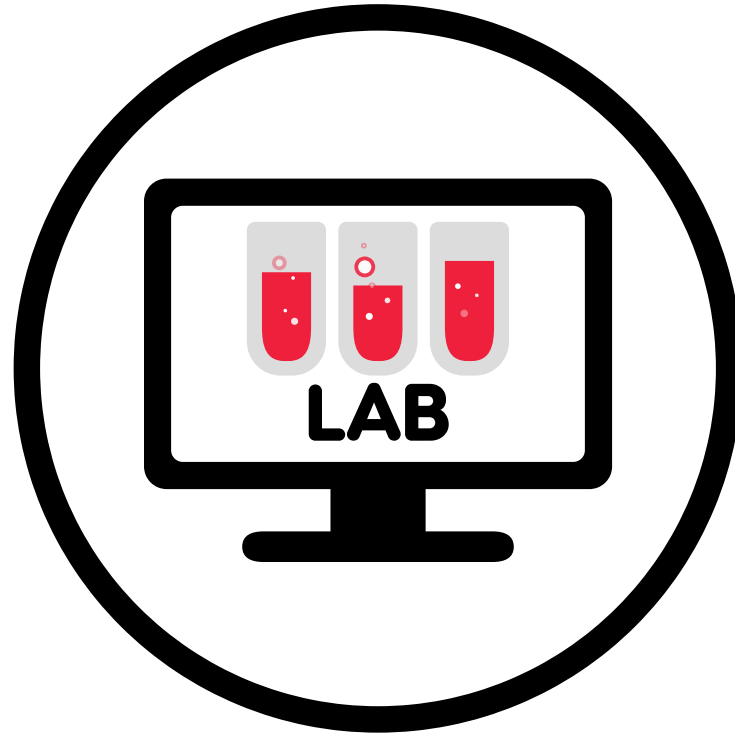
# Color Switcher

Codepen



# Traffic Light

<https://codepen.io/jme11/pen/qoKpNM>



**Start Your Homework**

**Go Build Awesome Things!**