

#TasteofCode

Beginner Coding Workshop

:{) Codaisseur

Taste of Code

Introduction

:{}()

We are Codaisseur

We train the willing to become
developers

We teach the fundamentals of
programming to professionals

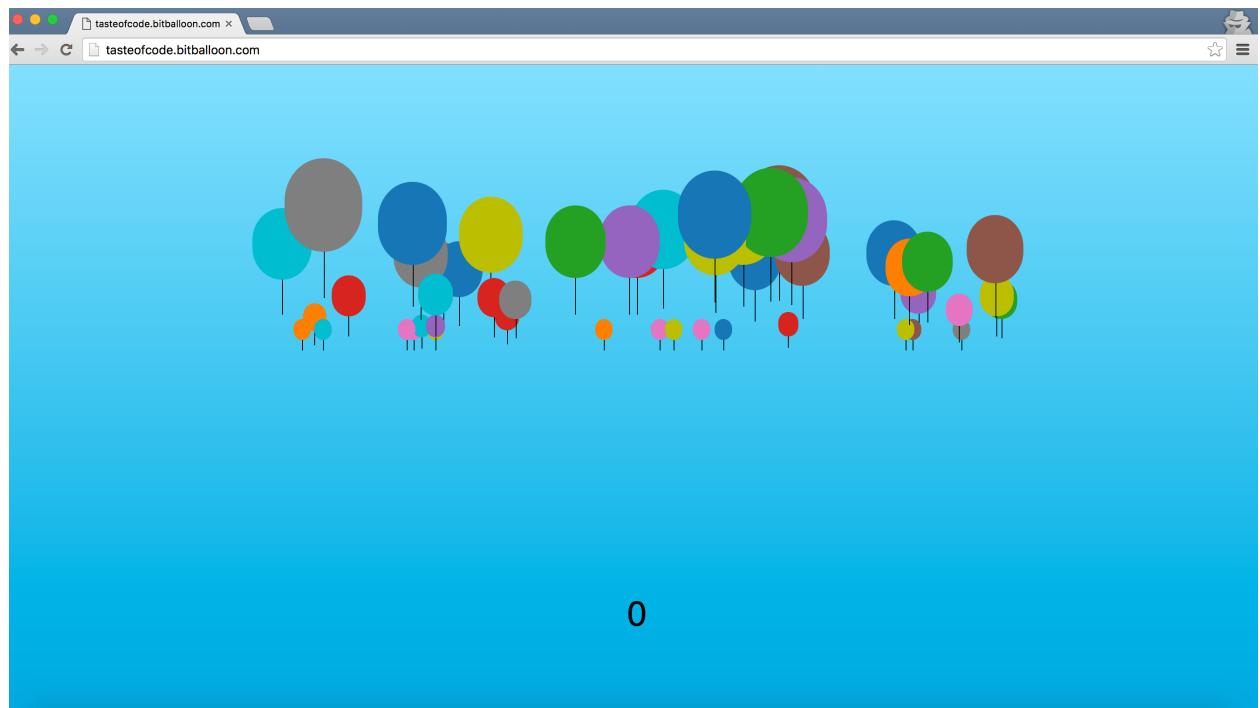
We impress upon people the importance of code
in today's world

Today's Objective

Build an online game

- HTML
- CSS
- jQuery

Put it online



ToC Keys to Success

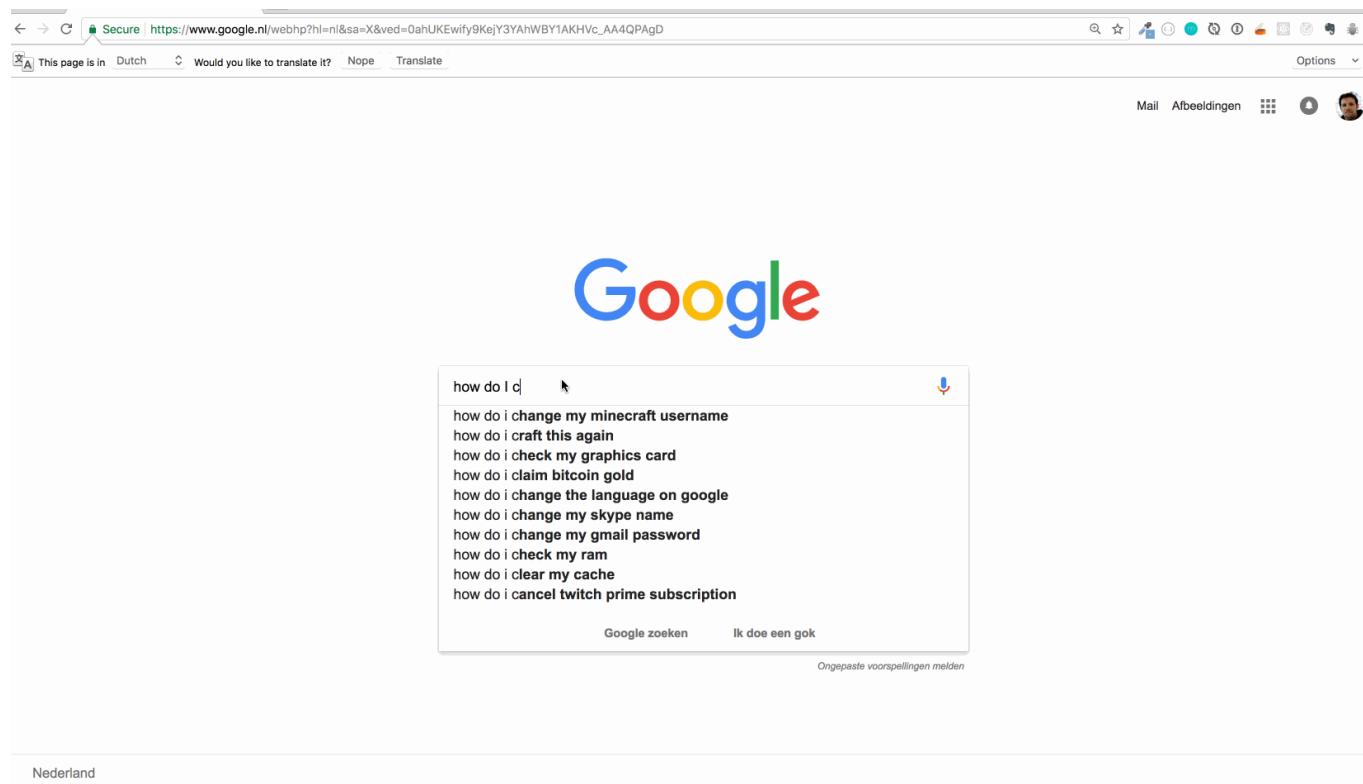
Experiment!

Break Stuff!

Have Fun!

Support

Coaches



HTML

Content & Structure

The language of the web

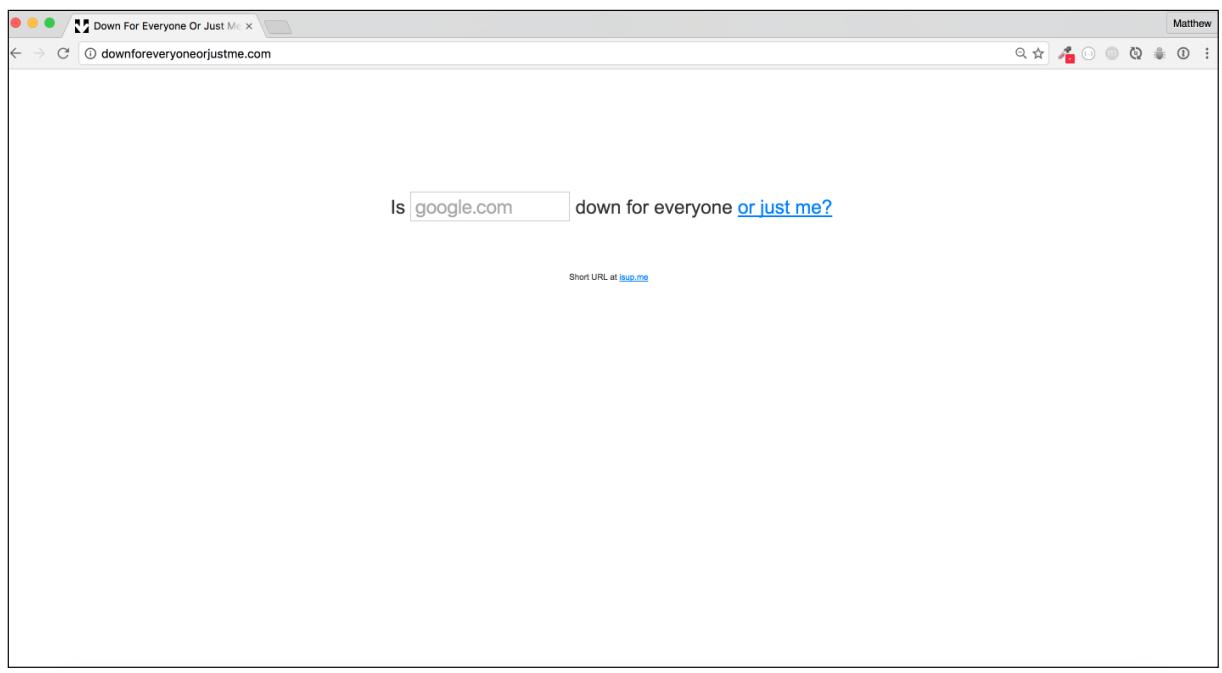
:{)

What is HTML?

HTML is a **markup language** that describes the structure of pages

This is achieved using
Elements and **Tags**

What is HTML?



```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <script type="text/javascript">var _sf_startpt=(new Date()).getTime()</script>
5     <meta http-equiv="Content-Type" content="text/html; charset=utf-8"/>
6     <link href="favicon.ico" rel="shortcut icon" type="image/x-icon" />
7     <title>Down For Everyone Or Just Me - Check if your website is down or up?</title>
8     <style type="text/css">
9       body{background-color:#fff;color:#333;font-family:Arial,Verdana,sans-serif;font-size:62.5%;margin:10% 5% 0 5%;text-align:center;}
10      form{margin-bottom:1em;position:center}
11      a,a:visited,a:active{color:#00800f;text-decoration:underline}
12      a:hover{text-decoration:none}
13      input[type="text"]{border:1px solid #ccc;color:#000;font-size:1em;padding:4px 6px 4px 6px;}
14      input[type="submit"]{border:1px solid #ccc;color:#000;font-weight:bold}
15      a.adlink{color: orange;}
16      #container{clear:both;font-size:3em;margin:auto;}
17      #domain{font-size:0.4em}
18      #coupon{font-size: 0.4em}
19      .smile-container {width:300px; margin:0 auto; font-size: 0.4em;}
20    </style>
21    <script type="text/javascript">
22      function formSubmit(){
23        domain = document.getElementById('domain_input').value;
24        window.location = '/' + domain;
25        return false;
26      }
27    </script>
28
29    <script type="text/javascript">
30      var _gaq = _gaq || [];
31      _gaq.push(['_setAccount', 'UA-666669-29']);
32      _gaq.push(['_trackPageview']);
33
34      (function(i){
35        var ga = document.createElement('script'); ga.type = 'text/javascript'; ga.async = true;
36        ga.src = ('https:' == document.location.protocol ? 'https://ssl' : 'http://www') + '.google-analytics.com/ga.js';
37        var s = document.getElementsByTagName('script')[0]; s.parentNode.insertBefore(ga, s);
38      })();
39    </script>
40
41  </head>
42  <body>
43    <div id="container">
44      <form method="get" id="downform" name="downform" action="/q" onsubmit="return formSubmit()">
45        Is
46        down for everyone
47        <input type="text" name="domain" id="domain_input" placeholder="google.com" autofocus />
48        <a href="#" onclick="formSubmit();">or just me</a>
49        <input type="submit" style="display: none;" />
50      </form>
51
52
53
54
55
56
57
58      <br>
59      <font size="2">Short URL at <a href="http://www.isup.me">isup.me</a></font>
60      <br /><br />
61
62    </div>
63  </body>
64</html>
```

What is HTML?

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <script type="text/javascript">var _sf_startpt=(new Date()).getTime()</script>
5     <meta http-equiv="content-type" content="text/html; charset=utf-8"/>
6     <link href="favicon.ico" rel="shortcut icon" type="image/x-icon" />
7     <title>Down For Everyone Or Just Me -> Check if your website is down or up?</title>
8     <style type="text/css">
9       body{background-color:#fff;color:#333;font-family:Arial,Verdana,sans-serif;font-size:62.5%;margin:10% 5% 0 5%;text-align:center;}
10      form{margin-bottom:1em}
11      a,a:visited,a:active{color:#0080ff;text-decoration:underline;}
12      a:hover{text-decoration:none;}
13      input[type=text]{border:1px solid #ccc;color:#000;font-size:1em;padding:4px 6px 4px 6px;}
14      .domain{font-weight:bold;}
15      a.adlink{color: orange;}
16      #container{clear:both;font-size:3em;margin:auto;}
17      #domain_input{width:236px;}
18      #coupon{font-size: 0.4em;}
19      .smile-container {width:300px;margin:0 auto; font-size: 0.4em;}
20    </style>
21    <script type="text/javascript">
22      function formSubmit() {
23        domain = document.getElementById('domain_input').value;
24        window.location = '/' + domain;
25        return false;
26      }
27    </script>
28    <script type="text/javascript">
29      var _gaq = _gaq || [];
30      _gaq.push(['_setAccount', 'UA-66669-29']);
31      _gaq.push(['_trackPageview']);
32
33      (function() {
34        var ga = document.createElement('script'); ga.type = 'text/javascript'; ga.async = true;
35        ga.src = ('https:' == document.location.protocol ? 'https://ssl' : 'http://www') + '.google-analytics.com/ga.js';
36        var s = document.getElementsByTagName('script')[0]; s.parentNode.insertBefore(ga, s);
37      })();
38    </script>
39
40  </head>
41  <body>
42    <div id="container">
43      <form method="get" id="downform" name="downform" action="/q" onsubmit="return formSubmit()">
44        Is
45        <input type="text" name="domain" id="domain_input" placeholder="google.com" autofocus />
46        down for everyone
47        <a href="#" onclick="formSubmit();">or just me?</a>
48        <input type="submit" style="display: none;" />
49      </form>
50
51
52
53
54
55
56
57
58      <br>
59      <font size="2">Short URL at <a href="http://www.isup.me">isup.me</a></font>
60      <br /><br />
61
62    </div>
63  </body>
64</html>
```

```
<!DOCTYPE html>
<html>
  <head>
    <title></title>
  </head>
  <body>
    </body>
  </html>
```

Skeleton HTML

<DOCTYPE>

instruction to the web browser about the html version being used

<html>

indicates to the browser the start of the doc

<head>

contains information about the HTML doc:
title, styles, scripts, etc.

<title>

defines the title of the doc

<body>

what will be displayed

my_first_code.html

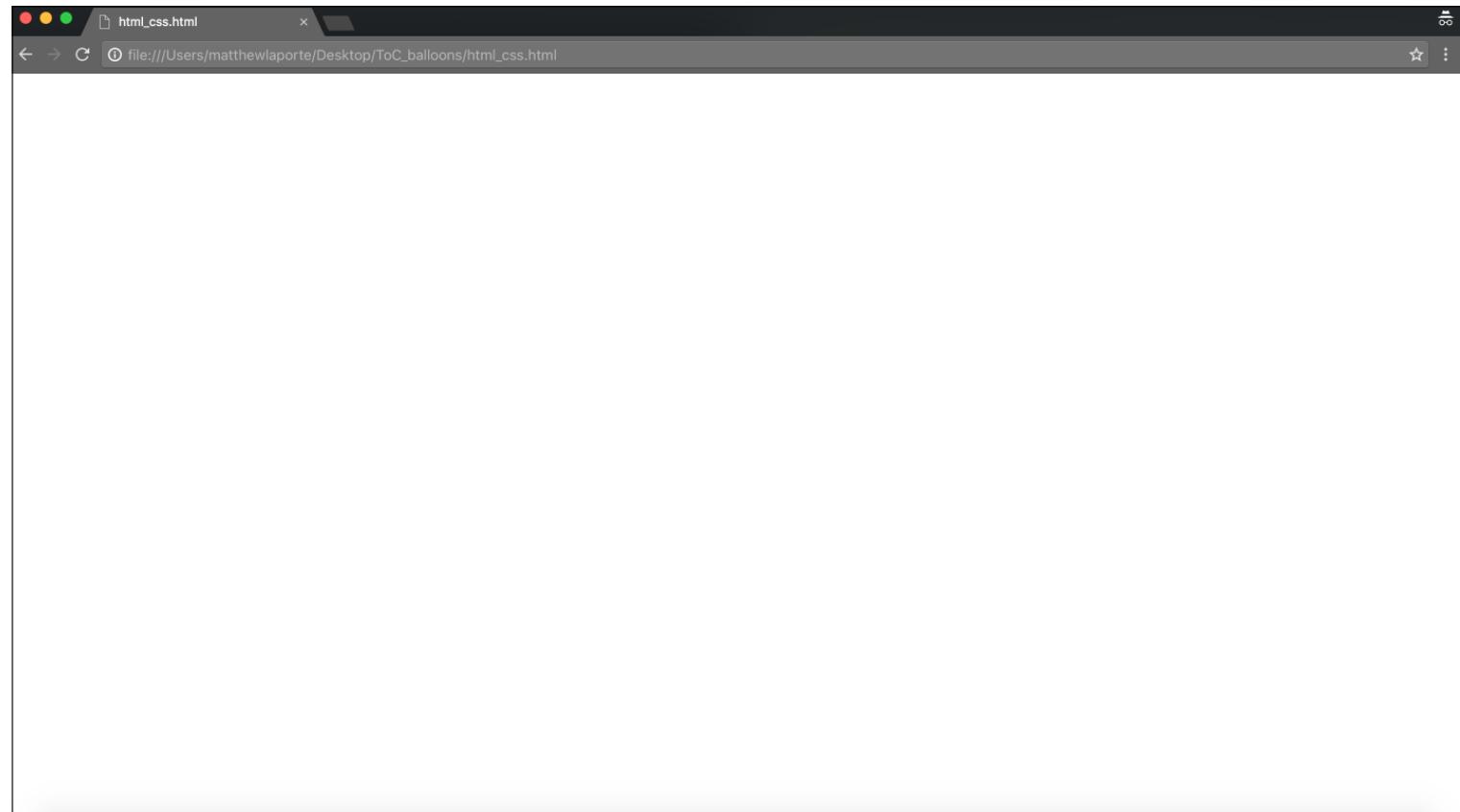
```
<!DOCTYPE html>
<html>
  <head>
    <title></title>
  </head>
  <body>

  </body>
</html>
```

Skeleton HTML

```
<!DOCTYPE html>
<html>
  <head>
    <title></title>
  </head>
  <body>

  </body>
</html>
```



Applying some content

<h1>

defines a heading; <h1> - <h6>

<p>

defines a paragraph

defines an unordered list

defines a list item in a list

my_first_code.html

```
<!DOCTYPE html>
<html>
  <head>
    <title>Taste of Code</title>
  </head>
  <body>
    <h1>Agenda</h1>

    <p>On the menu today:</p>

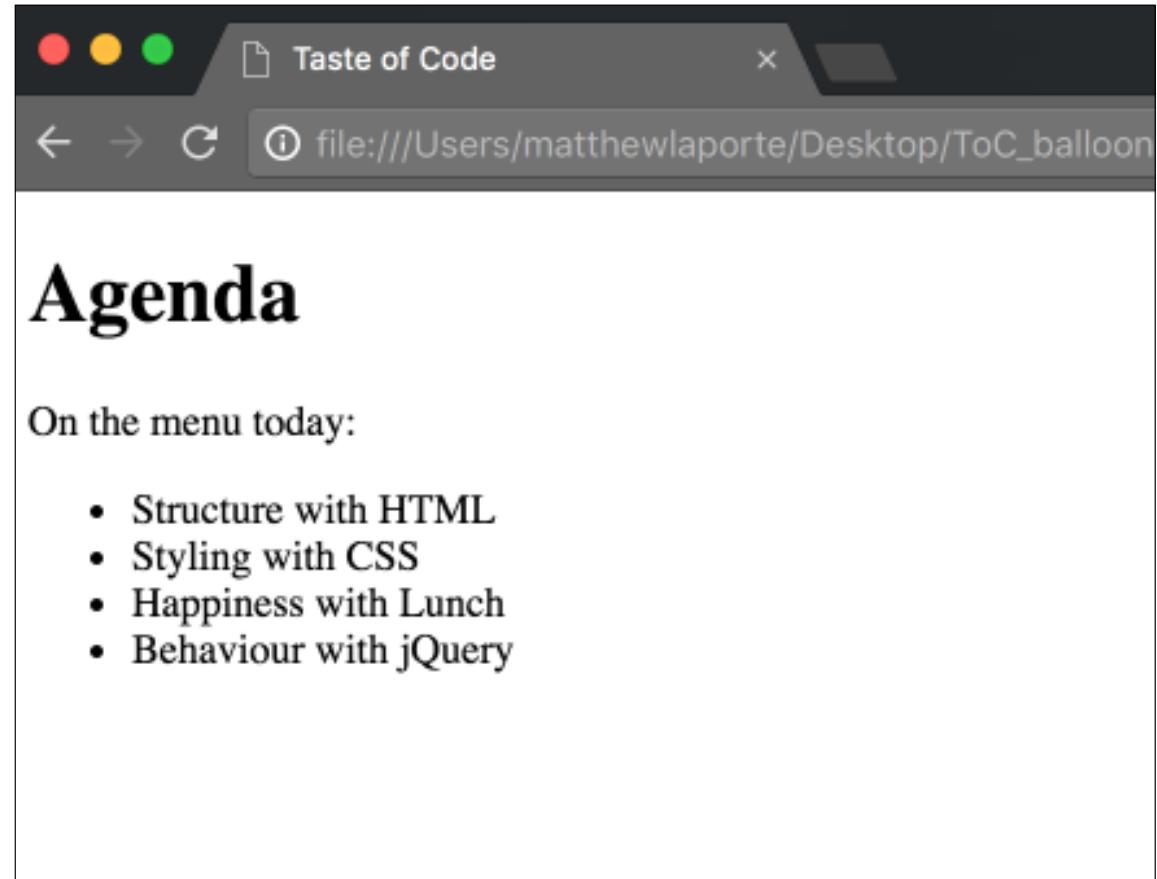
    <ul>
      <li>Structure with HTML</li>
      <li>Styling with CSS</li>
      <li>Happiness with Lunch</li>
      <li>Behaviour with jQuery</li>
    </ul>
  </body>
</html>
```

Applying some content

```
<!DOCTYPE html>
<html>
  <head>
    <title>Taste of Code</title>
  </head>
  <body>
    <h1>Agenda</h1>

    <p>On the menu today:</p>

    <ul>
      <li>Structure with HTML</li>
      <li>Styling with CSS</li>
      <li>Happiness with Lunch</li>
      <li>Behaviour with jQuery</li>
    </ul>
  </body>
</html>
```



<tags>...</tags>

```
<!DOCTYPE html>
<html>
  <head>
    <title>Taste of Code</title>
  </head>
  <body>
    <h1>Agenda</h1>

    <p>On the menu today:</p>

    <ul>
      <li>Structure with HTML</li>
      <li>Styling with CSS</li>
      <li>Happiness with Lunch</li>
      <li>Behaviour with jQuery</li>
    </ul>
  </body>
</html>
```

<h1>Agenda </h1>

Opening tag = starts heading

Closing tag = stops heading

What is HTML?

```
<!DOCTYPE html>
<html>
  <head>
    <title>Taste of Code</title>
  </head>
  <body>
    <h1>Agenda</h1>

    <p>On the menu today:</p>

    <ul>
      <li>Structure with HTML</li>
      <li>Styling with CSS</li>
      <li>Happiness with Lunch</li>
      <li>Behaviour with jQuery</li>
    </ul>
  </body>
</html>
```

The screenshot shows a presentation slide titled "Agenda". At the top, there is a toolbar with various icons for file operations like Open, Save, Print, and Help, along with a "Taste of Code" dropdown and a "Collaborate" button. Below the toolbar, the slide content starts with the heading "Agenda". Underneath the heading, the text "On the menu today:" is followed by a bulleted list:

- Structure with HTML
- Styling with CSS
- Happiness with Lunch
- Behaviour with jQuery

The left side of the slide displays the original HTML code used to generate the content.

Your Turn!

HTML

Exercise

Create your first HTML document utilising **title**, **h1**,
p and **ul/li** elements:

- Create a new folder on your desktop called **my_first_code**
- Open atom and create a new file called **my_first_code.html**
- Follow the basic HTML structure

:{}()

HTML

Exercise

Your Turn!

```
<!DOCTYPE html>
<html>
  <head>
    <title>Taste of Code</title>
  </head>
  <body>
    <h1>Agenda</h1>

    <p>On the menu today:</p>

    <ul>
      <li>Structure with HTML</li>
      <li>Styling with CSS</li>
      <li>Happiness with Lunch</li>
      <li>Behaviour with jQuery</li>
    </ul>
  </body>
</html>
```

:{}()

css

Style and Presentation

Describing how HTML looks

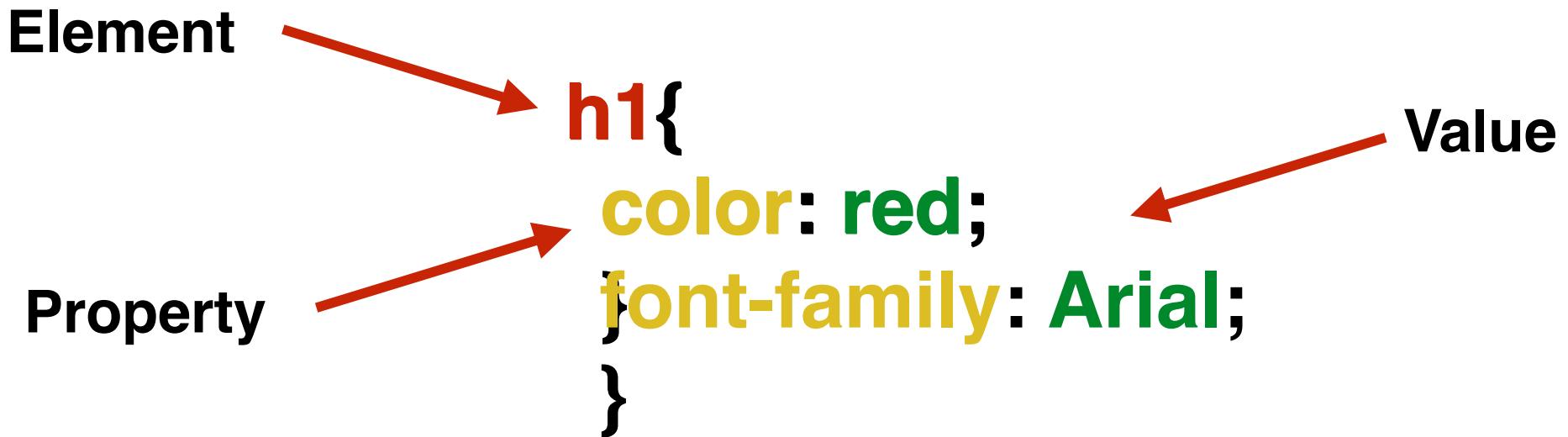
:{)

What is CSS?

CSS is a **stylesheet language** that associates style rules with HTML elements

- text color
- fonts style
- spacing between elements
- background images

CSS Declaration



CSS Structure

<style>

defines style information for an HTML doc;
how elements should render in the browser

my_first_code.html

```
<!DOCTYPE html>
<html>
  <head>
    <title>Taste of Code</title>

    <style>
      h1 {
        color: red;
      }
    </style>

  </head>
  <body>
    <h1>Agenda</h1>

    <p>On the menu today:</p>
```

Reminder:

A colon(":") after the property and a semi-colon (";") after the value

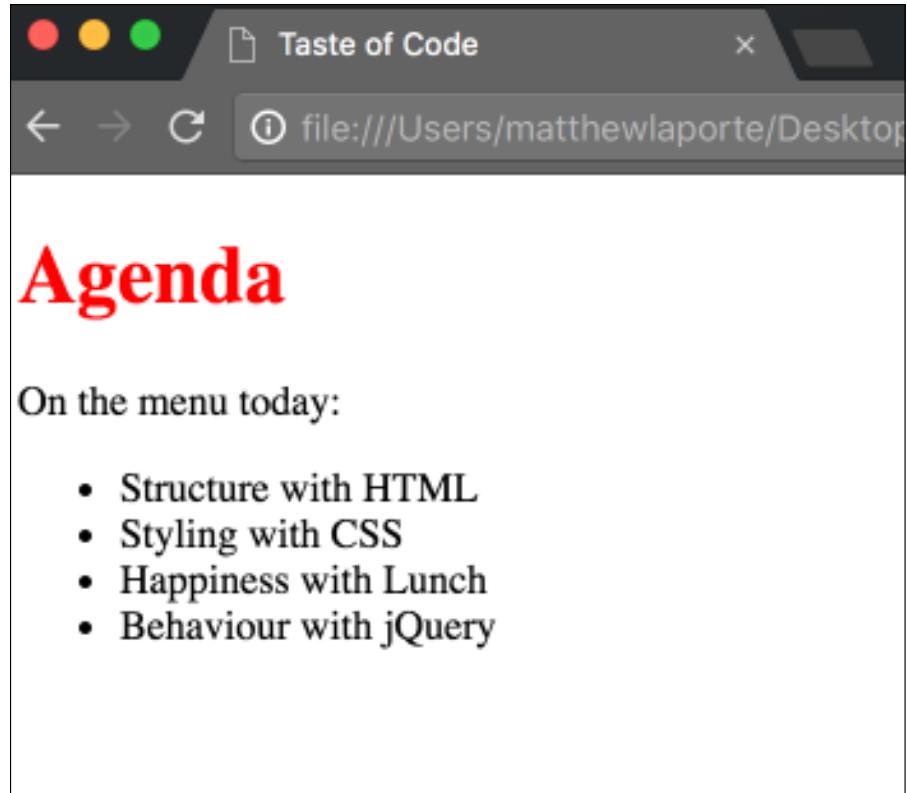
CSS Structure

```
<!DOCTYPE html>
<html>
  <head>
    <title>Taste of Code</title>

    <style>
      h1 {
        color: red;
      }
    </style>

  </head>
  <body>
    <h1>Agenda</h1>

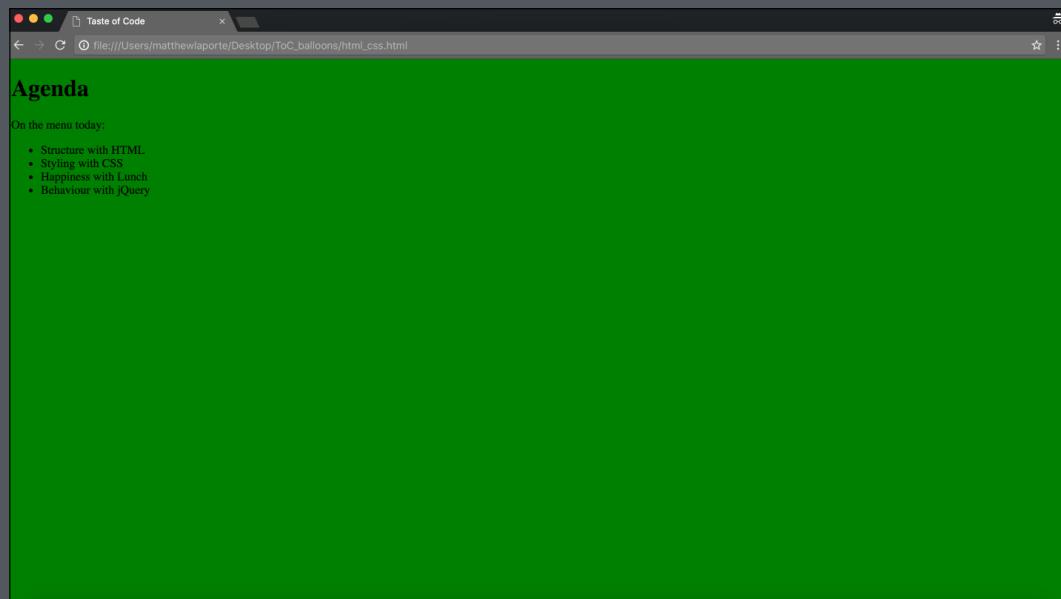
    <p>On the menu today:</p>
```



Your Turn!

CSS Exercise

Change the “background-color” of your document to green.



```
<!DOCTYPE html>
<html>
  <head>
    <title>Taste of Code</title>

    <style>
      h1 {
        color: red;
      }
    </style>

  </head>
  <body>
    <h1>Agenda</h1>
```

:{)

CSS Classes

Classes allow you to apply the same properties to multiple elements.

When selecting a class to style, a period (“.”) precedes the name of the class.

You add the class to the element's first tag in this format: **class="class-name"**.

The name of your class can be anything.

my_first_code.html

```
<!DOCTYPE html>
<html>
  <head>
    <title>Taste of Code</title>

    <style>
      .warning {
        color: red;
      }

      body {
        background-color: green;
      }
    </style>

  </head>
  <body>
    <h1 class="warning">Agenda</h1>

    <p>On the menu today:</p>
```

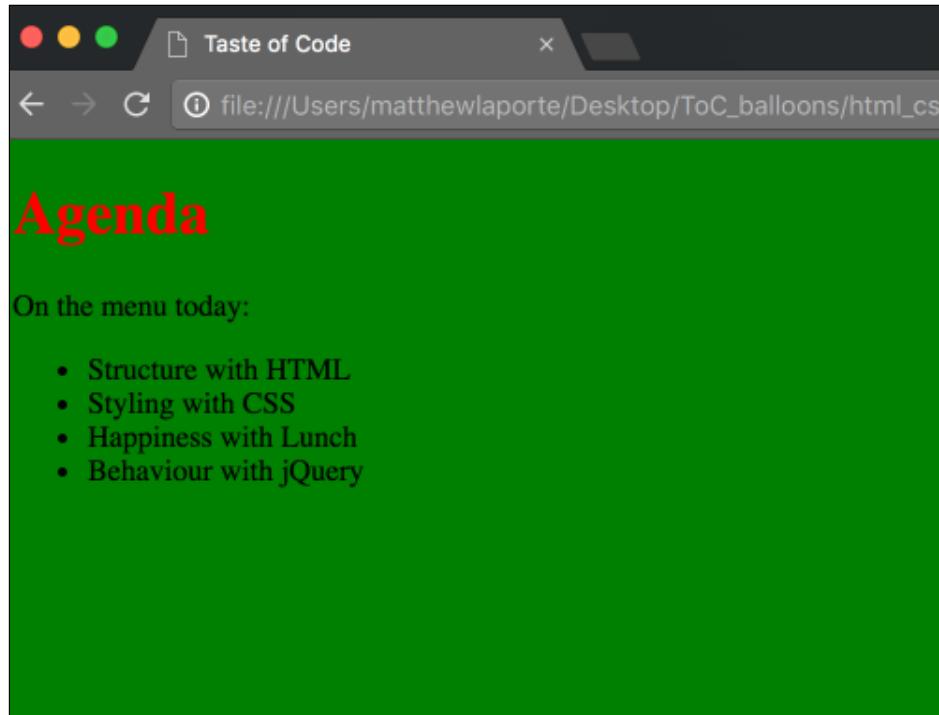
CSS Classes

```
<!DOCTYPE html>
<html>
  <head>
    <title>Taste of Code</title>

    <style>
      .warning {
        color: red;
      }

      body {
        background-color: green;
      }
    </style>

  </head>
  <body>
    <h1 class="warning">Agenda</h1>
    ...
  </body>
</html>
```

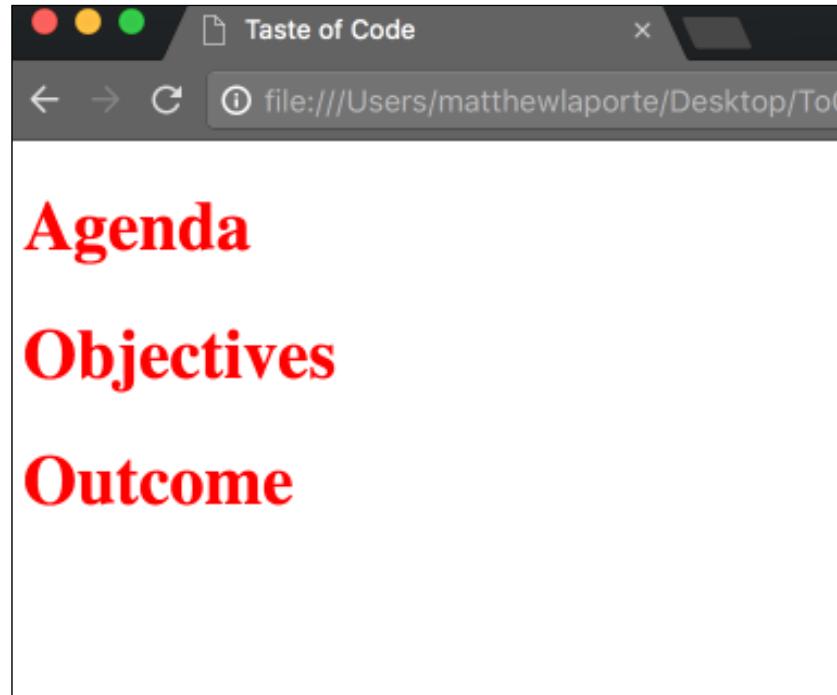


Why use classes?

```
<!DOCTYPE html>
<html>
  <head>
    <title>Taste of Code</title>

    <style>
      h1 {
        color: red;
      }
    </style>

  </head>
  <body>
    <h1>Agenda</h1>
    <h1>Objectives</h1>
    <h1>Outcome</h1>
  </body>
</html>
```



Why use classes?

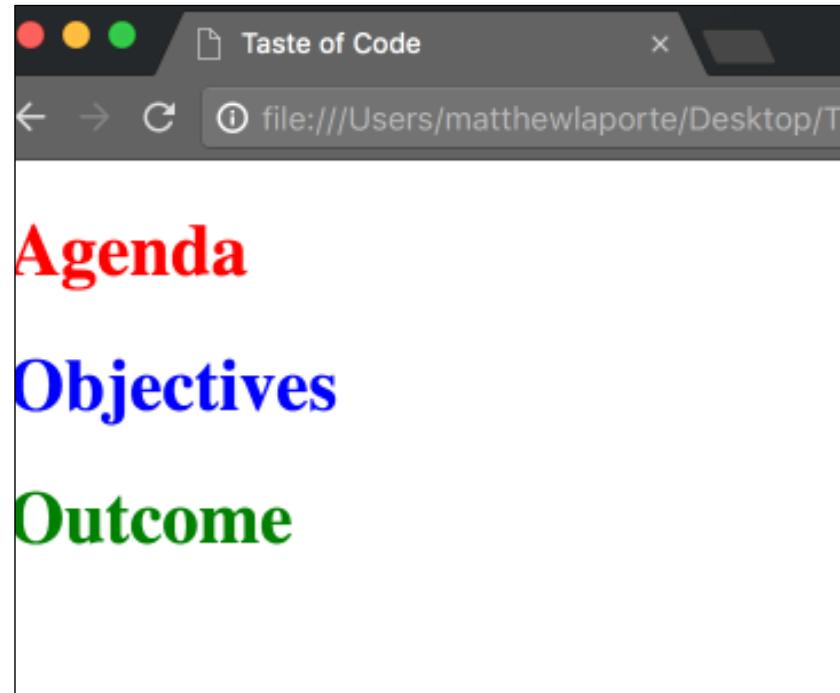
```
<!DOCTYPE html>
<html>
  <head>
    <title>Taste of Code</title>

    <style>
      .warning {
        color: red;
      }

      .dog {
        color: blue;
      }

      .that-guy-from-tv {
        color: green;
      }
    </style>

  </head>
  <body>
    <h1 class="warning">Agenda</h1>
    <h1 class="dog">Objectives</h1>
    <h1 class="that-guy-from-tv">Outcome</h1>
  </body>
</html>
```



Your Turn!

CSS

Exercise

Give your `<p>` tag a class of “elephant” with a value of purple.

```
<!DOCTYPE html>
<html>
  <head>
    <title>Taste of Code</title>

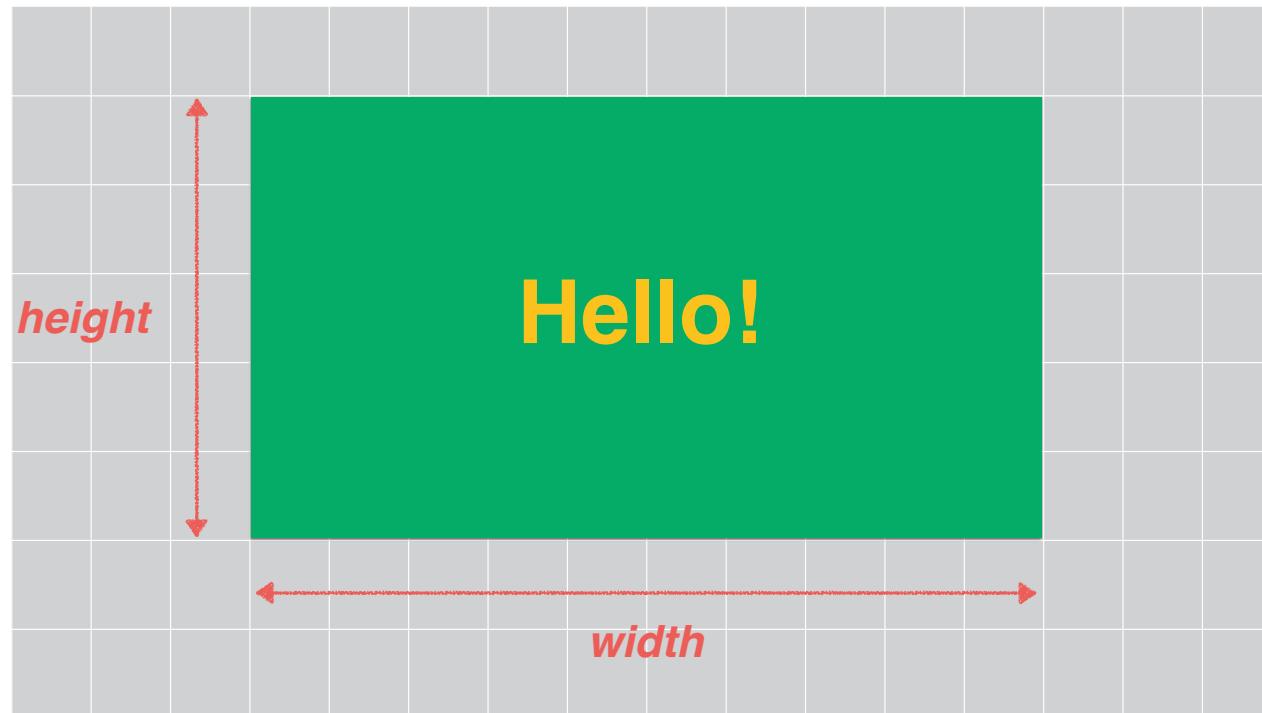
    <style>
      .warning {
        color: red;
      }
    </style>

  </head>
  <body>
    <h1 class="warning">Agenda</h1>
  </body>
</html>
```

:{}()

Padding & Margins

A screen consists of pixels



Padding

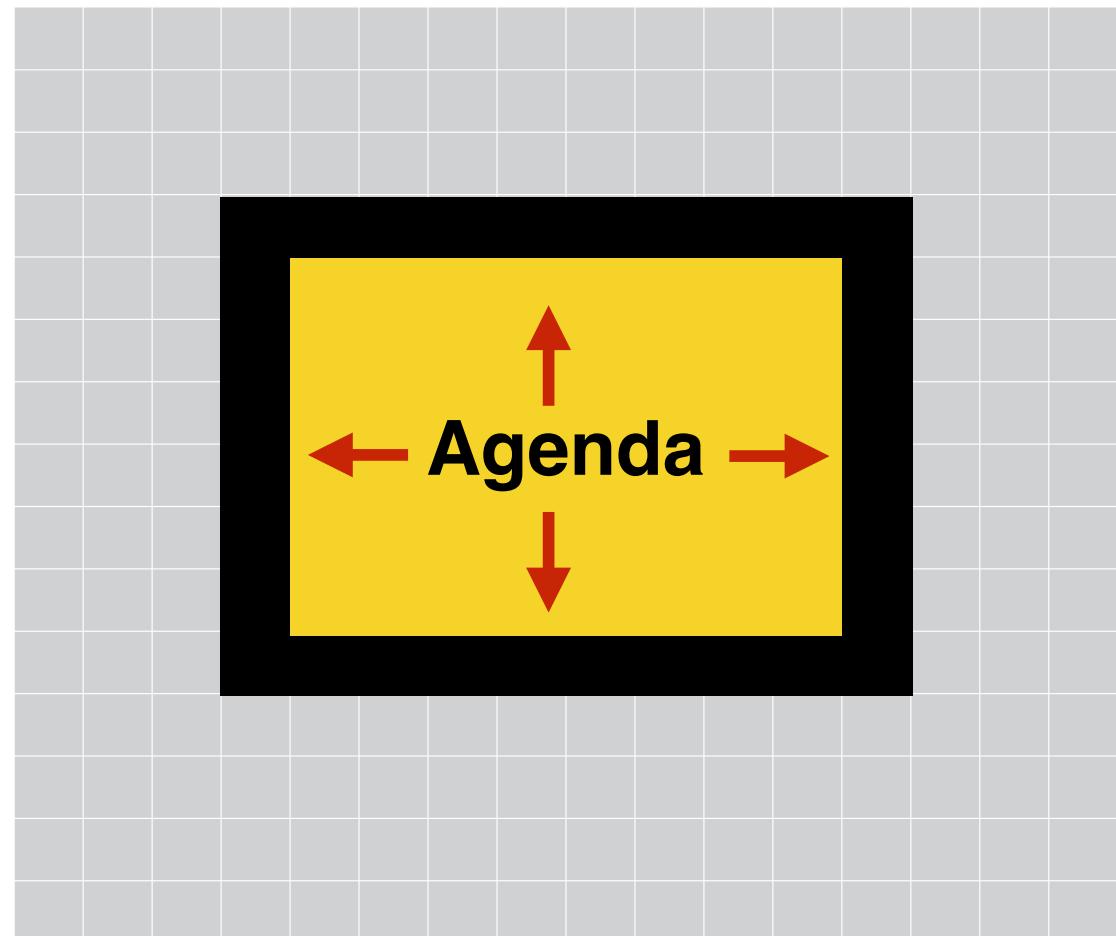
Generate space around content.

Sets the size of white space between the element content and element border.

```
<h1 class="yellow">Agenda</h1>
```

```
<style>
  .yellow {
    background-color: yellow;
    border: 1px solid;
    padding: 2px;
  }
</style>
```

padding-left, padding-right
padding-top, padding-bottom



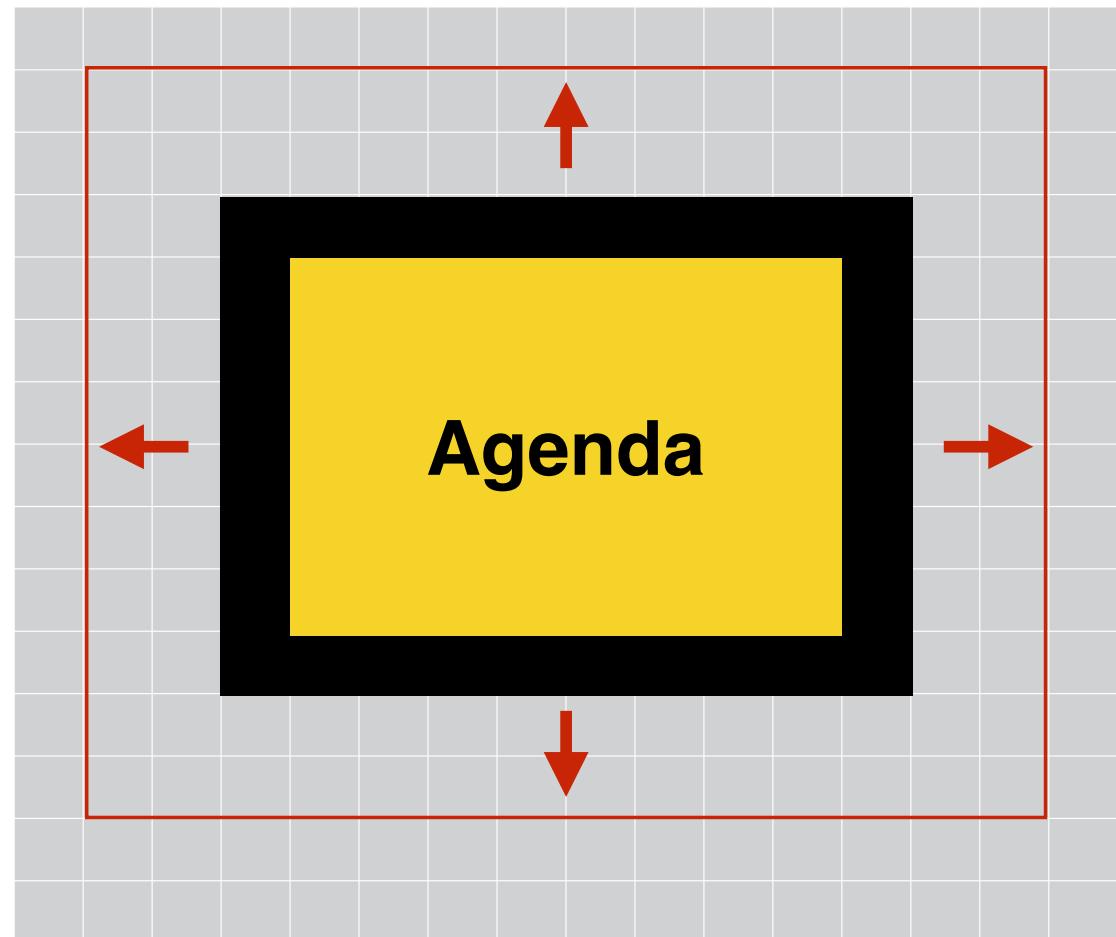
Margins

Set the size of white space outside of the element border.

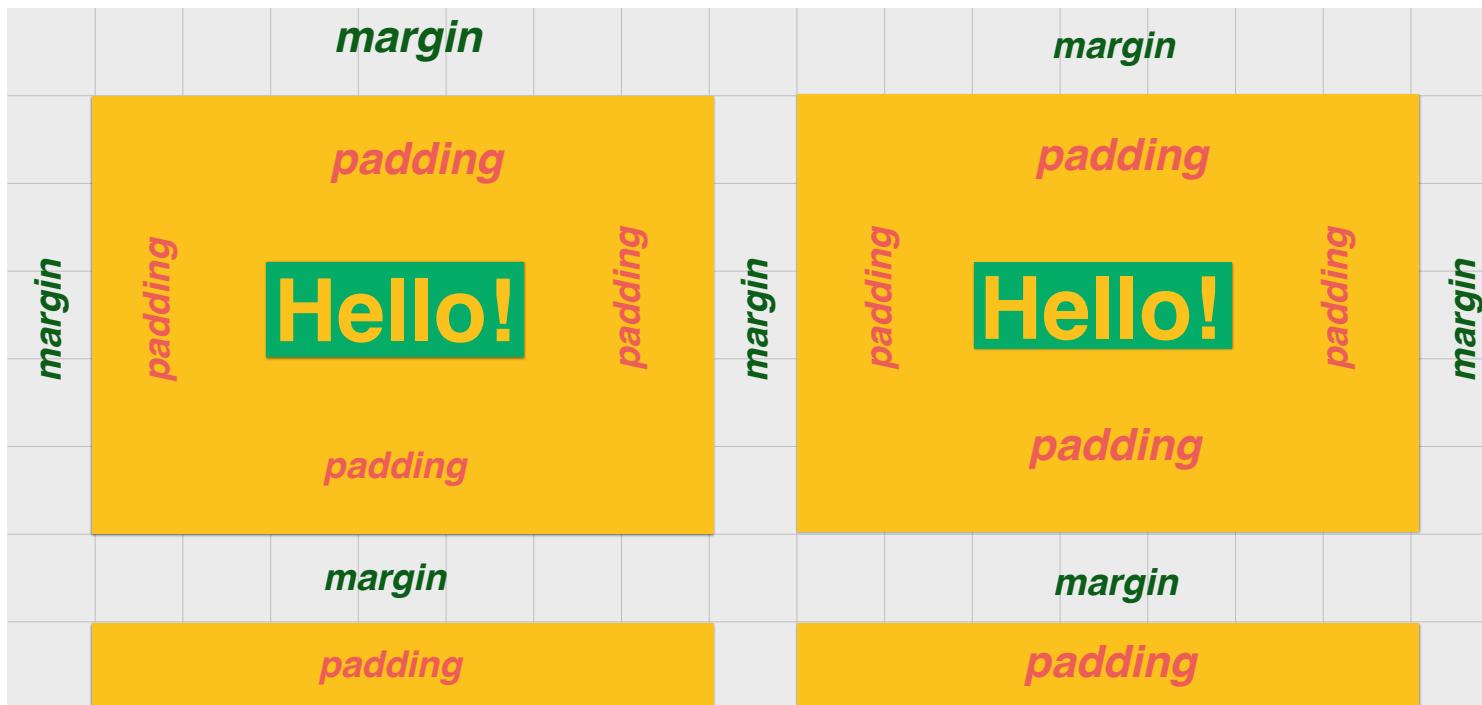
```
<h1 class="yellow">Agenda</h1>
```

```
<style>
  .yellow {
    background-color: yellow;
    border: 1px solid;
    padding: 2px;
    margin: 2px;
  }
</style>
```

margin-left, margin-right
margin-top, margin-bottom



Padding & Margins



Your Turn!

CSS

Exercise

- Create four new CSS classes
- Each class must have a different:
 - background-color
 - padding and margin values
- Apply a single class to each element in your document

```
<style>
  .yellow {
    background-color: yellow;
    border: 1px solid;
    padding: 2px;
    margin: 2px;
  }
</style>
```

:{}()

Starting Over...

- Create an empty folder on your desktop
- In atom, create a new file called **index.html**
- Save in to the folder on your desktop
- Set up your document with the basic HTML skeleton

```
<!DOCTYPE html>
<html>
  <head>
    <title></title>
  </head>
  <body>

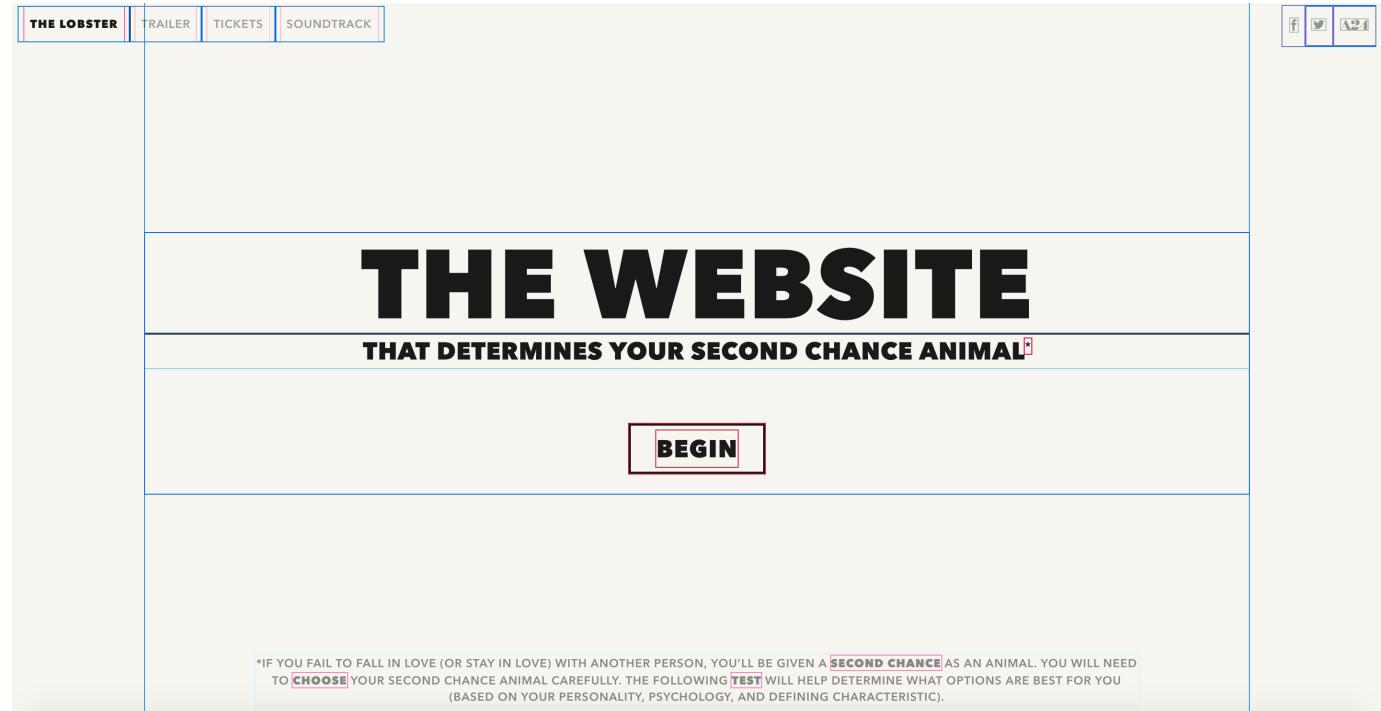
  </body>
</html>
```

Div's

<div>

defines a division or section in an HTML document.

Used to group elements together for styling and/or scripting reasons (ie. animation).

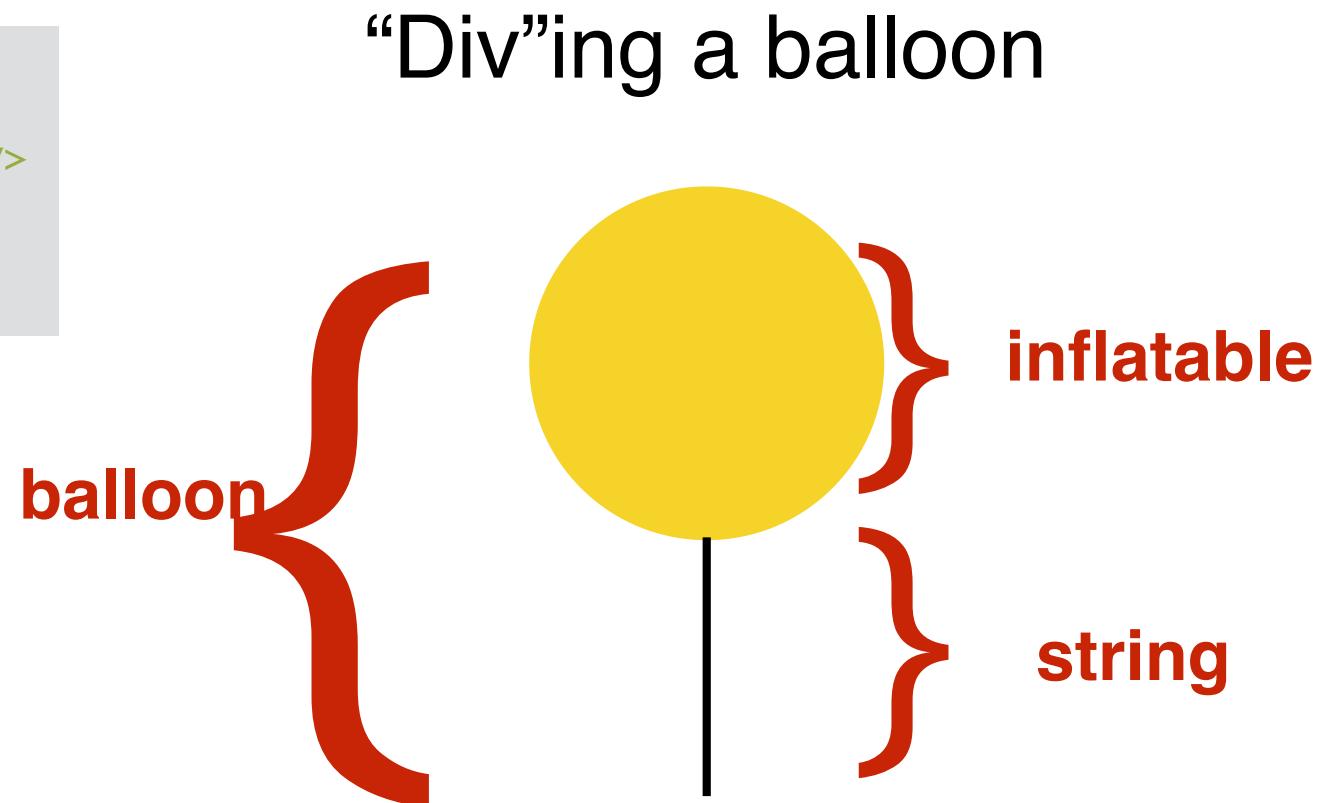


Div's

```
<div class="balloon">  
  <div class="inflatable"></div>  
  <div class="string"></div>  
</div>
```



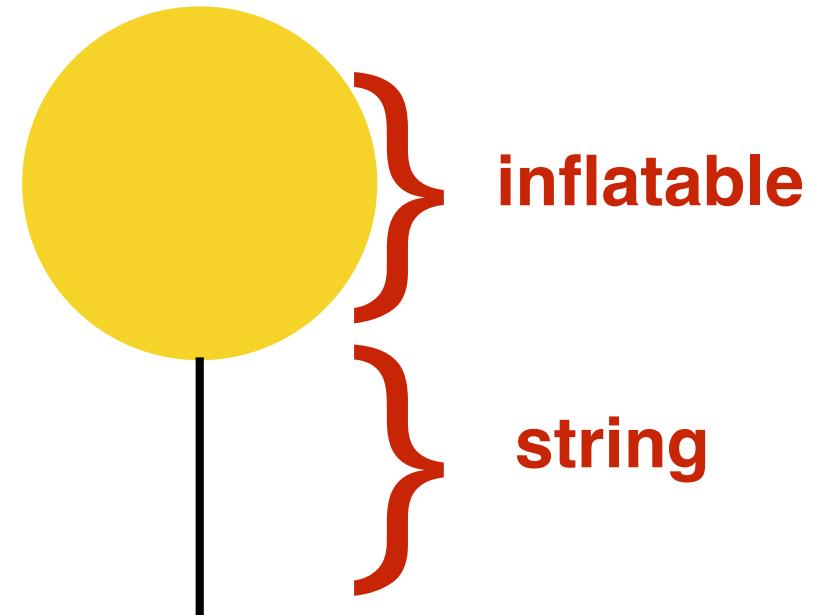
In atom, place this code between
your body tags



Div's

```
<style>
.inflatable {
  width: 180px;
  height: 200px;
  background-color: yellow;
  border-radius: 50%;
}
.string {
  width: 1px;
  height: 100px;
  background-color: black;
  margin-left: 90px;
}
</style>
```

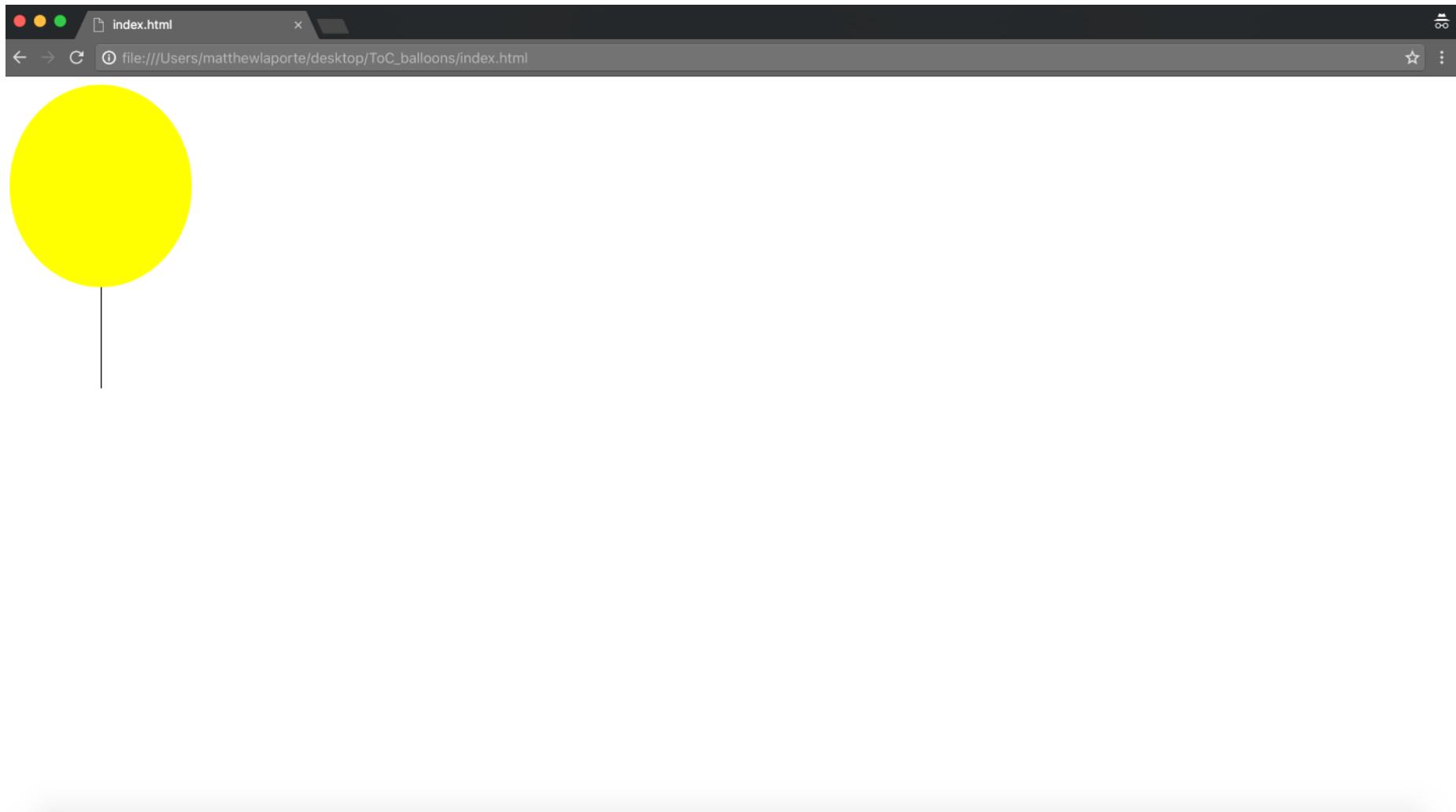
Styling the balloon



In atom, place this code between
style tags within your head tags



Div's



LUNCH

:{)

JavaScript

Behaviour

Adding behaviour and interactivity

:{)

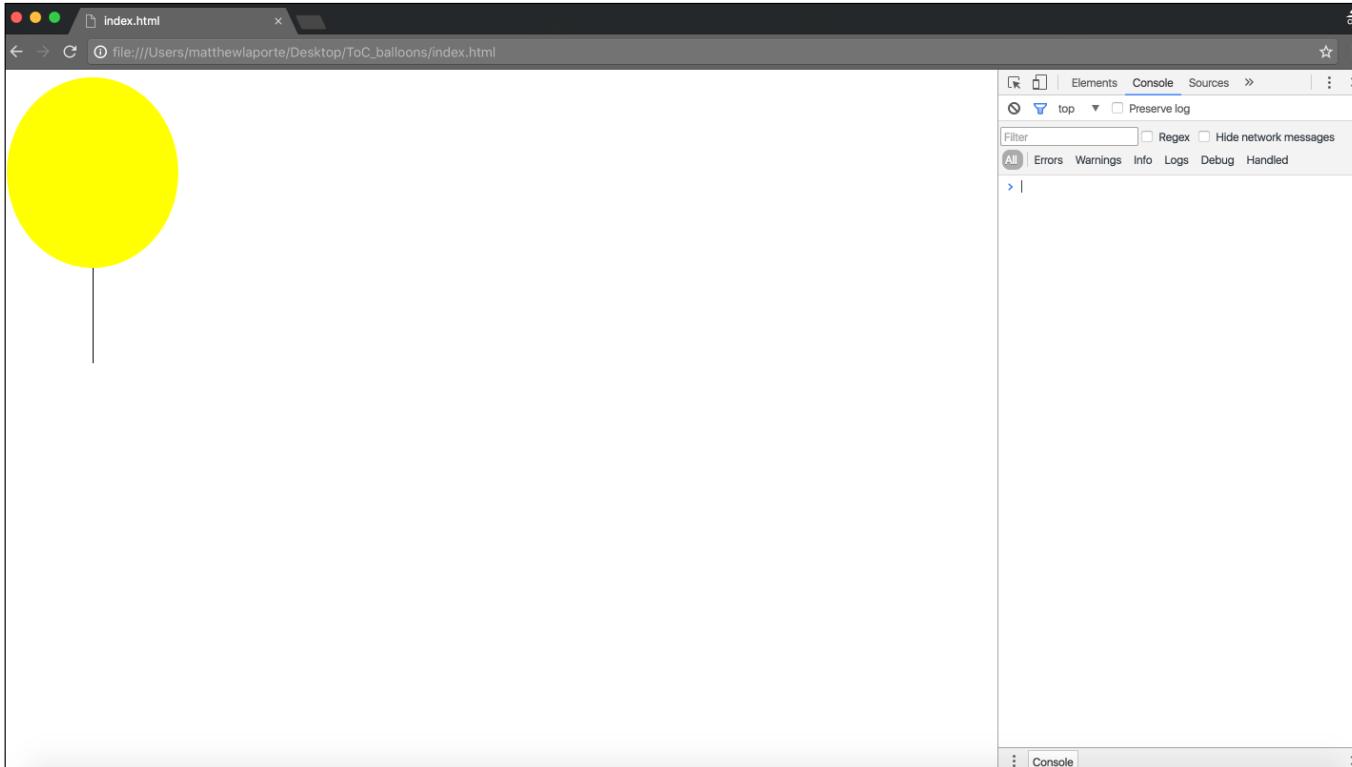
What is JavaScript?

It's a programming language that assists in making webpages more interactive

It is one of the three core technologies
of the World Wide Web

The majority of websites employ it and is supported by
all modern web browsers

JavaScript and your browser

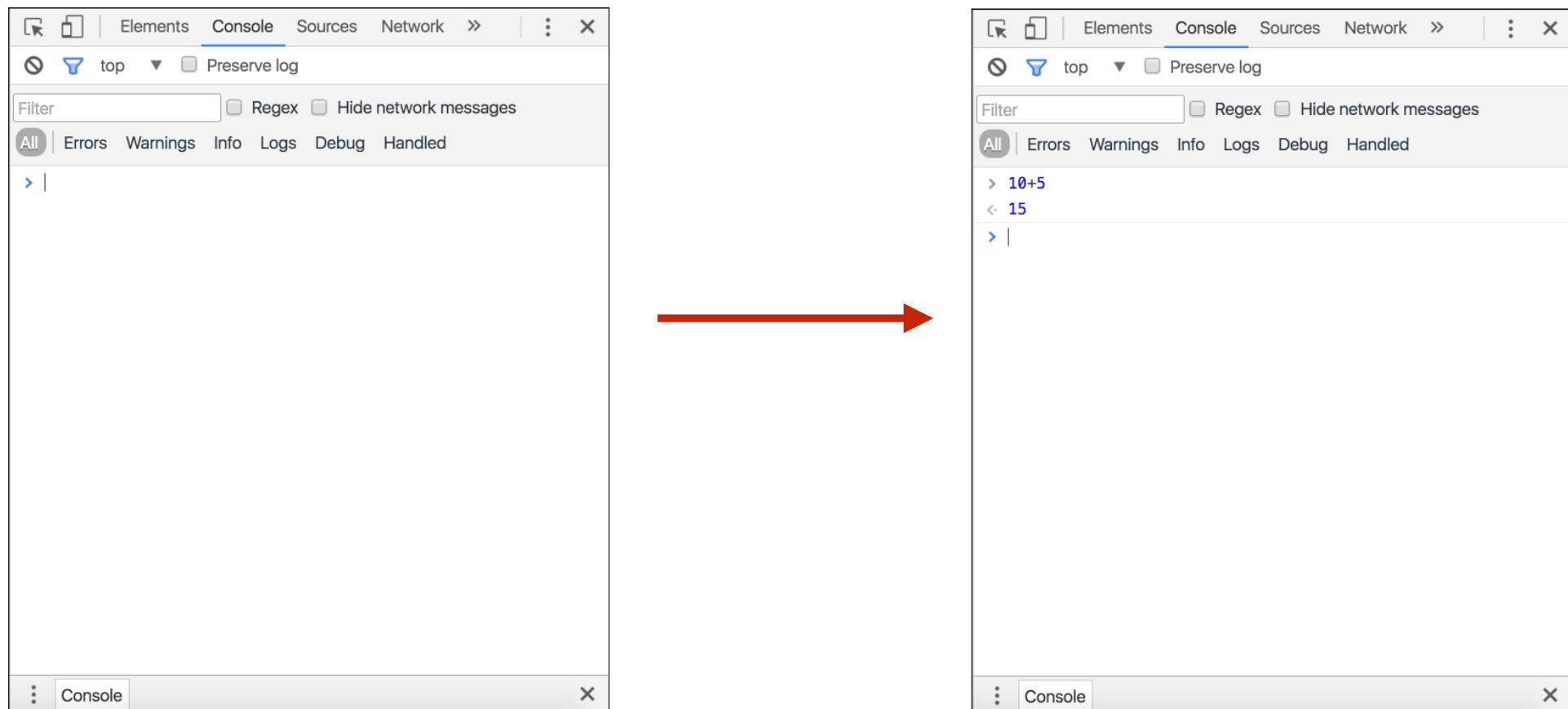


Open JavaScript Console

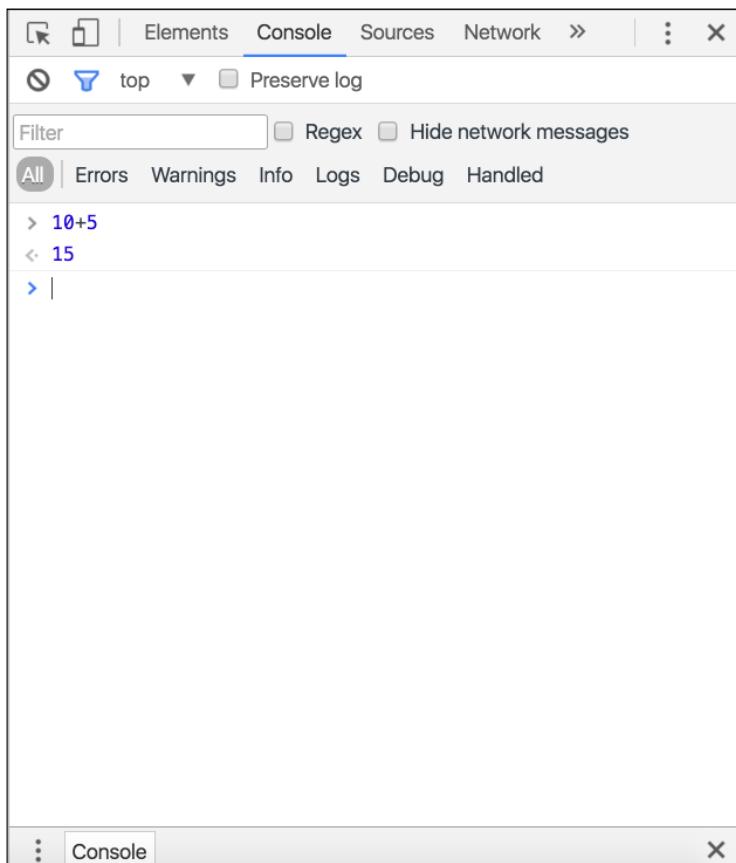
CMD + ALT + J (Mac)

Control + Shift + J (Windows/Linux)

JavaScript and your browser

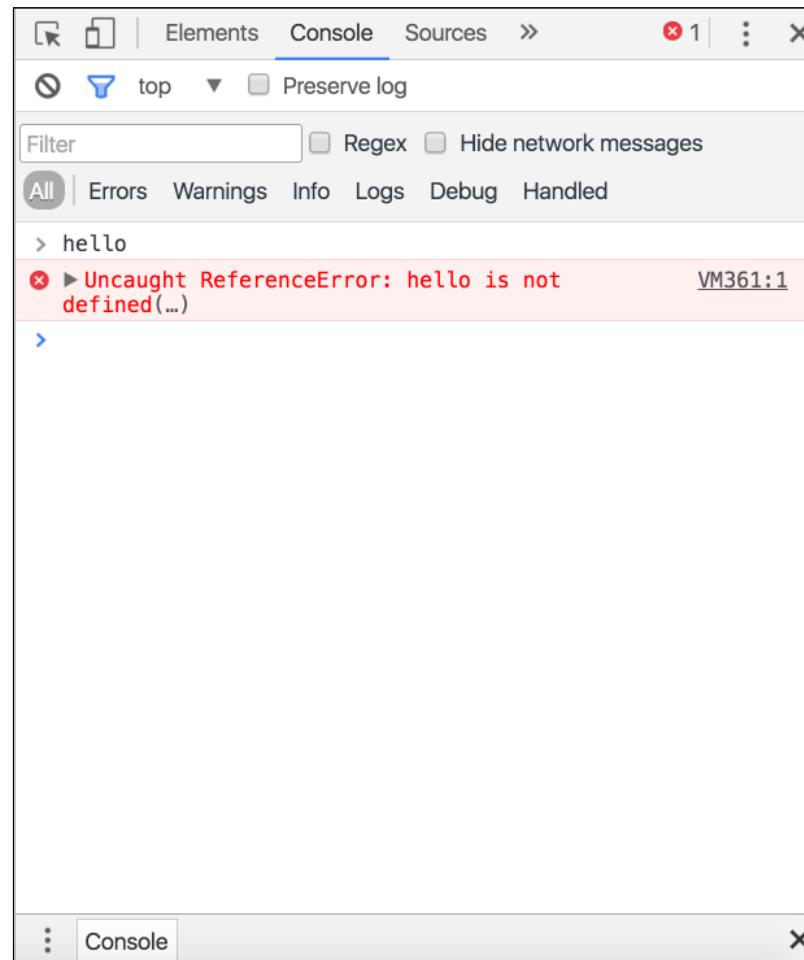


JavaScript and your browser



add +
subtract -
divide /
multiply *

JavaScript and your browser



JavaScript: Glorified Calculator?

Access content

select elements that have a particular class; ie. “balloon”

Modify content

change the properties of our balloon; i.e. colour/shape

React to events

something should happen if a balloon is clicked

Program Rules or Instructions

give the option to play again if our game has finished

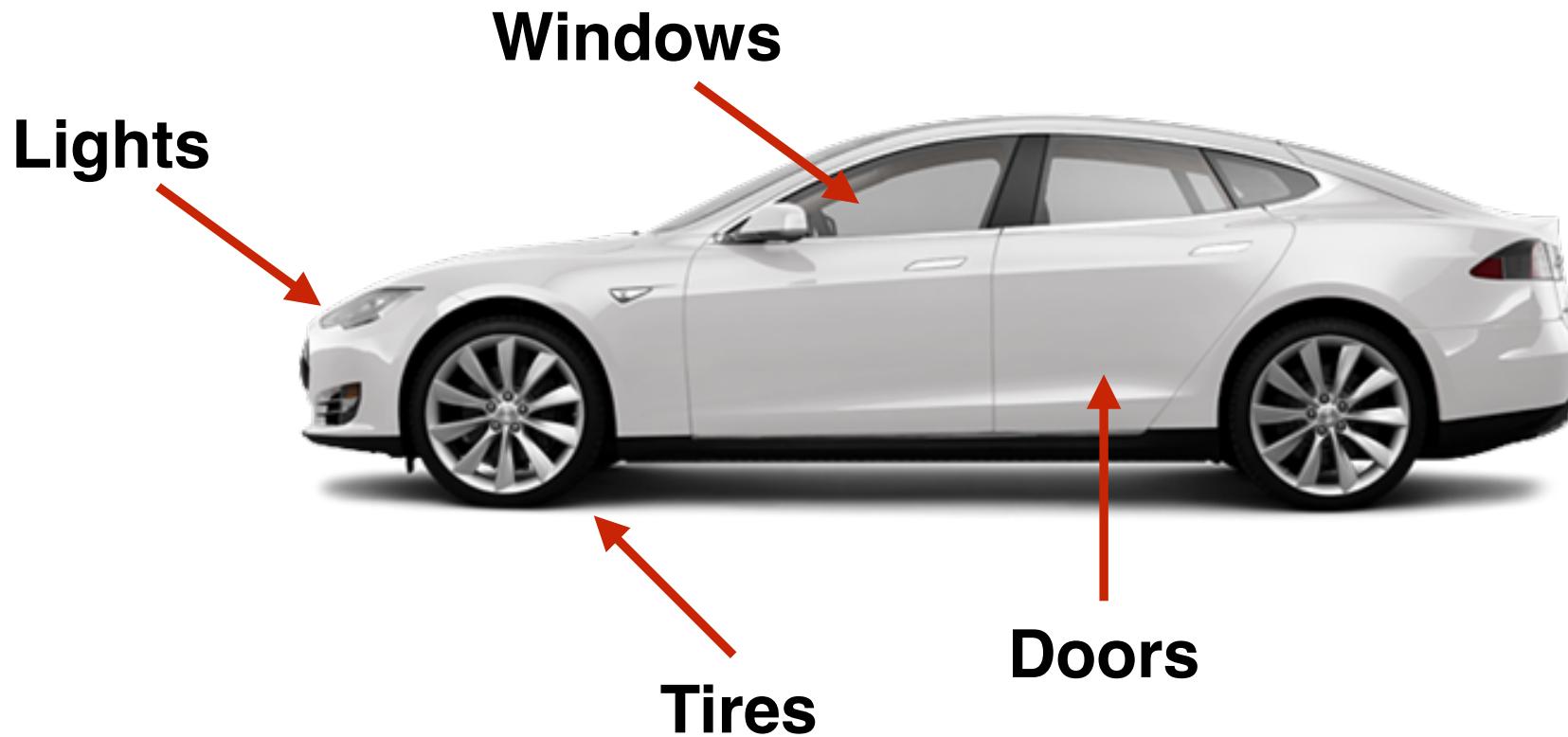
Objects, properties and methods

In computer programming, you can think of an object as something you can think of can have its own properties and methods.

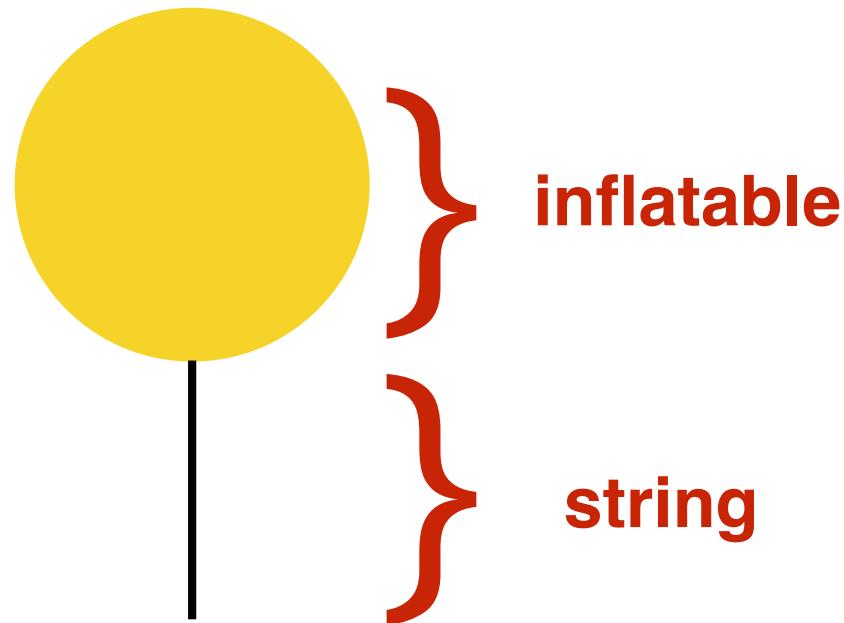


Objects, properties and methods

Properties are the building blocks of objects;
they are value(s) that make an object.



Objects, properties and methods



Objects, properties and methods

Methods are actions that can be performed on an object.

driveForward

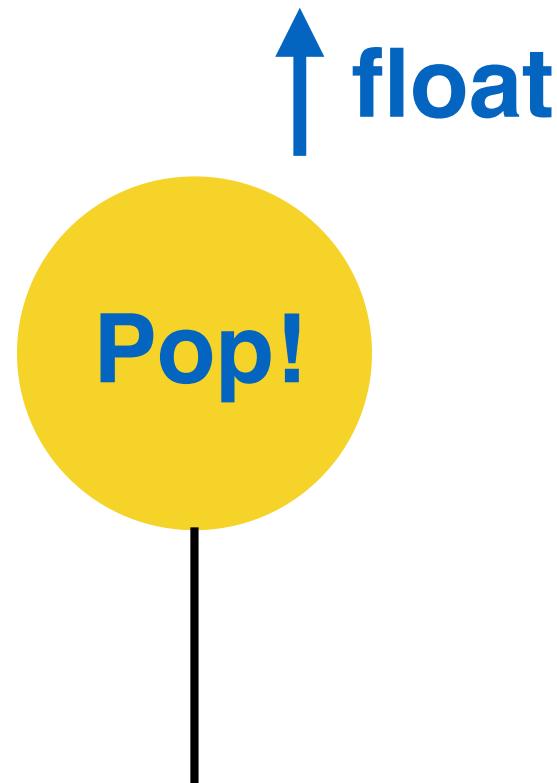


Objects, properties and methods

Methods are actions that can be performed on an object.

reverse

Objects, properties and methods



Variables

Variables can be thought of as **named containers**.

You can place data into these containers and refer to that data simply by **calling the container**.

Variables are useful in utilising recurring data.

Variables

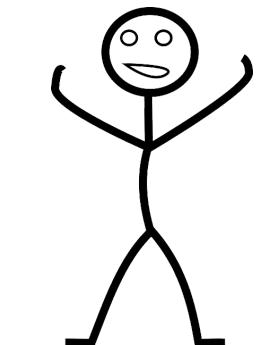
Variables are not the values they store but merely a reference to them

Variable

Object



“Bob”



Variables

White Tesla = Bob

var

var whiteTesla

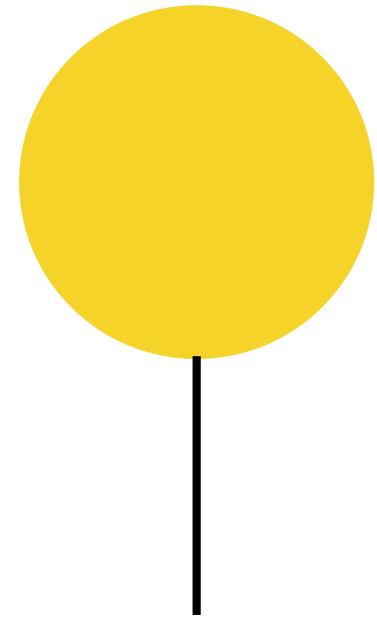
var whiteTesla = “Bob”

Variables

var balloon



balloon



Variables

var balloon

balloon



jQuery

Easier JavaScript

Implementing JavaScript with less hassle

:{)

JavaScript vs jQuery

Pure JavaScript

```
function changeBackground(color) {  
    document.body.style.background = color;  
}  
onload="changeBackground('red');"
```

jQuery

```
$(‘body’).css(‘background’, ‘#ccc’);
```

What is jQuery?

jQuery is a JavaScript library

A **JavaScript library** is pre-written JavaScript code that makes things easier

jQuery makes it easier for you to utilise JavaScript!

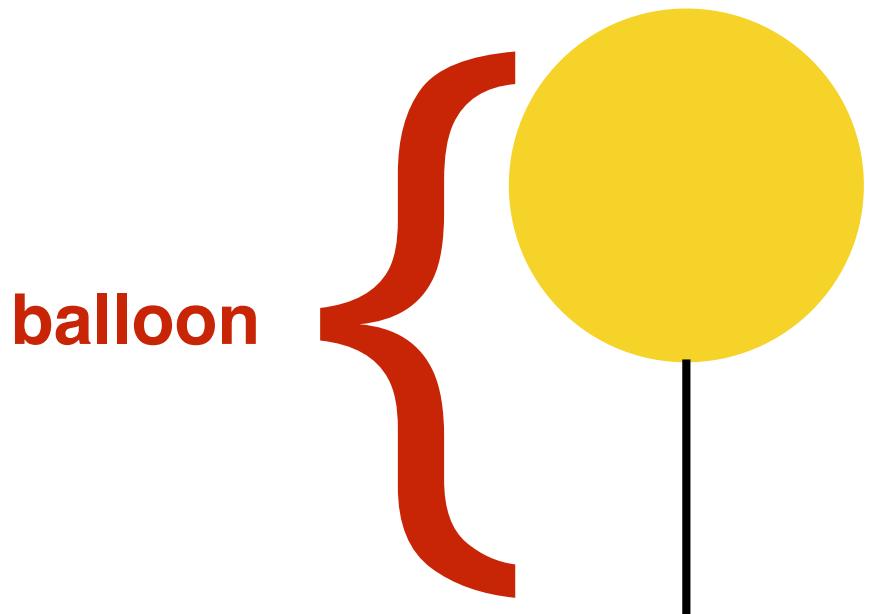
Include the jQuery library

index.html

```
<!DOCTYPE html>
<html>
  <head>
    <title>Matt's Balloon Game</title>
    <style>
      ...
    </style>
  </head>
  <body>
    ...
  </body>
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/2.2.4/jquery.min.js"></script>
</html>
```

Cloning your balloon

```
<div class="balloon">  
  <div class="inflatable"></div>  
  <div class="string"></div>  
</div>
```



Syntax

```
var balloon = $(".balloon");  
var balloonCopy = balloon.clone();  
balloonCopy.appendTo("body");
```

Cloning your balloon

index.html

```
<!DOCTYPE html>
<html>
  <head>
    <title>Matt's Balloon Game</title>
    <style>
      ...
    </style>
  </head>
  <body>
    ...
  </body>
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/2.2.4/jquery.min.js"></script>
  <script>
    var balloon = $(".balloon");
    var balloonCopy = balloon.clone();
    balloonCopy.appendTo("body");
  </script>
</html>
```

Your Turn!

jQuery

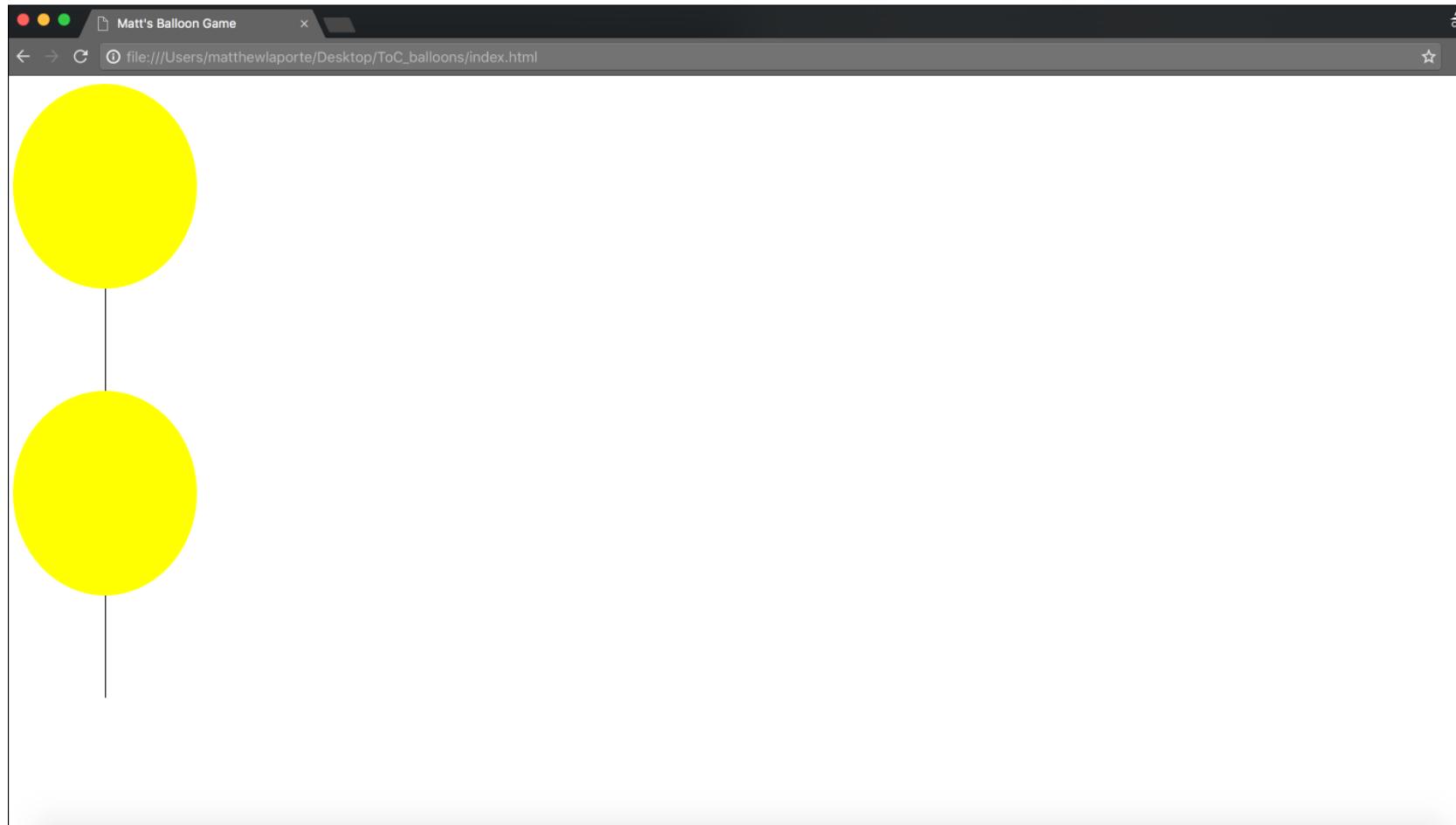
Exercise

Add the cloning syntax to your index file

index.html

```
</body>
<script src="https://ajax.googleapis.com/ajax/libs/jquery/2.2.4/jquery.min.js"></script>
<script>
  var balloon = $(".balloon");
  var balloonCopy = balloon.clone();
  balloonCopy.appendTo("body");
</script>
</html>
```

Cloning your balloon



Loops

Often you will want to perform
a **series of actions** on an object.

The simplest way to create more balloons is
to **loop** through the properties of the object,
using the **for()** method.

Loops

Syntax for implementing a for loop:

index.html

```
<script>
    var balloon = $(".balloon");
    for(var i=0; i<10; i++){
        var balloonCopy = balloon.clone();
        balloonCopy.appendTo("body");
    }
</script>
```

Your Turn!

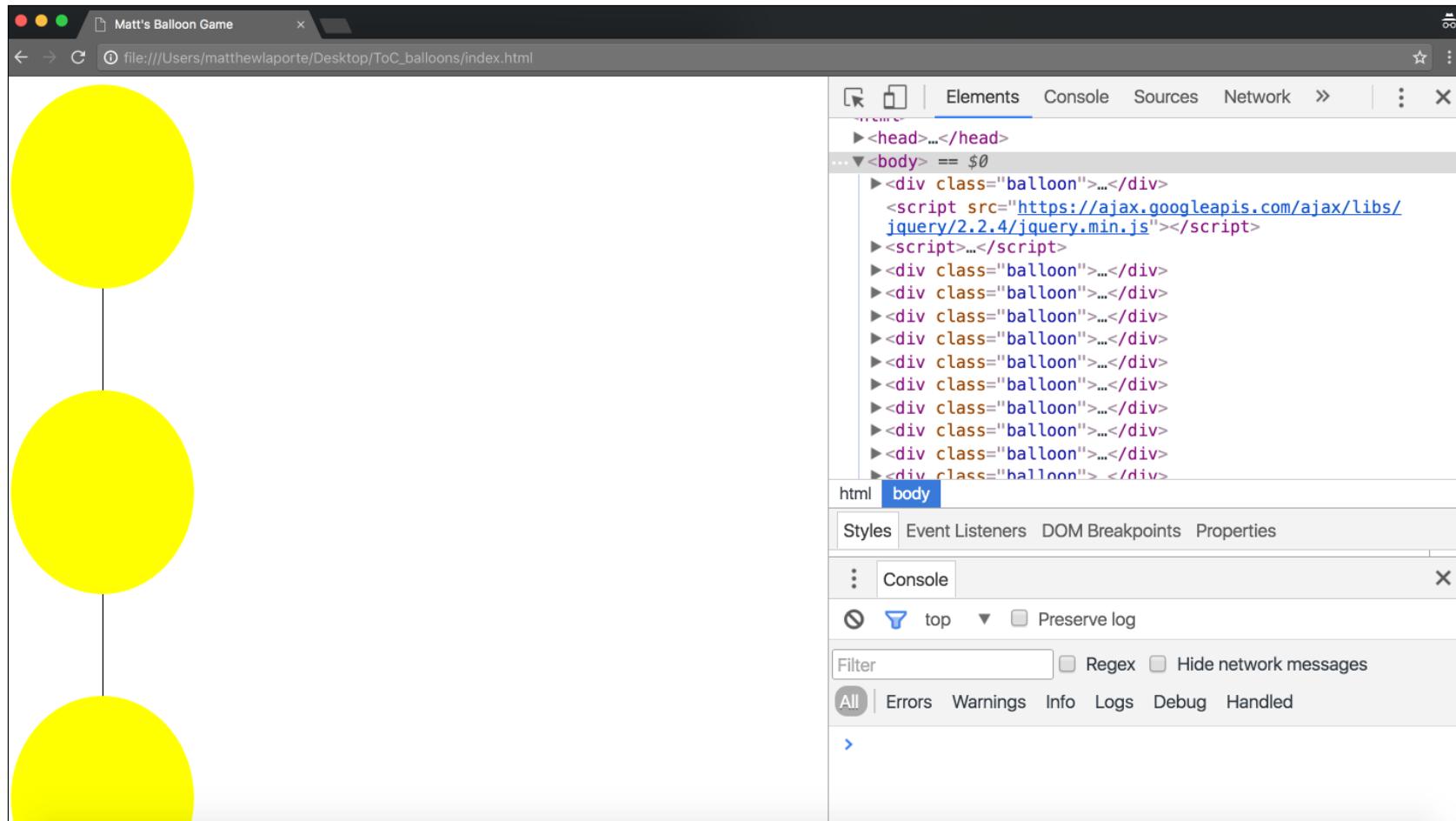
jQuery Exercise

Implement the loop function below to create 10 balloons

index.html

```
<script>
  var balloon = $(".balloon");
  for(var i=0; i<10; i++){
    var balloonCopy = balloon.clone();
    balloonCopy.appendTo("body");
  }
</script>
```

Loops



Events

Events are things that happen to HTML elements.

Javascript lets you execute code when events are detected

We can use a click event to assist in “popping” our balloons.

Events

We are going to use a `.click()` event to remove the balloons from the screen when...we click on them

```
balloonCopy.click(function(){
  $(this).remove();
});
```

this?

it's really just a shortcut reference
to the object that invoked the method

Callback

method as an argument
of a method

Your Turn!

jQuery Exercise

Using the syntax below, incorporate the click event to start popping balloons.

index.html

```
balloonCopy.appendTo("body");
balloonCopy.click(function(){
    $(this).remove();
});
balloon.remove();
</script>
```

Positioning absolute-ly

We can adjust the positioning of the balloons using the **absolute** css value.

Absolute is a type of positioning that allows you to literally place any element exactly where you want it.

Your Turn!

CSS

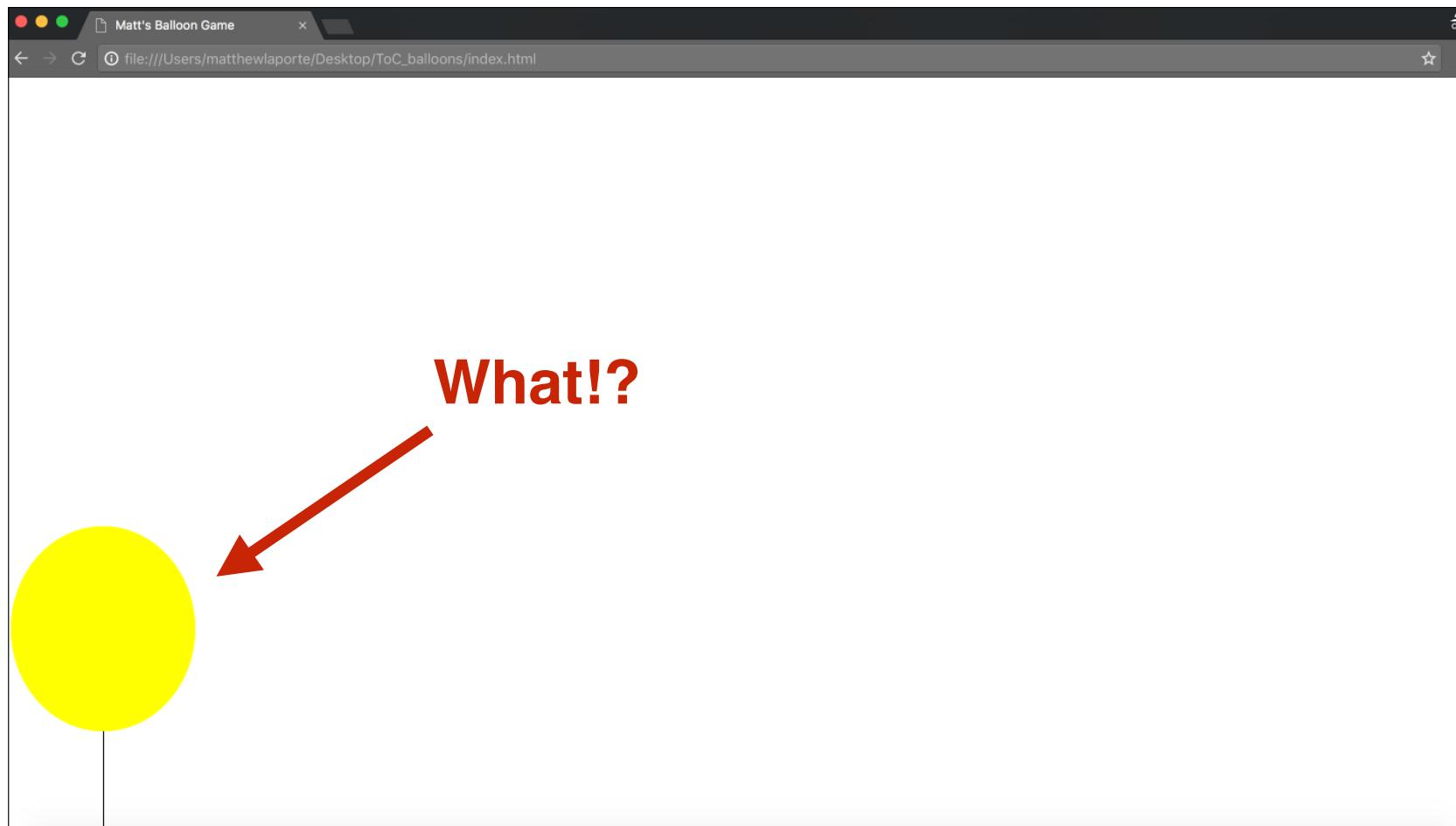
Exercise

Using the syntax below, add position attributes to the CSS balloon class so they change position.

index.html

```
.balloon{  
    position: absolute;  
    bottom: 0;  
}
```

Positioning: absolute-ly



Your Turn!

CSS

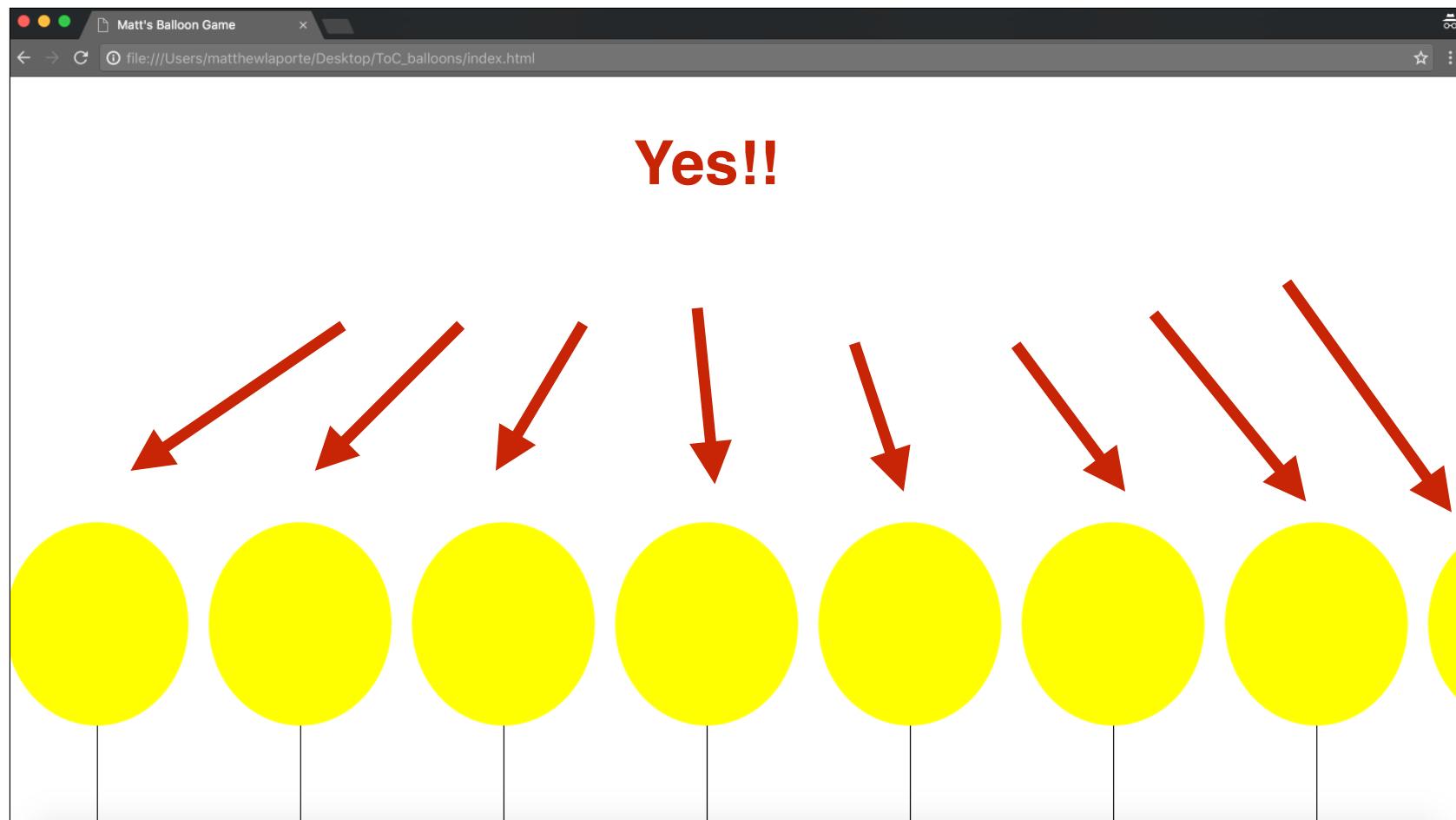
Exercise

Using the syntax below, add css attribute so the balloons they appear in a straight line.

index.html

```
var balloonCopy = balloon.clone();
balloonCopy.css({
  left: i * 200
});
balloonCopy.appendTo("body");
```

Positioning



Animate

We can make our balloons rise by using the **animate** method.

Animate changes an element from one state to another gradually, by adjusting the CSS attributes.

Your Turn!

jQuery Exercise

Using the syntax below, make your balloons rise.

index.html

```
balloonCopy.appendTo("body");
balloonCopy.click(function(){
    $(this).remove();
});
balloonCopy.animate({ bottom: "100%" }, 8000);
};
balloon.remove();
```

Your Turn!

jQuery Exercise

Using the syntax below to setup up the score counter.

```
var balloon = $(".balloon");
var counter = 0;

...
balloonCopy.appendTo("body");
balloonCopy.click(function(){
    $(this).remove();
    counter = counter + 1;
    $(".counter").html(counter);
});
balloonCopy.animate({ bottom: "100%"}, 8000);
```

index.html

Your Turn!

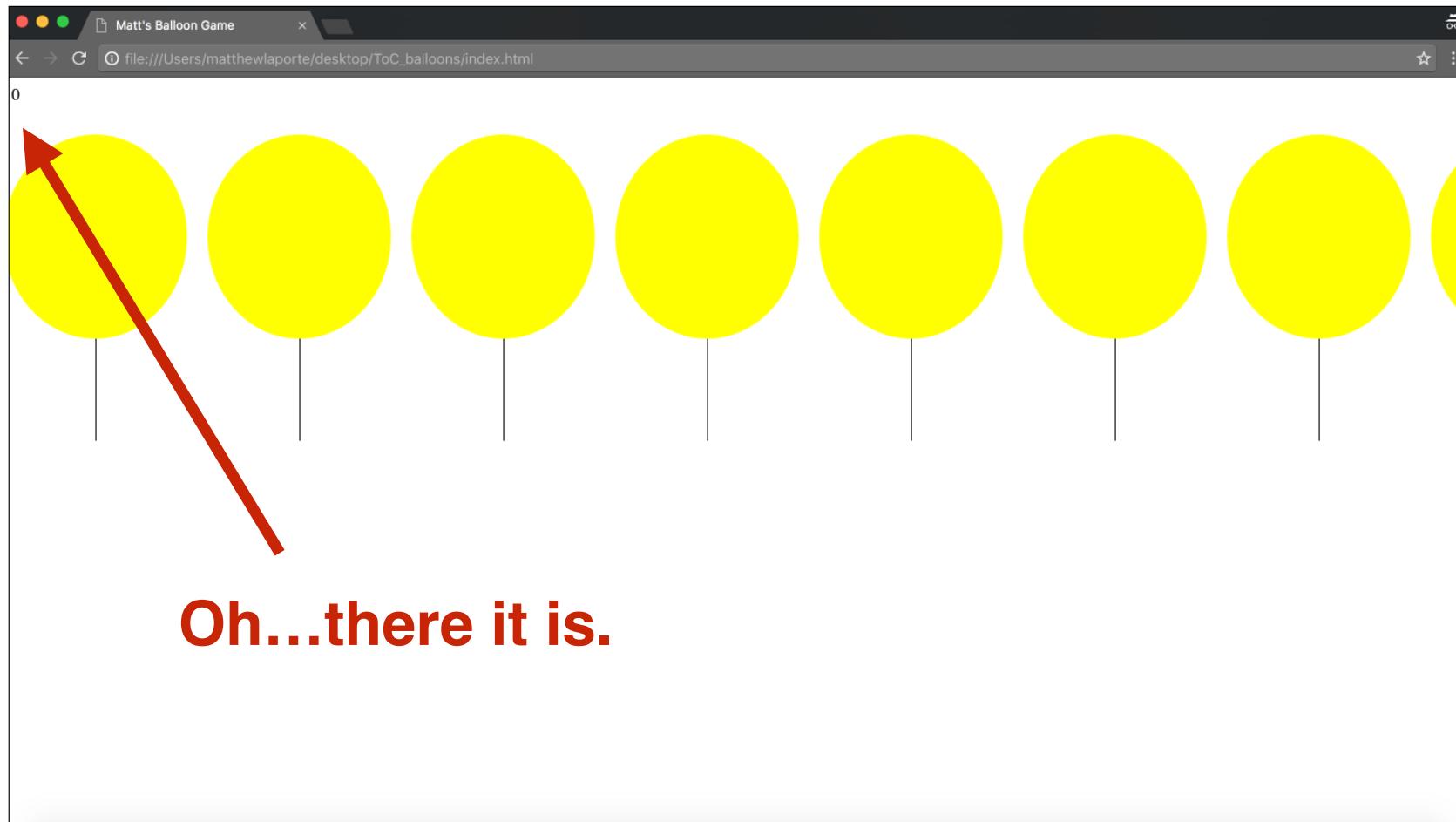
jQuery Exercise

Using the syntax below to keep score of the popped balloons

```
<body>
  <div class="counter">
    0
  </div>
  <div class="balloon">
    <div class="inflatable"></div>
    <div class="string"></div>
  </div>
</body>
```

index.html

Animate



Extras

Your time to shine

:{)

Extras

Changing your cursor to an image



“Google, how do I change my cursor to an image in css?”

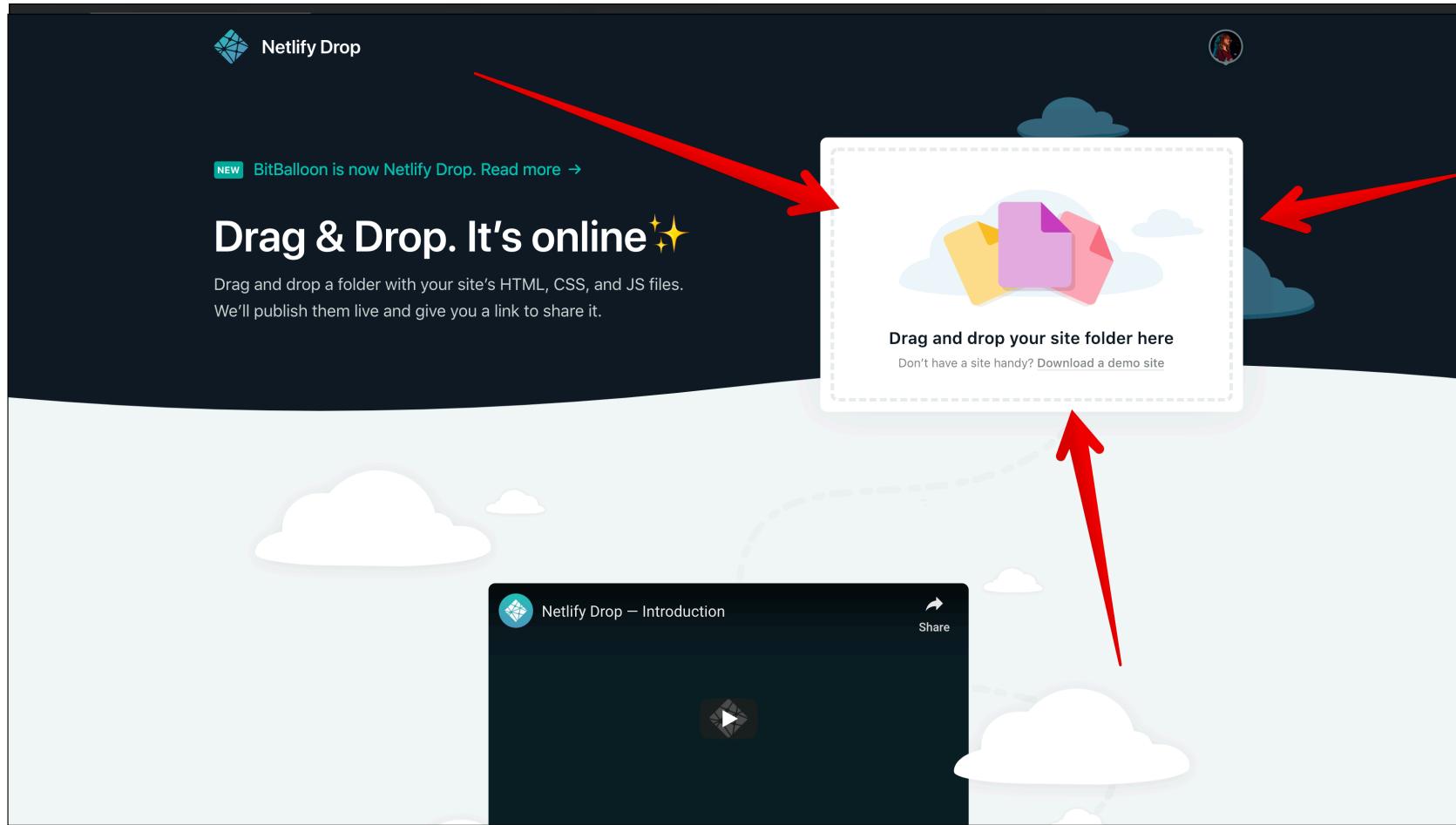
*“I know it has something to do with the **cursor** attribute”*

*“It must need to be that image throughout the entire **body**...”*



Bitballoon

Go to: <https://app.netlify.com/drop>



Cloning your balloon

- Apr 09 - Learn how to code together
- Apr 19 - Demo Day
- Apr 24 - Open Evening

<https://codaisseur.com/upcoming-events>

:{) Codaisseur