

INTRODUCTION TO WEB DEVELOPMENT

Coding Course Curriculum

Week 6 - Javascript & jQuery

WHAT WE'LL COVER THIS WEEK

1. Recap of what we learnt last week (Bootstrap)
1. Javascript Preamble
2. How JavaScript Came About
3. But wait! What even is Programming?
4. JavaScript & jQuery
5. So... how do I start using JavaScript?
6. And what is jQuery?
7. Getting jQuery into your website
8. Using jQuery to manipulate CSS
9. Homework

WHAT WE COVERED IN WEEK 5 - TWITTER BOOTSTRAP

What did we learn last week?

1. What's hard in CSS and why do we need to fix it?
2. Twitter Bootstrap - what it is, what problems it fixes, how to use it
3. Modifying Bootstrap
4. Even more awesome stuff!(changing social buttons, etc)

Task: Find a partner and together take a quick look through the notes from last week's session. If you're unclear on any of the concepts, work through them with your partner and an instructor

JAVASCRIPT &
JQUERY

WHAT HAVE WE LEARNED SO FAR

- How the Web works
- How to display content using HTML
- How to style content using CSS
- How to collaborate using GitHub & Git
- How to make coding easier using Twitter Bootstrap

HOW JAVASCRIPT CAME ABOUT

A short history

- Tim Berners-Lee invented the Web
- Marc Andreessen realised the Web needed to be more dynamic
- He recruited Brendan Eich
- Brendan Eich decided the solution was a new programming language called JavaScript

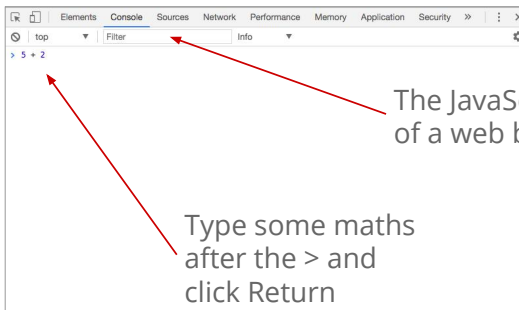
WHAT IS PROGRAMMING?

- A way for humans to tell computers to do logical things
- So that humans can interact with each other using machines
- Programming languages are organised in paradigms = ways of thinking and communicating with a computer

JAVASCRIPT IS POWERFUL

- It can accommodate a range of thinking styles
- Things you define can be easily changed
- It is designed to be used for the Web
- It is a full-stack language - it can be used both client and server sides

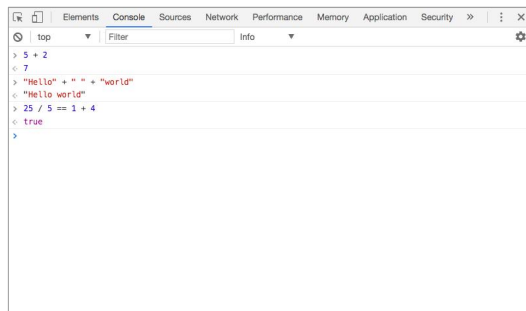
USING JAVASCRIPT



NUMERICAL OPERATIONS, COMPARATORS & STRINGS

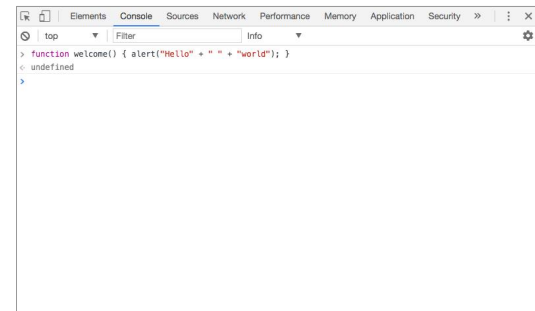
- **Numerical operations:** +, -, *, /, %
- **Comparators:** ==, !=, <, >, <=, >=, booleans
- **Strings:** ordinary text

EXPRESSIONS



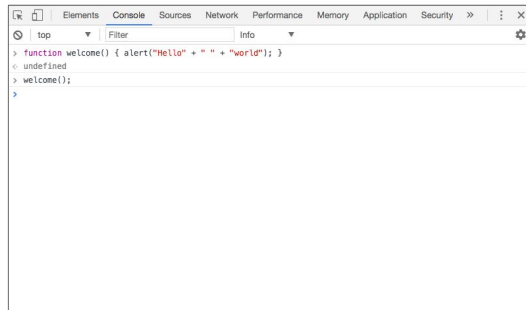
```
> 5 + 2
< 7
> "Hello" + " " + "world"
< "Hello world"
> 25 / 5 == 1 + 4
< true
>
```

FUNCTIONS



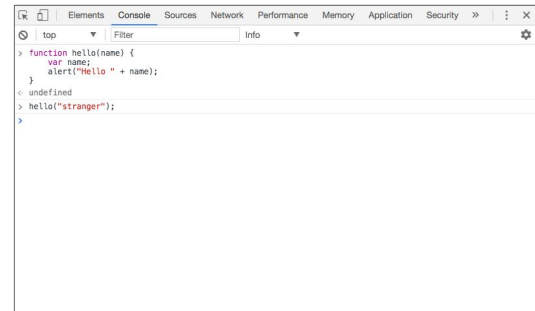
```
> function welcome() { alert("Hello" + " " + "world"); }
< undefined
>
```

FUNCTIONS



```
> function welcome() { alert("Hello" + " " + "world!"); }  
< undefined  
> welcome();  
>
```

VARIABLES



```
> function hello(name) {  
  var name;  
  alert("Hello " + name);  
}  
< undefined  
> hello("stranger");  
>
```

USING JAVASCRIPT IN A WEB PAGE

Add it directly in your HTML pages in between

`<script>...</script>` tags.

```
<!DOCTYPE html>
<html>
<head>
...
</head>
<body>
...
<script>
...
</script>
</body>
</html>
```

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USING JAVASCRIPT IN A WEB PAGE

Link to a separate file like you would with CSS

```
<!DOCTYPE html>
<html>
<head>
...
</head>
<body>
...
<script src="js/scripts.js"></script>
</body>
</html>
```

RECOMMENDED

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WHAT IS JQUERY?

- JavaScript is complicated to learn and a little verbose
- jQuery is a library containing ready-made JavaScript functions you can use out-of-the-box
- It will speed up development
- Unlike JavaScript it does not come with every browser
- You need to link to the jQuery library from your website pages

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GETTING JQUERY INTO YOUR WEBSITE

- Download the jQuery file, add it to your website project folder, link to the file from your HTML pages
- Link to the jQuery CDN from your HTML pages

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DOWNLOADING JQUERY

<http://jquery.com/download/>

- Download the most recent and compressed version
- Place the file in your website project folder
- Link to the file inside your HTML <head>..</head> tags

```
<!DOCTYPE html>
<html>
<head>
  ...
  <script src="js/jquery-3.2.1.min.js"></script>
</head>
...
```

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USING THE JQUERY CDN

<http://code.jquery.com>

- Click the most recent and minified version
- Copy the link from pop-up window
- Paste link inside your HTML <head>..</head> tags

```
<!DOCTYPE html>
<html>
<head>
  ...
  <script src="http://code.jquery.com/jquery-3.2.1.min.js"></script>
</head>
...
```

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THE ANATOMY OF A JQUERY FUNCTION

```
$('#h1').css('color', 'white');
```

The values required by the
function to execute

The jQuery function you want to
execute on the element

jQuery selector for
an element

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DEMO

<https://codepen.io/dianaklee/pen/epBypZ>

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DEMO

<https://codepen.io/anon/pen/YxGpv>

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Selecting the
Add button

Listening for the
"click" of the button

Reading the
value of the
input box

```
$("#button").click(function(event) {  
    var text = $("#input").val();  
    $("#list").append('<li>' + text + '</li>');  
});
```

Finding the list
element

Adding the entered
value to the list

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FIXING THE NAVBAR

Clicking the menu button on mobile does nothing.

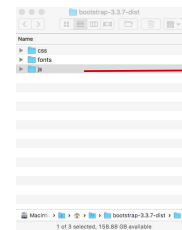
It needs Twitter Bootstrap jQuery.



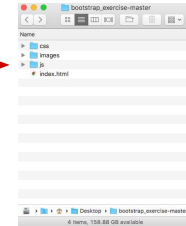
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COPY THE BOOTSTRAP JS TO YOUR PROJECT FOLDER

Bootstrap folder



Exercise folder



Copy the Bootstrap JS folder into the
bootstrap_exercise-master folder

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ADDING THE BOOTSTRAP JQUERY FILE TO YOUR PROJECT

Make sure Bootstrap jQuery comes **AFTER** the jQuery library

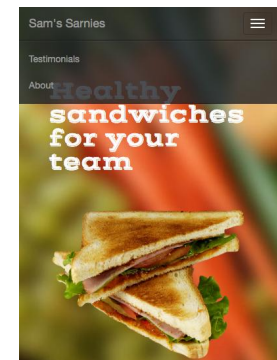
```
<!DOCTYPE html>
<html>
<head>
  <title>Sam's Sarnies</title>
  <link href='css/bootstrap.css' rel='stylesheet'>
  <link href='css/main.css' rel='stylesheet'>
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <script src="https://code.jquery.com/jquery-3.2.1.min.js"></script>
  <script src="js/bootstrap.min.js"></script>
</head>
<body>
...
```

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THE FIXED NAVBAR

Clicking the menu button on mobile now opens up the menu.

Much better.



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THE BOOTSTRAP JQUERY DOCUMENTATION

<http://getbootstrap.com/javascript/>

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THE ALMIGHTY AJAX (NEW SLIDE)

So we've talked about front-end / client-side and back-end, server-side, but how do we connect the two and get them talking to each other?

We have to perform an Ajax request over HTTP/HTTPS (transfer protocol).

Using AJAX, we can:

- Update webpages without having to reload them
- Request data from servers after the page has loaded
- Receive data from servers after the page has loaded
- Send data to a server during the page session, in the background

Once you have tried using jQuery on CSS and in the further notes linked above, give it a shot using the [jQuery documentation here](#).

USEFUL RESOURCES

- <https://stackoverflow.com/>
- <https://www.w3schools.com/>
- <https://css-tricks.com/>
- [Ben Howdle talks about different JS Frameworks](#)

CodePen/jsFiddle

CodePen and jsFiddle are sites which allows you to try out small bits of HTML, CSS and Javascript. It's a really useful tool for getting good help with JavaScript (and HTML/CSS) online: If you're having a problem:

1. Create a jsFiddle or CodePen showing what you've tried.
2. Post on [StackOverflow](#) describing the problem, with a link to the jsFiddle/CodePen.

People will be able to help you better if they can see the code themselves. Often they will respond with a working jsFiddle. (as in [this example](#))

CodePen is used by many front-end devs to showcase their portfolios - it even has a "hire me" button.

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HOMEWORK

Finishing off

Task:

Add JS to your website. Continue to work on your first_site until it's something you can be proud of!

Preparation

- [Try the Command Line on Codecademy](#)

Group Project

Task:

Meet outside of class to work on your project!

Additional suggestions you could think about for your project are [here](#).