# Introduction to web development

**Coding Course Curriculum**

**Week 6 - 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

# 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

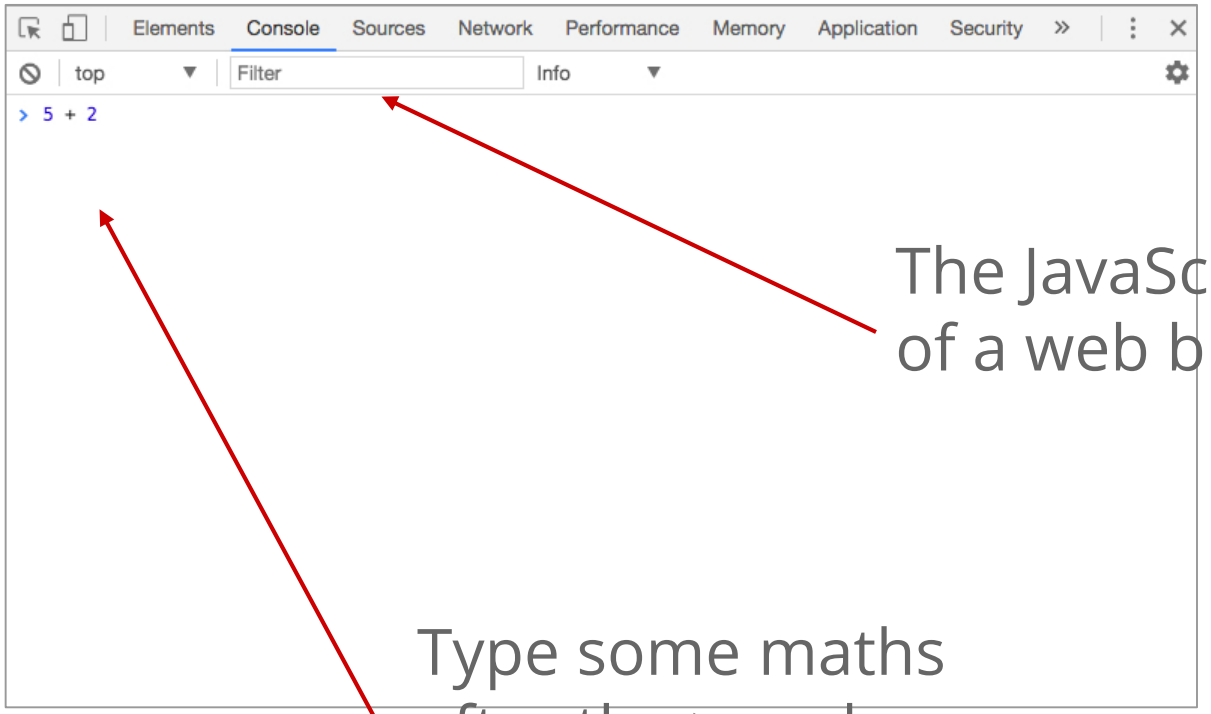
# What is programming?

- 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




The JavaScript console of a web browser

Type some maths after the > and click Return

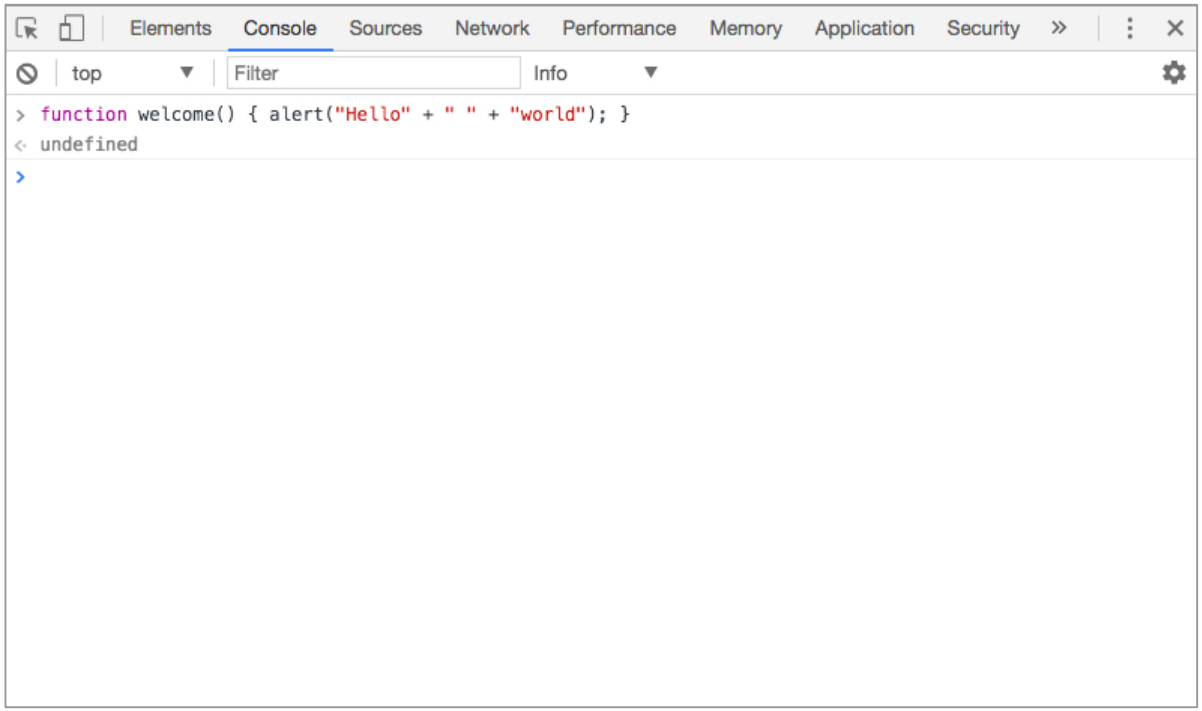
# Numerical operations, comparators & strings

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

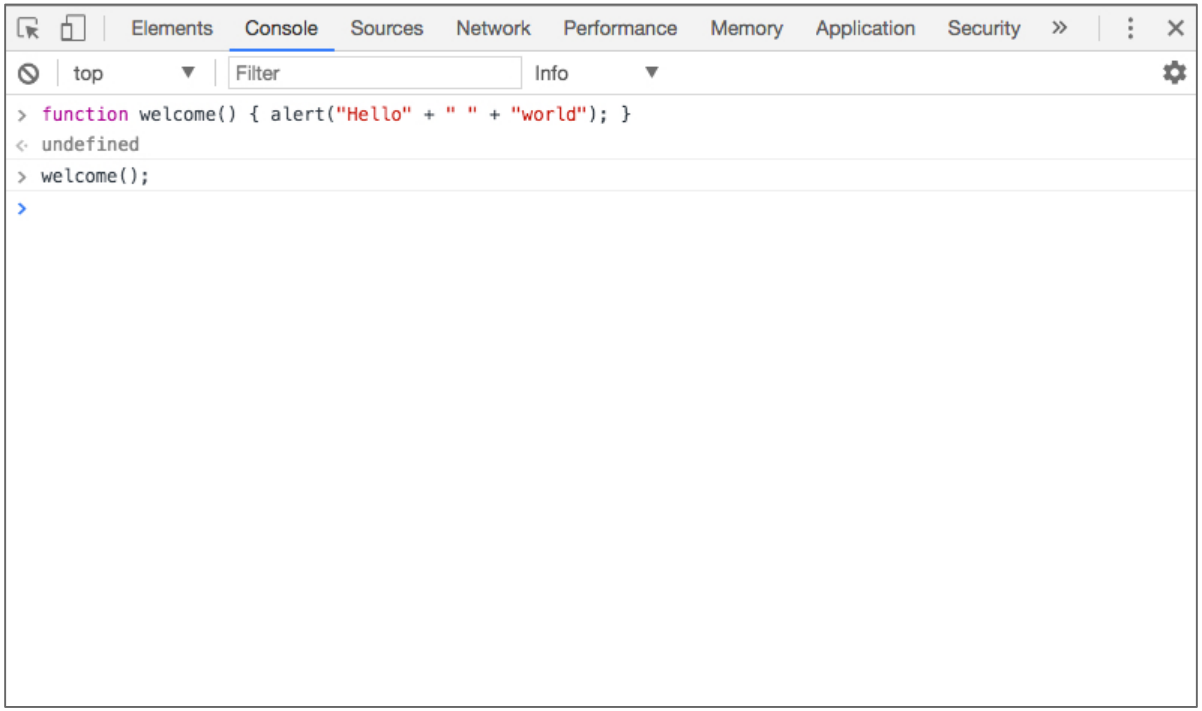
# TASKS

1. Working in pairs open the console a new browser window, try to following. Discuss the different type of operators.
    a. `5 + 2`
    b. `"Hello" + " " + "world"`
    c. `25/6`
    d. `1 == 1`
    e. `1 + 1 == 2`
    f. `360 > 70`
    g. `10 * 34`
    h. `10 != 10`

# Functions


Elements
Console
Sources
Network
Performance
Memory
Application
Security
top
Filter
Info
> function welcome() { alert("Hello" + " " + "world"); }
undefined
>

# Functions


Elements
Console
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Application
Security
top
Filter
Info
function welcome() { alert("Hello" + " " + "world"); }
undefined
welcome();

# Variables

```
> var name = "Harry"
<- undefined
> name
<- "Harry"
>
```

```
> var name = "Harry"
<- undefined
> name
<- "Harry"
> var name = "Ron"
<- undefined
> name
<- "Ron"
> name + " Weasley"
<- "Ron Weasley"
>
```

# TASKS

1. Working in pairs open the console and write (or copy) in this function, and then call it with different ‘parameters’ each time. What is the purpose of the variable in this function? How can you break the function?

```
function addTogether(oneThing, anotherThing) {
    var newThing = oneThing + anotherThing
    alert(oneThing + " + " + anotherThing + " = " + newThing)
}
```

# 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>
```

# 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>
```

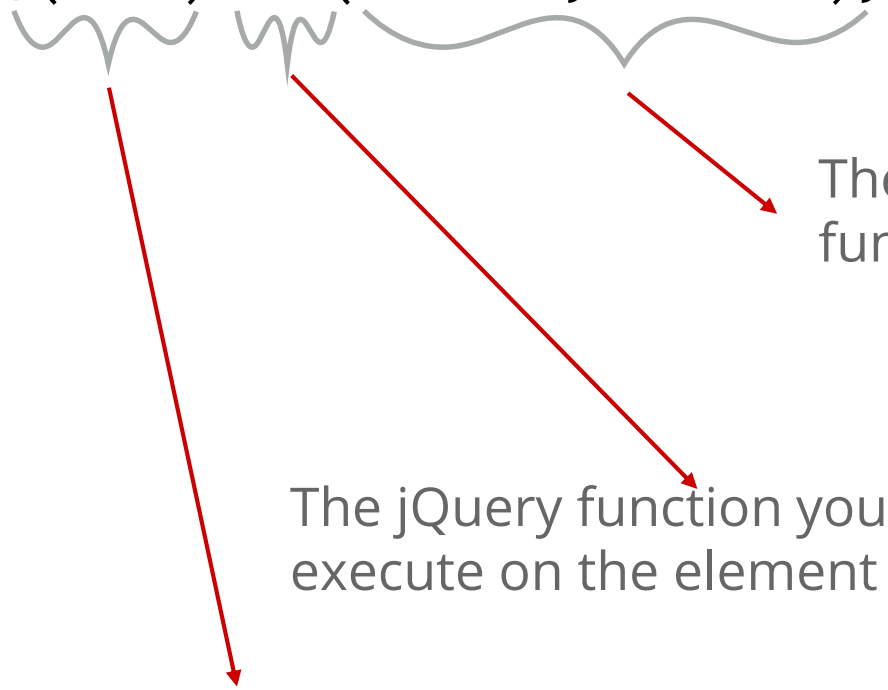
**RECOMMENDED**

# 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

# The anatomy of a jQuery function

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



# TASKS

1. Open the following codepen, uncomment each line individually and play around with them to see what they do

**JS Code Pen**

https://codepen.io/anon/pen/JYxGpv

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

# 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
- Make sure you put is above any other JS scripts you include

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

# TASKS

1. Fork the project for week 6 and clone it into your coding folder

2. Add jquery using a cdn: make sure it is called above the other js files

3. Read through the code on the 'background.js', try and complete the function which will change the background when the button is clicked

4. Extension task: using variables, change the text in the span to be the name of the artist when the background changes

   Remember to ask google your questions, and if you get stuck, check out the solution branch

# Homework

1. Finish off the exercises from today, adding any bits you find fun.

2. Add some JS to you first site from week one, make it something you're proud of!

3. Continue with your group projects!

# 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.

And many many more… Google has all the answers.