

Comp 125 - Visual Information Processing

Spring Semester - 19th January 2018

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Getting started

- basic building blocks include HTML, CSS, and JS
- many tools available to work with these technologies
- three primary tools help with this type of development
- web browser
 - *such as Chrome, Edge (IE?), Firefox, Opera, Safari...*
- editor
 - *such as Atom, Sublime, Microsoft's Visual Studio Code...*
- version control
 - *Git, (Mercurial, Subversion)*
 - *GitHub, Bitbucket...*

Getting started - Web Browsers

- choose your favourite
 - *Chrome, Firefox, Safari, Edge...*
 - *not IE*
- developer specific tools
 - *Chrome etc view source, developer tools, JS console*
 - *Firefox also includes excellent developer tools*
 - *Firebug*
- cross-browser extension for web developers
 - *Web Developer*

Video - Microsoft Edge

Introducing Microsoft Edge: The New Windows 10 Browser



Source - YouTube - Introducing Microsoft Edge

Getting started - Editors

Many different choices including

Linux, OS X, and Windows

- Atom
- Sublime
- Visual Studio Code

OS X specific

- BBEdit
 - *TextWrangler*

and so on.

Video - Atom I.0

Introducing Atom 1.0!



Source - YouTube - Introducing Atom I.0

JS Intro

- JavaScript (JS) a core technology for client-side design and development
- now being used as a powerful technology to help us
 - *rapidly prototype and develop web, mobile, and desktop apps*
- libraries such as jQuery, React, AngularJS, and Node.js
- helps develop cross-platform apps
 - *Apache Cordova*
 - *Electron*
- Embedded systems
 - *Espruino - <http://www.espruino.com/>*
 - *Tessel - <https://tessel.io/>*

JS Intro - what is JavaScript?

- JavaScript is a programming, or scripting, language for computers
- need programming languages to develop application
 - *effectively tell a computer what to do*
- a programming language defines a set of instructions for a computer to follow
 - *computers are inherently dumb machines*
- JavaScript allows a developer to write a set of instructions
 - *a computer is able to read and understand*
- JavaScript is commonly used to
 - *add interaction to a website*
 - *create fun animations*
 - *add advanced controls and features to a website*
 - ...
- JavaScript is a good language to learn
 - *used everywhere - easily used and tested with standard web browsers*
 - *lots of jobs for JS developers*
- with JavaScript, we can build
 - *web pages*
 - *play games*
 - *create our own music*
 - *design graphics and animations*
 - ...
- to begin writing and testing JS apps
 - *all we need is a modern Web Browser*
 - *provides a JavaScript **interpreter***

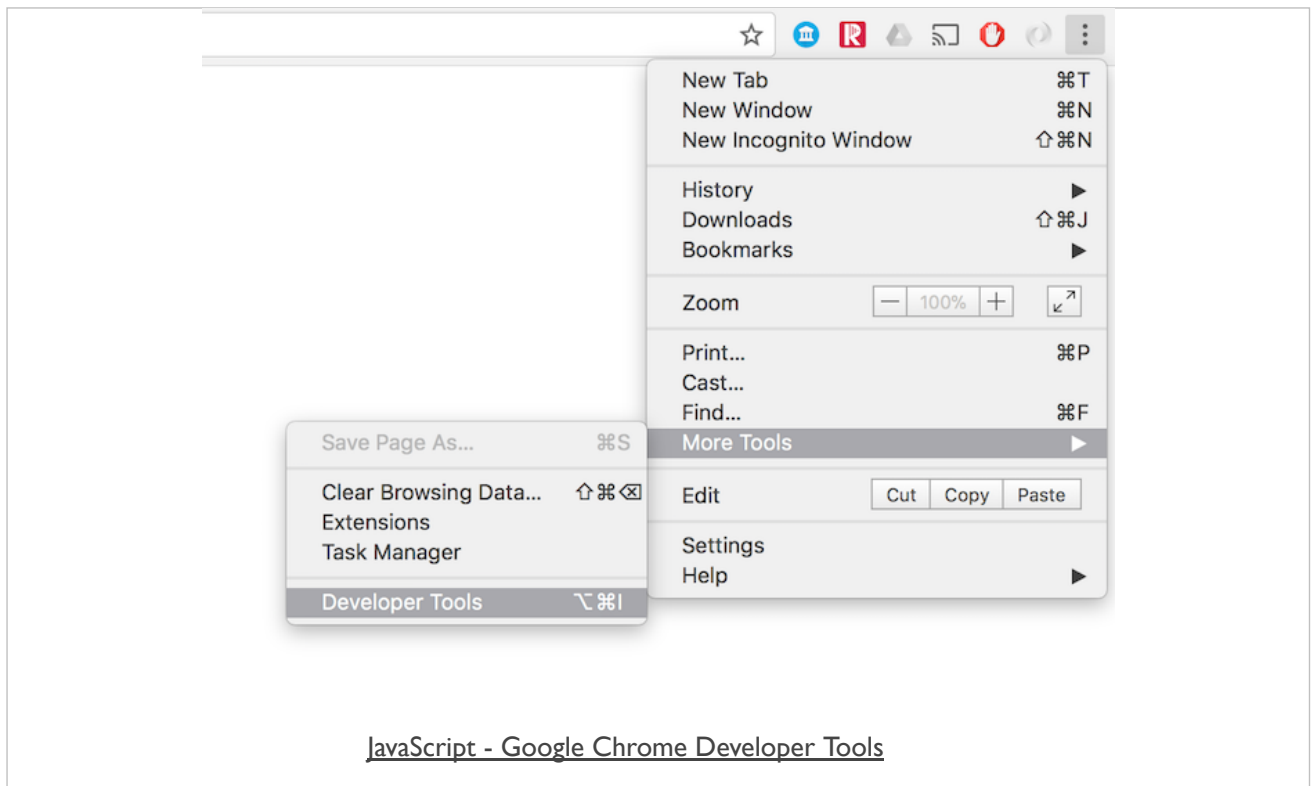
JS Intro - fun example

- interactive sock puppet

JS Intro - Google Chrome developer tools

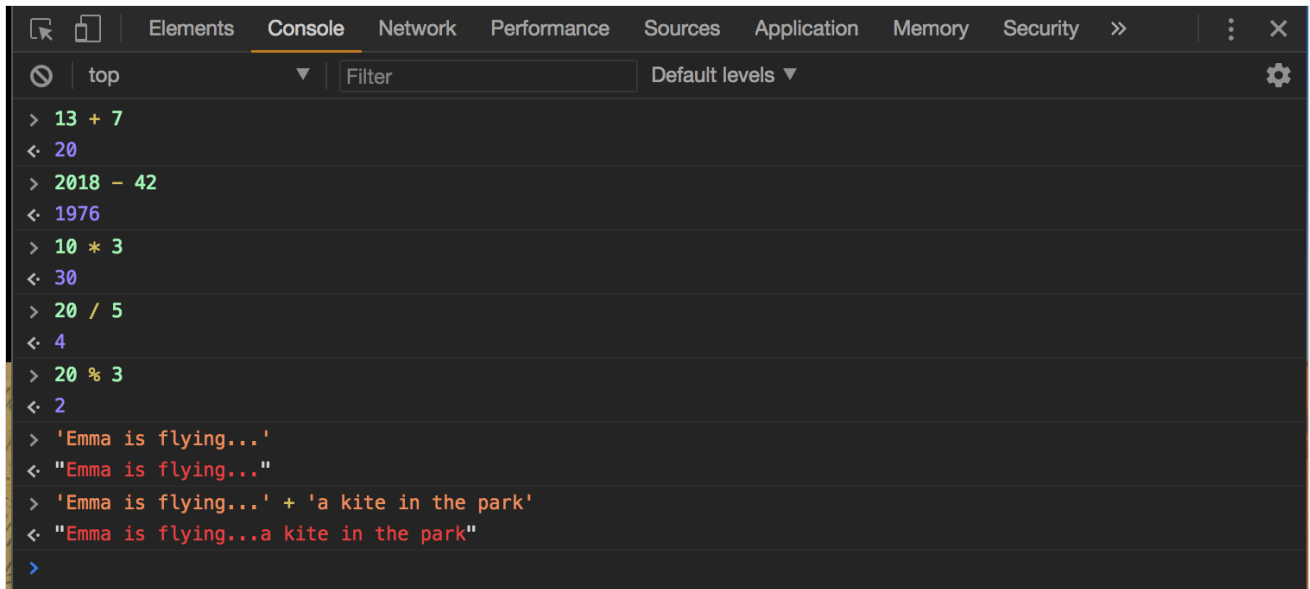
A quick and easy way to test and run JavaScript code is using the built-in **console** of a modern web browser, such as Google Chrome.

Open the JS console by using the **developer tools**,



[JavaScript - Google Chrome Developer Tools](#)

JS Intro - console usage



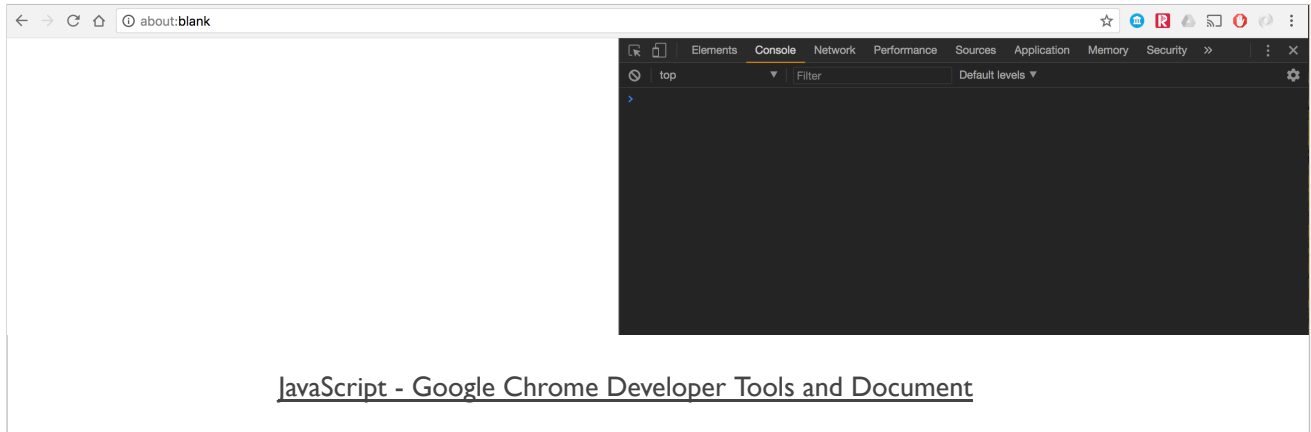
The screenshot shows the Chrome DevTools console with the 'Console' tab selected. The console displays a series of input-output pairs for various JavaScript expressions. Each input is preceded by a green prompt character '>' and each output is preceded by a blue prompt character '<'. The expressions include arithmetic operations (addition, subtraction, multiplication, division, and modulus) and string concatenation. The console interface includes a top bar with tabs for Elements, Console, Network, Performance, Sources, Application, Memory, and Security. Below the tabs is a search bar with the text 'top' and a 'Filter' button. To the right of the search bar is a 'Default levels' dropdown menu and a settings gear icon. The console output shows the following sequence of operations:

```
> 13 + 7
< 20
> 2018 - 42
< 1976
> 10 * 3
< 30
> 20 / 5
< 4
> 20 % 3
< 2
> 'Emma is flying...'
< "Emma is flying..."
> 'Emma is flying...' + 'a kite in the park'
< "Emma is flying...a kite in the park"
>
```

JavaScript Console

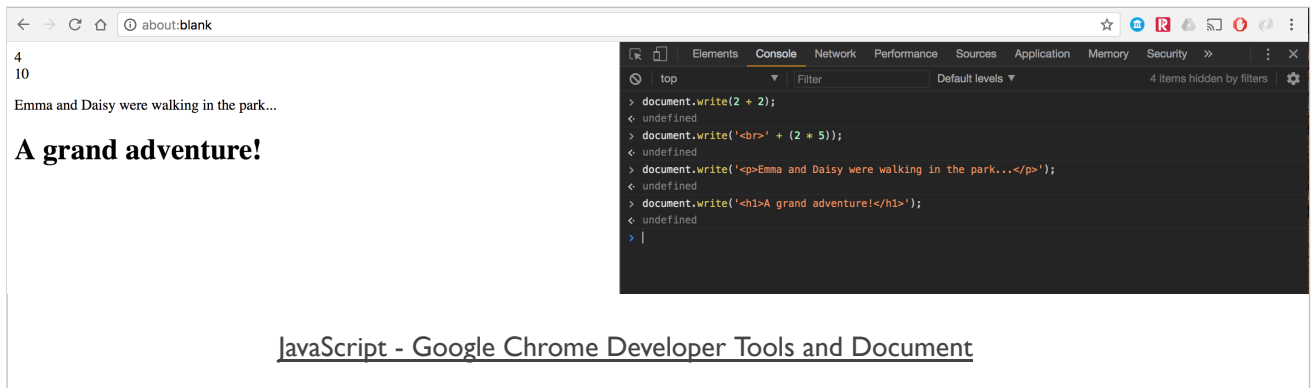
JS Intro - Google Chrome developer tools & Document

Developer tools with blank tab - a **document** we can write to with JavaScript.



JS Intro - Google Chrome developer tools & Document

Use JavaScript to write to a **document**



JS Intro - Google Chrome developer tools & Document

A HTML **document** we just created

