

Web Overview and Intro to Tools

What is a client? What is a server?

Generally speaking, what is the life-cycle of a page? When can the client modify it? When can the server modify it?

Why do we need to have code both on the client and server?

How are structure, layout and logic separated? Why would we want to do this?

What is HTTP? What are the core pieces of an HTTP transaction?

How do you use GitHub to help with software organization?

HyperText Markup Language and Cascading Style Sheets

What is the purpose of HTML?

What is the purpose of CSS?

When would you use CSS vs HTML?

Where should classes and ids be used?

What are the CSS selectors and how are they used?

What are the various components of an HTML tag?

Introduction to JavaScript

What is a dynamically typed language?

What is an interpreted language?

Where can JavaScript be run?

What are the primitive types in JavaScript?

If something is not a primitive type in JS, what is it?

Is the function keyword needed to create a callable function? What is its significance?

How are functions defined in JavaScript?

What is JSON? And what is its relationship to objects?

What tools can we use to debug JavaScript?

JS Functions and Objects

When a function is returned from another function, what variables does it have access to?

What are some use cases for passing functions to other functions?

What are the differences between using the basic object notation vs using an object constructor?

What is the object prototype chain? When is it used?

JavaScript and the DOM

What is the DOM?

How and why are events used?

What are some methods to get access to elements in a page using JavaScript?

How can JavaScript modify elements on a page?

JavaScript and HTTP (also forms)

What is an asynchronous call?

What challenges do asynchronous calls present in programming?

How does one go about getting data from different sorts of form inputs? (In particular text, check-box and radio buttons)

What are the differences between POSTs and GETs when talking about Ajax calls? Which is 'harder'?

What is a web API?

Server Side with Node.js

What does a server do?

What is a route? Why do we care about them?

What is a static resource? What is different about it from other resources?

What are the request and response objects and why do we care about them?

Sessions and HTTP

What is a session and what are some major use cases for it?

What is a cookie and how are they related to sessions?

What are the main constraints of CORS and how do server side HTTP calls help?

Node and Databases

What is the basic structure of a MySQL table?

How does one connect to a database?

What are some issues with updating rows and how can they be avoided?

What the ways to modify and view data using MySQL?

Parting Thoughts

What are the advantages to using Ajax for the user experience?

What are the consequences of caching and client side calculations on the performance of a web application?

What is an XSS attack and how can it be prevented?

What is a CSRF attack and how can it be prevented?

What is SQL injection?