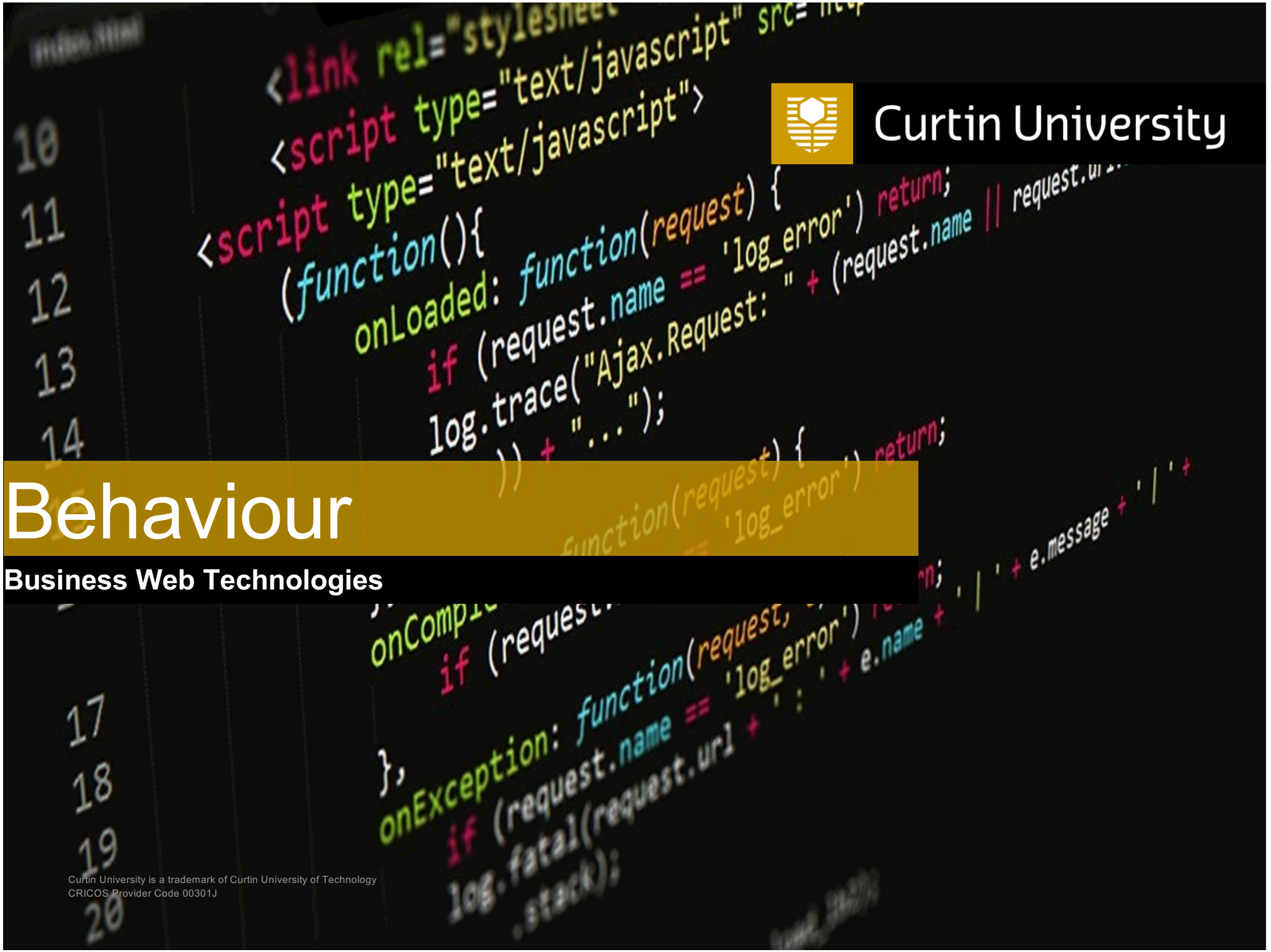

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Behaviour

Business Web Technologies

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Last Week

- Use HTML5 semantic tags
- Write Rules for presentation and Layout
- Create Cascading Style Sheets
- Look Developer Tools in Chrome
- Use Selectors: ID and Class
- Understand the Box Model
- Position elements
- Seek help form online sources

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This Week…

- Application of Knowledge
- Assignment
- Describe Website Behaviour
- Explain Event Model
- Describe Document Object Model
- Use Javascript
  - variables
  - functions
- Use Console to debug
- Manipulate the DOM

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HTML

The language for building web pages

LEARN HTML HTML REFERENCE

HTML Example:

```
<!DOCTYPE html>
<html>
<title>HTML Tutorial</title>
<body>

<h1>This is a heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

Try it Yourself »

CSS Example:

```
body {
  background-color: lightblue;
}

h1 {
  color: white;
  text-align: center;
}

p {
  font-family: verdana;
  font-size: 20px;
}
```

Try it Yourself »

CSS

The language for styling web pages

LEARN CSS CSS REFERENCE

JavaScript

The language for programming web pages

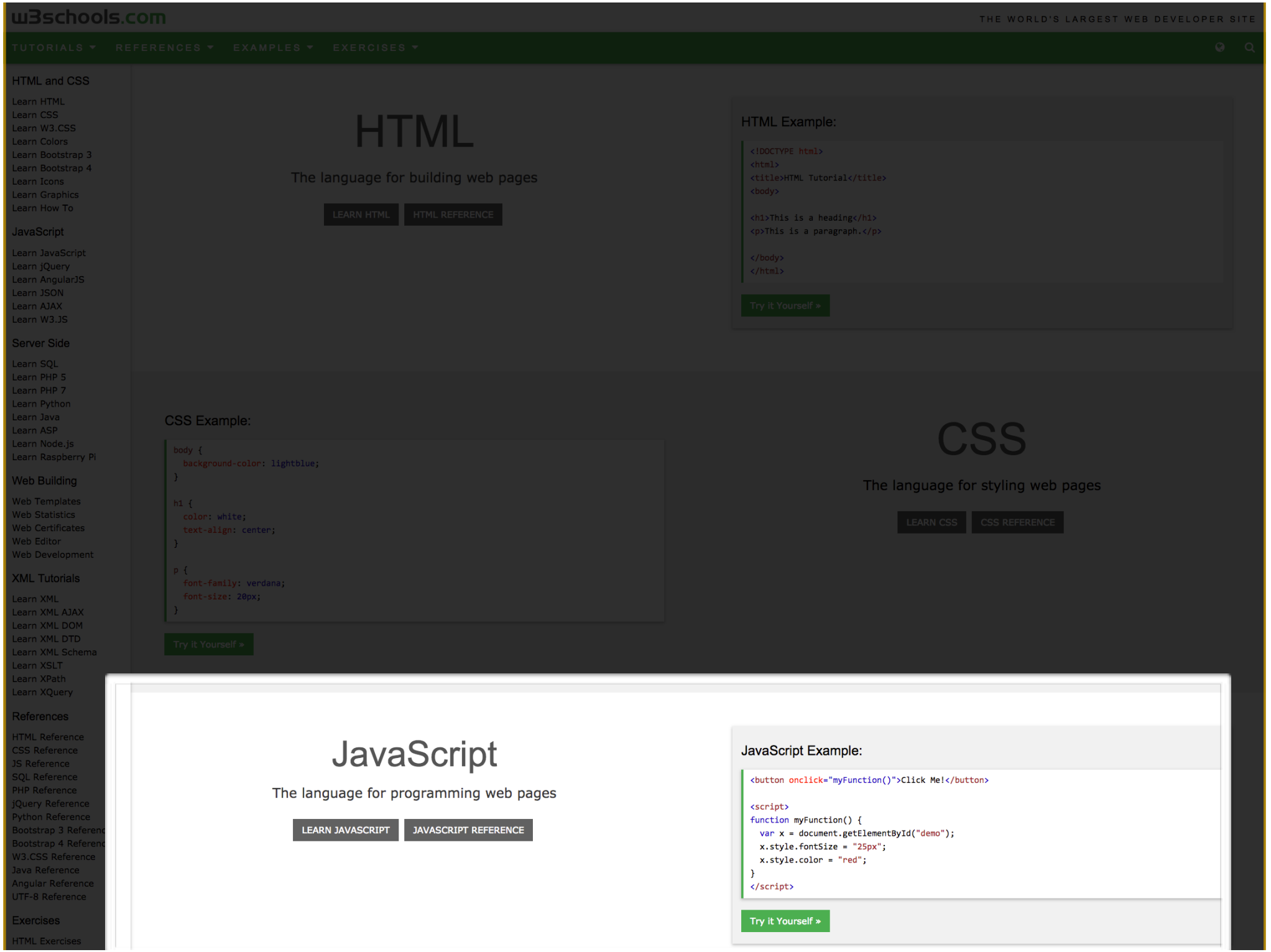
LEARN JAVASCRIPT JAVASCRIPT REFERENCE

JavaScript Example:

```
<button onclick="myFunction()">Click Me!</button>

<script>
function myFunction() {
  var x = document.getElementById("demo");
  x.style.fontSize = "25px";
  x.style.color = "red";
}
</script>
```

Try it Yourself »


w3schools.com
THE WORLD'S LARGEST WEB DEVELOPER SITE
TUTORIALS
REFERENCES
EXAMPLES
EXERCISES
HTML and CSS
Learn HTML
Learn CSS
Learn W3.CSS
Learn Colors
Learn Bootstrap 3
Learn Bootstrap 4
Learn Icons
Learn Graphics
Learn How To
JavaScript
Learn JavaScript
Learn jQuery
Learn AngularJS
Learn JSON
Learn AJAX
Learn W3.JS
Server Side
Learn SQL
Learn PHP 5
Learn PHP 7
Learn Python
Learn Java
Learn ASP
Learn Node.js
Learn Raspberry Pi
Web Building
Web Templates
Web Statistics
Web Certificates
Web Editor
Web Development
XML Tutorials
Learn XML
Learn XML AJAX
Learn XML DOM
Learn XML DTD
Learn XML Schema
Learn XSLT
Learn XPath
Learn XQuery
References
HTML Reference
CSS Reference
JS Reference
SQL Reference
PHP Reference
jQuery Reference
Python Reference
Bootstrap 3 Referenc
Bootstrap 4 Referenc
W3.CSS Reference
Java Reference
Angular Reference
UTF-8 Reference
Exercises
HTML Exercises
HTML
The language for building web pages
LEARN HTML
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Try it Yourself »
CSS
The language for styling web pages
LEARN CSS
CSS REFERENCE
JavaScript
The language for programming web pages
LEARN JAVASCRIPT
JAVASCRIPT REFERENCE
JavaScript Example:
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x.style.color = "red";
}
</script>
Try it Yourself »

Event Model

- Events are “things” the happen
- JavaScript can “react” on the events
  - listens for event
  - write a function to handle the event
- HTML <*element event*="*some JavaScript*”>
  - *onload, onclick, onchange, onmouseover, onmouseout*
- DOM (see later) - vis JS
  - *load, click, change, mouseover, mouseout*

See https://www.w3schools.com/jsref/dom_obj_event.asp

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Rock Paper Scissors

- HTML, CSS - border, circle, hover
- Add onclick event
- Determine which item clicked
- Add game logic (dumb computer)
- Keep game statistics
- Make talk (text to speech)
- Basic SEO
- Create and link to script.js (separation of concerns)

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Best Practice

- Semantic HTML
- Valid HTML
- Valid CSS
- Metadata
- Accessibility (alt attribute on image tags)
- Use Comments (HTML, CSS and JS)
- Separation of Concerns (see later)

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SEO

- Semantic HTML
- Valid HTML
- Valid CSS
- Metadata
- Accessibility (alt attribute on image tags)
- Use Comments (HTML, CSS and JS)
- Separation of Concerns (see later)

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Document Object Model

```
<html>
  <head>
  </head>

  <body>
    <h1>This is a header</h1>
    <p>This is some text</p>
  </body>

<html>
```

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Document Object Model

```
<html>
  <head>
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<html>
```

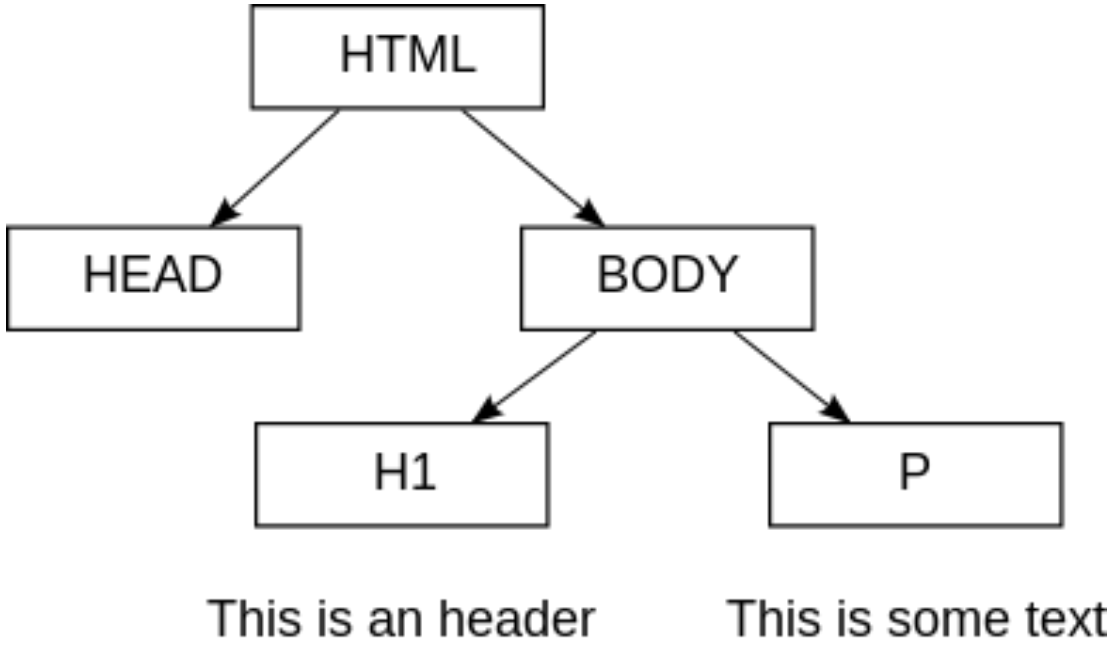

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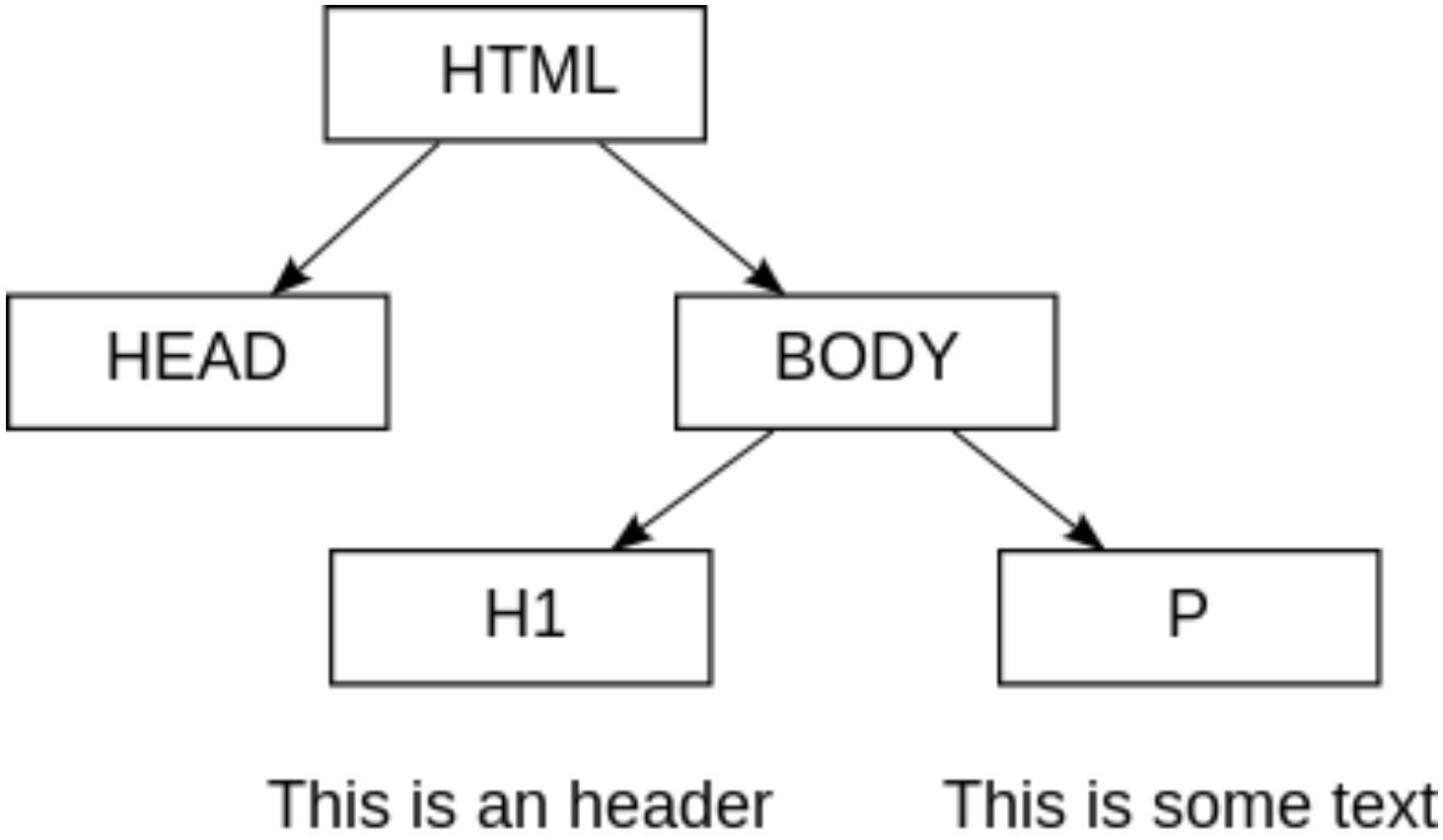
Document Object Model



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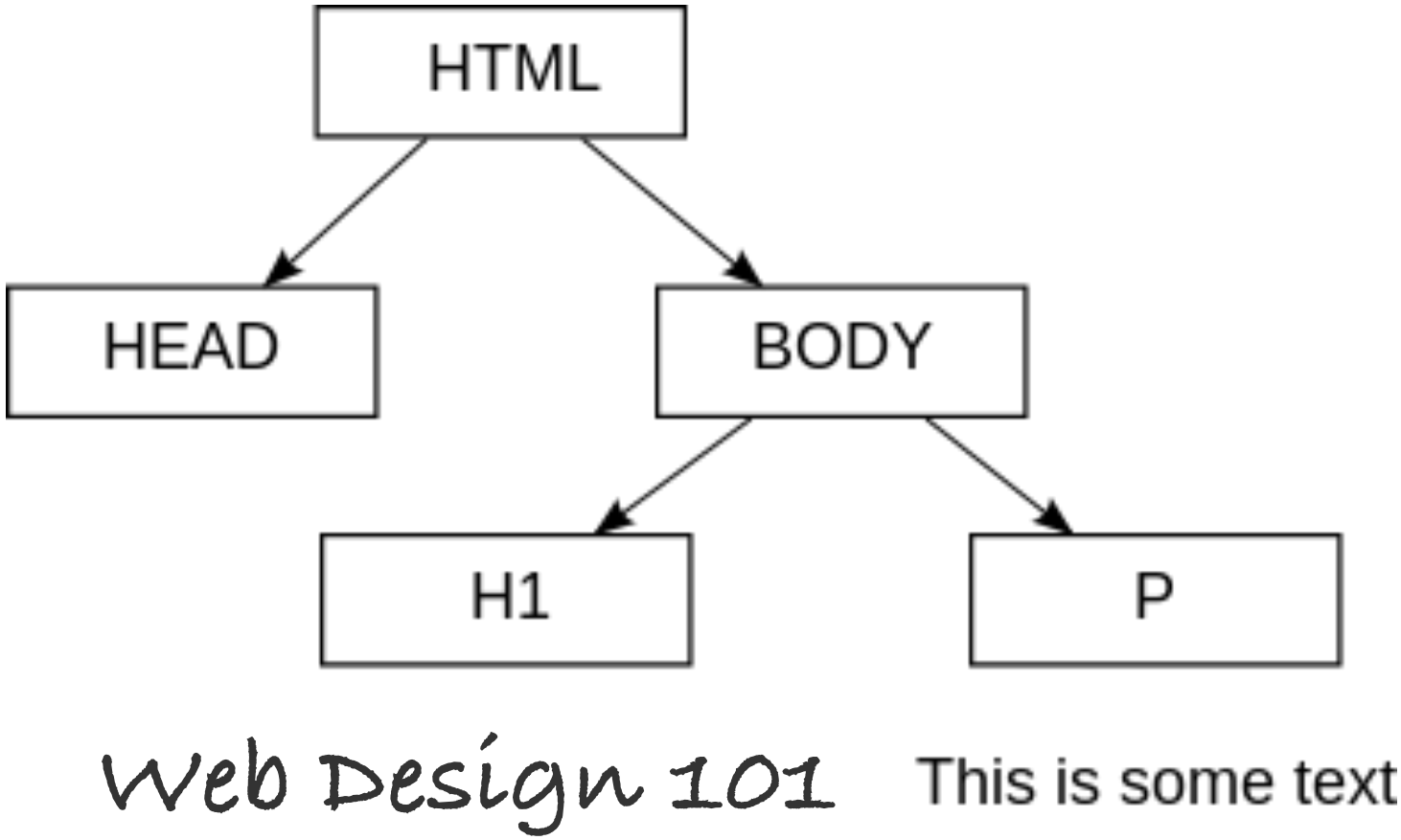
Document Object Model



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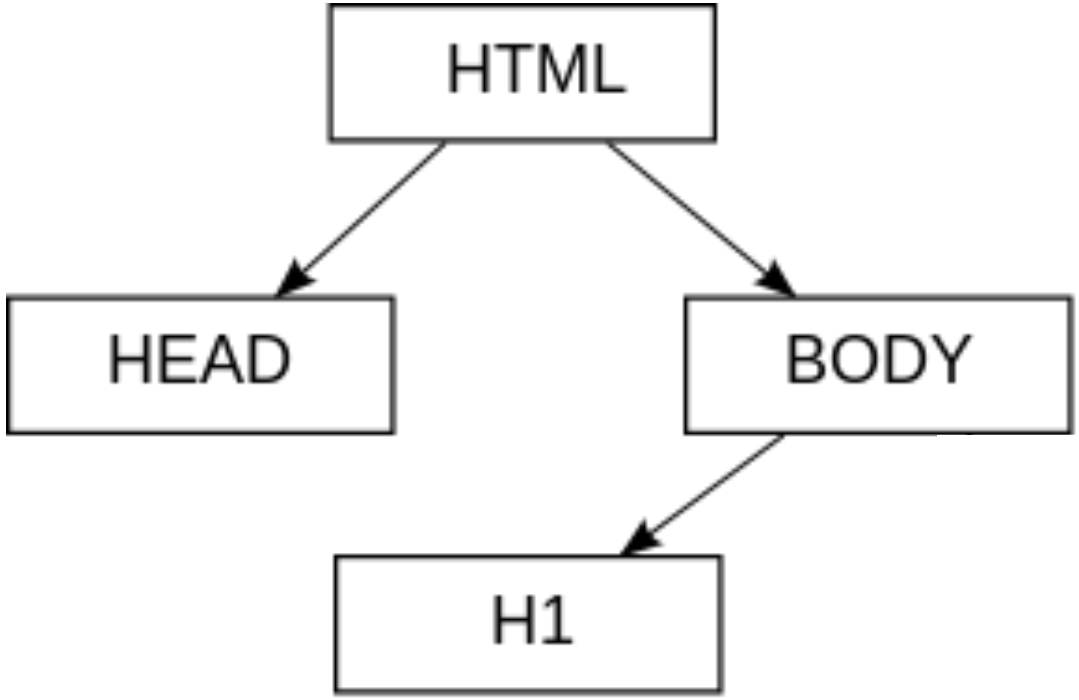
Document Object Model



Web Design 101

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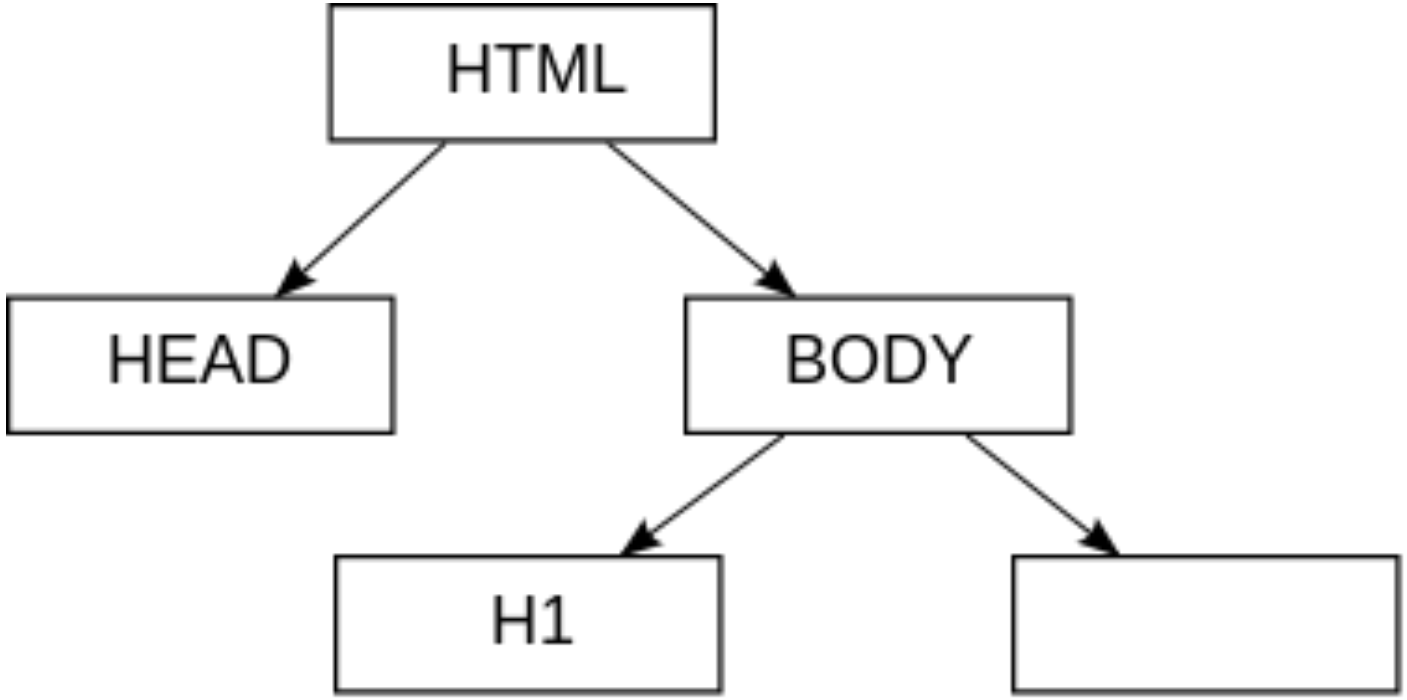
Curtin University

Document Object Model



Web Design 101

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Flatland Business Advisor

- Meet Square, a 2D Business Advisor
  - Explore DOM via Console
- Change background
  - Why put script before </body>
- Add hover functionality
- Add onclick event
- Use event listeners
- Move to script.js
- Add greeting
- Click Message
- Add buzz phrase generator

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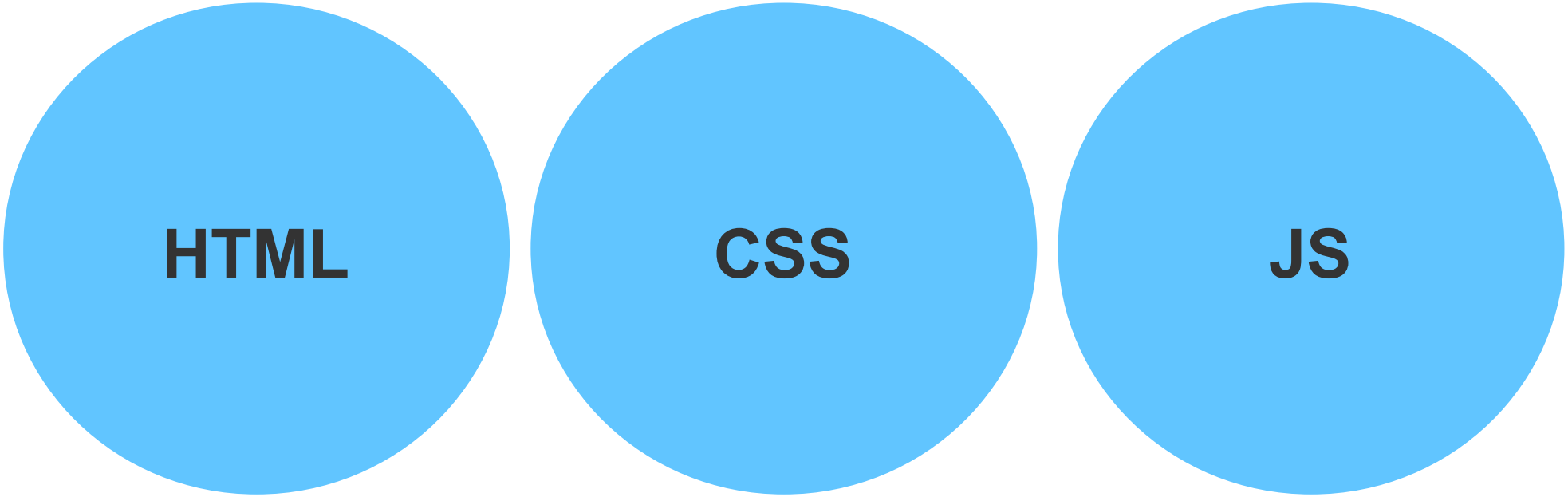
Separation of Concerns - Ideal



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Separation of Concerns

- Don’t use styling tags in HTML
- Don’t uses styling attributes in HTML
- Javascript for behaviour (harder)
  - CSS - hover, animations
  - HTML - onclick (and others)

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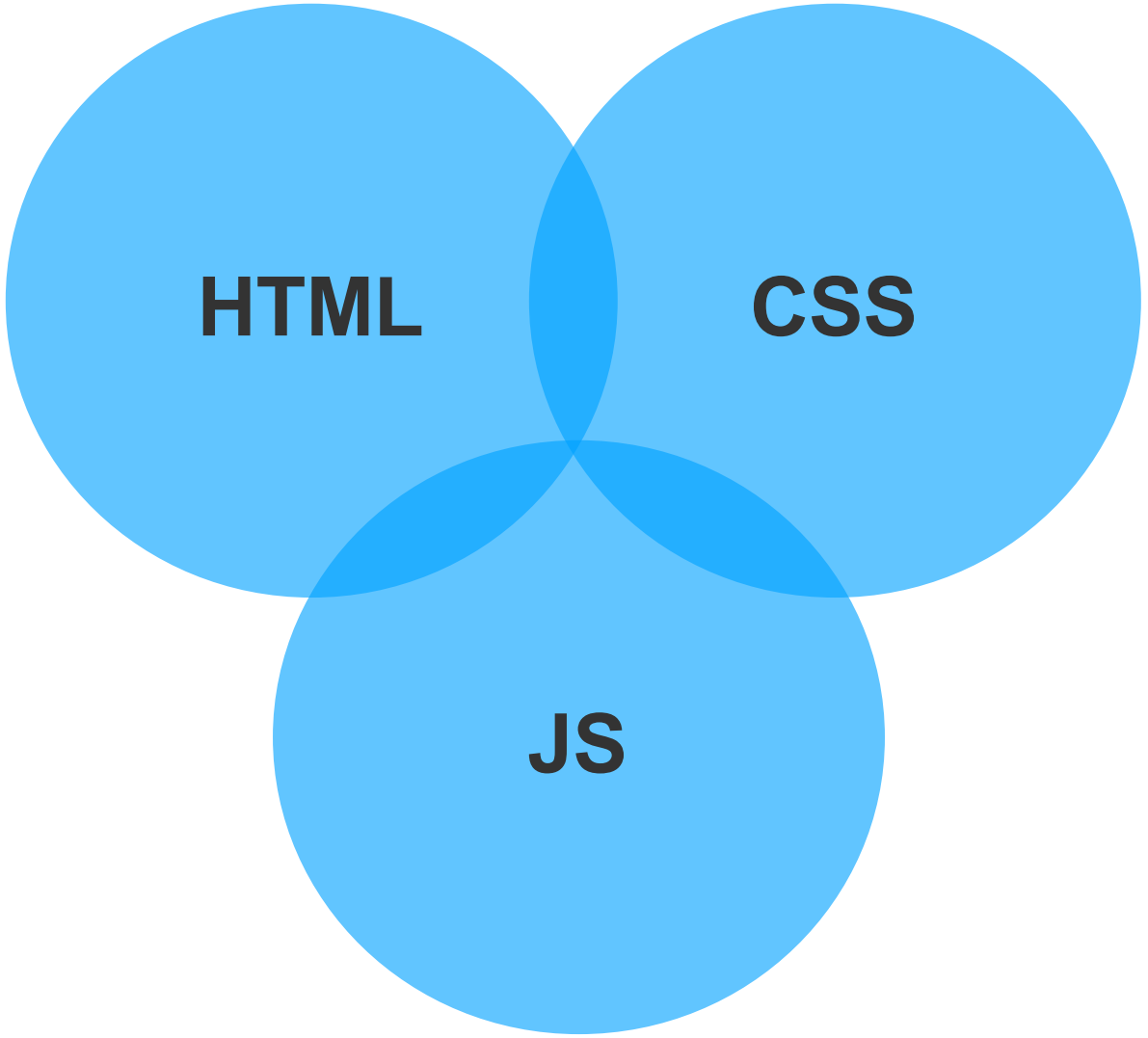
Separation of Concerns - Reality



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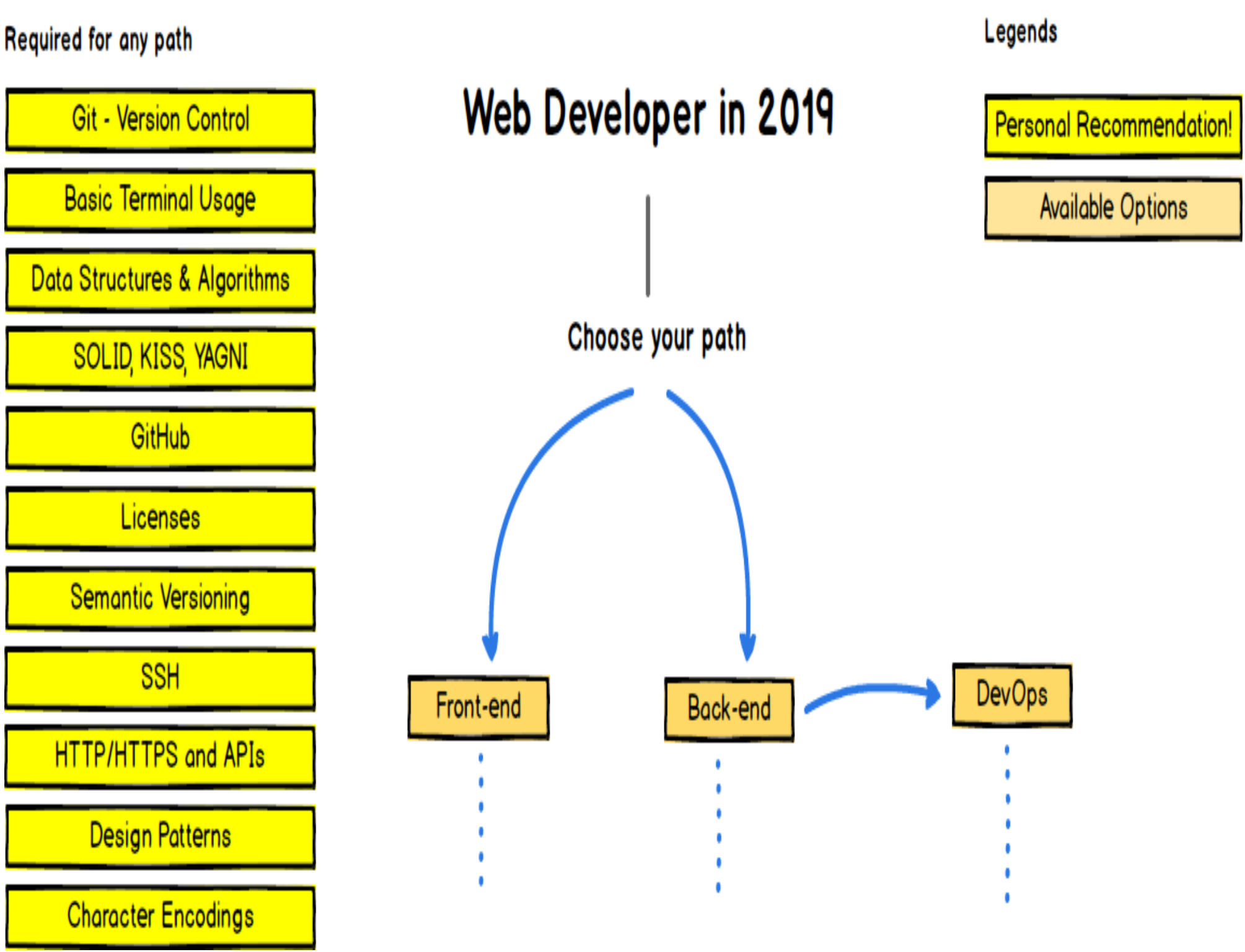
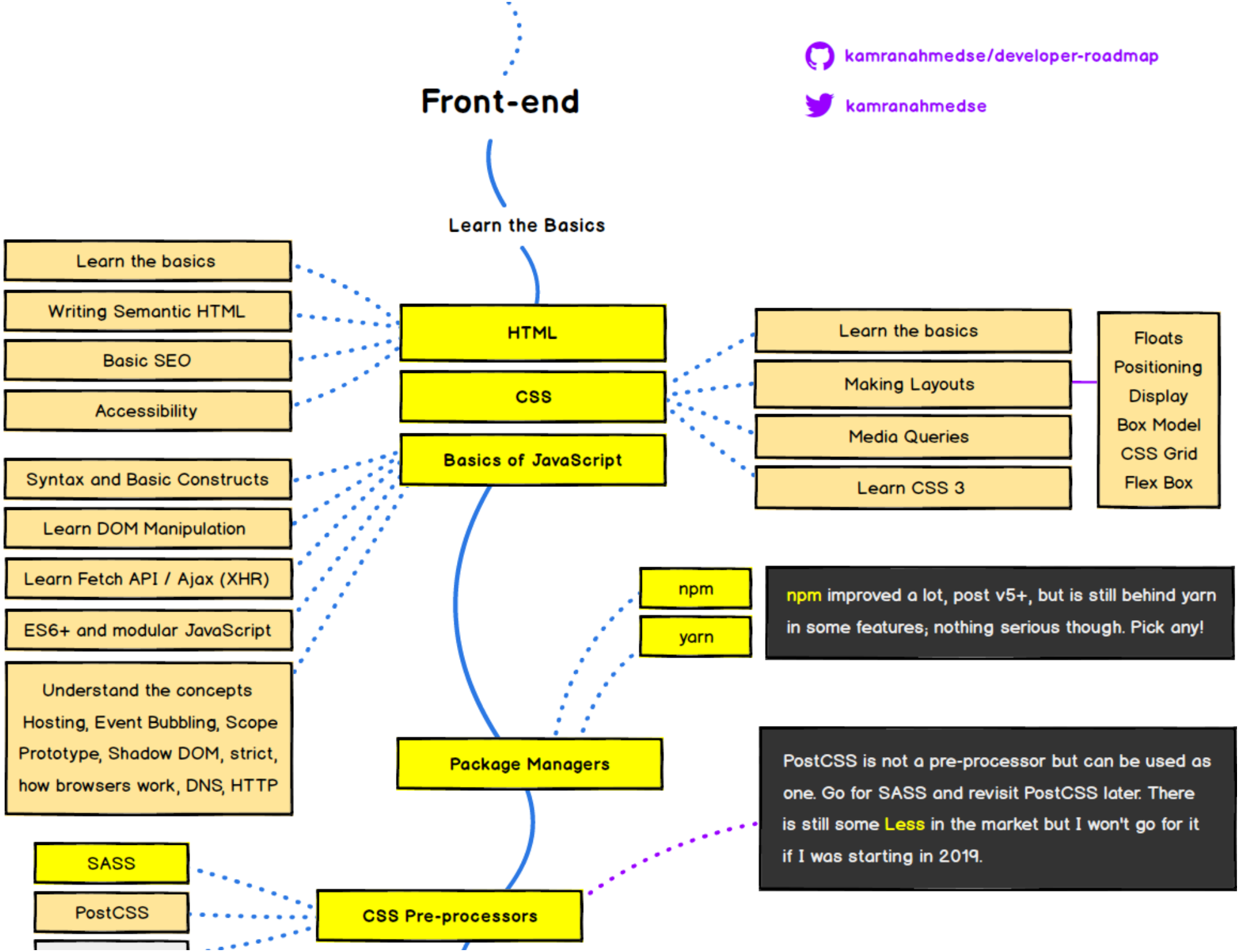
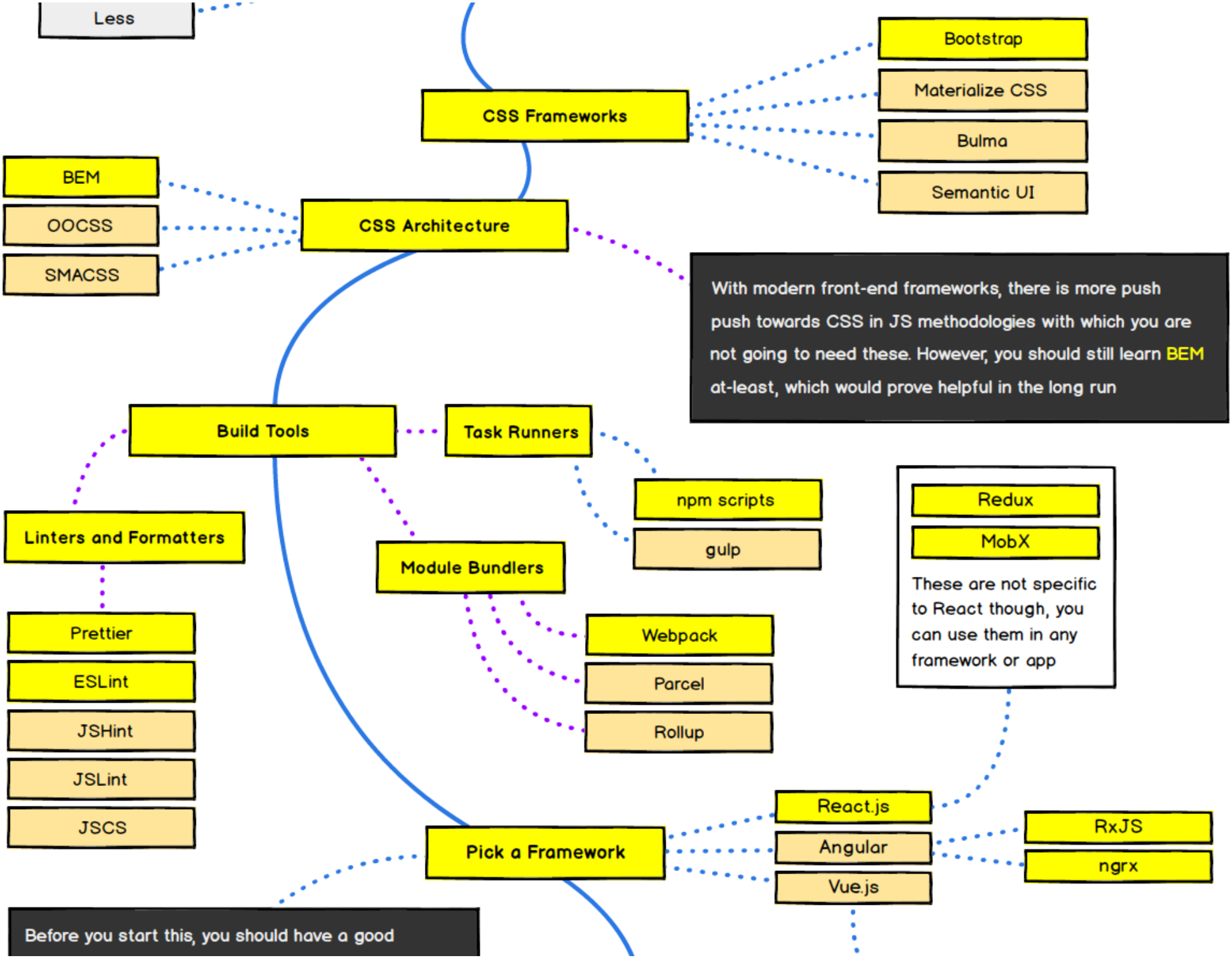
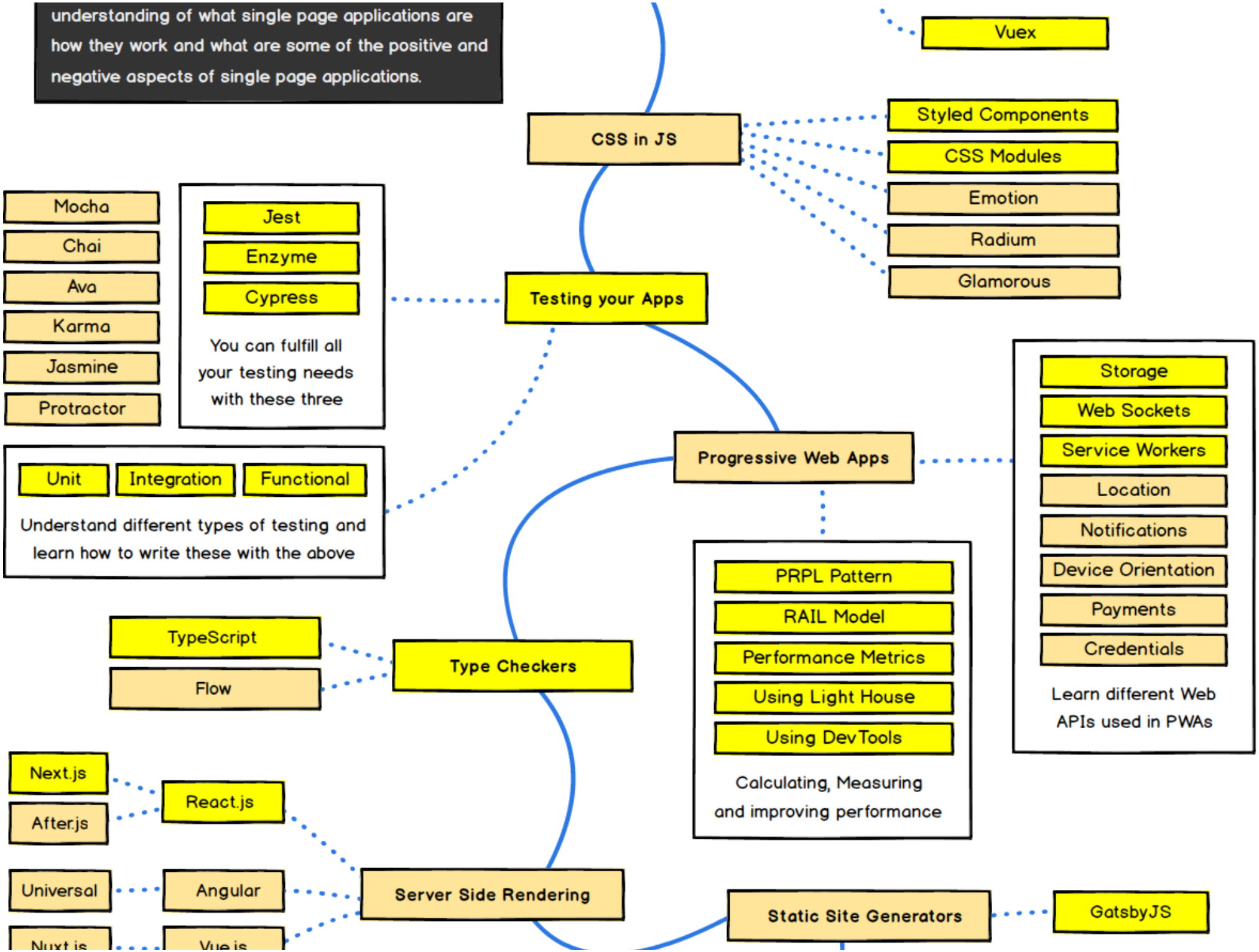
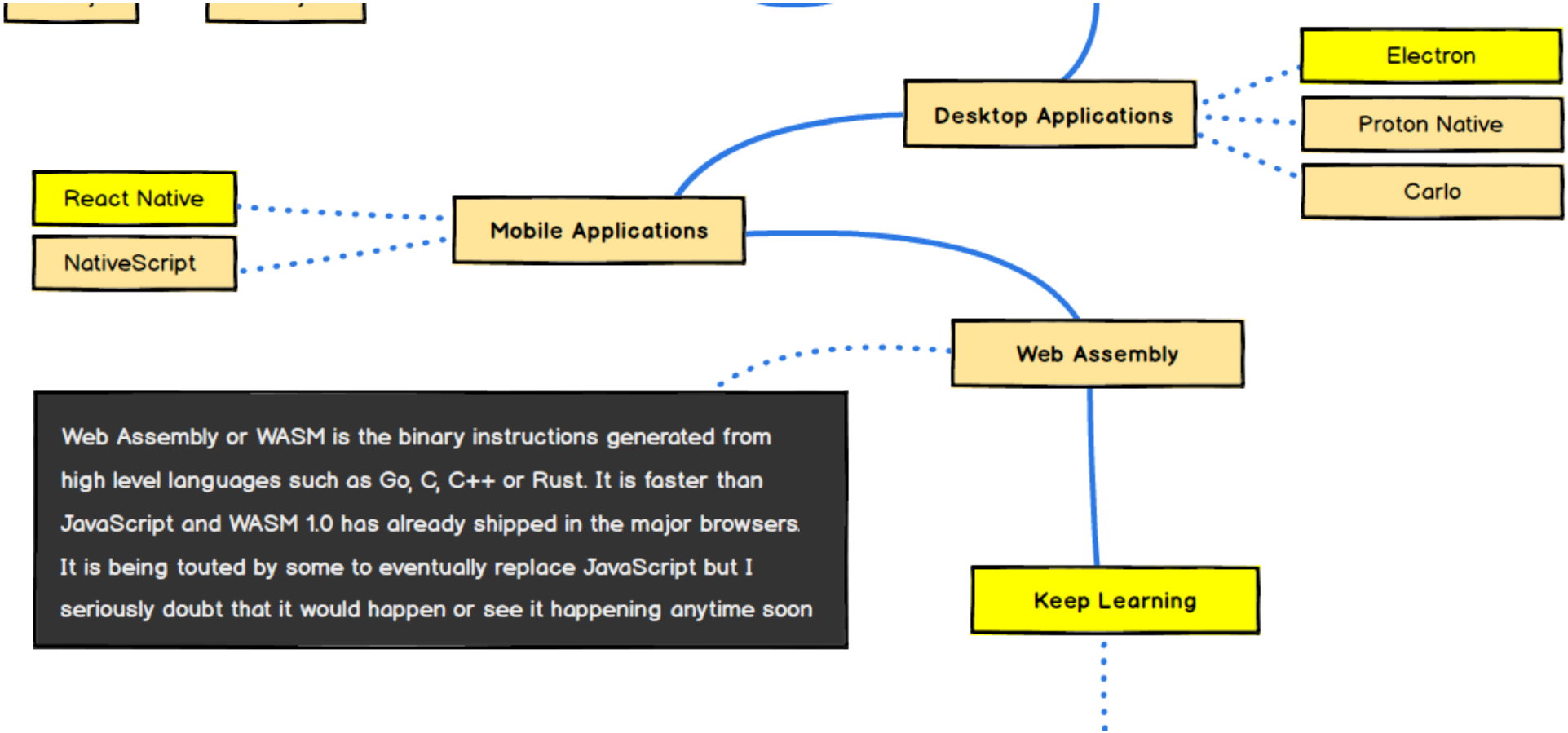

Required for any path
Git - Version Control
Basic Terminal Usage
Data Structures & Algorithms
SOLID, KISS, YAGNI
GitHub
Licenses
Semantic Versioning
SSH
HTTP/HTTPS and APIs
Design Patterns
Character Encodings
Web Developer in 2019
Choose your path
Front-end
Back-end
DevOps
Legends
Personal Recommendation!
Available Options


kamranahmedse/developer-roadmap
kamranahmedse
Front-end
Learn the Basics
Learn the basics
Writing Semantic HTML
Basic SEO
Accessibility
HTML
CSS
Basics of JavaScript
Learn the basics
Making Layouts
Media Queries
Learn CSS 3
Floats
Positioning
Display
Box Model
CSS Grid
Flex Box
Syntax and Basic Constructs
Learn DOM Manipulation
Learn Fetch API / Ajax (XHR)
ES6+ and modular JavaScript
Understand the concepts
Hosting, Event Bubbling, Scope
Prototype, Shadow DOM, strict,
how browsers work, DNS, HTTP
npm
yarn
npm improved a lot, post v5+, but is still behind yarn in some features; nothing serious though. Pick any!
Package Managers
SASS
PostCSS
CSS Pre-processors
PostCSS is not a pre-processor but can be used as one. Go for SASS and revisit PostCSS later. There is still some Less in the market but I won't go for it if I was starting in 2019.


Less
CSS Frameworks
Bootstrap
Materialize CSS
Bulma
Semantic UI
BEM
OOCSS
SMACSS
CSS Architecture
With modern front-end frameworks, there is more push push towards CSS in JS methodologies with which you are not going to need these. However, you should still learn BEM at-least, which would prove helpful in the long run
Build Tools
Task Runners
npm scripts
gulp
Linters and Formatters
Module Bundlers
Redux
MobX
These are not specific to React though, you can use them in any framework or app
Prettier
ESLint
JSHint
JSLint
JSCS
Webpack
Parcel
Rollup
Pick a Framework
React.js
Angular
Vue.js
RxJS
ngrx
Before you start this, you should have a good


understanding of what single page applications are how they work and what are some of the positive and negative aspects of single page applications.
Vuex
CSS in JS
Styled Components
CSS Modules
Emotion
Radium
Glamorous
Mocha
Chai
Ava
Karma
Jasmine
Protractor
Jest
Enzyme
Cypress
You can fulfill all your testing needs with these three
Testing your Apps
Unit
Integration
Functional
Understand different types of testing and learn how to write these with the above
Progressive Web Apps
Storage
Web Sockets
Service Workers
Location
Notifications
Device Orientation
Payments
Credentials
Learn different Web APIs used in PWAs
PRPL Pattern
RAIL Model
Performance Metrics
Using Light House
Using DevTools
Calculating, Measuring and improving performance
TypeScript
Flow
Type Checkers
Next.js
After.js
React.js
Universal
Angular
Server Side Rendering
Static Site Generators
GatsbyJS



Whoa!.... overload

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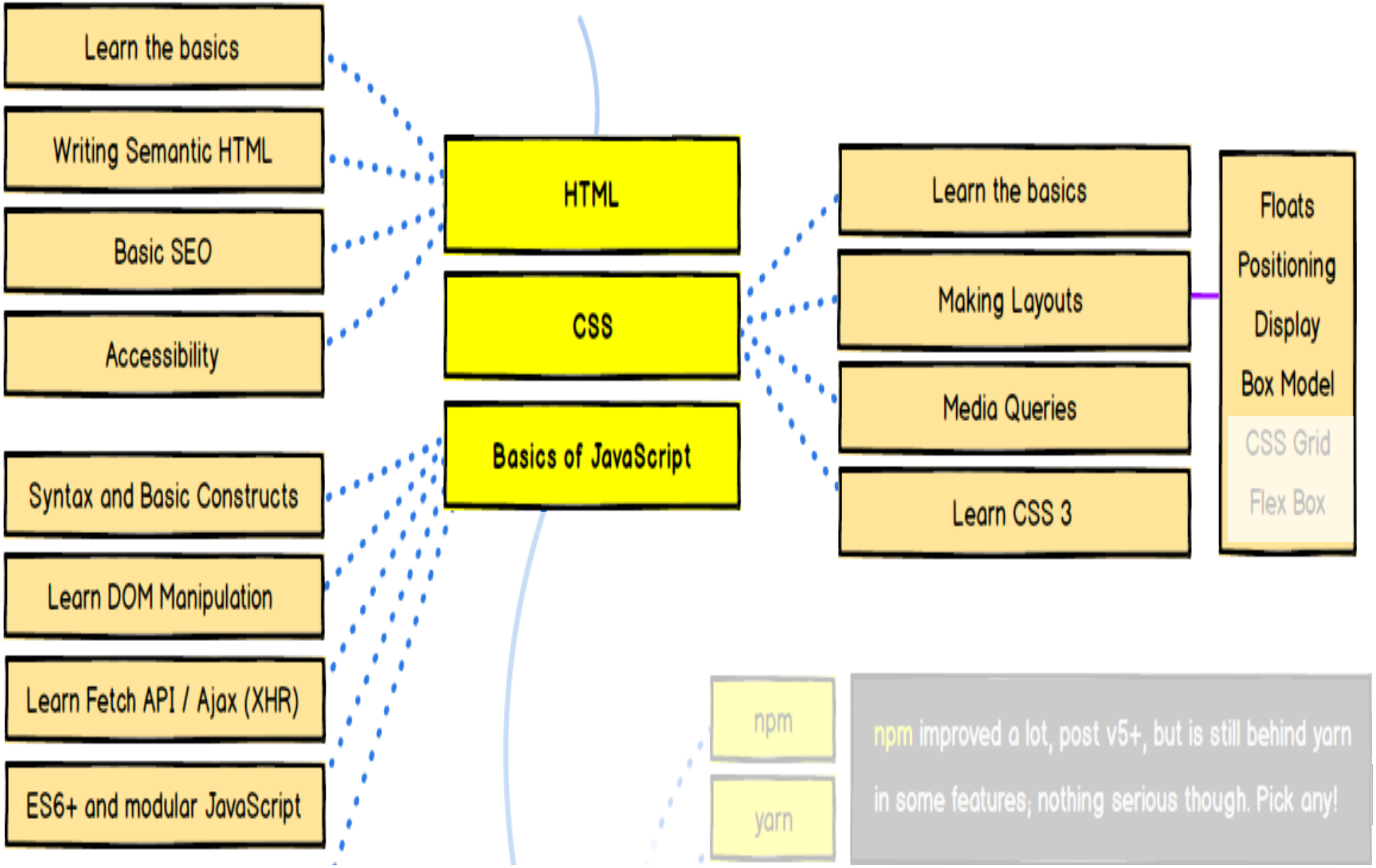
Our Focus - Basic but Critical Skills!



Can you…

- Describe Website Behaviour
- Explain Event Model
- Describe Document Object Model
- Use Javascript
  - variables
  - functions
- Use Console to debug
- Manipulate the DOM

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Next Week

- Case Study: ToDos
  - HTML
  - CSS
  - Events
  - Traverse Dom
  - Add/Delete DOM Elements

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