Part 1
Front End

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Most Popular Technologies

Programming, Scripting, and Markup Languages

All Respondents | Professional Developers

JavaScript	69.8%
HTML	68.5%
CSS	65.1%

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Developer Roles

Developer Type

Back-end developer	57.9%
Full-stack developer	48.2%
Front-end developer	37.8%

What is Front End?

Transforming text into interactive user interfaces

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What program renders the Web?

Browsers like Chrome and Firefox

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What are browsers reading?

HTML, CSS, & JavaScript

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HTML

HyperText Markup Language. Defines elements like:

- Text <p> <span> …

- Clickable <a> <button> <input> …

- Media <img> <video> <audio> …

- Headings <h1> <h2> <h3> …

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Document Object Model (DOM)

Browser builds it in a tree structure, by reading the source files

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CSS

Cascading Style Sheets. Defines styles like:

- Background Color, Border, Shadow

- Font Family, Size, Color

- Width & Height, Margins & Paddings

- + Thousands of attributes

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JavaScript

Or briefly JS. Controls logics like:

- DOM manipulations

- Text Controls

- Lists of elements

- Infinite Possibilities

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HTML
*Define logo image,
text field and
action button*

JavaScript
*On Click do
something with the
search text*

Search

Search here …

GO

CSS
*Define positioning,
alignment and color
of elements*

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File index.html
```html
<html>
<head>
<link rel="stylesheet" href="style.css">
<script src="script.js"></script>
</head>
<body>
<h1>Hello</h1>
</body>
</html>
```

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File style.css

```css
h1 {
  color: green;
}
```

File script.js

```js
console.log('Hello world')
```

Quiz

A. True Or False: Javascript is the most popular programming language in the world.

B. What is the most important tool any front end developer need?

C. True or False: CSS is responsible for rendering the content of a web page.

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Exercise 1

Javascript Operations

Part 2
Servers

Where files come from?

It starts with the DNS

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Domain Name System

Or simply DNS. Looks for the server's IP address. Typically you connection to it will follow this route:

1. Your browser

2. Your wi-fi router

3. Your internet service provider

4. The server

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Piercing-Ear & Body

EXPERT INK
155-78 Hwy ByP W Jasper ....
2069 Forestdale Blvd Forestdale

Pipe Bending & Fabricating

Capsco Industries Old 78 W Hwy Sumiton ....

Pipe Lining & Coating

Consolidated Pipe Specialty Coating Division ....
Gree Dr Dora

Pistols

See Guns & Gunsmiths

ALABAMA STATE SYMBOLS

Yellow Hammer
"Alabama"
Southern Pine
Camellia
Pecan
Racking Horse
Largen Mouth Bass
Red Bellied Turtle

Lindley Plumbing & Septic
Pickle Plumbing & Septic

PICKLE SEPTIC TANK
2349 Brookside Rd McCalla
Pickle Wade Septic Tank & Process
3337 Cherrybrook Dr Brookside

RHOADES PLUMBING & SEWER
Gardendale
Roto-Rooter Plumbers
The Masters Plumbing Forestdale
The Masters Plumbing Adamsville

Plumbing-Drain & Sewer

RHOADES PLUMBING & SEWER
Gardendale
Video Industrial Services

Pneumatic

→ **nslookup recoding.eu**

⇒ **nslookup recoding.eu**

→ **traceroute recoding.eu**

⇒ **tracert recoding.eu**

Networking

1. Physical Layer

2. Data Link Layer

3. Network Layer

4. Transport Layer (TCP/IP)

5. Session Layer

6. Presentation Layer

7. Application Layer (HTTP)

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Transmission Control Protocol

TCP – Reliable host to host communication

→ **netstat -a | grep tcp**

⇒ **netstat -a**

HyperText Transfer Protocol

Talks to the server. Sends and receives information.
Controls:

- Sessions

- Authentication (headers)

- Methods (GET, POST, …)

- Status Codes (200, 404, …)

- SSL encryption (HTTPS)

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```
→ curl recoding.eu -v
```

```
⇒ curl recoding.eu
```

Firewall

Blocks or Allows data to traffic on specific ports. Typically looks like this:

- To:22/TCP From:Anywhere Action: Allow

- To:80/TCP From:Anywhere Action: Allow

- To:443/TCP From:Anywhere Action: Allow

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Application Server

Listens to specific ports, and delivers files accordingly.
Configuration typically looks like this:

Root /Documents/MyWebsite/

Index index.html

Server_name cool-website.com

Listen 80

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Application Program Interface

Also known as API - the Backend

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HTTP Request

HTTP Response

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LinkedIn API

Supported Parameters

Parameter	Required?	Possible Values
q	yes	Must be **networkShares**
before	no	shareUrn before which to retrieve activities
after	no	shareUrn after which to retrieve activities
count	no	The number of shares returned in the elements array. The default is ten.

`GET` `https://api.linkedin.com/v2/activityFeeds?q=networkShares&count=2`

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QUIZ

A. True of False: the DNS is responsible for storing the files of your server.

B. True or False: Turning off the firewall is a good practice because then everyone can access my website.

C. What is the protocol that browsers use to get files from servers?

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Exercise 2

HTML & CSS - Tags and Attributes

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Part 3
6 Golden Rules of Good Code

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READABILITY

The most important thing in coding is being able to easily read it

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Which function is easier to read?

1.
```
function sqrt(x) {
    return Math.pow(x,2)
}
```

2.
```
function squareRootOf(number) {
    return number * number
}
```

NAMING

Variables, constants, and functions with good names are:

- Explicit

- Not Ambiguous

- Clear about their purpose

Which variable has the best name?

1. `var verticalOffset = element.top + margin`

2. `var y = e.top + 100.5`

SIMPLICITY

The code must be simple, rarely complex, and never complicated. Always flat.

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Which version in the simplest?

1. `var lastElement = array[array.length - 1]`

2. `var lastElement = array.pop()`

STRUCTURE

Good code is consistent regarding:

- Naming conventions (camel case, underline)

- Code Syntax (brackets, parenthesis, tabs)

- File names and folders (must be organized)

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Which code is the most consistent?

```
1. for ( var current_item of someArray )
   {
       console.log(current_item) }


2. for (var item of array) {
       console.log(item)
   }
```

REUSABLE

Good programmers do not repeat themselves

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Is this code repetitive?

```
title.setTextColor(black)
subtitle.setTextColor(gray)
paragraph.setTextColor(black)
footerNotes.setTextColor(indigo)
```

EASY TO EXPLAIN

If some code is hard to explain, it's probably not a great piece of code

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QUIZ

A. True or False: code is more readable when it is flat, and not nested.

B. True Or False: Repetitive code is good because it is easier to understand.

C. True or False: making code short by putting everything in the same line is a good practice.

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Exercise 3

Javascript Variables & Functions

Minimal Front End Skill Set

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1. Be good at programming in JS

2. Know how to request an API

3. Be good at creating UI in HTML and CSS

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1) Ask developers to show you their code

Look for bad/good programming practices.

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2) Ask about which API's they've used

Ask if they did the parsing in XML or JSON themselves. Check if they wrote unit tests. Check if they used GET and POST.

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3) Ask about their portfolio

Check if their websites look awesome.
Check if they work in your browsers.
If you resize the window, did the
content adapt properly?

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Most used JS Frameworks

Vue

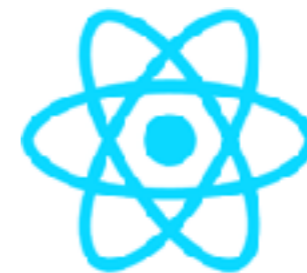**Builds a bridge between the HTML content and the JS logic**

- Totally Javascript

- Reusable visual components

- Usually for single-page websites

React

Extensive framework for building UI

- Javascript & JSX (optional)

- Focused on interface components

- Made for easily creating visual elements for mobile apps

Angular/AngularJS

Robust framework for large scope projects

- Typescript

- Full featured framework

- Made for complex scenarios, and web applications

QUIZ

A. True or False: React is the best framework for making websites.

B. In which scenario would you use Vue, instead of Angular?

C. True or False: it is embarrassing to ask developers for their code.

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Exercise 4

HTML & JS - Buttons