V1: Web Technology Fundamentals

## 1) What are clients?

Clients are devices that request and render web content, for example, screen readers, web browsers, and mobile applications.

2) When we type in a URL, the request does not typically go first to the web server. Where does it go?

It first goes to the Domain Name Server (DNS), which translates it to an IP address. From there, the web browser uses the IP address to find the host's server and sends a request for content.

3) [True or False] In response to a web request, all required files are sent at the same time.

False

4) [Critical Thinking] Why is it important to understand DNS when helping a client change hosting companies?

It is important because most clients are not going to want to do that themselves, they will want their designer/developer to handle the transfer for them. As their designer/developer, I need to be able to clearly explain to them, in terms they will understand, everything they will need to know about the change, such as the fact that most name servers do not refresh their cache for about a day and that means that if a site is moved from one host to another, the servers that have it cached will take about a day to direct people to the new site and the client will want to take that into consideration when deciding on the exact date and time they want to move their site.

5) Which layer has protocols like HTTP, FTP, and SMTP?

The application layer has protocols like HTTP, FTP, and SMTP

6) What does the author mean when he says HTTP is a **stateless** protocol?

After a request has been both sent and received, the browser and the web server discard it and forget it.

7) [Critical Thinking] What is the purpose of a subdomain?

Subdomains allow servers to identify individual sites or areas of content.

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# 8) Which rendering engine is based on WebKit and used under the hood to develop Chrome?

Blink is the rendering engine based on WebKit and used under the hood to develop Chrome. It is also used in Opera. On a side note, I actually had Opera on the Mac I just replaced over the break and it was quickly becoming my preferred browser. I downloaded it on the advice of Dana and was not disappointed.

#### 9) [Critical Thinking] Why are web standards important to web developers?

Web standards are important to web developers because they help to ensure a consistent design and user experience across browsers. Having a solid understanding of these standards will help to create websites that work well across all the browsers that users might be using with minimal headaches.

### 10) [Critical Thinking] What is the LAMP stack?

The LAMP stack is Linux (operating system), Apache (web server), MySQL (database server), and PHP (programming language). It is the most commonly used stack on web servers, and the reason for this is because its components are open source.

### 11) [Critical Thinking] Why is it important to know what stack is being used by your host?

Because you need to host your site on a web server that is able to process the pages. It is imperative that you choose a hosting service who has a stack that works with the database and scripting choices you made for your site.

## 12) [True or False] According to our author, front end design is commonly associated with the server.

False. Back end design is commonly associated with the server. Front end design is the layer of the site that people see and interact with.

## 13) What are the three languages the author associates with front end design?

The three languages that the author associates with front end design are HTML (Hypertext Markup Language), CSS (Cascading Style Sheets), and JavaScript.

## 14) [Critical Thinking] Why was HTML5 created?

HTML 5 was created when a bunch of designers and developers decided that they were not happy with XHTML 2.0 and the direction it was headed. They created WHATWG (Web Hypertext Application Technology Working Group) and continued developing HTML. The W3C adopted the work this group of designers and developers did, giving it the name, HTML5.

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### 15) [Critical Thinking] What does the HEAD of an HTML document contain?

The head of an HTML document contains the meta tags, the title, links to the stylesheet(s), and script tags (some script tags need to be written just before the closing body tag of a page).

#### 16) [Critical Thinking] What does the term cascade mean?

The term "cascade" is simply referring to how the styles are applied. The styles are applied in order, with a few exceptions, from the top of the file to the bottom of the file. The way the styles are applied is in a cascading fashion, thus the name of the language, Cascading Style Sheets.

#### 17) What's the benefit of using a separate file to store your CSS?

One file can be used for the entire site, is an efficient way to add styles to a website.

### 18) In CSS, what separates a property from a value?

In CSS, a colon separates the property from the value, and a semicolon is used to indicate to the browser that is end of that particular style and to continue on to the next style.

#### 19) [Critical Thinking] What is the purpose of JavaScript?

The purpose of JavaScript is to add functionality and make a website interactive. Interactive elements can include navigation menus, new windows, animation, and even changing elements on the page.

## 20) Which 2 types of graphics support transparencies?

PNG and GIF are the 2 types of graphics that support transparencies.

#### 21) Which type of image scales without any loss in quality?

SVG images scale without any loss in quality (Scalable Vector Graphic)