WebFundamentals

1. What is Word Wide Web

The www is a system of interlinked hypertext documents and media contents accessed on the internet allowing users to browse and interact with content and online services.

Example:

With URLs, each time a user types any address on the browser, it gets identified by the URL, like https://google.com

Hyperlinks allows users to navigate from one page to another

Web browsers being used to access Google chrome, Mozila Firefox, and orSafari

Content on the web page being presented typically in condiments written in HTML, these include images, videos, links and so many other multimedia elements.

2. Explain the function differences between a web application's front-end and back-end

The simple overview of the difference between the two would be :

2.1 ●**Front-end**- is primarily for the visual layout, elements like buttons forms, navigation menus, images and or typography.

● Furthermore, it focuses on how the user actually feels when interacting with the application or software ensuring the interface is easy to navigate and visually appealing.

● Front-end defines the real time or visual presentation of data using HTML structures, CSS for styling and JS for the behavior

Technologies used are : HTML, CSS, JavaScript and Libraries like React, SASS, Bootstrap, Angular and etc

2.2. ●Back-end- is responsible for user identities through verifying login credentials, and other security protocols.

● It interacts with databases to keep and retrieve data including user information, transactions, content etc.

● It provides APIs that allow the front end to communicate seamlessly with the server, retrieve data and update the interface. Furthermore, it ensure that the web application performs efficiently and is able to handle multiple users at once,

Technologies used are : Ruby, Java, PHP, Node.js, C#, Python etc
Database being : SQL etc

3. Describe what occurs on the back-end during a web application using the “Google query example

3.1. The user types a query like, (Who came up with Facebook) in the search box on the browser
-The front-end then sends the HTTP request to Google’s back-end servers.

https://www.google.com/search?q=who+came+up+with+facebook

3.2. Once the back-end receives the request, the back-end extract the query parameter. The back-end then will process the query

Technologies used : **HTML, CSS, JavaScript, and Libraries like (React, SASS, Angular etc**)
Back-end checks for spell and provide suggestions ➢ relevance in keywords and personalisation based on the user search history and location etc.

The back-end assembles all the data into HTML responses and send back to the user’s browser in the form of an HTTP response like HTML format JSON data required for elements

The main basic concepts for this process are :

1. Request handling where the server processes the incoming requests or query and returns the correct response.
2. Throughout the process, Google ensures the security like HTTPS encryption to protect user data and security.
3. Search Algorithms where google filters the web page based on the relevance and quality etc

4. What is the MERN stack

MERN stack is the collection of JavaScript based technologies that are used by developers, consisting of Express, MongoDB, React, and Node.js. Developers use these to create scalable, maintainable and dynamic web applications