Research & Concept Analysis

Question 1: Difference between front end and back end

Let me use explanation using a Restaurant mechanism, which is usually the easiest way to understand the difference.

1. A Restaurant

- **Front End (The Dining Room): This is where you (the customer) sit. You see the beautifully decorated tables, hold the menu, and talk to the waiter. You experience the atmosphere, the lighting, and the presentation of the food.**
- **Back End (The Kitchen): This is hidden behind doors. You don't see it, but it's where the chefs are cooking, where the ingredients are stored in the fridge (database), and where the frantic organization happens to make sure your order comes out correctly.**

2. The Technical Explanation

Front End (Client-Side)

This is the part of the website or app that users see and interact with.

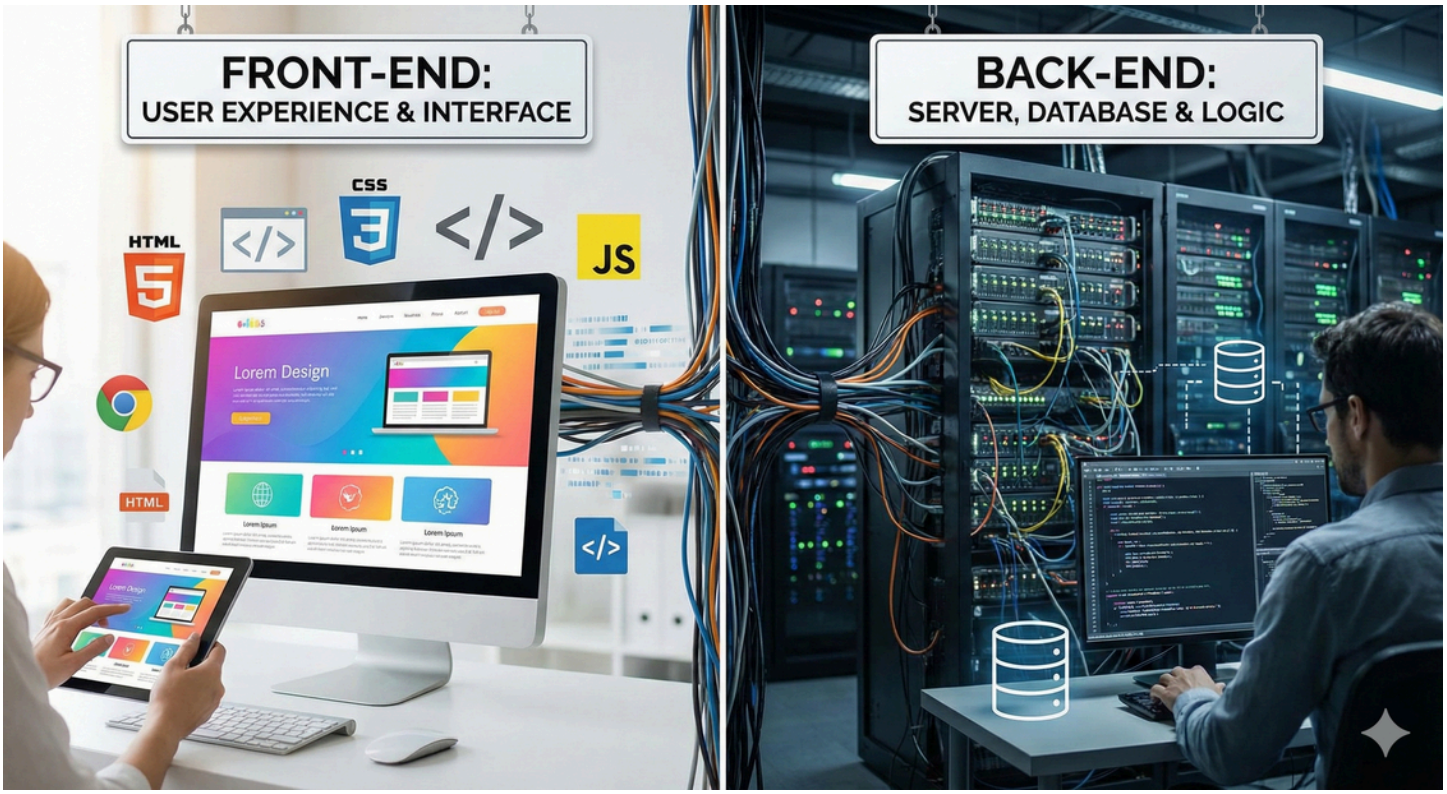
- **Focus: It is all about "Look and Feel." It ensures the website looks good on your phone and computer, buttons work when clicked, and animations are smooth.**
- **Key Languages:**
  - **HTML: The structure (the skeleton).**
  - **CSS: The style (colors, fonts, layout).**
  - **JavaScript: The action (what happens when you click a button).**

Back End (Server-Side)

This is the part of the website that works behind the scenes.

- **Focus: It is all about "Data and Logic." It processes your password when you log in, saves your posts, and retrieves product info when you search for something.**
- **Key Components:**
  - **The Server: A powerful computer that runs the website.**
  - **The Database: Where data (users, products, comments) is stored (e.g., MySQL, MongoDB).**
  - **The Logic: Code written in languages like Python, Java, or Node.js to manage the rules.**

3.Front-End vs. Back-End Diagram



Question 2:

An api is something that allows different software program to communicate with each other.

when a clint give an request this request will be given in the api and it will communicate with server and give a response to the client this communication is done with the help of api

Question 3:

Cloud computing is like renting storage space over the internet instead of buying and keeping it in your own .

Netflix and Spotify are the real life examples

Question 5:

Database:

Database is used to store all the data's its a memory space where you can store, retrieve, edit and delete the data's

Version Control:

It records every change you make to a file so that you can recall specific versions later and can be reused if needed