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1. A web application is software that runs in your web browser
2. Web Application
   - Allows user interaction and performs dynamic actions, like submitting forms or processing data.
   - Requires user input for tasks like logging in or data manipulation.

   Website

   - Provides static content, typically for browsing information.
   - Minimal interaction, usually just reading or clicking links.

3. Website architecture: Designed to deliver static or semi-static content like text, images, and videos. Examples include blogs, news portals, and company landing pages.

   Web application architecture: Built to support user interaction, data manipulation, and dynamic content generation. Examples include Gmail, Twitter, and online banking platforms

4. React , Angular , vue.js , node.js
5. Code Editors and IDEs - vs code , atom , intellij idea
   Version Control Systems – github , gitlab
6. Client side scripting
   - Source code is visible to the user.
   - Its main function is to provide the requested output to the end user.
   - It usually depends on the browser and its version.
   - It runs on the user's computer.
   Server side scripting
   - Source code is not visible to the user because its output of server side is an HTML page
   - Its primary function is to manipulate and provide access to the respective database as per the request.
   - In this any server-side technology can be used and it does not depend on the client
   - It runs on the webserver.
7. Authentication in web applications is the process of verifying the identity of a user or system attempting to access the application, ensuring that they are who they claim to be.

8. An API (Application Programming Interface) acts as a bridge that enables communication between different software components in a web application.
9. steps: 1. Information gathering 2. Planning and blueprints 3. Web application design 4. Coding and programming 5. Copywriting and labeling 6. Testing, reviewing, and launching 7. Post-launch maintenance and updates
10. common IDEs
    - Visual Studio Code
    - WebStorm
    - Sublime Text

    Version control systems

    - Git
    - Subversion
11. FrameWorks
    - Django
    - Ruby
    - Angular
    - React
12. Popular frameworks and content management systems (CMSs) for websites include WordPress, Joomla, Drupal, Ruby on Rails, and Django, each offering unique features and capabilities.
13. Frontend development is the process of building the visual and interactive parts of a website or web application that users directly engage with. It includes everything from layout and design to functionality and responsiveness.
14. Backend development is the backbone of any digital application—it powers the logic, data handling, and server-side operations that users never see but rely on constantly. Without it, websites and apps wouldn't function.
15. Websites manage scalability through techniques like vertical and horizontal scaling, load balancing, and adopting microservices architecture to handle increased traffic and data without compromising performance.
16. Security in web applications is managed through a combination of secure coding practices, protective technologies, and continuous monitoring to defend against threats like data breaches, unauthorized access, and cyberattacks.
17. A Database Management System (DBMS) is a software solution designed to efficiently manage, store, and retrieve data in a structured format. In the context of records management, a DBMS plays a critical role in organizing, maintaining, and securing records, ensuring they are accessible and reliable for various organizational needs.
18. A RESTful API (Representational State Transfer API) is an interface that allows two computer systems to exchange information securely over the internet. It follows a set of constraints and principles to create web services that are simple, flexible, and scalable.

19. Common web security practices include input validation, encryption, regular updates, and access control to protect against threats like SQL injection, XSS, and data breaches.
20. Responsive design is an approach to web design that ensures web pages render well on various devices and screen sizes, providing a good user experience across desktops, tablets, and mobile phones. This approach adapts the layout and content based on the screen size, resolution, and orientation of the device being used
21. Website maintenance refers to the regular updates and tasks performed to ensure your website remains functional, secure, and up-to-date. It encompasses a variety of activities, from fixing broken links and updating content to enhancing security measures and optimizing performance.
22. Yes, a website can evolve into a web application by adding interactive and dynamic features that allow users to perform tasks beyond just viewing content.
23. For Beginners or Small Businesses: WordPress is ideal due to its ease of use and it has various SEO plugins.
24. Client-side rendering (CSR) is used by frameworks like React (in its default setup), while server-side rendering (SSR) is used by frameworks like Next.js
25. Websites and web applications handle third-party integration differently primarily in terms of functionality, user interaction, and the complexity of integration processes.