Western Governors University (WGU) ITWD3120 C777 Web Development Applications Practice Exam (Sample)

Study Guide
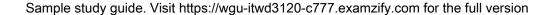

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Questions

1. Which attribute is used in HTML to define a hyperlink?

    A. src

    B. href

    C. link

    D. path

2. What is used in code to specify the width of an image in responsive web design?

    A. px

    B. pc

    C. %

    D. #

3. Why is CORS important for web applications?

    A. It prevents all cross-domain requests

    B. It allows for unrestricted resource access

    C. It secures resources when requested from other domains

    D. It enhances user interface responsiveness

4. What does SQL stand for?

    A. Structured Query Language

    B. Style Quality Language

    C. Simple Query Language

    D. Standard Query Logic

5. How is an external stylesheet created in CSS?

    A. By using inline styles in HTML

    B. By saving CSS rules in a .css file and linking it

    C. By applying styles directly in the body of the HTML document

    D. By using JavaScript to manipulate styles

6. What is the purpose of the <head> tag in HTML?

    A. To include the main content

    B. To contain metadata and links to scripts and stylesheets

    C. To display images

    D. To create tables

7. Which technology is commonly used to secure data transmission over the internet?

    A. HTML

    B. CSS

    C. SSL

    D. FTP

8. What does JSON stand for?

    A. JavaScript Object Notation

    B. Java Standard Object Notation

    C. JavaScript Online Notation

    D. JavaScript Order Notation

9. What is a characteristic of mobile web design?

    A. Do not use fluid images

    B. Easily understood text labels as links

    C. Media queries should not be used in mobile web design

    D. Screen resolution is not an important factor

10. What does the "required" attribute in an HTML form element signify?

    A. The field must be filled out before submitting the form

    B. The field must be filled out at least once

    C. The field can be left empty

    D. The field is optional for users

Answers

1. B
2. C
3. C
4. A
5. B
6. B
7. C
8. A
9. B
10. A

Explanations

1. Which attribute is used in HTML to define a hyperlink?

A. src

B. href

C. link

D. path

The attribute used in HTML to define a hyperlink is the "href" attribute. This attribute is a key part of the anchor (`<a>`) tag, which is utilized to create clickable links that redirect users to other web pages, files, or locations on the same page when activated. When you use the "href" attribute, you specify the target URL or resource location. For example, if you want to create a link that directs users to a specific website, you would include the URL in the "href" attribute, like this: `<a href="https://www.example.com">Visit Example</a>`. In this instance, clicking on the link text "Visit Example" would take the user to the specified website. Each of the other attributes listed—src, link, and path—serves different purposes in web development. The "src" attribute is used primarily for specifying the source file of media elements, such as images or scripts, while "link" typically pertains to the way stylesheets are linked within a webpage. Similarly, the term "path" isn't a valid HTML attribute but rather a concept that relates to the location of files or resources within a file system or web server structure. Thus, "href" is the

2. What is used in code to specify the width of an image in responsive web design?

A. px

B. pc

C. %

D. #

Using a percentage to specify the width of an image in responsive web design allows the image to scale relative to its parent container. This is a crucial aspect of responsive design, as it ensures that images resize appropriately on different screen sizes and devices. When an image is set to a percentage width, it occupies a portion of its parent's width, maintaining its aspect ratio while adjusting to various screen dimensions. This adaptability improves the user experience on mobile and desktop platforms since it helps prevent overflow or distortion. In contrast, using fixed units like pixels (px) would lock the image size, potentially leading to layout issues on varying screen sizes. Other options such as "pc" (picas) and "#" (which typically denotes an id selector in CSS) do not pertain to specifying image width in the context of responsive design. Therefore, the percentage value is the most effective choice for achieving fluid layouts that enhance accessibility and usability across diverse devices.

3. Why is CORS important for web applications?

A. It prevents all cross-domain requests

B. It allows for unrestricted resource access

C. It secures resources when requested from other domains

D. It enhances user interface responsiveness

CORS, or Cross-Origin Resource Sharing, is a critical mechanism for web applications that enhances security when resources are requested from different domains. It is designed to allow or restrict access to resources depending upon the specific configuration set by the server hosting the resource. When a web application (hosted on one origin) tries to request resources from another domain (a different origin), the browser enforces the same-origin policy by default to protect against malicious attacks, such as cross-site request forgery (CSRF) and data theft. CORS provides a way for the server to specify who can access its resources and what methods are allowed (such as GET, POST, etc.). By doing this, CORS allows web applications to securely interact with APIs and other resources on different domains while maintaining a level of security. This controlled access is vital because it prevents malicious websites from making unauthorized requests to different domains, ensuring that sensitive data remains protected. Thus, CORS acts as a gatekeeper, managing and securing cross-origin requests while enabling legitimate interactions between different web applications.

4. What does SQL stand for?

A. Structured Query Language

B. Style Quality Language

C. Simple Query Language

D. Standard Query Logic

SQL stands for Structured Query Language. This term encompasses the language used for managing and manipulating relational databases. SQL is a standardized programming language that facilitates tasks such as querying data, updating records, inserting new data, and deleting existing records within a database management system. The term "Structured" indicates that the language is designed to operate on structured data, which is data organized into tables and predefined schemas. This structure is essential for maintaining relationships between different data entries, enabling complex queries and data management tasks. The emphasis on "Query" highlights the primary function of SQL, which is to retrieve information from databases in a structured and efficient manner. The adoption of the term "Language" signifies that SQL has its own syntax and set of rules, akin to other programming languages. This comprehensive understanding of SQL's meaning and function is crucial as it plays a significant role in web development and database management, thus making it an essential skill for developers working with data-driven applications.

5. How is an external stylesheet created in CSS?

    A. By using inline styles in HTML

    B. By saving CSS rules in a .css file and linking it

    C. By applying styles directly in the body of the HTML document

    D. By using JavaScript to manipulate styles

The correct answer is found in the process of creating an external stylesheet in CSS, which involves saving CSS rules in a separate file with a .css extension and linking that file to your HTML document. This approach promotes better organization and separation of concerns, allowing you to keep your styling rules separate from your HTML content. When you create an external stylesheet, you define your CSS rules in a standalone file. For example, you might create a file named "styles.css" that contains various style definitions, such as colors, fonts, and layout rules. In your HTML document, you would then use a `<link>` tag in the `<head>` section to connect the CSS file to your HTML. This method makes it easier to manage styles, as changes made in the CSS file will automatically reflect across all HTML pages that link to it, thus enhancing maintainability and reducing redundancy. This method contrasts with inline styles, which apply styles directly within HTML elements. While they work for quick adjustments, they can clutter your HTML and are not reusable. Styles embedded in the body or head of the HTML document lack the reusability and separation offered by external stylesheets. Finally, using JavaScript to manipulate styles is related to dynamic styling but does not create an external stylesheet,

6. What is the purpose of the <head> tag in HTML?

    A. To include the main content

    B. To contain metadata and links to scripts and stylesheets

    C. To display images

    D. To create tables

The <head> tag in HTML serves the crucial function of containing metadata about the webpage, which is information that is not directly visible on the page itself but is essential for the document's configuration and behavior. Within the <head> section, you can include various elements such as the title of the page, which appears in the browser tab, links to external stylesheets for CSS, and scripts for JavaScript functionality. This area is pivotal for defining how the webpage is perceived by search engines, browsers, and other web services, facilitating proper functionality and styling. For instance, using the <link> tag to reference a CSS file ensures that the visual presentation of the HTML content is controlled and consistent. Additionally, placing JavaScript files in the <head> enables functionality to be initiated before the content is displayed to the user. The other options do not accurately describe the purpose of the <head> tag. The <body> tag is used for including the main content of a webpage, images are typically embedded using the <img> tag, and tables are structured using the <table> tag. Each of these elements has its specific function, separate from the role of the <head> tag.

7. Which technology is commonly used to secure data transmission over the internet?

A. HTML

B. CSS

C. SSL

D. FTP

The use of SSL (Secure Sockets Layer) is a standard technology for securing data transmission over the internet. It provides a secure channel between two devices operating over the internet, ensuring that any data exchanged remains private and integral. SSL accomplishes this by encrypting the data being transmitted, making it difficult for unauthorized parties to intercept or tamper with the information. This technology is particularly important for securing online transactions and protecting sensitive information like credit card numbers and personal details. In contrast, HTML (HyperText Markup Language) is primarily a markup language used to create the structure of web pages, while CSS (Cascading Style Sheets) is used for styling the presentation of web pages. Both HTML and CSS do not secure data transmissions, as they are not designed to handle data encryption or secure communications. FTP (File Transfer Protocol) is a standard network protocol used to transfer files between a client and server on a computer network, but it does not provide security measures to protect data during transmission. Therefore, SSL stands out as the definitive choice for securing data over the internet.

8. What does JSON stand for?

A. JavaScript Object Notation

B. Java Standard Object Notation

C. JavaScript Online Notation

D. JavaScript Order Notation

JSON stands for JavaScript Object Notation. It is a lightweight data interchange format that is easy for humans to read and write, and it is easy for machines to parse and generate. JSON is primarily based on a subset of the JavaScript programming language, which is why it carries the "JavaScript" in its name. The "Object Notation" part refers to how data is formatted in key-value pairs, similar to how objects are structured in JavaScript. This makes JSON a crucial format for APIs and web services, as it is commonly used to transmit data between a server and a web application. The other options do not accurately represent the format or its purpose, and they contain terms that either do not relate to JSON or mischaracterize its association with JavaScript.

9. What is a characteristic of mobile web design?

   A. Do not use fluid images

   B. Easily understood text labels as links

   C. Media queries should not be used in mobile web design

   D. Screen resolution is not an important factor

A characteristic of mobile web design is that it utilizes easily understood text labels as links. This approach enhances usability on smaller screens, ensuring that users can quickly recognize and interact with navigation elements. Given that mobile devices have limited screen real estate, clear and concise text labels help prevent confusion and facilitate efficient navigation.   In mobile web design, it is crucial to prioritize user experience; easily digestible text ensures that users can identify links at a glance, ultimately leading to more effective interaction with the mobile site. This practice supports accessibility and caters to various users, including those who may have visual impairments or cognitive challenges.   The other options highlight practices that do not align with best practices in mobile design. For instance, avoiding fluid images restricts responsiveness, while disregarding media queries undermines adaptive design. Furthermore, screen resolution plays a critical role in mobile web design given the wide array of device sizes and resolutions available today, which directly impact layout and readability.

10. What does the "required" attribute in an HTML form element signify?

   A. The field must be filled out before submitting the form

   B. The field must be filled out at least once

   C. The field can be left empty

   D. The field is optional for users

The "required" attribute in an HTML form element signifies that the field must be filled out before submitting the form. This attribute is a crucial aspect of form validation, ensuring that users provide necessary input when submitting data. When a form element, such as an input field, has the "required" attribute, the browser will prompt the user to complete that field if they attempt to submit the form without doing so. This helps maintain data integrity by ensuring that essential information is collected from users, avoiding situations where forms are submitted with incomplete data.   The "required" attribute applies to various types of input fields, including text fields, email inputs, and select dropdowns. By enforcing this requirement, developers can enhance the user experience by guiding users through the form completion process and minimizing errors related to missing data. The effective use of the "required" attribute also reduces the need for further validation and error handling on the server side, as it proactively prevents incomplete submissions.