CSS Selectors & Styling

1. What is a CSS selector? Provide examples of element, class, and ID selectors.

CSS selectors are used to find the HTML elements you want to style.

Example-

Id:

#para1 {  
  text-align: center;  
  color: red;  
}

Class:

.para1 {  
  text-align: center;  
  color: red;  
}

1. What is the difference between internal, external, and inline CSS? Discuss the advantages and disadvantages of each approach.
   * Inline CSS is used for quick and specific styling
   * internal CSS is used for multiple elements within the same HTML document.
   * external CSS is used for a more organized and scalable approach to styling, allowing for reusability and maintainability.

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| **Inline CSS** | **Internal CSS** | |  | | --- | | **External CSS** | |  | |
| It is used within HTML tag using the style attribute. | It is used within <head> section of HTML document. | It is used in a separate .css file. |
| Affects a single element or a group of elements. | Affects multiple elements within the same HTML element. | Affects multiple HTML documents or an entire website. |
| Not reusable. Styles need to be repeated for each element. | Can be reused on multiple elements within the same HTML document. | Can be reused on multiple HTML documents or an entire website. |
| Highest priority. Overrides internal and external styles. | Medium priority. Overrides external styles but can be overridden by inline styles. | Lowest priority. Can be overridden by both inline and internal styles. |

1. Explain the CSS box model and its components (content, padding, border, margin). How does each affect the size of an element?

The CSS box model is a design and layout concept that treats each HTML element as a rectangular box with four main parts: content, padding, border, and margin. Each part affects the size of an element in a different way

* **Content**

The content area displays the text, images, and other media of the element. The width and height of the content box are determined by the size of the content itself.

* **Padding**

The padding area is the space around the content and within the border box. The padding property in CSS controls the size of the padding.

* **Border**

The border area surrounds the padding and content. The border property and related properties, such as border-width, border-style, and border-color, define the size of the border.

* **Margin**

The margin area is the space between the border and surrounding elements. The margin property controls the size of the margin.

1. What is the difference between border-box and content-box box-sizing in CSS? Which is the default?

* **Border-box**

Includes padding and borders in the width and height values. The browser calculates the size so that the total width and height of the element remain the same, regardless of the padding or border sizes.

* **Content-box**

The default value, this option excludes padding and borders from the dimensions. The width and height you set for an element only apply to the content. The final rendered width will be wider than the set value due to the added border and padding.

1. What is CSS Flexbox, and how is it useful for layout design? Explain the terms flex-container and flex-item.

Flexbox is a layout method for arranging items in rows or columns. Flexbox makes it easier to design a flexible responsive layout structure, without using float or positioning.

Flex Container :

To start using CSS Flexbox, you need to first define a flex container.

The flex container becomes flexible by setting the display property to flex.

flex-item :

The direct child elements of a flex container automatically becomes flex items.

1. Explain CSS Grid and how it differs from Flexbox. When would you use Grid over Flexbox?

Flexbox is designed for layout in one dimension - either a row or a column. Grid was designed for two-dimensional layout - rows, and columns at the same time.

1. Describe the grid-template-columns, grid-template-rows, and grid-gap properties. Provide examples of how to use them.
   1. grid-template-columns :

Specifies the size of the columns, and how many columns in a grid layout.

* 1. grid-template-rows:

|  |
| --- |
| Specifies the size of the rows in a grid layout.   * 1. Justify-content:   Horizontally aligns the whole grid inside the container. |
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