HTML INTERVIEW QUESTIONS & ANSWERS

Important HTML questions and answers for front-end developer technical interview

DEVELOPER UPDATES

- **What is HTML?**

  HTML is an acronym which stands for Hyper Text Markup Language which is used for creating web pages and web applications.

  HTML uses tags and attributions to communicate with popular web browsers and tells them how to display everything on a web page.

- **What is tags in HTML?**

  HTML tags are like keywords which defines that how web browser will format and display the content. With the help of tags, a web browser can distinguish between an HTML content and a simple content.

  HTML tags contain three main parts: opening tag, content and closing tag.

  Example - Paragraph Tag , Span Tag

- **What is Semantic HTML?**

  Semantic HTML is a type of HTML that helps to define the meaning of tags. This makes it easier for web browsers to interpret the code.

  Additionally, semantic HTML saves you time by automating some of the process of coding.

  Semantic Elements Example:
  - <article>
  - <footer>
  - <header>
  - <figure>
  - <time>
  - <nav>
  - <section>
  - <details>

- **Explain DOCTYPE in HTML.**

  All HTML documents must start with a <!DOCTYPE> declaration. The declaration is not an HTML tag. It is an "information" to the browser about what document type to expect.

- **What is the difference between HTML and HTML5?**

HTML5	HTML
Support for video/audio	No audio/video support
Default vector graphics support using Canvas & SVG	Vector graphics support possible with outside tools.
Capable of handling inaccurate syntax and other errors	Not capable of handling inaccurate syntax and other errors.
HTML5 is mobile friendly	HTML is not mobile friendly
Allows JS to run in browser	Does not allow JS to run in browser.
Allows to drag and drop effects.	It does not allow to drag and drop effects.

- **How you can add a stylesheet to the HTML file?**

There are 3 ways to include CSS in the webpage.

1. External CSS
2. Internal CSS
3. Inline CSS

1. External CSS - External CSS is defined using <link> element within <head> section. Whenever we have to make multiple changes in pages we make use of External CSS.

```
<head>
  <link rel="stylesheet" href="style.css" />
</head>
```

2. Internal CSS - Internal CSS is defined using <style> element within <head> section. It helps us to design a single HTML page and change the style of the web page within HTML code.

```
<style>
  .error {
    color: red;
  }
  p {
    padding: 0%;
    font-size: 12px;
    width: 100%;
  }
</style>
```

3. Inline CSS - Inline CSS is much more different than External and Internal CSS. It directly affects the tag in which CSS is written. It applies the unique style to a particular HTML element.

```
<p style="font-size: 12px; color:blue; padding: 12px;">This is a paragraph</p>
```

- **What are the form elements available in HTML?**

  Forms in HTML are required when we want to collect the user information whenever a user fills the form.

  The HTML <form> elements contains following elements within it.

  - <input>
  - <select>
  - <label>
  - <option>
  - <fieldset>
  - <output>
  - <datalist>
  - <textarea>
  - <button>

- **What is the difference between document & window?**

  1. Window is the first thing that loads into the browser. It has properties like inner width, inner height, length, name.
  2. Whereas Document gets loaded inside the window object.

- **What is the difference between Local Storage, Session Storage & Cookies?**

  1. **Local Storage** - Local Storage allows to store the data without expiry limits.
  2. **Session Storage** - Session Storage allows to store the data till window is opened.
  3. **Cookies** - Cookies allows to store data within client server.

- **Which are the new form element types in HTML5?**

  HTML5 introduces a number of new form elements. Some of them are **<datalist>, <keygen>, <output>, <progress> and <meter>.**

- **What are the new features introduced in HTML5?**

  1. **Audio and video** - Audio and Video tags are the two major addition to HTML5. It allows developers to embed a video or audio on their website.
  2. **Vector Graphics** - Vector Graphics can be used to draw graphics with various shapes and colors via scripting usually JS. It is scalable, easy to create and edit.
  3. **Figure and Figcaption** - HTML5 allows to use a <figure> element to mark up a photo in a document, and a <figcaption> element to define a caption for the photo. The <figcaption> tag defines a caption for a <figure> element. This tag provides a container for content that is equivalent to a figure. It can be used to group a caption with one or more images, a block of code, or other content.
  4. **Progress Tag** - The progress tag is used to check the progress of a task during the execution. Progress tag can be used with the conjunction of JavaScript.

- **Do all HTML tags come in pair?**

  No, there are some tags in HTML which does not contain pair
  Example - <img>,
, <hr>

- **Name some video and audio formats supported by HTML5?**

  - Some Video Format Tags supported by HTML5 are - Mp4, WebM, Ogg
  - Some Audio Format Tags supported by HTML5 are - Mp3, WAV, Ogg

- **What is the use of <iframe> tag?**

  The <iframe> tag specifies an inline frame. It is used to embed another document within current HTML document.

- **What is canvas element in HTML?**

  The canvas element is used to draw graphics on the web page using javaScript.
  Canvas has several methods for drawing paths, boxes, circles, text, and adding Images.

- **What is SVG in HTML?**

  Scalable Vector Graphics (SVG) is a type of vector image that can be scaled to any size without losing clarity or quality.
  SVG has several methods for drawing paths, boxes, circles, text, and graphic images.
  SVG images and their behaviours are defined in XML text files.

- **What is HTML Grid Layout?**

  The HTML Grid Layout offers a layout with rows and columns making it easier to design web pages without using float and positioning.

- **How many types of heading does an HTML contain?**

  The HTML contains six types of headings which are defined with the <h1> to <h6> tags. Each type of heading tag displays different text size from another.
  So, <h1> is the largest heading tag and <h6> is the smallest one.

- **What is the difference between HTML elements and tags?**

  HTML elements communicate to the browser to render text. When the elements are enclosed by brackets <>, they form HTML tags. Most of the time, tags come in a pair and surround content.

- **Is it possible to change the color of the bullet?**

  The color of the bullet is always the color of the first text of the list. So, if you want to change the color of the bullet, you must change the color of the text.

- **How many tags can be used to separate a section of texts?**

  Three tags are used to separate the texts.

  1. **
** - Usually
 tag is used to separate the line of text. It breaks the current line and conveys the flow to the next line
  2. **<p>** - The <p> tag contains the text in the form of a new paragraph.
  3. **<blockquote>** tag - It is used to define a large quoted section. If you have a large quotation, then put the entire text within <blockquote>.....</blockquote> tag.

- **What is the use of the required attribute in HTML5?**

  It forces a user to give input before submitting the form. It is used for form validation.

- **What are void elements in HTML?**

  HTML elements which do not have closing tags or do not need to be closed are Void elements.

  For Example
, <img />, <hr />, etc.

- **How is Cell Padding different from Cell Spacing?**

  Cell Spacing is the space or gap between two consecutive cells. Whereas, Cell Padding is the space or gap between the text/ content of the cell and the edge/ border of the cell.

- **What is the Difference between link tag <link> and anchor tag <a>?**

  The anchor tag is used to create a hyperlink to another webpage or to a certain part of the webpage and these links are clickable.

  Link tags usually define links between documents and external resources and those are not clickable.

- **Which HTML tag is used to display data in tabular form?**

  The HTML table tag is used to display data in tabular form. There are some more tags with table to display data in tabular form with different properties.
  Example : <table>, <tr>, <th>, <td>

- **What are some common lists that are used when designing a page?**

  HTML Lists are used to specify lists of information. All lists may contain one or more list elements. There are three different types of HTML lists:

  1. **Ordered List (ol)** - It displays elements in number format.
  2. **Unordered List (ul)** - It displays elements in bulleted format.
  3. **Definition or Description List (dl)** - It displays elements in definition form like <dl>, <dt>, <dd>

- **What is image map?**

  Image map provides you to link many different web pages using single image.

  It is represented by <map> tag. You can define shapes in image that you want to make part of an image mapping.

- **How to create nested webpage in HTML?**

  The HTML <iframe> tag is used to display a nested webpage. It represents a webpage within a webpage. It is also called as an inline frame.

- **What is marquee?**

  Marquee is used to put the scrolling text on a web page. It scrolls the image or text up, down, left or right.

- **What are empty elements?**

  HTML elements with no content are called empty elements. Example -
, <hr>

- **What is datalist tag?**

  In HTML5 datalist tag provides an autocomplete feature on the form element.
  It facilitates users to choose the predefined options to the users to select data.

- **What is the use of required attribute in HTML5?**

  The required attribute in HTML forces a user to fill text on the text field or text area before submitting the form. It is used for validation.

- **What is Web Storage?**

  The Web Storage is used to store Web Applications data locally within user's Browser.

- **What is Web Worker?**

  A Web Worker is JavaScript running in the background without affecting the performance of the page.

- **How you can show Google Map on the website?**

  Here are the steps to show Google map on the website:

  1. Search location
  2. Click on the Share button
  3. Click on the Embed tab
  4. Select map size
  5. Copy HTML
  6. Paste the HTML code to your HTML Code

```
<iframe src="https://www.google.com/maps/embed?pb=!1m18!1m12!1m3!1d101408.032631845!2d-122.15130700697952!3d37.41345079151581..."
  width="600" height="450" style="border:0;" allowfullscreen="" loading="lazy" referrerpolicy="no-referrer-when-downgrade"></iframe>
```

- **What is difference between class and Id?**

  Class is an attribute which is used to specify class names for multiple HTML elements.

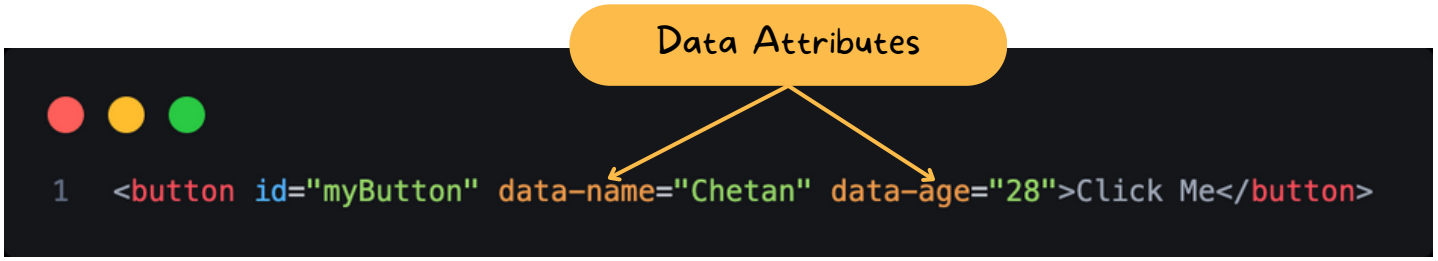
  Id is an attribute which is used to specify only single HTML element within the page.

- **What is Data Attributes?**

  Data attributes in HTML provide a way to store extra information on HTML elements.

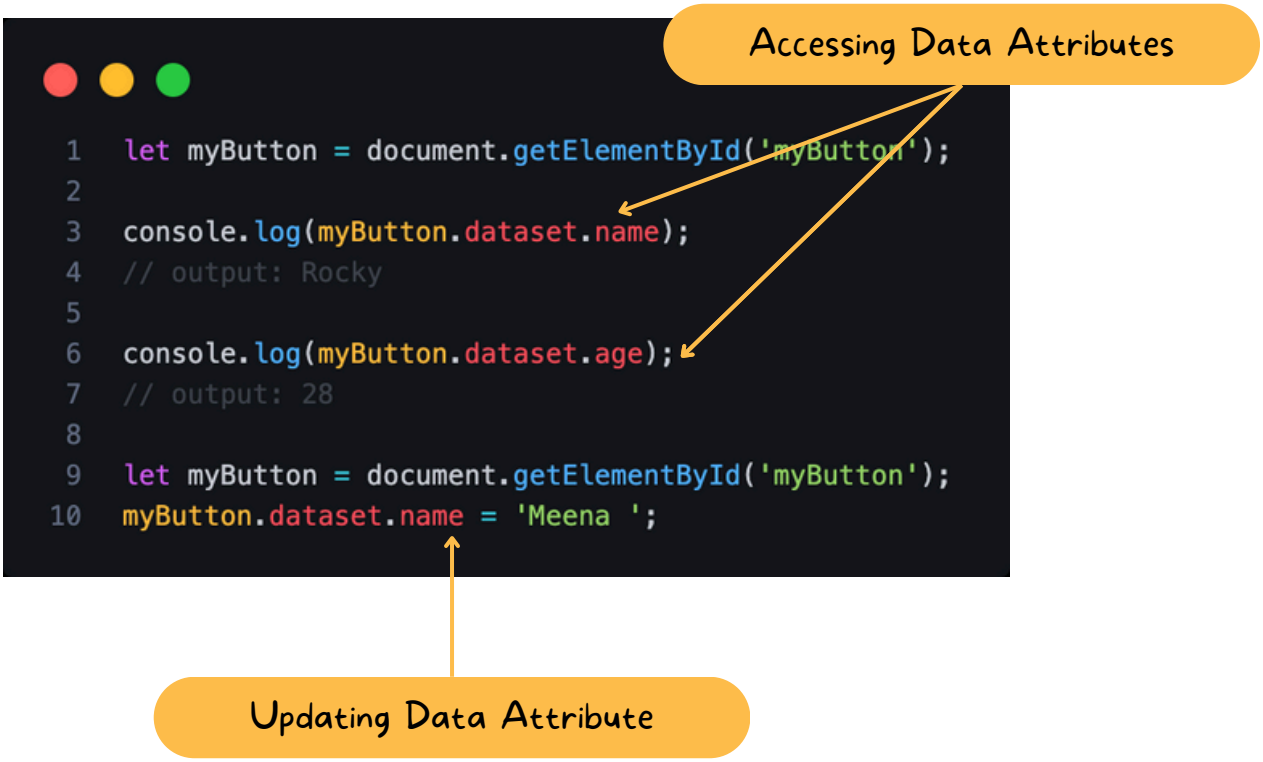
  This means you can add additional data to an element that doesn't affect the presentation or behavior of the element, but can be used by JavaScript.

  Data attributes are custom attributes prefixed with **data-** followed by whatever **name** you choose for the attribute.



- **How to access and modify data attributes?**

  Data attributes are often used in conjunction with JavaScript. You can access these data attributes in JavaScript using the **.dataset** property.



  Note that dataset property transforms the data attribute name from data-name to name by **removing the data- prefix** and **converting any hyphens to camelCase**.

- **What is the difference between client-side and server-side rendering?**

  Client-side rendering and server-side rendering are two approaches used to display content on a web page, and they play a key role in how web applications deliver content to users.

  Here's a breakdown of the differences between the two:

Server-Side Rendering (SSR):

1. Definition: With SSR, the server generates the full HTML for a page in response to a user's request, before sending it to the client's browser. The browser then renders the HTML to display the page.

2. Performance and SEO: This approach can lead to faster initial page load times and is generally better for search engine optimization (SEO), as search engines can crawl the content more easily.

3. User Experience: Users can see the content immediately without waiting for all the JavaScript to load and run, which can improve the perceived performance.

4. Resource Utilization: The server bears the primary load of rendering content, which can increase its computational and resource demands, especially with a high number of requests.

5. Examples of Use: Traditional web applications and websites where SEO is a priority often use SSR.

Client-Side Rendering (CSR):

1. Definition: In CSR, the server sends a minimal HTML page with JavaScript to the client. The client's browser executes the JavaScript, which typically fetches data from the server and then generates the HTML content on the fly.

2. Performance and SEO: The initial load might be slower because the browser must download, parse, and execute the JavaScript before rendering the content.

This approach can also pose challenges for SEO, as search engines might not wait for all JavaScript to execute before indexing the page.

3. User Experience: After the initial load, navigating between pages can be much faster, as only data (not the entire page) needs to be fetched from the server. This can lead to a smoother and more app-like experience.

4. Resource Utilization: The computational load shifts to the client side, which can reduce the load on the server but may increase the demand on the client's device.

5. Examples of Use: Single Page Applications (SPAs) like those created with React or Angular often rely on CSR.

- **What is the purpose of the alt attribute in HTML?**

  To provide alternative text for images. This text is displayed when the image fails to load, or when the user is using a screen reader or other assistive technology.

  It improves accessibility for visually impaired users, as screen readers can read out the alternative text, allowing them to understand the content and purpose of the image.

  It also helps in situations where images are blocked or disabled, as the alternative text will be displayed instead, providing some context for the user.

  Additionally, the alt attribute is useful for search engine optimization (SEO), as search engines use the alternative text to understand the image content and context.

- **Describe the difference between a div and a span in HTML.**

  The difference between a div and a span in HTML is:
  A div (division) element is a block-level element, which means it starts on a new line and takes up the entire width available.
  - It is commonly used to group and structure larger sections of content.
  - It can contain other block-level or inline elements.

On the other hand, a span element is an inline element, which means it does not start on a new line and only takes up as much width as its content requires.

- It is typically used to group and apply styles to small portions of text or inline elements within a line.
- It cannot contain block-level elements, only inline elements.

In terms of usage:

- div is used for **larger structural grouping** and layout purposes.
- span is used for styling or marking up **smaller portions of inline text**.

For example:

- A div could represent a header, footer, sidebar, or main content area.
- A span could be used to highlight a specific word or phrase within a paragraph.

- **What is the purpose of the aria-label attribute in HTML?**

The purpose of the aria-label attribute in HTML is to provide an accessible label for elements that do not have a visible label.

It is used to improve accessibility for users who rely on assistive technologies, such as screen readers.

The aria-label attribute allows you to provide a text description for an element, which is announced by screen readers.

This is particularly useful for elements that do not have a visible text label, such as icons, buttons with only symbols, or form controls without labels.

By using aria-label, you can provide a meaningful description of the element's purpose or function, which helps users with disabilities understand the content and interact with the webpage more effectively.

The aria-label attribute is part of the WAI-ARIA (Web Accessibility Initiative - Accessible Rich Internet Applications) specification, which provides a set of roles, states, and properties to improve the accessibility of web applications.

Overall, the aria-label attribute enhances the accessibility of web content by providing alternative text descriptions for elements that may be difficult for users with disabilities to understand or interact with.

Here's a short and required code demonstrating the use of the aria-label attribute:

```
<!-- Button with an icon and aria-label -->
<button aria-label="Search">
  <img src="search-icon.png" alt="">
</button>

<!-- Form control without a visible label -->
<input type="text" aria-label="Enter your name"
placeholder="Type here">

<!-- Element with an icon and aria-label -->
<span aria-label="Notification">
  <img src="notification-icon.png" alt="">
</span>
```

- **Can you explain the purpose of the <!DOCTYPE> declaration at the beginning of an HTML document?**

The purpose of the <!DOCTYPE> declaration at the beginning of an HTML document is to inform the web browser about the **version and type of HTML** being used in the document.

The <!DOCTYPE> declaration is a required part of the HTML syntax.

It stands for "document type declaration“

The main purposes of the <!DOCTYPE> declaration are:

1. Triggering Standards Mode:
Browsers have two main rendering modes: Standards Mode and Quirks Mode.

Standards Mode follows the W3C standards for rendering web pages.

Including the proper <!DOCTYPE> declaration triggers Standards Mode in the browser.

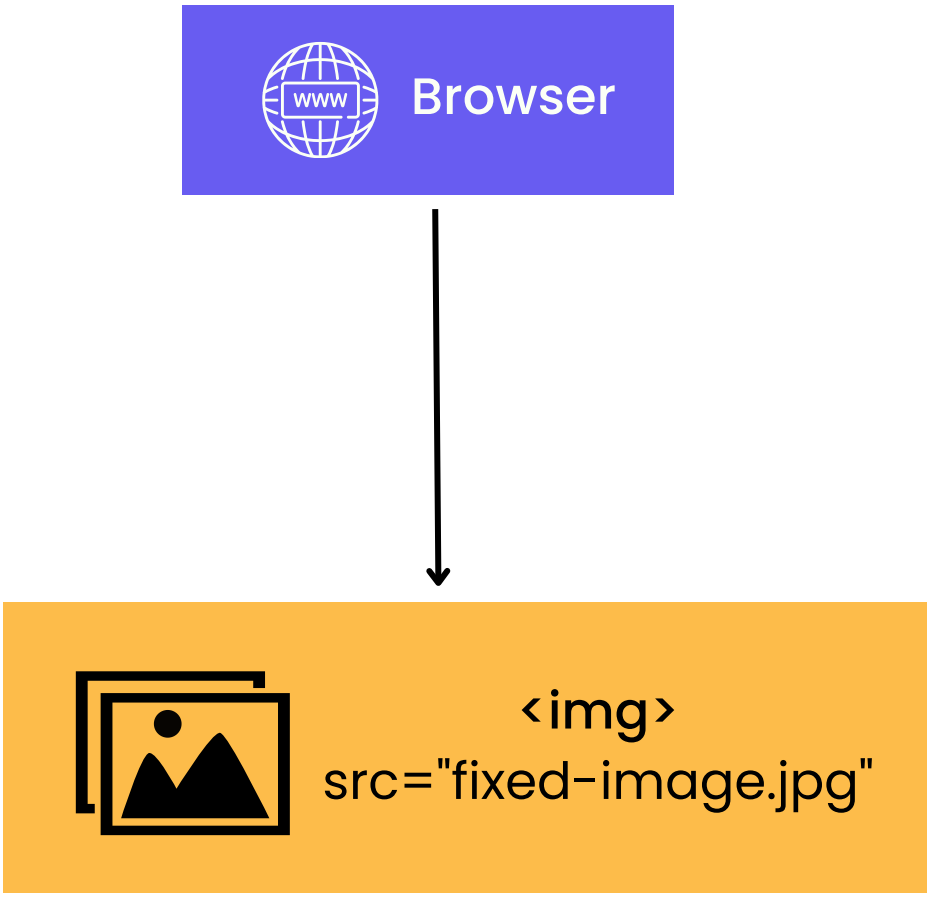
2. Validating the Document:
The <!DOCTYPE> declaration specifies the rules and syntax that the HTML document should follow.

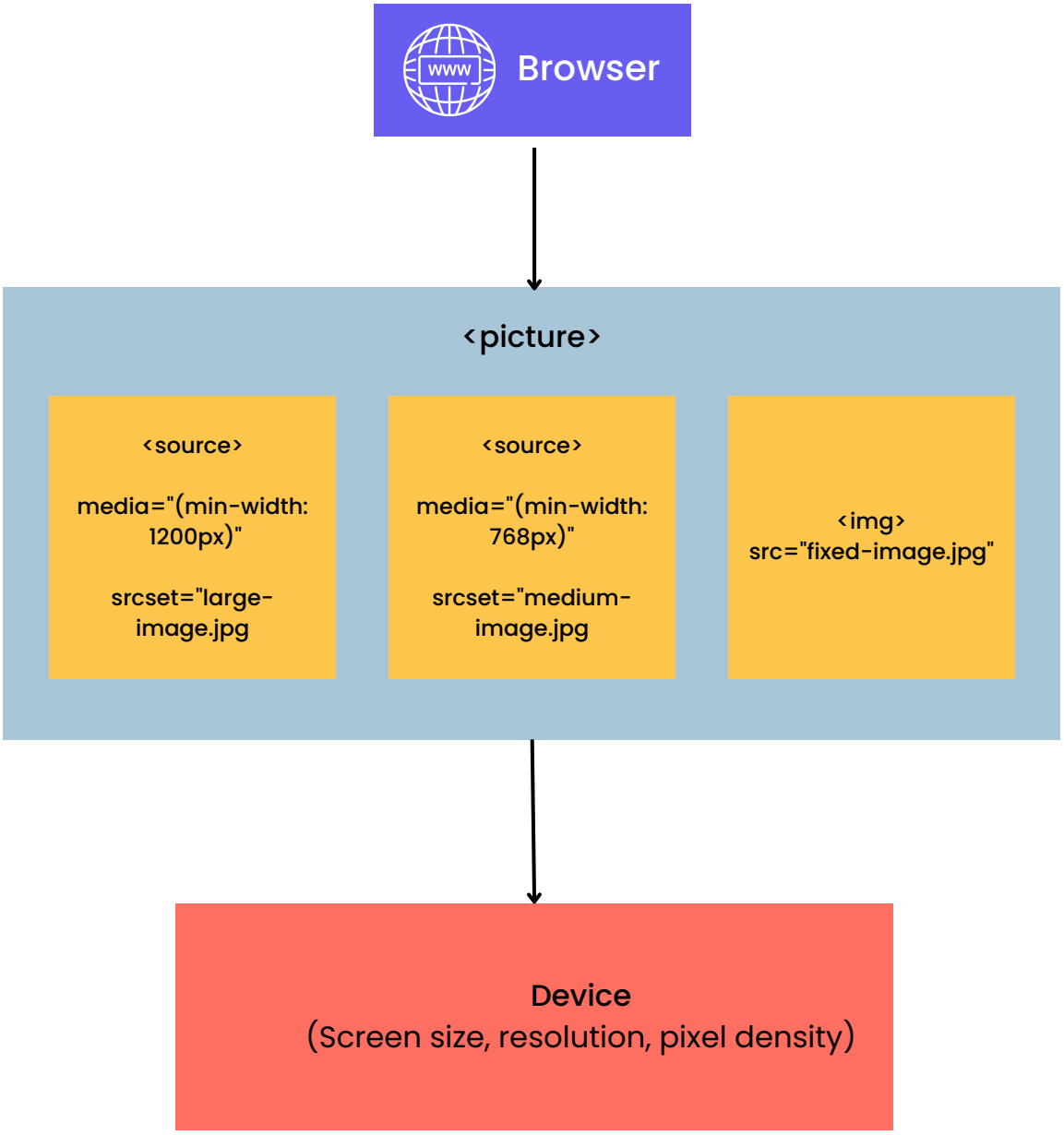
This information is used by validators to check the document for errors and ensure it adheres to the specified HTML version.

3. Defining the Document Type:
The <!DOCTYPE> declaration defines the type of document being used.

For HTML5, the recommended declaration is <!DOCTYPE html>

- **Can you explain the difference between the <img> and <picture> elements in HTML, and when to use each one?**





<img> element

- The <img> element is a fundamental element for displaying a single image.
- It is supported by all browsers and has been around since the early days of HTML.
- It uses the src attribute to specify the URL or path of the image file.

- It has attributes like alt (for alternative text), width, height, etc., to control the image's display and accessibility.
- It loads the specified image regardless of the device's screen size or resolution.
- Use the <img> element when you want to display a single, fixed image.

<picture> element

- The <picture> element is a relatively new addition to HTML, introduced with the goal of providing better support for responsive images.
- It allows you to specify multiple image sources using the <source> elements nested inside it.
- Each <source> element can have a media attribute that specifies a media condition (e.g., screen size, resolution, pixel density) for which the corresponding image should be loaded.
- The browser will choose the most appropriate image source based on the media conditions and the device's capabilities.
- If none of the <source> elements match, a fallback <img> element inside the <picture> element is used.
- Use the <picture> element when you want to serve different image versions based on the device's screen size, resolution, or other media features.

When to use <img> vs <picture>

- Use <img> when you have a single, fixed image that doesn't need to be optimized for different screen sizes or resolutions.
- Use <picture> when you want to provide different versions of an image optimized for various devices and screen sizes, ensuring better performance and user experience.
- <picture> is particularly useful in responsive web design scenarios, where you need to serve smaller image files on mobile devices and larger image files on desktop screens.
- If you don't need to serve different image versions based on media conditions, stick with the simpler <img> element.

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