TASK

1. Difference between Div & Span

Div

- The <div> tag is a block level element.
- It is best to attach it to a section of a web page.
- It accepts align attribute.
- This tag should be used to wrap a section, for highlighting that section.

Span

- The <span> tag is an inline element.
- It is best to attach a CSS to a small section of a line in a web page.
- It does not accept align attribute.
- This tag should be used to wrap any specific word that you want to highlight in your webpage.

2. What is CSS3? Features, Advantages,Uses and needs?

CSS

- CSS stands for Cascading Style Sheets
- CSS is the language we use to style an HTML document
- CSS describes how HTML elements should be displayed.

CSS3

- CSS3 stands for Cascading Style Sheets Level 3.
- It is the latest evolution of the Cascading Style Sheets language used in web development.
- CSS is used to define the presentation and layout of a web page written in HTML or XML markup.

Features of CSS3

1. Selectors:

Selectors allow the designer to select more precise levels of the web page. CSS3 introduces new selectors which allow for more precise targeting of elements on a webpage. This includes attribute selectors, child selectors & pseudo- classes.

2. Box- Model

CSS3 provides more control over the box model, allowing for greater flexibility in the sizing and positioning of elements on the page. This includes features like border-radius for rounded corners, box-shadow for adding shadows to elements, and box-sizing for more predictable sizing behavior.

3. Text Effects and Layout

With CSS3, we can change the justification of text, make whitespace adjustments to the document, and style the hyphenation of words.

4. Pseudo-elements:

Plenty of new pseudo-elements have been added to CSS3 to give easy styling in depth. Even a new convention of double colons :: is also added.

5. Border Style

The latest CSS3 also has new border styling features like *border-radius, image-slice, image-source,* and values for "width stretch", etc.

Advantages of CSS3

- **Colors:** New color formats like RGBA(Red, Green, Blue, Alpha), HSL(Hue, Saturation, Lightness), HSLA(Hue, Saturation, Lightness, Alpha) were added. It helps the web designers as it helps them in applying styling and different color effects into their pages. The gradient and opacity properties were also added.
- **Reduced the Alignment Problems:** The box-sizing has fixed some annoying alignment problems as now the developers can give appropriate size to the divisions using properties like padding, margin, etc. It helps in creating complex web page structures. The CSS grid helps in creating responsive web pages without using the table rows and columns.
- **Responsiveness:** CSS3 inherently supports responsive design, and is equipped to handle media queries. Media queries help in making a website responsive as we can apply personalized CSS properties for different screen widths. Thus, the website looks good in every device it is accessed from.
- **Animations:** CSS requires the developer to create animation using a scripting language. On the other hand, CSS3 introduced animation features like text-shadow. It reduced the workload of the developers as applying such animations were difficult earlier but with the introduction of these new CSS properties, it becomes much easier.

- **Better performance:** By reducing the reliance on images and enabling more efficient styling techniques, CSS3 can help improve the performance of web pages. CSS3 animations and transitions are often smoother and more performant than their JavaScript-based counterparts, leading to a better user experience.
- **Reduced Dependency on Images**: With CSS3, developers can achieve many visual effects, such as gradients, shadows, and rounded corners, without using images. This reduces the need for additional HTTP requests, resulting in faster page loading times and improved performance.

USES OF CSS3

- Implement animations and transitions in a Web page.
- Implement simple arithmetic calculations.
- Implement lesser amount of HTML to apply a layout.
- Develop smooth transitions between colors without redefining images.
- Use fonts of your choice, their style, and color,
- Display customized borders around elements.
- Stack images as backgrounds of the same element.
- Apply column-based layouts.
- Implement 3D style on elements or objects.

NEEDS OF CSS3

CSS3 addresses several needs in web development, catering to the demands of modern web design and user experience. Some of the primary needs CSS3 fulfills include:

- **Enhanced Styling Capabilities :** CSS3 introduces features like gradients, shadows, transitions, and animations, enabling designers to create visually appealing and interactive web experiences.
- **Responsive Web Design**: CSS3's media queries allow developers to implement responsive design principles, ensuring that websites look and function well across desktops, tablets, and smartphones.
- **Simplified Layout Control**: CSS3 introduces new layout models like Flexbox and CSS Grid Layout, which provide more intuitive and flexible ways to arrange elements on a webpage. These layout models simplify the process of creating complex layouts while improving maintainability.
- **Reduced Dependency on Images**: Loading images can significantly impact website performance, especially on mobile devices with limited bandwidth. CSS3 features such as gradients, shadows, and rounded

corners allow developers to achieve visual effects without relying on images, reducing the number of HTTP requests and improving page load times.

- **Cross-Browser Compatibility**: CSS3 aims to improve cross-browser compatibility by standardizing features and reducing the need for vendor-specific prefixes. This makes it easier for developers to write CSS code that works consistently across various browsers.
- **Accessibility**: Accessibility is a crucial aspect of web design, ensuring that websites are usable by people with disabilities. CSS3 includes features such as ARIA roles and attributes that can enhance the accessibility of web content.
- **Print Styling**: While web content is primarily designed for on-screen viewing, there's still a need for creating print-friendly versions of web pages. CSS3 includes features for styling web content specifically for printing, such as page breaks, margins, and print-specific stylesheets. This ensures that printed versions of web pages are formatted correctly and optimized for readability.