DIFFERENCE BETWEEN DIV AND SPAN

The `<div>` and `<span>` are both HTML elements used for grouping and styling content, but they serve different purposes and have different behaviors.

`<div>` (Division Element):

- `<div>` is a block-level element, which means it takes up the entire width available by default and starts on a new line.
- It is commonly used for creating structural containers or sections on a web page, such as headers, footers, sidebars, and content areas.
- `<div>` elements can contain other block-level elements (e.g., `<p>`, `<h1>`, `<ul>`) and inline elements (e.g., `<span>`, `<a>`, `<strong>`).
- You can apply styles to `<div>` elements, such as background color, margin, padding, and position properties.
- `<div>` elements are often used in combination with CSS to create layouts and position elements on a web page.

`<span>` (Inline Element):

- `<span>` is an inline element, which means it does not force a new line and takes up only the necessary width to contain its content.
- It is primarily used for applying styles to a specific portion of text or inline elements within a block-level element.
- `<span>` elements can contain other inline elements (e.g., `<a>`, `<strong>`, `<em>`) but cannot contain block-level elements directly.
- You can apply styles to `<span>` elements, such as font styles, color, and background color.
- `<span>` elements are commonly used for highlighting text, adding icons or images within text, or applying specific styles to a portion of text.

In summary, `<div>` is a block-level element used for structuring and laying out the overall content on a web page, while `<span>` is an inline element used for styling or adding additional markup to a specific portion of text within a block-level element.

Here's an example to illustrate the difference:

```html
<div>
  <h1>Welcome to my website</h1>
  <p>This is a paragraph with a <span style="color: red;">highlighted text</span>.</p>
</div>
```

In this example, the `<div>` contains a heading and a paragraph. Within the paragraph, the `<span>` element is used to apply a red color to the text "highlighted text".

Features of CSS3

CSS3 (Cascading Style Sheets version 3) is the latest version of the CSS standard and introduces several new features and improvements over its predecessors, CSS1 and CSS2. Here are some of the notable features of CSS3:

1. **Selectors**:
   - New advanced selectors like attribute selectors, pseudo-classes, and pseudo-elements.
   - Examples: `input[type="text"]`, `:nth-child(even)`, `::before`, `::after`.

2. **Colors and Opacity**:
   - New color formats like `rgba()`, `hsl()`, `hsla()`, and transparent colors.
   - The ability to set opacity on elements and colors.

3. **Text Effects**:
   - New text-related properties like `text-shadow`, `word-wrap`, `word-break`, and `text-overflow`.
   - Support for web fonts via `@font-face`.

4. **Backgrounds and Borders**:
   - Multiple background images with different positions and repetition.
   - Background gradients with `linear-gradient()` and `radial-gradient()`.
   - New border properties like `border-radius`, `border-image`, and `box-shadow`.

5. **Transformations and Transitions**:
   - 2D and 3D transformations with `transform` property.
   - Transitions to animate changes in CSS properties over time.

6. **Animations**:
   - Keyframe animations with the `@keyframes` rule.
   - Control animations with properties like `animation-name`, `animation-duration`, and `animation-timing-function`.

7. **Flexible Box Layout (Flexbox)**:
   - A new layout mode for arranging elements in rows or columns.
   - Properties like `display: flex`, `flex-direction`, `justify-content`, and `align-items`.

8. **Grid Layout**:
   - A two-dimensional grid-based layout system.
   - Properties like `display: grid`, `grid-template-columns`, `grid-template-rows`, and `grid-gap`.

9. **Media Queries**:
   - Apply different styles based on characteristics like screen size, resolution, and orientation.
   - Responsive web design with media queries.

10. **Calc Function**:
    - Perform calculations in CSS values, e.g., `width: calc(100% - 50px)`.

11. **Box-sizing**:
    - Control the box model behavior with `box-sizing` property.

These are just some of the major features introduced in CSS3. It also includes numerous other improvements and additions, making it a powerful and versatile styling language for modern web development.