Pseudo Classes and Animations

1. Why is it called a Pseudo Class?

**Ans**- In web development, a pseudo-class is a keyword that is used to define a special state of an HTML element. Pseudo-classes are used in CSS to style elements based on their current state or context, such as when the user hovers over an element with their mouse or when an element is the first child of its parent.

The term "pseudo" in pseudo-class means "false" or "fake," indicating that the class is not actually present in the HTML code, but rather is created by the browser based on the element's state or context. Pseudo-classes are used to apply styles to elements based on dynamic properties that cannot be determined by the static HTML structure alone.

For example, the ": hover" pseudo-class is used to apply styles to an element when the user hovers over it with their mouse. The ":first-child" pseudo-class is used to apply styles to an element when it is the first child of its parent.

Overall, pseudo-classes provide a way to create more dynamic and interactive styles for HTML elements in web development.

1. What are gradients in CSS?

**Ans**- Gradients in CSS are a way to create smooth transitions between two or more colors. Gradients can be applied to backgrounds, borders, and other elements in a webpage.

**CSS defines three types of gradients:**

* **Linear Gradients (goes down/up/left/right/diagonally)**
* **Radial Gradients (defined by their center)**
* **Conic Gradients (rotated around a center point)**

**CSS Linear Gradients**

To create a linear gradient you must define at least two color stops. Color stops are the colors you want to render smooth transitions among. You can also set a starting point and a direction (or an angle) along with the gradient effect.

background-image: linear-gradient(*direction*, *color-stop1*, *color-stop2, ...*);

example:

#grad {

background-image: linear-gradient(to right, red , yellow);

}

**CSS Radial Gradients**

A radial gradient is defined by its center.

To create a radial gradient you must also define at least two color stops.

Syntax

background-image: radial-gradient(*shape size*at*position, start-color, ..., last-color*);

example:

#grad {  
  background-image: radial-gradient(circle, red, yellow, green);  
}

**CSS Conic Gradients**

A conic gradient is a gradient with color transitions rotated around a center point.

To create a conic gradient you must define at least two colors.

Syntax

background-image: conic-gradient([from angle] [at position,] color [degree], color [degree], ...);

By default, the angle is 0deg and the position is center.

If no degree is specified, the colors will be spread equally around the center point.

Example:

#grad {

background-image: conic-gradient(red 45deg, yellow 90deg, green 210deg);

}

1. What are different type of transitions in CSS?

Ans- **CSS Transitions**

CSS transitions allows you to change property values smoothly, over a given duration.

* transition-delay
* transition-duration
* transition-timing-function

**transition-delay**

Example:

Wait 2 seconds before the transition effect starts:

div {

transition-delay: 2s;

}

The transition-delay property specifies when the transition effect will start.

**transition-duration**

The transition-duration property specifies how many seconds (s) a transition effect takes to complete.

Example:

Let the transition effect last for 5 seconds:

div {

transition-duration: 5s;

}

**transition-timing-function**

Example:

A transition effect with the same speed from start to end:

div {  
  transition-timing-function: linear;  
}

The transition-timing-function property specifies the speed curve of the transition effect.

This property allows a transition effect to change speed over its duration.

The animation-timing-function property can have the following values:

● ease - Specifies an animation with a slow start, then fast, then end slowly (this is default)

● linear - Specifies an animation with the same speed from start to end

● ease-in - Specifies an animation with a slow start

● ease-out - Specifies an animation with a slow end

● ease-in-out - Specifies an animation with a slow start and end