CSS Basics.

Presentation A:

- ## What is **CSS**? What does **CSS** stand for?

  - CSS stands for Cascading Style Sheets.
  - CSS describes how HTML elements are to be displayed on screen, paper, or in other media.
  - CSS saves a lot of work. It can control the layout of multiple web pages all at once.
  - External stylesheets are stored in CSS files.

- Why **was CSS created**?

  - When tags like <font>, and color attributes were added to the HTML 3.2 specification, it started a nightmare for web developers. Development of large websites, where fonts and color information were added to every single page, became a long and expensive process.

  - To solve this problem, the World Wide Web Consortium (W3C) created CSS.

● What is **CSS3**?

CSS3 is the latest version of CSS. It holds many advantages over its predecessor. CSS3 started to gain popularity in early 2010. At that time, some of the browsers did not even use to support CSS3 and so it took awhile for the web developer community to start implementing this in their projects. Here, we will see the advantages of CSS3 over CSS, and also discuss why CSS3 gained such huge popularity in a short amount of time.

● What is an **id**?

The #id selector is used to set the style of given id. The id attribute is the unique identifier in HTML document. The id selector is used with # character.

```
#id {
    // CSS property
}
```

```html
<!DOCTYPE html>
<html>
    <head>
        <title>#id selector</title>

        <!-- CSS property using id attribute -->
        <style>
            #gfg1 {
                color:green;
                text-align:center;
            }
            #gfg2 {
                text-align:center;
            }
        </style>
    </head>

    <body>

        <!-- id attribute declare here -->
        <h1 id = "gfg1">GeeksforGeeks</h1>
        <h2 id = "gfg2">#id selector</h2>
    </body>
</html>
```

● What is a class?

The .class selector is used to select all elements which belong to a particular class attribute. In order to select the elements with a particular class, use the period (.) character specifying the class name ie., it will match the HTML element based on the contents of their class attribute. The class name is mostly used to set the CSS property to a given class.

```
.class {
    // CSS property
}
```

```html
<!DOCTYPE html>
<html>
    <head>
        <style>
            .geeks {
                color: green;
            }

            .gfg {
                background-color: yellow;
                font-style: italic;
                color: green;
            }
        </style>
    </head>

    <body style="text-align:center">
        <h1 class="geeks">
            GeeksforGeeks
        </h1>
        <h2>.class Selector</h2>
        <div class="gfg">
            <p>GeeksforGeeks: A computer science portal</p>
        </div>
    </body>
</html>
```

● Explain the different types of CSS selectors

CSS selectors are used to "find" (or select) the HTML elements you want to style.

We can divide CSS selectors into five categories:

- Simple selectors (select elements based on name, id, class)
- Combinator selectors (select elements based on a specific relationship between them)
- Pseudo-class selectors (select elements based on a certain state)
- Pseudo-elements selectors (select and style a part of an element)
- Attribute selectors (select elements based on an attribute or attribute value)

- ## What is the difference between **position** and **float**

It depends on what you want to do:

position:relative is used to move the element a bit aside from it's natural location, whereas float will make it pop to the left-most or right-most position in the parent element.

position:absolute will let you position it relative to the nearest positioned ancestor (instead of positioned relative to the viewport, like fixed). However; if an absolute positioned element has no positioned ancestors, it uses the document body, and moves along with page scrolling.

What is the right place in an HTML document to refer to an external style sheet?

The correct place to refer the external style sheet in a HTML document is inside the **head** section.

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

- In **CSS**, what pseudo-class is used to define a property when the **mouse cursor** is placed **over an element**?

The `:hover` selector is used to select elements when you mouse over them.

Tip: The :hover selector can be used on all elements, not only on links.

Tip: Use the :link selector to style links to unvisited pages, the :visited selector to style links to visited pages, and the :active selector to style the active link.

Note: :hover MUST come after :link and :visited (if they are present) in the CSS definition, in order to be effective!

Syntax: `:hover {`

  `css declarations;`

`}`

Explain the values that can be used for the overflow property and explain what each one is for

Visible: Content is not clipped and may be rendered outside the padding box.

Hidden: Content is clipped if necessary to fit the padding box. No scrollbars are provided, and no support for allowing the user to scroll is allowed.

Clip: Similar to hidden, the content is clipped to the element's padding box. The difference between clip and hidden is that the clip keyword also forbids all scrolling, including programmatic scrolling.

Scroll: Content is clipped if necessary to fit the padding box. Browsers always display scrollbars whether or not any content is actually clipped, preventing scrollbars from appearing or disappearing as content changes.

Auto: Depends on the user agent (i.e., browser). If content fits inside the padding box, it looks the same as visible, but still establishes a new block formatting context.

Overlay: Behaves the same as auto, but with the scrollbars drawn on top of content instead of taking up space.

What is the best way to include CSS in your web project?

External style sheet (Using HTML <link> Tag): External CSS contains separate CSS file which contains only style property with the help of tag attributes (For example class, id, heading, … etc). CSS property written in a separate file with .css extension and should be linked to the HTML document using link tag.

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

How can you create styles for the version that will be printed using a printer?

You can specify one font for the screen version and another for the print version.

For this we must use the @media rule

```css
@media print {
    body {
        font-size: 10pt
    }
}

@media screen {
    body {
        font-size: 12pt
    }
}

@media screen, print {
    body {
        line-height: 1.2
    }
}
```

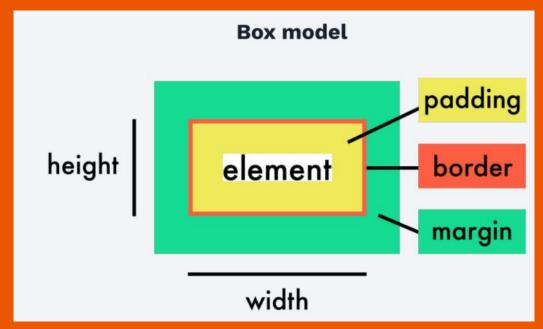# Explain the concept of inheritance in CSS

Inheritance lets you have default attributes for your elements but if the element has attributes set on it those will prevail over the default.

```
<style>
span {
  color: blue;
  border: 1px solid black;
}

.extra span {
  color: inherit;
}
</style>
```

```
<div class="extra" style="color:green">
  Here is <span>a span element</span> which is green, because it inherits from its
parent.
</div>
```

Explain the different parts of the box model using graphical examples

Box model

Represent an animation in CSS3 graphically and explain how it works in its basic concepts

```
<style>
div {
  width: 100px;
  height: 100px;
  background-color: red;
  animation-name: example;
  animation-duration: 4s;
}

@keyframes example {
  from {background-color: red;}
  to {background-color: yellow;}
}
</style>
```

An animation is a sequence of frames that have some type of content, in this example the 4 seconds of frames will change the color red into yellow.

- ● Explain the CSS **filter** property with examples

- ● The filter property is used to set the visual effect of an element. This property is mostly used in image content for adjusting the image rendering, background, border, etc.

  Syntax:

  - ■ filter: none|blur()|brightness()|contrast()|drop-shadow()| grayscale()|hue-rotate()|invert()|opacity()|saturate()|sepia()| url();

    - ● **Example:**

```
img {
    filter: brightness(20%) blur(20px);
}
```

- Explain how the **margin shorthand property** works. Are there other CSS properties where a shorthand version can also be applied?

  - The CSS margin shorthand property is **used to define the margin area for an element**. It sets values in clockwise direction, i.e. margin-top, margin-right, margin-bottom and then margin-left.
    - **Syntax :**

```
Selector {

  margin: /*value*/

}
```

- **Are there other CSS properties where a shorthand version can also be applied?**

Shorthand properties allow us to write multiple properties in a single line and in a compact way. They are useful as they provide clean code and also decrease the LOC (Line of Code).

Example:

- Background
- Font
- Border

- Outline
- Margin
- Padding
- List

Longhand way:

```
margin-top: 10px;
margin-right: 5px;
margin-bottom: 10px;
margin-left :5px;
```

Shorthand way:

```
margin : 10px 5px 10px 5px;
```