TOPS TECHNOLOGIES

Training Outsourcing Placement Study Abroad

Front-end Assignment

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Course: Front End Development

Assignment-1 Web Designing (Module-CSS and CSS3)

1) What are the benefits of using CSS?

Ans) There are a number of benefits of CSS, including:

1) Faster Page Speed

- More code means slower page speed. And CSS enables you to use less code. CSS allows you to use one CSS rule and apply it to all occurrences of a certain tag within an HTML document.

2) Better User Experience

- CSS not only makes web pages easy on the eye, it also allows for user-friendly formatting. When buttons and text are in logical places and well organized, user experience improves.

3) Quicker Development Time

- With CSS, you can apply specific formatting rules and styles to multiple pages with one string of code. One cascading style sheet can be replicated across several website pages. If, for instance, you have product pages that should all have the same formatting, look, and feel, writing CSS rules for one page will suffice for all pages of that same type.

4) Easy Formatting Changes

- If you need to change the format of a specific set of pages, it's easy to do so with CSS. There's no need to fix every individual page. Just edit the corresponding CSS stylesheet and you'll see changes applied to all the pages that are using that style sheet.

5) Compatibility Across Devices

- Responsive web design matters. In today's day and age, web pages must be fully visible and easily navigable on all devices. Whether mobile or tablet, desktop, or even smart TV, CSS combines with HTML to make responsive design possible.

2) What are the disadvantages of CSS?

Ans)

- CSS is defined as a method sheet language that provides web designers control over how an internet site communicates with web browsers including the formatting and display of their HTML documents.
- CSS or cascading sheet may be a text-based coding language that specifies the website formats and the way a site communicates with web browsers. The language allows web developers to regulate various style elements and functionalities, like layout, color, fonts, and therefore the formatting and display of HTML documents.
- The main goal (as a method sheet language) was to separate document content from document presentation, which incorporates style elements, like color, layout, and fonts. CSS handles the design and feel a part of an internet page. Using CSS, you

will control the color of the text, the design of fonts, the spacing between paragraphs, how columns are sized and laid out, etc.

- CSS instructs the display of the HTML on how the web site will display at the user's end. Let us have a glance on the benefits and drawbacks of CSS.

Advantages of CSS:

- CSS plays an important role, by using CSS you simply got to specify a repeated style for element once & use it multiple times as because CSS will automatically apply the required styles.
- The main advantage of CSS is that style is applied consistently across variety of sites. One instruction can control several areas which is advantageous.
- Web designers needs to use few lines of programming for every page improving site speed.
- Cascading sheet not only simplifies website development, but also simplifies the maintenance as a change of one line of code affects the whole web site and maintenance time.
- It is less complex therefore the effort are significantly reduced.
- It helps to form spontaneous and consistent changes.
- CSS changes are device friendly. With people employing a batch of various range of smart devices to access websites over the web, there's a requirement for responsive web design.
- It has the power for re-positioning. It helps us to determine the changes within the position of web elements who are there on the page.
- These bandwidth savings are substantial figures of insignificant tags that are indistinct from a mess of pages.
- Easy for the user to customize the online page
- It reduces the file transfer size.

Disadvantages of CSS:

- CSS, CSS 1 up to CSS3, result in creating of confusion among web browsers.
- With CSS, what works with one browser might not always work with another. The web developers need to test for compatibility, running the program across multiple browsers.
- There exists a scarcity of security.
- After making the changes we need to confirm the compatibility if they appear. The similar change effects on all the browsers.
- The programing language world is complicated for non-developers and beginners. Different levels of CSS i.e. CSS, CSS 2, CSS 3 are often quite confusing.
- Browser compatibility (some styles sheet are supported and some are not).
- CSS works differently on different browsers. IE and Opera supports CSS as different logic.
- There might be cross-browser issues while using CSS.
- There are multiple levels which creates confusion for non-developers and beginners.

3) What is the difference between CSS2 and CSS3?

Ans)

- **CSS2:** CSS2 stands for Cascading Style Sheet leval 2. Its main objective is to provide styling and fashion to the web page. CSS 2 provides color, layout, background, font, and border properties. CSS 2 features allow better content accessibility, enhanced flexibility, and control, as well as the specification of the characteristics of presentation.
- **CSS3:** CSS3 stands for Cascading Style Sheet level 3, which is the advanced version of CSS. It is used for structuring, styling, and formatting web pages. Several new features have been added to CSS3 and it is supported by all modern web browsers. The most important feature of CSS3 is the splitting of CSS 2 standards into separate modules that are simpler to learn and use.

Difference between CSS2 and CSS3:

CSS 2	CSS3
CSS 2 is capable of positioning texts and objects.	On the other hand, CSS3 is capable of making the web page more attractive and takes less time to create. CSS3 is backward compatible with CSS 2.
Responsive designing is not supported in CSS 2	CSS3 is the latest version, hence it supports responsive design.
CSS 2 cannot be split into modules.	Whereas CSS3 can be breakdown into modules.
Using CSS 2, we cannot build 3D animation and transformation.	But in CSS3 we can perform all kinds of animation and transformations as it supports animation and 3D transformations.
CSS 2 is very slow as compared to CSS3	Whereas CSS3 is faster than CSS 2.
In CSS 2 we have set of standard colors and it uses basic color schemes only.	Whereas CSS3 has a good collection of HSL RGBA, HSLA, and gradient colors.
In CSS 2 we can only use single text blocks.	But in CSS3 we can use multi-column text blocks
CSS 2 does not support media queries.	But CSS3 supports media queries
CSS 2 codes are not supported by all types of modern browsers.	Being the latest version, CSS3 codes are supported by all modern browsers.
In CSS 2, designers have to manually develop rounded gradients and corners.	But CSS3 provides advanced codes for setting rounded gradients and corners
There is no special effect like shadowing text, text animation, etc. in CSS 2. The animation was coded in jQuery and JavaScript.	CSS3 has many advance features like text shadows, visual effects, and a wide range of font styles and colors.
In CSS 2, the user can add background colors to list items and lists, set images for the list items, etc.	Whereas CSS3 list has a special *display* property defined in it. Even list items also have counter reset properties.
CSS 2 was developed in 1998.	CSS3 is the latest version of CSS2 and was released in 2005.
CSS 2 is memory intensive.	CSS3 memory consumption is low as compared to CSS 2.

4) Name a few CSS style components.

Ans) Some CSS Style components are:
1) Selector: HTML element name, id name, class name.
2) Property: It's like an attribute such as background color,font-size,position,text-align,color,border etc.
3) Value: value that will be assigned to attribute.

5) What do you understand by CSS opacity?

Ans)

The **opacity** in CSS is the property of an element that describes the transparency of the element. It is the opposite of transparency & represents the degree to which the content will be hidden behind an element.
We can apply the opacity with different styling properties to the elements. A few of them are discussed below:

Image Opacity: The opacity property is used in the image to describe the transparency of the image. The value of opacity lies between 0.0 to 1.0 where a low value represents high transparency and a high value represents low transparency. The percentage of opacity is calculated as Opacity% = Opacity * 100.
Example: This example describes the opacity property by applying it to the image.

```
<html>
<head>
        <title>Opacity property</title>
        <style>
        .forest {
                opacity: 0.5;
        }

        p {
                font-size: 25px;
                font-weight: bold;
                margin-bottom: 5px;
        }

        .opacity {
                text-align: center;
        }

        </style>
</head>

<body>
        <div class="opacity">

<p>Image with 100% opacity (original image)</p>

                        <img src=
"https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcTpNVSR1yWZUcrZjrgjVig8L_8jzAwPKyLyKW5Q-
CUs&s"
                                class="forest1">
```

```
<p>Image with 50% opacity</p>
                              <img src=
"https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcTpNVSR1yWZUcrZjrgjVig8L_8jzAwPKyLyKW5Q-
CUs&s"
                                        class="forest">
          </div>
</body>

</html>
```

OUTPUT:

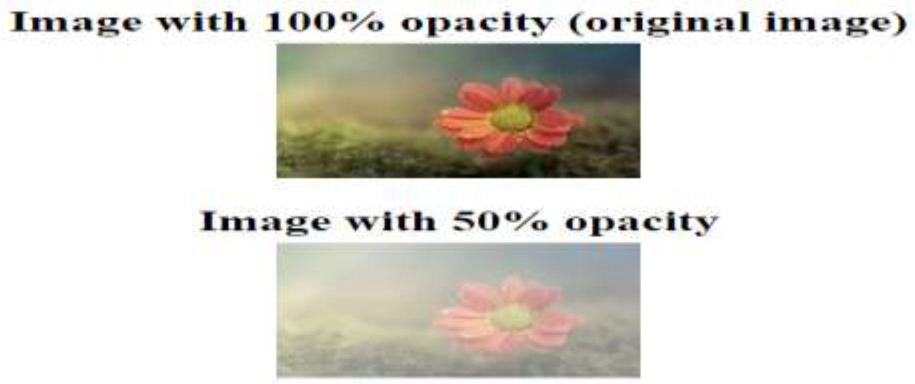


Image with 100% opacity (original image)

Image with 50% opacity

6) How can the background color of an element be changed?

Ans)

- background-color of different elements in CSS. The background-color property of CSS is used to set the background of an element.

Approach: The background-color property of CSS is used to set the background of an element. We can set background color by selecting the element by its class name of id name and then apply the background-color property on it to set the background color.
Syntax:

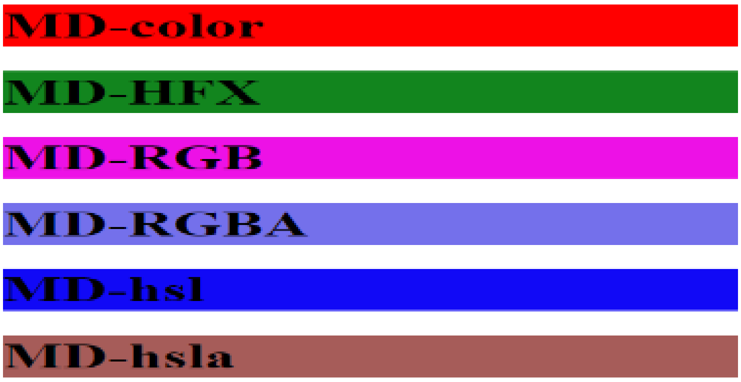
```
background-color: color_name;
```

Ex:

```
<!DOCTYPE html>

<html>

<head><meta charset="utf-8">

<meta name="viewport" content="width=device-width, initial-scale=1">

<title></title>

</head>

<body>

<h1 style="background-color: red;">MD-color</h1>

<h1 style="background-color:#12851E;">MD-HFX </h1>
```

```
<h1 style="background-color: rgb(237, 17, 230 );">MD-RGB</h1>
<h1 style="background-color: rgba(23, 17, 222,0.6);">MD-RGBA</h1>
<h1 style="background-color: hsl(242, 93%, 50%);">MD-hsl</h1>
<h1 style="background-color: hsla(2, 30%, 50%, 1.0);">MD-hsla</h1>
</body>
</html>
```

OUTPUT:



```
MD-color
MD-HEX
MD-RGB
MD-RGBA
MD-hsl
MD-hsla
```

7) How can image repetition of the backup be controlled?

Ans)

- To control the repetition of an image in the background, use the *background-repeat* property. You can use no-repeat value for the background-repeat property if you do not want to repeat an image, in this case, the image will display only once.

Ex:

```
<html>
  <head>
    <style>
      body {
        background-image: url("https://encrypted-
tbn0.gstatic.com/images?q=tbn:ANd9GcSXQHStx4ErhIPLVFqz0ZY1-
WzPW_J8nUpkm24X-sgOWwS_cU0TN9KGG_91CAW1pAGxgc4&usqp=CAU");
        background-repeat: repeat;
      }
    </style>
  </head>
  <body>
    <p>MD</p>
  </body>
</html>
```

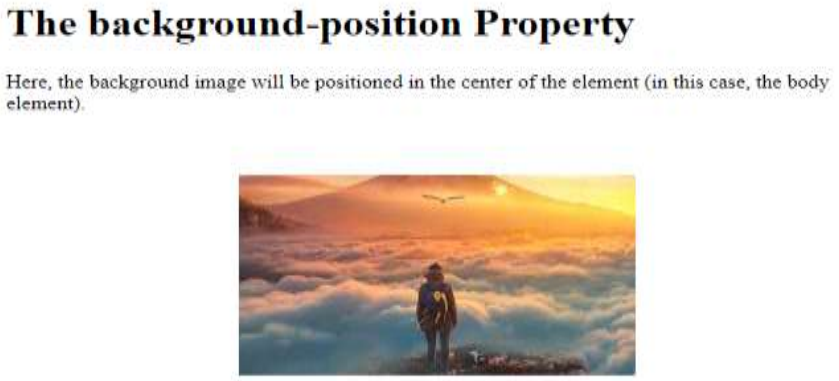
8) What is the use of the background-position property?
Ans)

- The background-position property sets the starting position of a background image.
- By default, a background-image is placed at the top-left corner of an element, and repeated both vertically and horizontally.

EX:

```
<!DOCTYPE html>
<html>
<head>
<style>
body {
  background-image: url("https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcSXQHStx4ErhIPLVFqz0ZY1-WzPW_J8nUpkm24X-sgOWwS_cU0TN9KGG_91CAW1pAGxgc4&usqp=CAU");
  background-repeat: no-repeat;
  background-attachment: fixed;
  background-position: center;
}
</style>
</head>
<body>

<h1>The background-position Property</h1>
<p>Here, the background image will be positioned in the center of the element (in this case, the body element).</p>

</body>
</html>
```

OUTPUT:



The background-position Property

Here, the background image will be positioned in the center of the element (in this case, the body element).

9) Which property controls the image scroll in the background?

Ans)

- The background-attachment property sets whether a background image scrolls with the rest of the page, or is fixed.

Syntax:

background-attachment: scroll|fixed|local|initial|inherit;

Properties-value:

- Scroll: The background image will scroll with the page. This is default
- Fixed: The background image will not scroll with the page
- Local: The background image will scroll with the element's contents
- Initial: Sets this property to its default value.
- Inherit: Inherits this property from its parent element.

10) Why should background and color be used as separate properties?

Ans)

- There are two reasons behind this:
  - It enhances the legibility of style sheets. The background property is a complex property in CSS, and if it is combined with color, the complexity will further increase.
  - Color is an inherited property while the background is not. So this can make confusion further.

11) How to center block elements using CSS1?

Ans)

we will see how to make block-level elements to the center using CSS.

Approach: There are two steps to center a block-level element –

Step 1: Define the external width – We need to define the external width. Block-level elements have the default width of 100% of the webpage, so for centering the block element, we need space around it. So for generating the space, we are giving it a width.

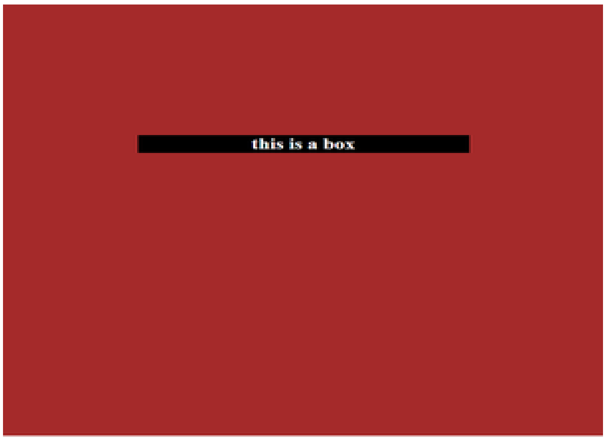
Step 2: Set the left-margin and the right-margin of the element to auto – Since we produced a remaining space by providing external width so now we need to align that space properly that's why we should use margin property. Margin is a property that tells how to align a remaining space. So for centering the element you must set left-margin to auto and right-margin to auto.

Syntax:

```
element {

   width:200px;
```

```
      margin: auto;
    }
    <!DOCTYPE html>
    <html lang="en">

    <head>
    <style>
*{
        margin:0px;
        padding:0px;
        box-sizing: border-box;
        }

    Body
     {
    background: brown;}
    #box {
    background: black;
    color:white;
    text-align: center;
    }

    /* For centering the element */
    #box {
    width:300px;
    margin:10rem auto;
    }
    </style>
    </head>

    <body>
    <div id="box">
    <h3>this is a box</h3>
    </div>
    </body>

    </html>
```

OUTPUT:



this is a box

12) How to maintain the CSS specifications?

Ans)

- The CSS specifications are maintained by the World Wide Web Consortium (W3C).
- It is maintained by a group of people within the W3C called the CSS Working Group. The CSS Working Group creates documents called specifications. When a specification has been discussed and officially ratified by W3C members, it becomes a recommendation.

13) What are the ways to integrate CSS as a web page?

Ans) There are three methods to integrate CSS on web pages.

- Inline method - It is used to insert style sheets in HTML document
- Embedded/Internal method - It is used to add a unique style to a single document
- Linked/Imported/External method - It is used when you want to make changes on multiple pages.

14) What is embedded style sheets?

Ans) CSS stylesheets can be applied to an HTML document in 3 ways – inline styles, embedded style sheet, and external stylesheet.

Embedded Style sheet:

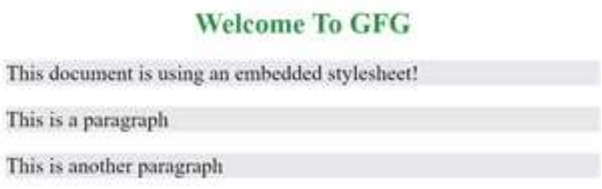
- It allows you to define styles for a particular HTML document as a whole in one place. This is done by embedding the **<style></style>** tags containing the CSS properties in the head of your document. Embedded style sheets are particularly useful for HTML documents that have unique style requirements from the rest of the documents in your project.

- However, if the styles need to be applied across multiple documents, you should link to an external style sheet instead of using individual embedded style sheets. Using embedded stylesheets holds a distinct advantage over inline styles which only allow you to address one HTML element at a time.

Syntax: The CSS syntax for embedded style sheets is exactly the same as other CSS code, apart from the fact that it is now wrapped within the <style></style> tags. The <style> tag takes the ‘type’ attribute that defines the type of style sheet being used (ie. text/CSS).

```
<!DOCTYPE html>
<html>

<head>
    <title>Page Title</title>

    <!-- Embedded stylesheet -->
    <style>
        h2 {
            font-size: 1.5rem;
            color: #2f8d46;
            text-align: center;
        }

        p {
            font-variant: italic;
        }
    </style>
</head>

<body>
    <h2>Welcome To GFG</h2>
    <p>This document is using an embedded stylesheet!</p>
    <p>This is a paragraph</p>
    <p>This is another paragraph</p>
</body>

</html>
```

OUTPUT:



Welcome To GFG

This document is using an embedded stylesheet!

This is a paragraph

This is another paragraph

15) What are the external style sheets?

Ans)

The external style sheet is generally used when you want to make changes on multiple pages. It is ideal for this condition because it facilitates you to change the look of the entire web site by changing just one file.

It uses the <link> tag on every pages and the <link> tag should be put inside the head section.

Example:

```
<head>
<link rel="stylesheet" type="text/css" href="mystyle.css">
</head>
```

The external style sheet may be written in any text editor but must be saved with a .css extension. This file should not contain HTML elements

```
body {
   background-color: lightblue;
}
h1 {
   color: navy;
   margin-left: 20px;
}
```

16) What are the advantages and disadvantages of using external style sheets?

Ans) Advantages of External Style Sheets:

- With the help of External Style Sheets, the styles of numerous documents can be organized from one single file.
- In External Style Sheets, Classes can be made for use on numerous HTML element types in many forms of the site.
- In complex contexts, Methods like selector and grouping can be implemented to apply styles.
- Disadvantages of External Style Sheets:
- An extra download is essential to import style information for each file.
- The execution of the file may be deferred till the external style sheet is loaded.
- While implementing style sheets, we need to test Web pages with multiple browsers in order to check compatibility issues.

17) What is the meaning of the CSS selector?

Ans) 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)

The CSS element Selector

- The element selector selects HTML elements based on the element name.

Example:

```
p {
  text-align: center;
  color: red;
}
```

The CSS id Selector

- The id selector uses the id attribute of an HTML element to select a specific element.
- The id of an element is unique within a page, so the id selector is used to select one unique element!
- To select an element with a specific id, write a hash (#) character, followed by the id of the element.

Example

The CSS rule below will be applied to the HTML element with id="para1":

```
#para1 {
 text-align: center;
  color: red;
}
```

The CSS class Selector

- The class selector selects HTML elements with a specific class attribute.
- To select elements with a specific class, write a period (.) character, followed by the class name.

Example:

In this example all HTML elements with class="center" will be red and center-aligned:

```
.center {
 text-align: center;
  color: red;
} You can also specify that only specific HTML elements should be affected by a class.
```

Example

In this example only <p> elements with class="center" will be red and center-aligned:

```
p.center {
 text-align: center;
  color: red;
}
```

- HTML elements can also refer to more than one class.

Example

In this example the <p> element will be styled according to class="center" and to class="large":

```
<p class="center large">This paragraph refers to two classes.</p>
```

The CSS Universal Selector

- The universal selector (*) selects all HTML elements on the page.

Example

The CSS rule below will affect every HTML element on the page:

```
* {
 text-align: center;
  color: blue;
}
```

The CSS Grouping Selector

- The grouping selector selects all the HTML elements with the same style definitions.

Look at the following CSS code (the h1, h2, and p elements have the same style definitions):

Example

```
h1 {
 text-align: center;
  color: red;
}
```

```
h2 {
  text-align: center;
  color: red;
}

p {
  text-align: center;
  color: red;
}
```

- It will be better to group the selectors, to minimize the code.
- To group selectors, separate each selector with a comma.

Example

In this example we have grouped the selectors from the code above:

```
h1, h2, p {
  text-align: center;
  color: red;
}
```

18) What are the media types allowed by CSS?

Ans) here are four types of @media properties (including screen):

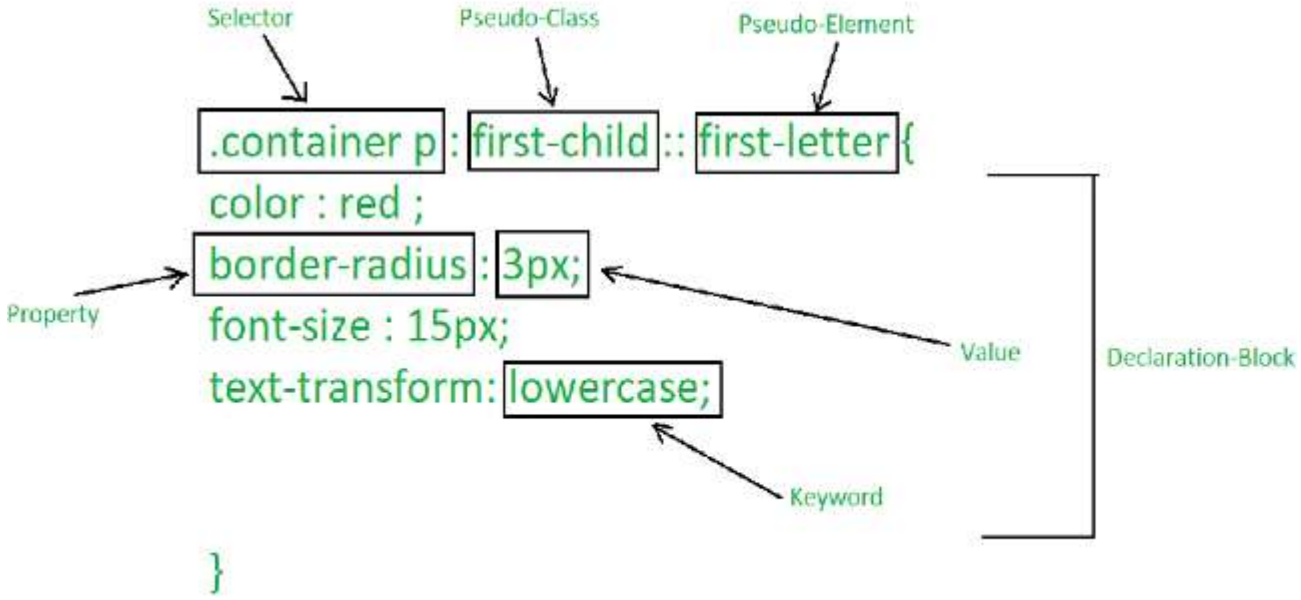
- all – for all media type devices
- print – for printers
- speech – for screenreaders that “reads” the page out loud
- screen – for computer screens, tablets, smart-phones etc.

Here is an example of print-media type’s usage:

```
@media print {
h1 {
background-color: yellow;
   }
                    }
```

19) What is the rule set?

Ans) A CSS ruleset is various affirmations to various pieces or elements of the document. The objective is to apply a bunch of properties for certain distinct qualities to a solitary, or a particular arrangement of components in the connected HTML page.



```
.container p:first-child::first-letter{
color : red ;
border-radius:3px;
font-size : 15px;
text-transform:lowercase;

}
```

The "." in the beginning indicates that the rule created will be a class, also "container" indicates the name of the selector. Similarly "first-child" indicates the pseudo-class, and elements inside curly brackets are elements of a declaration block, which contains some CSS properties and their corresponding values. The CSS ruleset will be applied when the selector name is called on the main HTML page.

20) Create Layouts

Ans)

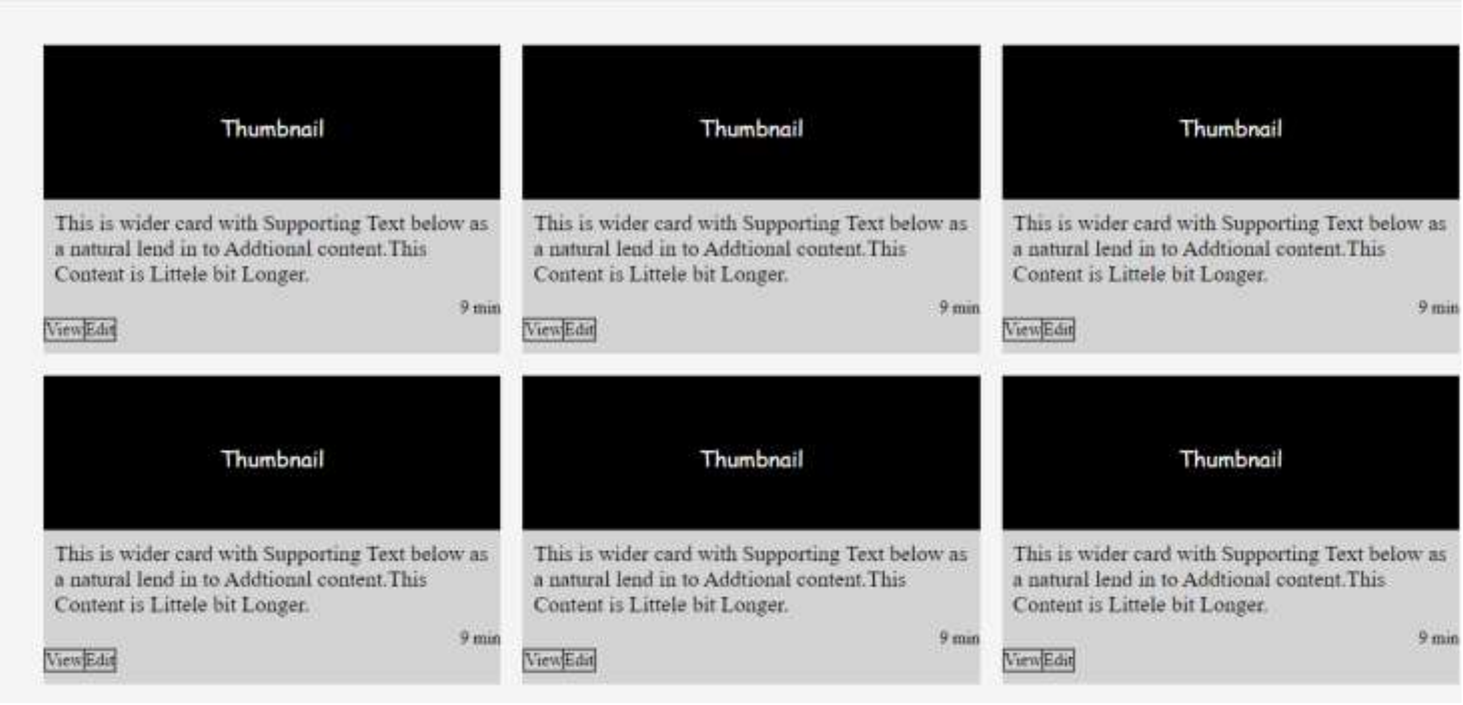
```
<!DOCTYPE html>
<html>
<head>
	<meta charset="utf-8">
	<meta name="viewport" content="width=device-width, initial-scale=1">
	<title></title>
	<style type="text/css">
		*{margin: 0; padding :0;box-sizing: border-box;}
		.main
		{
			height: 650px;
			width: 100%;
			background: whitesmoke;

		}
		.main .p1
		{
			height: 300px;
			width: 100%;
			background: whitesmoke;
```

```
        padding-top: 30px;
        padding-right: 30px;
        display: flex;
        padding-left: 30px;

}
.main .p1 .h1
{
        height: 300px;
        width:33.33%;
        background: whitesmoke;
        /*border: 2px solid black;*/
        padding: 10px;

}
.main .p1 .h1 .m1
{
        height:50%;
        width:100%;
        background: black;
        /*border: 2px solid black;*/
        /*padding: 30px;*/

}
.main .p1 .h1 .m1 p
{

        font-size: 20px;
        font-family: cursive;
        color: white;
        line-height: 150px;
        text-align: center;

}
.main .p1 .h1 .m2
{
        height:50%;
        width:100%;
        background: lightgray;
        /*border: 2px solid black;*/
}
.main .p1 .h1 .m2 .t2
{
        font-size: 20px;
        padding:10px;

}
```

```
    </style>
</head>
<body>
<div class="main">
    <div class="p1">
        <div class="h1">
            <div class="m1">
                <p>Thumbnail</p>
            </div>
            <div class="m2">
                <p class="t2">This is wider card with Supporting Text below as a natural lend in to Addtional content.This Content is Littele bit Longer.</p>
                <p style="text-align: right;">9 min</p>
                <table border="1" cellpadding="0" cellspacing="0">
                    <tr>
                        <td>View</td>
                        <td>Edit</td>
                    </tr>

                </table>

            </div>
        </div>
        <div class="h1"><div class="m1">
            <p>Thumbnail</p>
            </div>
            <div class="m2">
                <p class="t2">This is wider card with Supporting Text below as a natural lend in to Addtional content.This Content is Littele bit Longer.</p>
                <p style="text-align: right;">9 min</p>
                <table border="1" cellpadding="0" cellspacing="0">
                    <tr>
                        <td>View</td>
                        <td>Edit</td>
                    </tr>

                </table>

            </div></div>
        <div class="h1"><div class="m1">
            <p>Thumbnail</p>
            </div>
            <div class="m2">
                <p class="t2">This is wider card with Supporting Text below as a natural lend in to Addtional content.This Content is Littele bit Longer.</p>
                <p style="text-align: right;">9 min</p>
                <table border="1" cellpadding="0" cellspacing="0">
                    <tr>
                        <td>View</td>
                        <td>Edit</td>
                    </tr>

                </table>
        </div></div>
    </div>
    <div class="p1">
        <div class="h1">
            <div class="m1">
                <p>Thumbnail</p>
            </div>
            <div class="m2">
                <p class="t2">This is wider card with Supporting Text below as a natural lend in to Addtional content.This Content is Littele bit Longer.</p>
                <p style="text-align: right;">9 min</p>
                <table border="1" cellpadding="0" cellspacing="0">
                    <tr>
                        <td>View</td>
                        <td>Edit</td>
                    </tr>

                </table>

            </div>
        </div>
        <div class="h1"><div class="m1">
            <p>Thumbnail</p>
            </div>
            <div class="m2">
                <p class="t2">This is wider card with Supporting Text below as a natural lend in to Addtional content.This Content is Littele bit Longer.</p>
                <p style="text-align: right;">9 min</p>
                <table border="1" cellpadding="0" cellspacing="0">
                    <tr>
                        <td>View</td>
                        <td>Edit</td>
                    </tr>

                </table>
        </div></div>
        <div class="h1"><div class="m1"><p>Thumbnail</p>
            </div>
            <div class="m2">
```

```
                                        <p class="t2">This is wider card with Supporting Text below as a
natural lend in to Addtional content.This Content is Littele bit Longer.</p>
                                        <p style="text-align: right;">9 min</p>
                                        <table border="1" cellpadding="0" cellspacing="0">
                                                  <tr>
                                                            <td>View</td>
                                                            <td>Edit</td>
                                                  </tr>

                                        </table>

                              </div></div>
          </div>

</div>
</body>
</html>
```

OUTPUT:



This is wider card with Supporting Text below as a natural lend in to Addtional content.This Content is Littele bit Longer.

9 min

ViewEdit

This is wider card with Supporting Text below as a natural lend in to Addtional content.This Content is Littele bit Longer.

9 min

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ViewEdit