

GROW TECH SKILLS

Web Technology Fundamentals

Module Number: 4

Module Name: Cascading Style Sheets

AIM:

To equip with CSS and provide extra effects to the web pages created by HTML

Objectives:

- CSS Handling
- Syntax and Form Filling in HTML
- Namespaces and Style Sheets
- Displaying Document Sheets in HTML

Outcome:

- CSS and Its Usage
- HTML with CSS
- Displaying details with help of HTML

- Syntax and Bordering detailing

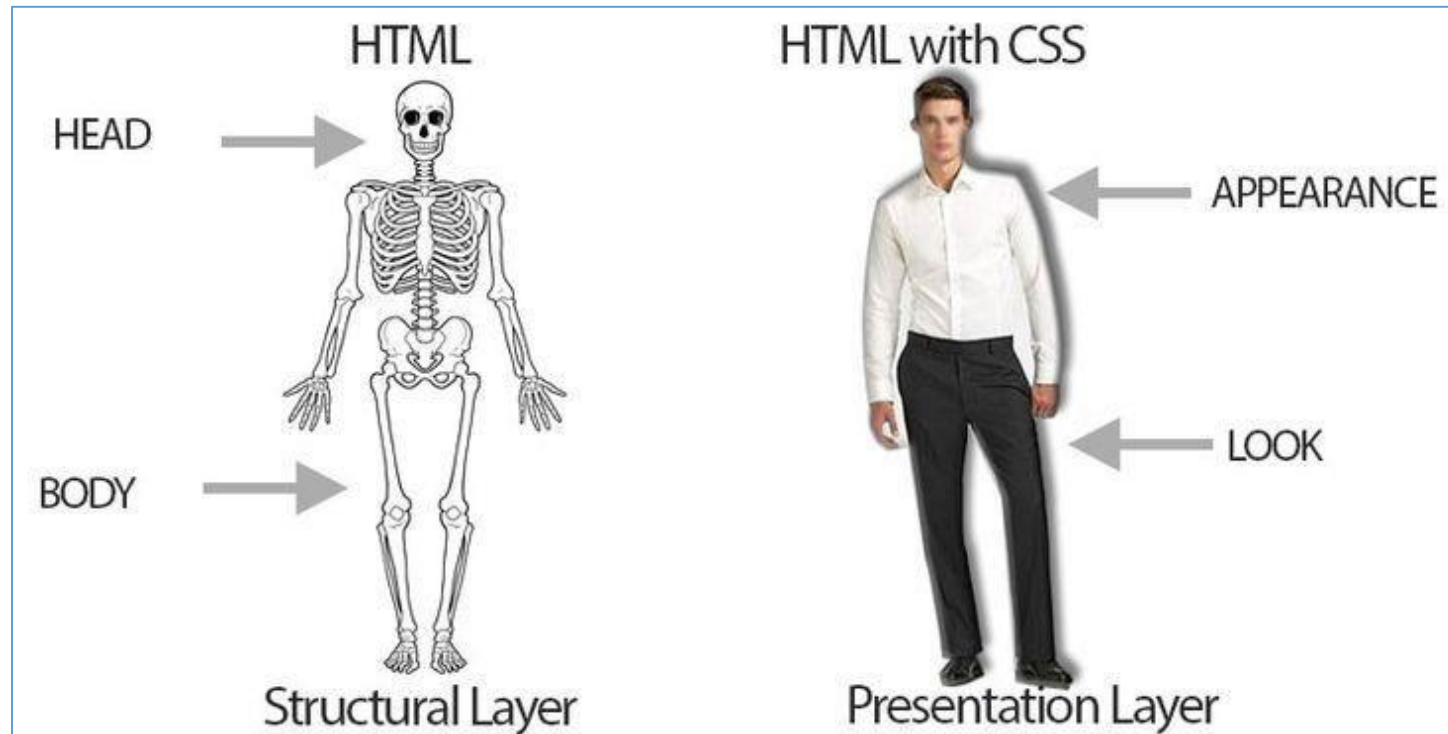
Contents

1. Introduction
2. Box Model
3. Syntax and Selectors
4. Types of Style Sheets
5. Borders and Boxing



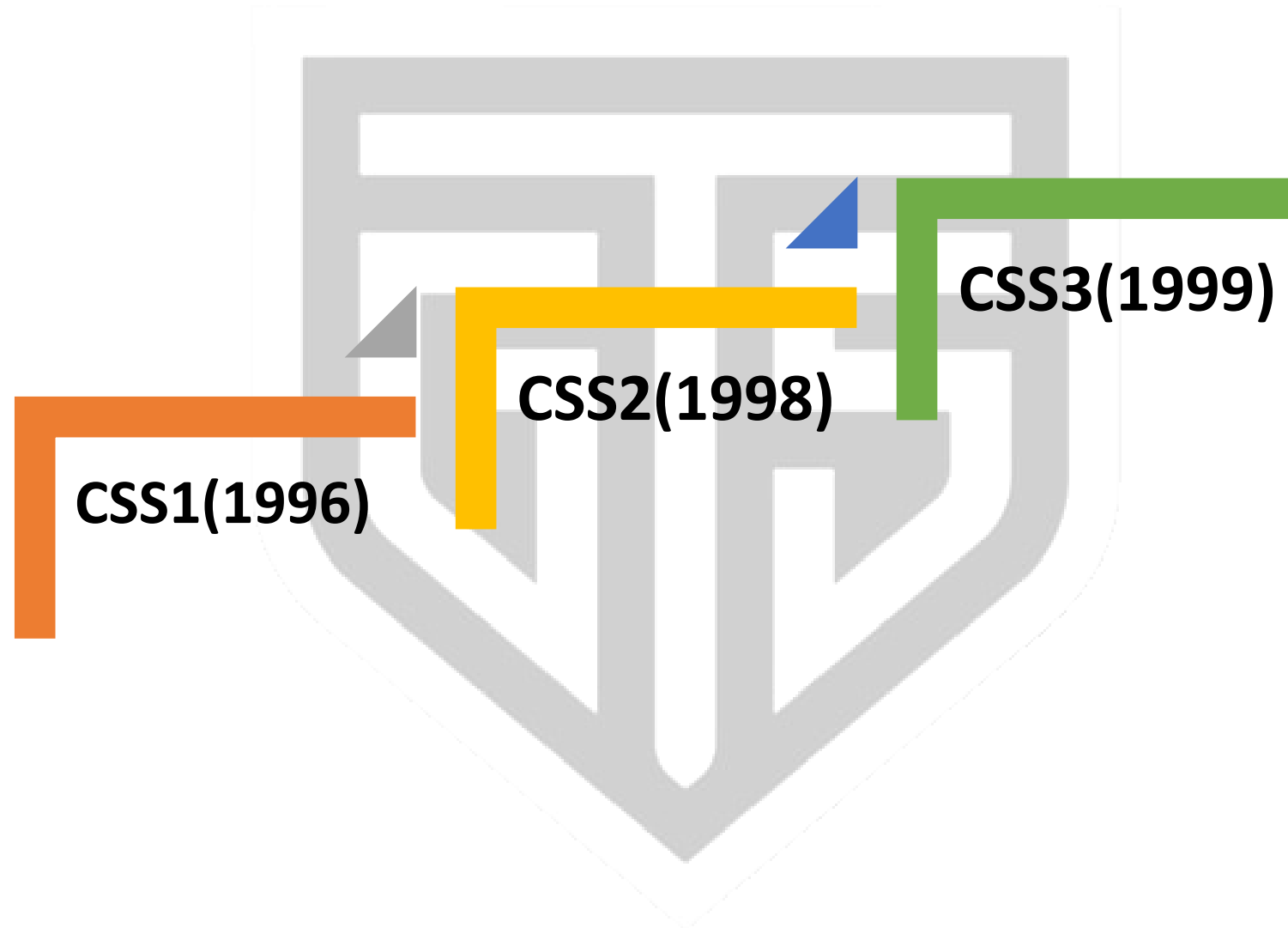
Introduction



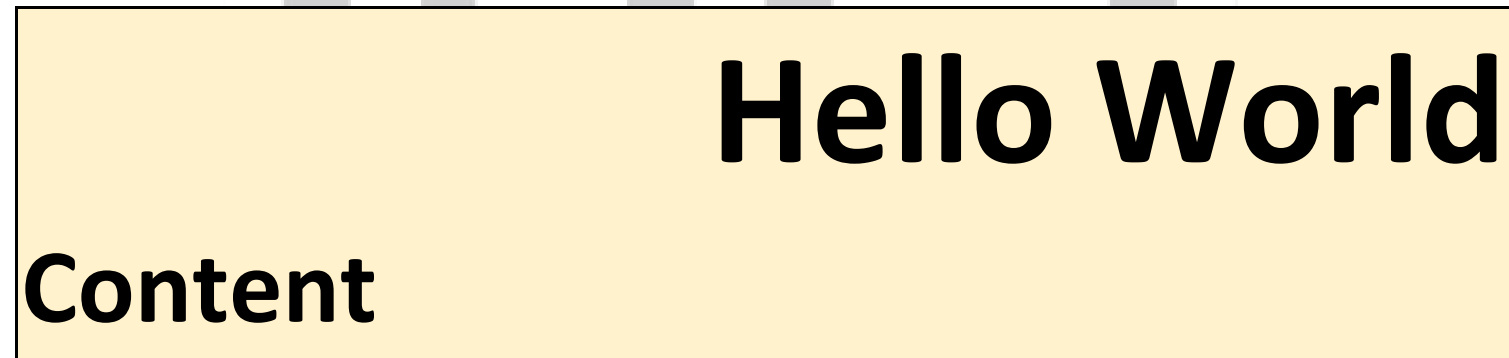


Håkon Wium Lie

CSS Timeline



CSS Box Model



CSS Box example

The Box Model

Actual Width =
Left Margin + Right Margin +
Left Border + Right Border +
Left Padding + Right Padding + Width



Notice that top and bottom margins collapse together.



Box Dimensions

Width and Height

Decide the width and height of the content box.

The content can be text or other boxes nested inside this box.

Padding

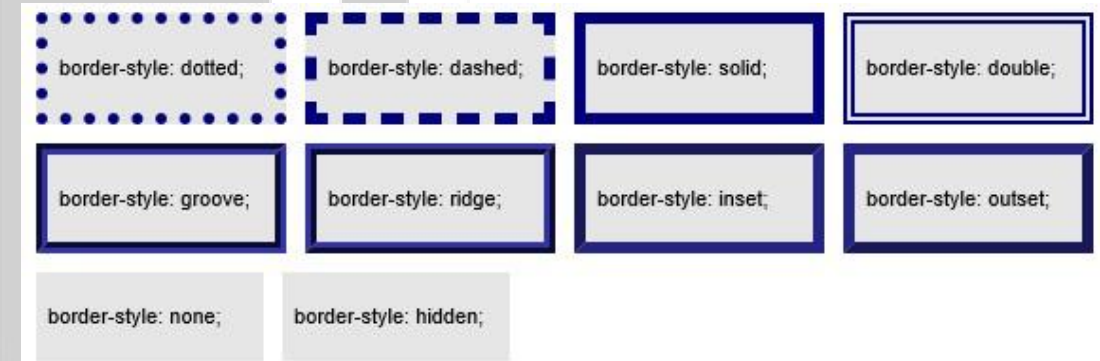
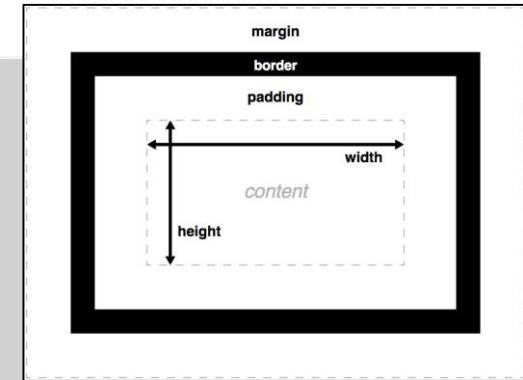
You can give a common padding for all four sides of the box or set them individually using the properties:

- padding-top
- padding-right
- padding-bottom
- padding-left

• Border

The border starts at the outer edge of the padding.
By default there is no border or border size 0.

example: border:2px, solid black
2 pixels thick solid black border.



Border can also be set all four at once using the border
property or individually using

- border-top
- border-right
- border-bottom
- border-left.

The border-color property is used to change the border color.

- **Margin**

The margin surrounds the CSS box and lies between the boxes.

The margin width can be set all at one using the margin property or individually using the **margin-top**, **margin-right**, **margin-bottom** and **margin-left** properties.

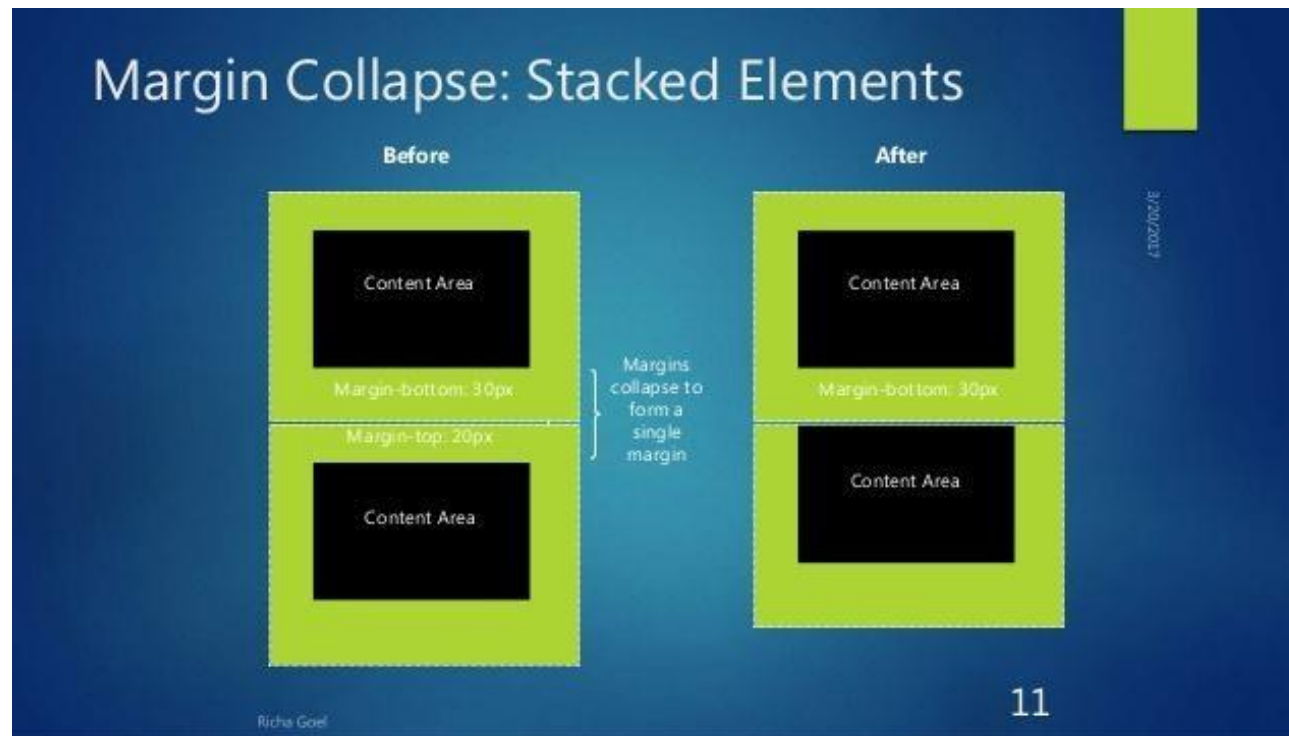
Example dimensions for a paragraph element:

```
p {  
  width: 300px; border:  
  25px solid green;  
  padding: 25px;  
  margin: 25px; }
```

The width is 300 px, padding and margin is 25px and the border is 25px solid and green in color.

- **Margin collapsing**

When two CSS boxes touch against one another in a webpage, the distance between them will be the value of the largest of the two margins, and not their sum.



Know More

CSS Box Model



Explains the CSS Box Model.



This video link explain about the CSS Box Model

Topic	URL
CSS Box model	https://www.w3schools.com/css/css_box_model.asp
Explanation of CSS Box Model	https://www.youtube.com/watch?v=IPm8lK4C7nc

Self Assessment Questions

1. CSS displays each element in a box format.
 - a) Yes
 - b) No

Answer: a)

2. Padding is:

- a) The margin between the outer edge of the border and outer edge of the content box.
- b) the inner margin between the inner edge of the border and the outer edge of the content box.

Answer: b)

3. Write the CSS code to give a div element a dashed border 25px wide.

Answer: `div { width: 300px; border:
25px dashed green;
padding: 25px; margin:
25px;`

4. The outermost layer of the CSS box is:

- a) The margin.
- b) The border.

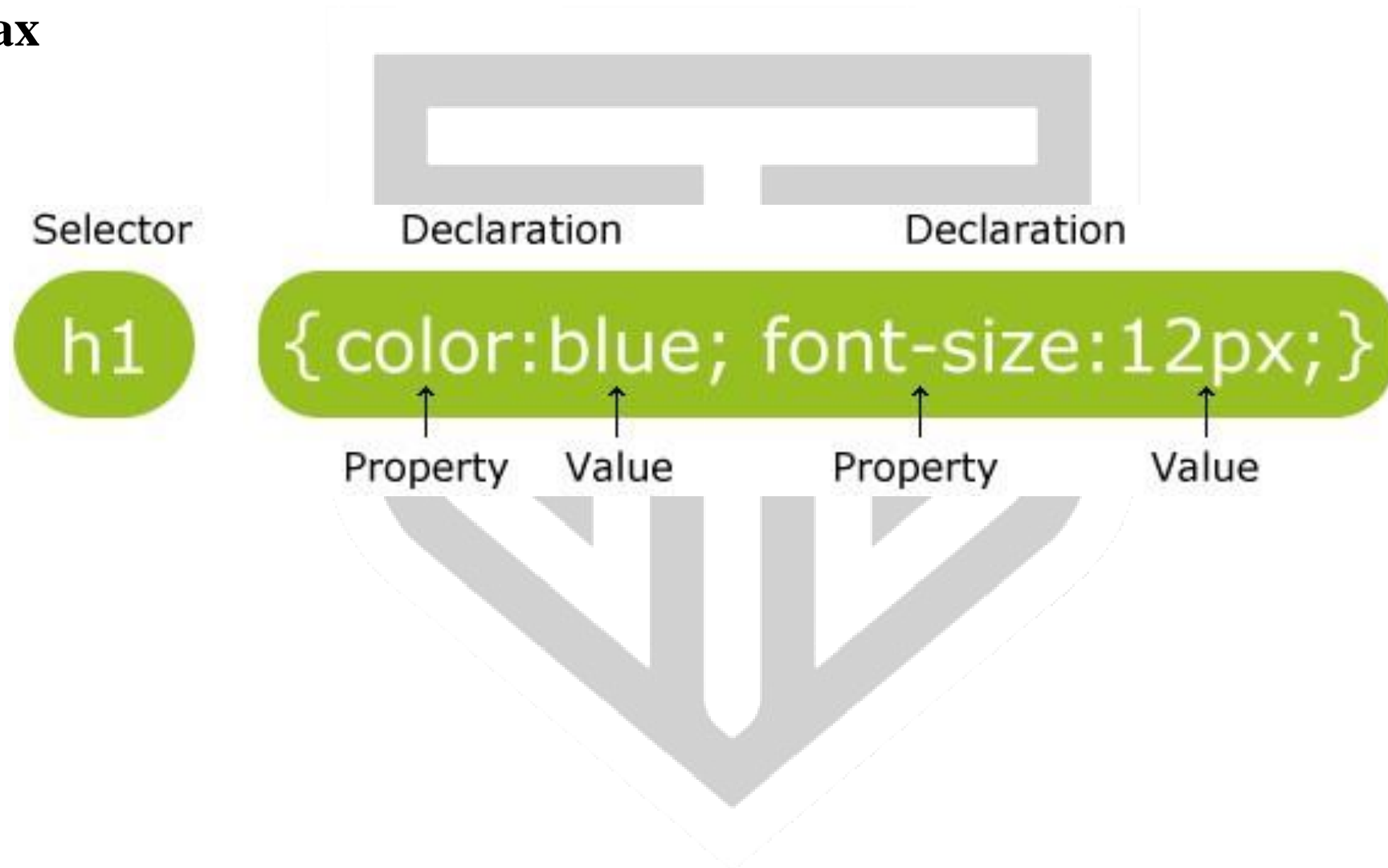
Answer: a)

5. The distance between two elements is:

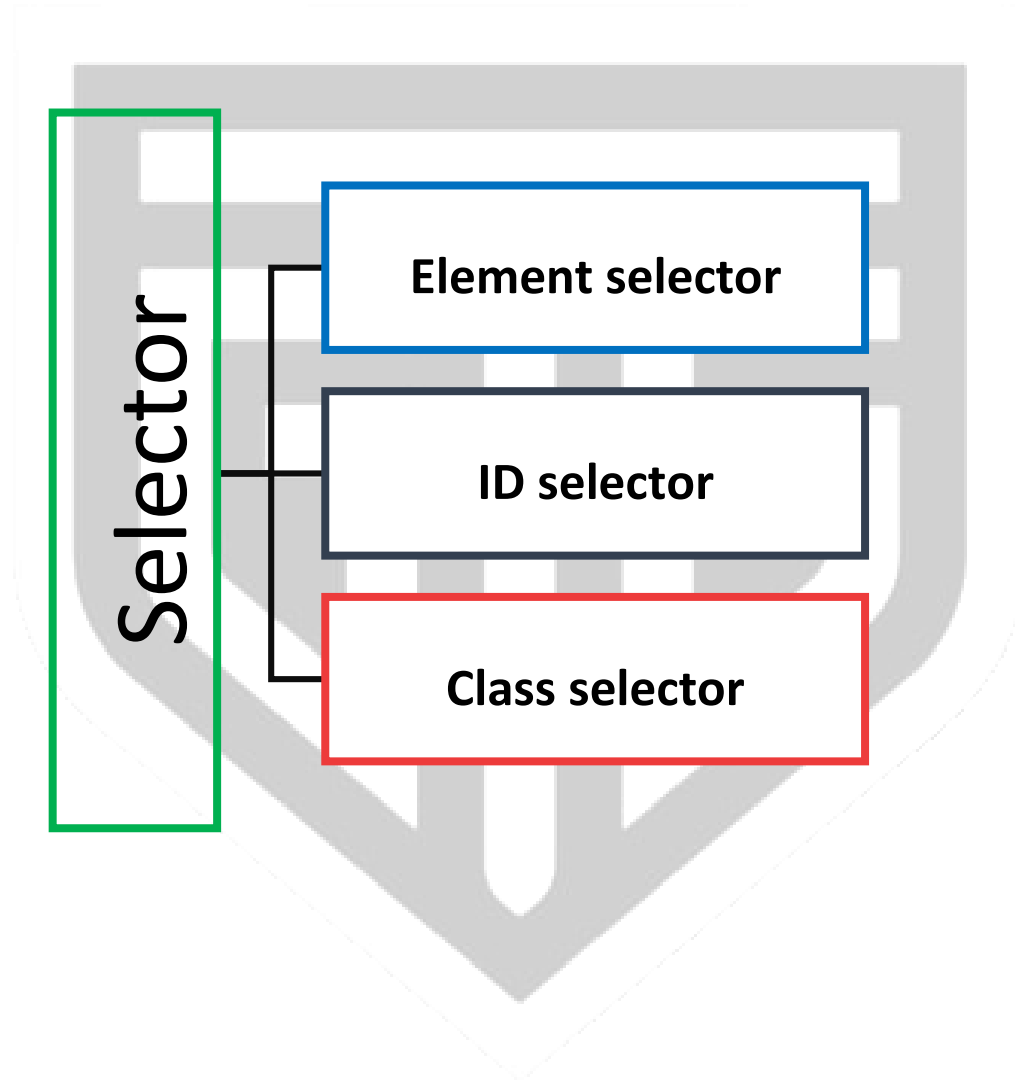
- a) The sum of their margins.
- b) The value of the largest of the two margins.

Answer: b)

CSS Syntax



CSS Selectors



Element Selector

Example A:

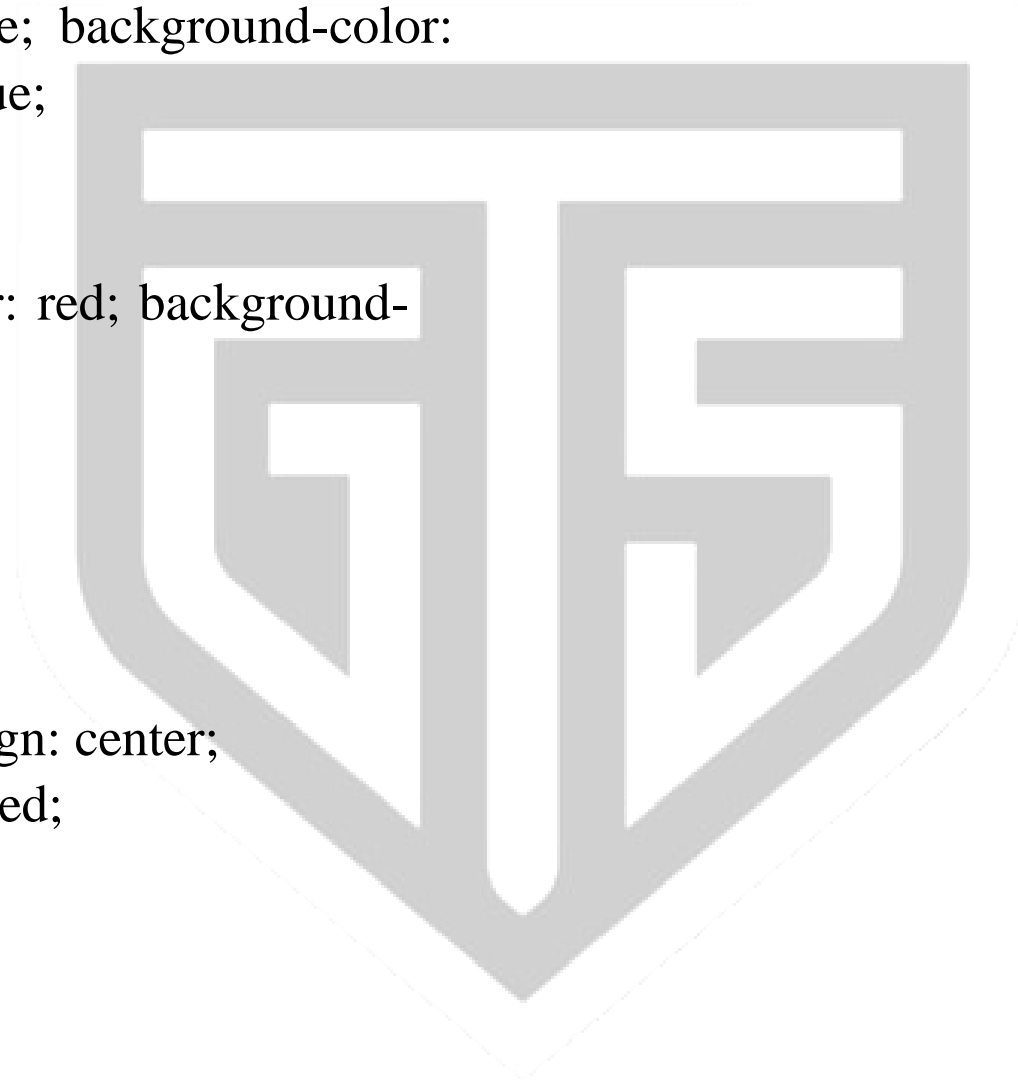
```
h2 { color: blue; background-color:
      lightblue;
}
```

Example B:

```
p { color: red; background-
      color: yellow;
}
```

ID Selector

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



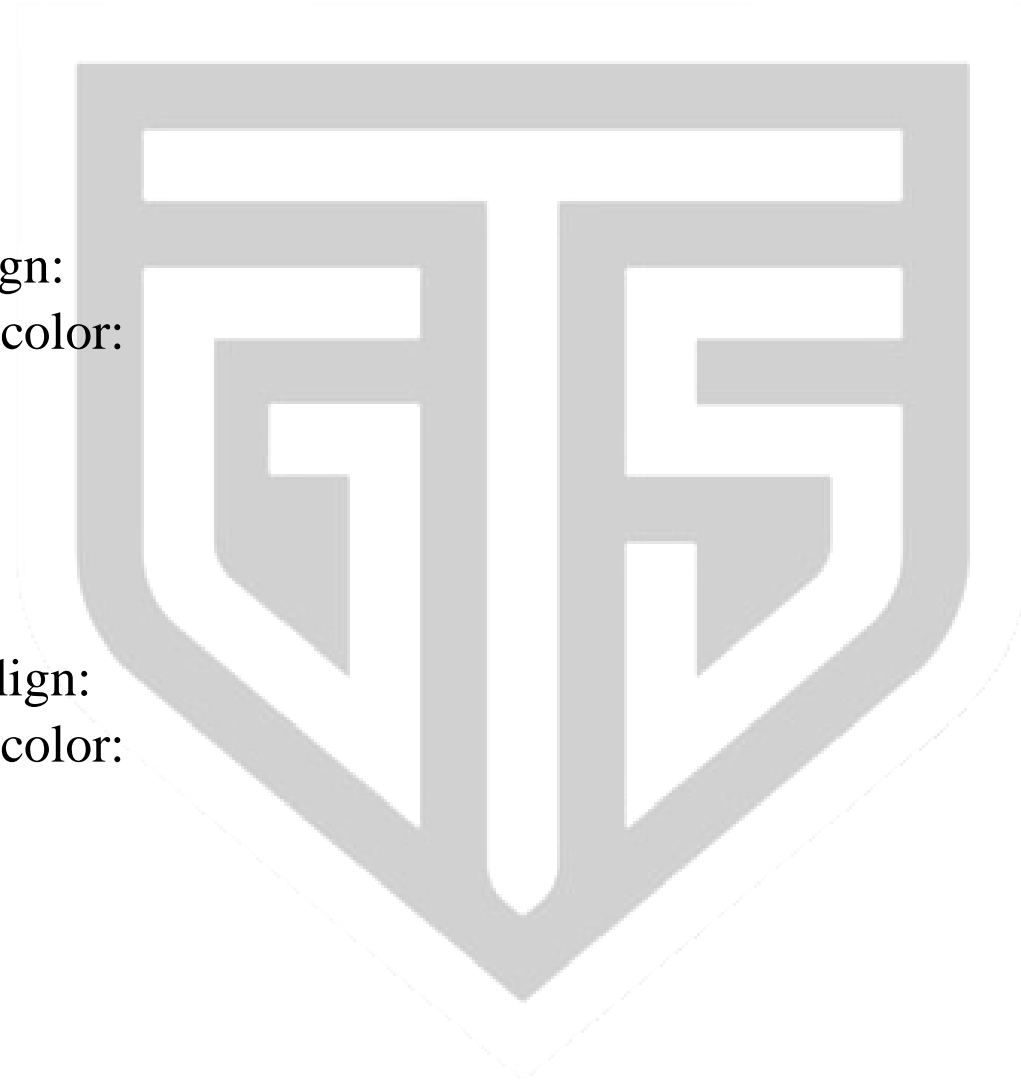
Class Selector

Example A:

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

Example B:

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



Self Assessment Questions

1. The CSS rule set consists of
 - a) Declaration
 - b) Selector and declaration

Answer: b)

2. There can be more than one declaration in a CSS rule set separated by a semicolon :
 - a) Yes
 - b) No

Answer: a)

3. An element selector uses the _____ to define the styling.

Answer: Name of the element.

4. In a CSS rule, the id selector is written with a

- a) # character
- b) \$ character

Answer: a)

5. We can use the same id for more than one element on a page.

- a) Yes
- b) No

Answer: b)

6. Class selector allows us to style only specific elements of an element type. (Yes/No)

Answer: Yes.

7. Point the error in the following code:

```
Div
{
    Padding-top: 50px%
    Padding-right: -2cm
```

Padding-bottom: 30%

Padding-left: 25pt

}

- i. You cannot use negative values ii. pt is not a valid length
iii. length and percentage cannot be used together iv. 'cm' cannot be used as a measuring criteria in web pages.
- a). i, ii, iii are correct b). only i and iii are correct
c). only i and ii are correct d). all are correct

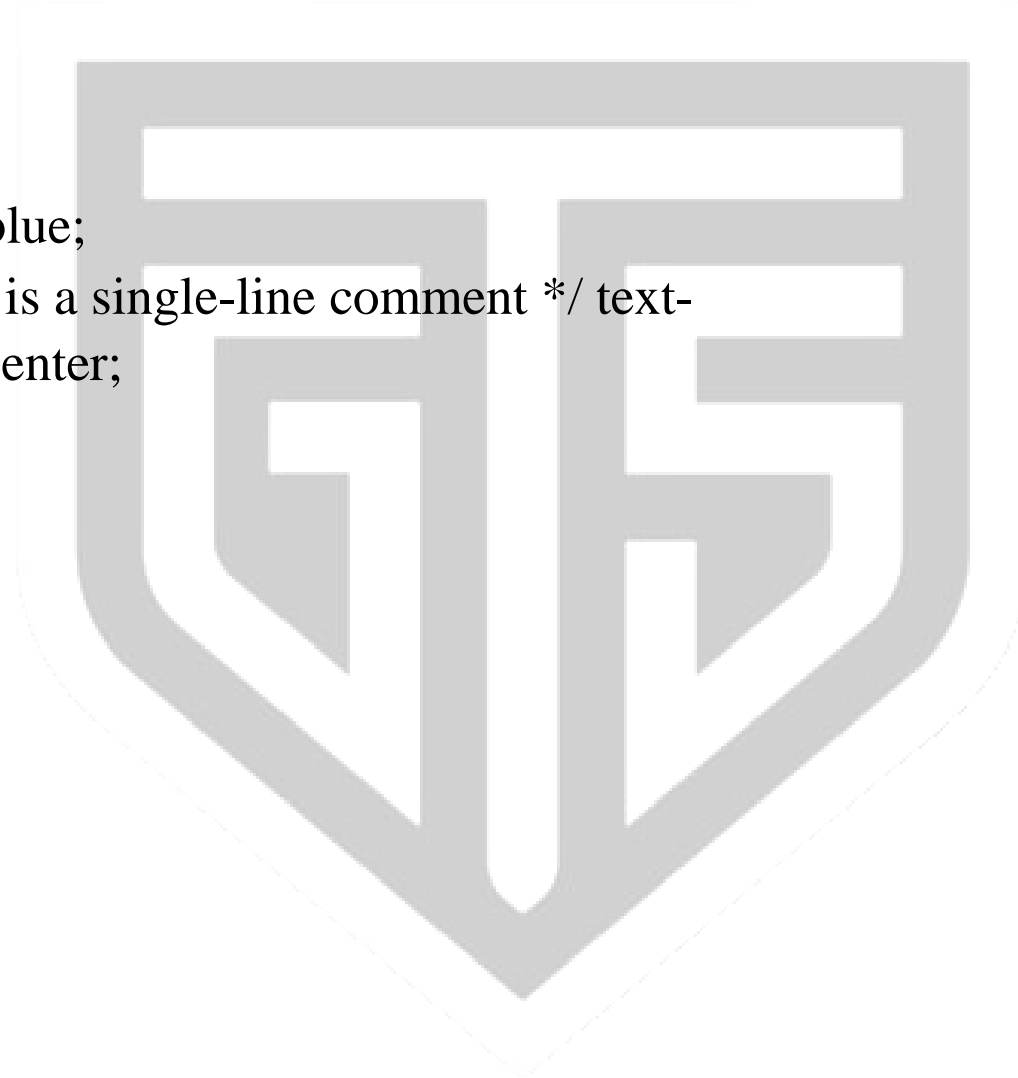
Answer: c)

8. Which property is used to add padding to the left of the element?

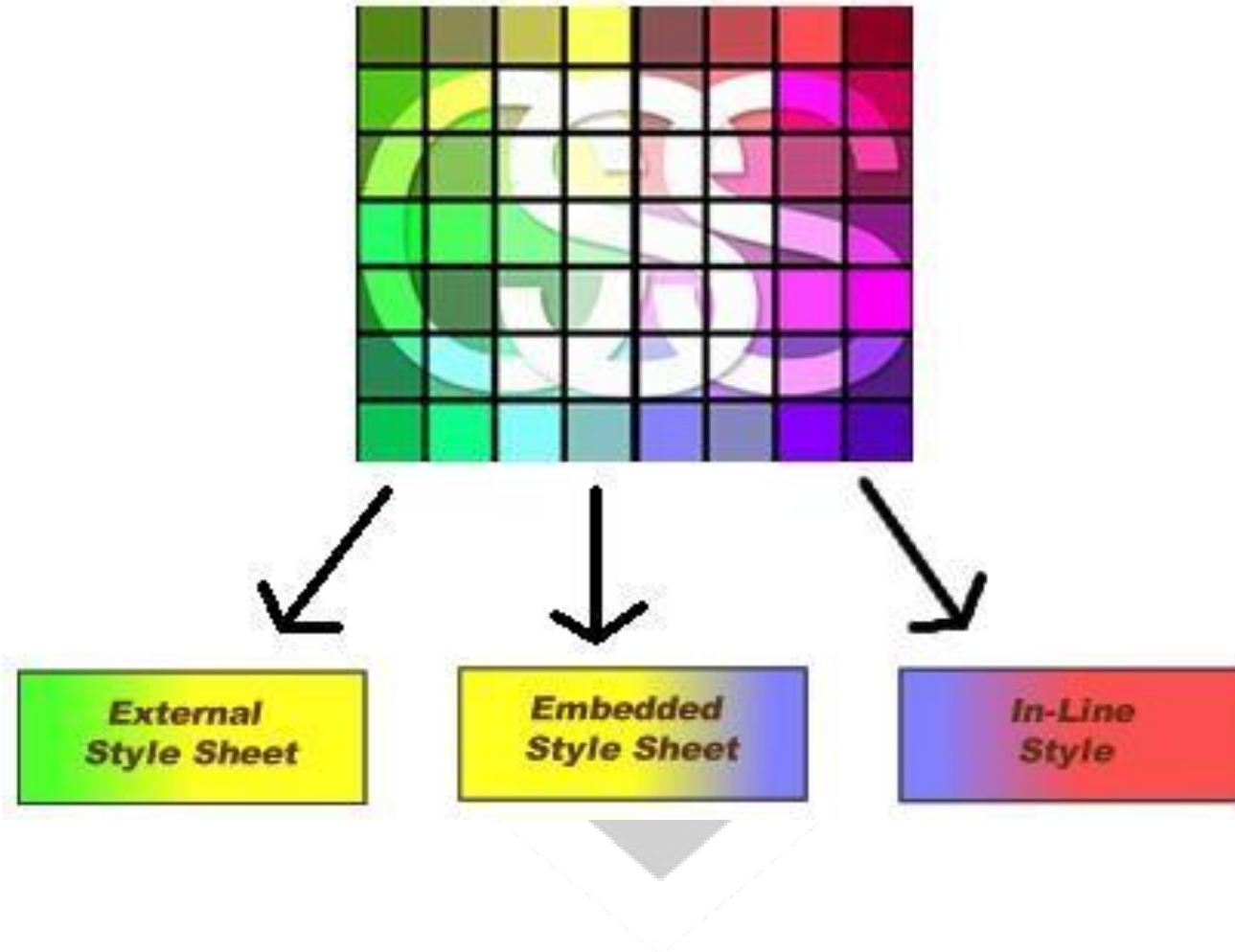
Answer: padding-left.

CSS Comments

```
p {  
    color: blue;  
    /* This is a single-line comment */ text-align: center;  
}  
  
/* This is a  
multi-line  
comment */
```

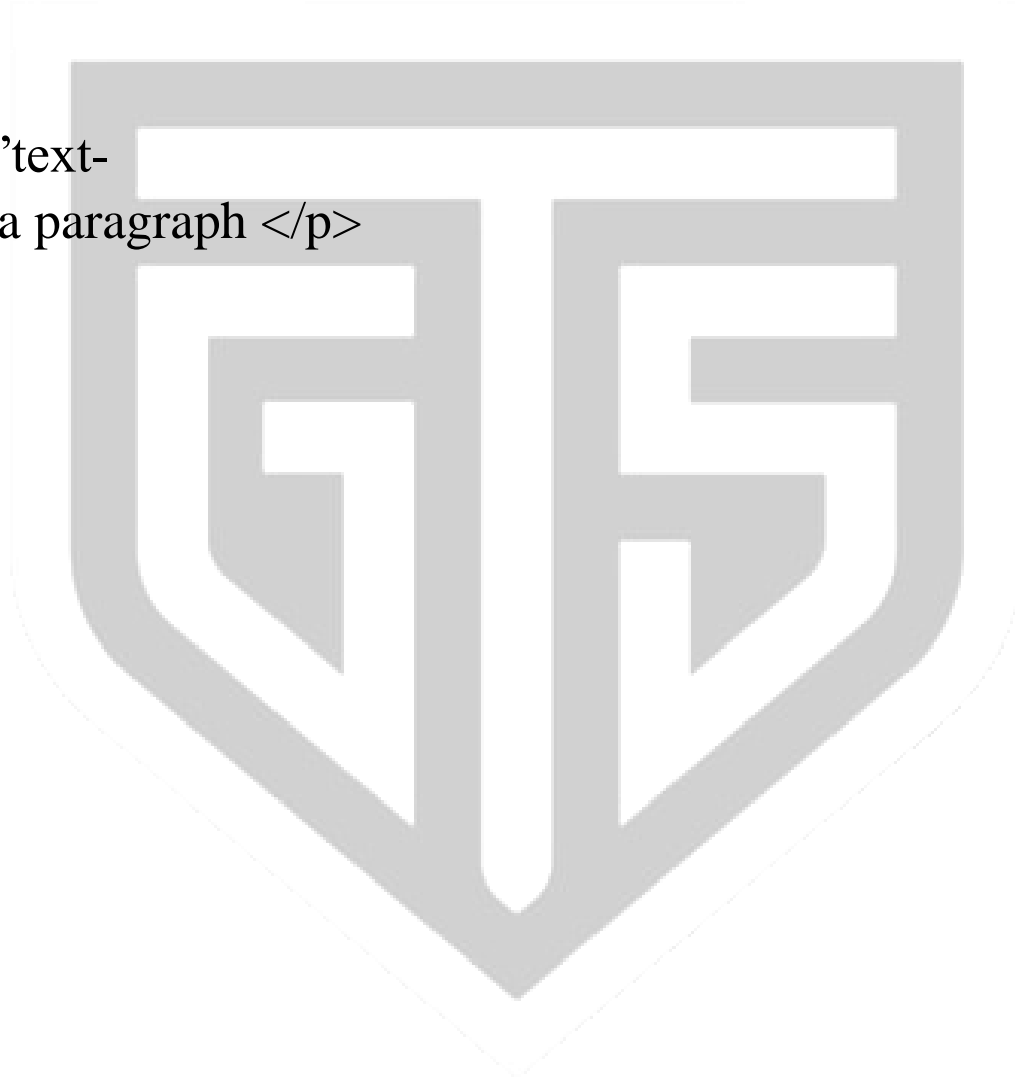


Including CSS in HTML



Inline Style

`<p style="color:grey“;”text-align:center” > This is a paragraph </p>`



Internal Style Sheets

```
<head>
  <style> body
    { background color: powderblue;
    }
    h1
    { color: maroon; margin-
      left: 40px;
    }
  </style>
</head>
```



External Style Sheets

```
<head>
```

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

```
</head>
```

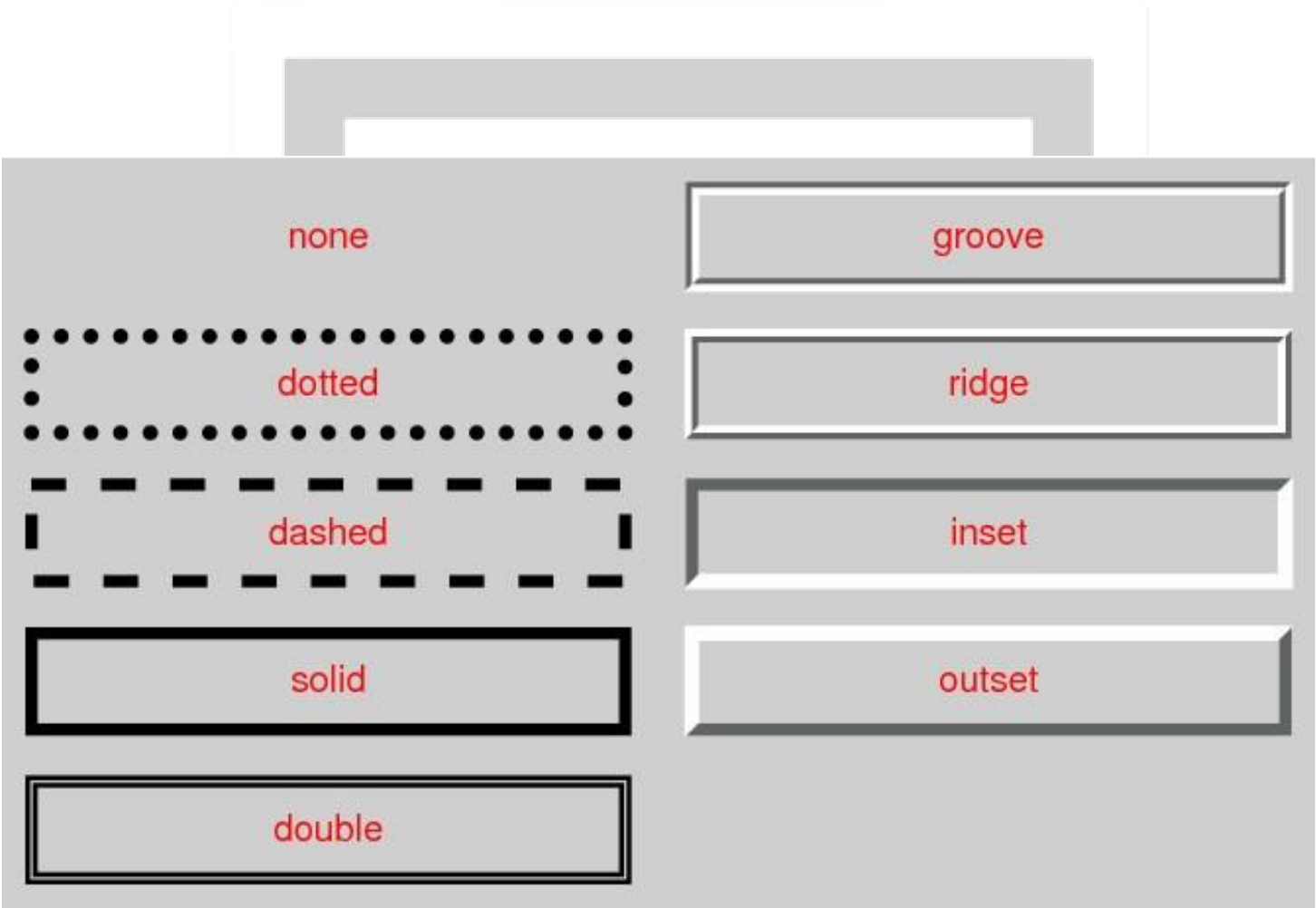
Here is a sample for **“filename.css”**:

```
body  
{ background-color: lightblue; }
```

```
h1  
{ color: navy;  
  margin-left:  
  20px;
```

}

CSS Borders



Example

```
<style>  
.borderStyling {  
  <h1  
border-style: dotted; class="borderStyling" border-color:  
blue; align="center"> border-width: 3px; Hello World!  
border-radius: 10px; </h1>  
}  
  
</style>
```



CSS Text Style

The color property is used to set the color of the text.

The color is specified by:

- a color name - like "red"
- a HEX value - like "#ff0000"
- an RGB value - like "rgb(255,0,0)"

Text-align

- set the horizontal alignment of a text.

- left or right aligned, centered, or justified.

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua.	Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua.	Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua.	Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua.
LEFT ALIGN	RIGHT ALIGN	CENTER	JUSTIFY

Text-decoration

- set or remove decorations from text such as over line, underline or line through.
- text-decoration: none; removes.



Text-transform

- specify case of the text such as uppercase, lowercase or capitalize.

UPPERCASE

lowercase

Capitalise

Text-indent

- specify the indentation of the first line of a text.

Hello World! This text will have first line indented by 1cm and this line will remain at its actual position this is done by CSS text-indent property.

Direction

- The direction property is used to set the text direction. Possible values are ltr (left to right) and rtl (right to left).



Hello World!

!Hello World

Text-spacing

- specify the space between the characters in a text.

This text is having
space between letters.

Text-shadow

- adds shadow to text.

Text with shadow.

CSS Text example

```
<html>
<head>
  <style>
    .myTextStyle
    { color: blue; text-
      align: left; text-
      indent:      50px;
      letter-spacing:
      3px;
      word-spacing: 10px;
    }
  </style>
</head>
<body> <p
      class="myTextStyle">
      Hello World! </p>
</body>
</html>
```

Output

Hello World!

CSS Background

The CSS background properties are used to define the background effects for elements.

background-color

- Sets the background color of an element.
- Example: `body{background-color:aqua;}`
- **background-image** inserts a background image.
- Example: `body{background-image:stars.gif;}`

background-repeat

- specifies how the background image will repeat itself.
 - repeat-x: horizontal

- repeat-y: vertical

- no-repeat: none

- Example: `body{background-repeat:repeat-x;}`

CSS Colors

Colors are specified using predefined color names, or RGB, HEX, HSL values.

- **Color Names** - example, tomato, red, blue green, orange, yellow, grey, powder blue.
- **RGB value**

`rgb(red, green, blue)`

Each parameter (red, green, and blue) defines the intensity of the color between 0 and 255.

Example:

rgb(255,99,71) = color name “tomato”

- **Hex value**

A hexadecimal number equivalent for the color.

It is specified using #rrggbb where rr(red), gg(green) and bb(blue) are hex values from 00 to ff.

Example,

#ff6347 is Hex = color name tomato

- **HSL value**

A color can also be defined in terms of Hue (H), Saturation (S) and Lightness (L).

- **Hue** - degree on the color wheel from 0 to 360. 0 is red, 120 is green, and 240 is blue.
- **Saturation** - percentage value, 0% means a shade of gray, and 100% is the full color.
- **Lightness** - a percentage, 0% is black, 50% is neither light or dark, 100% is white

Example,

HSL value for color tomato is `hsl(9, 100%, 64%)`

CSS Fonts

The CSS font properties define:

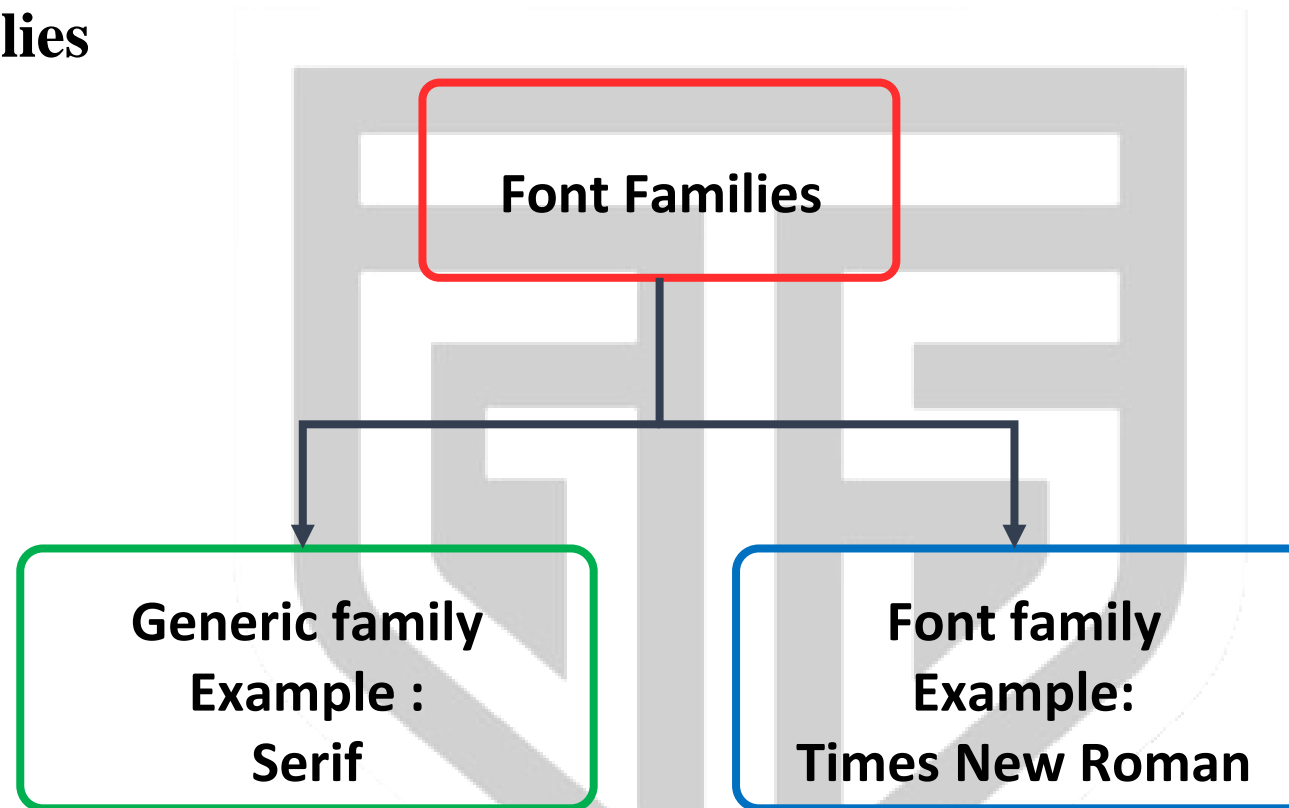
- **font family**
- **Weight**

- **Size**
- **Style**
- **Font-variant**

of a text.



CSS Fonts Families



The font family of a text is set with the **font-family** property.

The **font-family** property should hold several font names as a "fallback" system. If the browser does not support the first font, it tries the next font, and so on.

Start with the font you want, and end with a generic family, to let the browser pick a similar font in the generic family, if no other fonts are available.

Example :

```
p {  
    font-family: "Times New Roman", Times,  
    serif; }
```

CSS Font Style

The **font-style** property is mostly used to specify italic text.

This property has three values:

- **normal** - The text is shown normally
- **italic** - The text is shown in italics

- **oblique** - The text is "leaning"

CSS Font Weight

Value	Description
normal	Defines normal characters. This is default
bold	Defines thick characters
bolder	Defines thicker characters
lighter	Defines lighter characters
100, 200, 300, 400, 500, 600, 700, 800, 900	Defines from thin to thick characters. 400 is the same as normal, and 700 is the same as bold

initial	Sets this property to its default value.	
inherit	Inherits this property from its parent element.	



<code>font-weight: 100;</code>	Thin
<code>font-weight: 200;</code>	Extra-Light
<code>font-weight: 300;</code>	Light
<code>font-weight: 400;</code>	Regular
<code>font-weight: 500;</code>	Medium
<code>font-weight: 600;</code>	Semi-Bold
<code>font-weight: 700;</code>	Bold
<code>font-weight: 800;</code>	Extra-Bold
<code>font-weight: 900;</code>	Black

CSS Font Size

The **font-size** property sets the size of the text. The font size can be set using pixels, em or a combination of both.

Example A: using pixels

```
h1 {  
  font-size: 40px;  
}
```

Example B: using em unit (1 em unit = current font size)

```
h1 {  
  font-size: 2.5em; /* 40px/16=2.5em  
  */ }
```

	<code>body { font-size: 100%; }</code>	<code>body { font-size: 120%; }</code>
<code>font-size: 1em</code>	The quick brown fox	The quick brown
<code>font-size: 12pt</code>	The quick brown fox	The quick brown fox
<code>font-size: 16px</code>	The quick brown fox	The quick brown fox
<code>font-size: 100%</code>	The quick brown fox	The quick brown

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CSS ICONS

The simplest way to add an icon to your HTML page, is with an icon library, such as Font Awesome.



Font Awesome Icons

To use the Font Awesome icons, add the following line inside the `<head>` section of your HTML page:

```
<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/fontawesome.min.css">
```



CSS Icon Example

```
<!DOCTYPE html>
<html>
<head>
  <link rel="stylesheet"href="https://cdnjs.cloudflare.com/ajax/libs/font-
  awesome/4.7.0/css/fontawesome.min.css">
</head>
<body>
<i class="fa fa-cloud"></i>
<i class="fa fa-heart"></i>
<i class="fa fa-car"></i>
<i class="fa fa-file"></i>
<i class="fa fa-bars"></i>
</body>
</html>
```

Result:



Know More

CSS Basics



Tutorial link for understanding and developing CSS.



Crash Course link for understanding and developing CSS.

Topic	URL
Introduction to CSS	https://www.w3schools.com/css/css_intro.asp
Understanding and developing CSS	https://www.youtube.com/watch?v=3JluqTojuME

Self Assessment Questions

1. The property used to render an image transparent is:

- a) opacity
- b) transparency
- c) lightness
- d) none

Answer: a)

2. HSL stands for _____, _____ and _____.

Answer: Hue, Saturation and Lightness.

3. Which of these are border styles. (Choose multiple)

- a) Inset
- b) Outcast
- c) Groove
- d) ridge

Answer: a), c), d).

4. The _____ attribute is used to set text color.

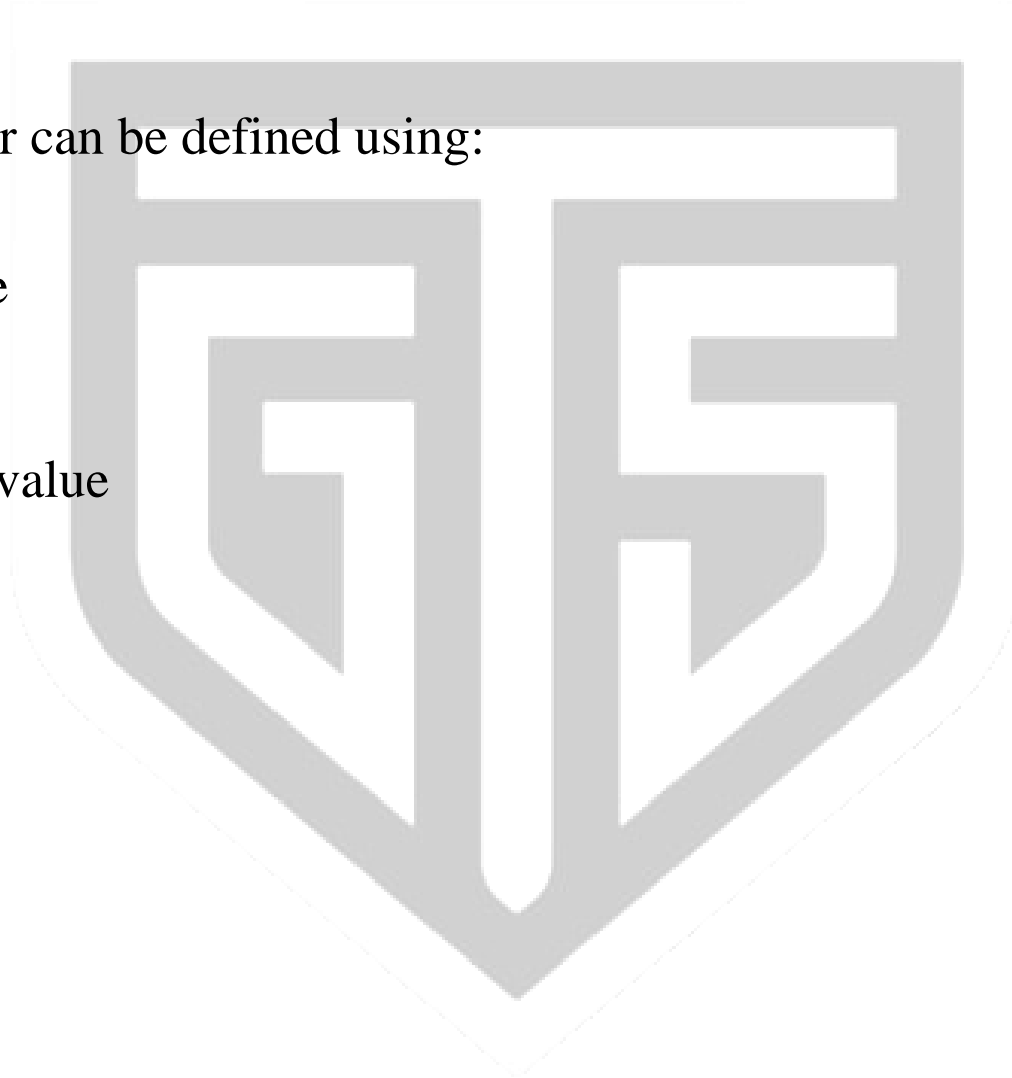
- a) Text-color
- b) Color

Answer: b).

5. In CSS the value of color can be defined using:

- a) Decimal value
- b) Name
- c) Hexadecimal value
- d) RGB values

Answer: b), c), d).



6. While defining a color using the RGB value, the maximum value that can be used for each color is: a)

128

b) 255

Answer: b).

7. _____ property is used to specify the case of the text.

a) text-case

b) Text-transform

Answer: b)

8. Write HTML code to display “hello world!” in a paragraph and use inline style to set the text direction right to left.

**Answer: <p style=”direction:rtl;”>
Hello World! </p>**

9. Write HTML code to display “hello world!” in a paragraph and use inline style so that the text has a overline.

**Answer: <p style=”text-decoration:overline;”>
hello world!**

</p>

10 . Select the correct option:

- a) `body{bgimage:galaxy.gif;}`
- b) `body{background-image:galaxy.gif;}`

Answer: b)

11. Write the CSS code to add and repeat a background image horizontally to the body element.

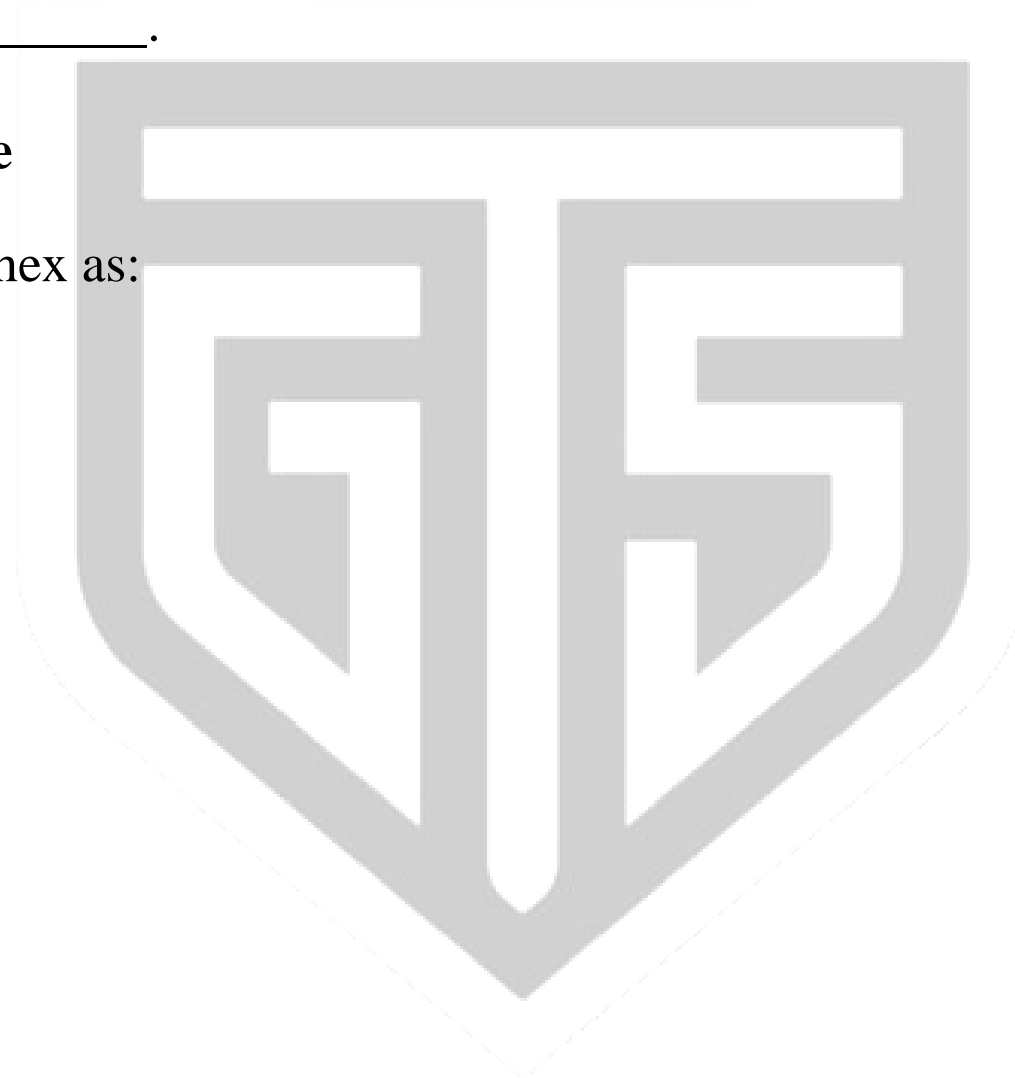
Answer: `body{background-repeat:repeat-x;}`

12 . RGB stands for _____.

Answer: Red, Green, Blue

13. The color is defined in hex as:

- a) #rrggbb
- b) *rrggbb
- c) #rgb
- d) \$rgb



Answer: a)

14. _____ attribute is used to specify the font-family.

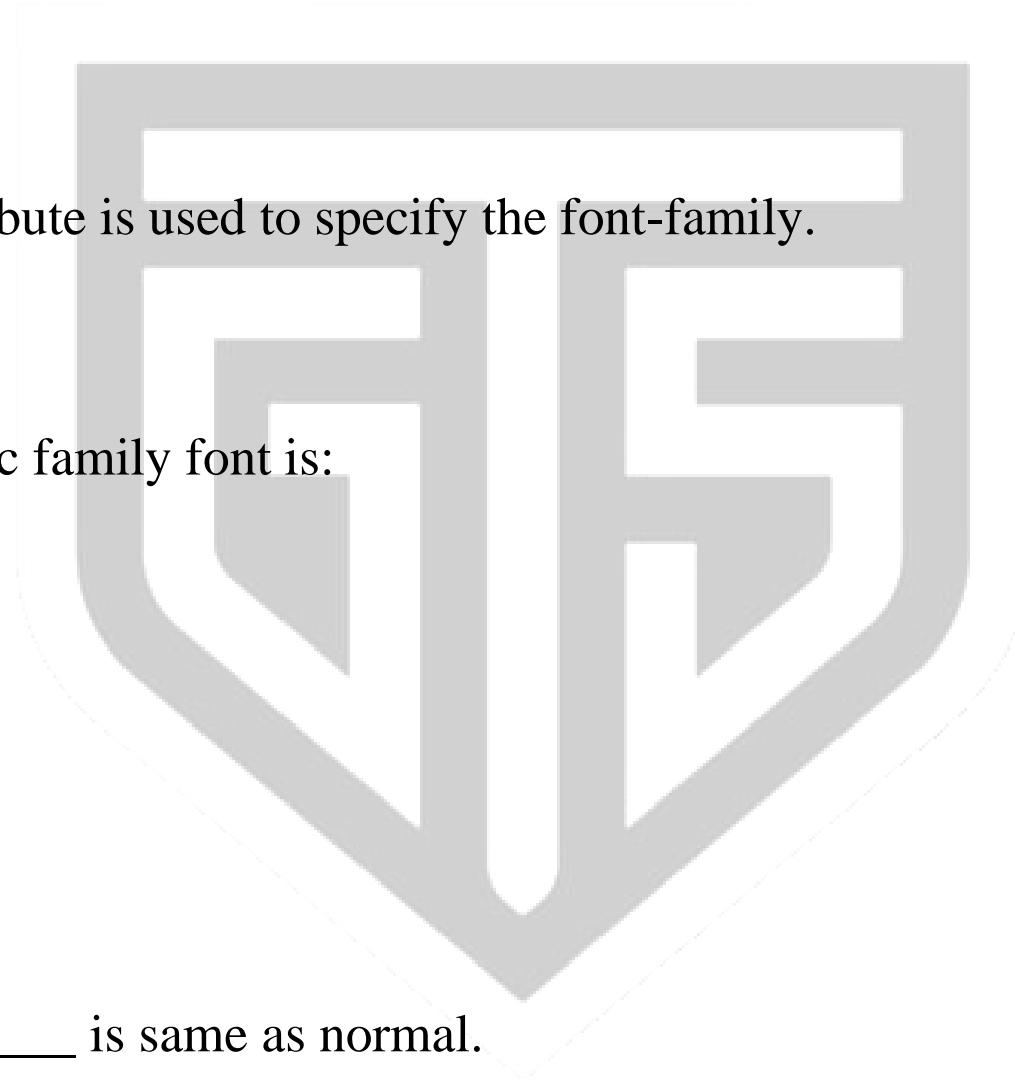
Answer: Font-family.

15. An example of a generic family font is:

- a) Sans Serif
- b) Times

Answer: a)

16. Font size _____ is same as normal.



- a) 200
- b) 400

Answer: b)

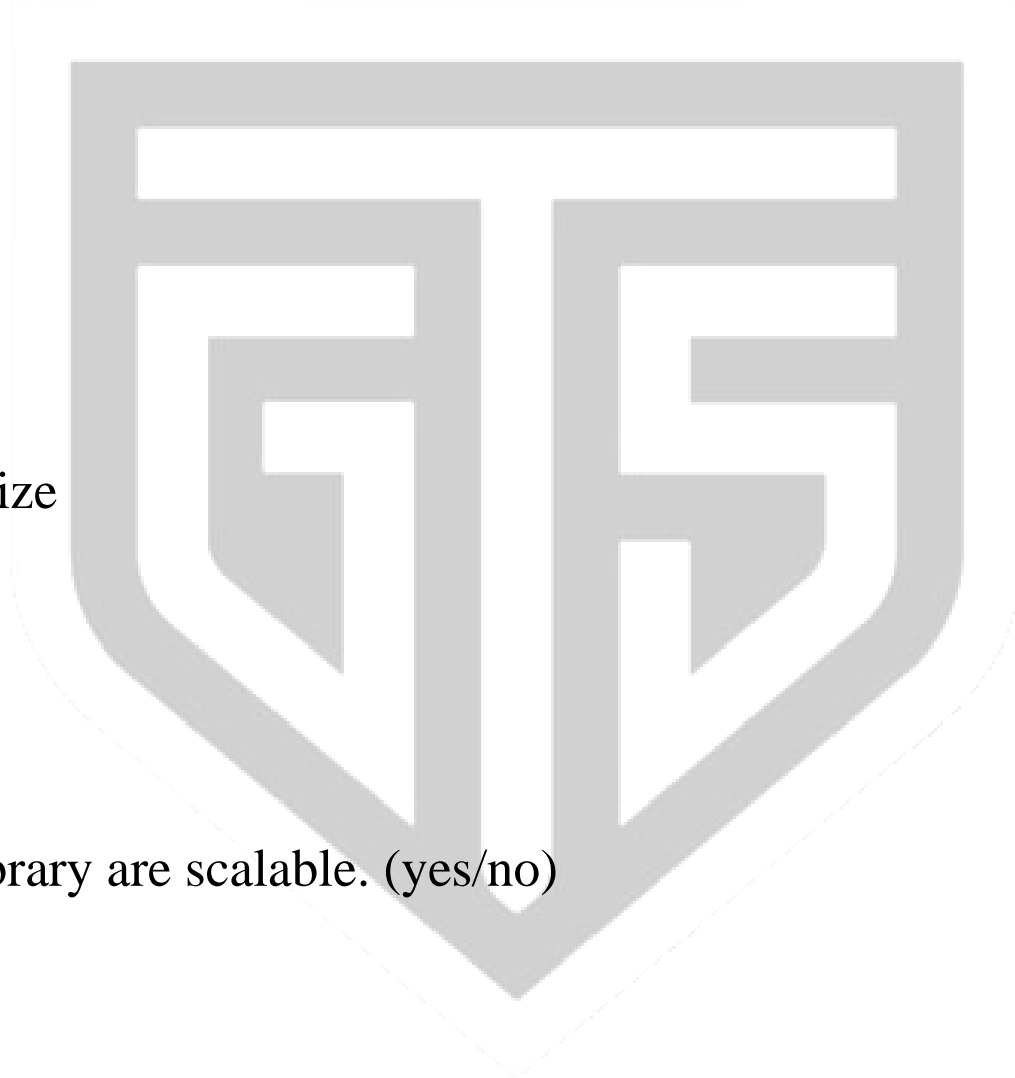
17. 1 em unit is:

- a) Current font size
- b) 14px

Answer: a)

18. The icons in an icon library are scalable. (yes/no)

Answer: Yes.



19. Write the href attribute value to be added inside the head element to be able to use the font awesome library.

Answer: href="<https://cdnjs.cloudflare.com/ajax/libs/font-awesome/4.7.0/css/font-awesome.min.css>"

Assignment

Assignment

Based on the understanding of Subject in Chapter 3 – “Cascading Style Sheets”, You need to find solution of below problem statement:

1. Write an HTML document to create your resume and use an external style sheet to style the elements. The format of the resume is given in the next slide.
 - a. Use H1 for full name. Color = red, center aligned.

- b. Use H2 for the sub headings. Color = blue.
- c. Include your photo and use the shadow effect in CSS for the image. Center aligned.
- d. Display the Education details as a table with a double border. List your hobbies as a bulleted list.
- e. The font to be used is “Times New Roman”.
- f. Display your contact information including your email address, contact number, LinkedIn page and Facebook page at the end. Display this information in a smaller font than what has been used throughout the document.

Full Name

Your photo here

Education:

Experience:

Achievements:

Skillset:

Hobbies and interests:

Declaration:

Date:

Place:

Email, contact number, LinkedIn and Facebook links