



Royal University of Bhutan

Unit II: Web Page Development (CSS)

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Learning Outcomes

In this session, you will learn about:

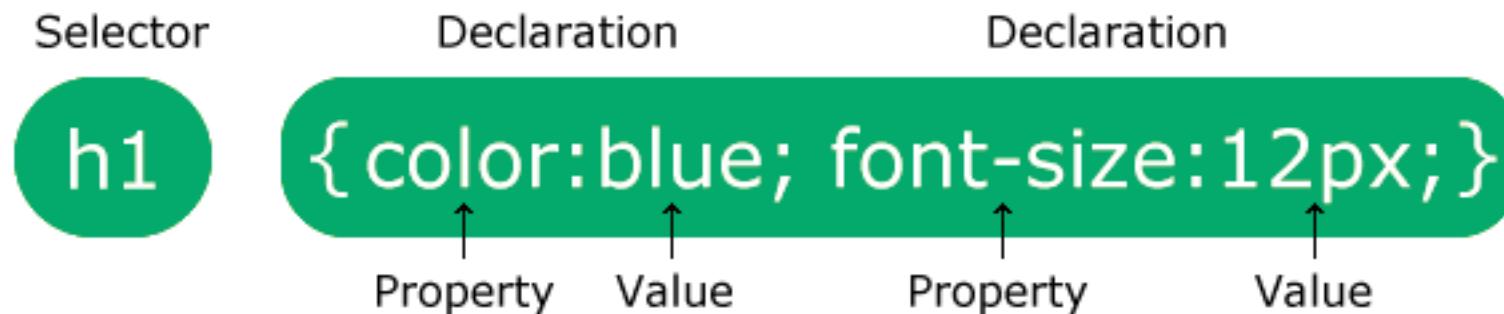
- Introduction to CSS
- Colors
- Backgrounds
- Borders
- Margins and Paddings
- Box Model

Introduction to CSS

- 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

CSS Syntax

- A CSS rule consists of a selector and a declaration block.



How to add CSS?

- There are three ways of inserting a style sheet:
 1. External CSS
 2. Internal CSS
 3. Inline CSS

CSS Colors

- Colors are specified using predefined color names, or RGB, HEX, HSL, RGBA, HSLA values.
 1. An **RGB** color value represents RED, GREEN, and BLUE light sources.
`rgb(red, green, blue)`
 2. A hexadecimal color is specified with: #RRGGBB, where the RR (red), GG (green) and BB (blue) hexadecimal integers specify the components of the color.
`#rrggbb`
 3. HSL stands for hue, saturation, and lightness - given in percentage (%).
`hsl(hue, saturation, lightness)`

CSS Backgrounds

- The CSS background properties are used to add background effects for elements.
- CSS background properties:
 - *background-color*
 - *background-image*
 - *background-repeat*
 - *background-attachment*
 - *background-position*
 - *background* (shorthand property)
- To shorten the code, it is also possible to specify all the background properties in one single property. This is called a shorthand property.

CSS Border Style

- The border-style property specifies what kind of border to display.
- The following values are allowed:
 - **dotted** - Defines a dotted border
 - **dashed** - Defines a dashed border
 - **solid** - Defines a solid border
 - **double** - Defines a double border
 - **groove** - Defines a 3D grooved border. The effect depends on the border-color value
 - **ridge** - Defines a 3D ridged border. The effect depends on the border-color value
 - **inset** - Defines a 3D inset border. The effect depends on the border-color value
 - **outset** - Defines a 3D outset border. The effect depends on the border-color value
 - **none** - Defines no border
 - **hidden** - Defines a hidden border

Border Style

- The *border-style* property can have from one to four values (for the top border, right border, bottom border, and the left border)
- Example:

```
p.dotted {border-style: dotted;}  
p.dashed {border-style: dashed;}  
p.hidden {border-style: hidden;}  
p.mix {border-style: dotted dashed solid double;}
```

Border Styles

- Border Width:
 - The **border-width** property specifies the width of the four borders.
 - The width can be set as a specific size (in px, pt, cm, em, etc) or by using one of the three pre-defined values: thin, medium, or thick.
 - The border-width property can have from one to four values (for the top border, right border, bottom border, and the left border)
- Border Color:
 - The **border-color** property is used to set the color of the four borders.
 - If border-color is not set, it inherits the color of the element.
 - The border-color property can have from one to four values (for the top border, right border, bottom border, and the left border).
- Border shorthand (**border**)
- Rounded Borders: The **border-radius** property is used to add rounded borders to an element.

CSS Margins and Paddings

- The CSS margin properties are used to create space around elements, outside of any defined borders.
- CSS has properties for specifying the margin for each side of an element:
 - `margin-top`
 - `margin-right`
 - `margin-bottom`
 - `margin-left`
- Padding is used to create space around an element's content, inside of any defined borders.
 - `padding-top`
 - `padding-right`
 - `padding-bottom`
 - `padding-left`

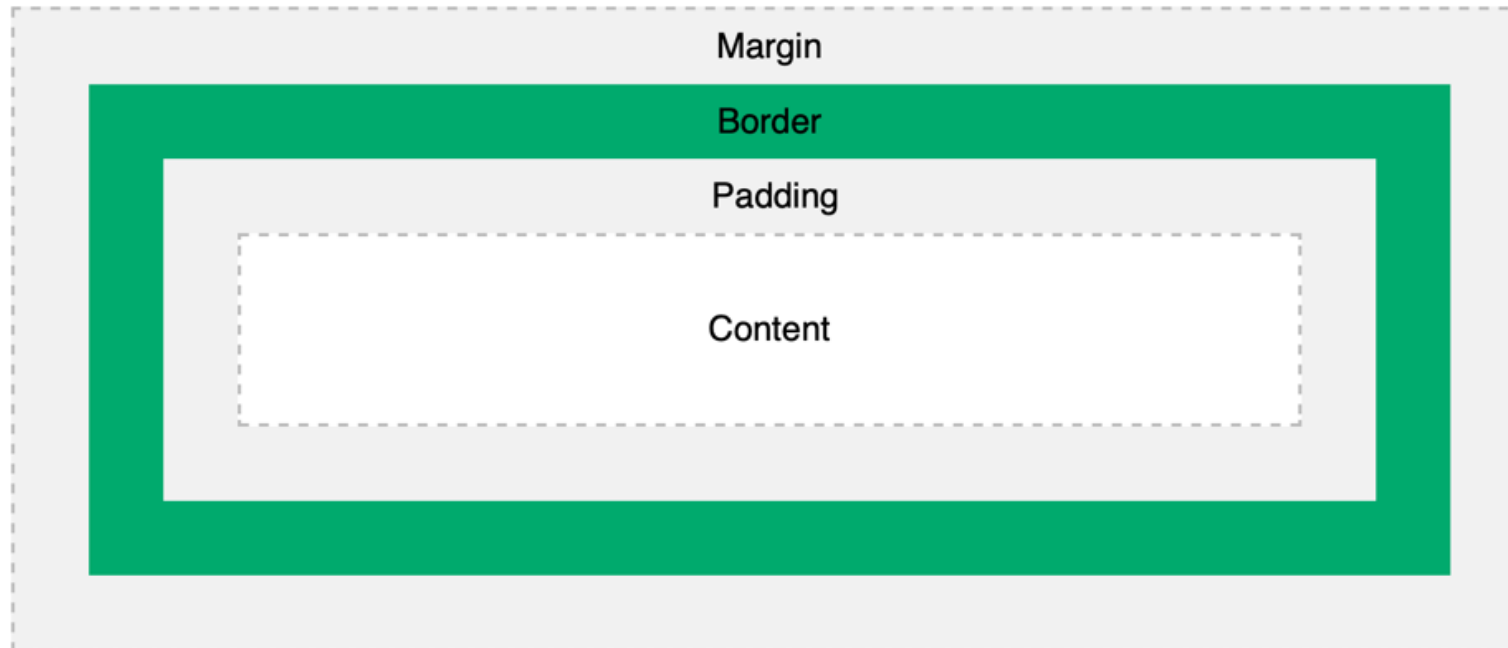
CSS Height/Width

- The CSS height and width properties are used to set the height and width of an element.
- The CSS max-width property is used to set the maximum width of an element.
- Example:

```
div {  
    height: 200px;  
    width: 50%;  
    background-color: blue;  
}
```

CSS Box Model

- All HTML elements can be considered as boxes.
- In CSS, the term "box model" is used for design and layout.
- The CSS box model is essentially a box that wraps around every HTML element. It consists of: content, padding, borders and margins.



CSS Box Model

- Different parts of Box Model:
 - **Content** - The content of the box, where text and images appear
 - **Padding** - Clears an area around the content. The padding is transparent
 - **Border** - A border that goes around the padding and content
 - **Margin** - Clears an area outside the border. The margin is transparent
- The box model allows us to add a border around elements, and to define space between elements.

CSS Box Model: Width and Height of an Element

- In order to set the width and height of an element correctly in all browsers, you need to know how the box model works.
- This <div> element will have a total width of 350px and a total height of 80px:

```
div {  
  width: 320px;  
  height: 50px;  
  padding: 10px;  
  border: 5px solid gray;  
  margin: 0;  
}
```

Calculation:

320px (width of content area)
+ 20px (left padding + right padding)
+ 10px (left border + right border)
= 350px (total width)

50px (height of content area)
+ 20px (top padding + bottom padding)
+ 10px (top border + bottom border)
= 80px (total height)

Other topics related to CSS:

- Outline
- Text
- Fonts
- Icons
- Link
- Lists
- Tables
-

Class Work

- Design the Local Business Directory using HTML and CSS where you can create a website that serves as a directory for local businesses, including information about services, locations, and reviews.
 - Decide your own features
 - Maintain responsiveness of your website

Thank you!