

Web Engineering Lab

CSS

LECTURE - 02

Recap

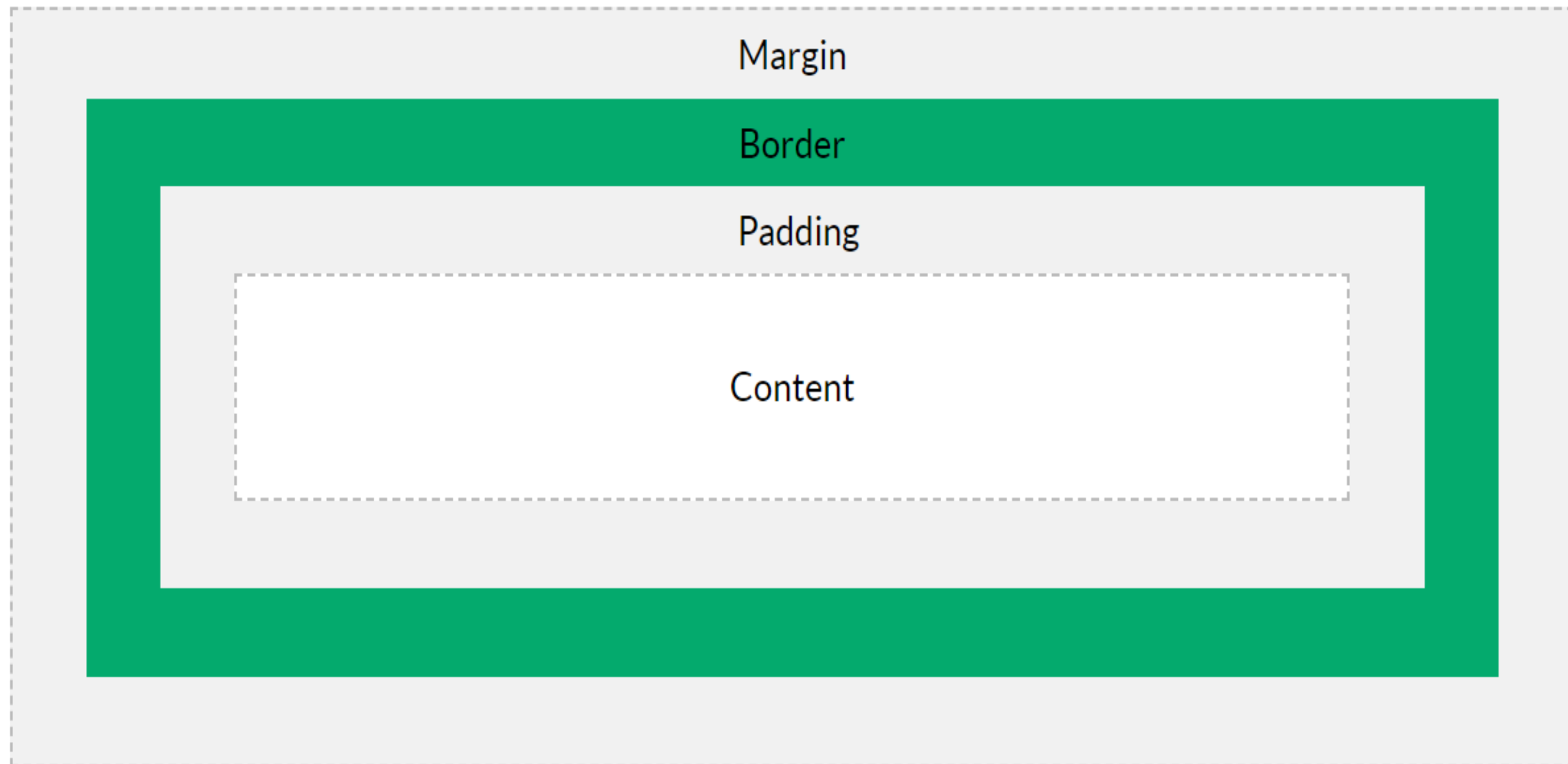
- Introduction to CSS
- How to add CSS
- CSS Syntax
- CSS Selectors
- **Homework:**
- *Class work:*

Course Contents

- CSS Box Model
- CSS Borders
- CSS Margins
- CSS Padding
- CSS Height, Width and Max-width
- CSS Outline
- CSS Text, Font, Font Family
- CSS List
- CSS Table

CSS Box Model

- In CSS, the term "**box model**" is used when talking about 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**.
- Explanation of the different parts:
- **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



CSS Borders

- The *border* property allows you to define the ***space around an element's content.***
- Borders can be customized with various ***styles, colors, and widths.***
- Basic Border Properties:
- ***border-width:*** Sets the thickness of the border.
- ***border-style:*** Defines the style of the border.
 - Style type: *solid, dashed, dotted, double, groove, ridge, inset, outset*
- ***border-color:*** Sets the color of the border.

Examples of *border styles*

- The `border-style` property specifies what kind of border to display.

```
p.dotted {border-style: dotted;}
p.dashed {border-style: dashed;}
p.solid {border-style: solid;}
p.double {border-style: double;}
p.groove {border-style: groove;}
p.ridge {border-style: ridge;}
p.inset {border-style: inset;}
p.outset {border-style: outset;}
p.none {border-style: none;}
p.hidden {border-style: hidden;}
p.mix {border-style: dotted dashed solid double;}
```

A dotted border.

A dashed border.

A solid border.

A double border.

A groove border.

A ridge border.

An inset border.

An outset border.

No border.

A hidden border.

A mixed border.

Individual Border Sides

- You can define borders for each side of an element independently.
- **border-top**
 - `border-top: 4px dashed blue;`
- **border-right**
 - `border-right: 4px dashed blue;`
- **border-bottom**
 - `border-bottom: 4px dashed blue;`
- **border-left**
 - `border-left: 4px dashed blue;`

Border Radius

- The `border-radius` property is used to create **rounded corners**.
- You can apply this property to make any element's border rounded.
- Example:

```
div {  
    border-radius: 10px;  
}
```

Normal border

Round border

Rounder border

Roudest border

How To Add Border Property

- You can use a shorthand property to define all three border properties (**width, style, and color**) at once.

- Example:

```
div {  
    border: 2px solid black;  
}
```

CSS Margins

This div element has a top margin of 100px, a right margin of 150px, a bottom margin of 100px, and a left margin of 80px.

- The CSS `margin` properties are used to create **space around elements**, outside of any defined borders.
 - With CSS, you have full control over the margins. There are properties for setting the margin for each side of an element (top, right, bottom, and left).
 - **CSS has properties for specifying the margin for each side of an element:**
 - `margin-top`
 - `margin-right`
 - `margin-bottom`
 - `margin-left`
- All the margin properties can have the following values:
- `auto` - the browser calculates the margin
 - `length` - specifies a margin in px, pt, cm, etc.
 - `%` - specifies a margin in % of the width of the containing element
 - `inherit` - specifies that the margin should be inherited from the parent element

Margin - Shorthand Property

To shorten the code, it is possible to specify all the **margin** properties in one property. The margin property is a shorthand property for the following individual margin properties:

margin-top margin-right margin-bottom margin-left

So, here is how it works:

If the **margin** property has four values:

margin: 25px 50px 75px 100px;

- top margin is 25px
- right margin is 50px
- bottom margin is 75px
- left margin is 100px

The margin shorthand property - 4 values

This div element has a top margin of 25px, a right margin of 50px, a bottom margin of 75px, and a left margin of 100px.

CSS Padding

This div element has a top padding of 50px, a right padding of 30px, a bottom padding of 50px, and a left padding of 80px.

- The CSS **padding** properties are used to generate space around an element's content, **inside of any defined borders**.
- With CSS, you have full control over the padding. There are properties for setting the padding for each side of an element (top, right, bottom, and left).
- **CSS has properties for specifying the padding for each side of an element:**
 - **padding-top**
 - **padding-right**
 - **padding-bottom**
 - **padding-left**

All the padding properties can have the following values:

- *length* - specifies a padding in px, pt, cm, etc.
- *%* - specifies a padding in % of the width of the containing element
- *inherit* - specifies that the padding should be inherited from the parent element

Padding - Shorthand Property

To shorten the code, it is possible to specify all the `padding` properties in one property. The `padding` property is a shorthand property for the following individual margin properties:

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

So, here is how it works:

If the `padding` property has four values:

`padding: 25px 50px 75px 100px;`

- top padding is 25px
- right padding is 50px
- bottom padding is 75px
- left padding is 100px

The padding shorthand property - 4 values

This div element has a top padding of 25px, a right padding of 50px, a bottom padding of 75px, and a left padding of 100px.

CSS Height, Width and Max-width

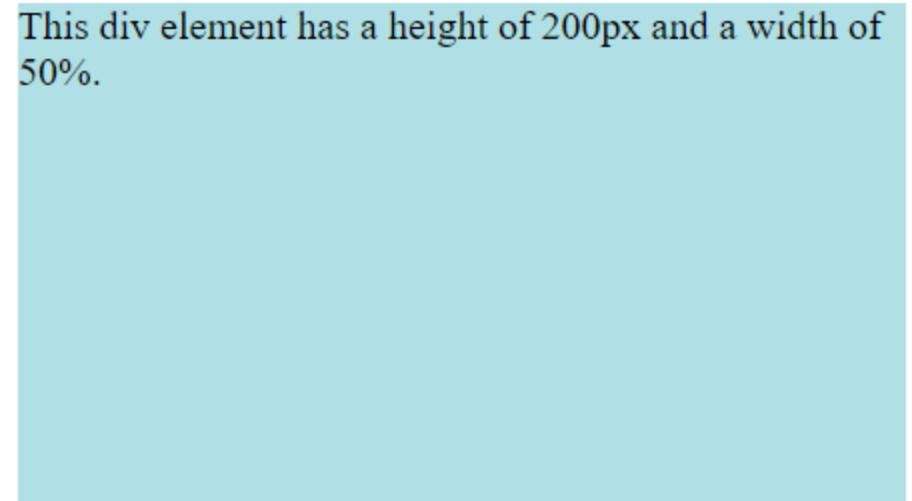
The `height` and `width` properties are used to set the **height and width of an element**.

The height and width properties **do not include padding, borders, or margins**. It sets the height/width of the area **inside the padding, border, and margin of the element**.

Example:

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

This div element has a height of 200px and a width of 50%.



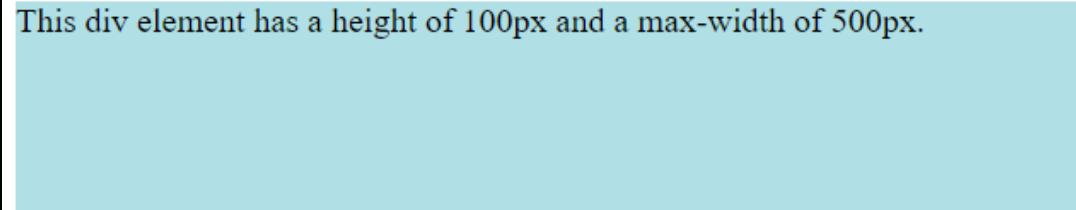
Setting max-width

The `max-width` property is used to set the maximum width of an element.

The **problem** occurs when the browser window is **smaller than the width of the element (500px)**. The browser then adds a **horizontal scrollbar** to the page. Using `max-width` instead, in this situation, will improve the browser's handling of small windows.

Example:

```
div {  
  max-width: 500px;  
  height: 100px;  
  background-color: powderblue;  
}
```



This div element has a height of 100px and a max-width of 500px.


CSS Outline

The **outline** is a line that is drawn **around an element, outside the border**.

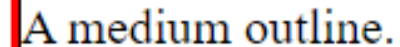
It is different from borders as it **does not affect the element's size** and is drawn over the box model **without occupying space**.

Example:


```
div {  
  border: 1px solid black;  
  outline: solid red thin;  
}
```



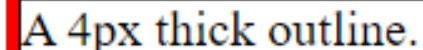
A thin outline.



A medium outline.



A thick outline.



A 4px thick outline.

CSS Text

Property	Examples
Text color	<code>color:green;</code>
Text alignment	<code>text-align:center;</code> [left, right, justify]
Text decoration	<code>text-decoration: none;</code> [underline, overline, line-through]
Text transformation	<code>text-transform:uppercase;</code> [lowercase, capitalize]
Letter spacing	<code>letter-spacing:2px;</code>
Line height	<code>line-height:1.5;</code>
Text indent	<code>text-indent:30px;</code>
Word spacing	<code>word-spacing:5px;</code>
Text shadow/ Box Shadow	<code>text-shadow: 2px 2px 2px gray;</code> [horizontal→right, vertical→down, blur-radius, color]

CSS Text Example

```
h1 {  
  color: #4CAF50;  
  text-align: center;  
  text-transform: uppercase;  
  letter-spacing: 3px;  
  font-size: 30px;  
  text-shadow: 1px 1px 2px black;  
}
```

CSS Font

Property	Examples
Font size	<code>Font-size:12px;</code>
Font weight	<code>Font-weight: bold; [normal, lighter, bolder] and Numeric: 100 to 900</code>
Font style	<code>font-style: italic; [normal, oblique]</code>
Font Family	<code>Font-family:"Arial", "Helvetica", sans-serif;</code>

CSS Font Family

Generic Font Family	Examples of Font Names
Serif	Times New Roman ,Georgia , Garamond
Sans-serif	Arial, Verdana, Helvetica
Monospace	Courier New, Lucida Console, Monaco
Cursive	<i>Brush Script MT</i> <i>Lucida Handwriting</i>
Fantasy	Copperplate Papyrus

Fonts

- Font-size
- Font-family
- Font-style
 - Font Web Safe, Fallbacks, Google Font,

CSS Font Example

```
body {  
    font-family: "Verdana", sans-serif;  
    font-size: 14px;  
    font-weight: 400;  
    font-style: normal;  
    line-height: 1.6;  
    letter-spacing: 1px;  
    word-spacing: 2px;  
}
```


CSS List

Property	Examples
Unordered List	<code>List-style-type : none; [square, disc, circle]</code>
Ordered List	<code>List-style-type : decimal; [upper-roman, lower-roman, upper-alpha, lower-alpha, none]</code>
Style Position	<code>list-style-position: inside; [outside]</code>
Style Image	<code>list-style-image: url('image.png');</code>

Padding, margin

CSS Table

```
table {  
    font-family: Arial, Helvetica, sans-serif;    border-collapse: collapse;  
width: 100%;  
  
}  
  
td, th {  
    border: 1px solid #ddd; padding: 8px;  
  
}  
  
table tr:nth-child(even){background-color: #f2f2f2;}  
  
table tr:hover {background-color: #ddd;}  
  
table th {  
    padding-top: 12px;    padding-bottom: 12px;    text-align: left;    background-  
color: #04AA6D;    color: white;  
  
}
```

Company	Contact	Country
Alfreds Futterkiste	Maria Anders	Germany
Berglunds snabbköp	Christina Berglund	Sweden
Centro comercial Moctezuma	Francisco Chang	Mexico
Ernst Handel	Roland Mendel	Austria
Island Trading	Helen Bennett	UK
Königlich Essen	Philip Cramer	Germany
Laughing Bacchus Winecellars	Yoshi Tannamuri	Canada
Magazzini Alimentari Riuniti	Giovanni Rovelli	Italy
North/South	Simon Crowther	UK
Paris spécialités	Marie Bertrand	France

Exercise

Design the website using CSS [on Homework 1].

- Add header and footer with background and text color
- add a customize List in the first page using CSS (page 1)
- Design a table in the using CSS (Page 2)
- In the third page, add a div and set background color, and box model property.

End of Lecture
THANK YOU

