

CSE417: WEB ENGINEERING

Daffodil International University

You Will Be Able To

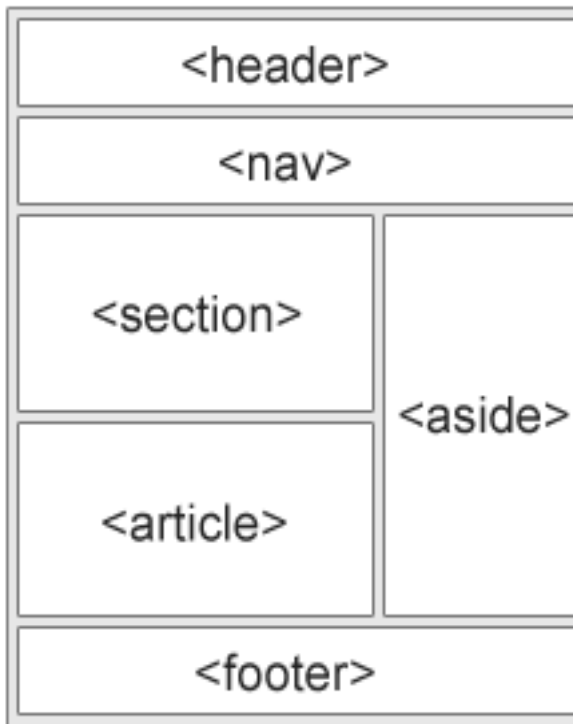
- ✓ Understand and Apply Layout
- ✓ To design your webpage efficiently

Contents

- Layout
 - HTML Layout - Using <div> tag
 - HTML Layout - Using Tables
 - CSS Box Model
 - Others

Website Layout Using HTML5

- HTML5 offers new semantic elements that define different parts of a web page:



- <header>** - Defines a header for a document or a section
- <nav>** - Defines a container for navigation links
- <section>** - Defines a section in a document
- <article>** - Defines an independent self-contained article
- <aside>** - Defines content aside from the content (like a sidebar)
- <footer>** - Defines a footer for a document or a section
- <details>** - Defines additional details
- <summary>** - Defines a heading for the **<details>** element

HTML Layouts , <div> tag

Layout

- A webpage layout is very important to give better look to your website.
- It takes considerable time to design a website's layout with great look and feel.
- you can create a good layout using simple HTML tables or division tags in combination with other formatting tags.

<div> tag

- The <div> tag defines a division or a section in an HTML document.
- The <div> tag is nothing more than a container unit
- Used to group block-elements to *format them with CSS and layout a web page*.
- By default, browsers always place a line break before and after the <div> element. However, this can be changed with CSS.

HTML <div> tag

- Probably the most common use for the <div> tag is for navigation bars
- <div> is a block-level tag (like a paragraph)
- Can contain any number of block-level tags or inline tags
 - Can group paragraphs, with lists, with tables, e.g.
- <div> tags will most often be used inside the <body> tag and inside other <div> tags
 - Can be nested
- Often <div> tags are modified using the id attribute, rather than class
 - You only have one navigation bar
 - The properties you want for a certain portion of your page are unique
- Can't place a <div> tag inside a paragraph

HTML <div> Tag

Section 1

This paragraph would be your content paragraph...

Here's another content article right here.

Section 2

This paragraph would be your content paragraph...

Here's another content article right here.

Website Layout

City Gallery

London

Paris

Tokyo

London

London is the capital city of England. It is the most populous city in the United Kingdom, with a metropolitan area of over 13 million inhabitants.

Standing on the River Thames, London has been a major settlement for two millennia, its history going back to its founding by the Romans, who named it Londinium.

Website Layout

```
<style>
#header {
    background-color:black;
    color:white;
    text-align:center;
    padding:5px;
}
#nav {
    line-height:30px;
    background-color:#eeeeee;
    height:300px;
    width:100px;
    float:left;
    padding:5px;
}
#section {
    width:350px;
    float:left;
    padding:10px;
}
#footer {
    background-color:black;
    color:white;
    clear:both;
    text-align:center;
    padding:5px;
}
</style>
```

```
</head>
<body>

<div id="header">
<h1>City Gallery</h1>
</div>

<div id="nav">
London<br>
Paris<br>
Tokyo
</div>

<div id="section">
<h2>London</h2>
<p>London is the capital city of England. It is the most populous city in the
United Kingdom,
with a metropolitan area of over 13 million inhabitants.</p>
<p>Standing on the River Thames, London has been a major settlement for two
millennia,
its history going back to its founding by the Romans, who named it Londinium.
</p>
</div>

<div id="footer">
Copyright © W3Schools.com
</div>
```

 tag

- Inline style element
- Changes the style of the text it encloses.
- Useful for modifying a specific portion of text
- But without any style attributes, the tag won't change the enclosed items at all

```
<p>This one is <span style="color:red; font-weight:bold">only a test</span>.</p>
```

```
<p>This one is another <span style="font-size:32px; font-weight:bold">TEST</span>.</p>
```

Differences between the `` and `<div>` tag

- `` doesn't do any formatting of its own.
- The `<div>` tag acts includes a paragraph break
 - because it is defining a logical division in the document.
- The `` tag simply tells the browser to apply the style rules to whatever is within the ``
- a span element is in-line whereas div (division) element is block-line
- `` is used for a small chunk of in-line HTML but `<div>` tag is used to group larger chunks of code.

HTML Layout - Using Tables

- The simplest way of creating layouts is using HTML <table> tag.
- Tables are arranged in columns and rows, can be utilized
- **BUT NOT recommend for complex layout!!!**

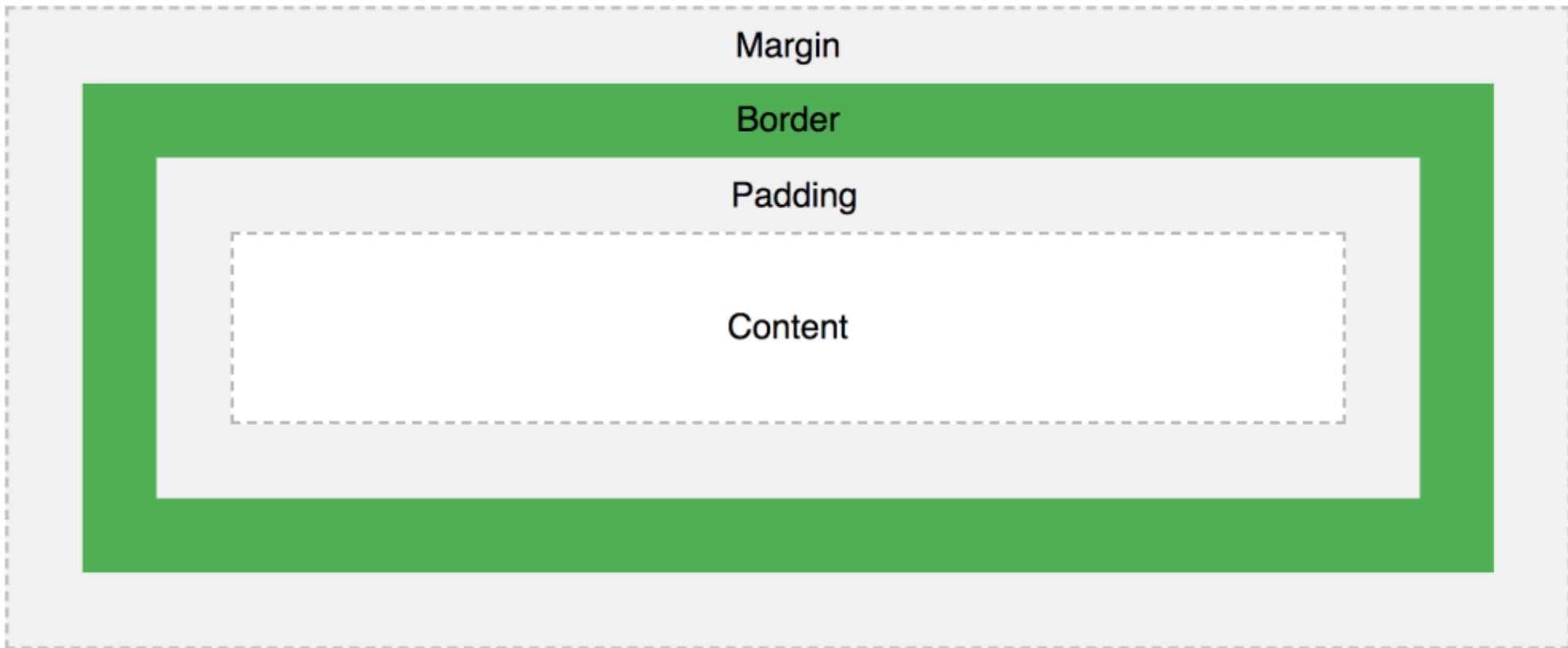
This is Web Page Main title	
Main Menu HTML PHP PERL...	Technical and Managerial Tutorials
Copyright © 2007 Tutorialspoint.com	

```
<!DOCTYPE html>
<html>
<head>
<title>HTML Layout using Tables</title>
</head>
<body>
<table width="100%" border="0">
  <tr>
    <td colspan="2" bgcolor="#b5dcb3">
      <h1>This is web Page Main title</h1>
    </td>
  </tr>
  <tr valign="top">
    <td bgcolor="#aaa" width="50">
      <b>Main Menu</b><br />
      HTML<br />
      PHP<br />
      PERL...
    </td>
    <td bgcolor="#eee" width="100" height="200">
      Technical and Managerial Tutorials
    </td>
  </tr>
  <tr>
    <td colspan="2" bgcolor="#b5dcb3">
      <center>
        Copyright © 2007 Tutorialspoint.com
      </center>
    </td>
  </tr>
</table>
</body>
</html>
```

The CSS Box Model

- All HTML elements can be considered as boxes. 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: margins, borders, padding, and the actual content.
- 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

The CSS Box Model



More CSS properties

- CSS Border Properties

- The CSS border properties allow you to specify the style, width, and color of an element's border.

```
p {border-style: solid;}
```

- CSS Margins

- 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).

```
p {  
    margin-top: 100px;  
    margin-bottom: 100px;  
    margin-right: 150px;  
    margin-left: 80px;  
}
```

//shorthand:

```
margin: 25px 50px 75px 100px; //clockwise: top right bottom left
```


More CSS properties

- CSS Padding

- Gspace around an element's content, inside of any defined borders.
- There are properties for setting the padding for each side of an element (top, right, bottom, and left)

```
div {  
    padding-top: 50px;  
    padding-right: 30px;  
    padding-bottom: 50px;  
    padding-left: 80px;  
}
```

//is there a shorthand to this?

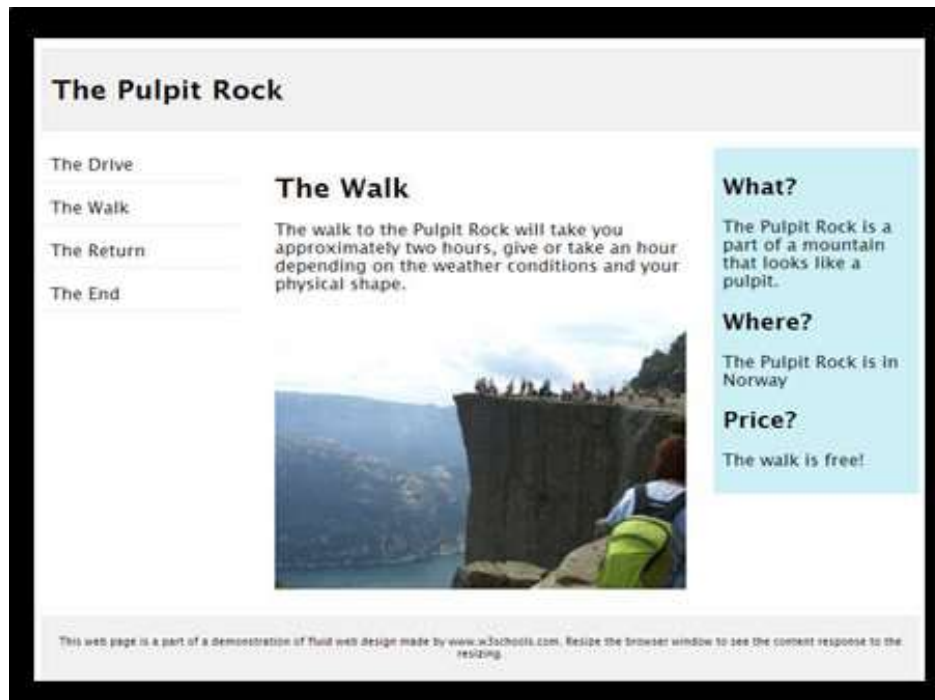
- CSS Setting height and width

- set the height and width of an element.
- dnot include padding, borders, or margins. It sets the height/width of the area inside the padding, border, and margin of the element.'

```
div{  
    height: 200px;  
    width: 50%;  
}
```

Responsive Web Design

- Responsive Web Design makes your web page look good on all devices (desktops, tablets, and phones).
- Responsive Web Design is about using CSS and HTML to resize, hide, shrink, enlarge, or move the content to make it look good on any screen:



Exercise

- One example of each
 - Simple left-nav bar
 - top and side nav bars
 - Inline block
 - Overflow
 - Dropdown
- **READINGS/Practice**
 - M Schafer: Ch. 12-18
 - <https://www.w3schools.com/css>
 - https://www.w3schools.com/css/css_boxmodel.asp
 - https://www.w3schools.com/css/css_website_layout.asp

Acknowledgement

- This module is designed and created with the help from following sources-
 - <https://cgi.csc.liv.ac.uk/~ullrich/COMP519/>
 - <http://www.csc.liv.ac.uk/~martin/teaching/comp519/>
 - Anup Majumder, Jahangirnagar University