

# Web Fundamentals Introduction

## Hypertext Markup Language Cascading Style Sheets



**Au Mau Duong**  
Technical Trainers



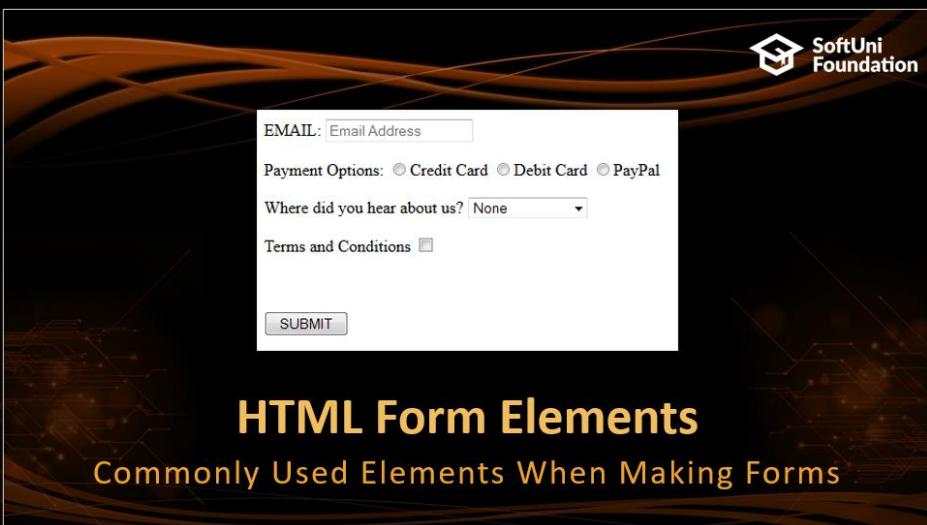
# Table of Contents



The slide features a large blue circular icon containing the HTML5 logo (a stylized orange '5' inside a red square) centered against a dark background with glowing orange circuit board patterns. In the top right corner is the SoftUni Foundation logo. Below the icon, the title "HTML Basics" is displayed in a bold, sans-serif font. Underneath the title, the subtitle "What is HTML? Common tags in HTML" is shown in a smaller, regular font.



This slide has a similar aesthetic with the same background and logo placement. It displays a collection of common HTML tags arranged in a circular, overlapping pattern: <h1>, <div>, <span>, <button>, <img>, <input>, <ul>, <li>, <a>, <strong>, <script>, and <section>. Below this, the title "Common Tags in HTML" is followed by the subtitle "Widely Used Tags in Most Websites".



The slide shows a screenshot of a web form with fields for "EMAIL" (with placeholder "Email Address"), "Payment Options" (radio buttons for Credit Card, Debit Card, and PayPal), "Where did you hear about us?" (dropdown menu with "None" selected), and "Terms and Conditions" (checkbox). A "SUBMIT" button is at the bottom. The title "HTML Form Elements" is at the bottom left, and the subtitle "Commonly Used Elements When Making Forms" is at the bottom center.



This slide features a large blue circular icon with the CSS logo (the letters 'CS' in white) centered against the familiar background. The title "CSS (Cascading Style Sheets)" is at the top, and the subtitle "Add Style to Your Website" is at the bottom.



# HTML Basics

What is HTML? Common tags in HTML

# What is HTML?

- HTML – HyperText Markup Language
  - A notation for describing
    - document structure (semantic markup)
    - formatting (presentation markup)
- The markup tags provide meta-information about the page content and define its structure
- A HTML document consists of many tags (with nesting)



# HTML Terminology

- Tags – the smallest piece in HTML
- Attributes – properties of the tag, e.g. size, color, etc...
- Elements – combination of opening, closing tag and attributes

Opening tag

Attribute: **key = "value"**

```
<a href="/home">
```

Navigate to

```
<b>home page</b>
```

```
</a>
```

Element

Closing tag

# Your First HTML Page – Example

```
<!DOCTYPE html>
```

Defines this  
document to be  
HTML5

# Your First HTML Page – Example

```
<!DOCTYPE html>
```

```
<html>
```

The root element of  
an HTML page

```
</html>
```

Note: Almost every  
HTML tag must be closed

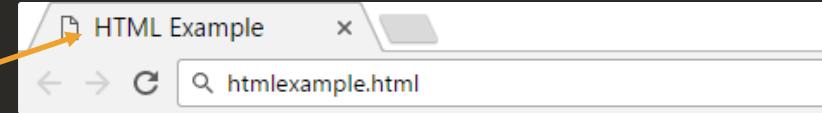
# Your First HTML Page – Example

```
<!DOCTYPE html>
<html>
  <head>
    </head>
  </html>
```

Contains meta information about the document

# Your First HTML Page – Example

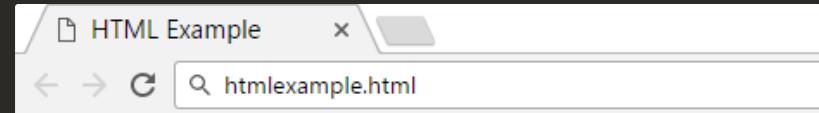
```
<!DOCTYPE html>
<html>
  <head>
    <title>HTML Example</title>
  </head>
</html>
```



Specifies a title for the document

# Your First HTML Page – Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>HTML Example</title>
  </head>
  <body>
    Contains the visible
    page content
  </body>
</html>
```



# Your First HTML Page – Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>HTML Example</title>
  </head>
  <body>
    <h1>Hello HTML!</h1>
  </body>
</html>
```



Defines a large heading

# Your First HTML Page – Example

```
<!DOCTYPE html>
<html>
  <head>
    <title>HTML Example</title>
  </head>
  <body>
    <h1>Hello HTML!</h1>
    <p>HTML describes formatted text using tags.</p>
  </body>
</html>
```

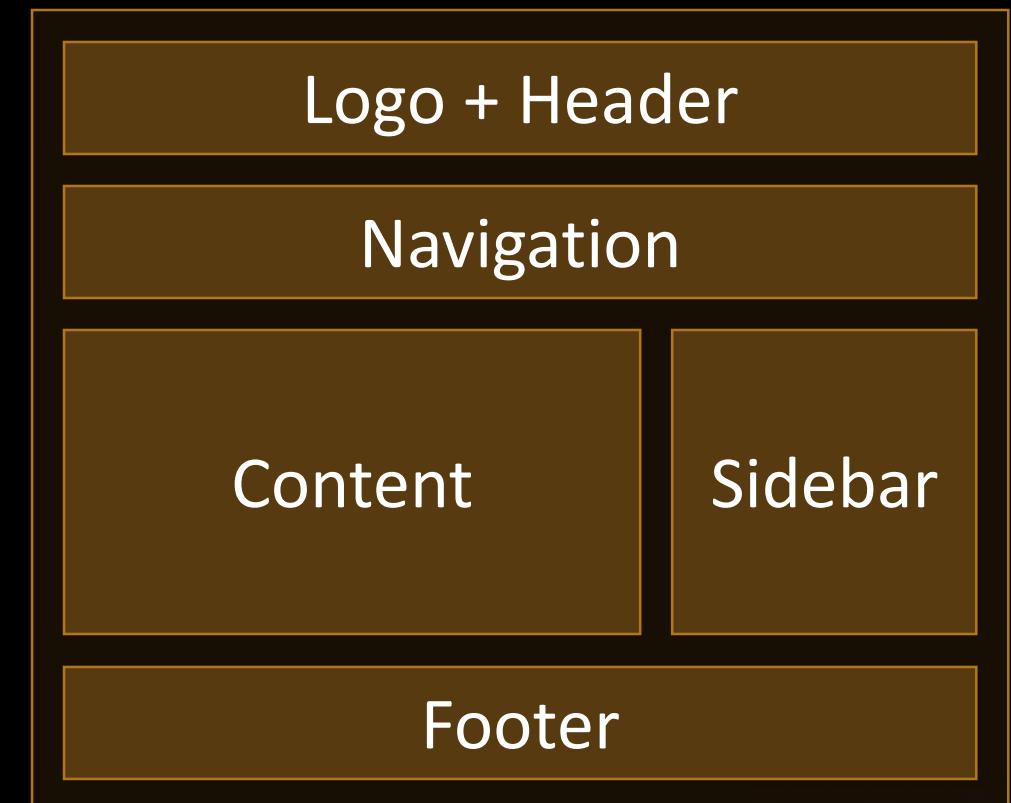


Defines a paragraph

# Using HTML5 To Create a Structure

- In HTML5 there are semantic tags for layout
  - **<header>, <footer>, <nav>, <aside>, <section>**

```
<html>
  <head> ... </head>
  <body>
    <header> ... </header>
    <nav> ... </nav>
    <aside> ... </aside>
    <section> ... </section>
    <footer> ... </footer>
  </body>
</html>
```

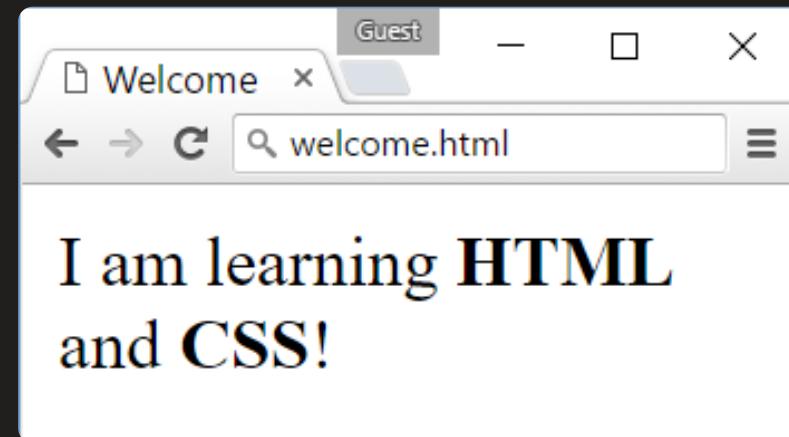


# Problem: Welcome to HTML

- Create your first Web page:
  - File name: **welcome.html**
  - Title: **Welcome**
  - Paragraph of text: **I am learning HTML and CSS!**
- Hint:
  - You can use as a basis the html structure from the previous slides
  - For bolder text use the **<strong>** tag

# Problem: Welcome to HTML - Solution

```
welcome.html  
  
<!DOCTYPE html>  
<html>  
<head>  
  <title>Welcome</title>  
</head>  
<body>  
  <p>I am learning <strong>HTML</strong> and  
<strong>CSS</strong>!</p>  
</body>  
</html>
```





`<h1>`  
`<div>`  
`<span>`  
`<button>`  
`<img>`  
`<input>`  
`<script>`  
`<section>`  
`<ul>`  
`<li>`  
`<a>`  
`<strong>`

# Common Tags in HTML

Widely Used Tags in Most Websites

# Headings

- Headings:

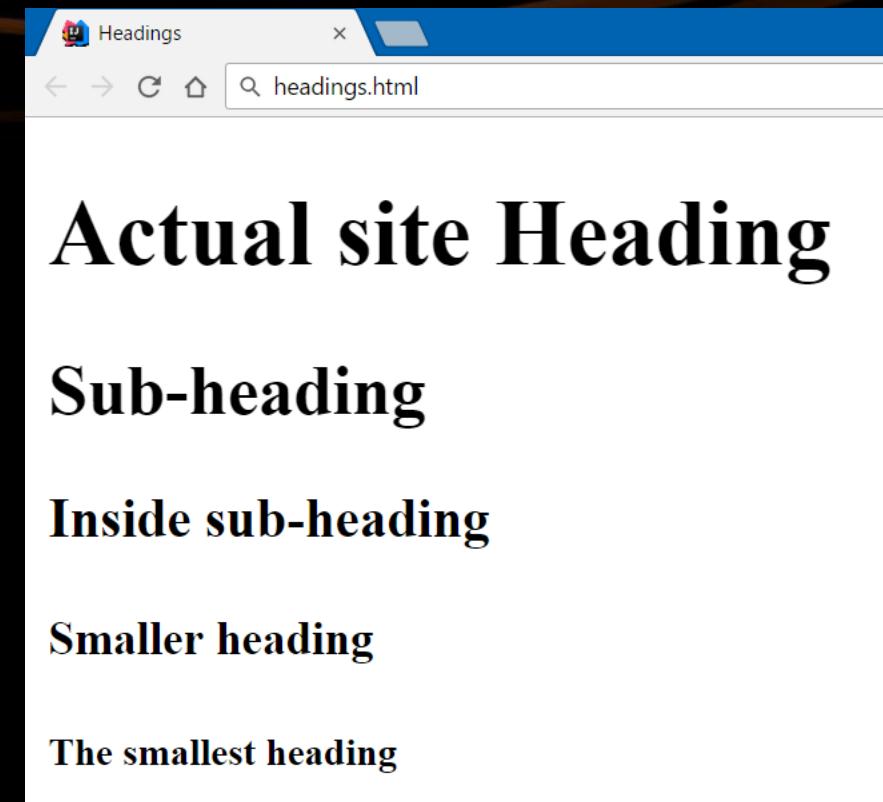
```
<h1>First Heading (Biggest)</h1>
<h2>Second Heading (Smaller)</h2>
<h3>Third Heading (Even Smaller)</h3>
<h4>Fourth Heading (Smallest)</h4>
```

First Heading (Biggest)  
Second Heading (Smaller)  
Third Heading (Even Smaller)  
Fourth Heading (Smallest)

- Headings help with page structure, as in Microsoft Word
- Html has six different HTML headings
  - **<h1>** defines the most important heading.
  - **<h6>** defines the least important heading.

# Problem: Headings

- Create a Web page with five headings:
  - Heading for the whole page **<h1>**
  - Four smaller headings **<h2>** to **<h5>**
- Hint:
  - Use **<h1>** to **<h5>** tags



# Problem: Headings - Solution

headings.html

```
<!DOCTYPE html>
<html>
<head>
  <title>Headings</title>
</head>
<body>
  <h1>Actual site Heading</h1>
  <h2>Sub-heading</h2>
  <h3>Inside sub-heading</h3>
  <h4>Smaller heading</h4>
  <h5>The smallest heading</h5>
</body>
</html>
```

# Paragraphs

- Paragraphs:

```
<p>First paragraph</p>
<p>Second paragraph</p>
<br/> <!-- empty line -->
<p>Third paragraph</p>
```

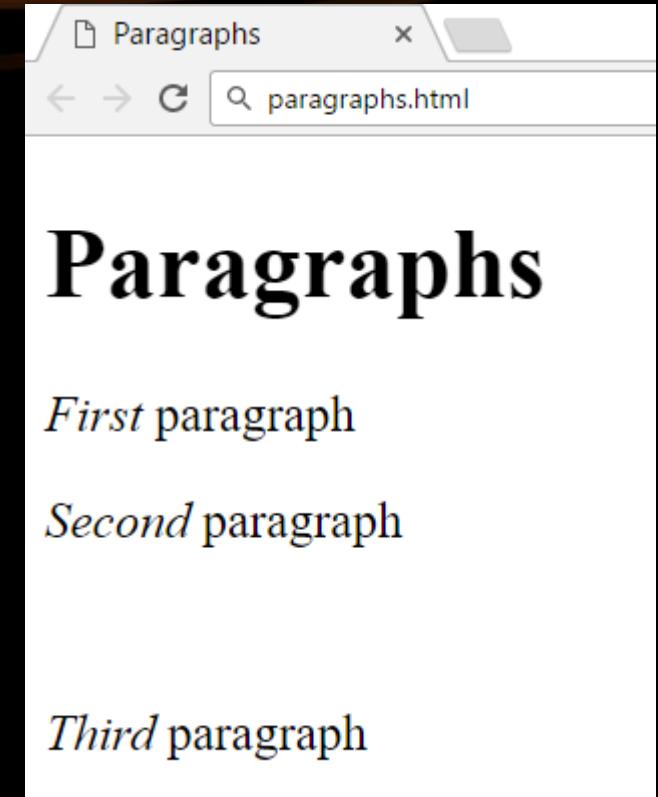
Comment

First paragraph  
Second paragraph  
Third paragraph

- The **<p>** tag defines a paragraph
- The **<br/>** tag defines a line break

# Problem: Paragraphs

- Create a Web page with three paragraphs and a blank line:
  - Heading for the whole page **<h1>**
  - Three paragraphs **<p>**
  - Blank line **<br/>**
- Hint:
  - Use **<em>** tag for emphasizing text (italic font)



# Problem: Paragraphs - Solution

headings.html

```
<!DOCTYPE html>
<html>
<head>
  <title>Paragraphs</title>
</head>
<body>
  <h1>Paragraphs</h1>
  <p><em>First</em> paragraph</p>
  <p><em>Second</em> paragraph</p>
  <br/>
  <p><em>Third</em> paragraph</p>
</body>
</html>
```

# Bullets and Numbered Lists

```
<ul>
  <li>First item</li>
  <li>Second item</li>
  <li>Third item</li>
</ul>
```

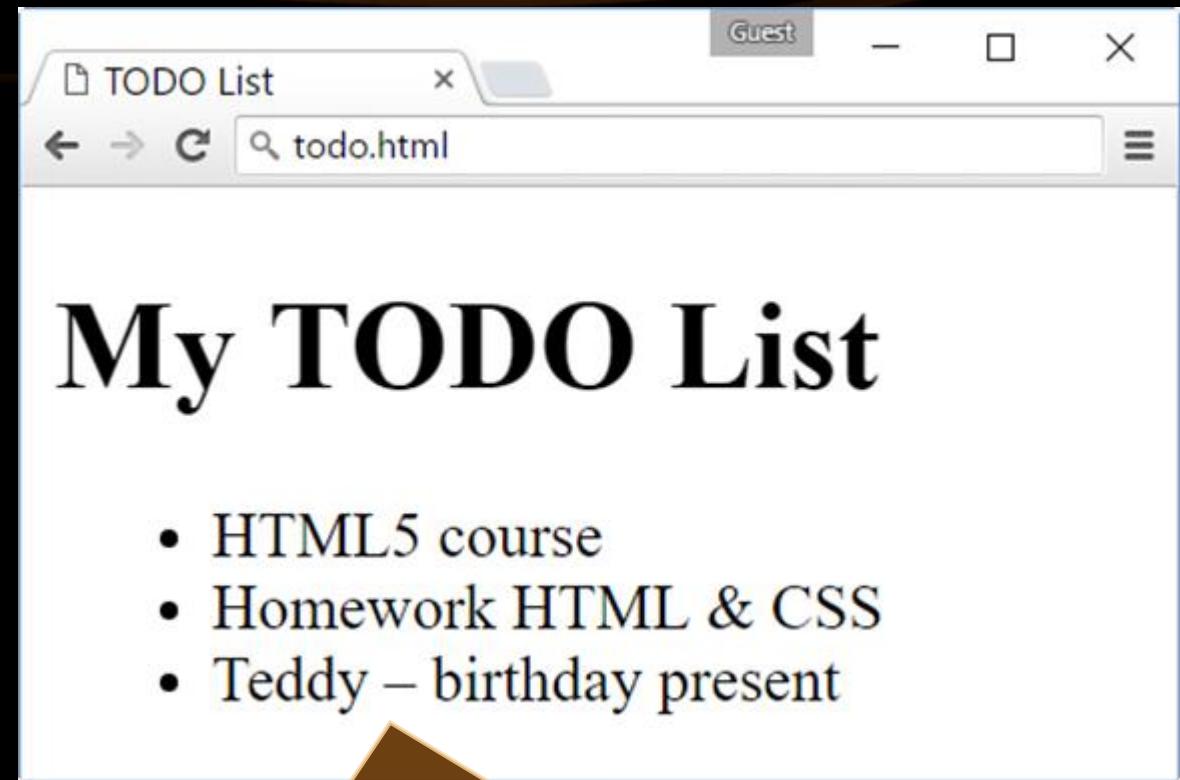
- First item
- Second item
- Third item

```
<ol>
  <li>One</li>
  <li>Two</li>
  <li>Three</li>
</ol>
```

1. One
2. Two
3. Three

# Problem: My TODO List

- Create a Web page:
  - File name: **todo.html**
  - Title: **TODO List**
  - Large heading: **My TODO List**
  - List of items:
    - **HTML5 course**
    - **Homework HTML & CSS**
    - **Teddy – birthday present**



Hint: use **&ndash;** to display the long hyphen –

# Problem: My TODO List - Solution

todo.html

```
<!DOCTYPE html>
<html>
<head>
  <title>TODO List</title>
</head>
<body>
  <h1>My TODO List</h1>
  <ul>
    <li>HTML5 course</li>
    <li><!-- TODO: Write the rest of the TODO List--></li>
  </ul>
</body>
</html>
```

# Hyperlinks

- Created by using the `<a>` tag

```
<a></a>
```

- The actual address is specified in the `href=""` attribute

```
href="https://www.w3schools.com/"
```

- External hyperlink

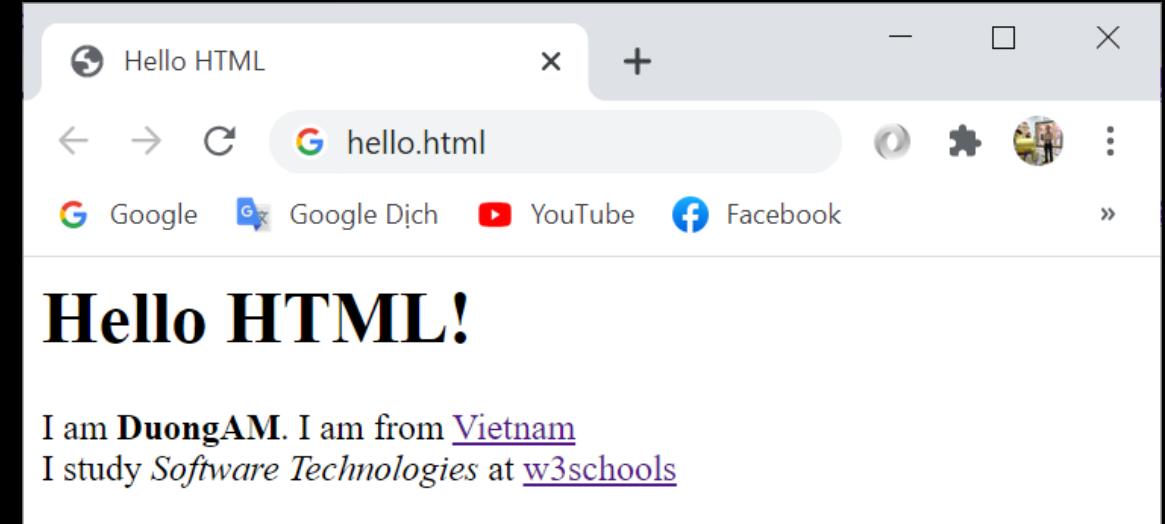
```
<a href="https://www.w3schools.com/">w3schools</a>
```

# Problem: Hello HTML

- Create a Web page:

- File name: **hello.html**
- Title: Hello HTML
- Large heading: Hello HTML!
- Paragraph of text:

I am *<your name (bold)>*. I am  
from *<your town as link to your town's Web site>*.



- Paragraph of text:

I study *<specialty (italic)>* at *<link to w3schools>*.

# Local Hyperlinks

- Local hyperlink – link to the same web site

```
<a href="welcome.html">Review "welcome.html"</a>
```



- Local links can point to the same page

```
<h1 id="top">Heading</h1>
...
Go to <a href="#top" target="_self">top</a>
```

A diagram illustrating a local link pointing to the top of the same page. On the right, there is a white rectangular box containing text. At the top, it says 'Heading'. In the middle, there is some placeholder text: "'Lorem ipsum dolor sit amet, ... deserunt mollit anim id est laborum.'". At the bottom, there is a link 'Go to top'. A large, stylized orange arrow originates from the word 'top' at the bottom and curves upwards towards the 'Heading' text at the top of the box.

# Problem: Website

- Create a three page Web site:

- Create page:

- **home.html**

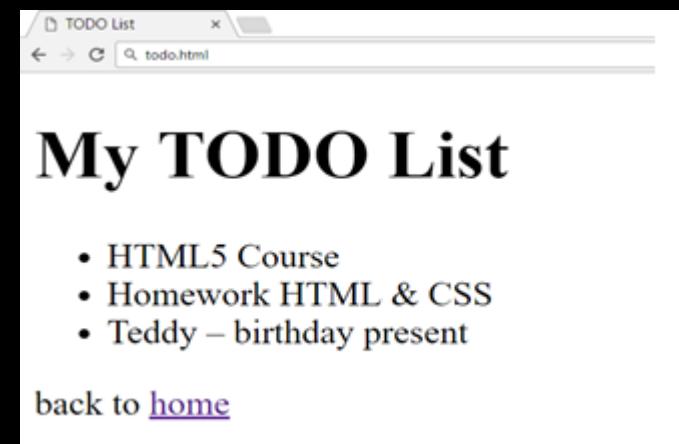
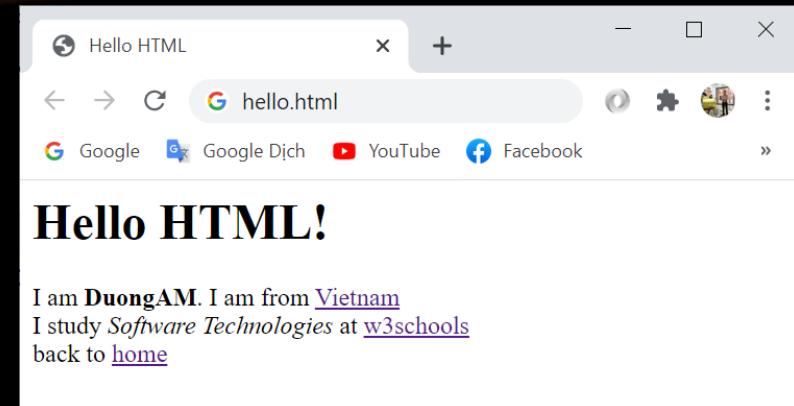
- Link it with both:

- **hello.html**

- **todo.html**

- In both files create:

- link "back to home"



# Images

- Images are external files, inserted through the `<img>` tag

```


# Images

- Images are external files, inserted through the `<img>` tag

```


Alternative text  
(displayed if the image  
fails to load)

# Images

- Images are external files, inserted through the `<img>` tag

```

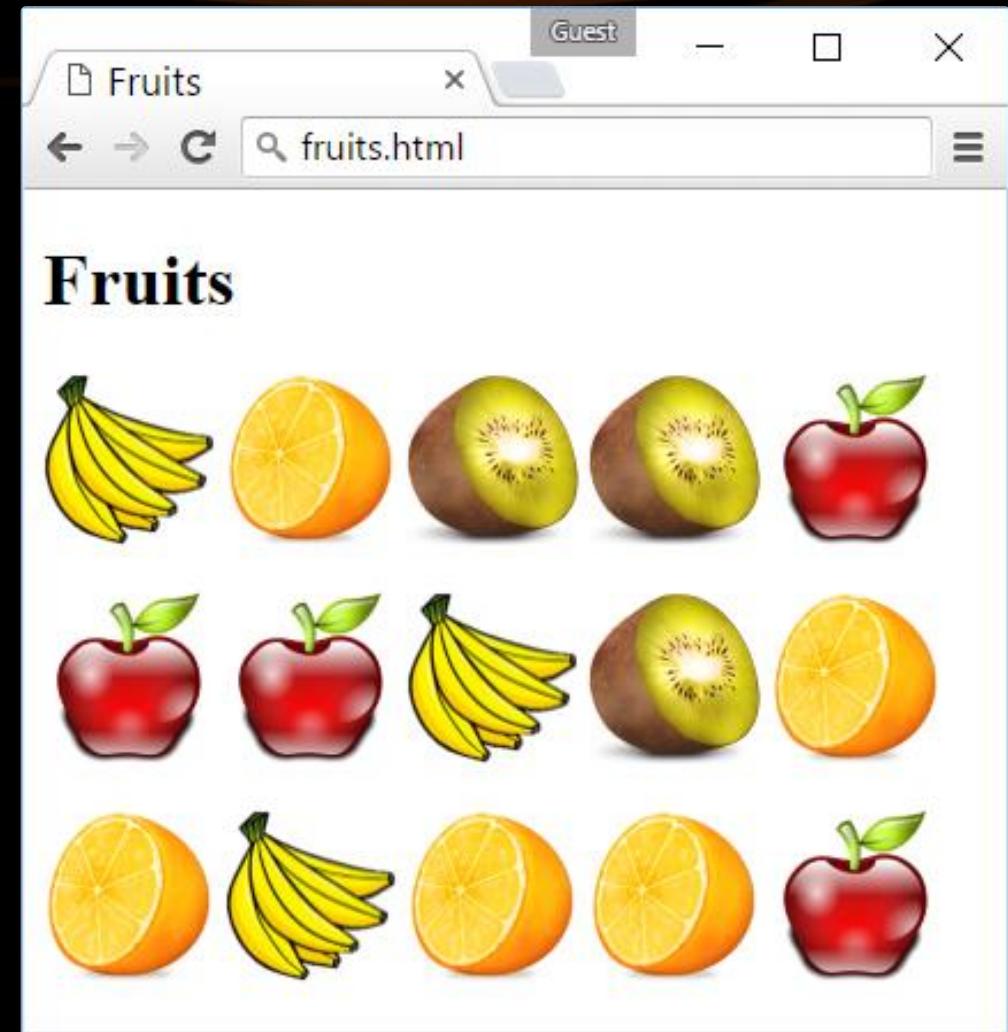
```



Image Dimensions  
(Measured in Pixels)

# Problem: Fruits

- You are given 4 image files:
  - **apple.png**
  - **banana.png**
  - **kiwi.png**
  - **orange.png**
- Create a Web page like the screenshot on the right
- Hint: use 3 paragraphs, each holding 5 images



# Tables

<table>

Tables are defined with  
the <table> tag

</table>

# Tables

```
<table>
```

```
  <tr>
```

Defines a table row

```
  </tr>
```

```
</table>
```

# Tables

```
<table>
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
    <th>Age</th>
  </tr>
  <tr>
    <td>Kajsa</td>
    <td>Lundström</td>
    <td>22</td>
  </tr>
</table>
```

Defines a table header

Firstname	Lastname	Age
-----------	----------	-----

# Tables

```
<table>
  <tr>
    <th>Firstname</th>
    <th>Lastname</th>
    <th>Age</th>
  </tr>
  <tr>
    <td>Jill</td>
    <td>Smith</td>
    <td>50</td>
  </tr>
</table>
```

Defines a table cell

Firstname	Lastname	Age
Jill	Smith	50

# Table Attributes (1)

```
<table border="1">
  <tr>
    <th>Month</th>
    <th>Savings</th>
  </tr>
  <tr>
    <td>January</td>
    <td>$100</td>
  </tr>
  <tr>
    <td>February</td>
    <td>$80</td>
  </tr>
</table>
```

Defines whether the table border should be visible

Month	Savings
January	\$100
February	\$80

# Table Attributes (2)

<h2>Cell that spans two columns:</h2>

<table>

<tr>

<th>Name</th>

<th colspan="2">Telephone</th>

</tr>

<tr>

<td>Bill Gates</td>

<td>55577854</td>

<td>55577855</td>

</tr>

</table>

Defines how many columns  
the cell will span

Cell that spans two columns:

Name	Telephone	
Bill Gates	55577854	55577855

# Table Attributes (3)

```
<table>
  <tr>
    <th>Name:</th>
    <td>Bill Gates</td>
  </tr>
  <tr>
    <th rowspan="2">Telephone:</th>
    <td>55577854</td>
  </tr>
  <tr>
    <td>55577855</td>
  </tr>
</table>
```

Name:	Bill Gates
Telephone:	55577854
	55577855

Defines how many rows  
the cell will span

# Problem: Receipt

- Create a Web page like in the screenshot:
  - File name: **receipt.html**
  - Title: DuongAM Store
- Hints:
  - Use the **colspan** attribute for the last rows
  - Use **&copy;** for the copyright sign on the last row



A screenshot of a web browser window titled "receipt.html". The window shows a table with data representing a receipt. The table has four columns: Name / Description, Qty., Price, and Cost. It includes rows for Paperclips and Staples (box), a subtotal row, a tax row, and a grand total row. The last row contains a copyright symbol (©).

Name / Description	Qty.	Price	Cost
Paperclips	1000	0.01	10.00
Staples (box)	100	1.00	100.00
<b>Subtotal</b>			\$110.00
<b>Tax</b>			8%
<b>Grand Total</b>			\$118.80
©			

# Problem: Receipt – Solution (1)

receipt.html

```
<!DOCTYPE html>
<html>
<head>
  <title>TODO List</title>
</head>
<body>
  <table border="1">
    <tr>
      <th>Name / Description</th>
      <th>Qty.</th>
      <th>Price</th>
      <th>Cost</th>
    </tr> <!-- Code continues on next slide -->
```

# Problem: Receipt – Solution (2)

```
...
<tr>
    <!-- TODO: Write the first two rows of the receipt -->
</tr>
<tr>
    <th colspan="3">Subtotal</th>
    <td>$110.00</td>
</tr>
<!-- TODO: Write the Tax and Grand Total rows -->
<tr>
    <td colspan="4"><em>&copy; 2017 – DuongAM Store</em></td>
</tr>
</table>
</body>
</html>
```

EMAIL:

Payment Options:  Credit Card  Debit Card  PayPal

Where did you hear about us?

Terms and Conditions

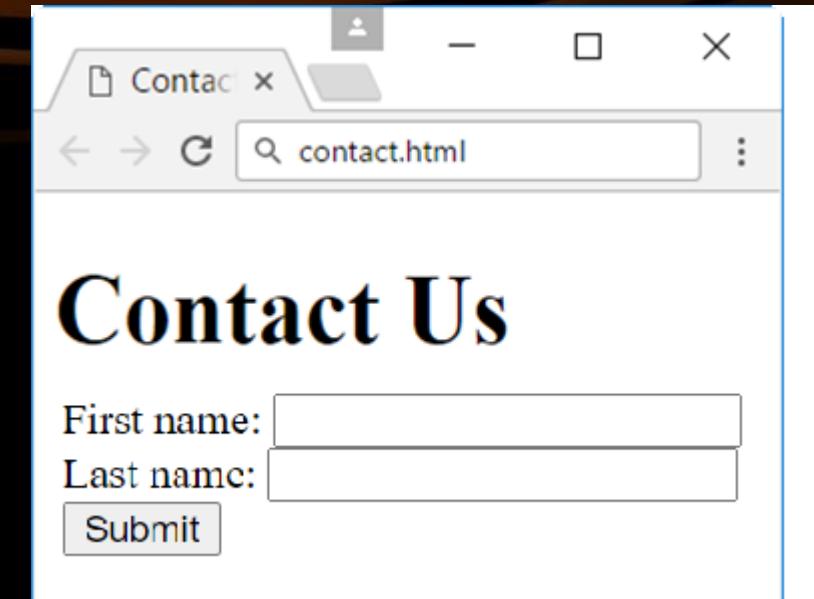
# HTML Form Elements

Commonly Used Elements When Making Forms

# HTML Forms

- HTML forms allow user to fill data and send it to the server
  - Input fields can hold text, number, date, radio button, checkbox, ...
- Creating a contact form:

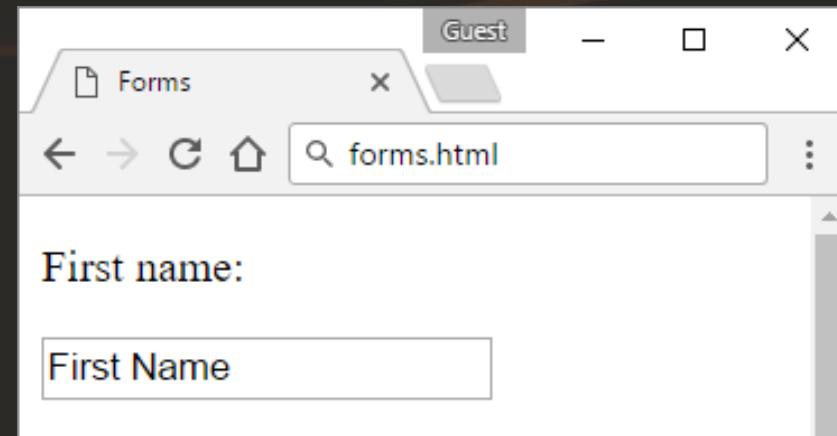
```
<form>
    First name: <input type="text" name="firstname"><br>
    Last name: <input type="text" name="lastname"><br>
    <input type="submit" value="Submit">
</form>
```



# HTML Input Types (1)

```
<form>  
  <p>First name:</p>  
  <input type="text"  
        value="First Name" />
```

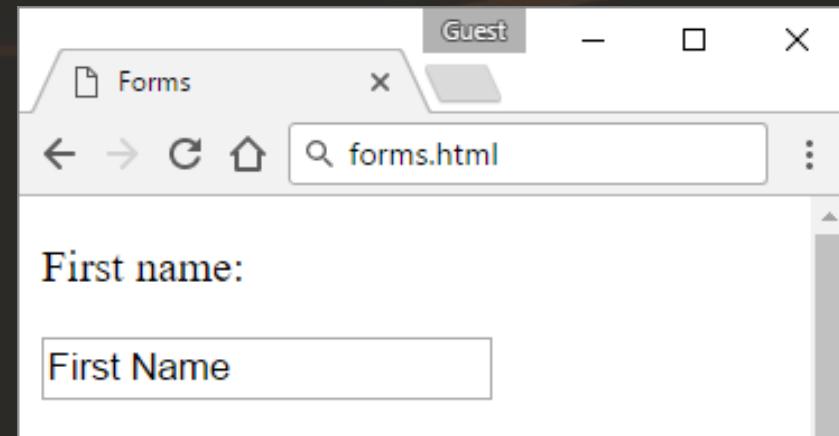
Defines a text input field



# HTML Input Types (1)

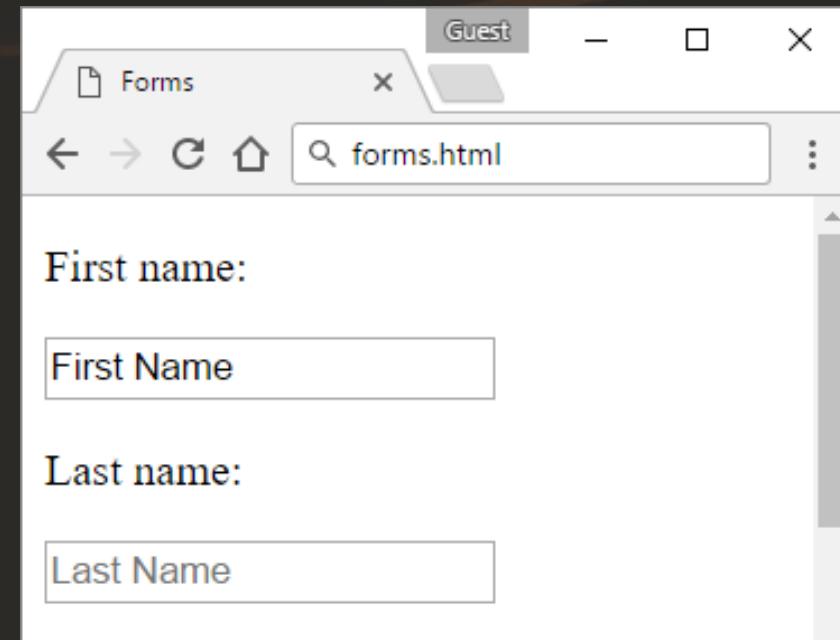
```
<form>  
  <p>First name:</p>  
  <input type="text"  
        value="First Name" />
```

Default text  
displayed in the  
input field



# HTML Input Types (1)

```
<form>
  <p>First name:</p>
  <input type="text"
    value="First Name" />
  <p>Last name:</p>
  <input type="text"
    placeholder="Last Name" />
```

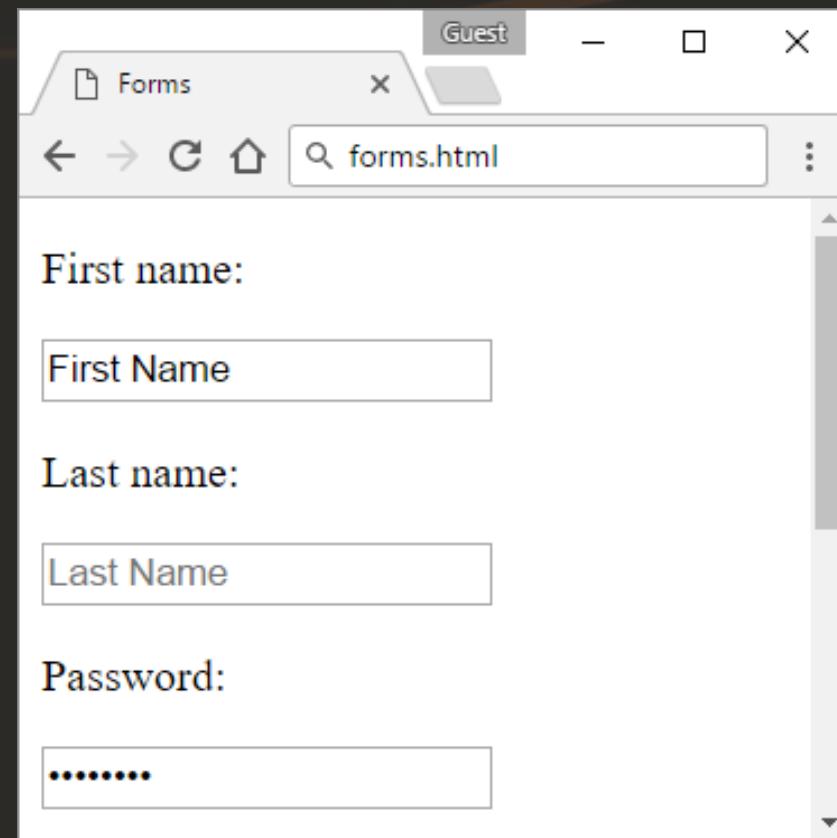


Placeholder text which gets removed upon user input

# HTML Input Types (1)

```
<form>
  <p>First name:</p>
  <input type="text"
        value="First Name" />
  <p>Last name:</p>
  <input type="text"
        placeholder="Last Name" />
  <p>Password:</p>
  <input type="password"
        placeholder="Password" />
  <!-- Code continues on next slide -->
  . . .

```



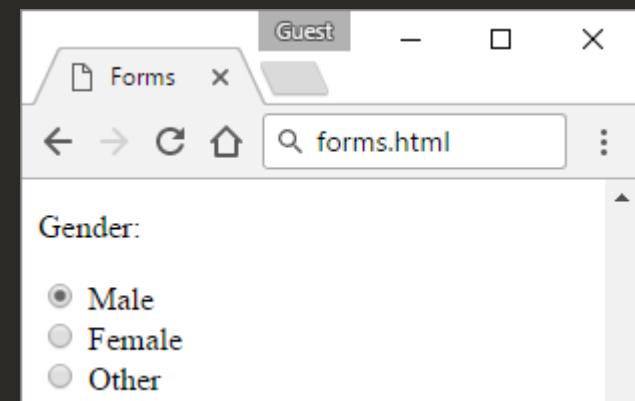
# HTML Input Types (2)

```
• • •  
<p>Gender:</p>  
<input type="radio" name="gender"/>Male<br/>  
<input type="radio" name="gender"/>Female<br/>  
<input type="radio" name="gender"/>Other<br/>
```

Defines a radio button

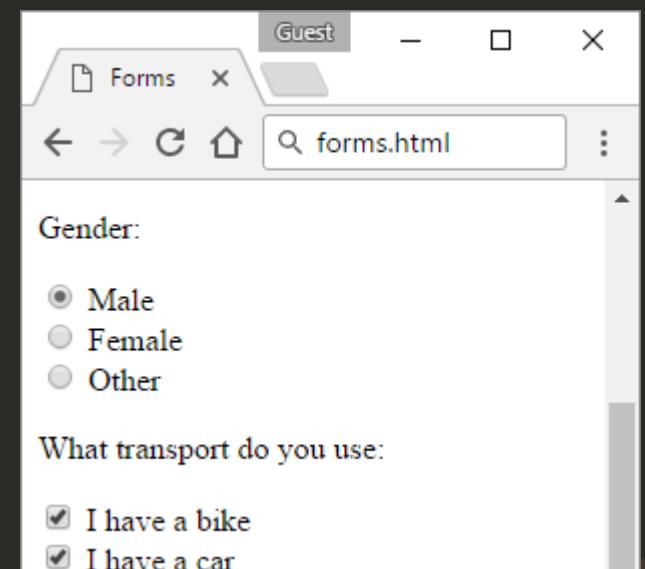
NOTE: All radio buttons of a group  
MUST share the same name

```
</form>
```



# HTML Input Types (2)

```
• • •  
<p>Gender:</p>  
<input type="radio" name="gender"/>Male<br/>  
<input type="radio" name="gender"/>Female<br/>  
<input type="radio" name="gender"/>Other<br/>  
<p>What transport do you use:</p>  
<input type="checkbox"/> I have a bike  
<br/>  
<input type="checkbox"/> I have a car  
</form>
```



# HTML Input Types (2)

```
• • •  
<p>Gender:</p>  
<input type="radio" name="gender"/>Male<br/>  
<input type="radio" name="gender"/>Female<br/>  
<input type="radio" name="gender"/>Other<br/>  
<p>What transport do you use:</p>  
<input type="checkbox"/> I have a bike
```

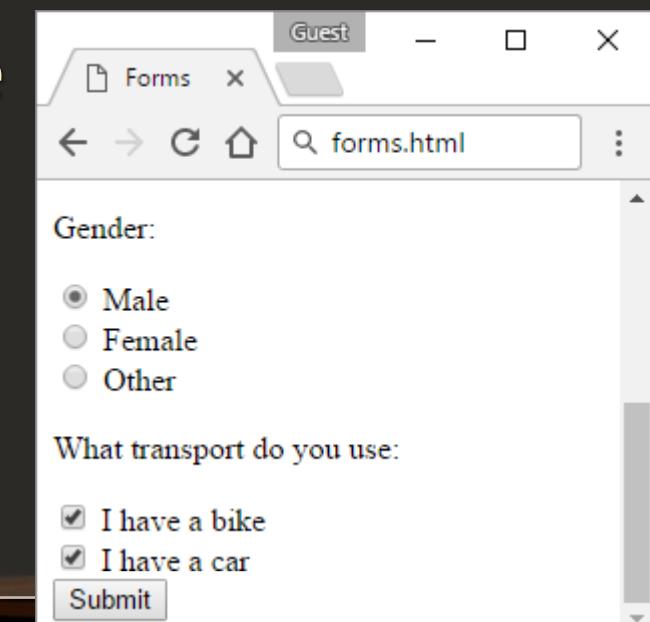
Defines a submit button

<br/>

<input type="submit" value="Submit"/>

</form>

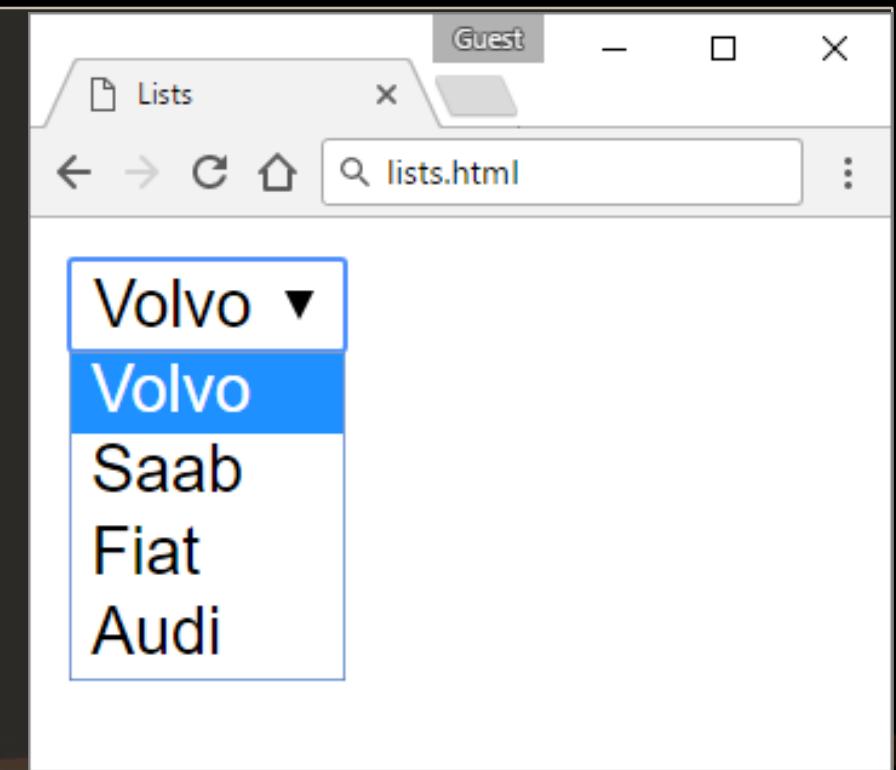
Text displayed inside the button



# Dropdown Lists

- Dropdown lists are defined by the `<select>` tag
- `<option>` elements define options that can be selected

```
<form>
  <select>
    <option>Volvo</option>
    <option>Saab</option>
    <option>Fiat</option>
    <option>Audi</option>
  </select>
</form>
```



# Text Areas

- Text areas (multi-line input fields) are defined by the `<textarea>` tag
- The **row** and **col** attributes define how many **rows** and **columns** the text area will span

```
<form>
  <textarea rows="10" cols="30">
    The cat was playing in the garden.
  </textarea>
</form>
```



The user can drag the bottom-right corner to resize the text area



# CSS (Cascading Style Sheets)

Add Style to Your Website

# What is CSS?

- CSS defines the **styling** of the HTML elements
  - CSS specifies fonts, colors, margins, sizes, positioning, floating, ...
  - Uses CSS declarations in format: **property:value**
- **Inline CSS** defines formatting rules for certain HTML element:

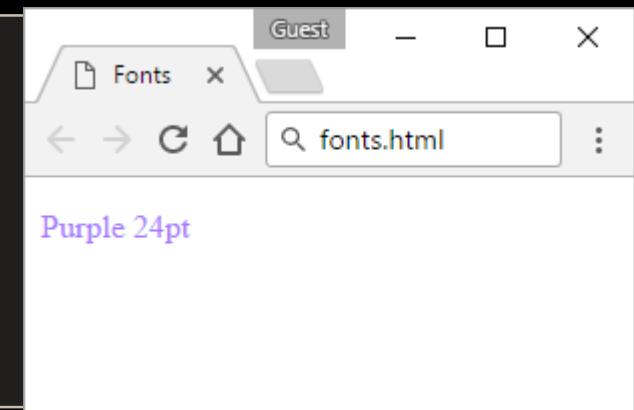
```
<p style="color: red;">I am a RED text paragraph</p>
```



# Fonts – Font Family, Size and Colors

- **color:** specifies the color of the letters

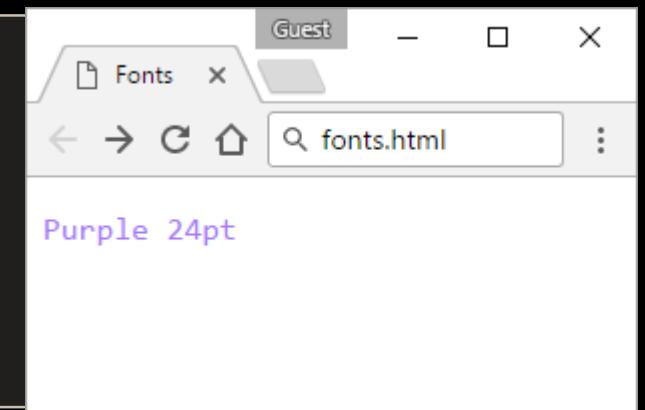
```
<p style="color: #AA77FF;  
          ">Purple 24pt</p>
```



# Fonts – Font Family, Size and Colors

- **color**: specifies the color of the letters
- **font-family**: should hold several fonts. If the browser does not support the first one, it tries the next, and so on

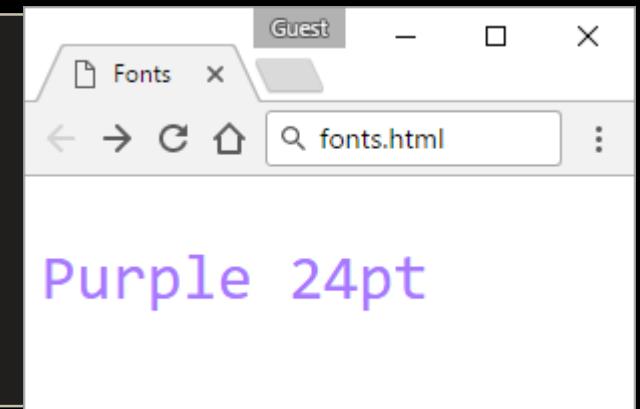
```
<p style="color: #AA77FF;  
font-family: Consolas, monospace;  
">Purple 24pt</p>
```



# Fonts – Font Family, Size and Colors

- **color**: specifies the color of the letters
- **font-family**: should hold several fonts. If the browser does not support the first one, it tries the next, and so on
- **font-size**: sets the size

```
<p style="color: #AA77FF;  
font-family: Consolas, monospace;  
font-size: 24pt;">Purple 24pt</p>
```

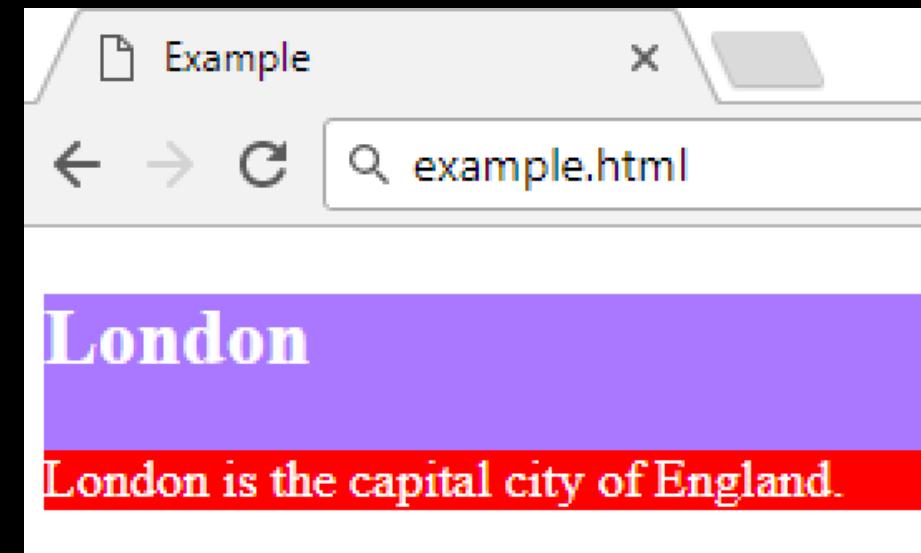


# Block-level Elements

- Block-level (`<div>`; `<h1>`; `<p>`) elements:
  - Always start on a new line
  - Take up the whole width available
- The `<div>` element:
  - is often used as a container for other HTML elements

# The <div> Element - Example

```
<div style="background-
color:#AA77FF;color:white;">
    <h2>London</h2>
    <div style="background-
color:red;color:white;">
        <p>London is the capital
city of England.<p>
    </div>
</div>
```

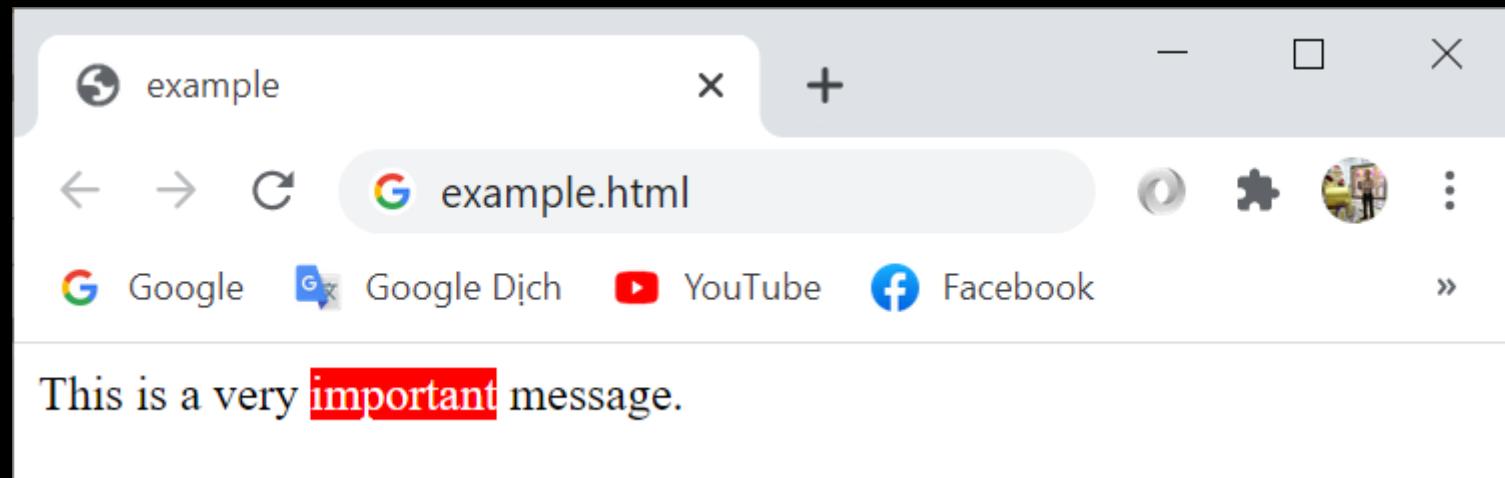


# Inline Elements

- Inline (**<span>**; **<a>**; **<img>**) elements:
  - do not start on a new line
  - only take up as much width as necessary
- The **<span>** element:
  - is often used as a container for some text

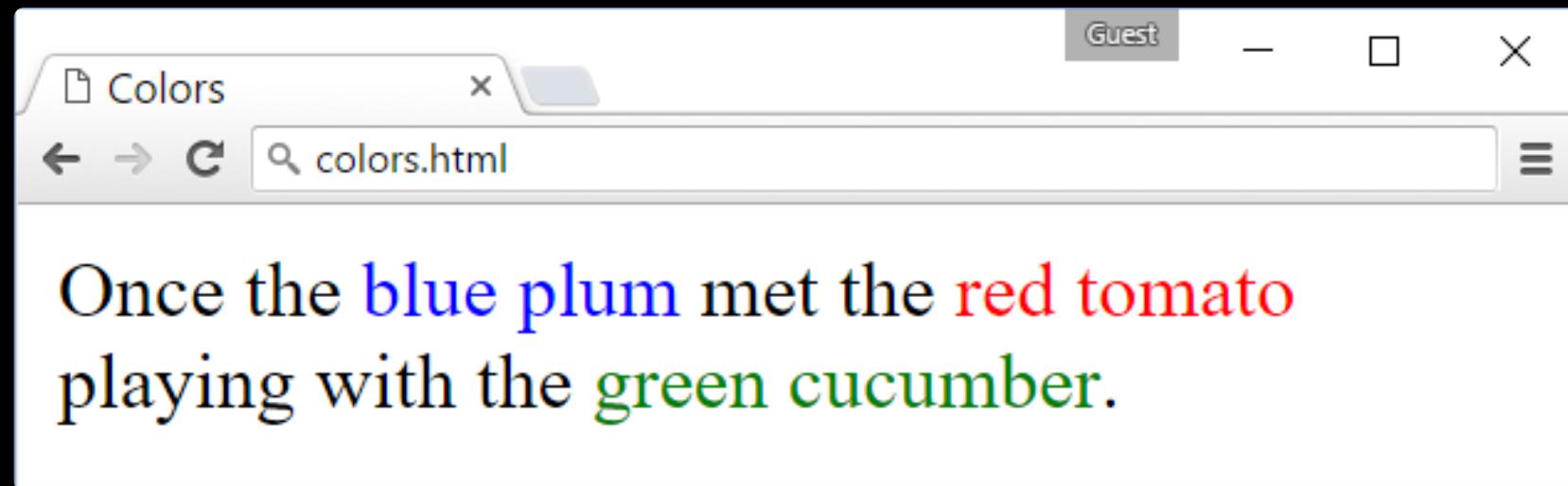
# The <span> Element - Example

```
<p>This is a very <span style="background-color:red;  
color: white;">important</span> message.</p>
```



# Problem: Colors

- Create a Web page like the screenshot below:



- Hints:
  - Use a paragraph of text
  - Use `<span style="...>text</span>` for the colored text

# Problem: Colors - Solution

colors.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Colors</title>
</head>
<body>
  <p>Once the <span style="color: blue;">blue plum</span> met the
<span style="color: red;">red tomato</span> playing with the <span
style="color: green;">green cucumber</span>.</p>
</body>
</html>
```

# Borders, Backgrounds

- **border**: specifies the type, thickness, color

```
<p style="border: 2px solid red;  
text-align: center;
```

```
">Red Border</p>
```



# Borders, Backgrounds

- **border**: specifies the type, thickness, color
- **border-radius**: rounds border edges

```
<p style="border: 2px solid red;  
text-align: center;  
border-radius: 10px;  
">Red Border</p>
```



# Borders, Backgrounds

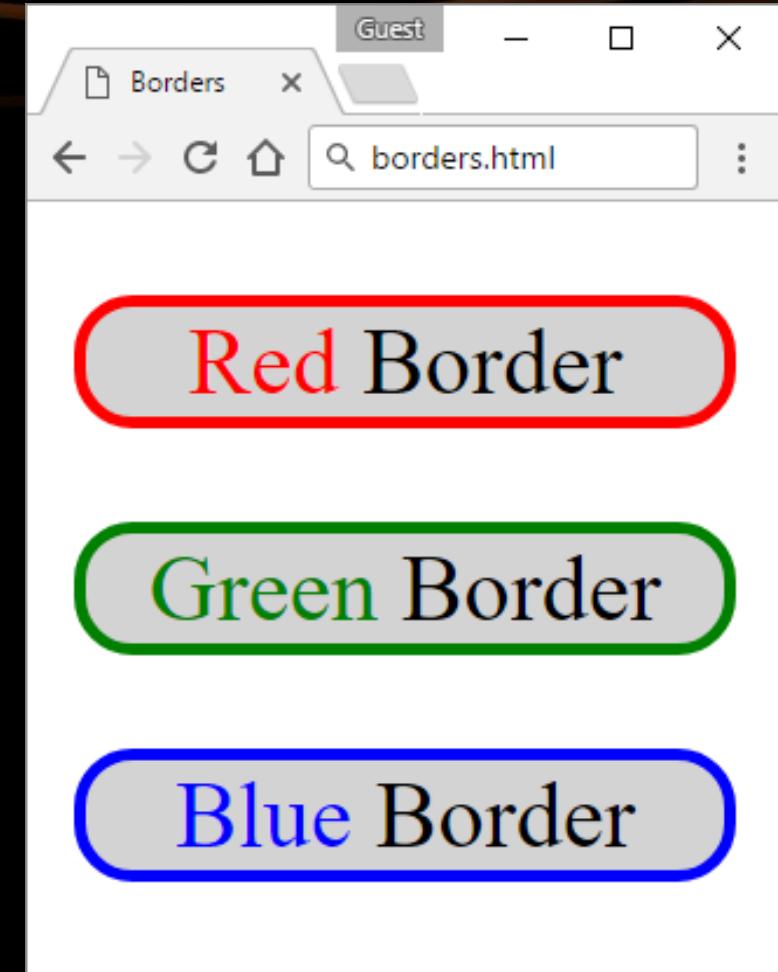
- **border**: specifies the type, thickness, color
- **border-radius**: rounds border edges
- **background**: sets the background

```
<p style="border: 2px solid red;  
text-align: center;  
border-radius: 10px;  
background: lightgray;">Red Border</p>
```



# Problem: Borders

- Create a Web page like the screenshot:
  - Title: Borders
  - Including
    - Red bordered paragraph
    - Green bordered paragraph
    - Blue bordered paragraph
  - Hints:
    - Modify the code used in the previous slide

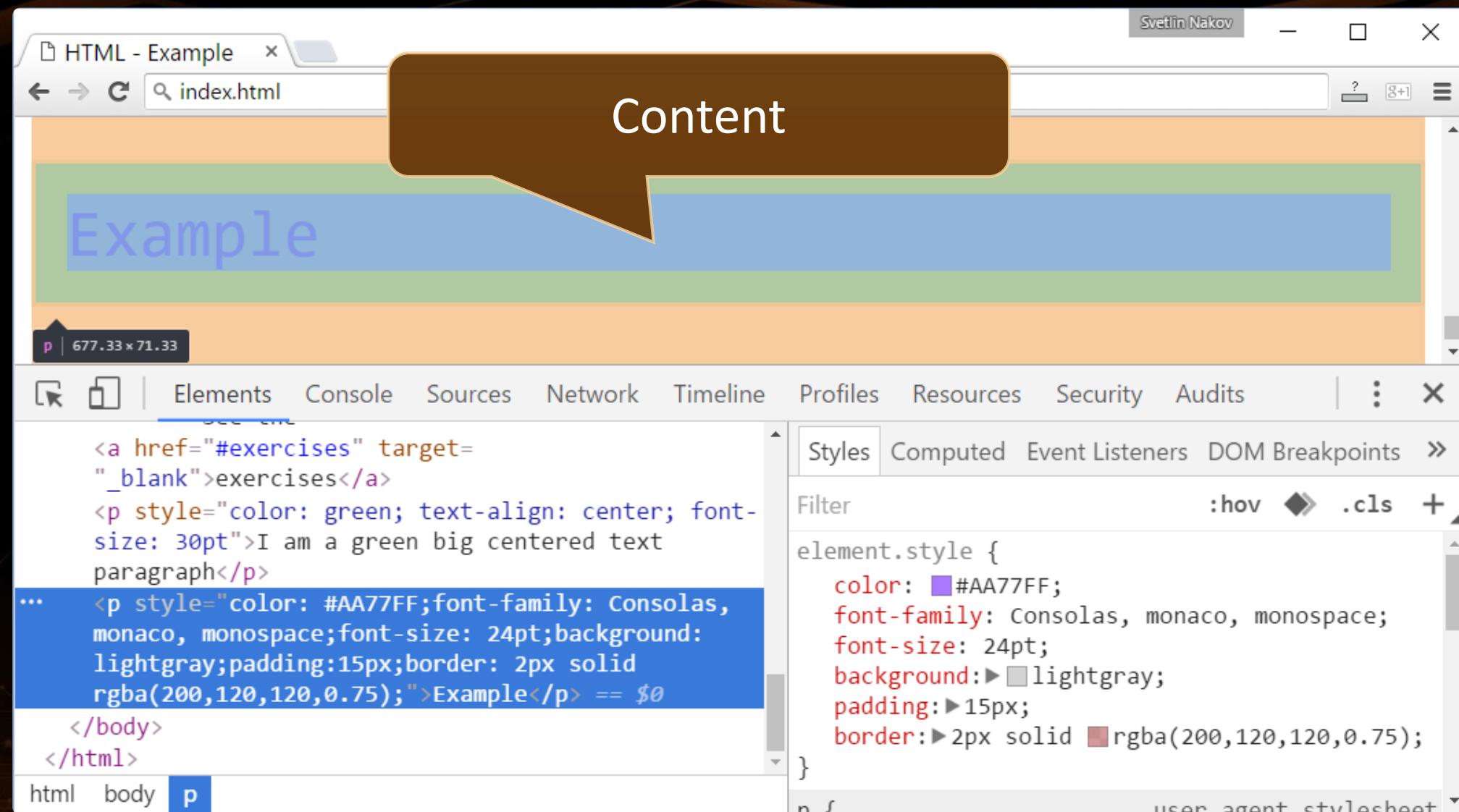


# Problem: Borders - Solution

borders.html

```
<!DOCTYPE html>
<html lang="en">
<head>
  <title>Colors</title>
</head>
<body>
  <p style="border: 2px solid red;text-align: center; border-radius: 10px; background: lightgray;"><span style="color: red;">Red</span> Border</p>
  <!-- TODO: Do the other 2 paragraphs -->
</body>
</html>
```

# The Dev Tools / Styles Inspector / [F12]



# The Dev Tools / Styles Inspector / [F12]

A screenshot of the Chrome DevTools Styles tab, with a callout bubble pointing to the word "Padding". The page being inspected is titled "HTML - Example" and contains the following code:

```
<a href="#exercises" target=_blank>exercises</a>
<p style="color: green; text-align: center; font-size: 30pt">I am a green big centered text paragraph</p>
...
<p style="color: #AA77FF;font-family: Consolas, monaco, monospace;font-size: 24pt;background: lightgray;padding:15px;border: 2px solid rgba(200,120,120,0.75);">Example</p> == $0
</body>
</html>
```

The Styles panel shows the following CSS rule for the selected `p` element:

```
element.style {
  color: #AA77FF;
  font-family: Consolas, monaco, monospace;
  font-size: 24pt;
  background: lightgray;
  padding: 15px;
  border: 2px solid rgba(200,120,120,0.75);
}
```

# The Dev Tools / Styles Inspector / [F12]

Margin

The screenshot shows the Chrome DevTools interface with the 'Styles' tab selected. An arrow points from the word 'Margin' in the title to the 'p' element in the DOM tree. The element 'p' is highlighted with a bounding box of 677.33 x 71.33. The element itself has a green background and contains the text 'Example'. The Styles panel on the right lists the CSS rules for this element:

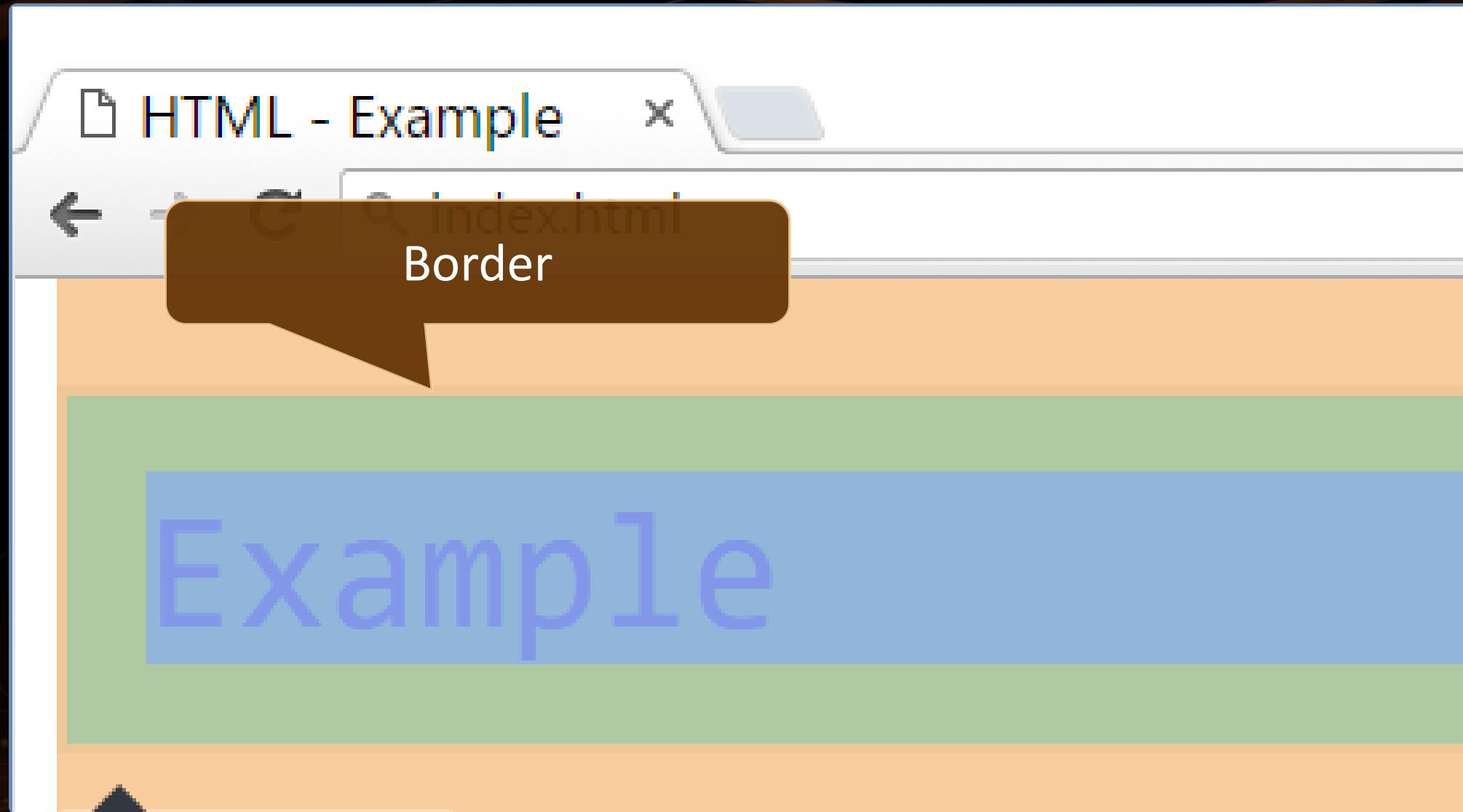
```
element.style {
  color: #AA77FF;
  font-family: Consolas, monaco, monospace;
  font-size: 24pt;
  background-color: lightgray;
  padding: 15px;
  border: 2px solid rgba(200,120,120,0.75);
}
```

The DOM tree on the left shows the following structure:

```
<a href="#exercises" target="_blank">exercises</a>
<p style="color: green; text-align: center; font-size: 30pt">I am a green big centered text paragraph</p>
...
<p style="color: #AA77FF; font-family: Consolas, monaco, monospace; font-size: 24pt; background-color: lightgray; padding: 15px; border: 2px solid rgba(200,120,120,0.75);">Example</p>
</body>
</html>
```

The 'p' element is highlighted in blue in the DOM tree.

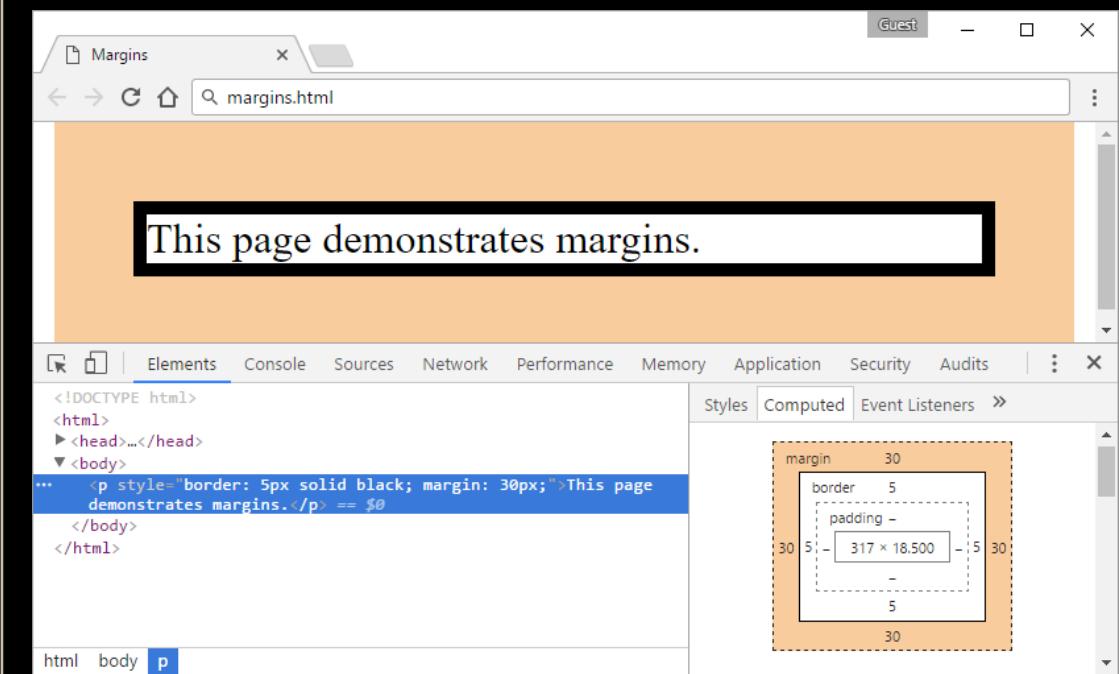
# The Dev Tools / Styles Inspector / [F12]



# Margins

- Used to generate space around elements
- The **margin** properties set the size of the white space **outside** of the border

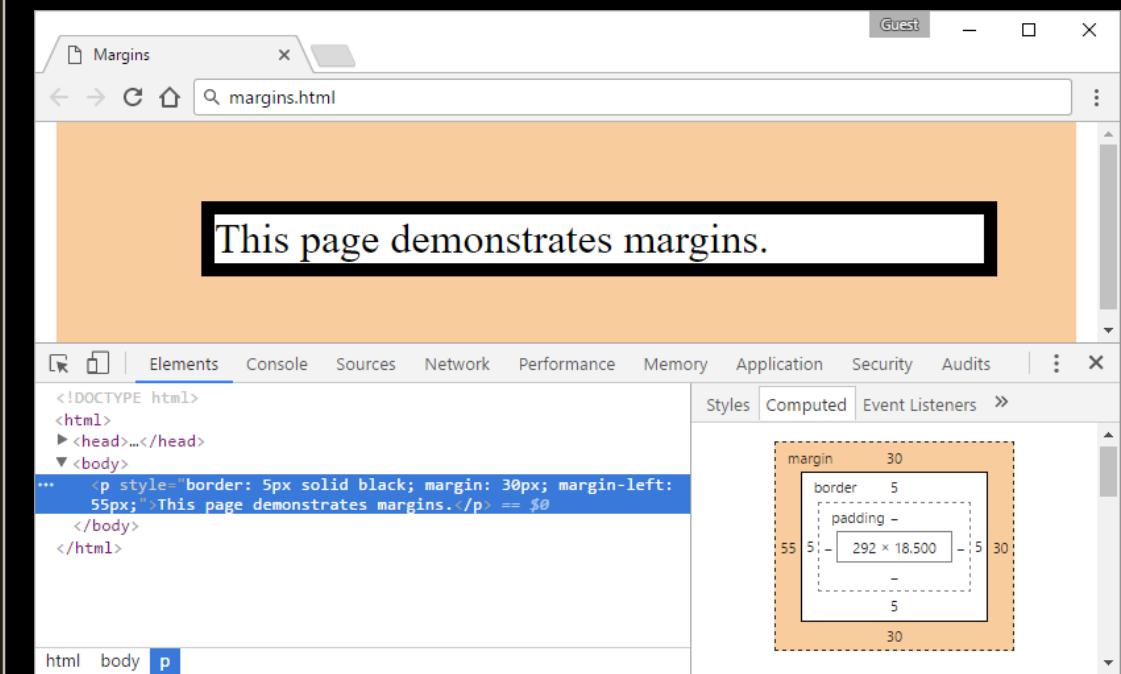
```
<p style="border: 5px  
solid black; margin:  
30px;  
  
    ">This page  
demonstrates margins.</p>
```



# Margins

- Used to generate space around elements
- The **margin** properties set the size of the white space **outside** of the border

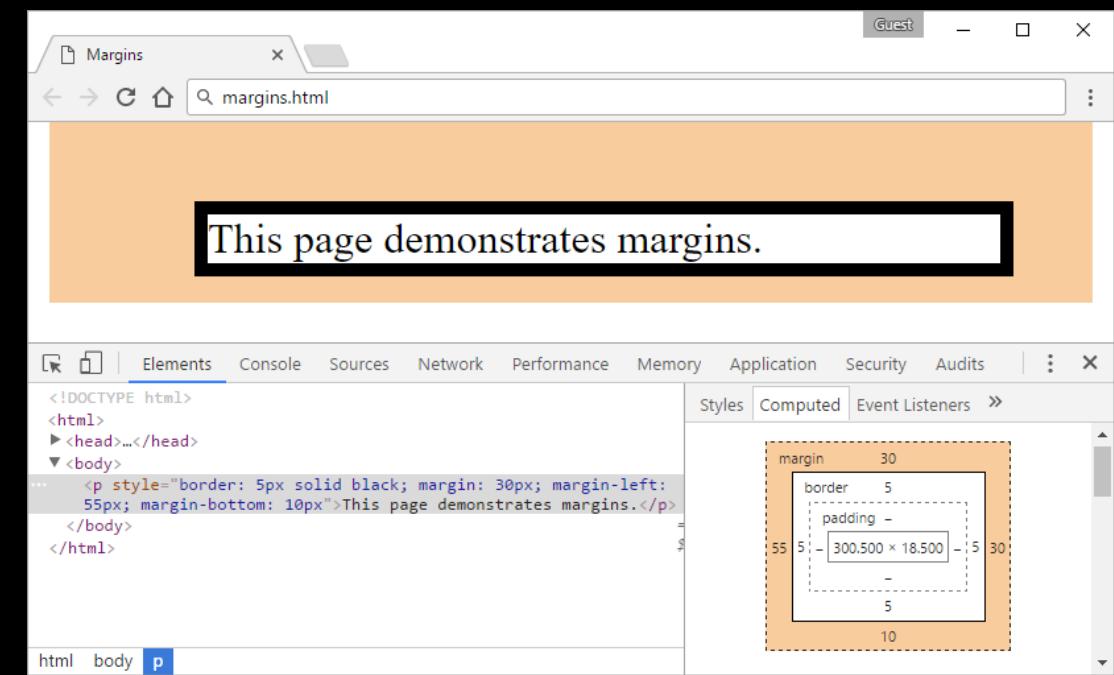
```
<p style="border: 5px  
solid black; margin:  
30px; margin-left: 55px;  
">This page  
demonstrates margins.</p>
```



# Margins

- Used to generate space around elements
- The **margin** properties set the size of the white space **outside** of the border

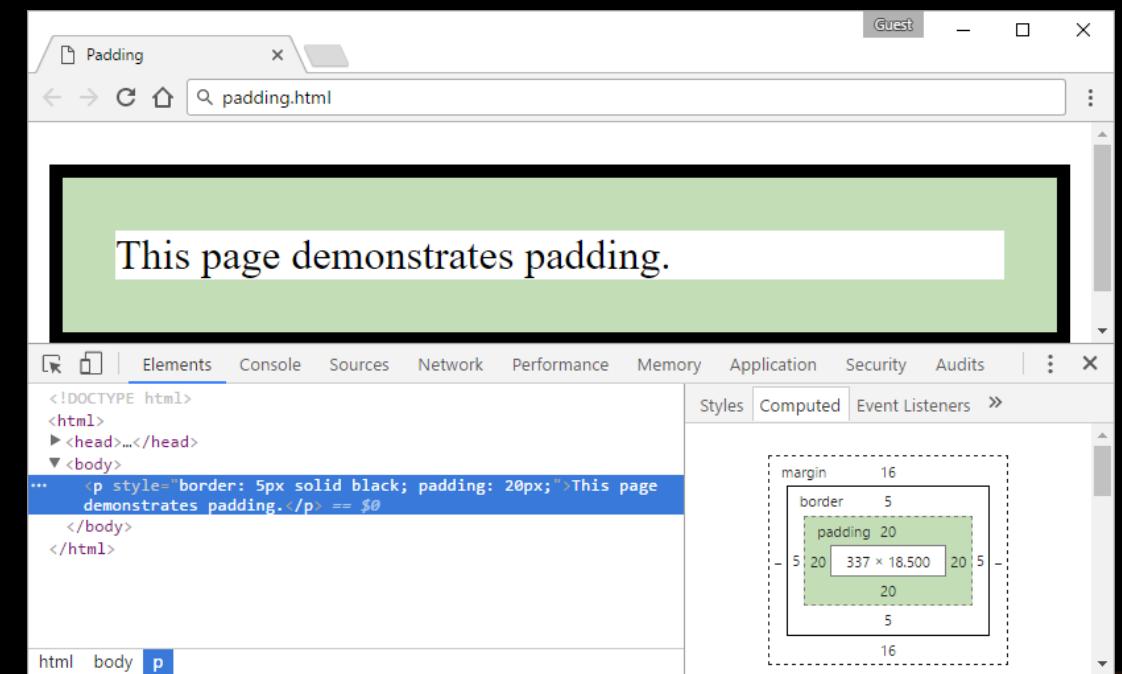
```
<p style="border: 5px  
solid black; margin:  
30px; margin-left: 55px;  
margin-bottom:  
10px;">This page  
demonstrates margins.</p>
```



# Padding

- Used to generate space around the content
- The **padding** properties set the size of the white space inside of the border

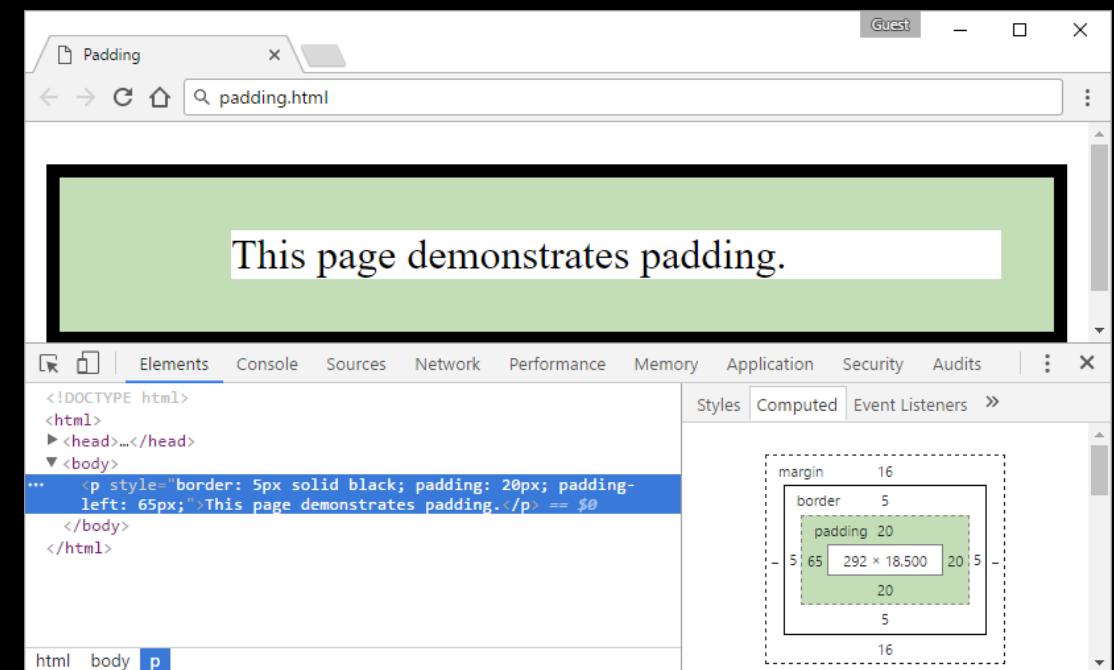
```
<p style="border: 5px  
solid black; padding:  
20px;  
  
    >This page  
demonstrates padding.</p>
```



# Padding

- Used to generate space around the content
- The **padding** properties set the size of the white space inside of the border

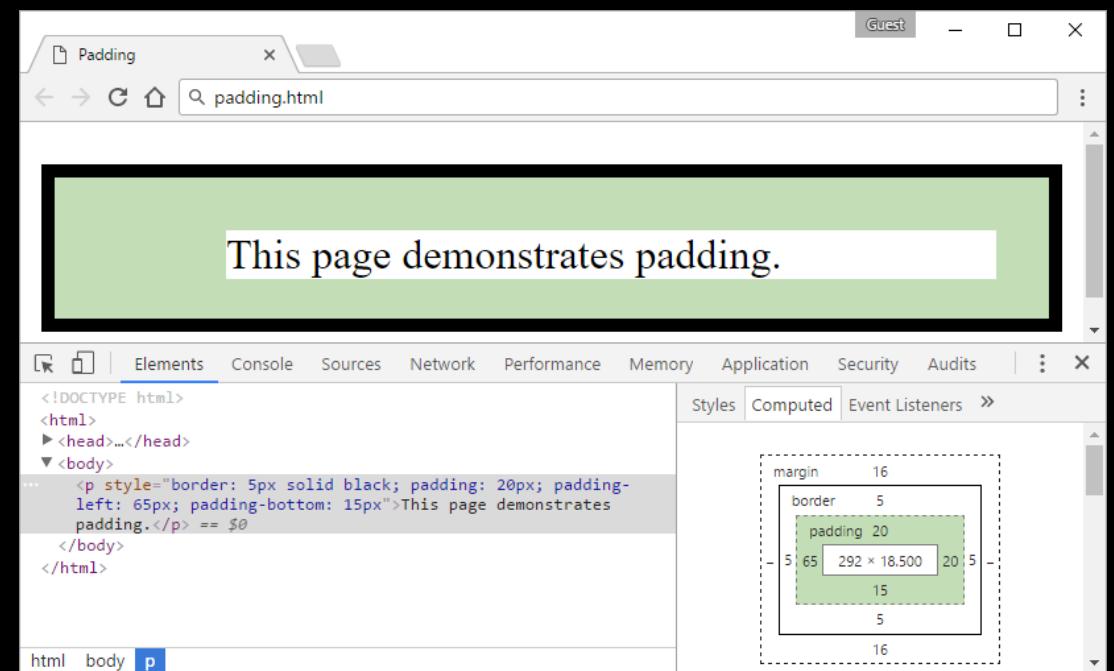
```
<p style="border: 5px  
solid black; padding:  
20px; padding-left: 65px;  
  
">This page  
demonstrates padding.</p>
```



# Padding

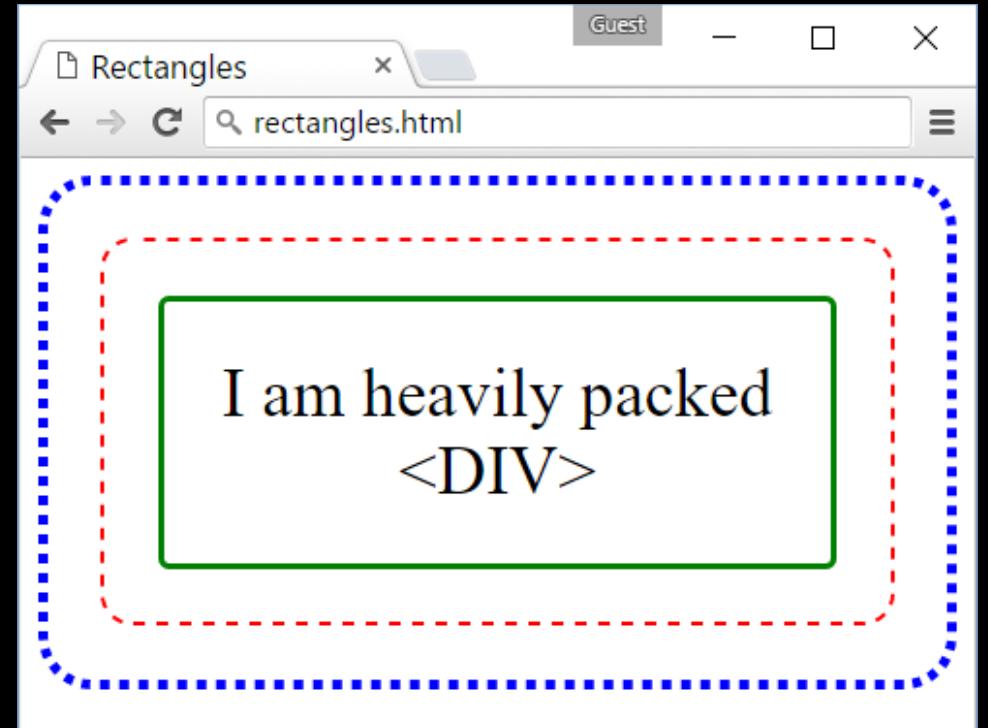
- Used to generate space around the content
- The **padding** properties set the size of the white space inside of the border

```
<p style="border: 5px  
solid black; padding:  
20px; padding-left: 65px;  
padding-bottom:  
15px">This page  
demonstrates padding.</p>
```



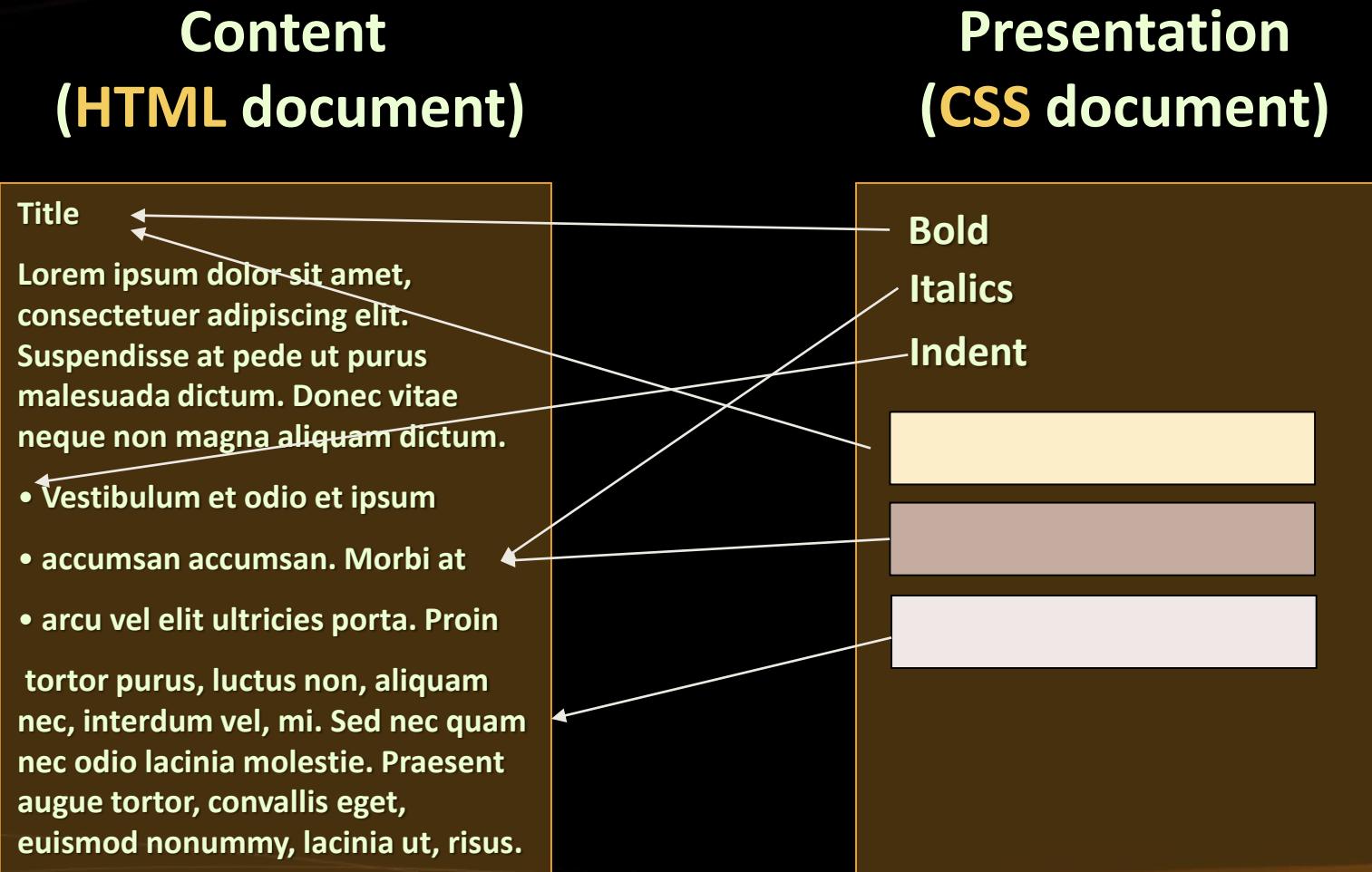
# Problem: Rectangles

- Create a Web page like at the screenshot.
  - Use 3 nested `<div>` elements
  - Outside div: blue dotted border + border-radius + padding
  - Middle div: red dashed border + border-radius + padding
  - Inner div: green solid border + border-radius + padding + text-align + font-size
  - Use `&lt;` and `&gt;` to escape the `<` and `>` characters in the text



# CSS: Philosophy

- Separate content from presentation!



# The Resulting Page

## Title

**Lorem ipsum dolor sit amet,  
  consectetuer adipiscing elit.  
  Suspendisse at pede ut purus  
  malesuada dictum. Donec vitae neque  
  non magna aliquam dictum.**

- *Vestibulum et odio et ipsum*
- *accumsan accumsan. Morbi at*
- *arcu vel elit ultricies porta. Proin*

**Tortor purus, luctus non, aliquam nec,  
interdum vel, mi. Sed nec quam nec  
odio lacinia molestie. Praesent augue  
tortor, convallis eget, euismod  
nonummy, lacinia ut, risus.**

# Combining HTML and CSS Files – body id

using-css.html

```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet"
type="text/css" href="styles.css">
  </head>
  <body id="content">
    <p>This is a <span class="special">
special beer</span> for <span class=
"special">special drinkers</span>.</p>
  </body>
</html>
```

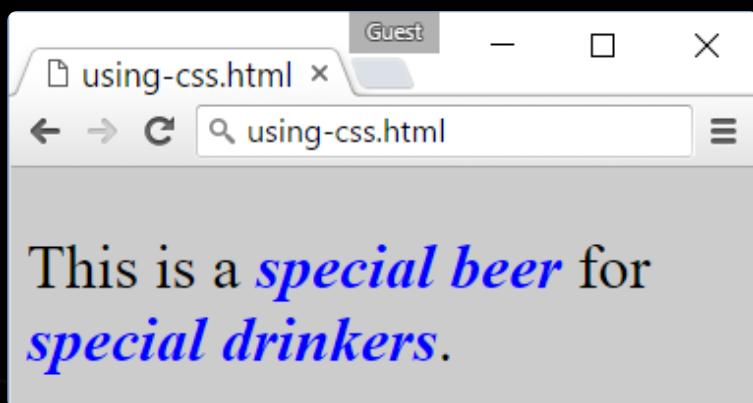
styles.css

```
#content {
  background: #EEE;
}
p {
  font-size: 24pt;
}
.special {
  font-
  font-
  color
}
```



# CSS Selectors

- **.class** – selects a group of elements with the specified class
- **#id** – selects a unique element
- **tag** – selects all specified tags
- **\*** - selects everything



**styles.css**

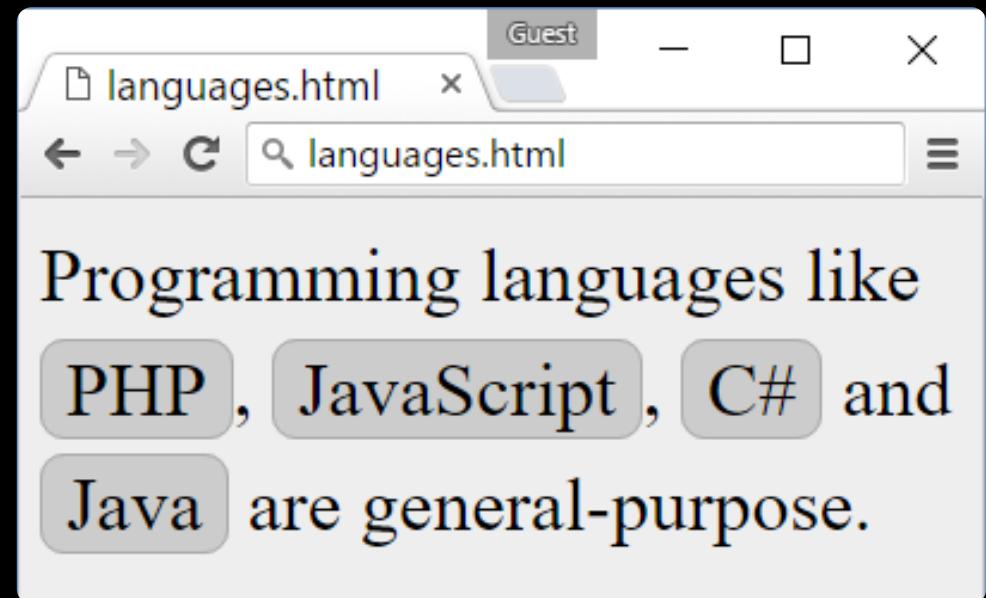
```
.special {  
    font-style: italic;  
    font-weight: bold;  
    color: blue;  
}  
  
#content {  
    background: #EEE;  
}  
  
p {  
    font-size: 24pt;  
}
```

# Problem – Languages

- Create a Web page like at the screenshot.

- Hints:

- Link the CSS file in the HTML header
  - How did we do this?
  - In the **body** CSS selector define:
    - background:#EEE; font-size:24pt;
  - Define and use a CSS class **.lang** for styling the languages:
    - Specify border:1px #AAA, border-radius, background:#CCC, padding



# Solution – Languages (HTML + CSS)

## languages.html

```
<!DOCTYPE html>
<html>
  <head> <title>...</title>
    <link rel="stylesheet" type=
      "text/css" href="languages.css">
  </head>
  <body>
    Programming ... <span class="lang">
    PHP</span>, <span class="lang">
    JavaScript</span>, ... purpose.
  </body>
</html>
```

## languages.css

```
body {
  font-size: 24pt;
  background: #EEE;
}

.lang {
  padding: 2px 10px;
  border: 1px solid #AAA;
  background: #CCC;
  border-radius: 10px;
}
```

# Summary

- HTML describes text with formatting, images, tables, forms, etc.
  - Uses tags like `<p>`, `<img>` and `<a href="...">`
- CSS adds styling to the HTML documents
  - Font, color, background, alignment, ...
  - Layout, position, size, margins, paddings, ...
- Web sites consist of HTML + CSS + images
  - May hold JavaScript code and other assets



# Hypertext Markup Language - Cascading Style Sheets



## Questions?

