

CSC435: Web Programming

Lecture 2: HTML basics

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HTML

Hypertext Markup Language

What is markup?

A language with specific syntax that instructs a Web browser how to display a page

Outline

- Introduction & Basic Syntax
- Elements and attributes
- Headings, Text, and Text Formatting
- Links
- Images
- Forms
- Lists
- Viewing source code
- Link within page

What is HTML?

- HTML allows you to describe the content of a website.
 - Headers
 - Paragraphs
 - Images
 - Hyperlinks
- HTML also allows you to specify relationships between elements and group them using classes and div tag.

HTML Syntax

- HTML revolves around tag
- Opening and closing tags

`<tag> content </tag>`

Example:

bold a word

`content`, will bold the word “content”

`<u>text </u>` underline the text

HTML Syntax

- HTML revolves around tag
- Opening and closing tags
- With attributes

`<tag name= value> content <tag>`

Example:

bold a word

`content`, will bold the word “content”

`<u>text </u>` underline the text

Structure of an HTML page

```
<!DOCTYPE html>
```

```
<html>
```

```
  <head>
```

```
    information about the page
```

```
  </head>
```

```
  <body>
```

```
    page contents
```

```
  </body>
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```
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```

The New York Times

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By MIKE McINTIRE 17 minutes ago

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Supporters of the right-wing group Pegida marching this week in Leipzig, Germany. Jens Schlueter/Getty Images

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By JIM YARDLEY 3:56 PM ET

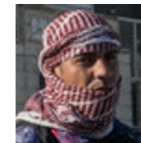
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Doha's Domestic Troubles

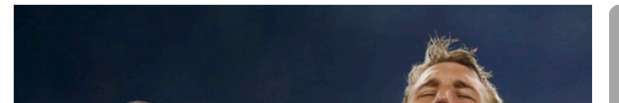
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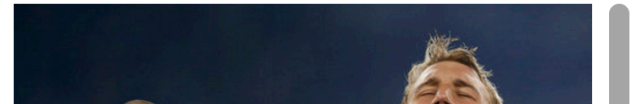
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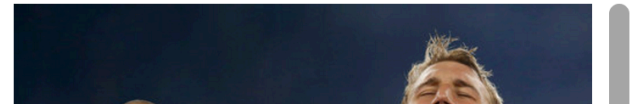
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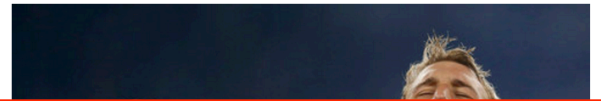
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Pause: a word on Sublime Text 2

- Tutorial on sublime text 2:

<https://tutsplus.com/lesson/hello-2/>

- Useful keys:

Open new file: **Command + N**

Save file: **Command + S**

The Command Palette: **Shift + Command + P**

Multiple Cursor: Put cursor in the word and **Command + D**

Multiple selection: **Ctrl + Command + G**

Toggle the side bar: **Command + K + B**

Set user settings: **Command + ,** to open up Preference

Instant file changing: Goto Anything: **Command + P**

Basic web page

- Open your text editor and choose Syntax as html, type the following:

```
<!DOCTYPE html>
<html>
  <head> My page </head>
  <body>
    <h1> Bio</h1>
    <p> Write something here. </p>
  </body>
</html>
```

- Save the file as a myfirst.html
- Open my .html file using Firefox browser or any other default browser
- Just click the file

HTML Elements

- Element is a pair of tags and the content between them.
`<p>content </p>` is a paragraph element.
- Elements can have empty content and be closed in start tag.

`
` defines a new line.

HTML Elements

- `<html>` Root of HTML Document
- `<body>` Document Body
- `<head>` Information about the doc
- `<h1>`, `<h2>`, `<h3>`... Header Tags
- `<p>` Paragraph Tag
- `` Image
- `<a>` Hyperlink
- `<div>` Section in a Document
- `` Section in a Document (text)
- `` unordered list
 - `` list items

HTML Attributes

`<a>Google `

` Google `

HTML Attributes

- HTML elements can have attributes.
- Attributes provide additional information about an element.
- Attribute are always specified in the **start tag**
- Attribute come in name/value pair like:
name="value"
- Example:
I am from <a href="<http://www.american.edu>"> American University in Washington, DC.

Class and Ids

- IDs are unique names that identify elements.
- Classes are names that identify a group of elements.
- Example:
- `<p id="paragraph_1"> ...</p>`
- `<h3 class="small_headings">... </h3>`

Class and Ids: Use JavaScript to modify the HTML element

```
<html>
<head>
<script>
function displayResult()
{
document.getElementById("myHeader").innerHTML="Have a nice day!";
}
</script>
</head>

<body>

<h1 id="myHeader">Hello World!</h1>
<button onclick="displayResult()">Change text</button>

</body>
</html>
```

Style Attributes: redundant with CSS

For quick and dirty:

```
<h1 style="color:blue; text-align:center"> This is a header  
</h1>
```

```
<p style="color:green"> This is a paragraph </p>
```

Use `` to group in-line element in a document.

```
<p>This is a <span style="color:red">red</span>  
balloon</p>
```


Adding Comments

- Comments `<!--comments-->`
- Sublime text: `cmd + /`
- It is very useful if you want to comment out a block of code.

```
<!--  
<style type="text/css">  
body{  
    font-family:sans-serif;  
}  
</style>  
-->
```

Headings and Paragraphs

- Heading tag: h1, h2, h3, h4, h5, h6
- Comments `<!--comments-->`
- Paragraphs `<p>`
- White space ` `
- New lines `
`
- Formatting text, underlined, emphasized, bold, big size, small size, etc.
- For complete information about tags, see http://www.w3schools.com/tags/ref_byfunc.asp

Exercise

Generate a page that looks like the following, save your file as coffee.html:

Capital Coffee Beverages

House Blend, \$1.49

A smooth, mild blend of coffees from Mexico, Bolivia and Guatemala.

Mocha Cofee Latte, \$2.55

Espresso, Steamed milk and Cocoa Syrup

Chai Tea Latte, \$2.65

Spicy Masala Chai Syrup and Steamed Milk

Exercise

Generate a page that looks like the following:

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Spicy Masala Chai Syrup and Steamed Milk

Images

- Image tag ``
- Provide a url to the src attribute if the image is online.
- It will automatically look at the image in the same folder as the .html
- Images can also have attributes such as sizes.

```

```

Capital Coffee Beverages

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Spicy Masala Chai Syrup and Steamed Milk

Links

- Using `<a>` tag
- Put the URL in the href attribute

```
<a href="URL">Clickable Regions</a>
```

```
<p><a href="http://www.nytimes.com">new  
york times</a></p>
```

- Between the `<a>`, it can be anything from texts to images to paragraphs.

Quiz

- What will happen if you forgot the closing tag of `` in the following paragraph:

I am from `` American University in Washington, DC.

Quiz

- What will happen if you removing <http://> in the URL you give to the href, For example:
`new york times`

Try it out yourself.

My trip this summer



Exercise

- Make the following images clickable and bring it to the Wikipedia pages of these three cities.

My trip this summer



Divs

- A `<div></div>` tag is use to group HTML documents.
- The `<div>` tag is used to group block-elements to format them with CSS.
- Let's look at a real website and notice how the texts are organized
<http://www.nytimes.com>

Nested Divs

- `<div>` can be nested to organize the content. For each `<div>` one can specify the style of the content.

```
<div>
```

```
<h1>Coffee Shop</h1>
```

```
<div>
```

```
<h2> Menu</h2>
```

```
</div>
```

```
</div>
```

Exercise: how about this?

Capital Coffee Beverages

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Mocha Coffee Latte, \$2.55



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Chai Tea Latte, \$2.65



Spicy Masala Chai Syrup and Steamed Milk

How do we generate this:

Featured Drink

Breakfast Blend



Exercise

- Can you make the following page using nested `<div>`?

My trip this summer

Paris



Berlin

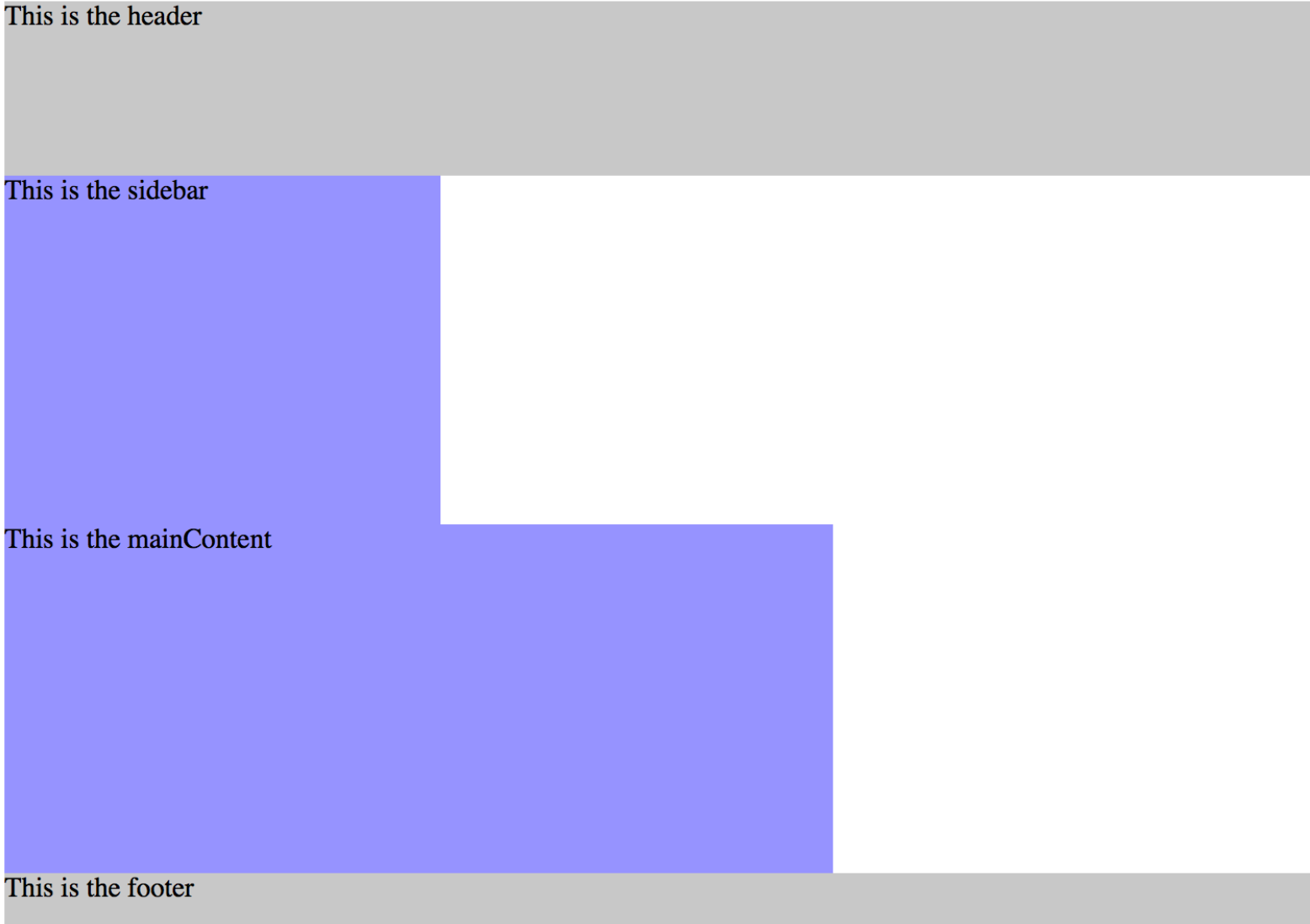


Vienna



Exercise

This is the header

The diagram illustrates a web page layout with four distinct sections. At the top is a grey horizontal bar representing the header. Below it, on the left side, is a blue vertical rectangle representing the sidebar. To the right of the sidebar is a larger white area representing the main content. At the bottom of the page is another grey horizontal bar representing the footer. The text labels are positioned to the left of each corresponding section.

This is the sidebar

This is the mainContent

This is the footer

Exercise

- Can you make the following page using nested `<div>`?

My trip this summer

Paris



Berlin



Vienna



Unordered lists: ,

 No Shoes

 No Shirt

 No problem!

- No shoes
- No shirt

Lists: navigation bar

How to link to content inside a page:

```
<ul id="nav">  
  <li><a href="#home"><font  
size="+2"><b>[Home]</b></a></li>  
</ul>  
<h2><a id="home">Home</a></h2>
```

Next Lecture: Thursday

- Tables
- Form and submission
- Queries
- Post versus Get
- Homework 1 out next week

Homework & Exercises

Today's reading (Introduction to HTML):

<https://developer.mozilla.org/en-US/docs/Web/Guide/HTML/Introduction>

You should finish the exercise on code academy on HTML basics by next Thursday.

Finish tracks 1-6.

<http://www.codecademy.com/tracks/web>

Tables

- A table is defined with `<table>` tag.
- A table is divided into rows with the `<tr>` tag.
- Each row is divided into data cells with the `<td>` tag, `td` stands for table data.
- `<td>` holds the content of a data cell.
- `<td>` can contain text, images, links, other tables.
- `<th>` defines the header of the table. HTML will create a new column of the table.
- `<table border =“1”>`

Tables with cell padding

Cell padding create space inside a table cell

Exercise

Using <table> tag, create a page like this. Don't forget cell padding.

My trip this summer

Paris



Berlin



Vienna



Forms

- `<form></form>`
- Attributes:
 - Type `type= "radio"`
 - Name `name = "sex"`
 - Action `action="url"`
 - Method `method="get"`

Exercise: payment forms

Please create a .html that generate a page looks like this. You can download icon images from the folder on blackboard or search them online.

Buying is easy. Just fill out the following form.

Full Name:

Email address:

-   
- 

Exercise: Address forms

Please create a .html that generate a page looks like this.

Please fill out your address

Street line 1:

Street line 2:

City:

State/Province:

Zip/Postal code:

Country:

Send

Linking within a page

Link to another location in the same page

```
<p>  
<a href="#C4">See also Chapter 4.</a>  
</p>
```

```
<h2>Chapter 1</h2>  
<p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 2</h2>  
<p>This chapter explains ba bla bla</p>
```

```
<h2>Chapter 3</h2>  
<p>This chapter explains ba bla bla</p>
```

```
<h2><a id="C4">Chapter 4</a></h2>  
<p>This chapter explains ba bla bla</p>
```

Useful Tags

- h1,h2, Headings
- p Paragraphs
- ol “Ordered list” (1.2.3., I.II.III., a.b.c.)
- ul “Unordered” list (bullet points)
- li List item, use without ol ur ul
- a “Anchor” tags, used for links
- Img Insert images