

HTML Document Structure

Doctype, Head, Body, Semantic
Tags, Tables, HTML Entities

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HTML DOCUMENT STRUCTURE

HTML Document, Doctype, Head, Body

- Essential elements for each HTML document:
 - `<!DOCTYPE>`, `<html>`, `<head>`, `<body>`
- The `<html>` element
 - All the content of the Web page is inside the `<html>` tag

```
<!DOCTYPE html>  
<html>  
    ...  
</html>
```

Head Element

- The **<head>** contains markup not visible to the user
 - But helps the browser to render correctly the HTML document
- What is in the **<head>**?
 - Metadata definitions
 - Styles declarations
 - Scripts declarations

Specify the character encoding

```
<meta charset="UTF-8">
```

```
<link rel="stylesheet"  
type="text/css" href="site.css">
```

```
<script src="main.js"></script>
```

Head Element: Title + Favicon

HTML title

- The `<title>` tag – HTML document title

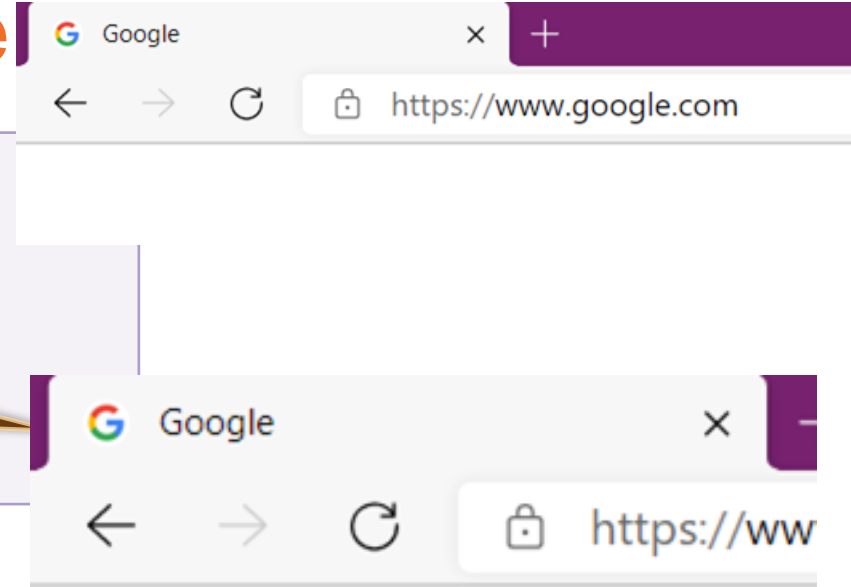
```
<head>
  <title>Home - ...</title>
</head>
```

Favicon

- favicon – a site icon

– Favicon generator: <http://www.favicon-generator.org>

```
<link href="/favicon.ico"
rel="shortcut icon" type="image/x-icon"/>
```



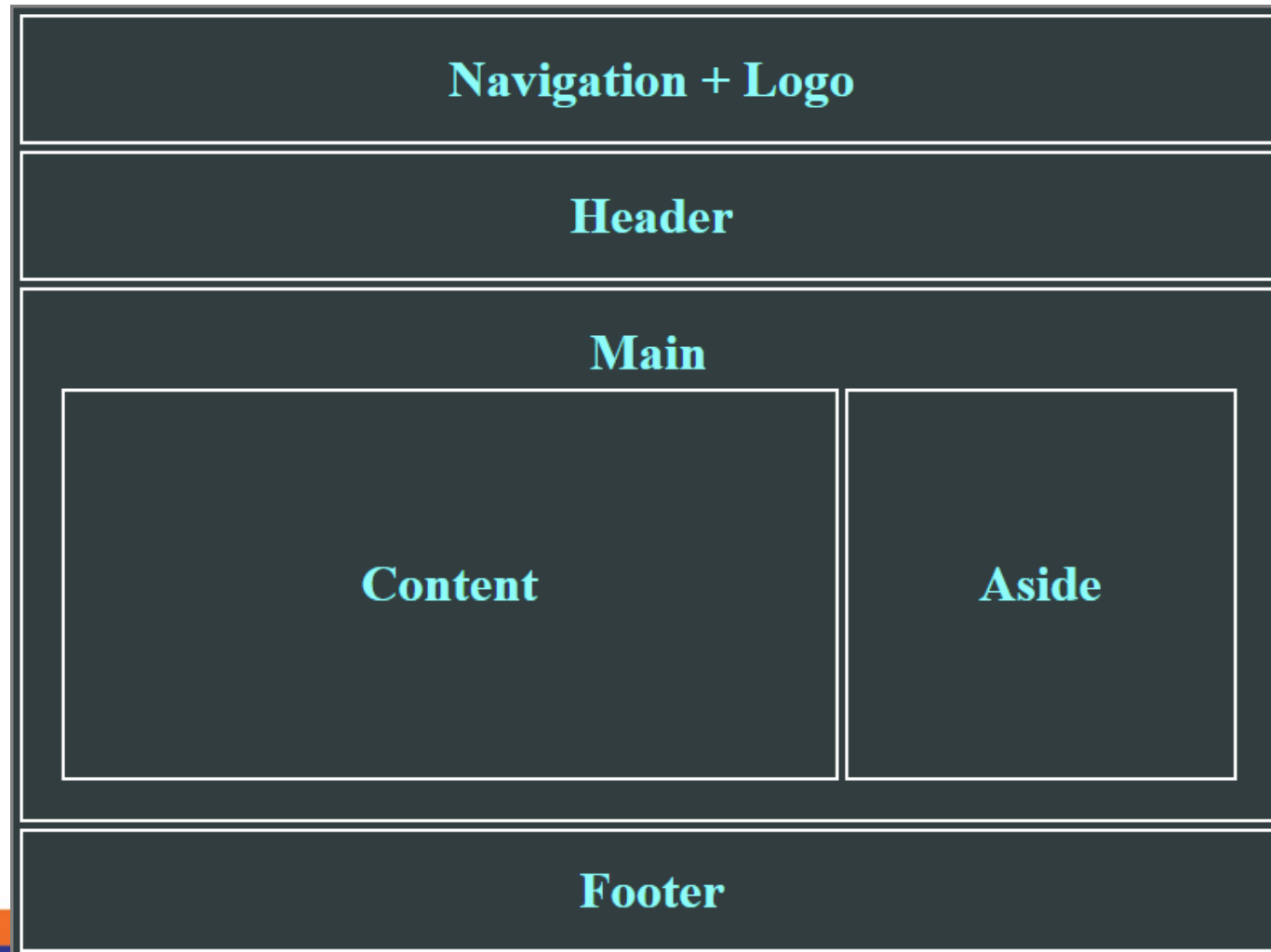


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SEMANTIC STRUCTURAL TAGS

The Structure of a Web Page

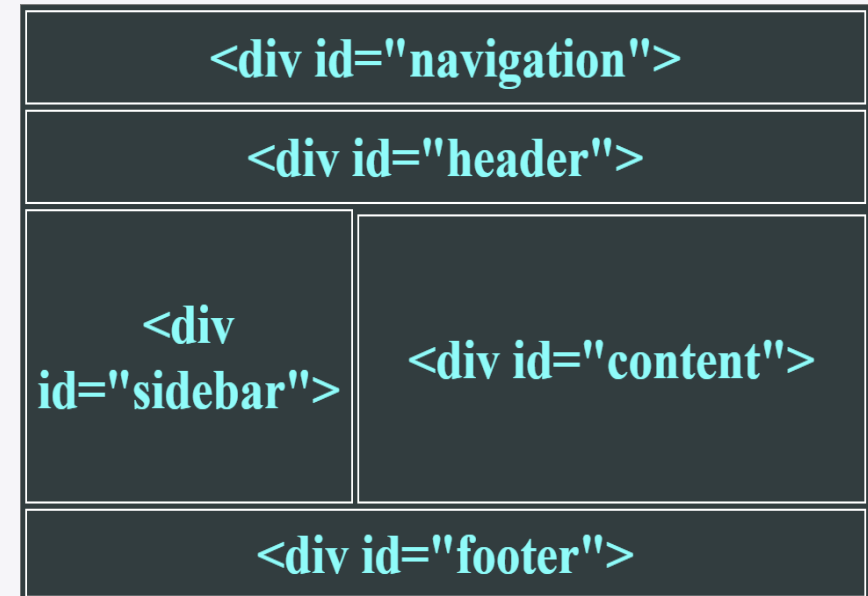
- A typical layout structure of a Web page



The "HTML 4 and Old" Way

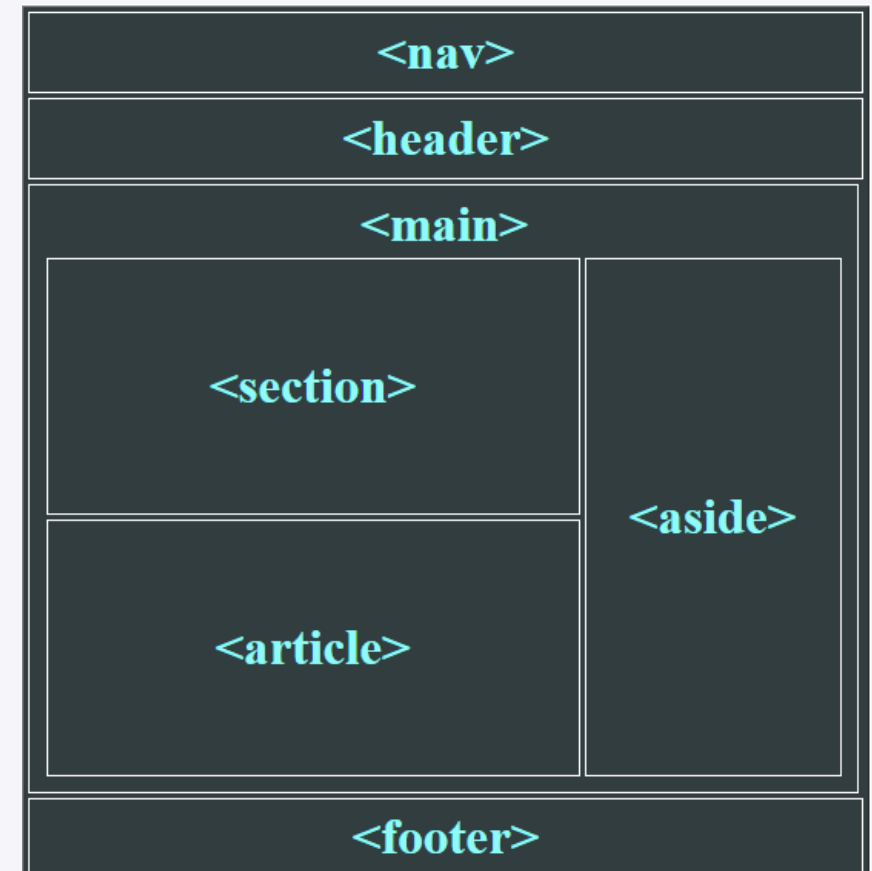
- Using `<div>`s with IDs (the IDs are needed for styling)

```
<html>
  <head> ... </head>
  <body>
    <div id="navigation">...</div>
    <div id="header">...</div>
    <div id="sidebar">...</div>
    <div id="content">...</div>
    <div id="footer">...</div>
  </body>
</html>
```



- HTML5 uses semantic tags for the document structure

```
<body>  
  <nav>...</nav>  
  <header>...</header>  
  <main>  
    <aside>...</aside>  
    <section>...</section>  
    <article>...</article>  
  </main>  
  <footer>...</footer>  
</body>
```



HTML5 Semantic Tags

- `<nav>`
- `<header>`
- `<main>`
- `<section>`
- `<article>`
- `<aside>`
- `<footer>`
- `<figure> + <figcaption>`
- `<details> + <summary>`
- `<time>`
- `<address>`
- `<dialog>`
- `<audio> / <video>`

HTML5 Semantic Tags: Nav

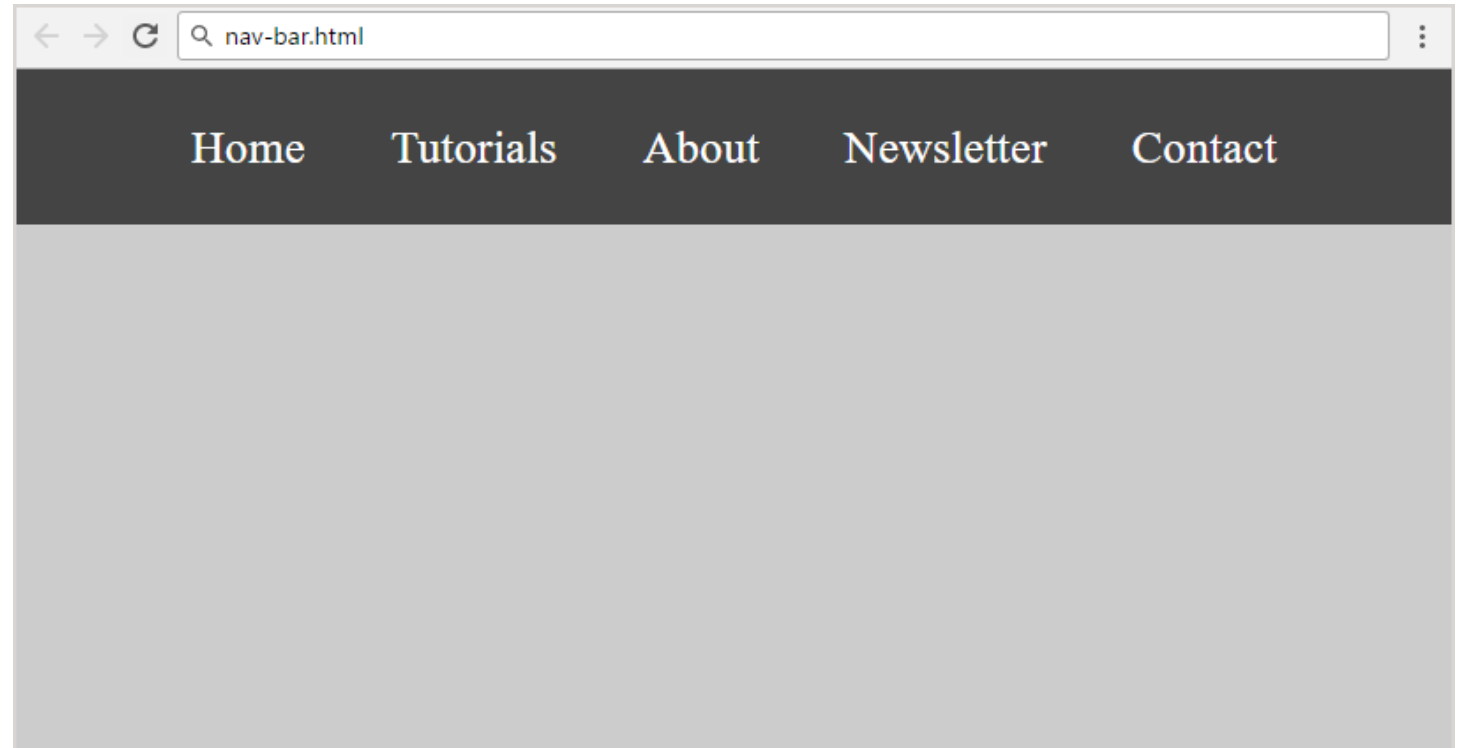
- `<nav>` – defines a set of navigation links

```
<nav id="topmenu">  
  <ul>  
    <li><a href="#">Home</a></li>  
    <li><a href="#">Menu</a></li>  
    <li><a href="#">Courses</a></li>  
  </ul>  
</nav>
```

- [Home](#)
- [Menu](#)
- [Courses](#)

Problem: Navigation Bar

- Create a HTML page with navigation bar like the shown below
- Hints:
 - Modify the HTML code from the previous slide
 - Write some CSS



Solution: Navigation Bar (CSS)

```
body {  
    margin: 0;  
    padding: 0;  
    background: #ccc;  
}  
  
nav#topmenu ul {  
    list-style: none;  
    background-color: #444;  
    text-align: center;  
    padding: 0;  
    margin: 0;  
}
```

```
nav#topmenu li {  
    font-size: 24px;  
    line-height: 40px;  
    height: 40px;  
    display: inline-block;  
    padding: 20px;  
}  
  
nav#topmenu a {  
    text-decoration: none;  
    color: #fff;  
}
```

HTML5 Semantic Tags: Header

- **<header>** – holds a document or section header

<header> holds title +
posted article date

...

<header>

<h1>Google buys Nest</h1>

<p>Posted at <time datetime="2014-01-13T11:34">11:34AM, 13th January 2014</time></p>

</header>

<p>The acquisition brings ...</p>



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<body>

<header>...</header>

<nav>...</nav>

<main>

<h1>Guitars</h1>

<p>The greatest guitars ...</p>

<article>

<h2>Gibson SG</h2>

<p>...</p>

</article>

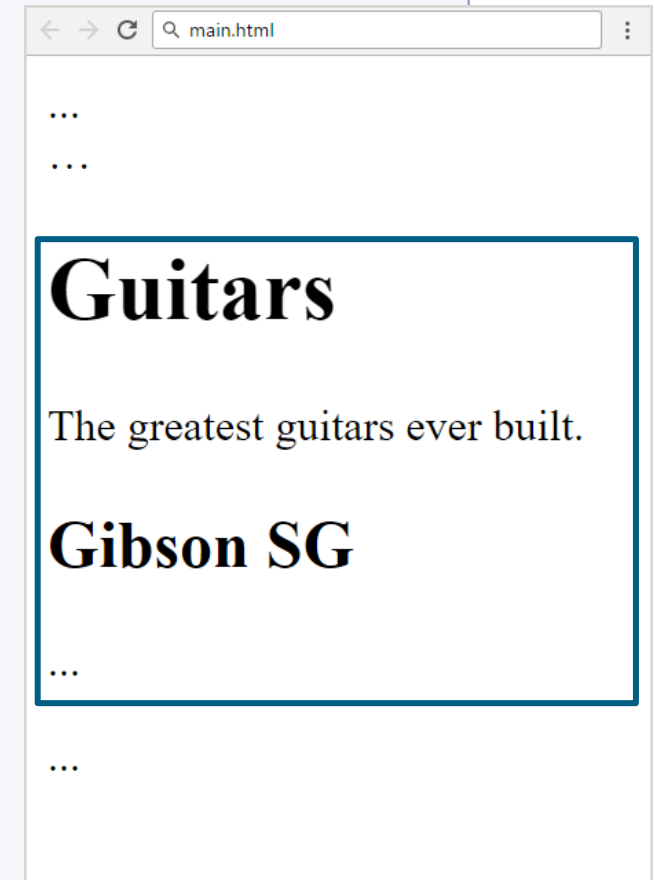
</main>

<footer>...</footer>

</body>

Holds the main
page content

Use only one **<main>**
tag in the document



- **<section>** – a group of related content

Use **<h1>** ... **<h6>** to define the topic for the section

```
<section>  
  <h2>Heading</h2>  
    
</section>
```

Heading



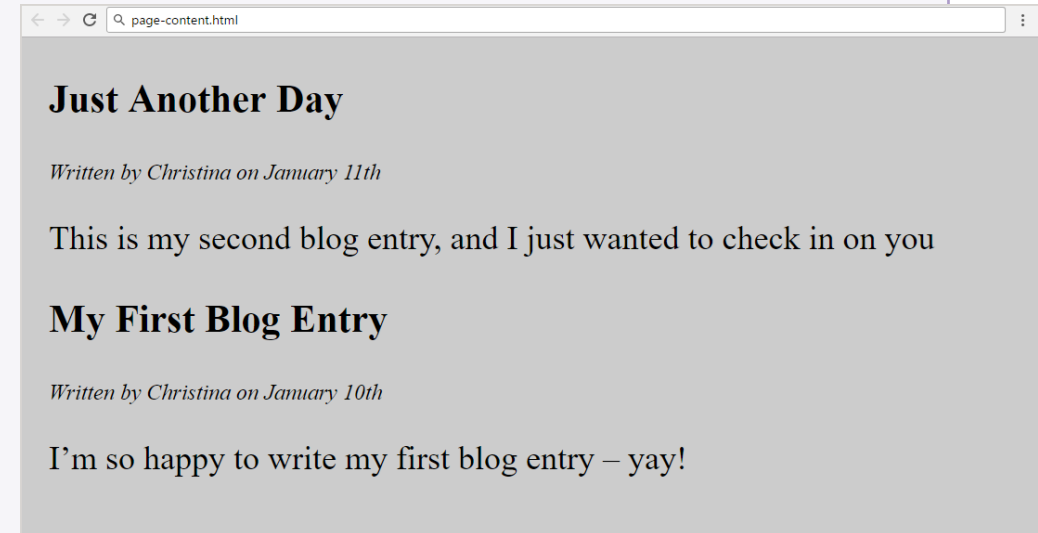
Problem: Page Content

- Create a HTML `<section>`
 - Holding a few `<article>` elements with `<header>`
 - Like shown on the screenshot



Solution: Page Content (HTML)

```
<section>
  <article>
    <header>
      <h1>Just another day</h1>
      <p>Written by...</p>
    </header>
    <p>This is my second blog...</p>
  </article>
  <article>
    <!-- TODO: put the next article here -->
  </article>
</section>
```



Solution: Page Content (CSS)

```
body {  
    margin: 0;  
    padding: 0;  
    background: #ccc;  
}  
  
section {  
    margin-left: 20px;  
}
```

```
h1 {  
    font-size: 28px;  
}  
  
header > p {  
    font-style: italic;  
}  
  
article > p {  
    font-size: 24px;  
}
```

Semantic Tags: Aside

- **<aside>** – defines a sidebar (left / right navigation)

...

```
<aside>
```

```
<h2>Blogroll</h2>
```

```
<ul>
```

```
<li><a href="#">My Friend</a></li>
```

```
<li><a href="#">My Other Friend</a></li>
```

```
<li><a href="#">My Best Friend</a></li>
```

```
</ul>
```

```
</aside>
```

Main site
content

Sidebar:
<aside>

Blogroll

- [My Friend](#)
- [My Other Friend](#)
- [My Best Friend](#)

Semantic Tags: Footer

- **<footer>** – a document / section footer

Document author + contact
info + copyright info

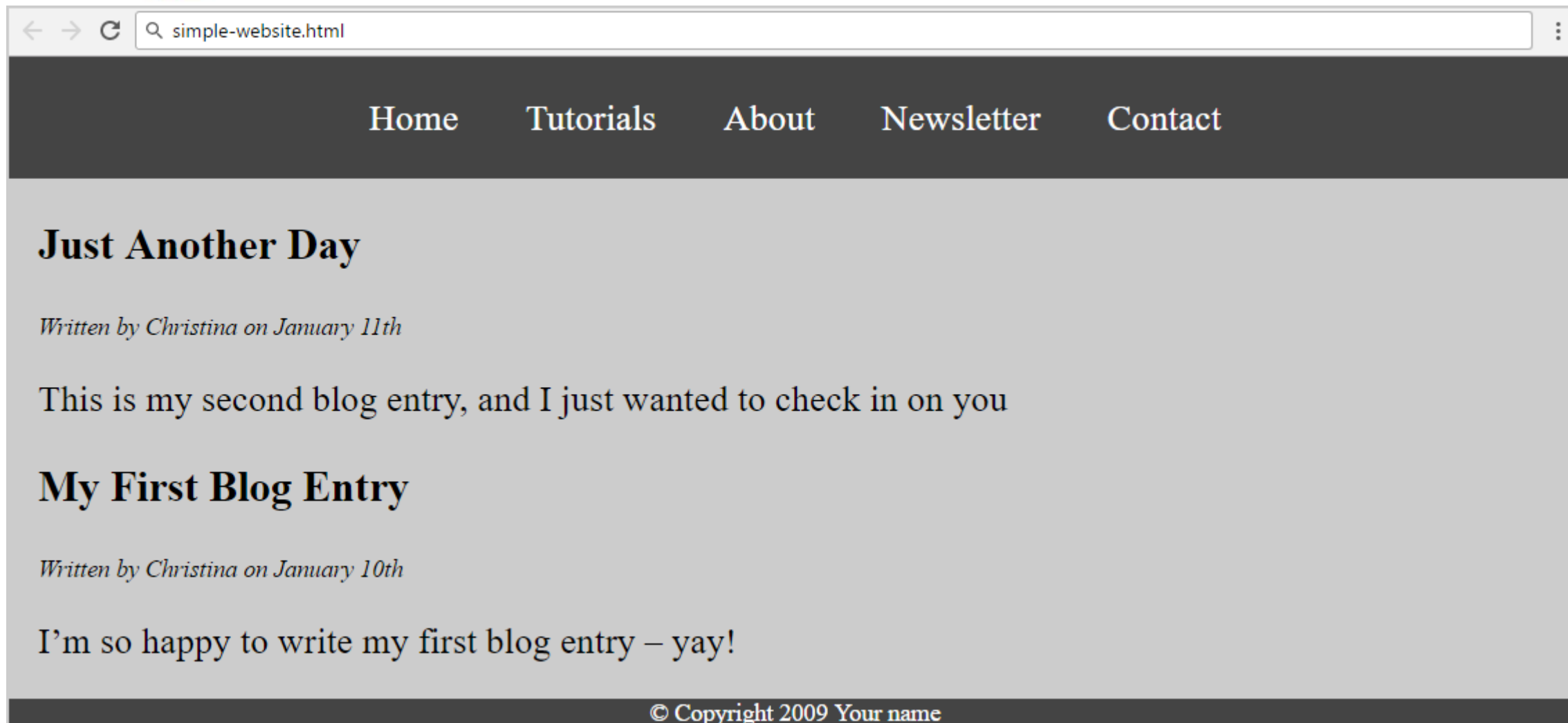
Posted by: Hege Refsnes

[Contact information:](#)

© copyright

```
<footer>
  <p>Posted by: Hege Refsnes</p>
  <p><a href="someone@exam.uk">Contact...</a></p>
  <p>&copy;copyright</p>
</footer>
```

Problem: Simple Website



Solution: Simple Website (HTML + CSS)

```
<nav>
  <ul>
    <li><a href="#">Home</a></li>
    <!-- TODO: add the missing links
-->
  </ul>
</nav>
<section>
  <article><!-- TODO: use the code
from previous problem --></article>
</section>
<footer>
  <p>&copy; Copyright 2009 ...</p>
</footer>
```

***/* TODO: use the CSS
from the previous
problem */***

```
footer {
  background: #444;
  color: #fff;
  text-align: center;
}
```

- **<figure>** – element to mark up a photo in a document:

```
<p>The Pulpit Rock ...</p>
<figure>
  
</figure>
```

Without **<figcaption>**

The Pulpit Rock is a massive cliff 604 metres (1982 feet) above Lysefjorden, opposite the Kjerag plateau, in Forsand, Ryfylke, Norway.



- **<figcaption>** – a caption for a figure element

```
<p>The Pulpit Rock ...</p>
<figure>
  
  <figcaption>Fig.1 - A view ...</figcaption>
</figure>
```

With **<figcaption>**

The Pulpit Rock is a massive cliff 604 metres (1982 feet) above Lysefjorden, opposite the Kjerag plateau, in Forsand, Ryfylke, Norway.



Fig.1 - A view of the pulpit rock in Norway.

Semantic Tags: Details + Summary

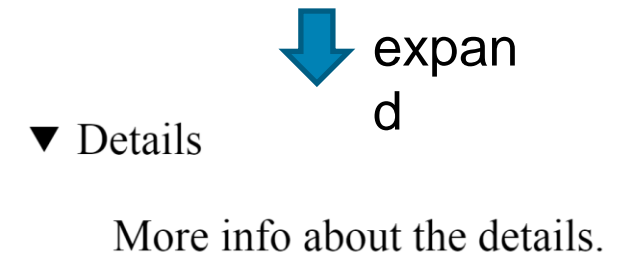
- **<details>** – tag specifies additional details

```
<details>
  <p>More info about the details.</p>
</details>
```

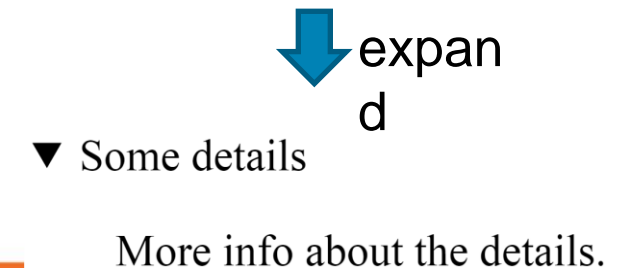
- **<summary>** – a visible heading for the **<details>**

```
<details>
  <summary>Some details</summary>
  <p>More info about the details.</p>
</details>
```

▼ Details



► Some details



Semantic Tags: Time + Address

- **<time>** – a human-readable time

We open at 10:00 every morning.

<p>

We open at **<time>10:00</time>** every morning.

</p>

- **<address>** – contact information for site author / owner

<address>

**Street Address: Karlstraße 120
**

**Country Name: Germany
**

**Tel: +49 1234 5678
**

Fax: +49 1234 5679

</address>

Street Address: Karlstraße 120

Country Name: Germany

Tel: +49 1234 5678

Fax: +49 1234 5679



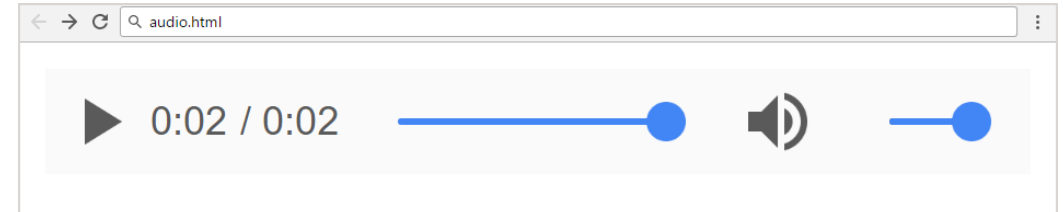
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MULTIMEDIA CONTEXT

Embedding Audio and Video

Embedding Audio

- The **<audio>** element inserts audio player in the Web page



```
<audio controls autoplay>  
  <source src="horse.mp3" type="audio/mpeg">  
</audio>
```

- Audio formats supported:
 - MP3, OGG, WAV
- Attributes: **controls, autoplay, loop, preload**

Embedding Video

- The **<video>** element inserts video player in your site

```
<video controls="controls">  
  <source src="shuttle.mp4" type="video/mp4">  
  <source src="shuttle.ogg" type="video/ogg">  
  Your browser does not support the HTML5 video.  
</video>
```

- Video formats: MP4, Ogg, WebM
- Attributes: width, height, poster, controls, autoplay, loop



HTML TABLES

Firstname	Lastname	Savings
Peter	Griffin	\$100
Lois	Griffin	\$150
Joe	Swanson	\$300
Cleveland	Brown	\$250

Tags For Building Tables

Simple HTML Tables

- Simple HTML tags for creating tables: `<table>`, `<tr>`, `<td>`

```
<table>
  <tr>
    <td>Cell 1.1</td>
    <td>Cell 1.2</td>
  </tr>
  <tr>
    <td>Cell 2.1</td>
    <td>Cell 2.2</td>
  </tr>
</table>
```

HTML table defined
by the `<table>` tag

Rows defined by
the `<tr>` tag

Table data (cells)
defined by
the `<td>` tag

Complete HTML Tables

- Complete tables use best practices in HTML 5

- There are three specific parts in every table:

- Table header
- Table body
- Table footer




- Each table part holds rows (<tr>)


- Rows hold cells (<td> / <th>)

```
<table>
  <thead>...</thead>
  <tbody>
    <tr>
      <td>Mark</td>
      <td>5,75</td>
    </tr>
  </tbody>
  <tfoot>...</tfoot>
</table>
```


Complete HTML Tables

- Table header
 - `<thead>` group header content in an HTML table
 - Holds `<tr>` with `<th>` header cells
- Table body: `<tr>` with `<td>` cells
- Table footer
 - `<tfoot>` group footer content in an HTML table
 - Holds `<tr>` with `<td>` cells



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```
<table>
  <thead>
    <tr>
      <th>Name</th>
      <th>Mark</th>
    </tr>
  </thead>
  <!-- TODO: <tbody> -->
  <tfoot>
    <tr>
      <td>Average</td>
      <td>4.12</td>
    </tr>
  </tfoot>
</table>
```

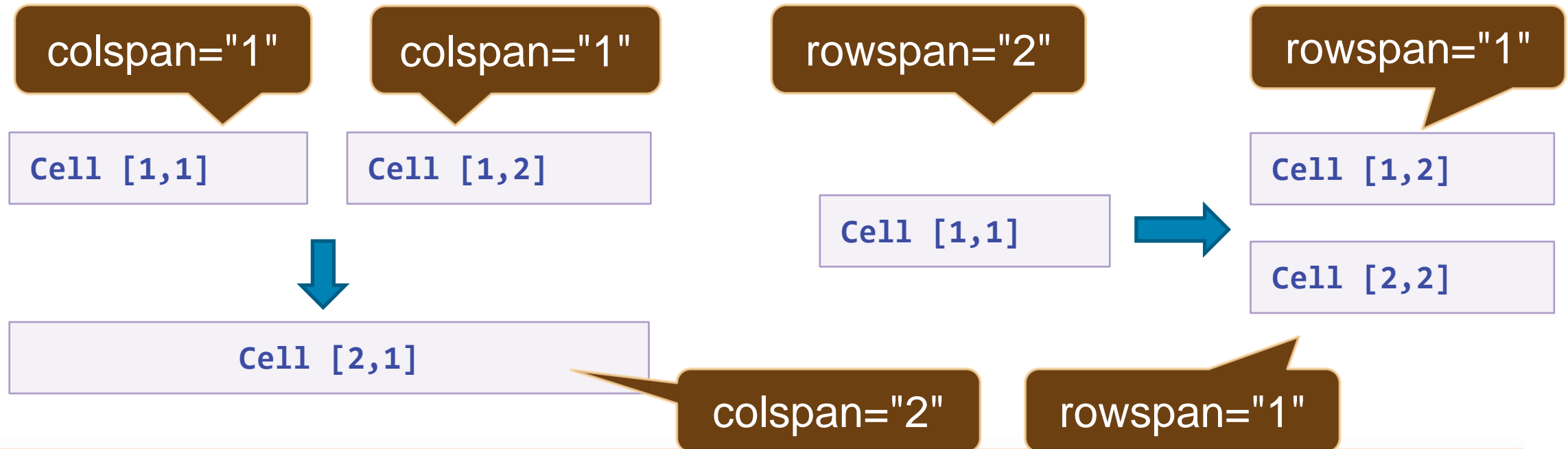
Complete HTML Tables

- Merge rows and columns

```
<td colspan="2">Sum: $180</td>
```

- Columns

■ Rows



Problem: Exam Results

- Create a HTML table like the screenshot below.

Web fundamentals exam result			
№	First name	Last name	Score
01	Gosho	Goshev	500
02	Tosho	Toshev	500
03	Gencho	Genchev	500
04	Draga	Draganova	500
05	Gosho	Goshev	500
Average score from 05 participants: 500			

`<tbody>`
`<tr>...</tr>`
`</tbody>`

`<thead>`
`<tr>`
`<th>...</th>`
`</tr>`
`</thead>`

`<tfoot>`
`<tr>...</tr>`
`</tfoot>`

Solution: Exam Results (HTML + CSS)

```
<table>
```

```
  <thead>
```

```
    <tr><th colspan="4">Web Fundamentals</th></tr>
```

```
  </thead>
```

```
  <tbody>
```

```
    <tr>
```

```
      <td class="bold">&#8470;</td>
```

```
      <!-- TODO: put the rest <td> here ... -->
```

```
    </tr>
```

```
    <!-- TODO: put the rest <tr> with <td> here ... -->
```

```
  </tbody>
```

Web fundamentals exam result			
Nº	First name	Last name	Score
01	Gosho	Goshev	500
02	Tosho	Toshev	500

```
<tfoot>
```

```
  <tr><td colspan="4" class="result"><!--TODO:--></td></tr>
```

```
</tfoot>
```

```
</table>
```

Average score from 05 participants: 500

```
table, td, tr, th {  
  border: 1px solid #000000;  
}
```

```
td {  
  padding-left: 5px;  
}
```

```
.bold {  
  font-weight: bold;  
  text-align: center;  
}  
.result {  
  width: 400px;  
  text-align: right;  
  padding-right: 5px; }
```

- Character entities show special characters in HTML

Incorrect html-tag

`<some-Text-example>`

Will display `<some-Text-example>`

`<some-Text-example>`

`<some-text-example>`

`</some-text-example>`

`<some-Text-example>`

Name	Character	Entity
Copyright	©	©
Registered	®	®
Trademark	™	™
less than	<	<
greater than	>	>
non-breaking space		
ampersand	&	&