



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

HTML DOCUMENT STRUCTURE

HTML Document, Doctype, Head, Body

HTML Document Structure

- 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

Specify the character encoding

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

- Styles declarations

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

- Scripts declarations

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

Head Element: Title + Favicon

HTML title

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

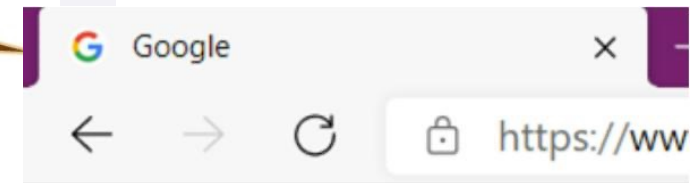
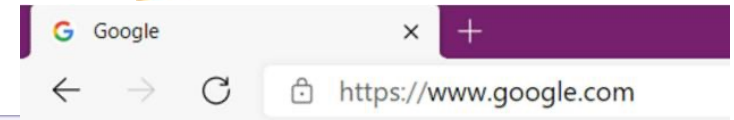
```
<head>
  <title>Home - ...</title>
</head>
```

Favicon

- **favicon** – a site icon

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

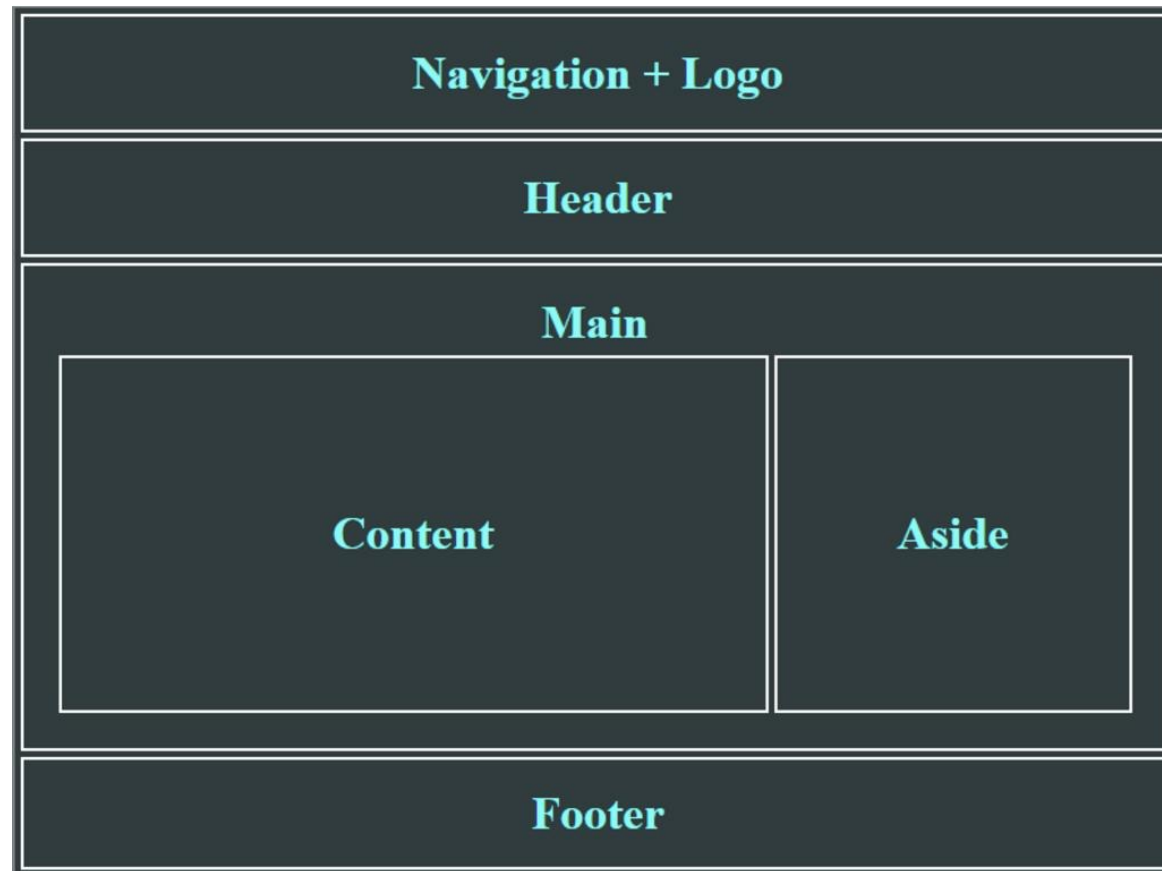
```
<link href="/favicon.ico"
rel="shortcut icon" type="image/x-icon"/>
```



SEMANTIC STRUCTURAL TAGS

The Structure of a Web Page

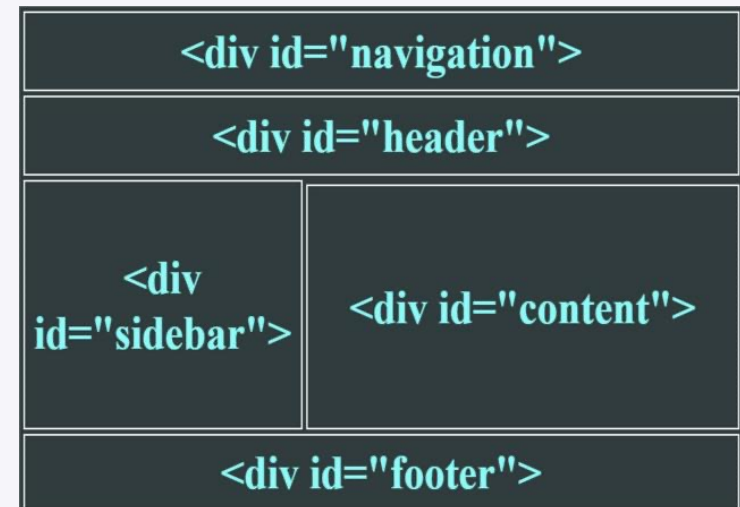
- A typical layout structure of a Web page



The "HTML 4 and Old" Way

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

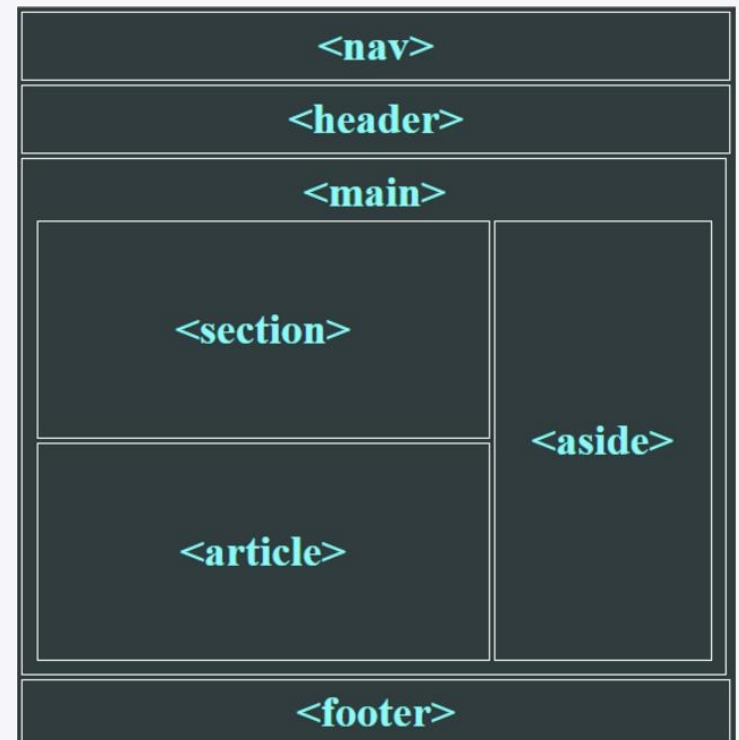
```
<html>
  <head> ... </head>
  <body>
    <div id="navigation">...</div>
    <div id="header">...</div>
    <div id="sidebar">...</div>
    <div id="content">...</div>
    <div id="footer">...</div>
  </body>
</html>
```



The HTML5 Way

- 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>
```

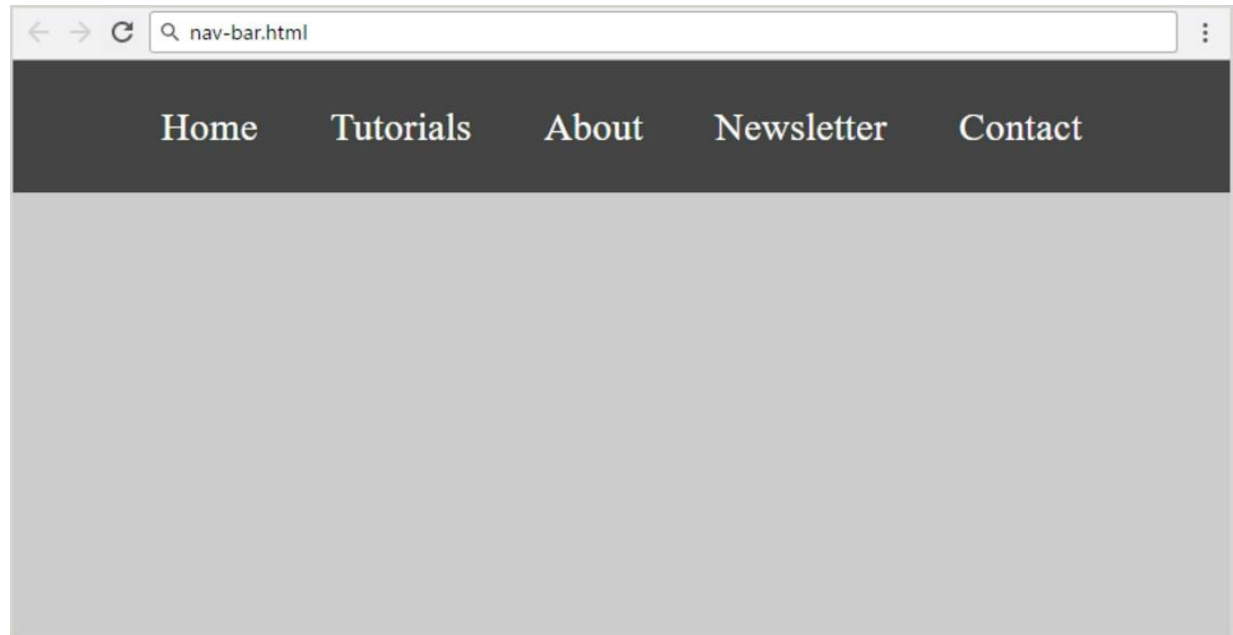
- [Home](#)
- [Menu](#)
- [Courses](#)

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>

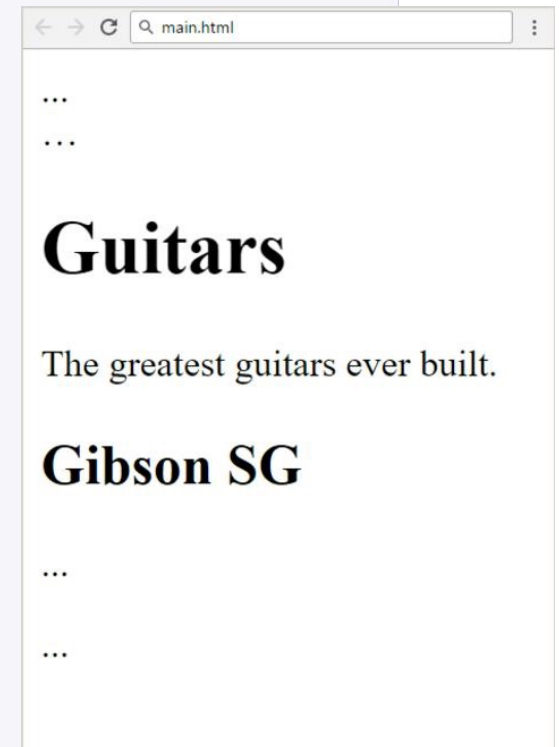


HTML5 Semantic Tags: Main

```
<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



Semantic Tags: Section

- `<section>`— a group of related content

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

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

Heading



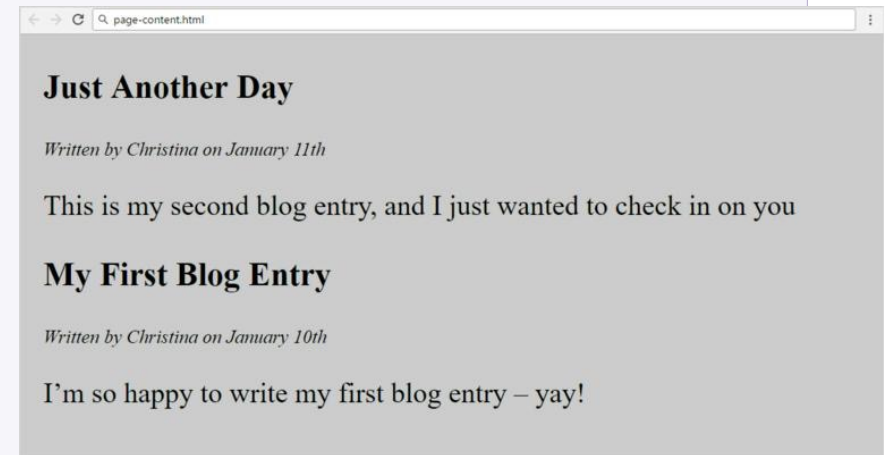
Problem: Page Content

- 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)

The diagram illustrates the use of the `<aside>` tag for a sidebar. It features a main content area on the left and a sidebar on the right. A callout box labeled "Main site content" points to the main area. Another callout box labeled "Sidebar: <aside>" points to the sidebar. The sidebar contains a "Blogroll" section with a list of links.

```
...  
<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>
```

Blogroll

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

Semantic Tags: Footer

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

Document author + contact
info + copyright info

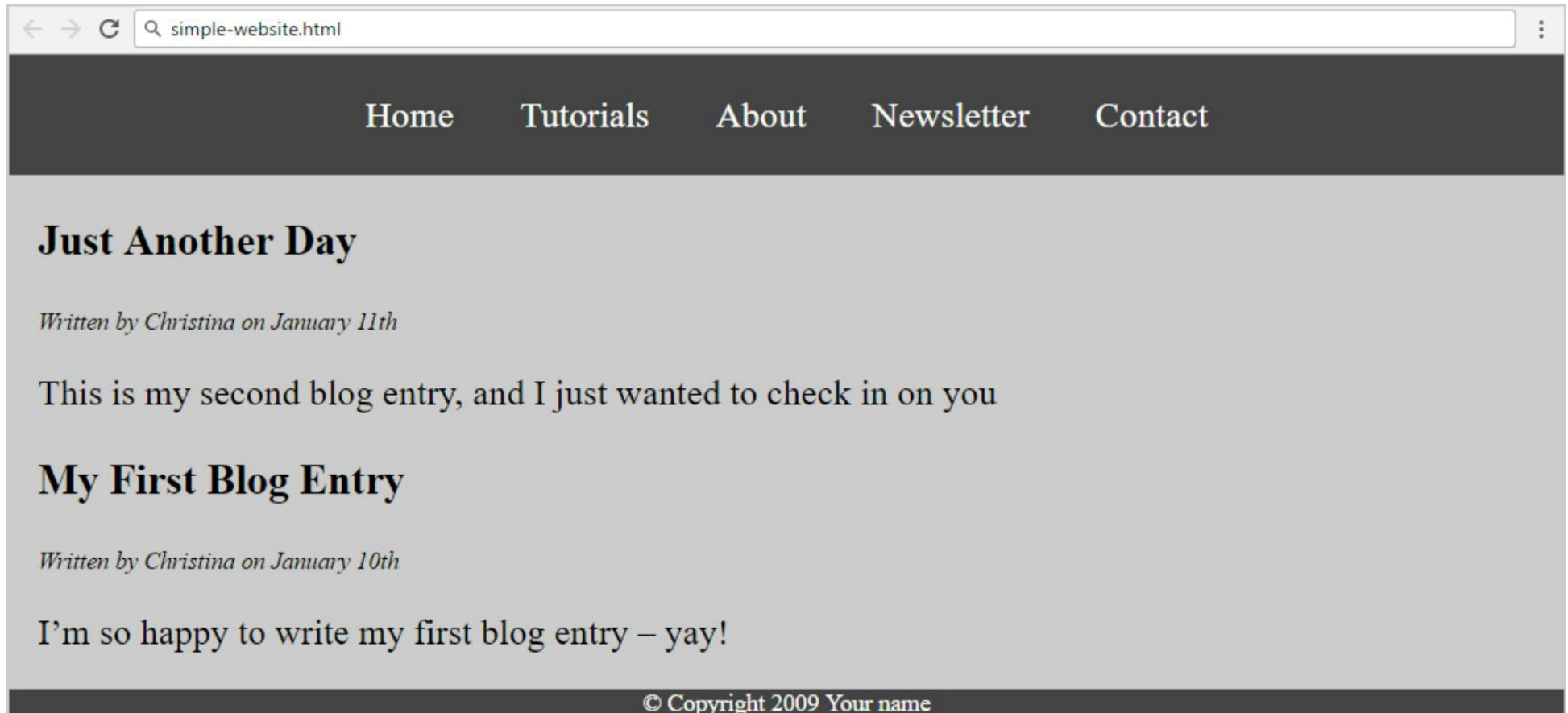
Posted by: Hege Refsnes

[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;
}
```

Semantic Tags: Figure + Figcaption

- **<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



▼ Details

More info about the details.

► Some details



▼ Some details

More info about the 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<br/>
  Country Name: Germany<br/>
  Tel: +49 1234 5678<br/>
  Fax: +49 1234 5679
</address>
```

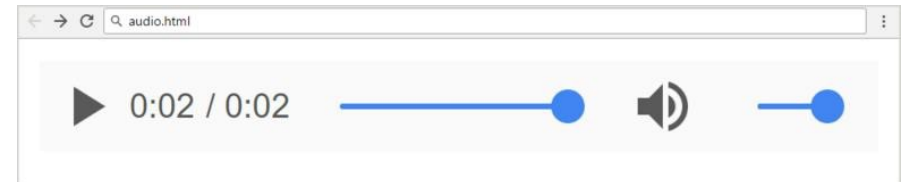
*Street Address: Karlstraße 120
Country Name: Germany
Tel: +49 1234 5678
Fax: +49 1234 5679*

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

```
<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>
```

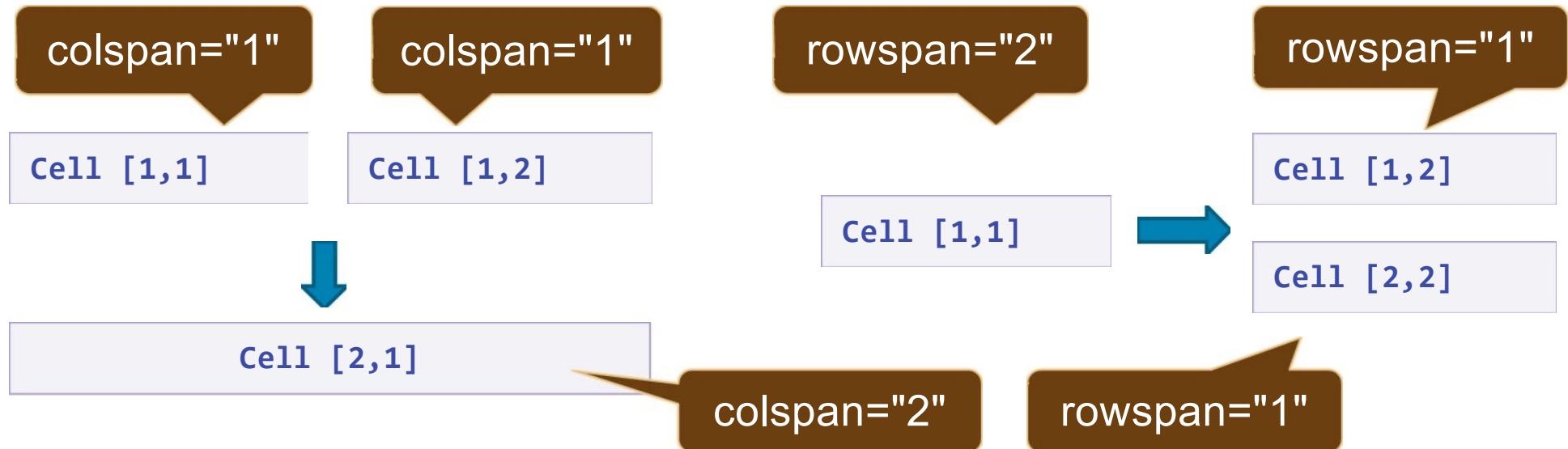
Complete HTML Tables

- Merge rows and columns

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

- Columns

■ Rows



Problem: Exam Results

- Create a HTML table like the screenshot below

exam-results.html

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>01</td>
      <td>Gosho</td>
      <td>Goshev</td>
      <td>500</td>
    </tr>
    <tr>
      <td>02</td>
      <td>Tosho</td>
      <td>Toshev</td>
      <td>500</td>
    </tr>
    <tr>
      <td class="bold">#8470;</td>
      <!-- TODO: put the rest <td> here ... -->
    </tr>
    <!-- TODO: put the rest <tr> with <td> here ... -->
  </tbody>
</table>
```

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

Solution: Exam Results (More HTML + CSS)

```
<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; }
```

HTML Entities

- 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	&	&