

HTML Document Structure



SoftUni Team
Technical Trainers
Software University
<http://softuni.bg>



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

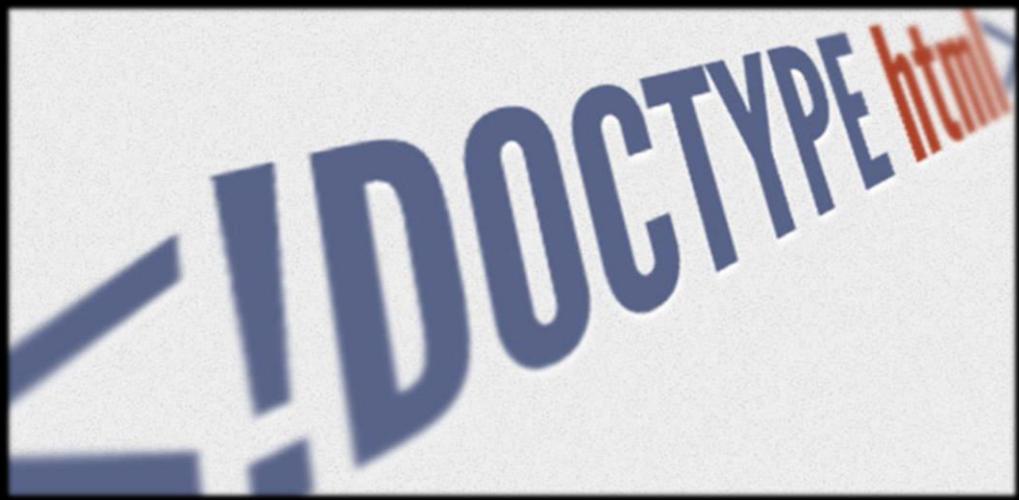


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- © ® ™ < >



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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
 - Styles declarations
 - Scripts declarations

Specify the character encoding

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

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

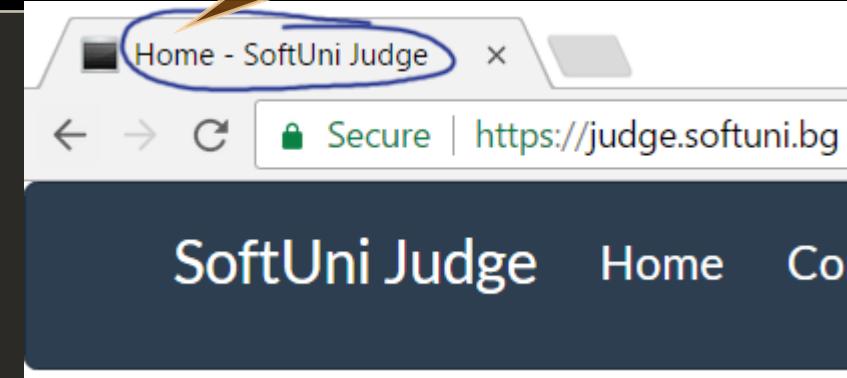
```
<script src="main.js"></script>
```

Head Element: Title + Favicon

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

HTML title

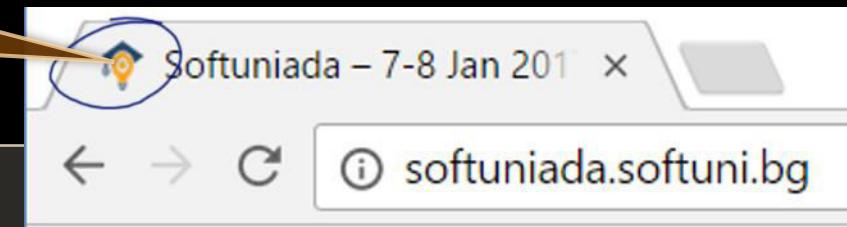
```
<head>
  <title>Home - ...</title>
</head>
```



- favicon** – a site icon

Favicon

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



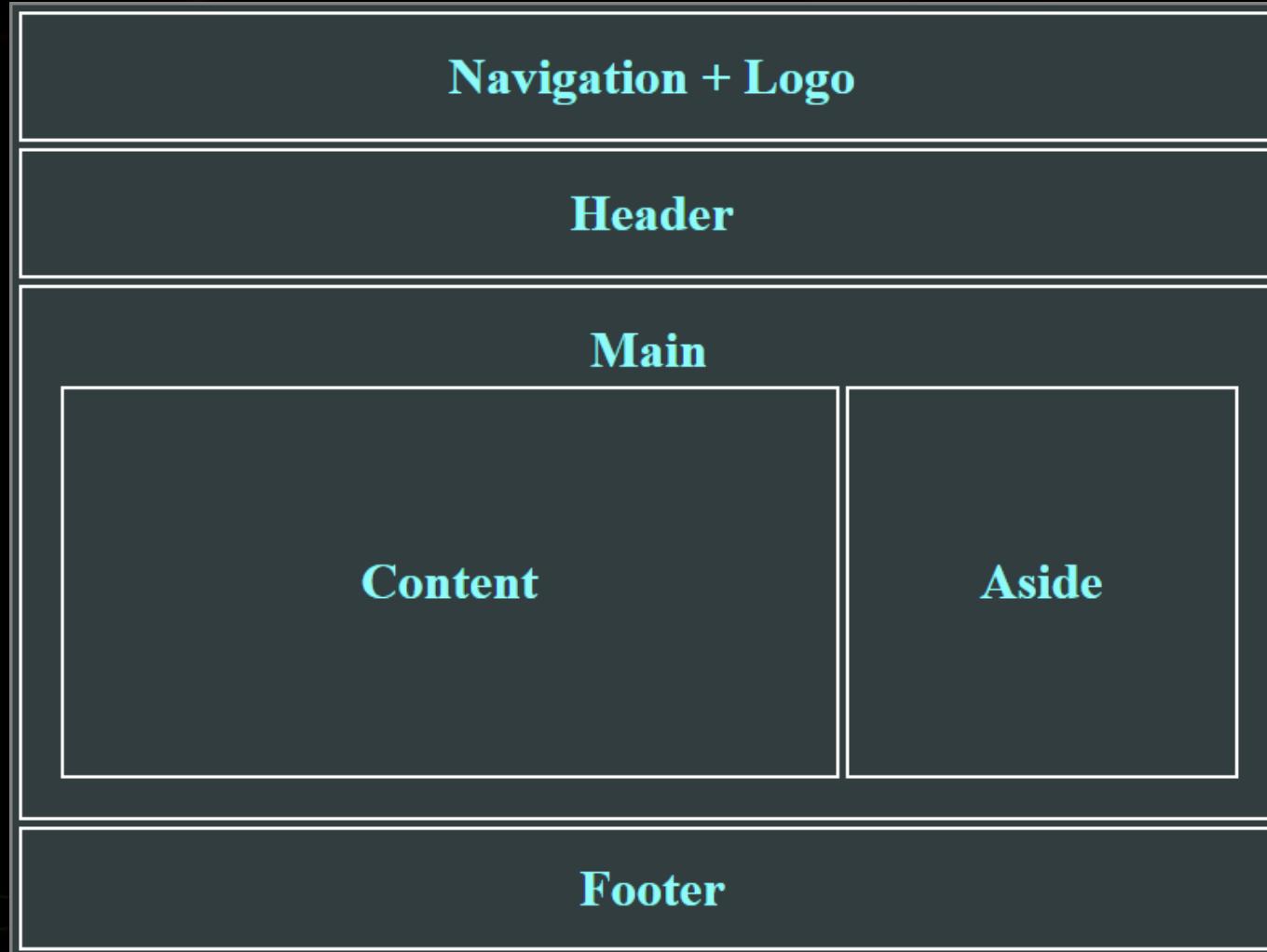
- Favicon generator: <http://www.favicon-generator.org>



Semantic Structural Tags

The Structure of a Web Page

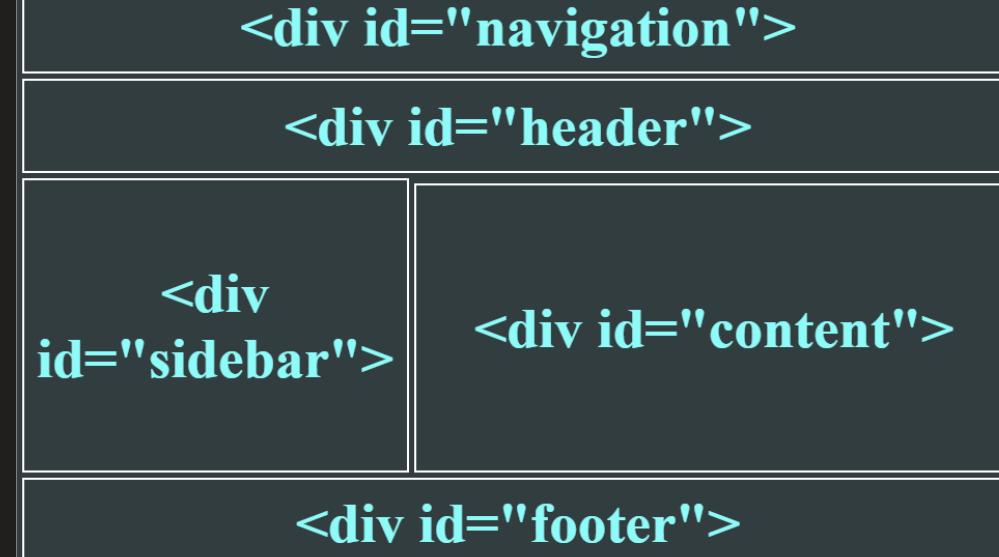
- A typical layout structure of a Web page



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 HTML 5 Way

- HTML 5 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>
```

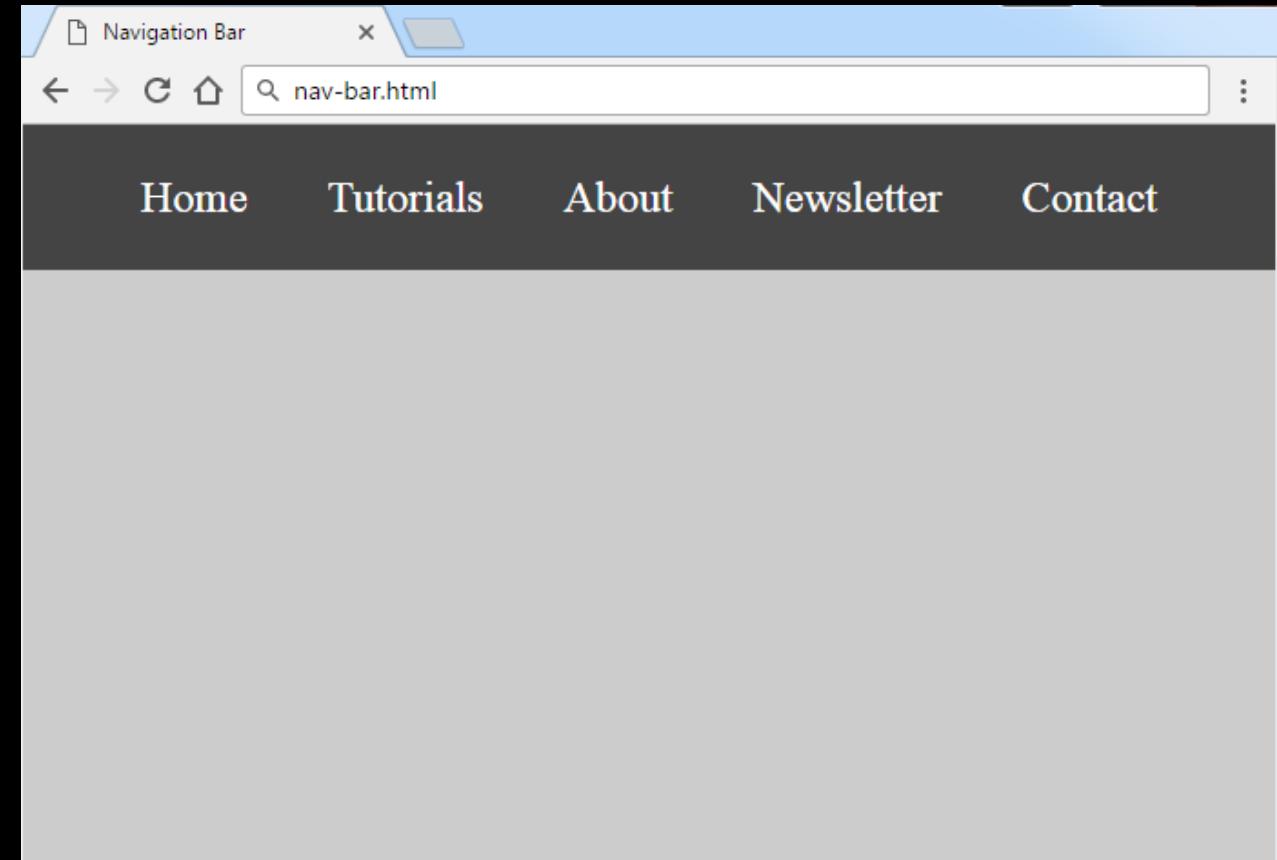
- [Home](#)
- [Menu](#)
- [Courses](#)

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;  
}
```

Check your solution here: <https://judge.softuni.bg/Contests/395>

HTML5 Semantic Tags: Header

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

...
<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>
```

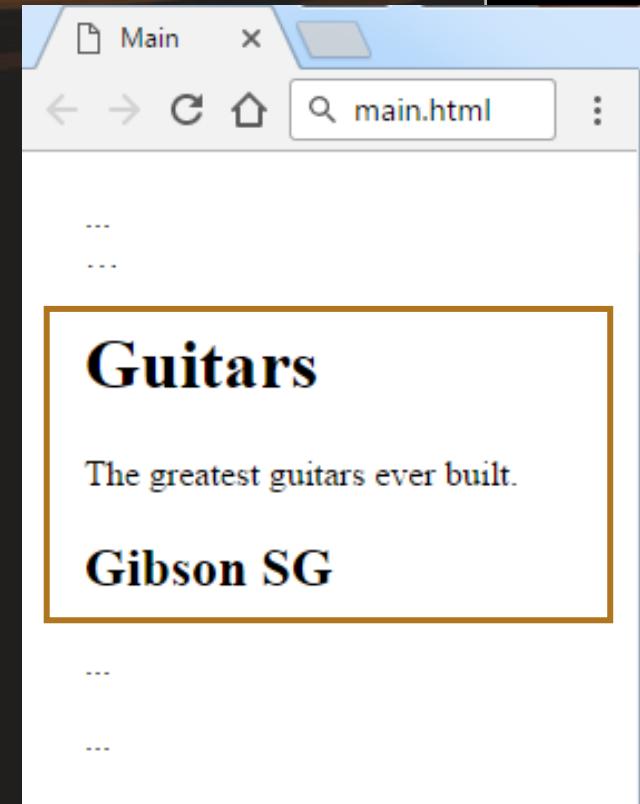
<header> holds title + posted article date



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



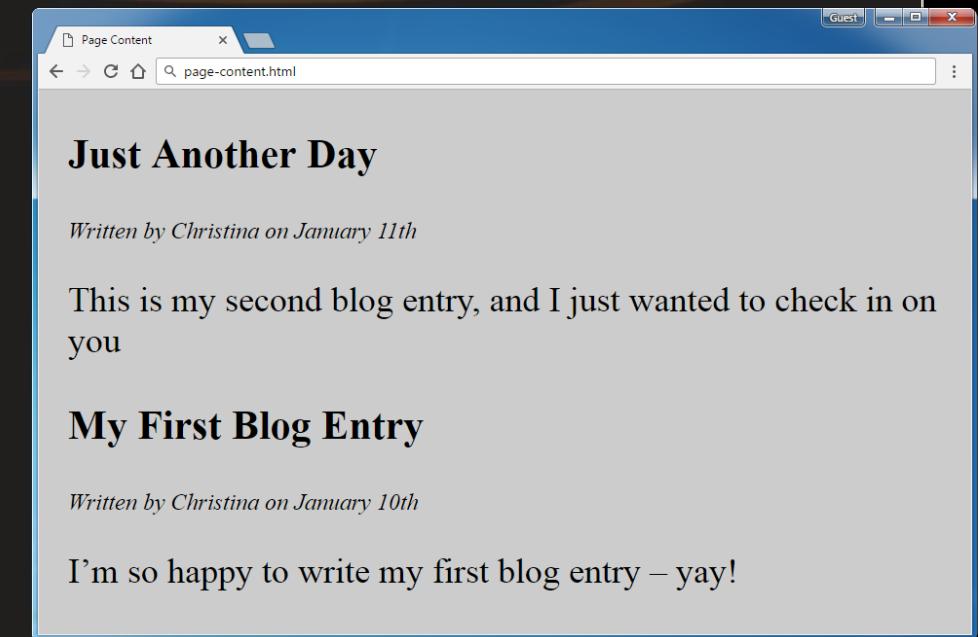
Problem: Page Content

- 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>
```

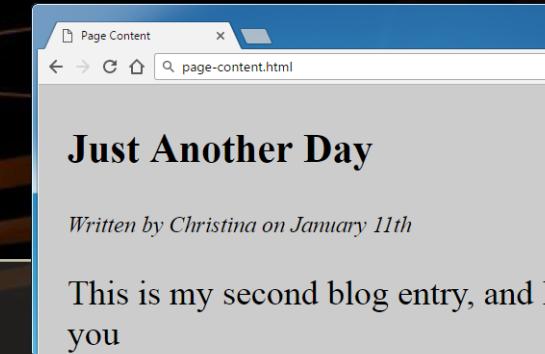


Check your solution here: <https://judge.softuni.bg/Contests/395>

Solution: Page Content (CSS)

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

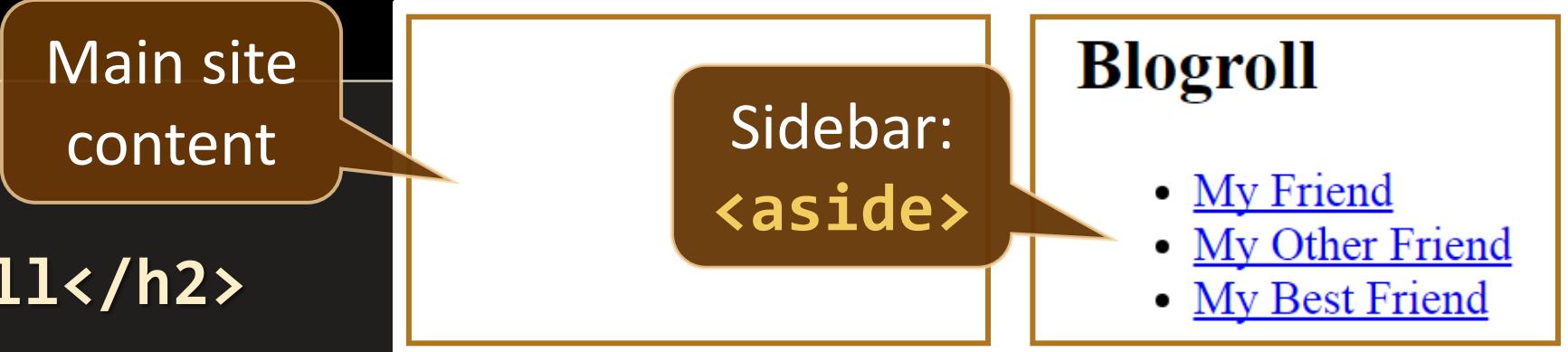
```
h1 {  
    font-size: 28px;  
}  
  
header > p {  
    font-style: italic;  
}  
  
article > p {  
    font-size: 24px;  
}
```



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>
```



Semantic Tags: Footer

- <footer> – a document / section footer

Document author + contact info + copyright info

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

Posted by: Hege Refsnes
[Contact information:](#)
© copyright

Problem: Simple Website



A screenshot of a simple website displayed in a web browser window titled "Simple Website". The URL in the address bar is "simple-website.html". The website has a dark header with white text for "Home", "Tutorials", "About", "Newsletter", and "Contact". Below the header, there are two blog entries. The first entry is titled "Just Another Day" and is dated "Written by Christina on January 11th". The text of the entry is: "This is my second blog entry, and I just wanted to check in on you". The second entry is titled "My First Blog Entry" and is dated "Written by Christina on January 10th". The text of the entry is: "I'm so happy to write my first blog entry – yay!". At the bottom of the page is a dark footer bar with the copyright notice "© Copyright 2009 Your name".

Simple Website

simple-website.html

Guest

Home Tutorials About Newsletter Contact

Just Another Day

Written by Christina on January 11th

This is my second blog entry, and I just wanted to check in on you

My First Blog Entry

Written by Christina on January 10th

I'm so happy to write my first blog entry – yay!

© Copyright 2009 Your name

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;
}
```

Check your solution here:
<https://judge.softuni.bg/Contests/395>

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

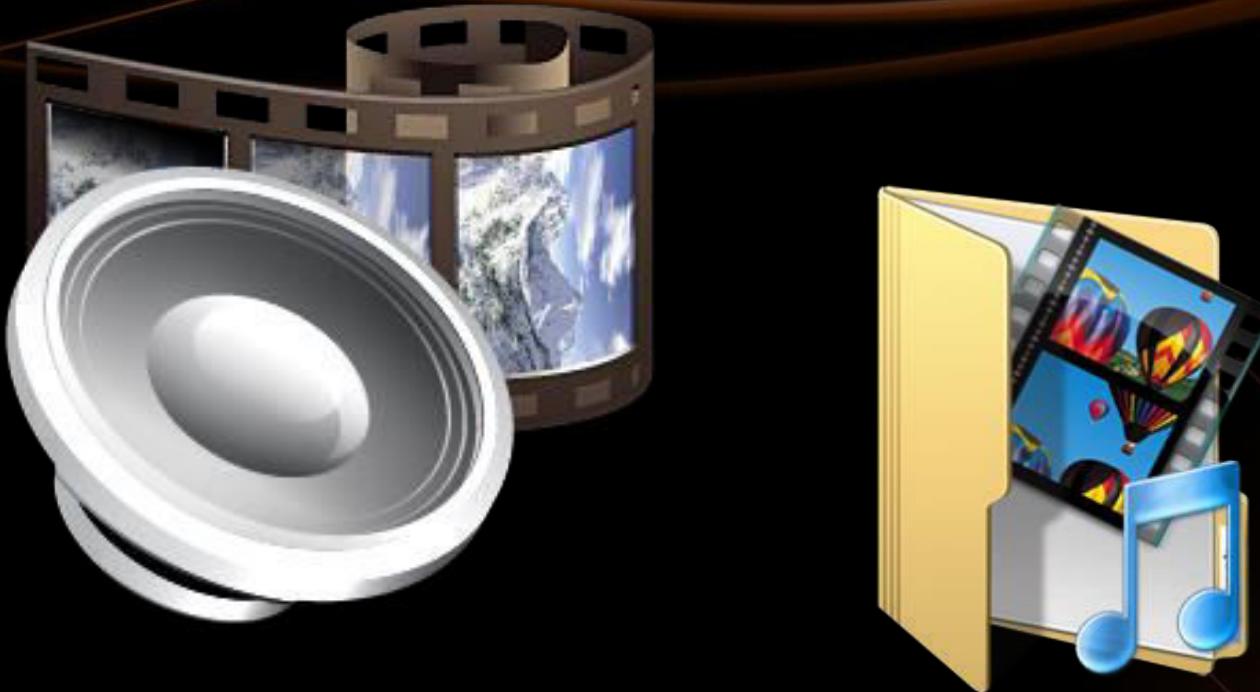
We open at 10:00 every morning.

```
<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



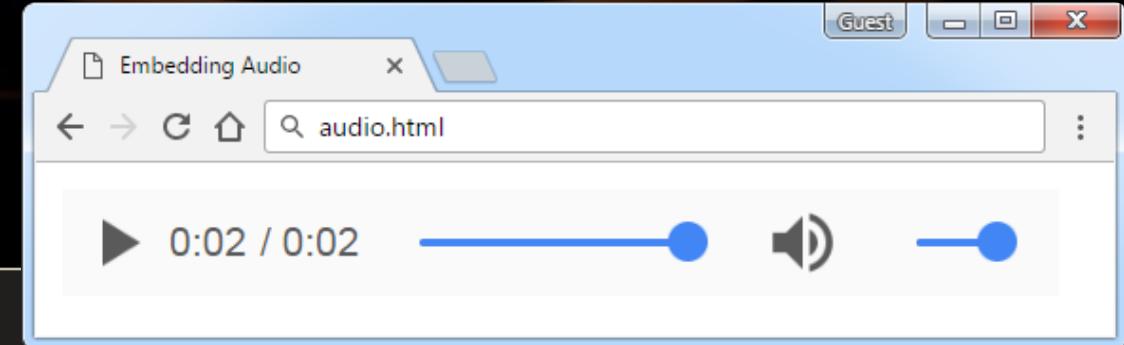
Multimedia Context

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.ogv" type="video/ogg">
  Your browser does not support the HTML5 video.
</video>
```

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

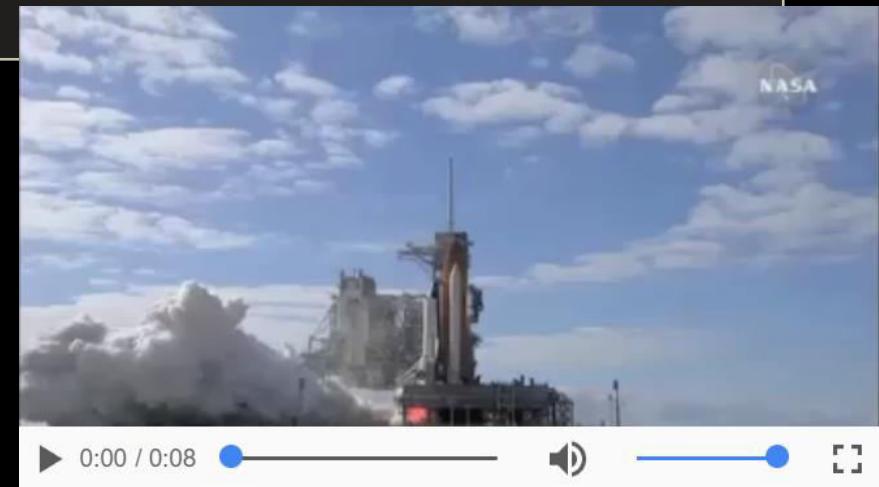


Table x

Guest ...

table.html

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

HTML Tables

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

colspan="1"

Cell [1,1]

colspan="1"

Cell [1,2]

- Rows

rowspan="2"

Cell [1,1]

rowspan="1"

Cell [1,2]

Cell [2,2]

Cell [2,1]

colspan="2"

rowspan="1"

Problem: Exam Results

- Create a HTML table like the screenshot below:

Exam Results

exam-results.html

Web fundamentals exam result

Nº	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">№</td>
      <td>First name</td>
      <td>Last name</td>
      <td>Score</td>
    </tr>
    <!-- TODO: put the rest <td> here ... -->
    <tr>
      <td class="bold">01</td>
      <td>Gosho</td>
      <td>Goshev</td>
      <td>500</td>
    </tr>
    <!-- TODO: put the rest <tr> with <td> here ... -->
  </tbody>

```

Web fundamentals exam result			
№	First name	Last name	Score
Web Fundamentals			
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; }
```

Check your solution here: <https://judge.softuni.bg/Contests/395>

HTML Entities

- Character entities show special characters in HTML

Incorrect html-tag

```
<some-Text-example>
```

Will display <some-
Text-example>

```
&lt;some-Text-example&gt;
```

```
<some-text-example>
```

```
</some-text-example>
```

```
<some-Text-example>
```

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

Summary

- HTML document structure:

```
<!DOCTYPE>, <html>, <head>, <body>
```

- HTML semantic tags:

```
<nav>, <header>, <main>, <footer>...
```

- HTML table tags:

```
<table>, <thead>, <tbody>, <tfoot>...
```

- HTML entities:

```
&copy; &trade; &lt; &gt;...
```



HTML Document Structure



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Questions?

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