

HTML Document Structure

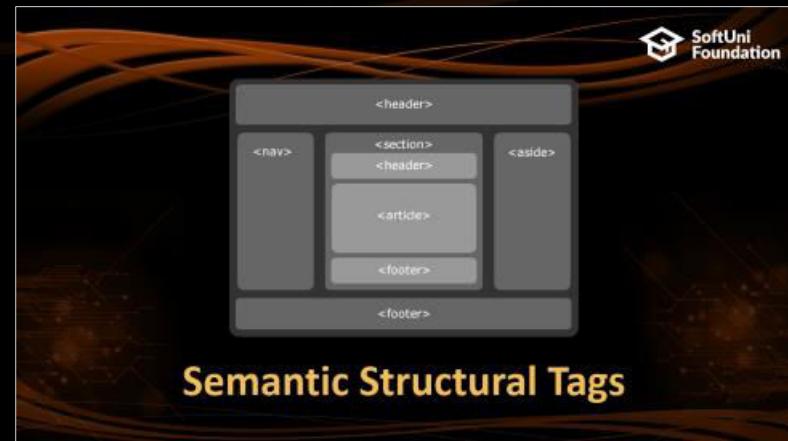
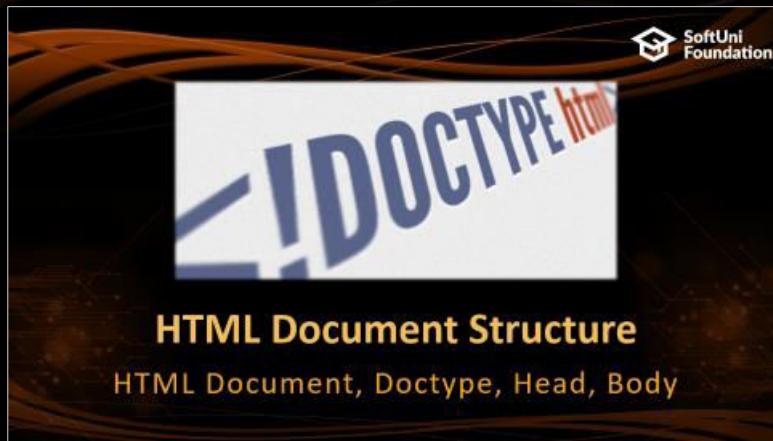
Doctype, Head, Body, Semantic
Tags, Tables, HTML Entities



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Table of Contents



The slide displays a screenshot of a Microsoft Excel spreadsheet titled "table.html". The table has three columns: "Firstname", "Lastname", and "Savings". The data rows are: Peter Griffin \$100, Lois Griffin \$150, Joe Swanson \$300, and Cleveland Brown \$250. Below the table, the text "HTML Tables" is displayed in bold, followed by "Tags For Building Tables". The background is the dark, wavy pattern.

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

Have a Question?



sli.do

#front-end



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">
```

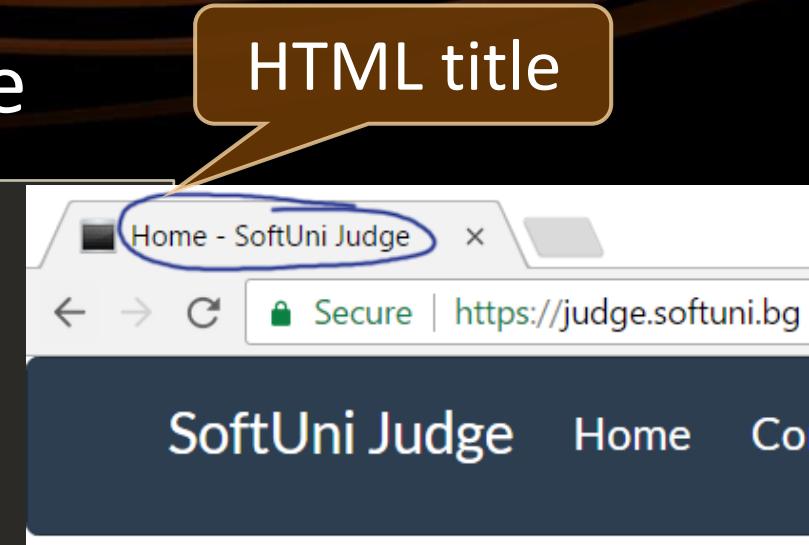
```
<link rel="stylesheet"  
type="text/css" href="site.css">
```

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

Head Element: Title + Favicon

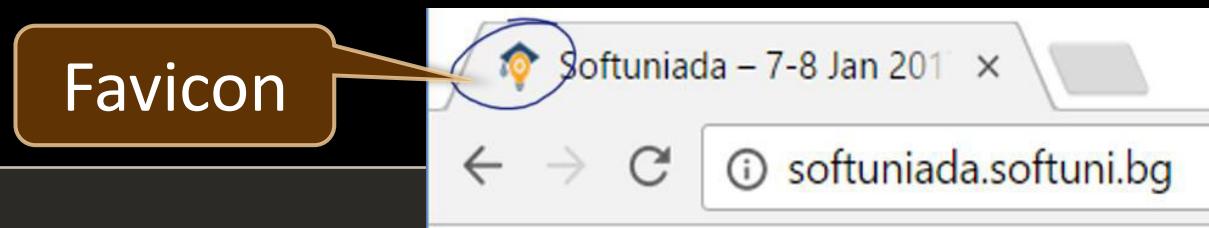
- The **<title>** tag – HTML document title

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



- Favicon** – a site icon

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



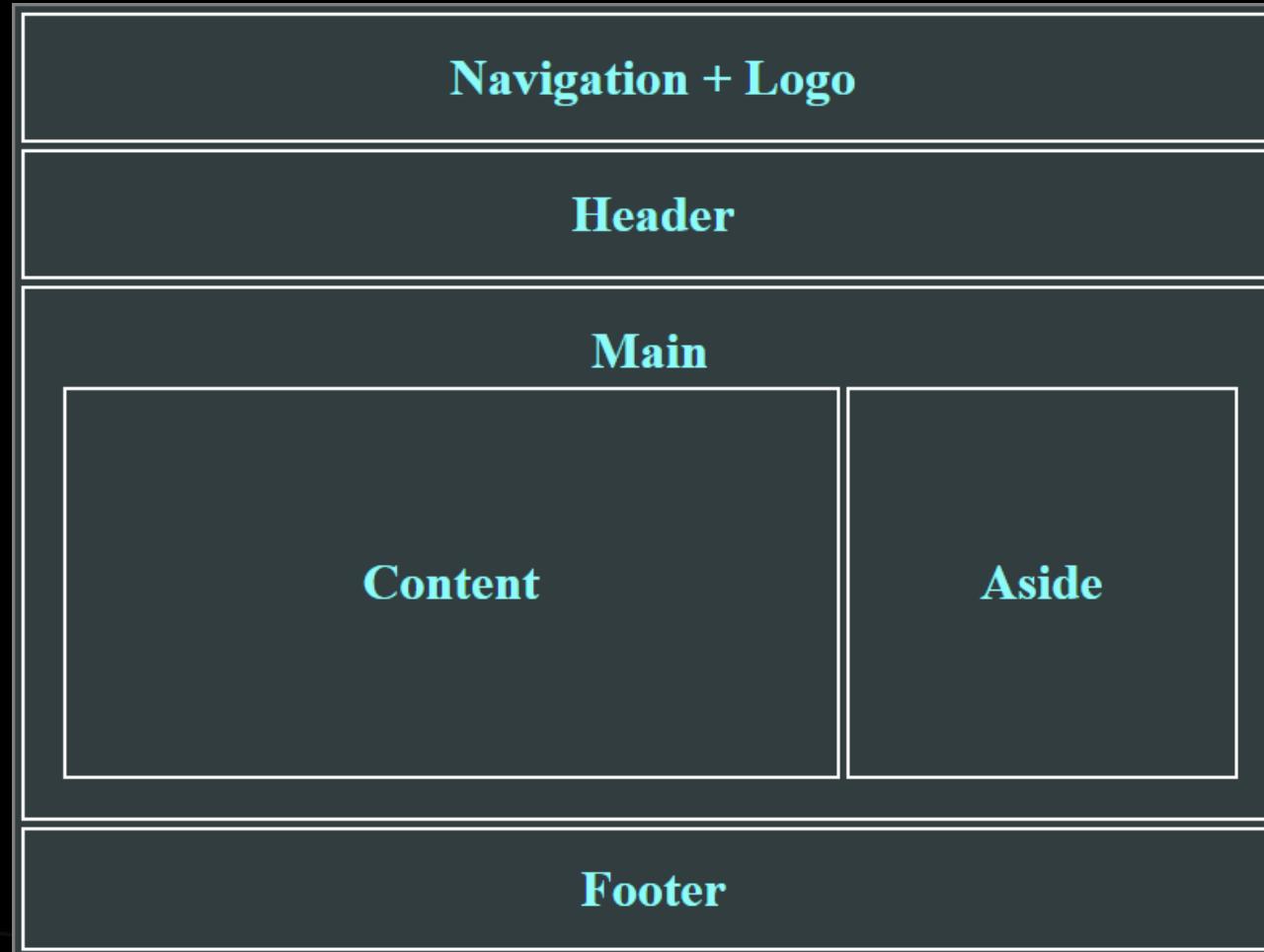
- Favicon generator: <http://www.favicon-generator.org>



Semantic Structural Tags

The Structure of a Web Page

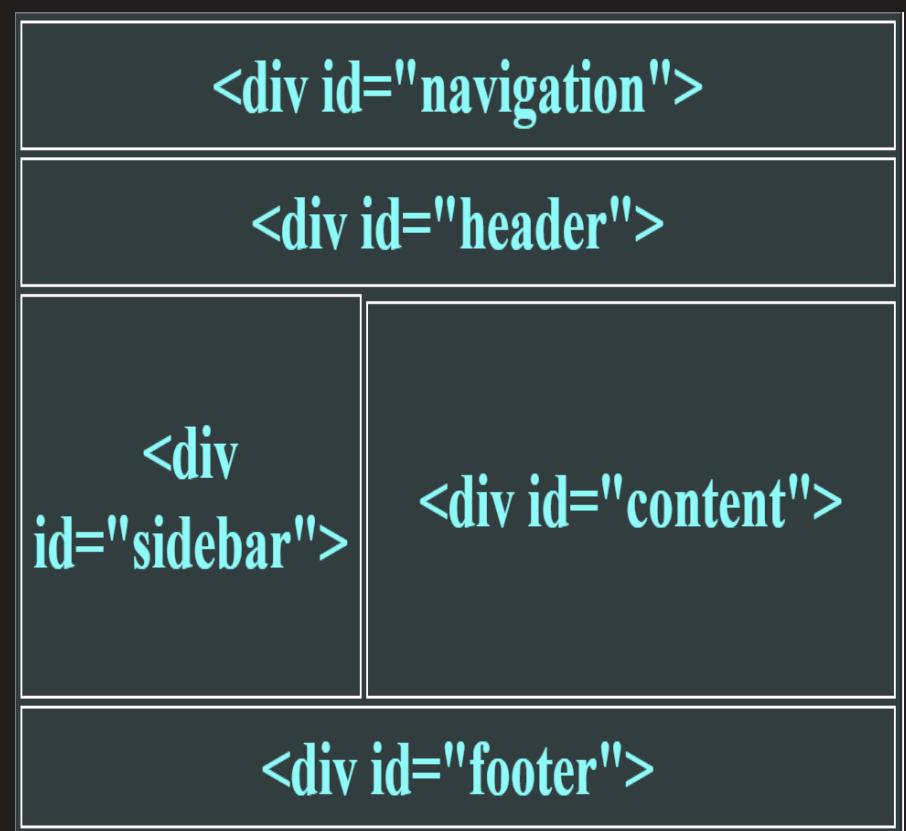
- A typical layout structure of a Web page



The "HTML4 & 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

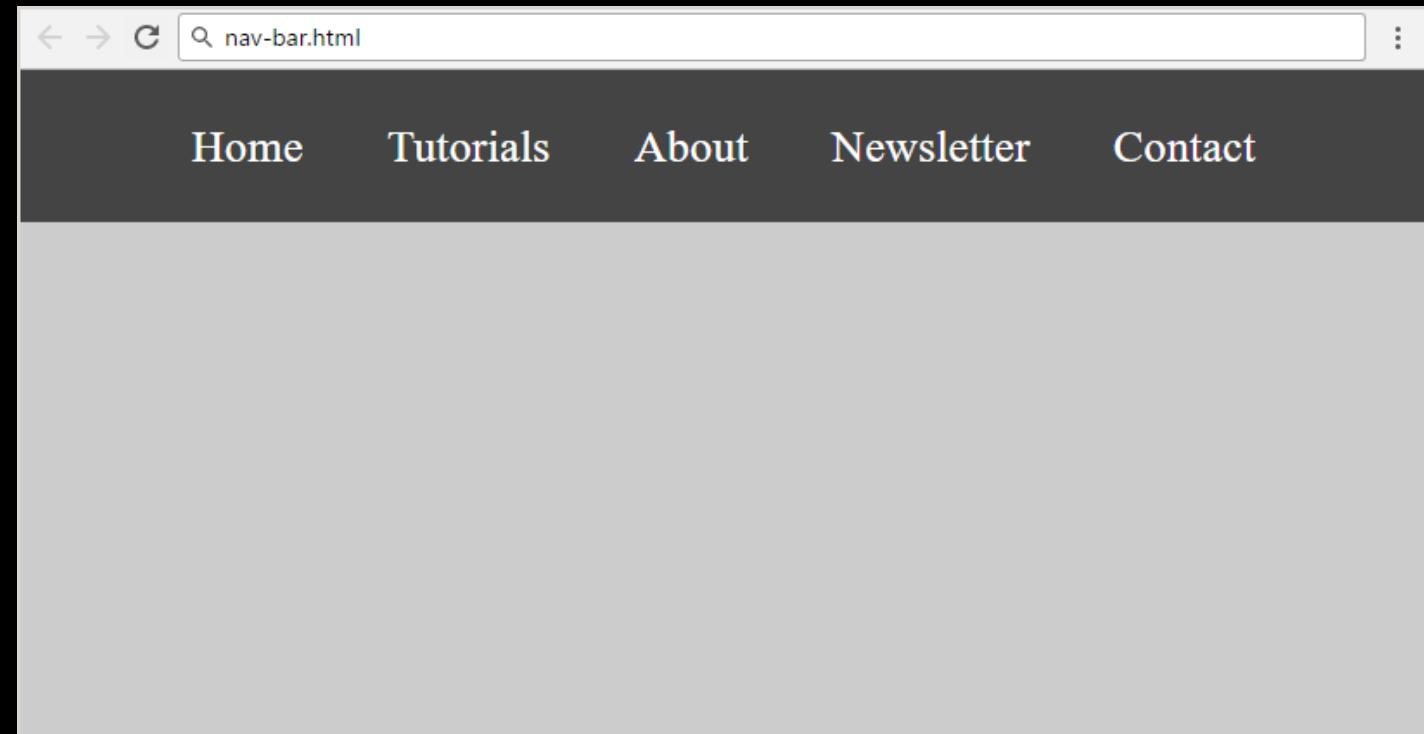
- **<nav>** – defines a set of navigation links

```
<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;  
}
```

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

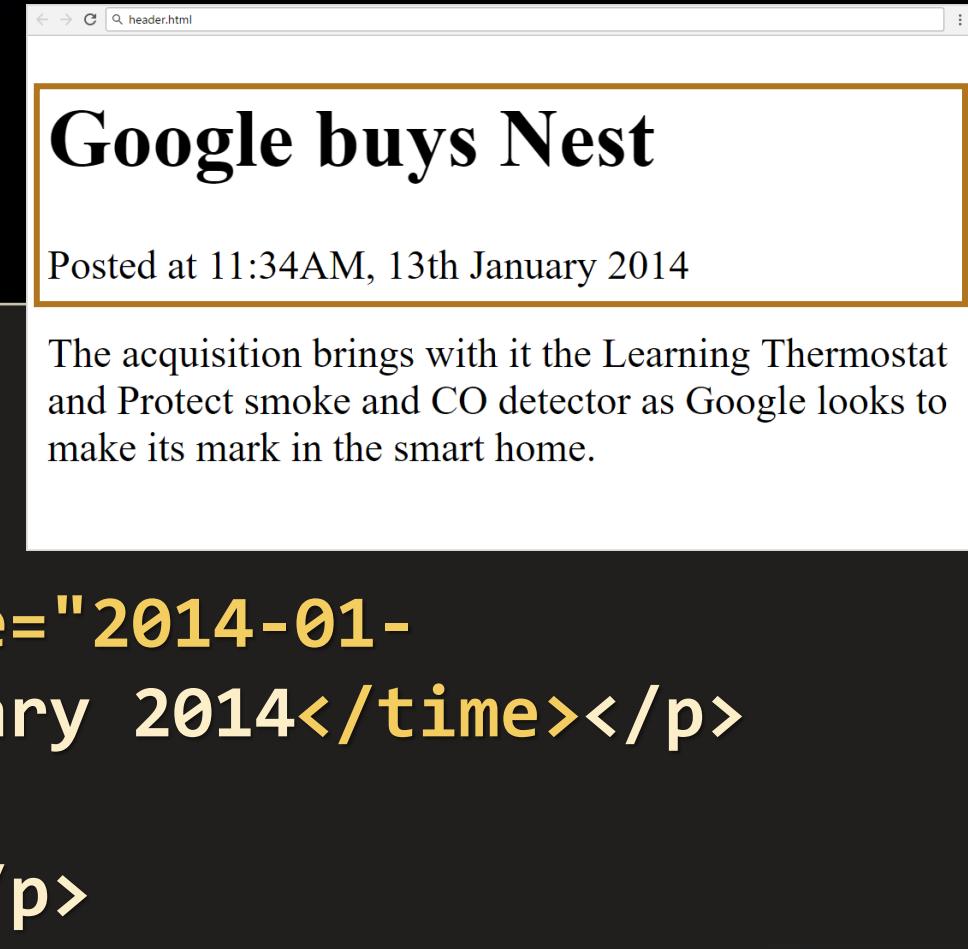
HTML5 Semantic Tags: Header

- **<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>
```

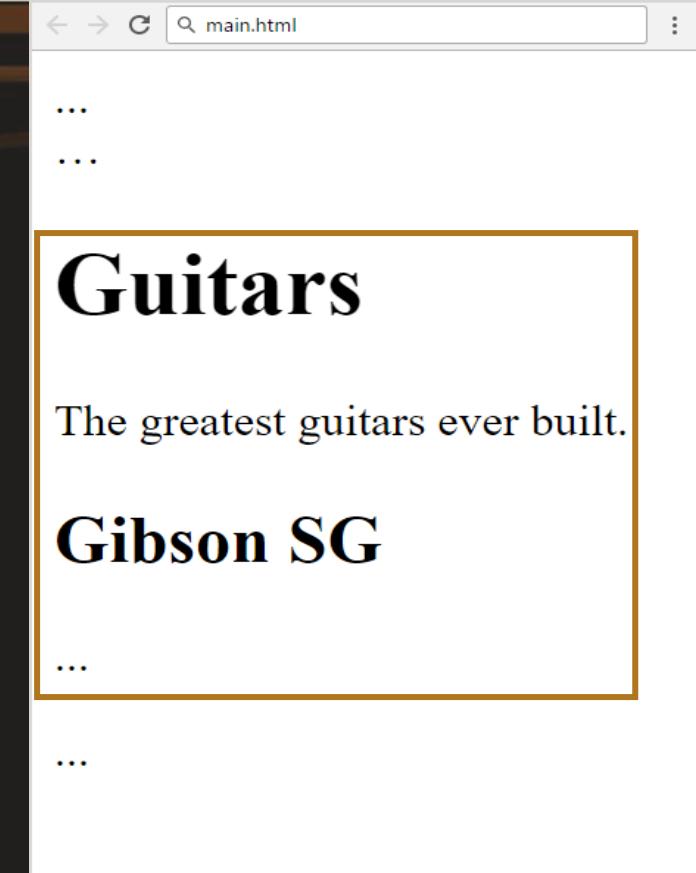
<header> holds title + posted article date



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)

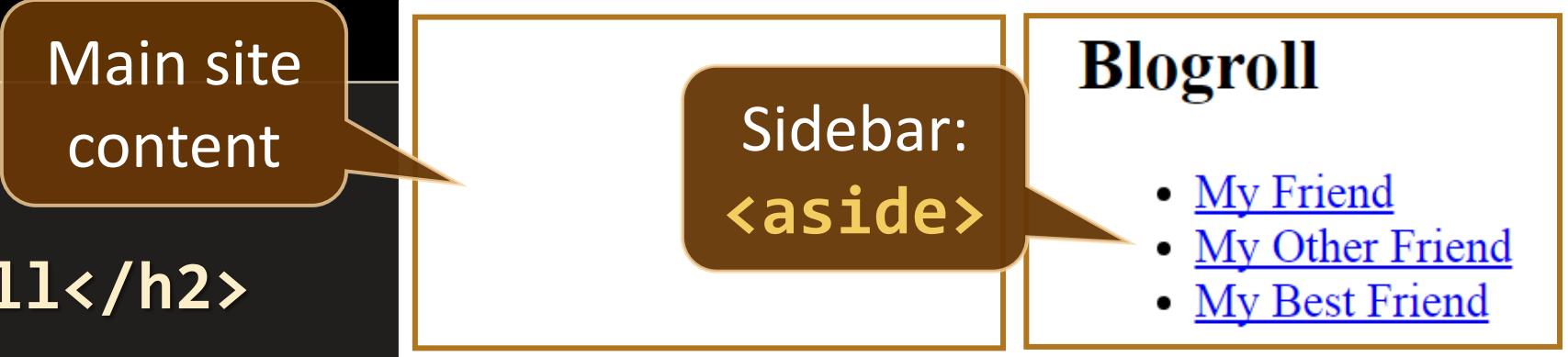
```
body {  
    margin: 0;  
    padding: 0;  
    background: #ccc;  
}  
  
section {  
    margin-left: 20px;  
}
```

```
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>
```



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

```
<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 web browser displaying a simple website. The address bar shows 'simple-website.html'. The page has a dark grey header with navigation links: Home (blue), Tutorials (red), About (blue), Newsletter (red), and Contact (blue). The main content area has a light grey background. The first blog entry is titled 'Just Another Day' in bold black font, with the author note 'Written by Christina on January 11th' below it. The text of the entry is: 'This is my second blog entry, and I just wanted to check in on you'. The second blog entry is titled 'My First Blog Entry' in bold black font, with the author note 'Written by Christina on January 10th' below it. 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 grey footer bar containing the copyright notice '© Copyright 2009 Your name'.

← → C :

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>
  
```

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>
  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



expand

▼ Details

More info about the details.

► Some details



expand

▼ 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*



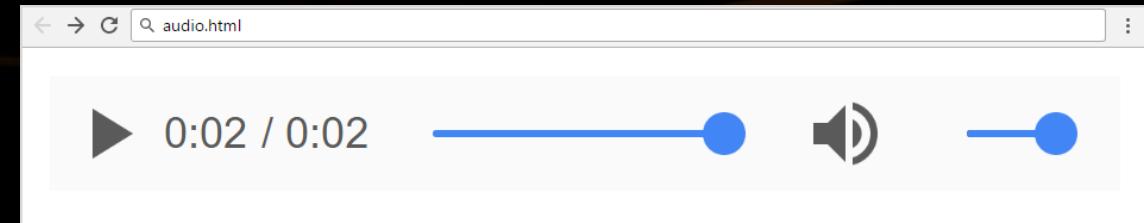
Multimedia Context

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>
```

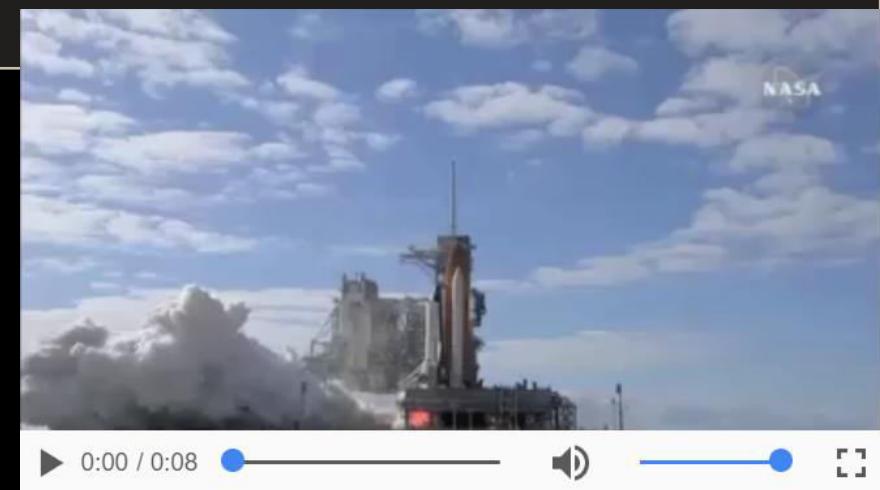


- Audio formats supported:
 - MP3, OGG, WAV
- Attributes: **controls, autoplay, loop, preload**

- 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**





A screenshot of a web browser window showing an HTML table. The table has a green header row with the columns labeled "Firstname", "Lastname", and "Savings". Below the header, there are four data rows. The first row contains "Peter" in the Firstname column, "Griffin" in the Lastname column, and "\$100" in the Savings column. The second row contains "Lois" in the Firstname column, "Griffin" in the Lastname column, and "\$150" in the Savings column. The third row contains "Joe" in the Firstname column, "Swanson" in the Lastname column, and "\$300" in the Savings column. The fourth row contains "Cleveland" in the Firstname column, "Brown" in the Lastname column, and "\$250" in the Savings column.

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 HTML5

- 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"

colspan="1"

Cell [1,1]

Cell [1,2]



Cell [2,1]

colspan="2"

- Rows

rowspan="2"

Cell [1,1]

rowspan="1"

Cell [1,2]

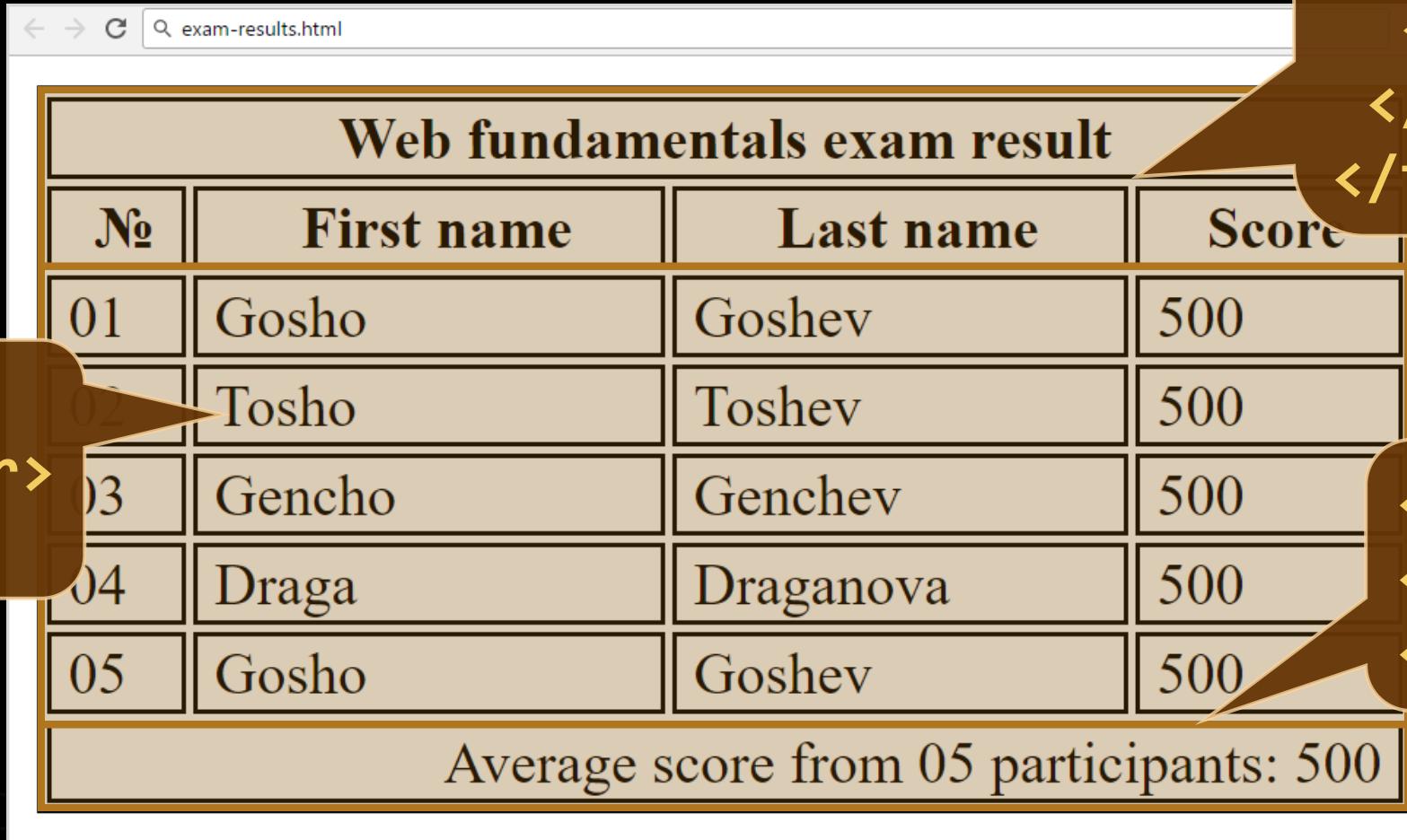
Cell [2,2]



rowspan="1"

Problem: Exam Results

- Create a HTML table like the screenshot below:



The screenshot shows a web browser window with the title "exam-results.html". The page displays a table with the following structure and data:

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>
    
```

№	First name	Last name	Score
01	Gosho	Goshev	500
02	Tosho	Toshev	500

```

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

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;
```

Summary



Web Fundamentals – Course Introduction



Questions?



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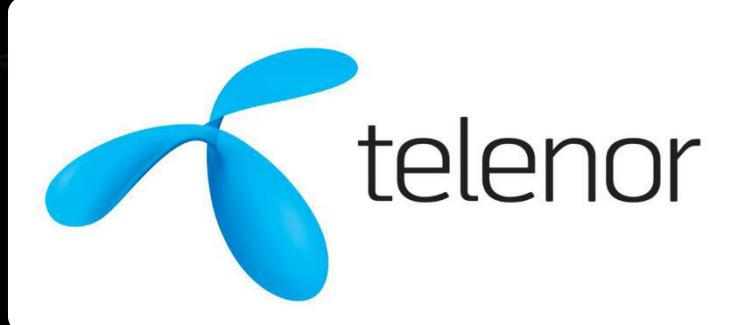
SoftwareGroup
doing it right



NETPEAK
SEO and PPC for Business

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HOSTING**
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