

HTML and CSS Overview

HTML Basic Tags, CSS Introduction



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



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`<!DOCTYPE html PUBLIC
<html xmlns="http://w
<head>
 <meta name="TITLE"
 <meta http-equiv="
 <meta name="keywor
 <meta name="descrip
 <meta name="author"
 <meta name="viewport"
 <title>My First Web
 </title>
</head>
<body>
 <h1>My First Headin
 <p>This is my first
 </p>
</body>
</html>`

HTML (HyperText Markup Language)

What is HTML?



`<div>` `<h1>` `<section>`
`` `` `<input>` `` ``
`<button>` `<script>` `<a>` ``

HTML Common Elements

Used in 90% of All Internet Sites



HTML Terminology

Tags, Attributes and Elements



`body {
 font: x-small
 background: #
 color: black;
 margin: 0;
 padding: 0;
}`

Cascading Style Sheets

What is CSS?

Have a Question?



sli.do

#front-end

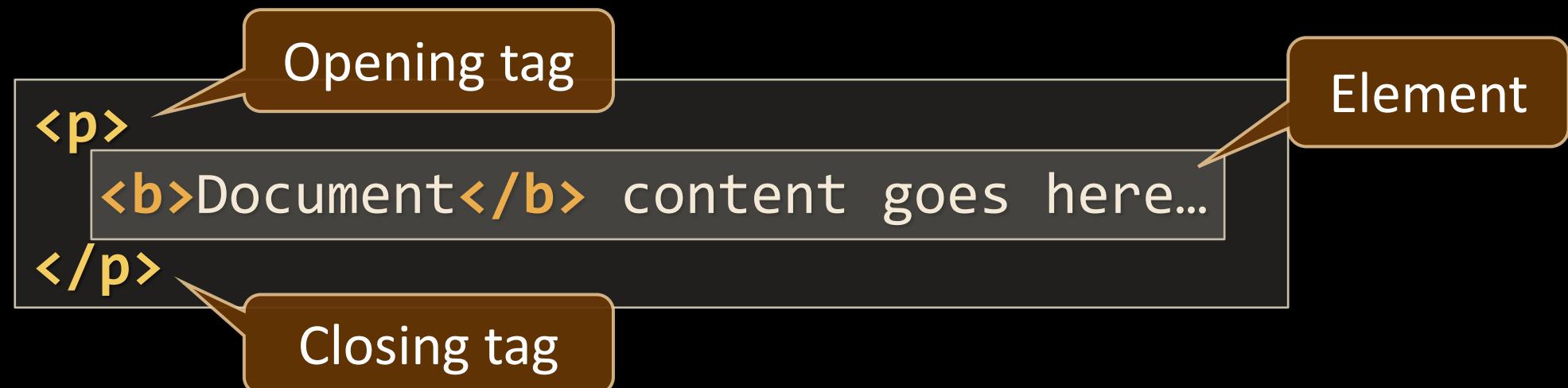


HTML (HyperText Markup Language)

What is HTML?

What is HTML?

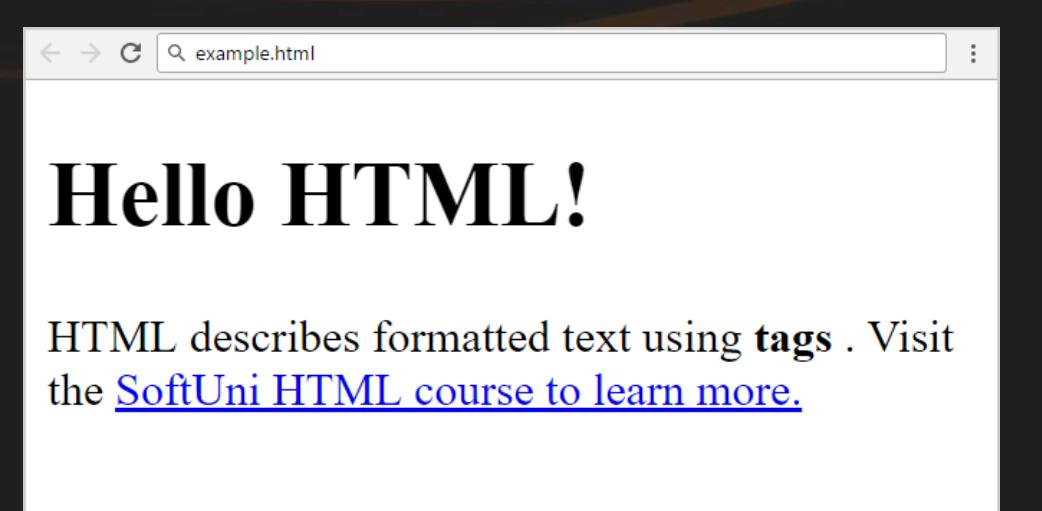
- The **HTML** language describes **Web content** (Web pages)
 - Text with formatting, images, lists, hyperlinks, tables, forms, etc.
 - Uses **tags** to define **elements** in the Web page



Document content goes here...

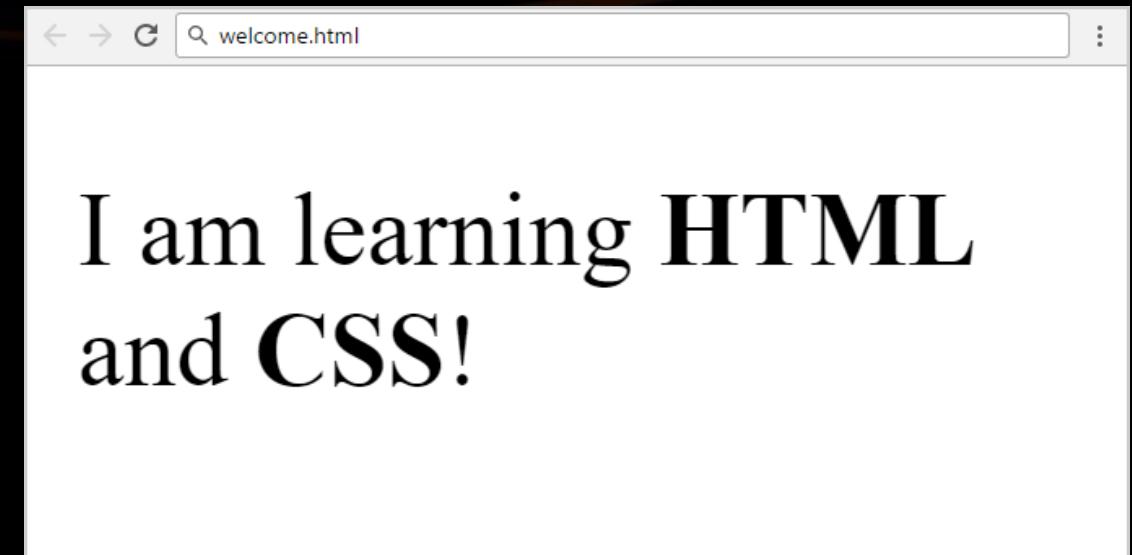
HTML Page – Example

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="UTF-8">
    <title>HTML Example</title>
  </head>
  <body>
    <h1>Hello HTML!</h1>
    <p>HTML describes formatted text using <strong>tags
</strong>. Visit the <a href="https://softuni.bg/trainings/
courses">SoftUni HTML course to learn more.</a></p>
  </body>
</html>
```



Problem: Welcome to HTML

- Create your first HTML page
 - File name: **welcome.html**
 - Title: **Welcome**
 - Paragraph of text:
I am learning HTML and CSS!
- Hints:
 - Modify the code from the previous slide, use **** tag
 - Submit the page in the judge: **welcome.html** in a **ZIP file**



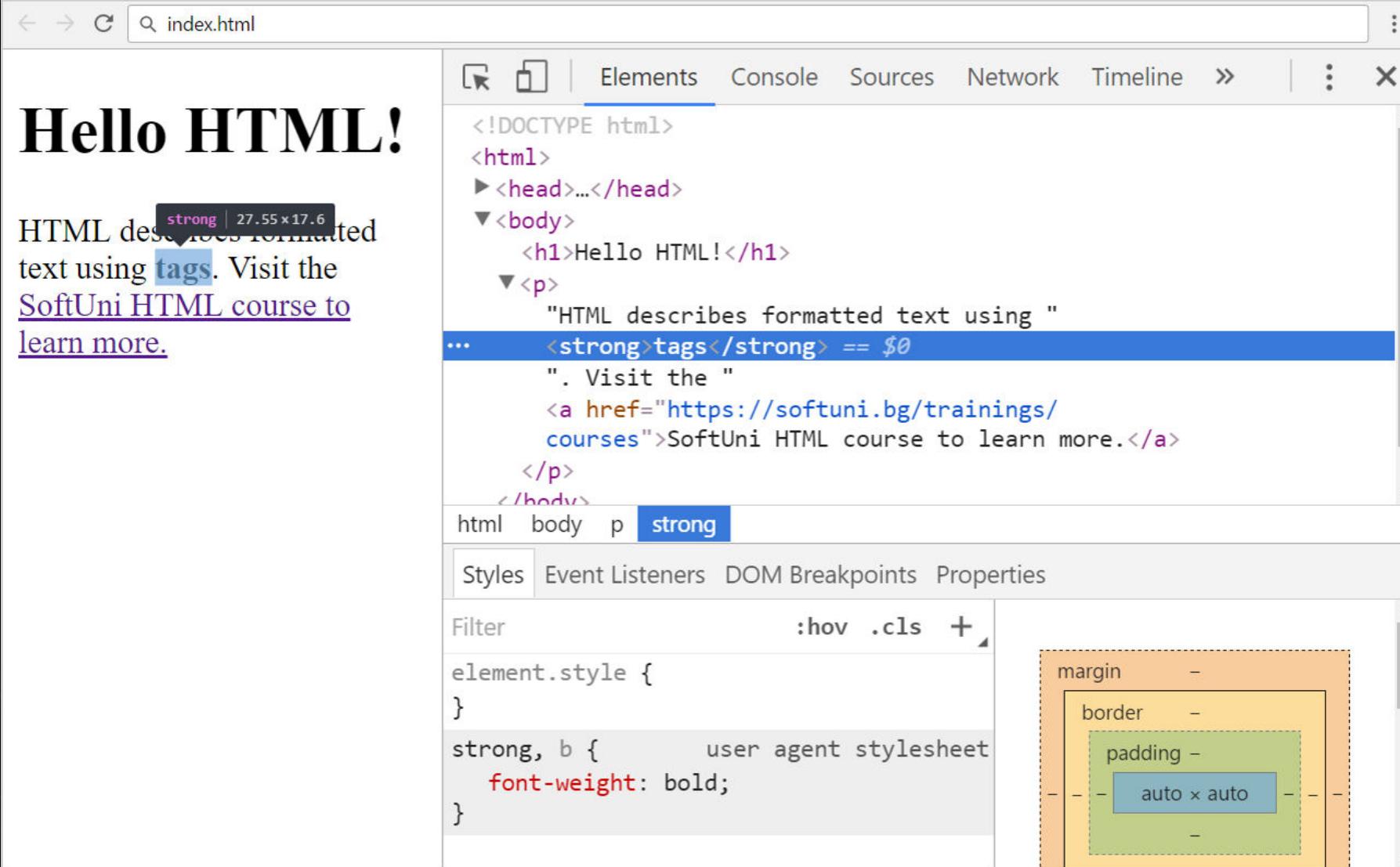
Check your solution here: <https://judge.softuni.bg/Contests/391>

HTML – Developer Environments

- WebStorm
 - Powerful IDE for HTML, CSS and JavaScript, paid product
- Visual Studio
 - Many languages and technologies, Windows & Mac
- Visual Studio Code, Brackets, NetBeans
 - Good free tools for HTML5, cross-platform
- Sublime Text, Vim, Notepad++
 - For hackers



Developer Tools: [F12] in the Browser



The screenshot shows a browser window displaying the file "index.html". The page content includes an

Hello HTML!

 heading and a

HTML describes formatted text using **tags**. Visit the [SoftUni HTML course](https://softuni.bg/trainings/courses) to learn more.

 In the developer tools, the "Elements" tab is active. A tooltip for the **tags** in the paragraph text indicates a bounding box of 27.55x17.6. The DOM tree shows the structure: !DOCTYPE html > html > head > body > h1 > p > strong. The "strong" element is highlighted with a blue selection bar. The bottom right corner of the developer tools panel displays a visual representation of the CSS box model, showing margin, border, padding, and content areas.

```
<!DOCTYPE html>
<html>
  <head>...</head>
  <body>
    <h1>Hello HTML!</h1>
    <p>
      "HTML describes formatted text using "
      ...
      <strong>tags</strong> == $0
      ". Visit the "
      <a href="https://softuni.bg/trainings/
        courses">SoftUni HTML course to learn more.</a>
    </p>
  </body>
</html>
```

html body p strong

Styles Event Listeners DOM Breakpoints Properties

Filter :hov .cls +

```
element.style { }
strong, b { user agent stylesheet
  font-weight: bold;
}
```

margin -
border -
padding -
auto x auto - - -

Zen Coding (Emmet) for Fast HTML Coding



```
ul>li.red*6
```



```
<ul>
  <li class="red"></li>
  <li class="red"></li>
  <li class="red"></li>
  <li class="red"></li>
  <li class="red"></li>
  <li class="red"></li>
</ul>
```

```
div#page>div.logo+ul#menu>li
*3>a
```



```
<div id="page">
  <div class="logo"></div>
  <ul id="menu">
    <li><a href=""></a></li>
    <li><a href=""></a></li>
    <li><a href=""></a></li>
  </ul>
</div>
```

<div>

<h1>

<section>

<input>

<button>

<script>

<a>

HTML Common Elements

Used in 90% of All Internet Sites

Headings and Paragraphs

- Headings: <h1> to <h6>

```
<h1>This is Heading 1 (Biggest)</h1>
<h2>This is Heading 2 (Smaller)</h2>
<h3>This is Heading 3 (More Smaller)</h3>
<h4>This is Heading 4 (Smallest)</h4>
```

- Paragraphs: <p></p>

```
<p>First paragraph</p>
<p>Second paragraph</p>
<br /> <!-- empty line -->
<p>Third paragraph</p>
```

Comment

This is Heading 1 (Biggest)

This is Heading 2 (Smaller)

This is Heading 3 (More Smaller)

This is Heading 4 (Smallest)

First paragraph

Second paragraph

Third paragraph

Hyperlinks

- External hyperlink

Specify the URL

```
<a href="https://softuni.bg">SoftUni</a>
```

- Local hyperlink

```
<h1 id="exercises">Exercises</h1>
```

...

See the [exercises](#exercises)



Exercises

See the [exercises](#)

- Relative hyperlink

[presentation](#)

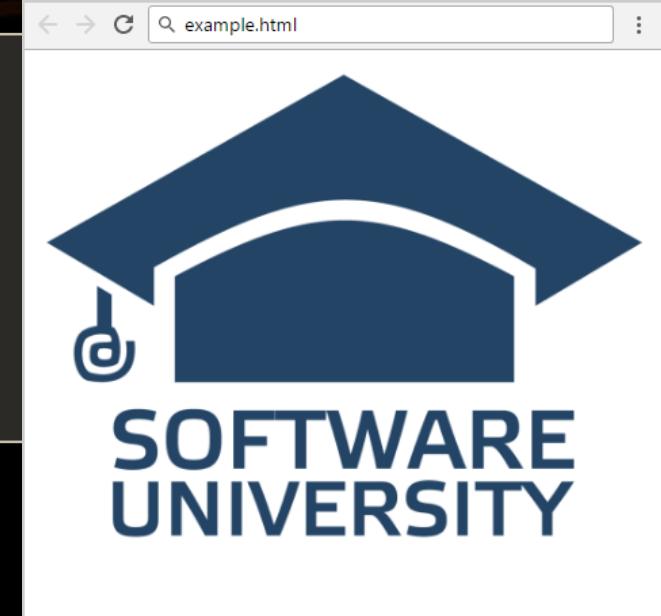
```
<a href="..%20HTML5-Overview.pptx">presentation</a>
```

Images

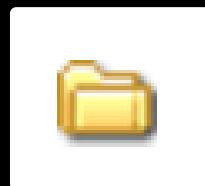
- Images are external files, inserted through the `` tag

```

```



- Embedded image (Data URI)

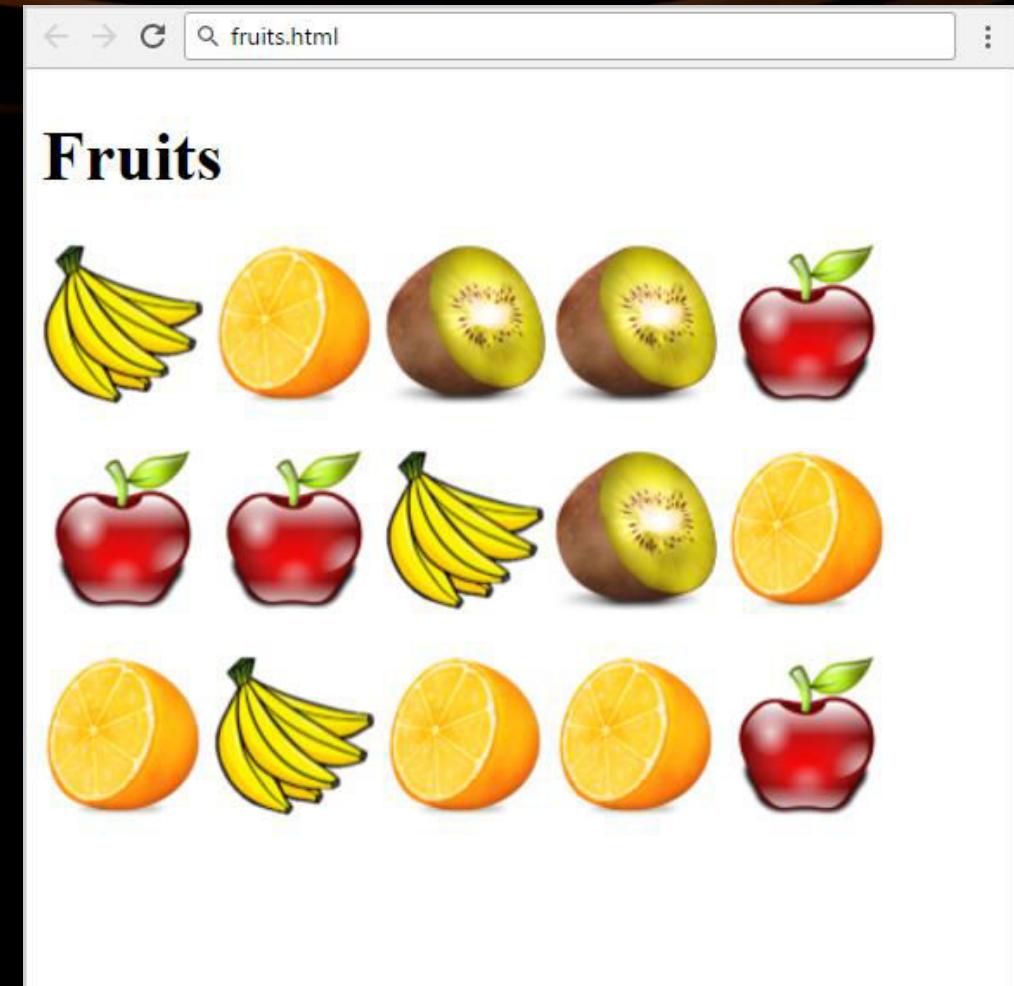


```

```

Problem: Fruits

- You are given 4 image files:
 - **apple.png, banana.png, kiwi.png, organge.png**
- Create a Web page like the screenshot on the right
 - Hints: use 3 paragraphs, each holding 5 images



Check your solution here: <https://judge.softuni.bg/Contests/391>

Ordered Lists: Tag

- Create an **Ordered List**
- Use <**ol**></**ol**>
 - Each holding <**li**></**li**>

```
<ol type="1">
<li>One</li>
<li>Two</li>
<li>Three</li>
</ol>
```

1. One
2. Two
3. Three

- Attribute values for **type** are **1**, **A**, **a**, **I**, or **i**

- 1. One
- 2. Two
- 3. Three

- A. One
- B. Two
- C. Three

- a. One
- b. Two
- c. Three

- I. One
- II. Two
- III. Three

- i. One
- ii. Two
- iii. Three

Unordered Lists: Tag

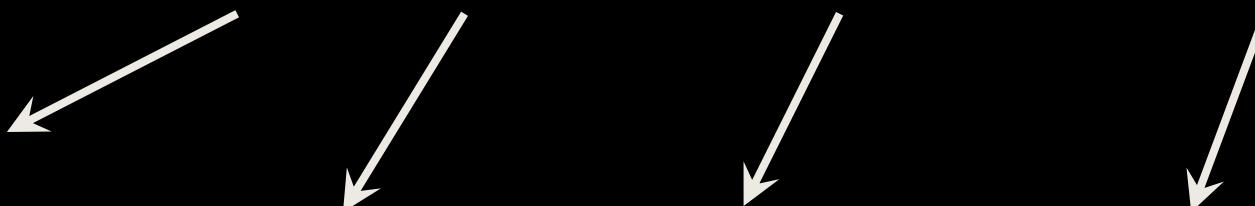
- Create an Unordered List using :

```
<ul type="disc">
  <li>First item</li>
  <li>Second item</li>
  <li>Third item</li>
</ul>
```

- First item
- Second item
- Third item

- Attribute values for **type** are: **disc**, **circle**, **square** and **none**

- First item
- Second item
- Third item



- First item
- Second item
- Third item

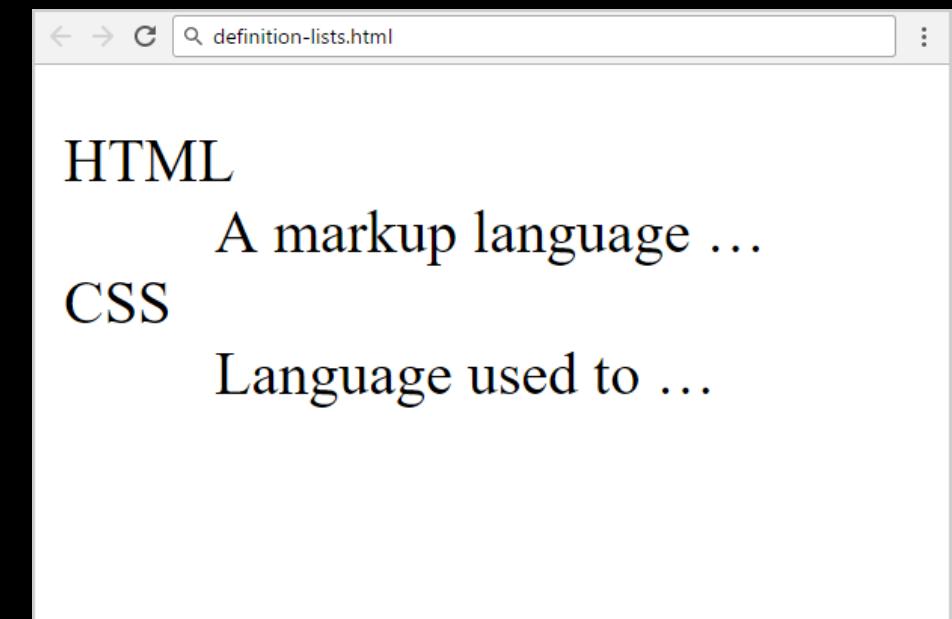
- First item
- Second item
- Third item

First item
Second item
Third item

Definition Lists: <dl> Tag

- Create definition lists using <dl>
 - Holds terms (<dt>) with their definitions (<dd>)

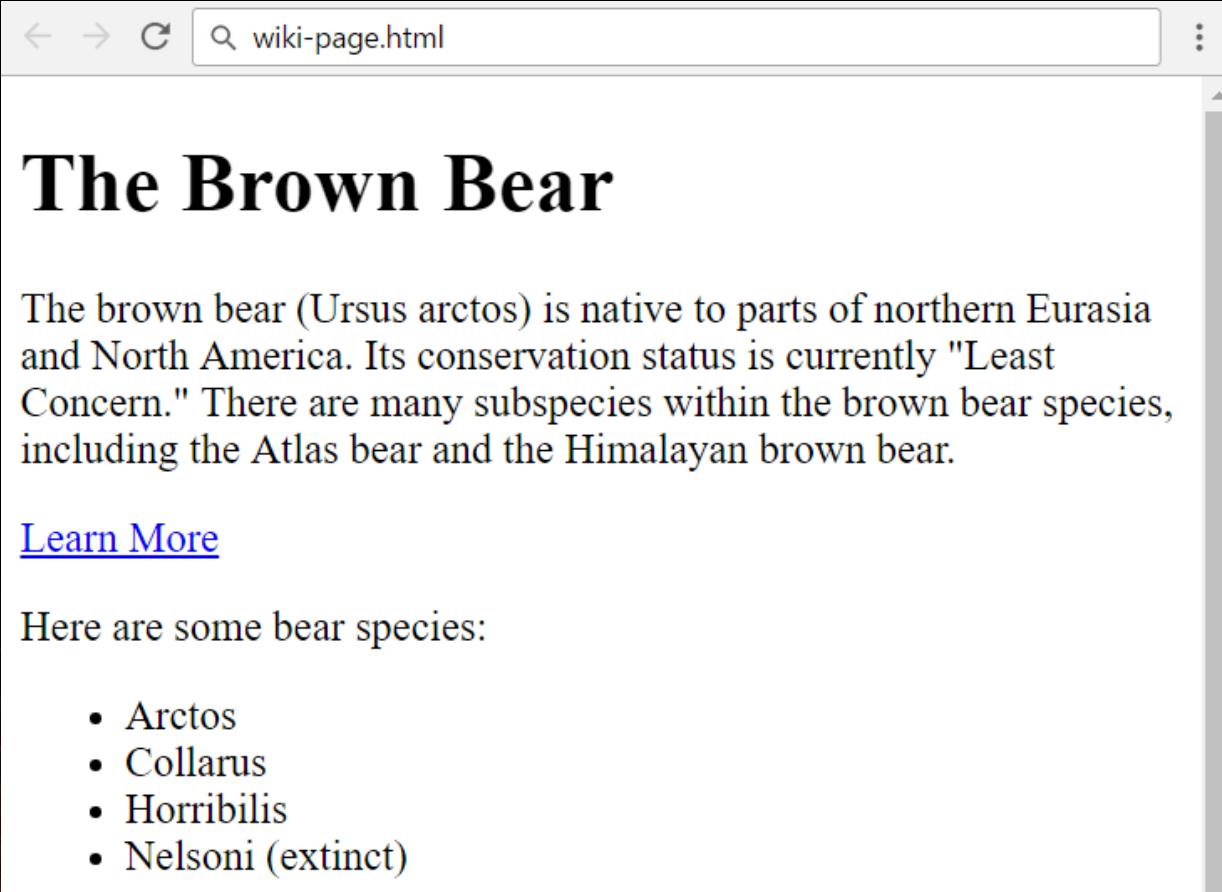
```
<dl>
  <dt>HTML</dt>
  <dd>A markup language ...</dd>
  <dt>CSS</dt>
  <dd>Language used to ...</dd>
</dl>
```



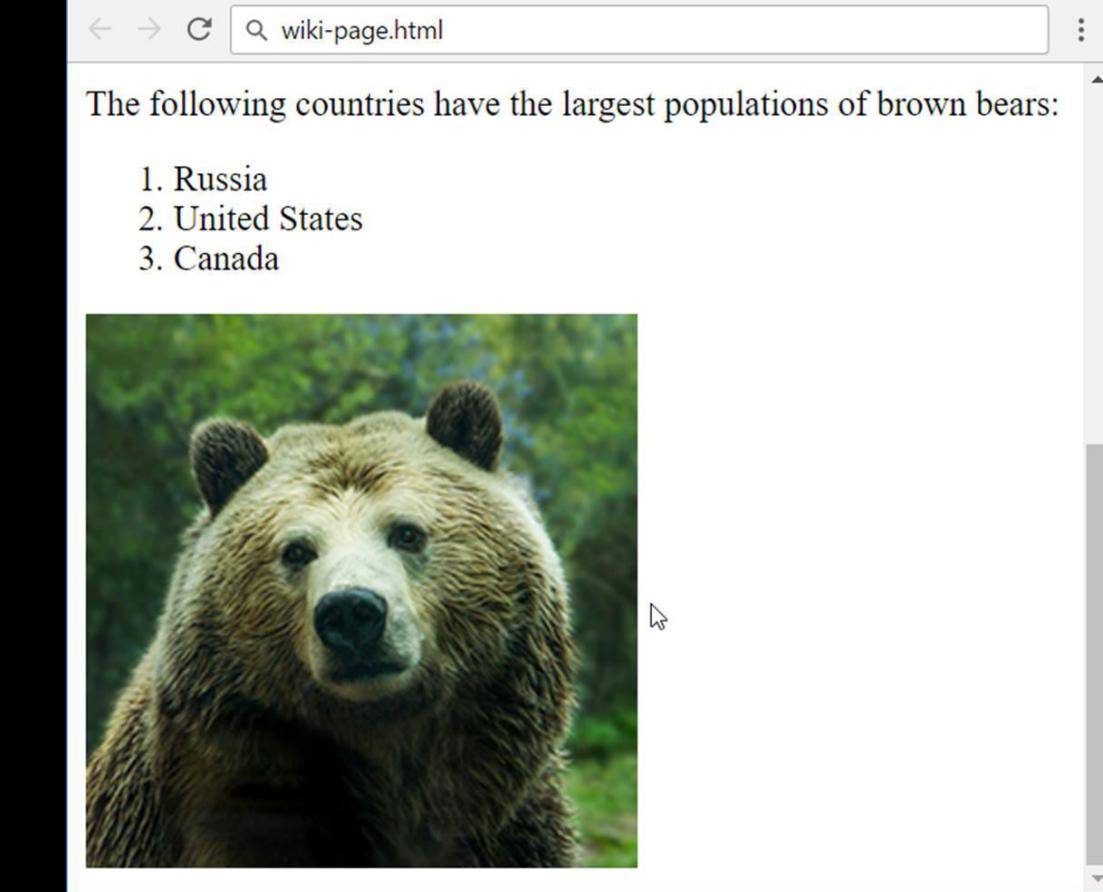
Problem: Wiki Page

- Create the following HTML page:

(page continues here ...)



The screenshot shows a browser window with the URL "wiki-page.html" in the address bar. The main content is a large heading "The Brown Bear" followed by a paragraph of text: "The brown bear (*Ursus arctos*) is native to parts of northern Eurasia and North America. Its conservation status is currently "Least Concern." There are many subspecies within the brown bear species, including the Atlas bear and the Himalayan brown bear." Below this is a link "[Learn More](#)". At the bottom, there is a section titled "Here are some bear species:" with a bulleted list: • Arctos • Collarus • Horribilis • Nelsoni (extinct).



The screenshot shows a continuation of the browser window from the previous screenshot. It displays a list of countries with the largest brown bear populations: "The following countries have the largest populations of brown bears:
1. Russia
2. United States
3. Canada". Below this list is a large image of a brown bear's face.

Hints: Wiki Page

- File name: **wiki-page.html**
- Title: **The Brown Bear**
 - Use **<h1>**
- Hyperlink: **https://en.wikipedia.org/wiki/Brown_bear**
- List: use **ordered list** and **unordered list**
- Text: use **paragraph**
- Image: use the file **bear.jpg**

Check your solution here: <https://judge.softuni.bg/Contests/391>

HTML Terminology

Tags, Attributes and Elements



HTML Tags, Attributes and Elements

Element ID

Attribute: key = value

```
<a id="link" href="http://softuni.bg">SoftUni</a>
```

Attribute
(CSS class)

Opening tag

HTML element

```
<div class="item">  
    
  <span>Books</span>  
</div>
```

Element body
(content)

Closing tag



Cascading Style Sheets

What is CSS?

What is CSS?

- CSS defines styling of the HTML elements
 - Specifies fonts, colors, margins, sizes, positioning, floating, ...
 - CSS rules format: **selector { prop1:val1; prop2:val2; ... }**
- CSS rule example:



Combining HTML and CSS Files (External Style)

using-css.html

```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet"
type="text/css" href="styles.css">
  </head>
  <body class="modern"><p>
    This is a <span class="special">
special beer</span> for <span class=
"special">special drinkers</span>.</p>
  </body>
</html>
```

styles.css

```
.special {
  font-style: italic;
  font-weight: bold;
  color: blue;
}

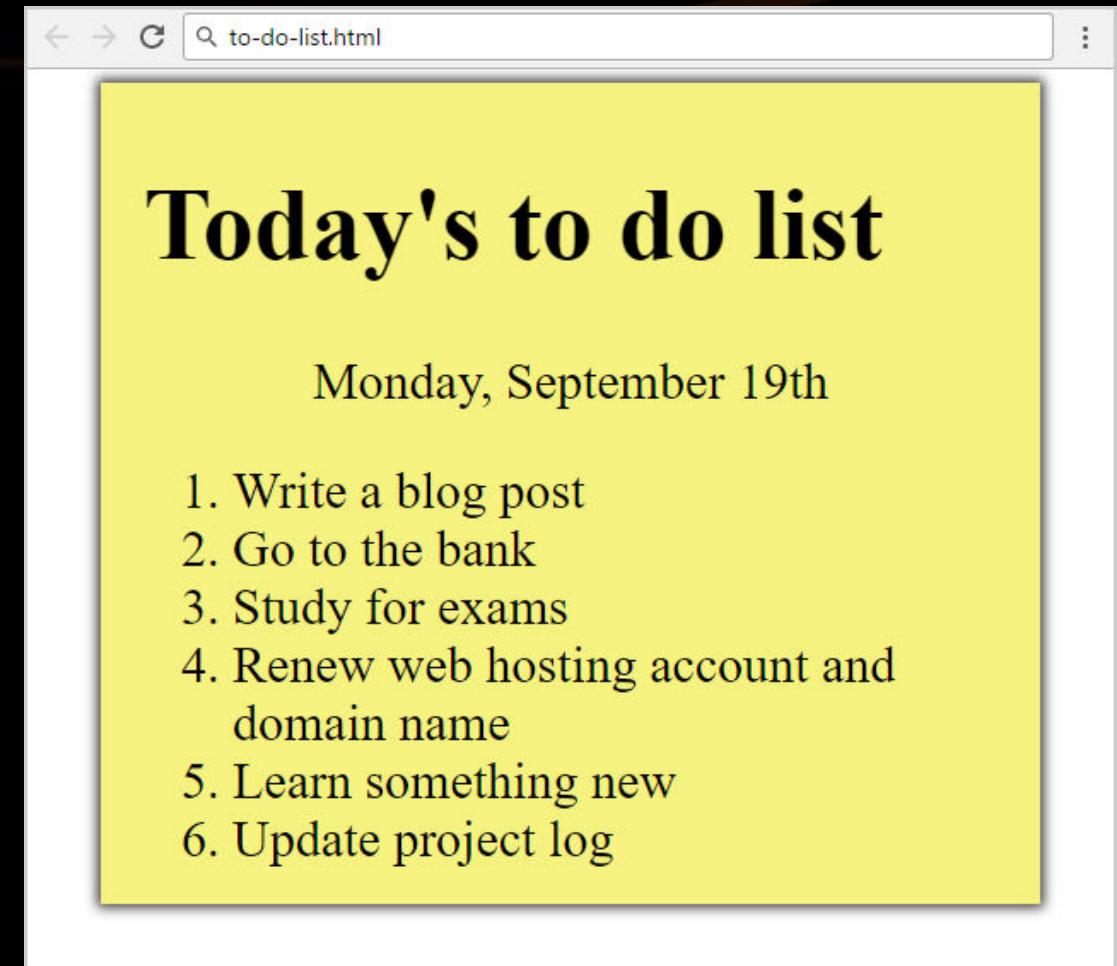
.modern {
  background: #EEE;
}

p {
  font-
}
```



Problem: To Do List

- Create the following page (HTML + CSS files)
- Hints:
 - Container: use **<div>**
 - Background color: **#f7f381**
 - Heading: use **<h1>**
 - Date: use **<p>** + center it
 - List: use ****



Solution: To Do List (HTML)

to-do-list.html

```
<!DOCTYPE html>
<html>
  <head><!-- TODO: Link the CSS here --></head>
  <body>
    <div class="my-list">
      <h1>Today's to do list</h1>
      <p>TODO: Put day-info here</p>
      <ol>TODO: Put list-item here</ol>
    </div>
  </body>
</html>
```

Today's to do list

Monday, September 19th

1. Write a blog post
2. Go to the bank
3. Study for exams
4. Renew web hosting account and domain name
5. Learn something new
6. Update project log

Solution: To Do List (CSS)

to-do-list.css

```
.my-list {  
    margin: 0 auto;  
    padding: 8px 24px;  
    width: 500px;  
    font-size: 30px;  
    border: 1px solid #f7f381;  
    background: #f7f381;  
    box-shadow: 0 0 10px 2px #333333;  
}
```

to-do-list.css

```
.my-list ol {  
    margin: 12px;  
}  
  
.my-list p {  
    text-align: center;  
}
```

Check your solution here: <https://judge.softuni.bg/Contests/391>

Inline CSS Style

- The **style** attribute in HTML elements

Attribute "style"

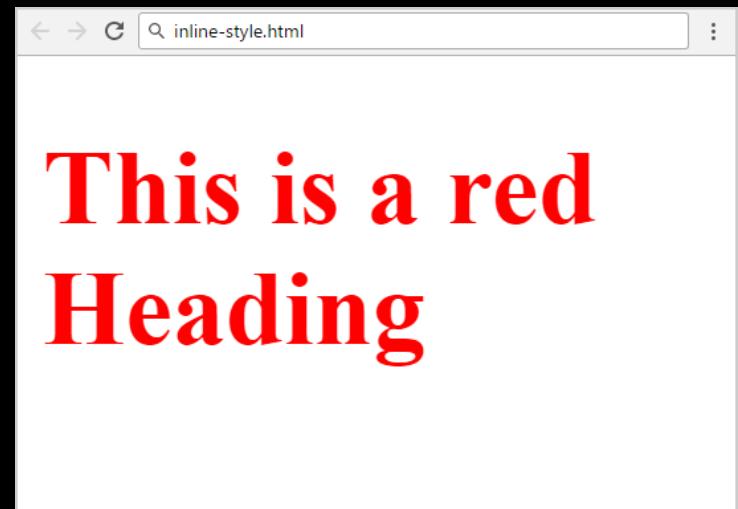
```
<h1 style="color:blue">This is a blue ...</h1>
```

Property

Value

```
<h2 style="color:red; font-size:2.1em">  
    This is a red ...</h2>
```

Multiple CSS
declarations



Embedded CSS Styles in the HTML Page

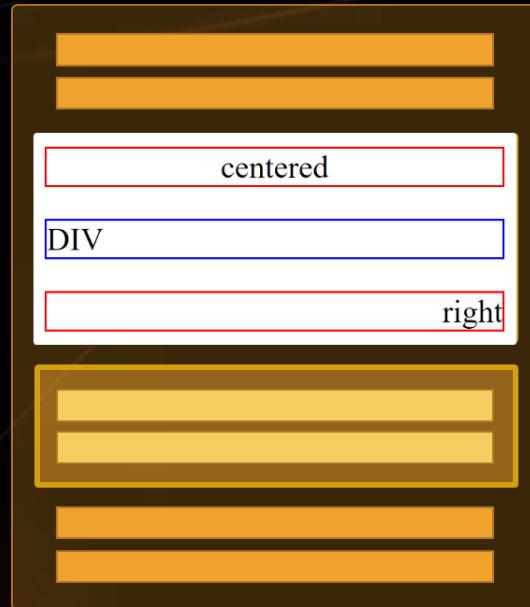
- Put a `<style>` element in the HTML `<head>` section

```
<!DOCTYPE html>
<html>
<head>
<style>
  .red {
    color:red;
  }
</style>
</head>
</html>
```

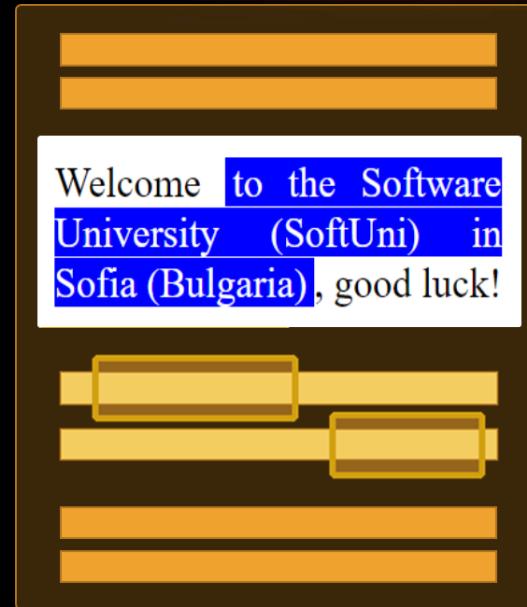
```
<body>
  <p class="red">This is red</p>
</body>
```



display: block



display: inline



display: inline-block



Inline and Block Elements

<div> vs.

Block Elements

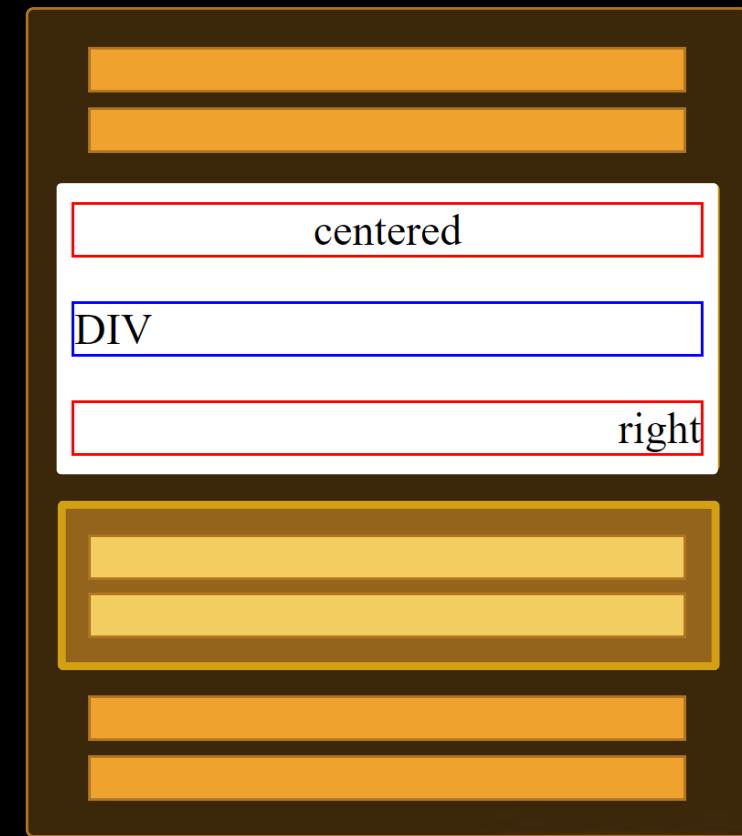
- **<div>** and **<p>** are **block** elements (rectangles)

- Fill the entire container width

- Stack vertically one after another

```
<p style="border:1px solid red;  
text-align:center">centered</p>  
  
<div style="border:1px solid  
blue">DIV</div>  
  
<p style="border:1px solid red;  
text-align:right">right</p>
```

display: block

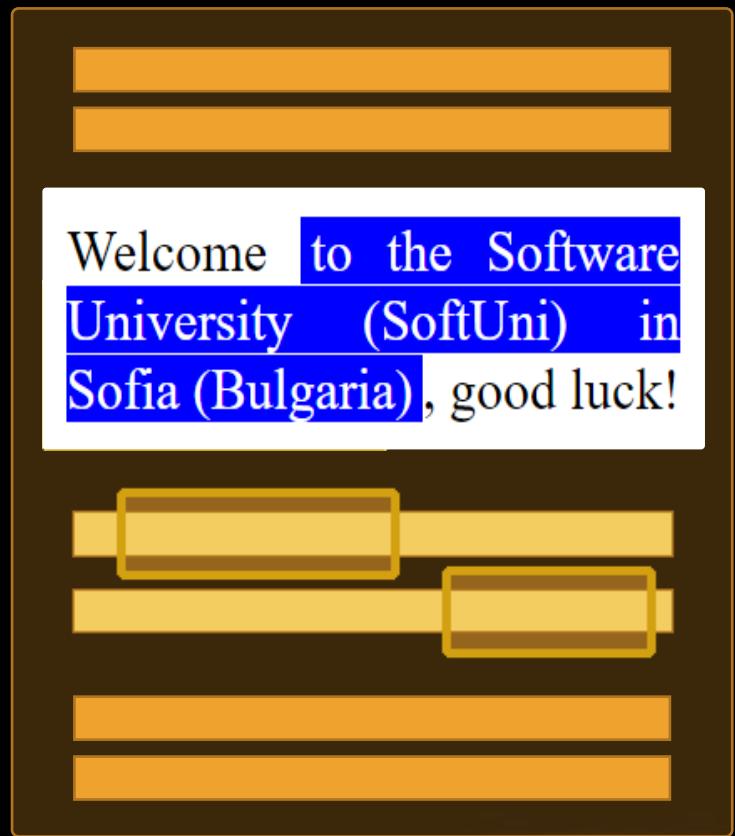


Inline Elements

- is inline element
 - Its shape is not always rectangular
 - Can be split across multiple lines

```
<p style="text-align:justify">  
Welcome <span style="color:white;  
background:blue; padding-right:3px;  
padding-left:3px;">to the Software  
University (SoftUni) in Sofia  
(Bulgaria)</span>, good luck!</p>
```

display: inline



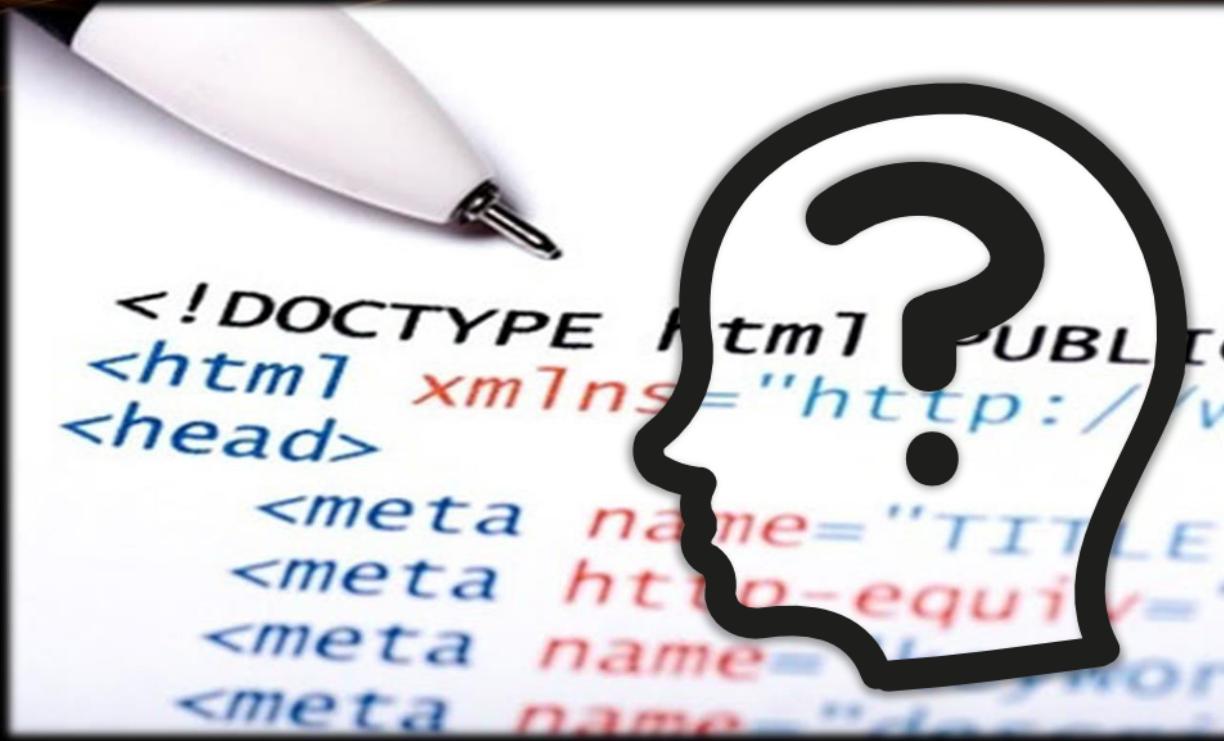
Inline-Block Elements

- Elements can be also **inline-block**
 - Rectangles arranged one after another
 - Just like words in a sentence

```
<div style="text-align:justify;">  
  <div style="display:inline-block;  
background:green">green</div>  
  <div style="display:inline-block;  
background:red">red block</div>  
  ...  
</div>
```

display: inline-block





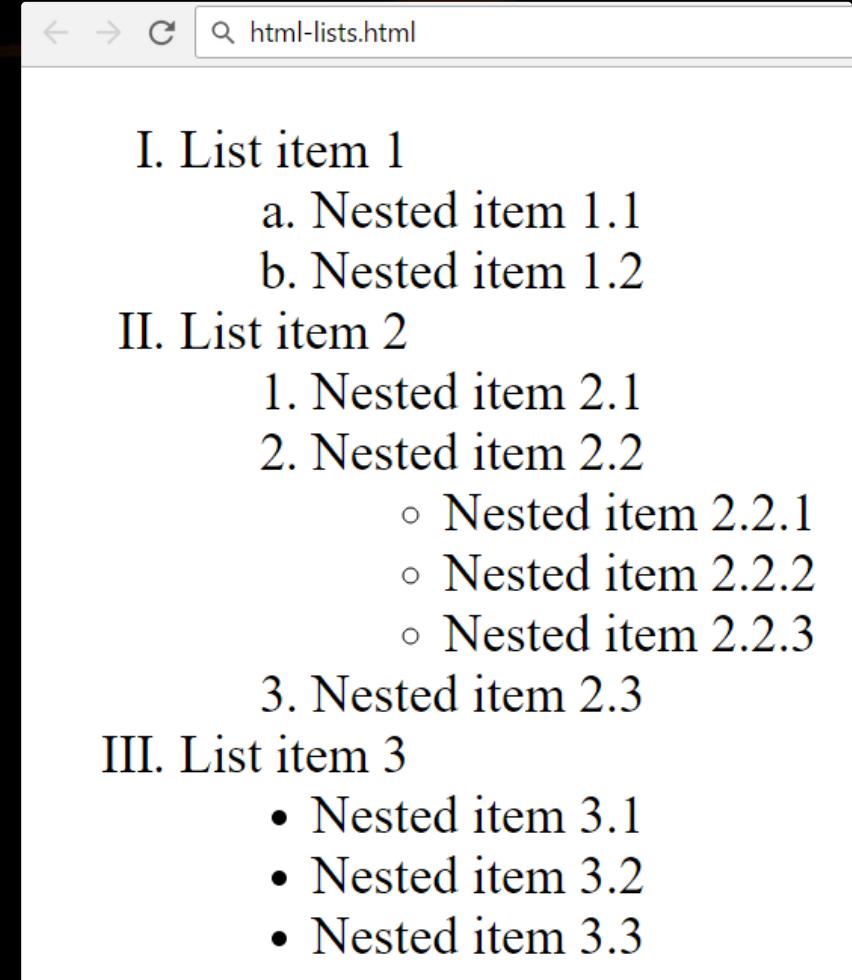
More HTML Problems

Problem: HTML Lists

- Create a HTML page, holding nested lists, like at the example

- Hints:

- Use **** and **** for **List Item 1**, **List item 2** and **List Item 3**
- Use ****, ****, **** and **** for the nested lists



The screenshot shows a web browser window with the URL "html-lists.html" in the address bar. The page content displays a nested list structure:

- I. List item 1
 - a. Nested item 1.1
 - b. Nested item 1.2
- II. List item 2
 - 1. Nested item 2.1
 - 2. Nested item 2.2
 - Nested item 2.2.1
 - Nested item 2.2.2
 - Nested item 2.2.3
 - 3. Nested item 2.3
- III. List item 3
 - Nested item 3.1
 - Nested item 3.2
 - Nested item 3.3

Solution: HTML Lists

html-lists.html

```
<ol type="I">
  <li>List item 1
    <ol type="a">
      <li>Nested item 1.1</li>
      <li>Nested item 1.2</li>
    </ol>
  </li>
  <!-- TODO: put List item 2 and List item 3 here -->
</ol>
```

- I. List item 1
 - a. Nested item 1.1
 - b. Nested item 1.2

Solution: HTML Lists (2)

html-lists.html

```
<li>List item 2
  <ol type="1">
    <li>Nested item 2.1</li>
    <li>Nested item 2.2
      <ul type="circle">
        <li>Nested item 2.2.1</li>
        <li><!-- TODO: put the next items here--></li>
      </ul>
    </li>
    <li>Nested item 2.3</li>
  </ol>
</li>
```

II. List item 2

- 1. Nested item 2.1
- 2. Nested item 2.2
 - Nested item 2.2.1
 - Nested item 2.2.2
 - Nested item 2.2.3
- 3. Nested item 2.3

Solution: HTML Lists (3)

html-lists.html

```
<li>
    List item 3
    <ul type="disc">
        <li>Nested item 3.1</li>
        <li>!-- TODO: put the next items here --></li>
    </ul>
</li>
```

III. List item 3

- Nested item 3.1
- Nested item 3.2
- Nested item 3.3

Check your solution here: <https://judge.softuni.bg/Contests/391>

Summary

- HTML describe structured content (text, images, tables, figures, etc.)
- Commonly used HTML tags:
 - `<html>`, `<head>`, `<body>`, `<p>`, `<h1>`, `<h2>`,
`<h3>`, ..., ``, ``, ``, ``,
``, `<div>`, ``
- `<div>` is block element
- `` is inline element
- CSS styles may be: **external**, **inline**, **embedded**

```
.my-list p { text-align: center; }
```



Web Fundamentals – Course Introduction



Questions?



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