

# Introduction to HTML and CSS

**HTML**



**CSS**



**SoftUni Team**  
Technical Trainers



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Software University  
<https://softuni.bg>

- What is **HTML**?
  - Creating HTML Page: **<!DOCTYPE>**, **<html>**, **<head>**, **<body>**
- HTML Common **Elements**:
  - Headings, Paragraphs, Lists, Images, Links
- HTML **Terminology**: Tags and Attributes
- What is **CSS**?
  - Combining HTML and CSS Files
- **Inline** and **Block** Elements

sli.do

**#html-css**



# Introduction to HTML

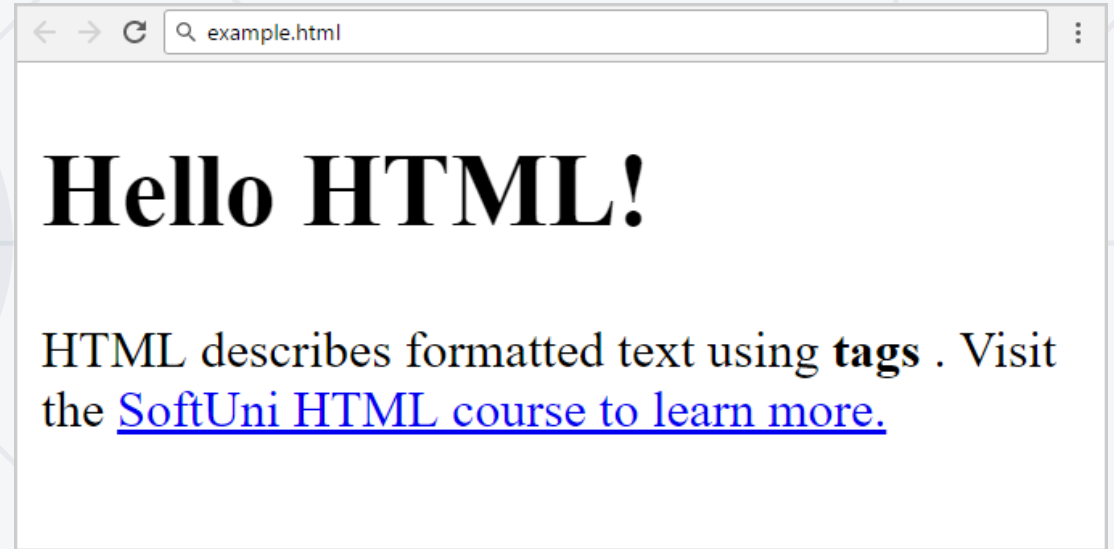
# What is HTML?

- 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



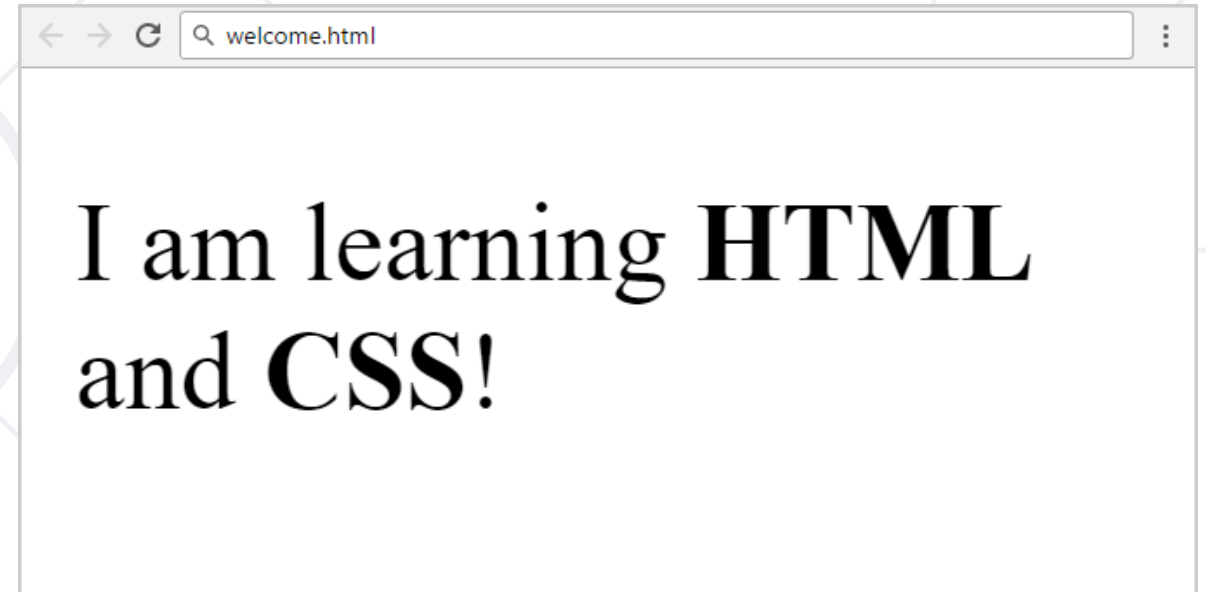
# HTML Page – Example

```
<!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 **<strong>** tag
  - Submit the page in the judge: **welcome.html** in a **ZIP file**

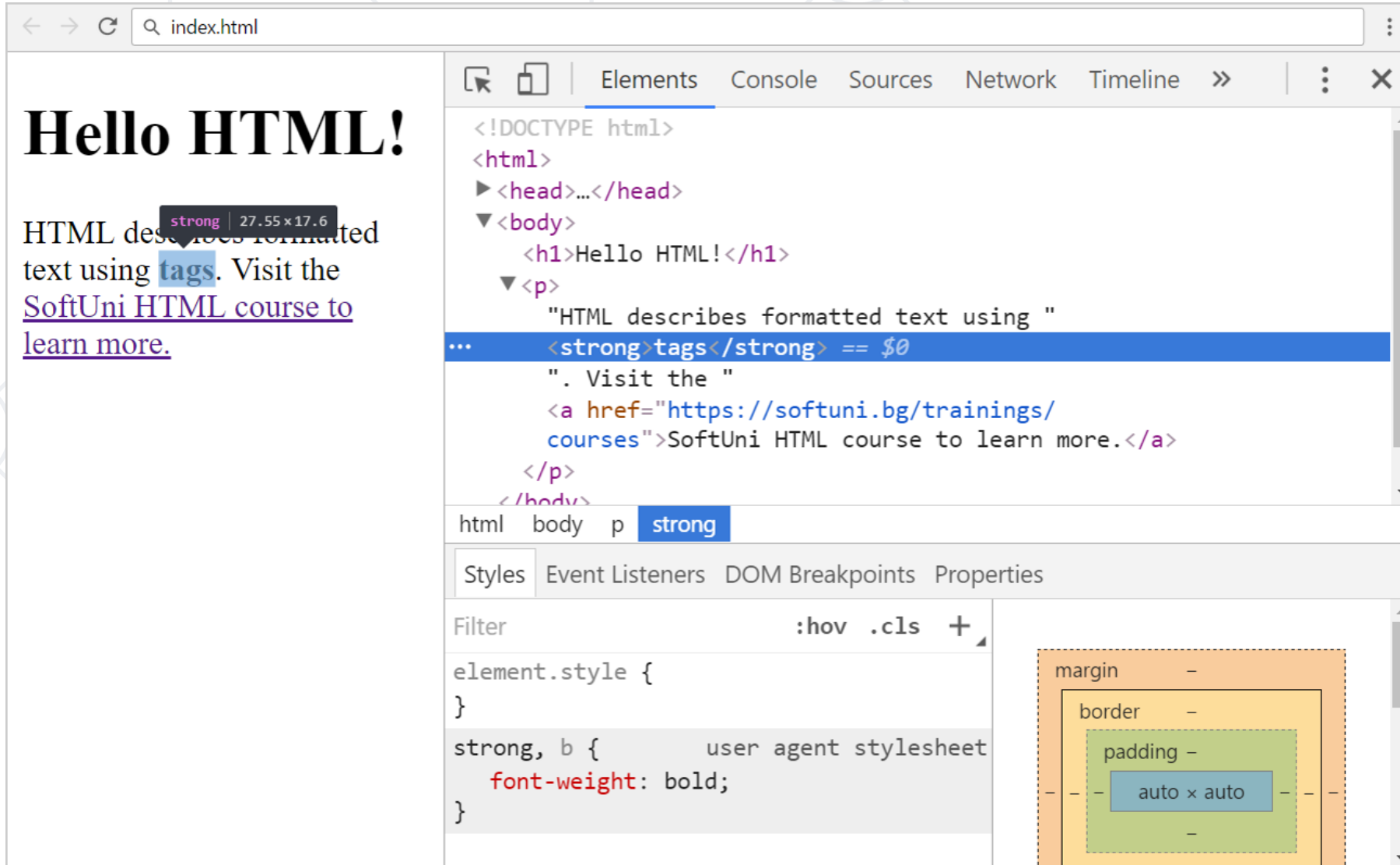


- **Visual Studio Code, Brackets, NetBeans**
  - Good free tools for HTML5, cross-platform
- **WebStorm**
  - Powerful IDE for HTML, CSS and JavaScript, paid product
- **Visual Studio**
  - Many languages and technologies, Windows & Mac
- **Sublime Text, Vim, Notepad++**
  - For hackers





# Developer Tools: [F12] in the Browser



The screenshot displays a web browser window with the address bar showing 'index.html'. The page content includes a large heading 'Hello HTML!' and a paragraph: 'HTML describes formatted text using tags. Visit the [SoftUni HTML course to learn more.](https://softuni.bg/trainings/courses)'. A tooltip over the word 'tags' indicates it is a 'strong' element with dimensions '27.55 x 17.6'.

The Chrome DevTools interface is open on the right, with the 'Elements' tab selected. The DOM tree shows the following structure:

```
<!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>
```

The breadcrumb below the DOM tree shows the path: `html > body > p > strong`. The 'strong' element is selected.

The 'Styles' pane is active, showing the default user agent styles for `strong` and `b`:

```
element.style {
}

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

On the right side of the Styles pane, a box model diagram is shown with the following values:

- margin: -
- border: -
- padding: -
- Content area: 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>
```



# 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>
```

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

Comment

- External hyperlink

Specify the URL

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

SoftUni

- Local hyperlink

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

...

```
See the <a href="#exercises" target="_blank">exercises</a>
```

**Exercises**

See the exercises

- Relative hyperlink

```
<a href="../2.%20HTML5-Overview.pptx">presentation</a>
```

presentation

- Images are **external files**, inserted through the **<img>** tag

```

```

- Embedded image (data URI)



```

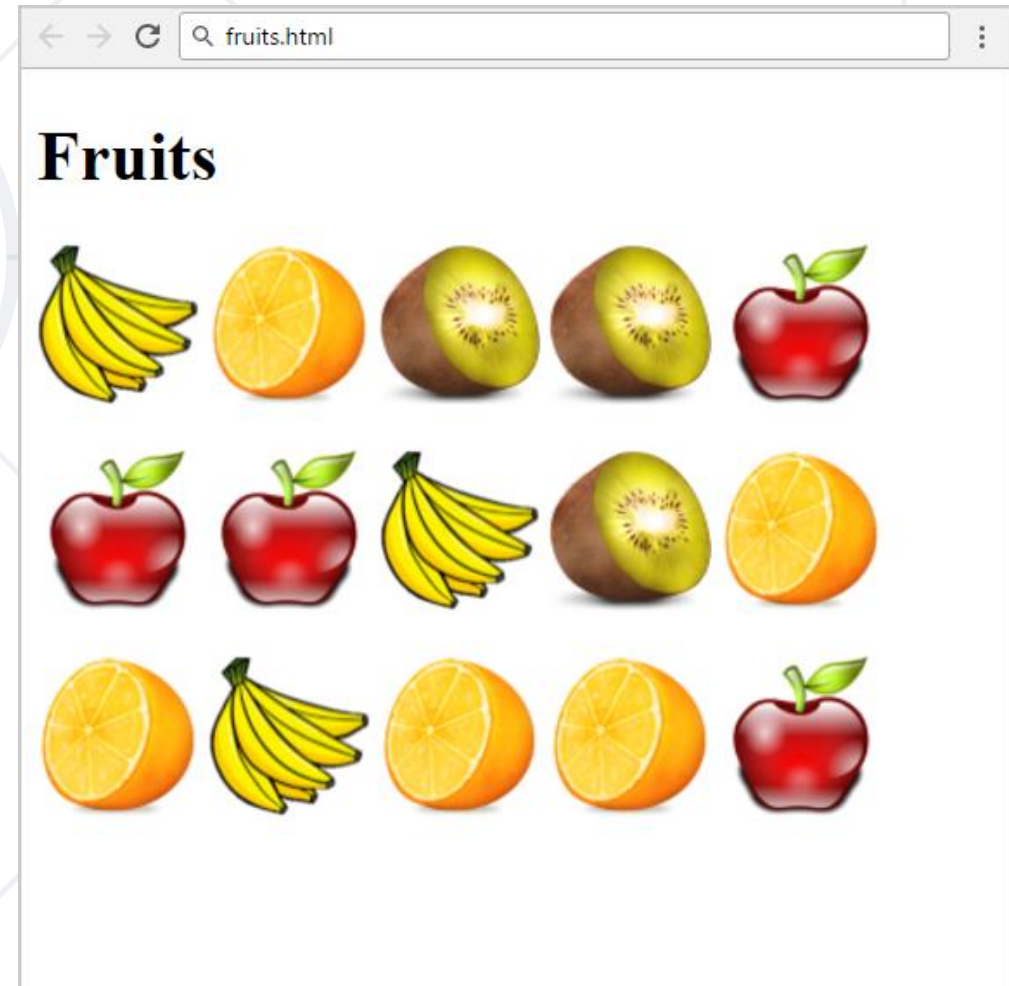
```



- Example: <https://codepen.io/snakov/pen/poNxXry>

# Problem: Fruits

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



# Ordered Lists: <Ol> Tag

- Create an **O**rdered **L**ist
- 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: <Ul> Tag

- Create an **U**nordered **L**ist using `<ul></ul>`:

```
<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

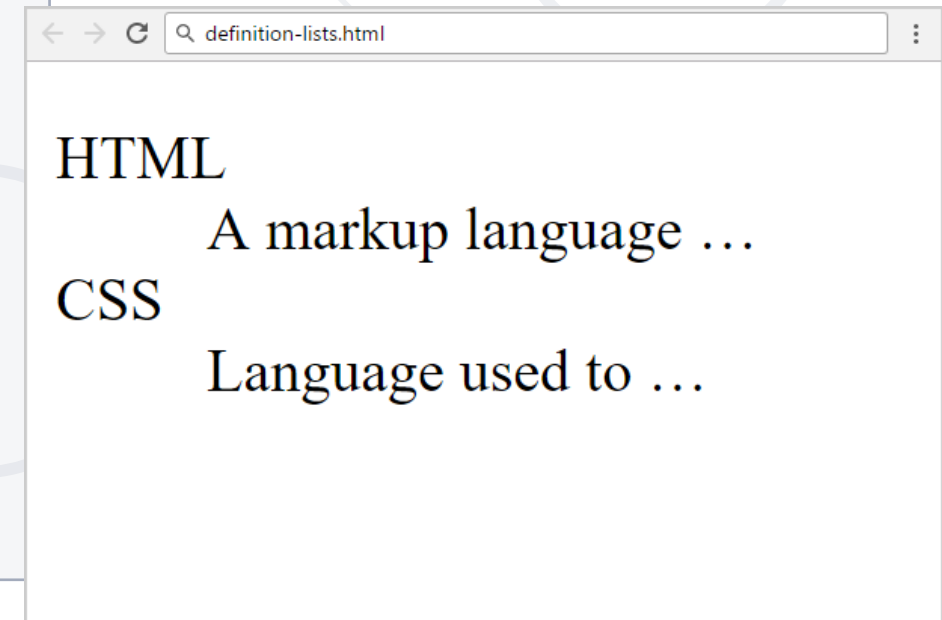
- First item
- Second item
- Third item

First item  
Second item  
Third item

# Definition Lists: <dl> Tag

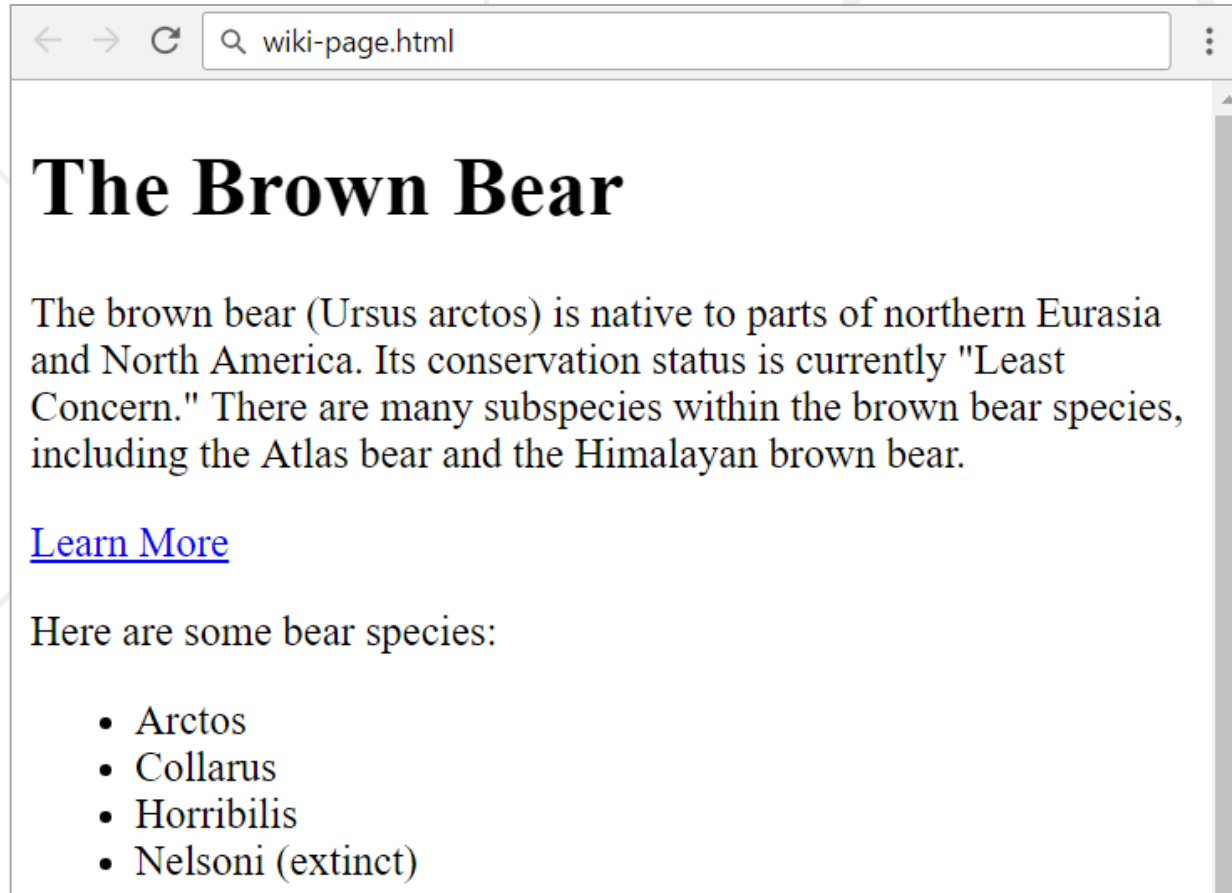
- Create definition lists using **<dl>**
  - Holds **terms (<dt>)** with their **definitions (<dd>)**

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

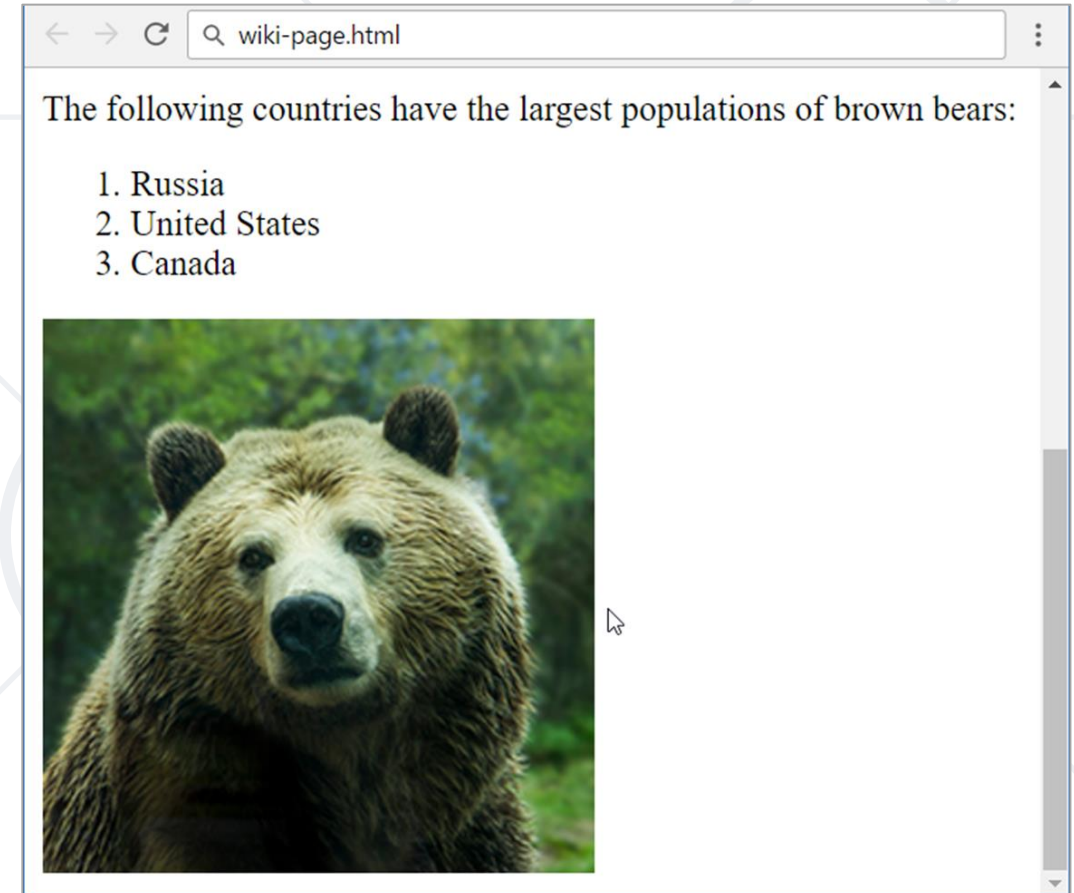


# Problem: Wiki Page

- Create the following HTML page:



*(page continues here ...)*



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

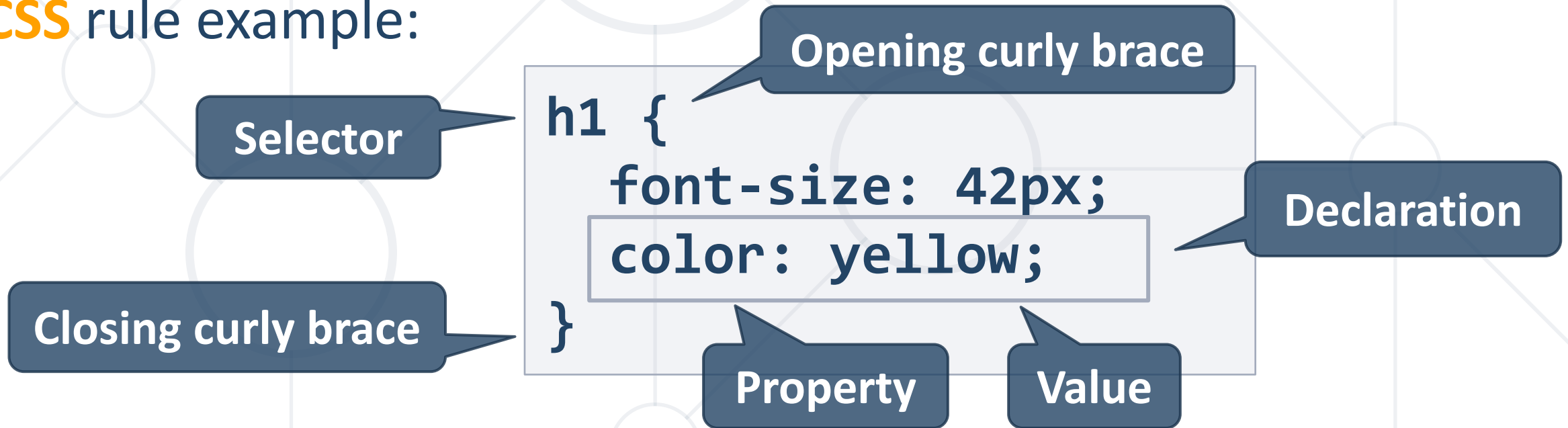


# What is CSS?

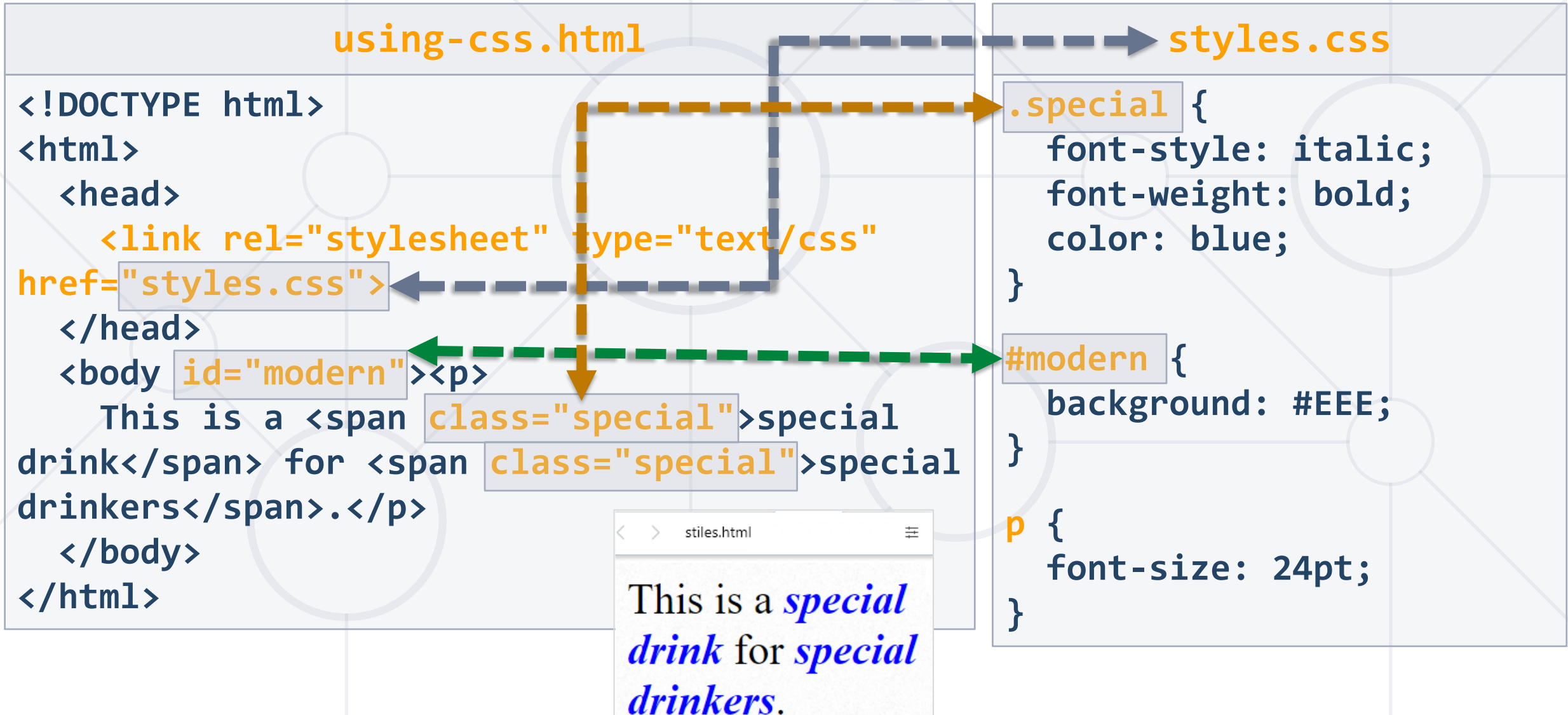
## Cascading Style Sheets

# 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)



- Select elements by **name**

```
<h1>Page Title</h1>
```



```
h1 { color: blue; }
```

- Select by **class** name

```
<p class="odd">Text</p>
```



```
.odd { font-size: 10px; }
```

- Select by element **id**

```
<span id="login">Go</span>
```



```
#login { width: 150px; }
```

- Select **element** with certain **class**

```
<a class="login">Login</a>
```



```
a.login { width: 80px; }
```



# Combined CSS Selectors

```
<section id="news">
  <h1>Hot News</h1>
  <article>
    <h1>New Release!</h1>
    <p>Today we released
      <b class="red">ver. 7</b>
      of our unique software ...
    </p>
  </article>
  <p>Published: <span
class="date">1/1/2021</span></p>
</section>
```

#news > h1

#news article > h1

#news article p

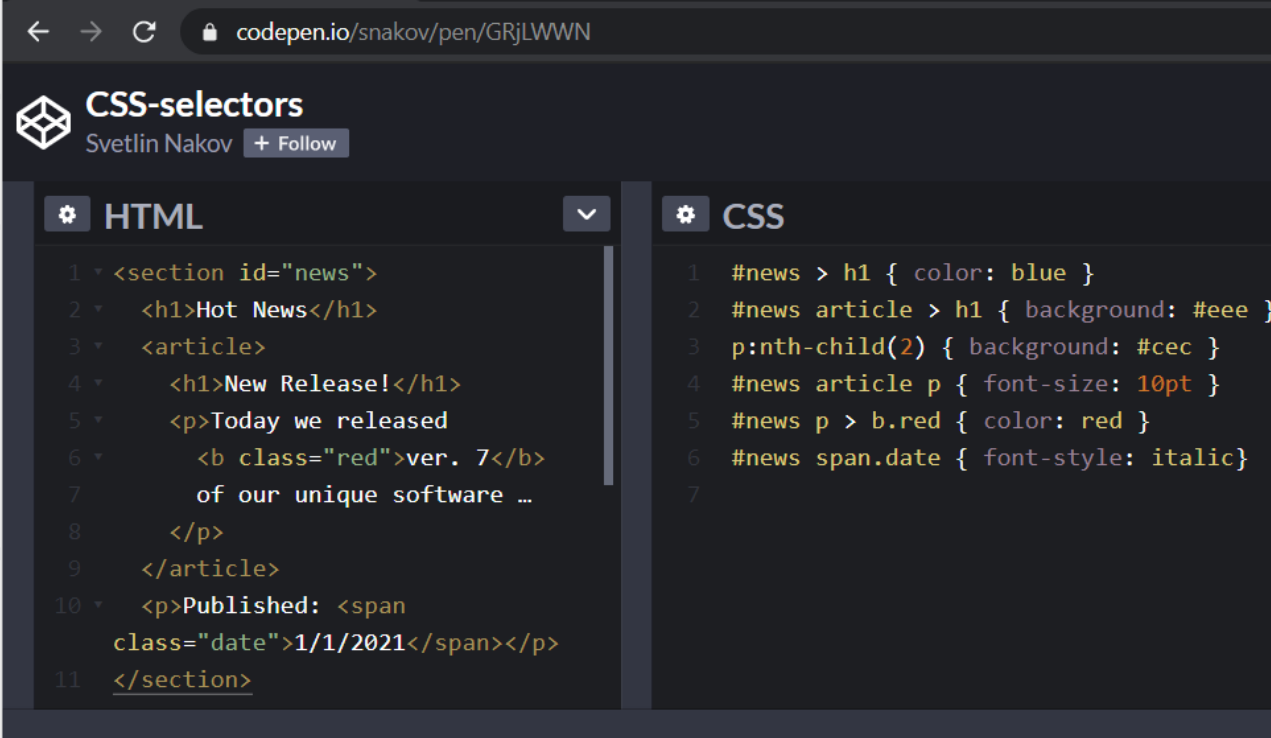
#news p > b.red

#news span.date

article>p, section>p

# CSS Selectors: Live Demo

- <https://codepen.io/snakov/pen/GRjLWWN>



**CSS-selectors**  
Svetlin Nakov + Follow

**HTML**

```
1 <section id="news">
2 <h1>Hot News</h1>
3 <article>
4 <h1>New Release!</h1>
5 <p>Today we released
6 <b class="red">ver. 7</b>
7 of our unique software ...
8 </p>
9 </article>
10 <p>Published: <span
  class="date">1/1/2021</span></p>
11 </section>
```

**CSS**

```
1 #news > h1 { color: blue }
2 #news article > h1 { background: #eee }
3 p:nth-child(2) { background: #cec }
4 #news article p { font-size: 10pt }
5 #news p > b.red { color: red }
6 #news span.date { font-style: italic}
7
```

**Hot News**

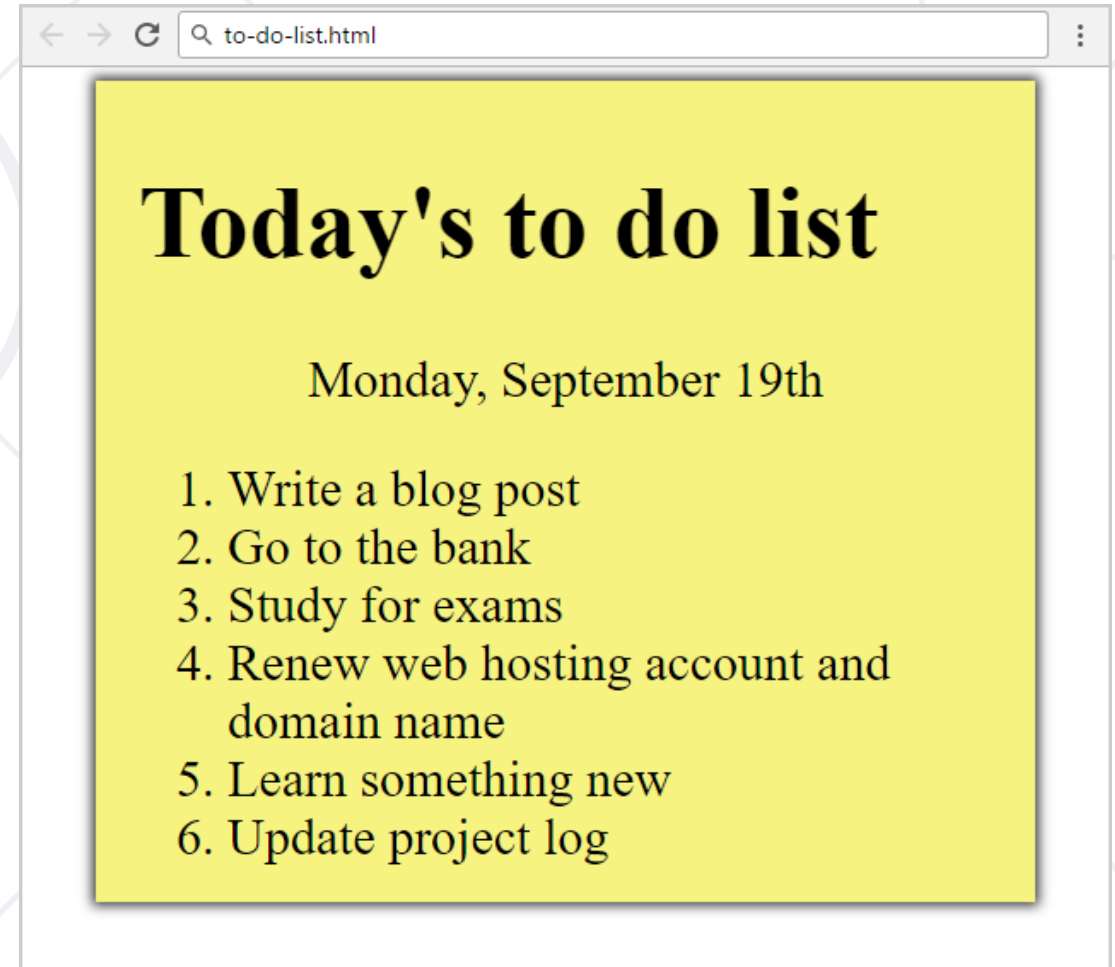
**New Release!**

Today we released **ver. 7** of our unique software ...

Published: 1/1/2021

# Problem: to Do List

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



# Solution: to Do List (HTML)

to-do-list.html

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

- The **style** attribute defines **inline CSS**

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

This is a blue  
Heading

This is a red  
Heading

# 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: inline**

Welcome to the Software  
University (SoftUni) in  
Sofia (Bulgaria), good luck!

# Inline and Block Elements

**<div> vs. <span>**



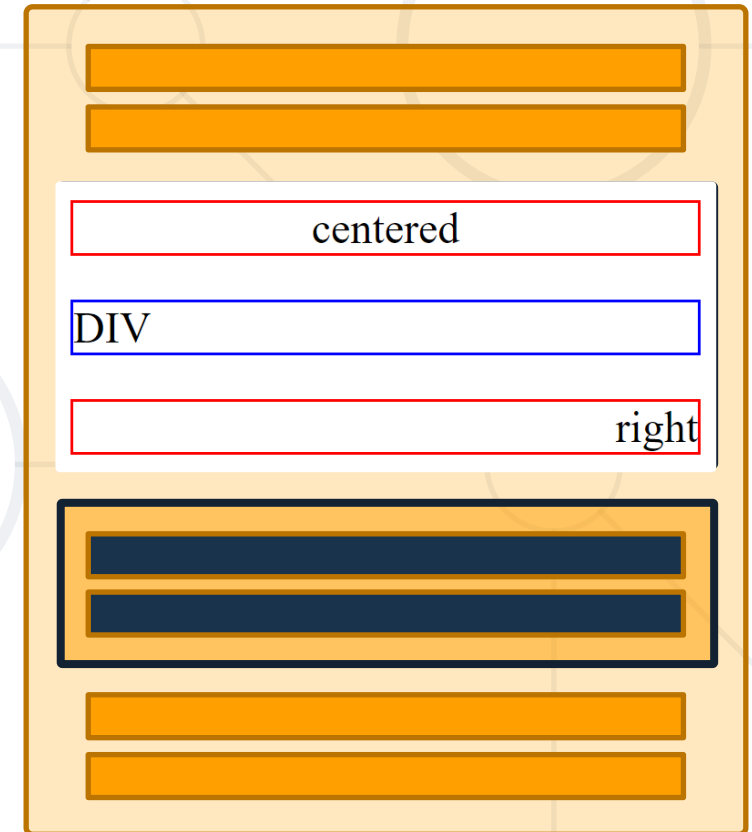
- `<div>` and `<p>` are **block elements** (rectangles)
  - Fill the entire container width
  - Stack vertically one after another

```
<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**



- **<span>** 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**



Welcome to the Software  
University (SoftUni) in  
Sofia (Bulgaria), good luck!



- 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**



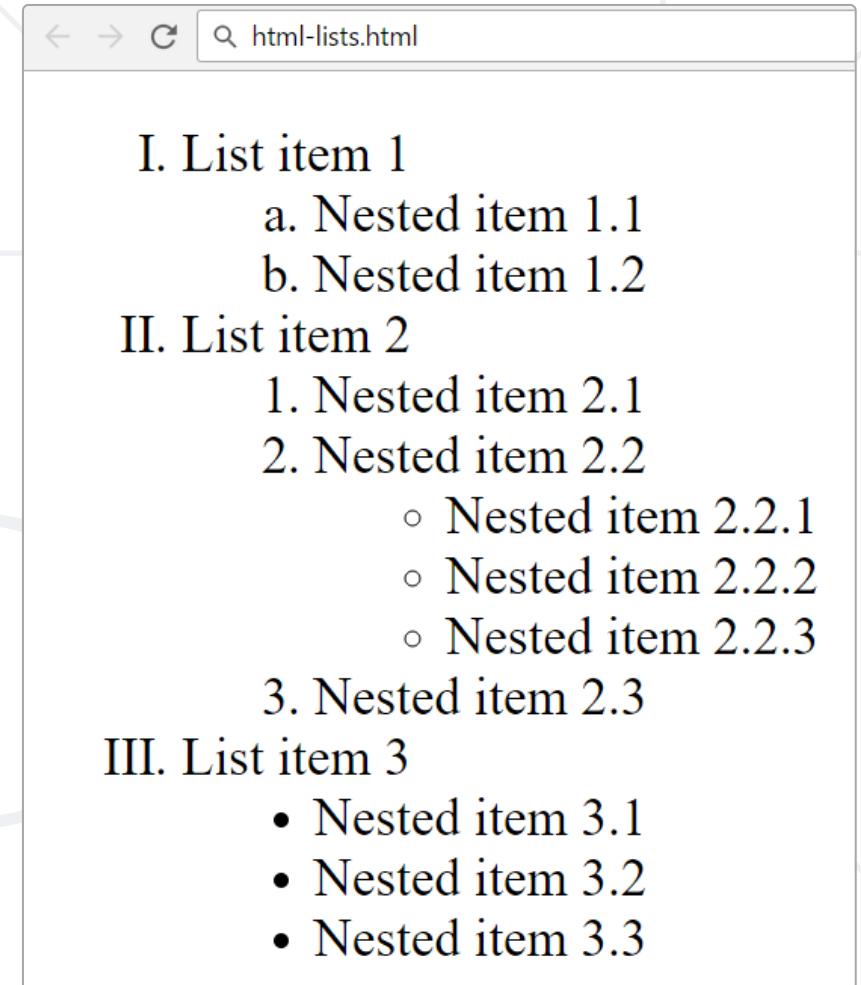


# More HTML Problems

Problems and Solutions

# Problem: HTML Lists

- Create a HTML page, holding **nested lists**, like at the example
- Hints:
  - Use **<ol>** and **<li>** for **List Item 1**, **List item 2** and **List Item 3**
  - Use **<ol>**, **<li>**, **<ul>** and **<li>** for the nested 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

## 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



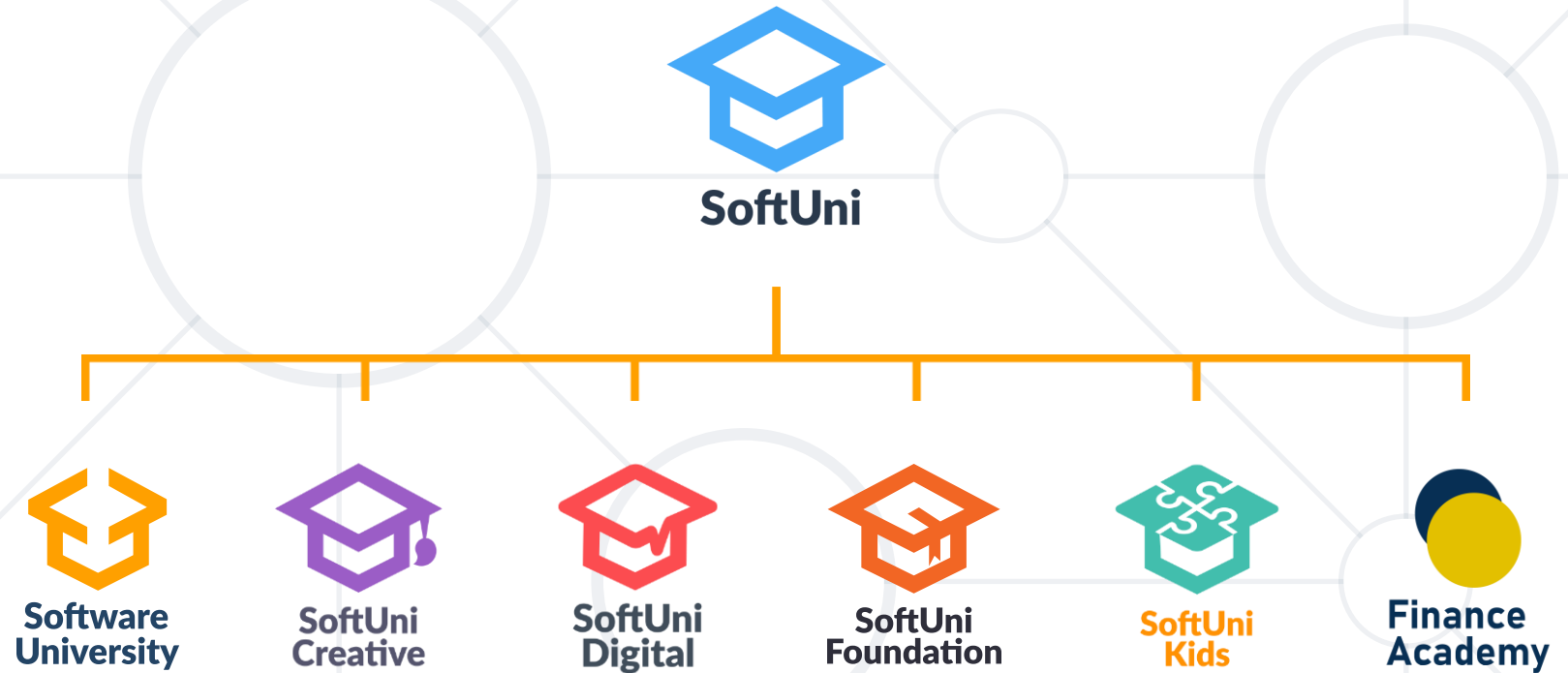
## ■ What is HTML?

```
<!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>
```

## ■ CSS styles may be: external, inline, embedded

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

# Questions?



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**SUPER  
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**Coca-Cola HBC  
Bulgaria**



**POKERSTARS**  
POKER | CASINO | SPORTS  
a Flutter International brand

**INDEAVR**  
Serving the high achievers



**AMBITIONED**

 **DRAFT  
KINGS**



**SOFTWARE  
GROUP**

createX



**Postbank**

Решения за твоето утре

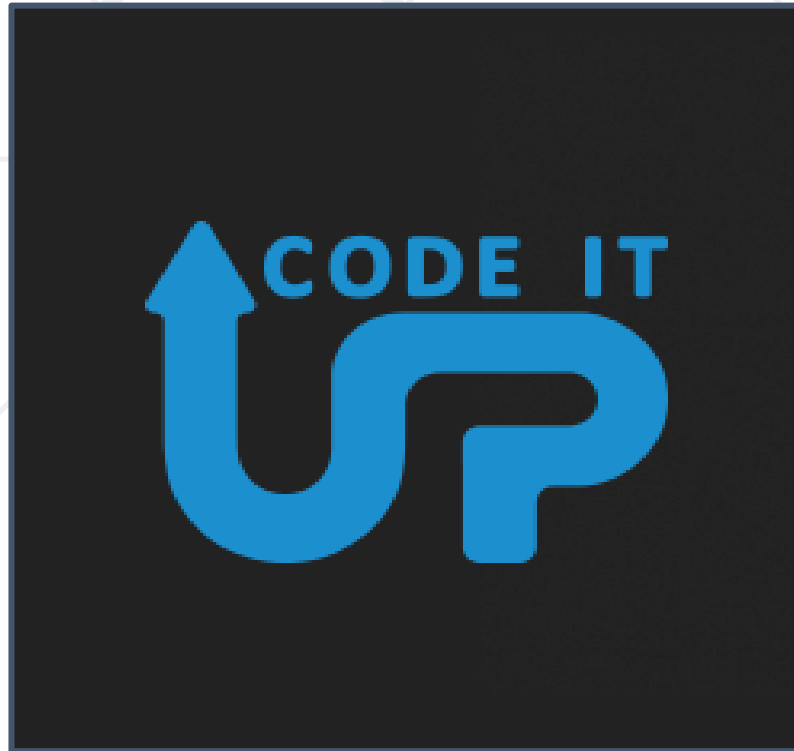


**BOSCH**

**DXC**  
TECHNOLOGY



**SmartIT**



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