

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

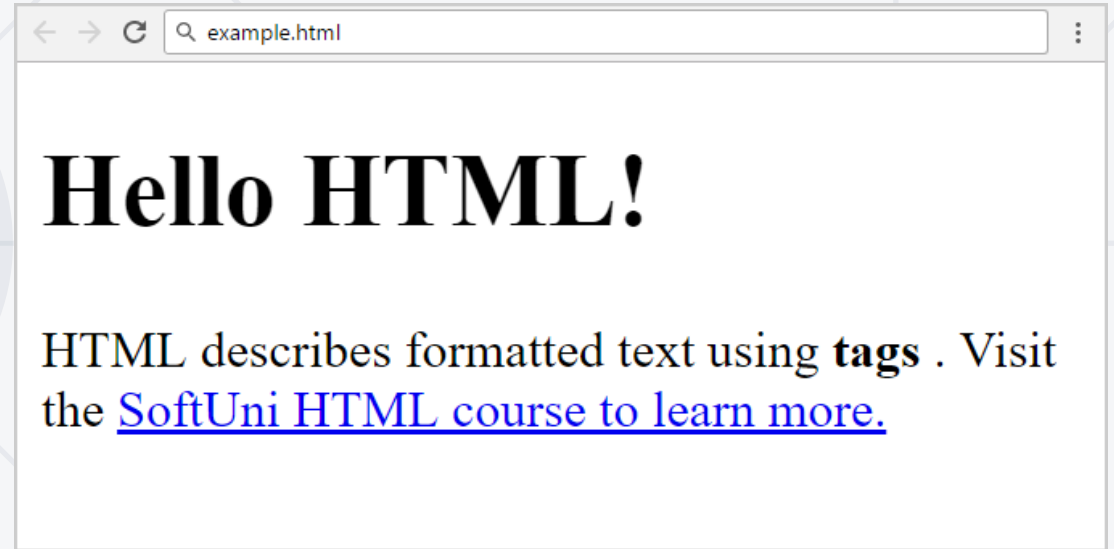
What is HTML?

- 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



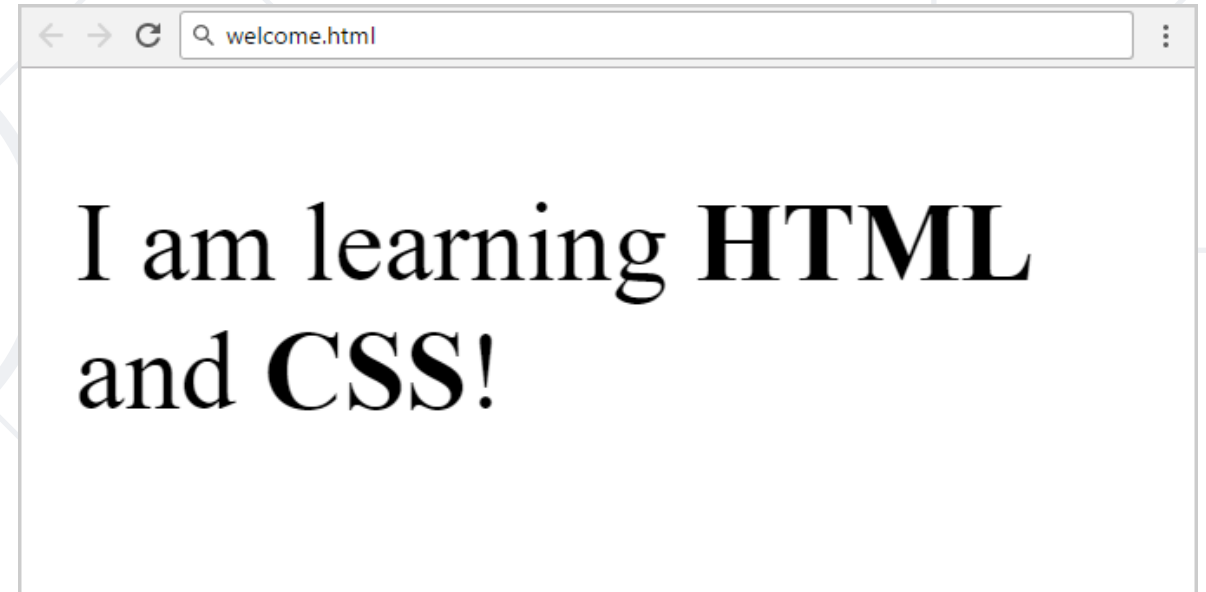
HTML Page – Example

```
<!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

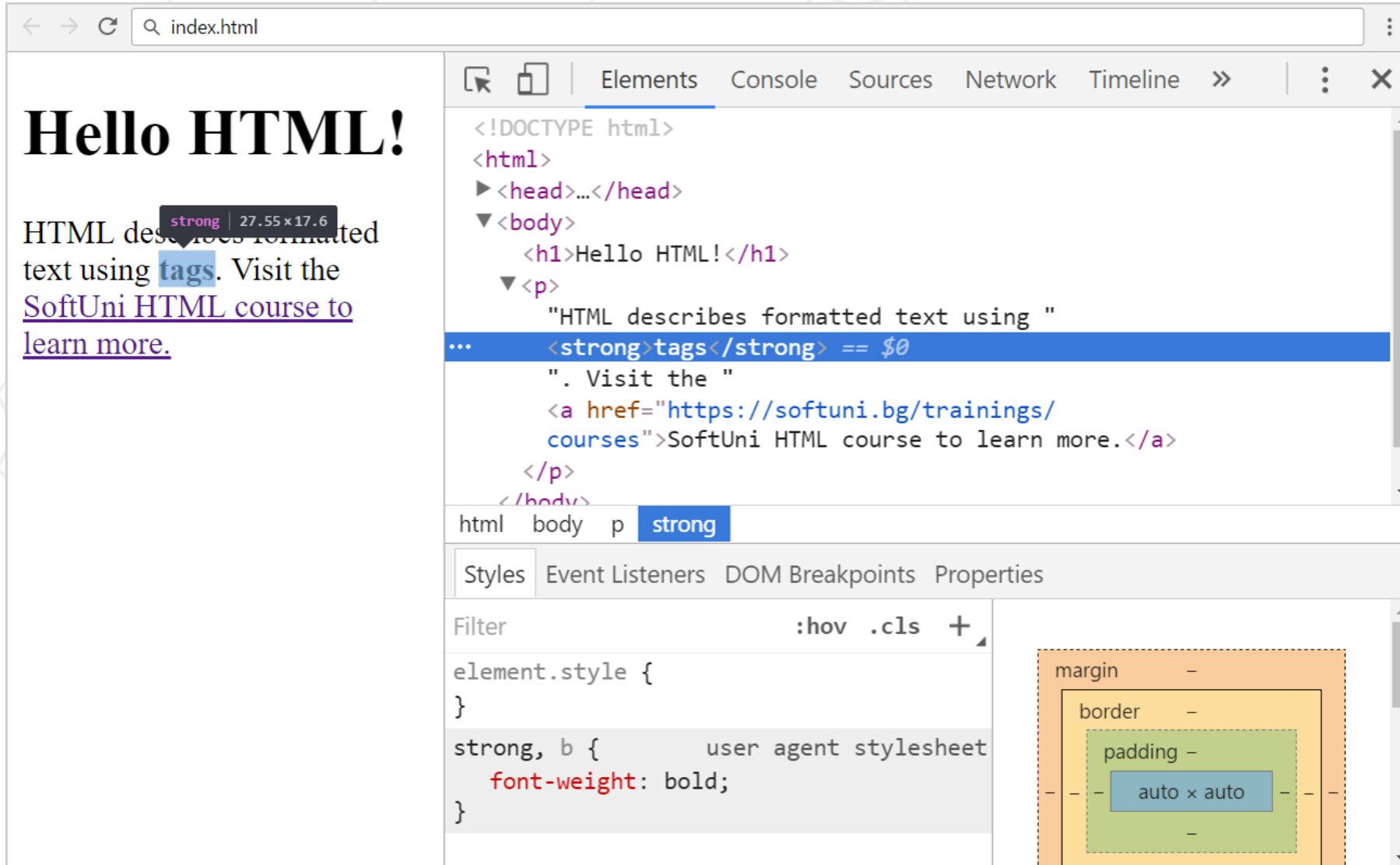
- Create your first HTML page
 - File name: **welcome.html**
 - Title: **Welcome**
 - Paragraph of text:
I am learning **HTML** and **CSS**!
- Hints:
 - Modify the code from the previous slide, use **** tag
 - Submit the page in the judge: **welcome.html** in a **ZIP file**



- **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, showing the 'Elements' panel. The DOM tree is expanded to the 'strong' element within the 'p' element of the 'body'. The selected element's HTML is shown as `tags == $0`. Below the DOM tree, the 'Styles' panel shows the default user agent styles for 'strong' and 'b' elements, including `font-weight: bold;`. To the right of the styles, a box model diagram is visible, showing the layout of margin, border, padding, and the content area (labeled '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 **** tag

```

```

- Embedded image (data URI)



```

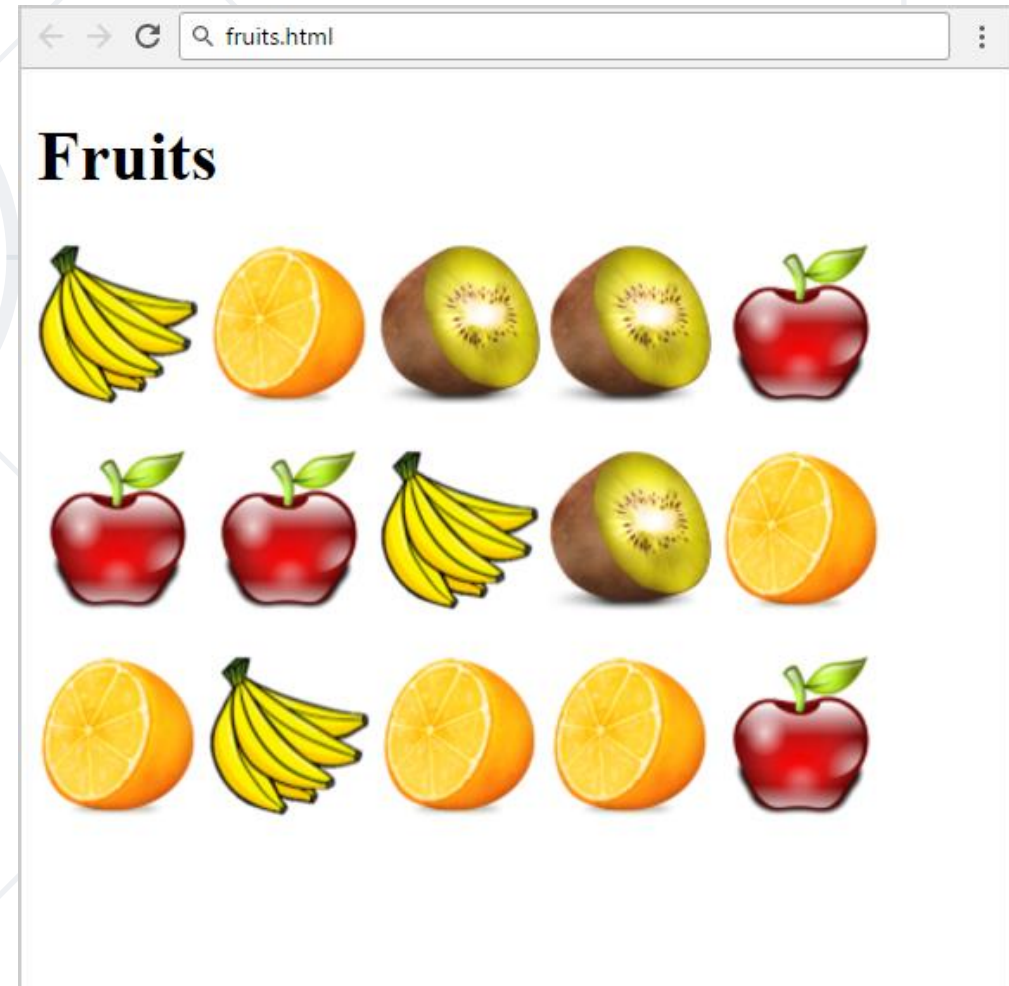
```



- 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: Tag

- Create an **O**rdered **L**ist
- Use ``
 - Each holding ``

```
<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 **U**nordered **L**ist 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

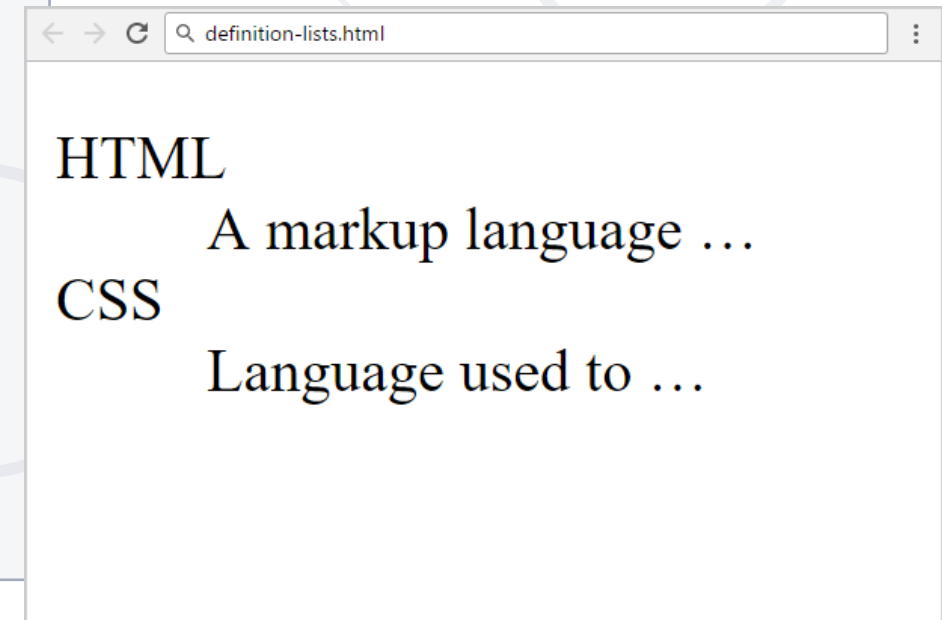
- First item
- Second item
- Third item

First item
Second item
Third item

Definition Lists: <dl> Tag

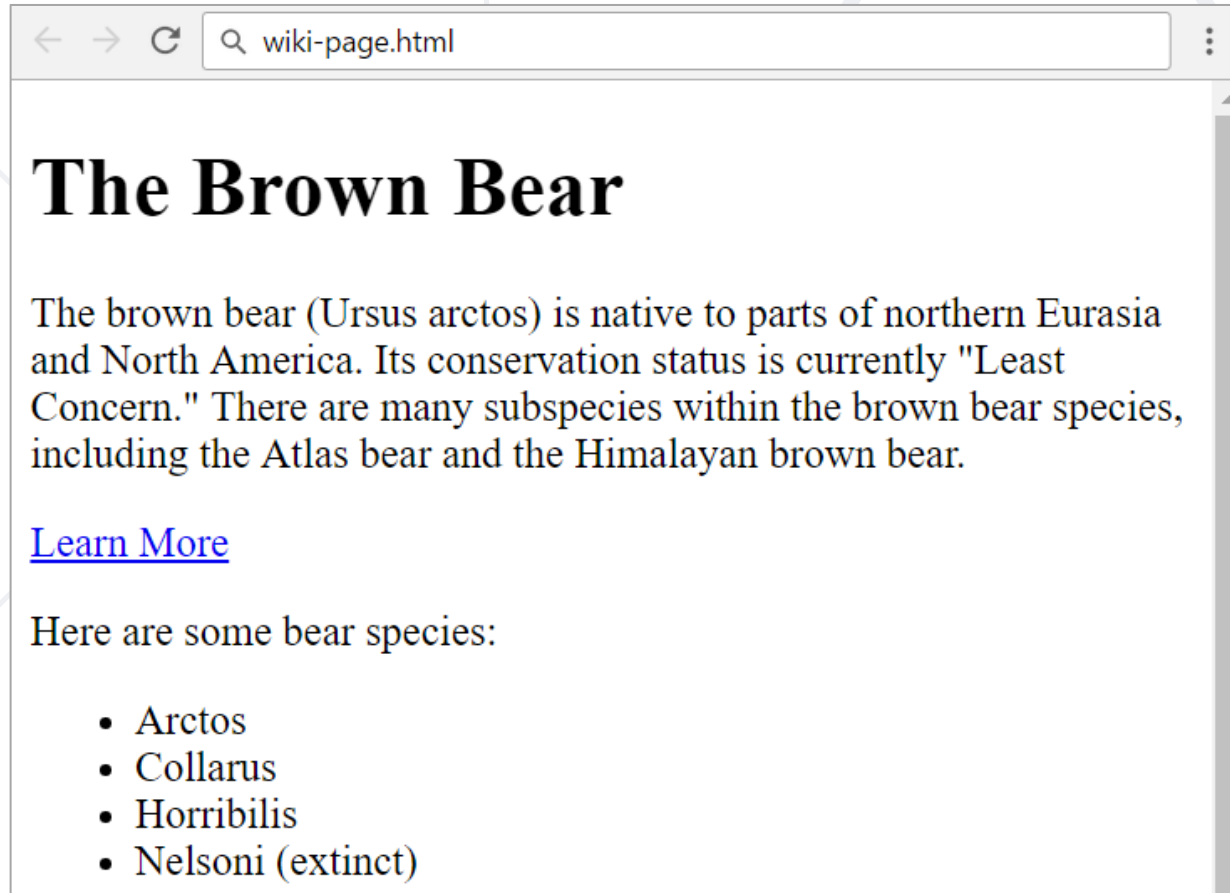
- Create definition lists using **<dl>**
 - Holds **terms (<dt>)** with their **definitions (<dd>)**

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

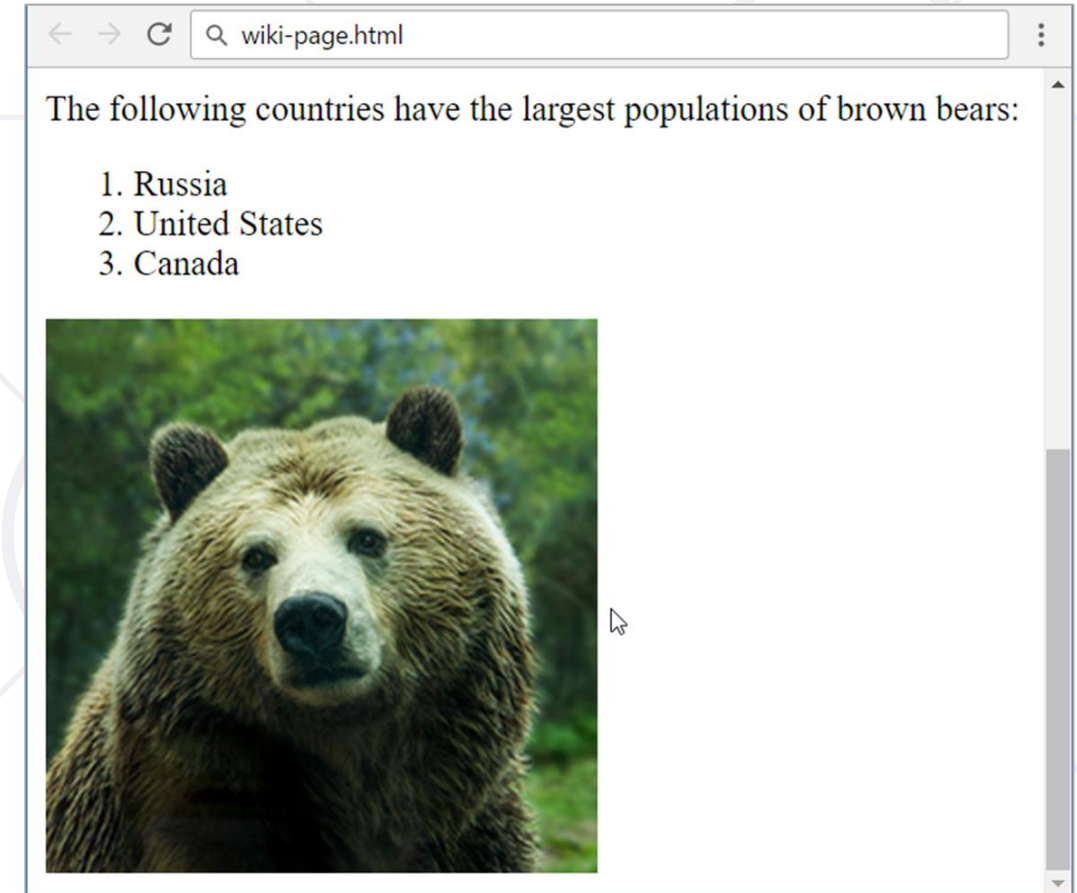


Problem: Wiki Page

- Create the following HTML page:



(page continues here ...)



- 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**

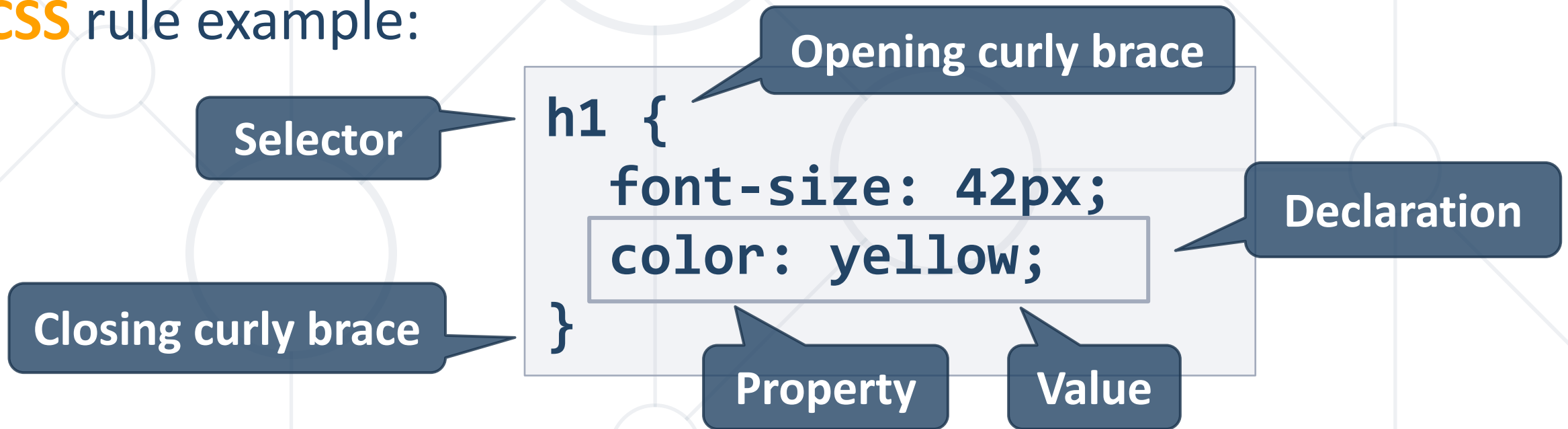


What is CSS?

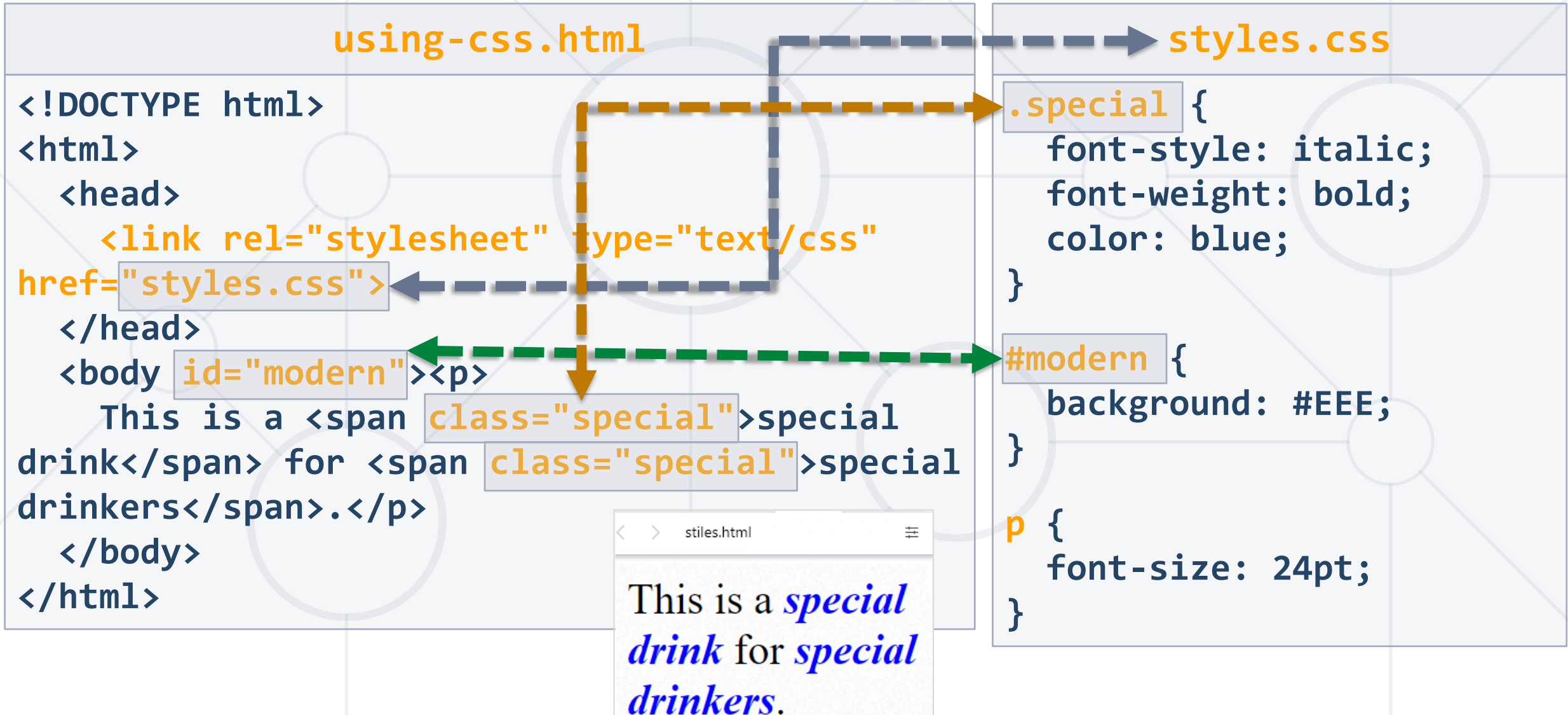
Cascading Style Sheets

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

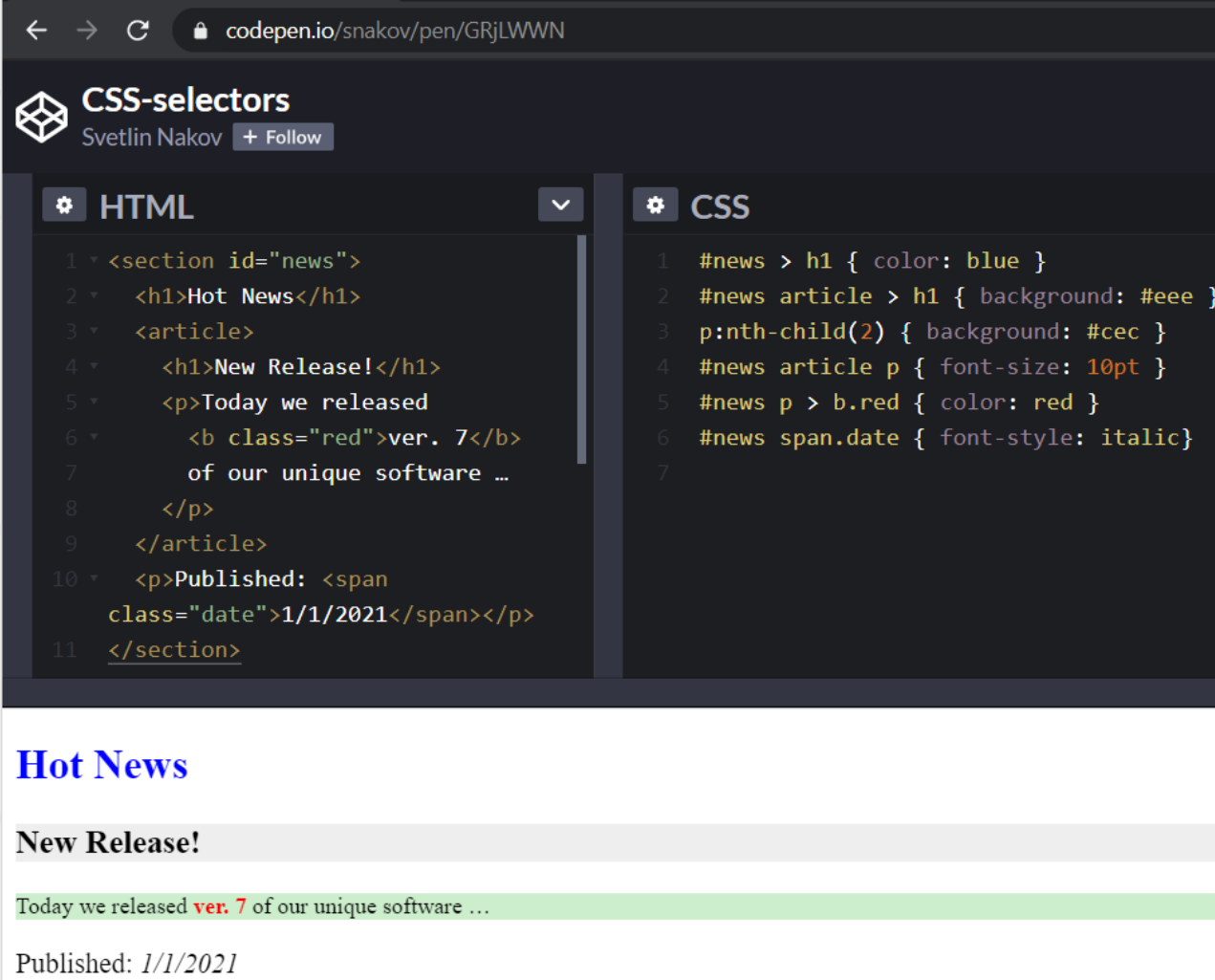
#news p > b.red

#news span.date

article>p, section>p

CSS Selectors: Live Demo

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



The screenshot shows a CodePen live demo titled "CSS-selectors" by Svetlin Nakov. The interface is split into three main sections: a top header, a middle code editor, and a bottom preview area.

Code Editor:

- 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
11    class="date">1/1/2021</span></p>
12 </section>
```
- CSS:**

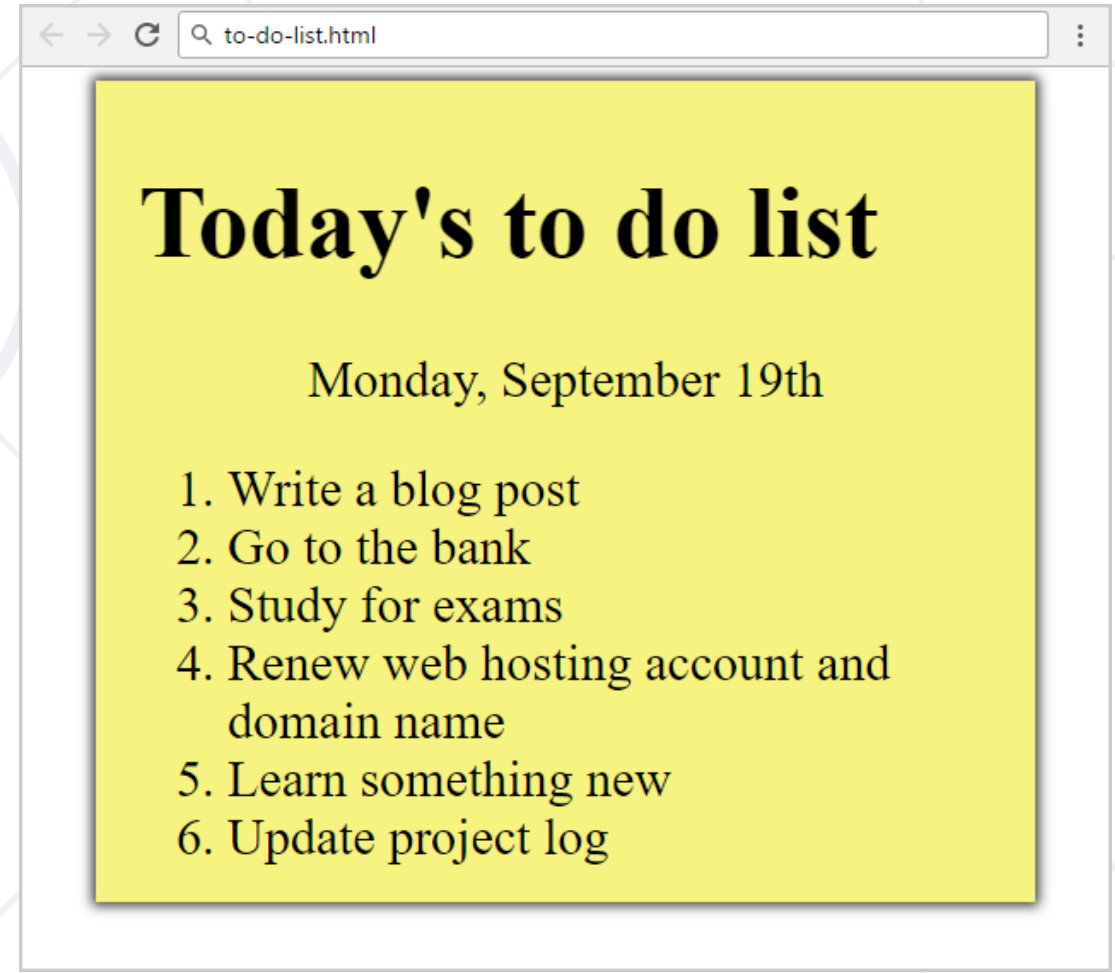
```
1 #news > h1 { color: blue }
2 #news article > h1 { background: #eee }
3 p:nth-child(2) { background: #cec }
4 #news article p { font-size: 10pt }
5 #news p > b.red { color: red }
6 #news span.date { font-style: italic}
```

Preview:

- The title "Hot News" is displayed in blue.
- The sub-header "New Release!" is displayed in bold black text.
- The main text "Today we released ver. 7 of our unique software ..." is displayed, with "ver. 7" highlighted in red.
- The footer text "Published: 1/1/2021" is displayed in italicized black text.

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 ``



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

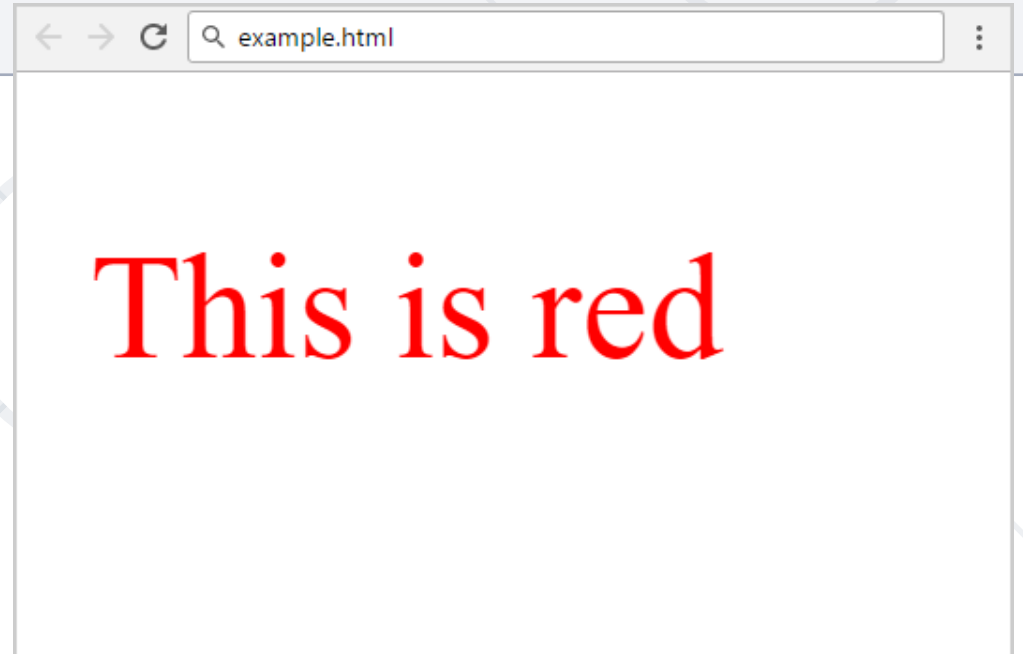
This is a blue
Heading

This is a red
Heading

- 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. **

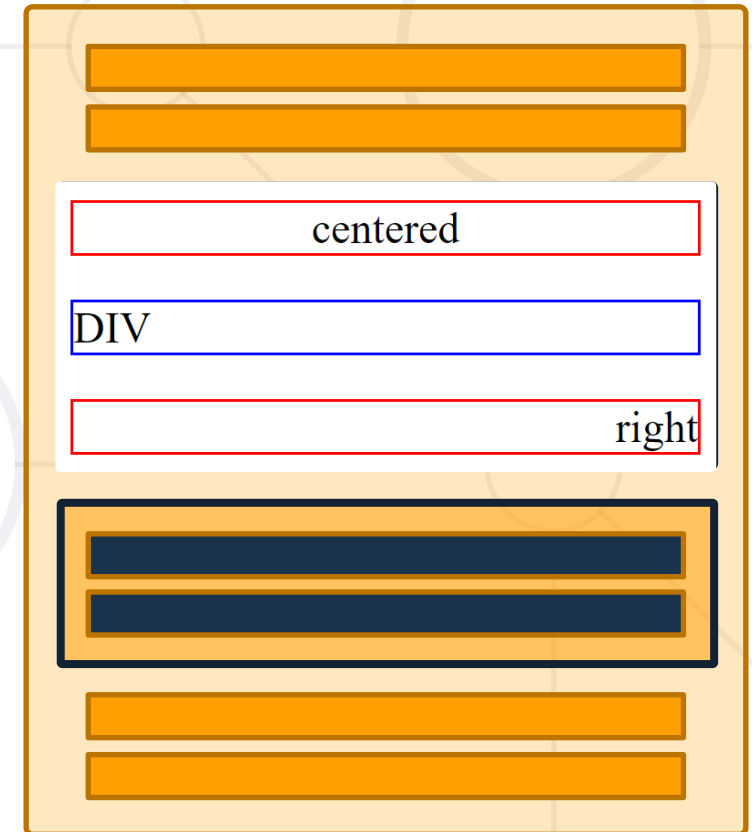
- `<div>` and `<p>` are **block elements** (rectangles)
 - Fill the entire container width
 - Stack vertically one after another

```
<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



- **** 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



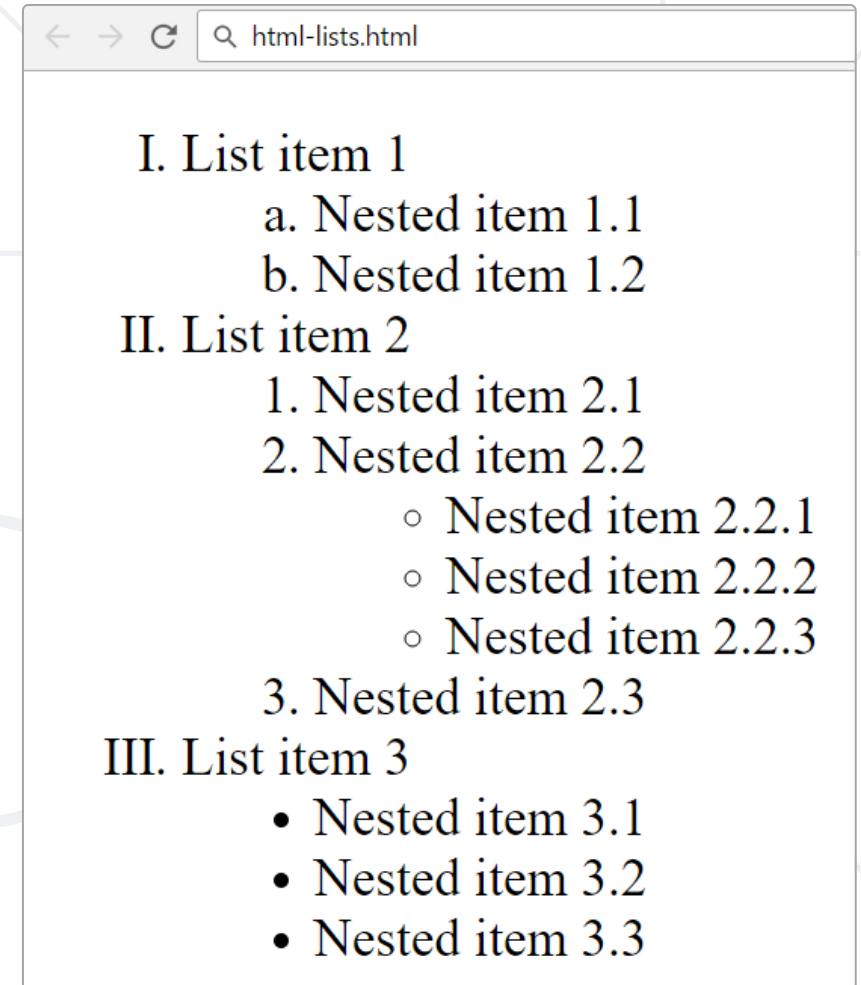


More HTML Problems

Problems and Solutions

Problem: HTML Lists

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

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

■ 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; }
```

SoftUni Diamond Partners



SCHWARZ



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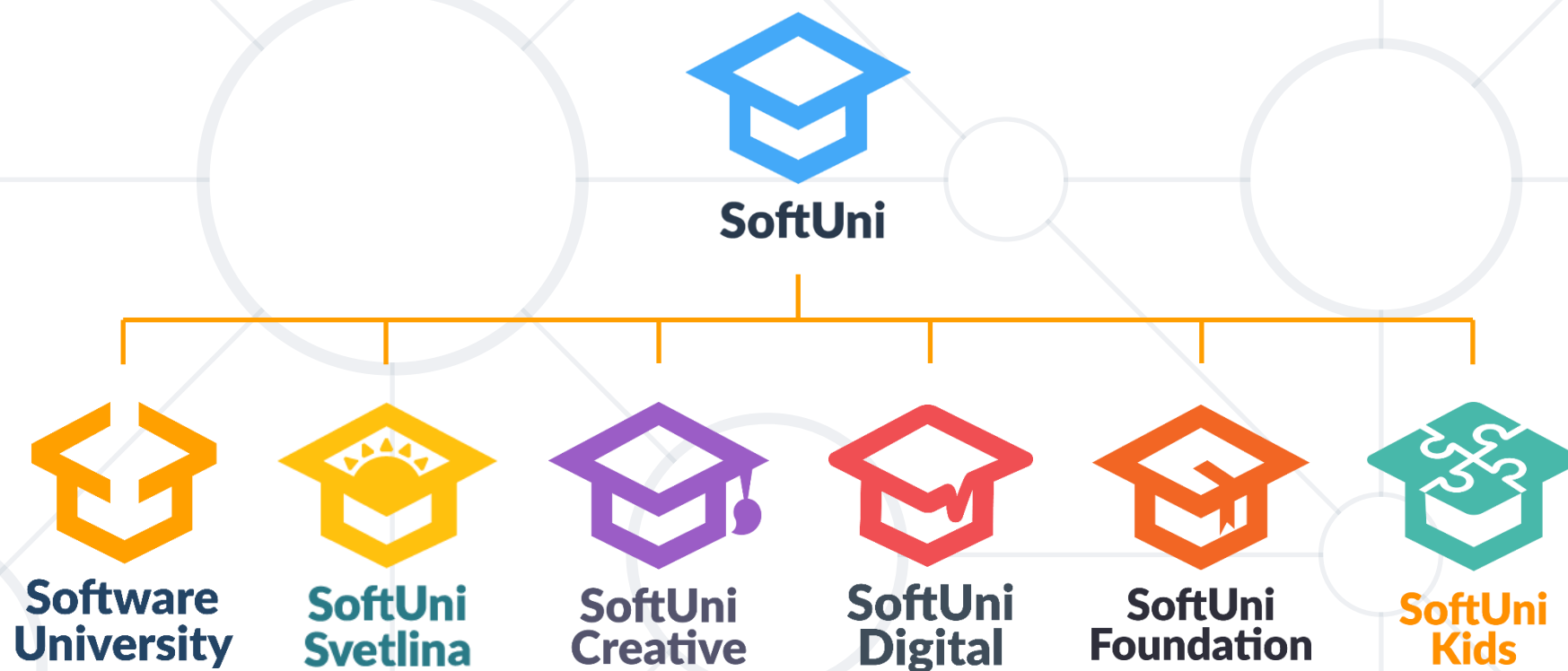




VIRTUAL RACING SCHOOL



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