HTML STRUCTURE

Semantic Tags, Document Structure

HTML
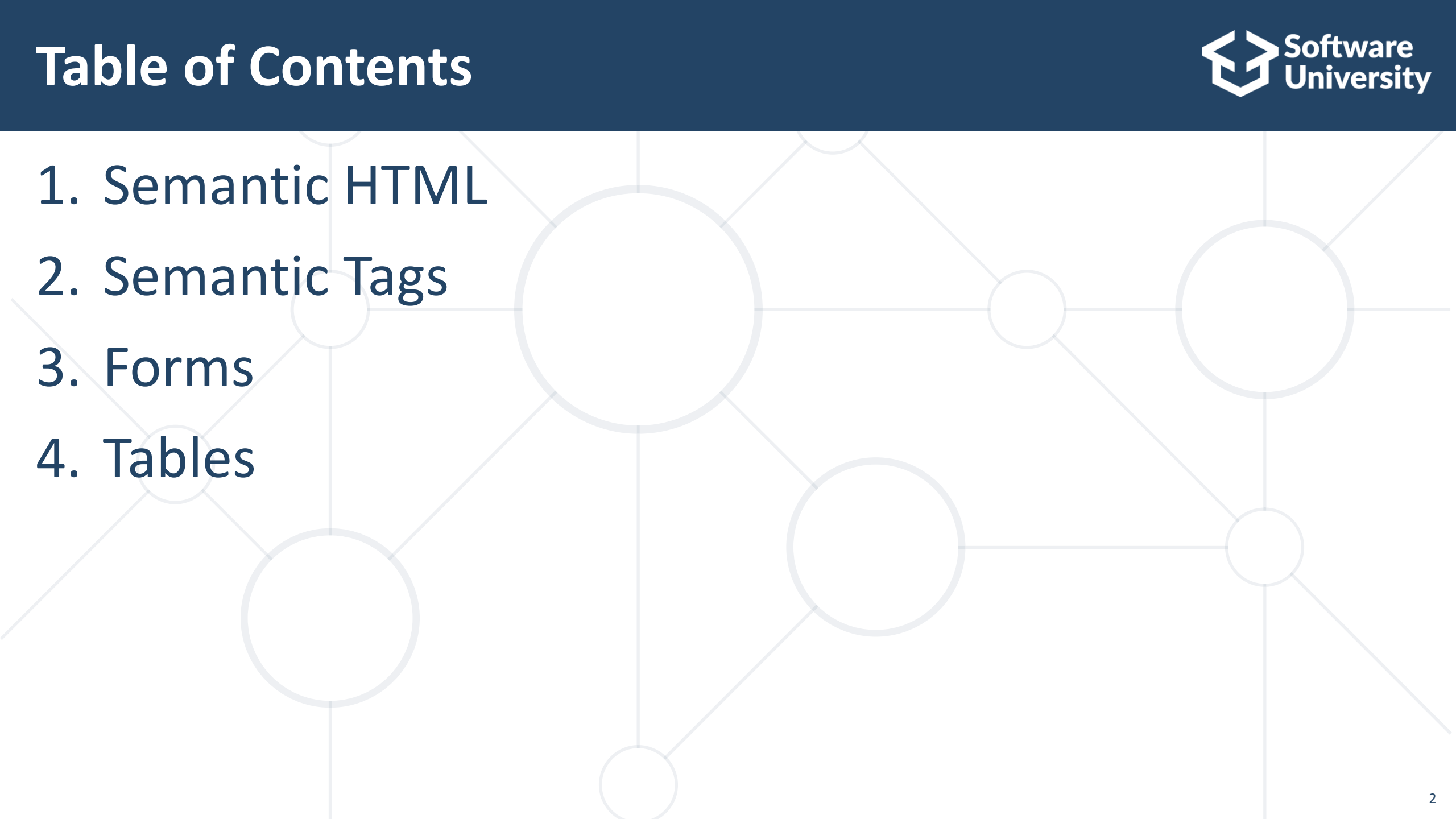

SoftUni Team

Technical Trainers
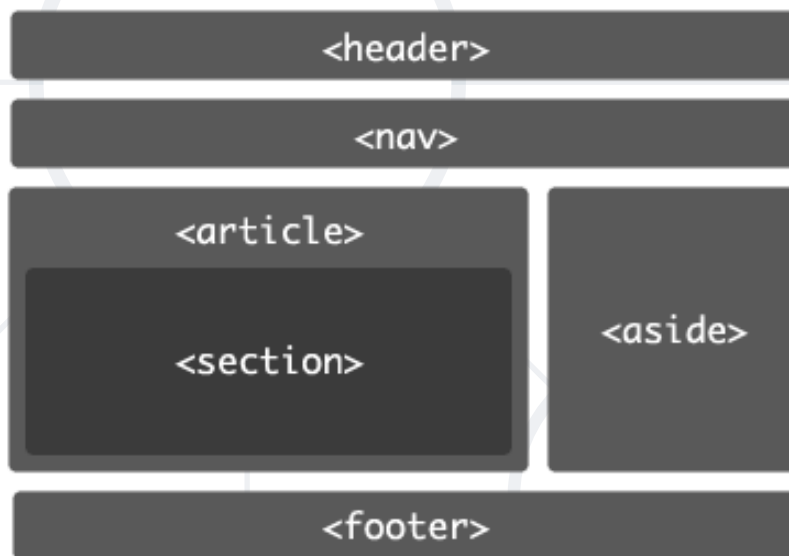
Software University

SoftUni

Table of Contents

1. Semantic HTML
2. Semantic Tags
3. Forms
4. Tables

sli.do

#html-css

Semantic HTML

HTML Markup to Reinforce the Semantics

What is Semantic HTML?

- Semantic element clearly describes its meaning to both the **browser** and the **developer**

  ```
  <p>Some random text...</p>
  ```

  > **Indicates that the enclosed text is a paragraph**

- This is both semantic and presentational

  - People know what paragraphs are and browsers know how to display them

  ```
  <footer>© 2021 by ABC</footer>
  ```

  > **This holds a footer**

The Importance of Semantic HTML

- Provides an **additional information** about that document, which **aids in communication**

- Semantic tags make it **clear** to the **browser** what the **meaning** of a page and its **content** is
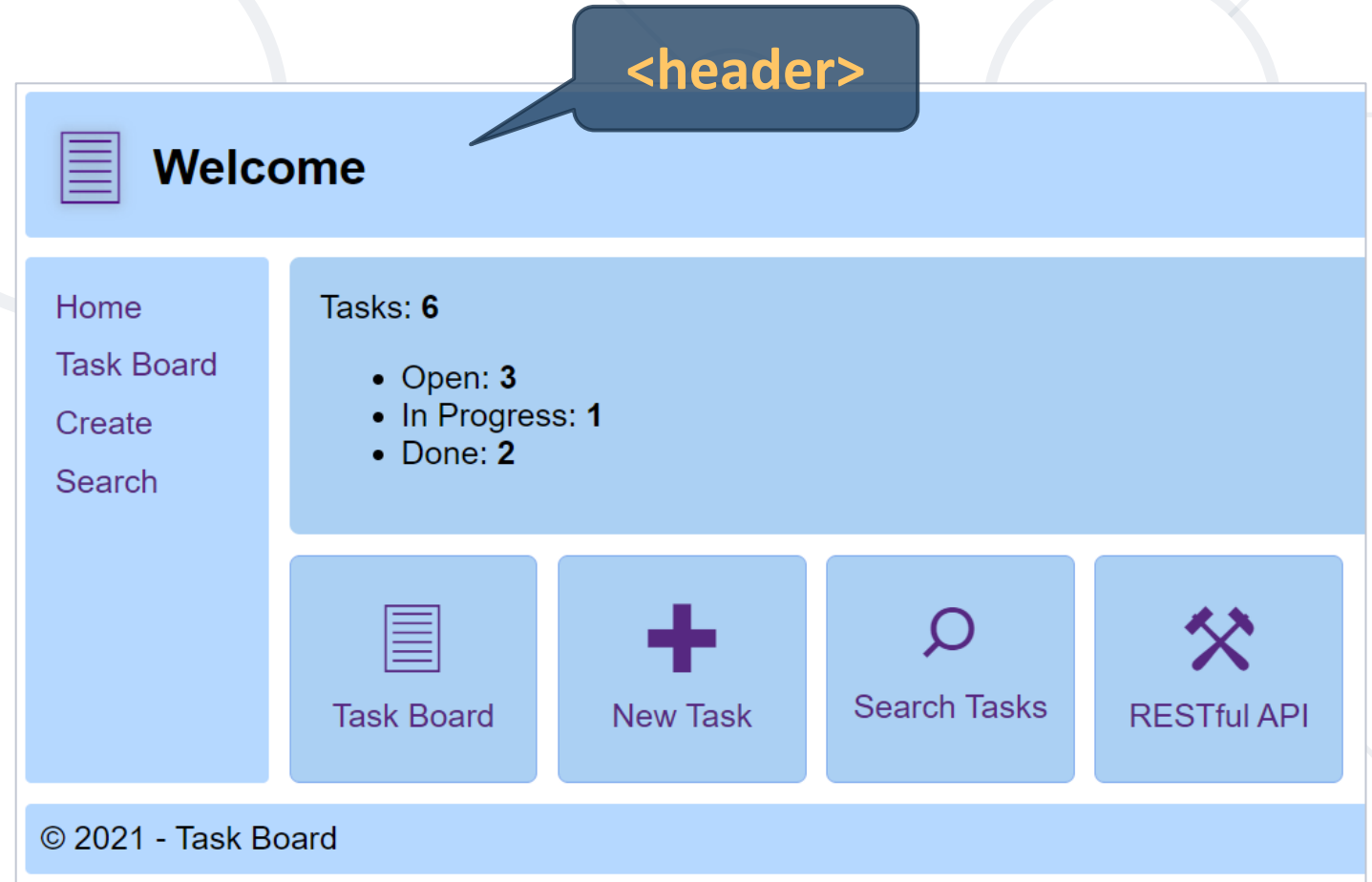 - This clarity is also **communicated** with search engines

HTML Semantic Tags

<Header></header>

- Represents **introductory content**

```
<header>
    <h1>Welcome</h1>
</header>
```

- It may contain:

  - headings

  - logo

  - search form

<Nav></nav>

- Defines a set of **navigation links**

```
<nav id="leftmenu">
  <ul>
    <li><a href="/home">Home</a></li>
    <li><a href="/tasks">Task Board</a></li>
    <li><a href="/create">Create</a></li>
    <li><a href="/search">Search</a></li>
  </ul>
</nav>
```
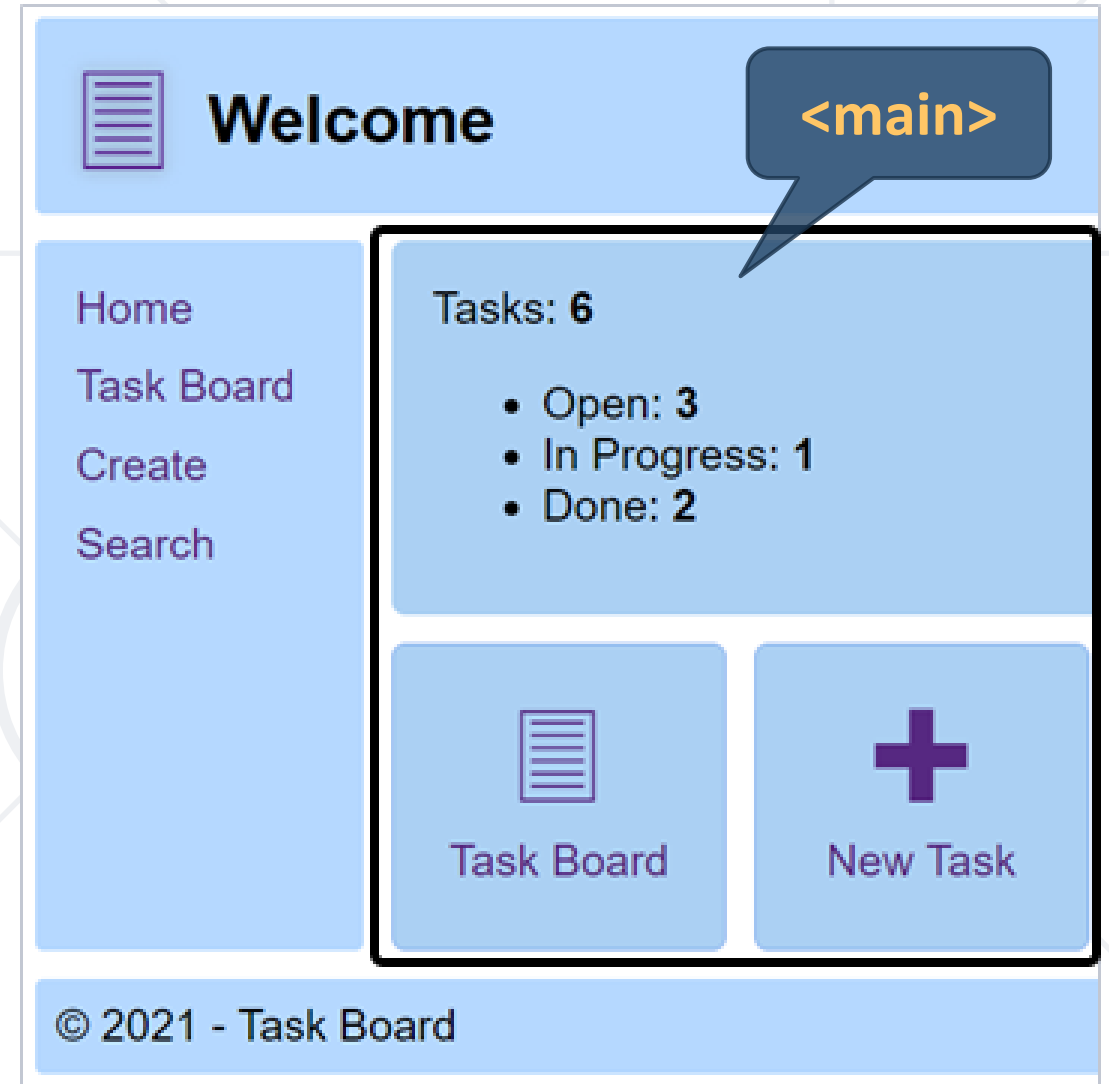
<Main></main>

- **<main>** holds the main content of a document

  - Helps crawlers

  - There must not be more than one **<main>** element in a document

  - Wrap the most important information in the body

<Aside></aside>

- Defines a sidebar (**left / right navigation**)

```html
<aside>
  <h2>Recent posts</h2>
  <ul>
    <li><a href="#">Our Response</a></li>
    <li><a href="#">Her Story</a></li>
    <li><a href="#">Greatest Challenges</a></li>
  </ul>
</aside>
```

<aside>

Creative Commons > What We Do

What We Do

Creative Commons is a nonprofit organization that helps overcome legal obstacles to the sharing of knowledge and creativity to address the world's pressing challenges.
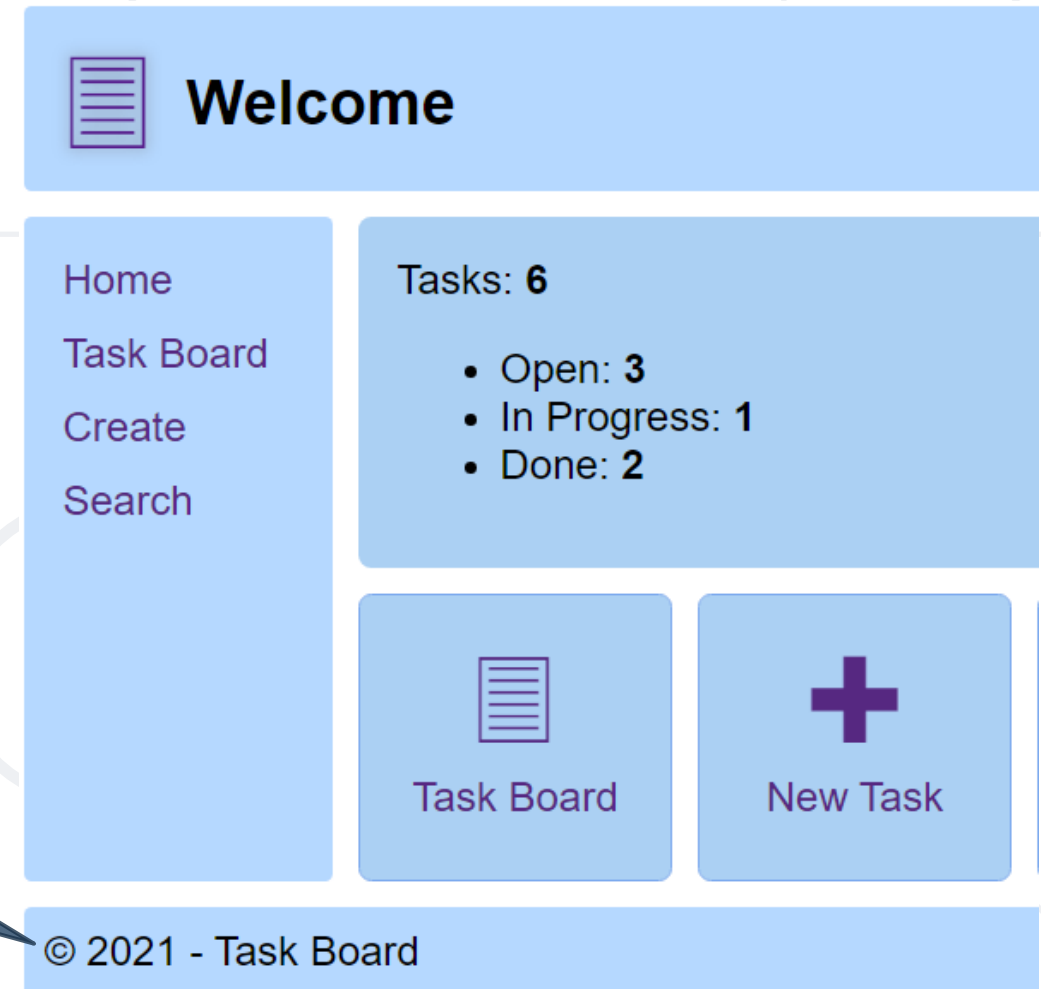
Recent Posts

▶ Our Response To Canada's Copyright Term Extension Consultation

▶ Her Story: Facing Our Greatest Challenges

<Footer></footer>

- A document / section footer

```html
<footer>
  <p>Posted by: Hege Refsnes</p>
    <p><a href="someone@exam.uk">
      2021 Task Board</a></p>
  <p>&copy;copyright</p>
</footer>
```

- A footer typically contains:

  - Navigation links

  - Copyright data

Welcome

Home
Task Board
Create
Search

Tasks: **6**

- Open: **3**
- In Progress: **1**
- Done: **2**

Task Board

New Task

`<footer>`

© 2021 - Task Board

<Section></section>

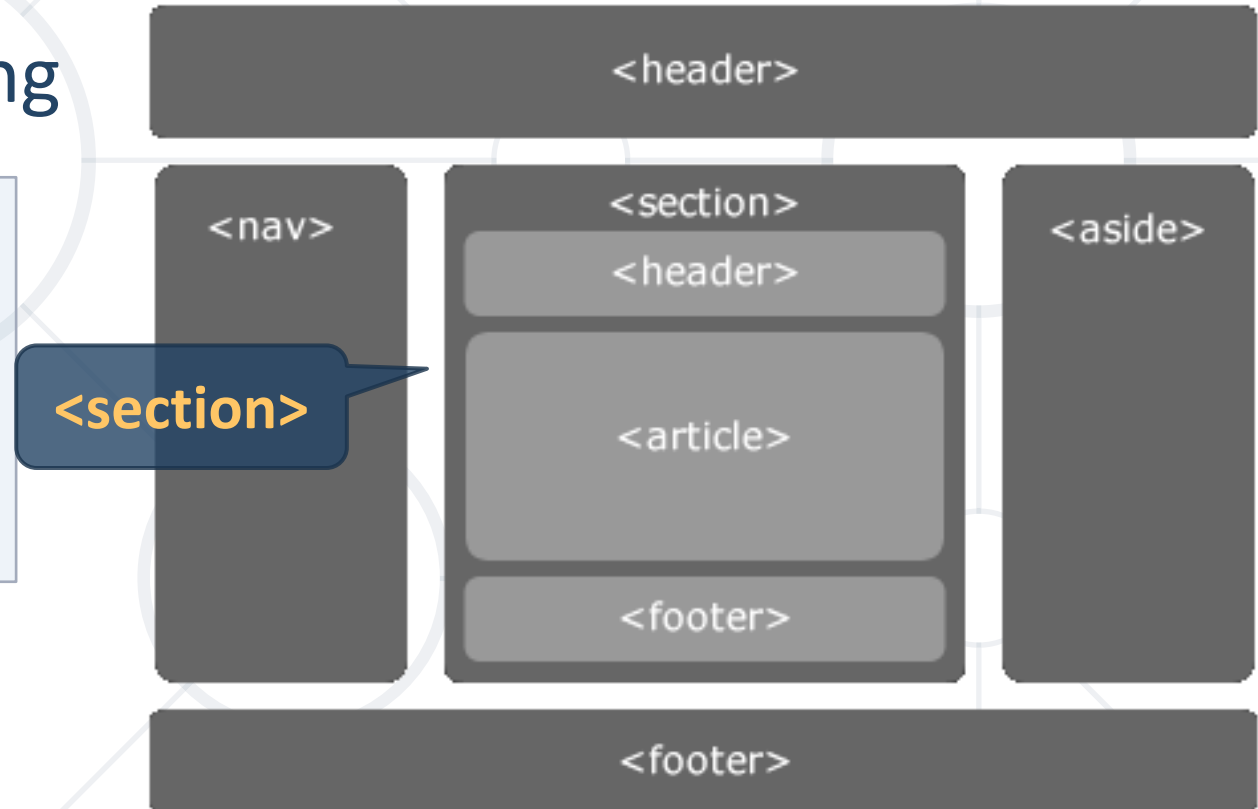- Represents a standalone section
  - Typically followed by a heading

```
<section>
  <h2>Heading</h2>
  <img src="bird.jpg" />
</section>
```
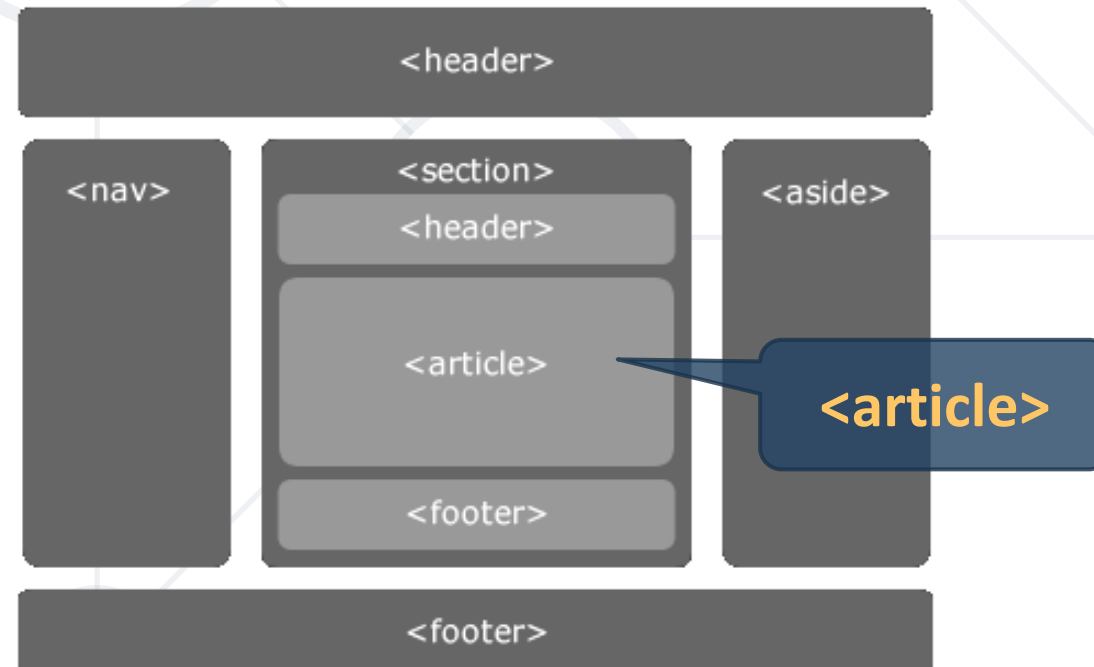
<section>

- Sections may have header, several articles, and footer
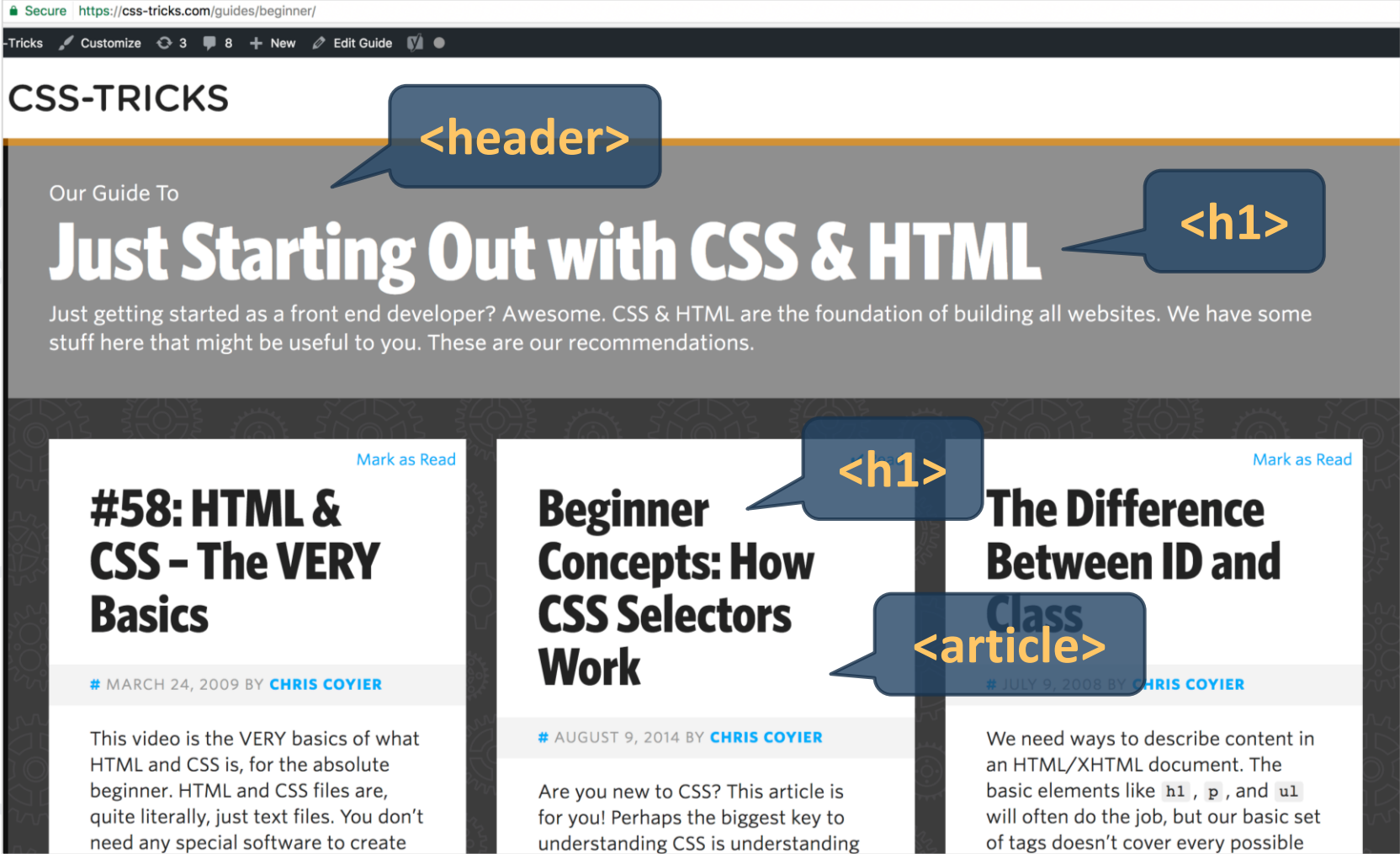
<Article></article>

- Represents a **self-contained composition** in a document, page, application, or site

- Intended to be **independently distributable** or **reusable**

- Examples:
  - Forum post
  - Magazine
  - Newspaper article
  - Blog entry

```
<article>
  <h2>Tips</h2>
  <p>Tip #1 …</p>
</article>
```

Sections and Articles – Example

<Figure></figure>

- Represents self-contained content

- Frequently with a caption **"figcaption"**

- Typically referenced as a single unit

```
<figure>
   <img src="pic_trulli.jpg"
    alt="Trulli">
   <figcaption>
      Fig.1 Trulli, Puglia, Italy.
   </figcaption>
</figure>
```

<figure>

Places to Visit

Puglia's most famous sight is the unique conical houses (Trulli) found in the area around Alberobello, a declared UNESCO World Heritage Site.

Fig.1 - Trulli, Puglia, Italy.

<Details> + <Summary>

- **<details>** – additional details that the user can view or hide

- **<summary>** – defines a visible heading for the **<details>**

```
<details>
  <summary>Some details</summary>
  <p>More info about the details.</p>
</details>
```

<Time> + <Address>

- **<time>** — a human-readable time

  - Search engines can produce smarter results

```
<p>We open at <time>10:00</time>
   every morning.</p>
```

- **<address>** — contact information for site author / owner

```
<address>
   <a href="mailto:tony@gmail.com">
     tony@gmail.com</a>
</address>
```

5744 S. Harlan St
Littleton, CO 80123
United States (US)
Phone: (303) 501-4944
Email: webmaster@contentmarketingspot.com

<address>

<time>

Monday	8:00 AM - 8:00 PM
Tuesday	8:00 AM - 8:00 PM
Wednesday	8:00 AM - 8:00 PM
Thursday	8:00 AM - 8:00 PM
Friday	8:00 AM - 8:00 PM
Saturday	8:00 AM - 8:00 PM
Sunday	Closed

Forms

Collect User Input

Form

- The **HTML form** - a document section
  - Contains interactive controls for submitting information
  - Takes **input** from the site **visitor** and posts it

```
<form>
  <label for="fname">First name:</label><br>
  <input type="text" id="fname"
 name="fname" value="John"><br>
  <input type="submit" value="Submit">
</form>
```

Sample Form

Please fill the required

`<input type="text">`

First Name

Last Name

Occupation

Age

Gender ☐ Female ☐ Male

Form Attributes

- **Action** - used to specify where the form data is to be sent to the server after submission of the form

```
<form action="register.php" … />
```

- **Method** - The HTTP method that the browser uses to submit the form

  - **POST** - Corresponds to **HTTP POST** (hides posted form data)

  - **GET** - Corresponds to **HTTP GET** (shows form data in the URL)

```
<form method="POST" … />
```
```
<form method="GET" … />
```

Form Elements – Input

- **`<input>`** element is the most important form element

- It can be displayed in several ways, depending on the **type** attribute:

    - **`<input type="text">`**

    - **`<input type="number">`**

    - **`<input type="password">`**

    - **`<input type="email">`**

    - **`<input type="search">`**

Write your comment [Exelent product]

Enter your number [01234567890]

Enter your password [........]

Enter your email [myMail]
Please include an '@' in the email address. 'myMail' is missing an '@'.

Search box [Pen]

Form Elements – Input

- `<input type="checkbox">`
- `<input type="radio">`
- `<input type="range">`
- `<input type="submit">`
- `<input type="button">`
- `<input type="file">`

```
<form action="/register.php" method="get">
  <label for="male">Male</label>
  <input type="radio" id="male" name="male" value="Gender">
  <label for="female">Female</label>
  <input type="radio" id="female" name="female" value="Gender">
</form>
```

Name :

Password :

Gender : ◯ Male ◯ Female   type="radio"

Email :

Phone no : 977 ▼

Submit

Input Validation

- HTML input **validation** is done automatically by the browser based on **special attributes**

```
<input type="text"
  required="true" />
```

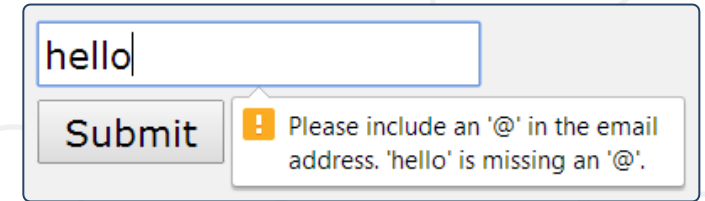**Text Input**

![ ]

Submit   ⚠ Please fill out this field.

- The validation only **occurs** when attempting to **submit** the form

- Inputs which are **disabled** or **read-only** will not trigger validation

- Email – simple validation for emails

```
<input type="email" required="true" />
```
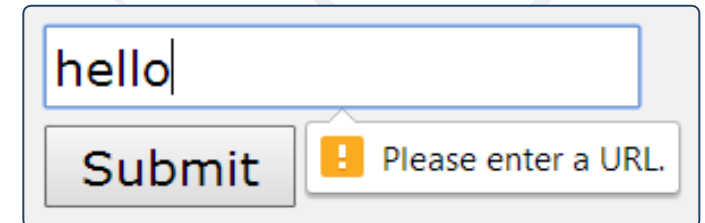
- URL – validation for URL addresses
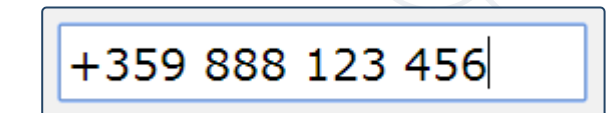
```
<input type="url" required="true" />
```

- Telephone – validation for phone numbers

```
<input type="tel" required="true" />
```

Form Elements – Input Attributes

- **value** - specifies the initial value for an input field

- **name** - specifies the name of the input element

- **placeholder** - specifies a hint that describes the expected value of the input field

- **required** - the field must be filled out before submitting the form

- **autofocus** - the input should automatically get focus when the page load

- **disabled** - specifies that the input field is disabled

- **min** and **max** - specify the minimum and maximum values

Form Elements – Examples

```
Email Address: <input type="email" size="48"
  name="email" required="true" autofocus
  placeholder="Enter a valid email address" >
```

- **`<label>`** - defines a label for the others forms elements
- The **`for`** attribute should be equal to the **`id`** attribute of the related element to bind them together

```
<form>
  <label for="male">Male</label>
  <input type="radio" name="gender"
    id="male" value="male">
</form>
```
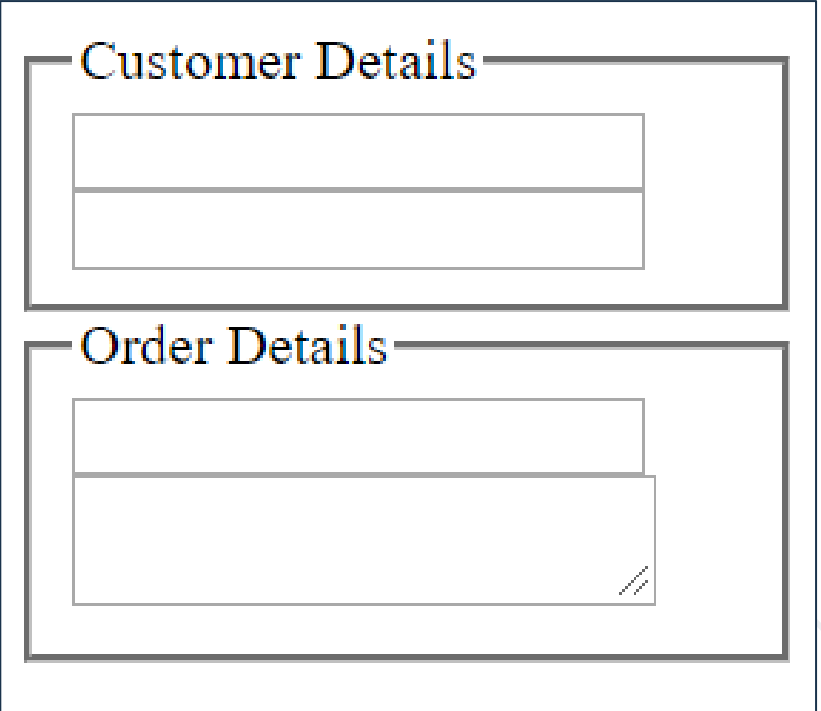
Form Elements – Fieldset

- **<fieldset>** - used to group related data in a form

- **<legend>** - defines a caption for the **<fieldset>** element

```
<fieldset>
    <legend>Customer Details</legend>
    <input type="text" name="fName" />
    <input type="text" name="lName" />
</fieldset>
<fieldset>
    <legend>Order Details</legend>
    <input type="text" name="quantity" />
    <textarea name="remarks"></textarea>
</fieldset>
```

Customer Details

Order Details

Number and Range Fields

```html
<fieldset>
  <label for="field_age">Age</label>
  <input type="number" name="age" id="field_age"
    min="18" max="99" value="21">

  <label for="field_sat">Satisfaction</label>
  <input type="range" name="satisfaction"
    min="1" max="5" value="3"
    id="field_sat"> (1-5)
</fieldset>
```
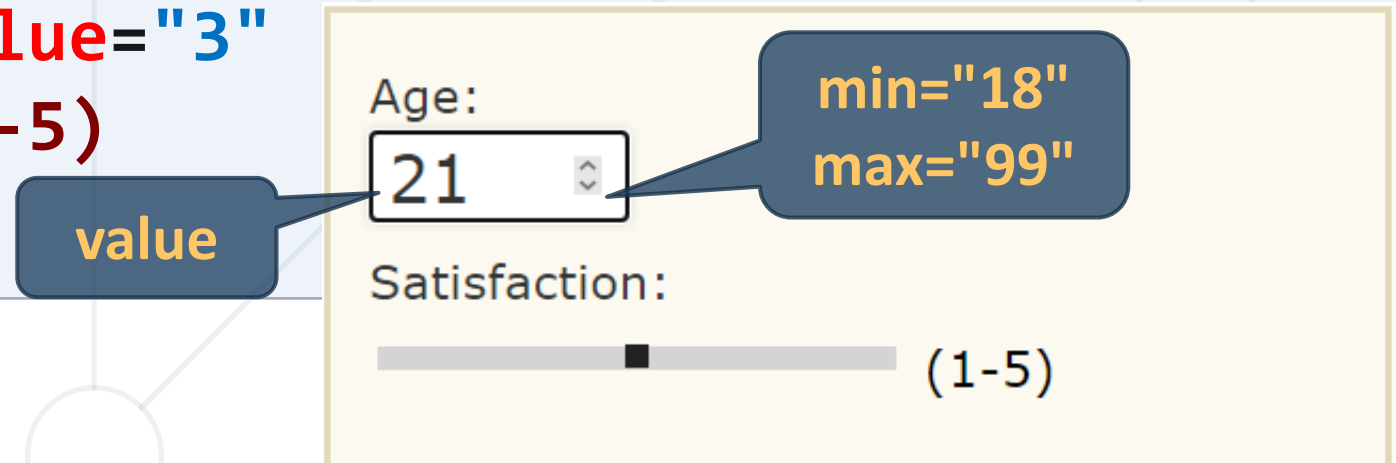
value

min="18"
max="99"

Age:

21

Satisfaction:

(1-5)

- **`<select>`** - defines a drop-down list

- **`<option>`** - defines an option that can be selected

```html
<form>
  <label for="size">Size:</label>
  <select id="size" name="size">
    <option value="39">39 EU</option>
    <option value="40">40 EU</option>
    <option value="41.5">41.5 EU</option>
    …
  </select>
</form>
```
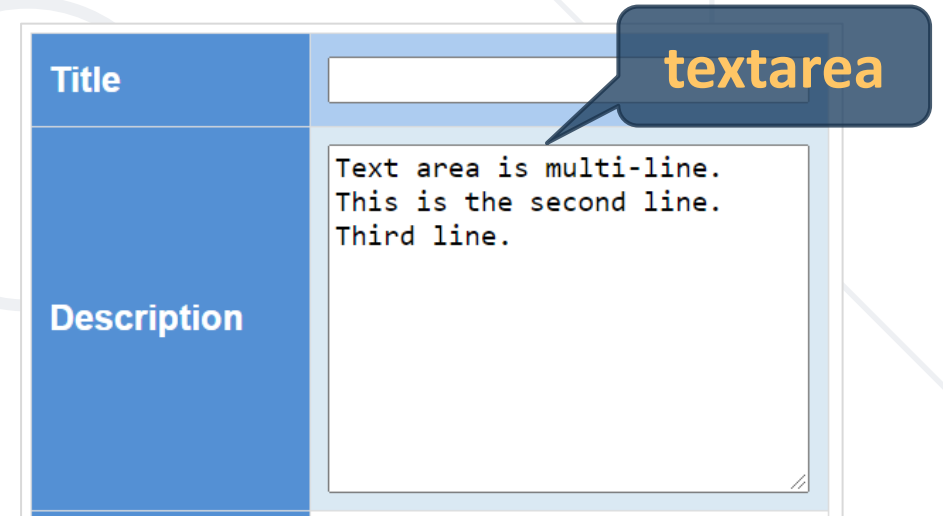
Size:

Select ⌄

Select
39 EU
40 EU
41 EU
41.5 EU
42 EU
42.5 EU
43 EU
43.5 EU
44 EU
45 EU
46 EU
47 EU

Form Elements – Textarea

- **`<textarea>`** - defines a multi-line input field

- Attributes:

  - **rows** - specifies the visible **number of lines** in a text area

  - **cols** - specifies the **visible width** of a text area

```html
<textarea rows="10" cols="30">
Text area is multi-line.
This is the second line.
Third line.
</textarea>
```
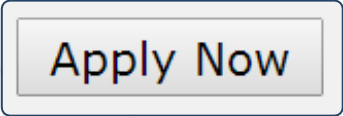
Title

textarea

Text area is multi-line.
This is the second line.
Third line.

Description

Form Elements – Buttons

- **Submit** button – sends the form data to the server

```
<input type="submit" value="Apply Now" />
```
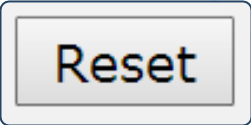
- **Reset** button – resets all form fields

```
<input type="reset" />
```
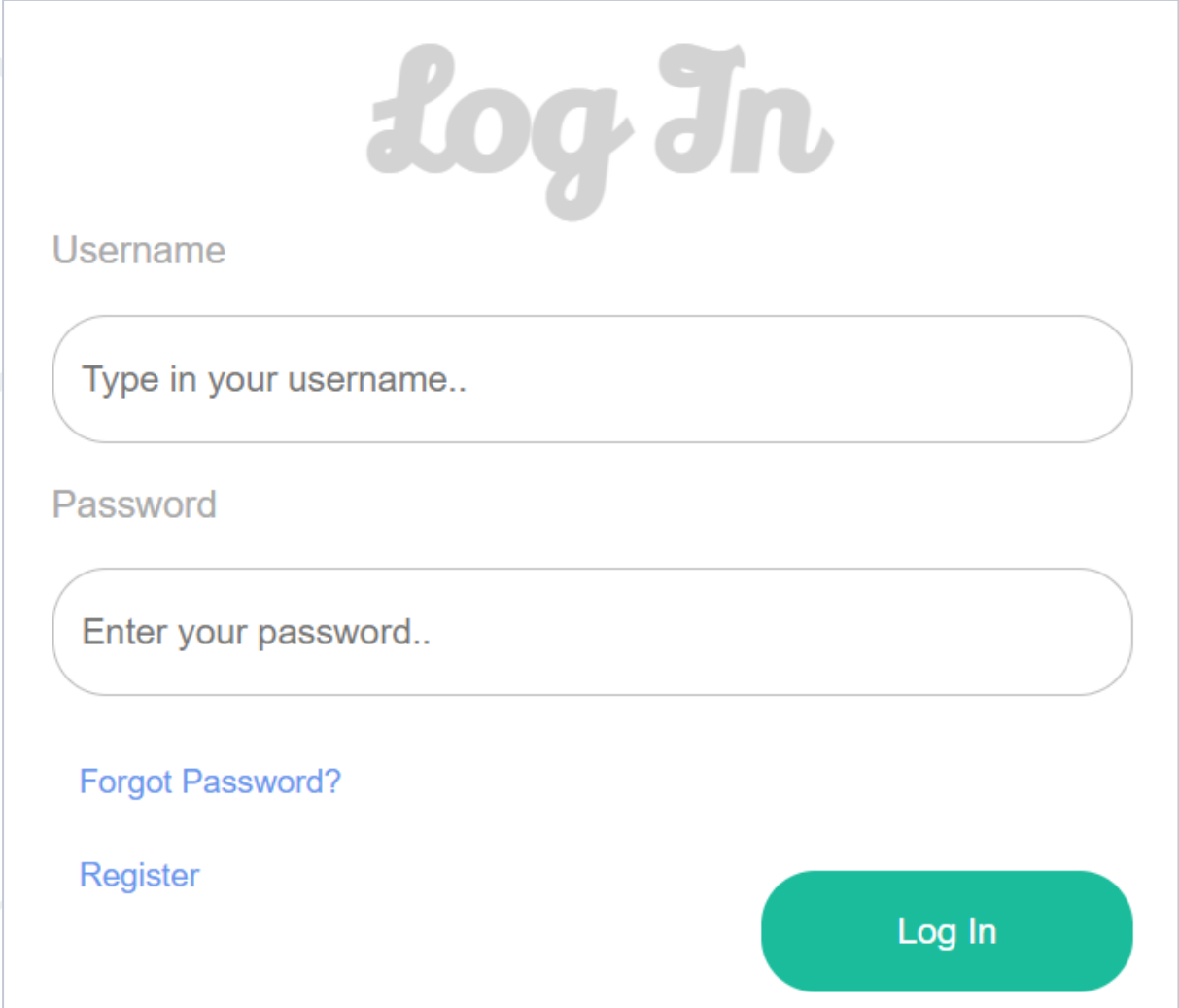
- The **<button>** tag defines a clickable button

```
<button type="button">Click Me!</button>
```

Complete HTML Form – Example

- Example of HTML form + CSS styles

  - https://codepen.io/snakov/pen/oNYQvpB
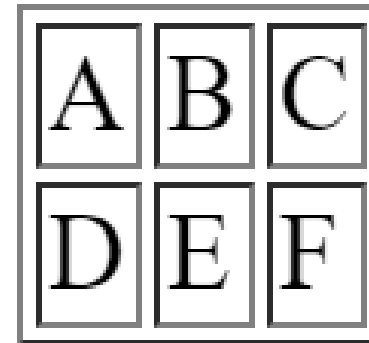
Tables

Arrange Data into Rows and Columns

Simple HTML Tables

- An HTML **table** is defined with the **`<table>`** tag

- Each table **row** is defined with the **`<tr>`** tag

- A table **cell** is defined with the **`<td>`** tag

```
<table border="1">
  <tr>
    <td>A</td><td>B</td><td>C</td>
  </tr>
  <tr>
    <td>D</td><td>E</td><td>F</td>
  </tr>
</table>
```

A	B	C
D	E	F

Complete HTML Tables

- 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

Original URL	Visits
https://nakov.com	160
https://selenium.dev	43
https://nodejs.org	86
Total visits	289

```
<table border="1">
<tbody>
    <thead>
        <tr>
            <th>Original URL</th>
            <th>Visits</th>
        </tr>
    </thead>
    <tr>
        <td>https://nakov.com</td>
        <td>160</td>
    </tr>
</tbody>
    <tfoot>
        <tr>
            <td>Total visits</td>
            <td>289</td>
        </tr>
    </tfoot>
</table>
```

39

Complete HTML Table – Example

- Example of HTML table + CSS styles

  - https://codepen.io/snakov/pen/XWNyreJ
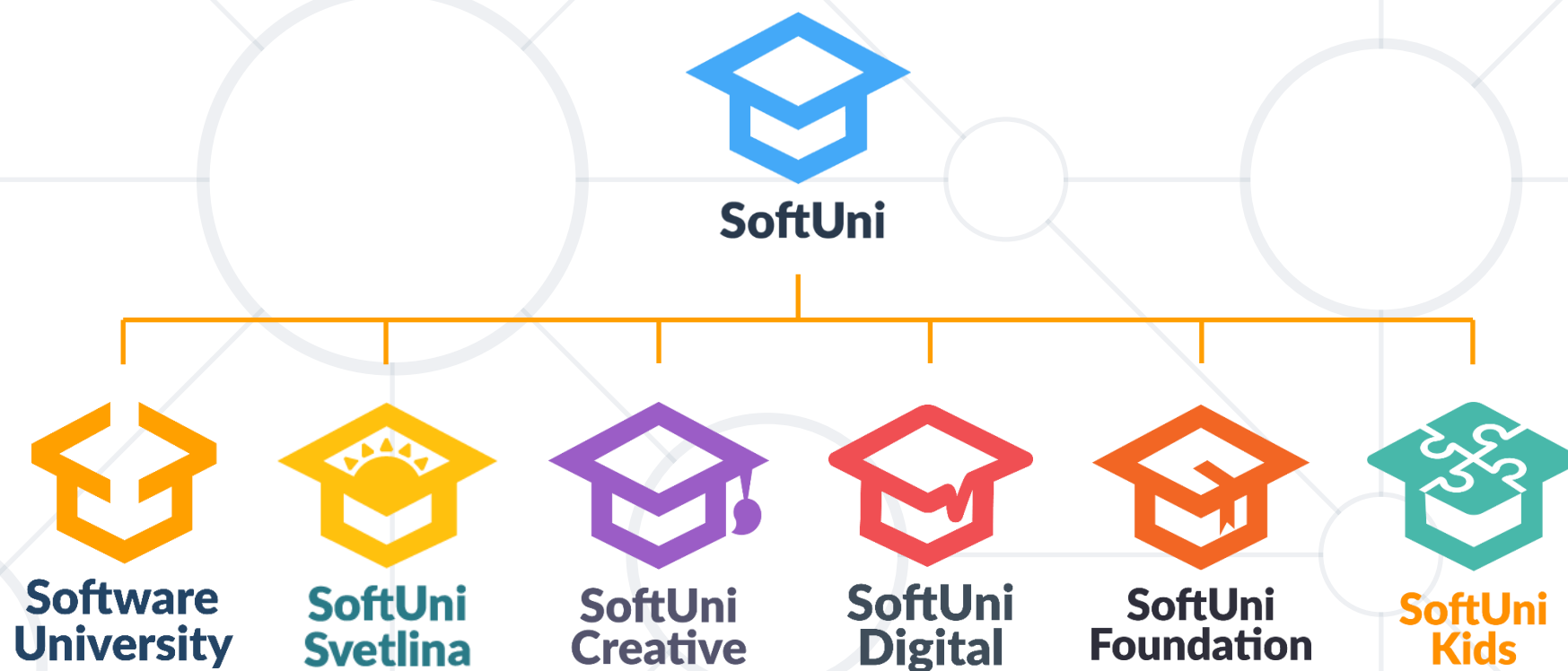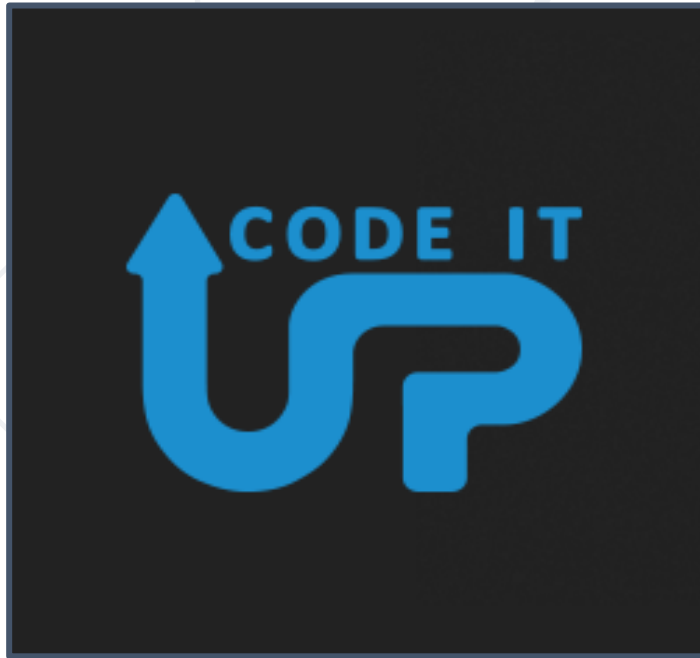
\<table\> **\<th\>** **\<thead\>**

Original URL	Short URL	Date Created	Visits
https://nakov.com	http://shorturl.nakov.repl.co/go/nak	2021-02-17 14:41:33	160
https://selenium.dev	http://shorturl.nakov.repl.co/go/seldev	2021-02-17 22:07:08	43
https://nodejs.org	http://shorturl.nakov.repl.co/go/node	2021-02-19 16:41:56	86

\<tr\> **\<td\>**

Summary

- **Semantic HTML**

- **Tags**

- **Forms**

- **Tables**

Questions?

SoftUni

Software University · SoftUni Svetlina · SoftUni Creative · SoftUni Digital · SoftUni Foundation · SoftUni Kids

SoftUni Diamond Partners

Educational Partners

License

- This course (slides, examples, demos, exercises, homework, documents, videos and other assets) is **copyrighted content**

- Unauthorized copy, reproduction or use is illegal

- © SoftUni – https://about.softuni.bg/

- © Software University – https://softuni.bg

Trainings @ Software University (SoftUni)

- Software University – High-Quality Education, Profession and Job for Software Developers

  - softuni.bg, about.softuni.bg

- Software University Foundation

  - softuni.foundation

- Software University @ Facebook

  - facebook.com/SoftwareUniversity

- Software University Forums

  - forum.softuni.bg