HTML 5

Front-end | HTML

Session 1

- Introduction
- Basics
- Some html tags
- Forms
- Styles

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Introduction

What is HTML?

What is HTML?

- HTML stands for Hyper Text Markup Language
- HTML is the standard markup language for creating Web pages
- HTML describes the structure of a Web page
- HTML consists of a series of elements
- HTML elements tell the browser how to display the content
- HTML elements label pieces of content.

A Simple HTML Document

```html
<!DOCTYPE html>
<html lang="en">
<head>a
    <title>Page Title</title>
</head>
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

</body>
</html>
```
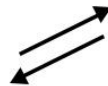
Web browser

A browser is a software application used to locate, retrieve and display content on the World Wide Web, including Web pages, images, video and other files. As a client/server model, the browser is the client run on a computer that contacts the Web server and requests information. The Web server sends the information back to the Web browser which displays the results on the computer or other Internet-enabled device that supports a browser.

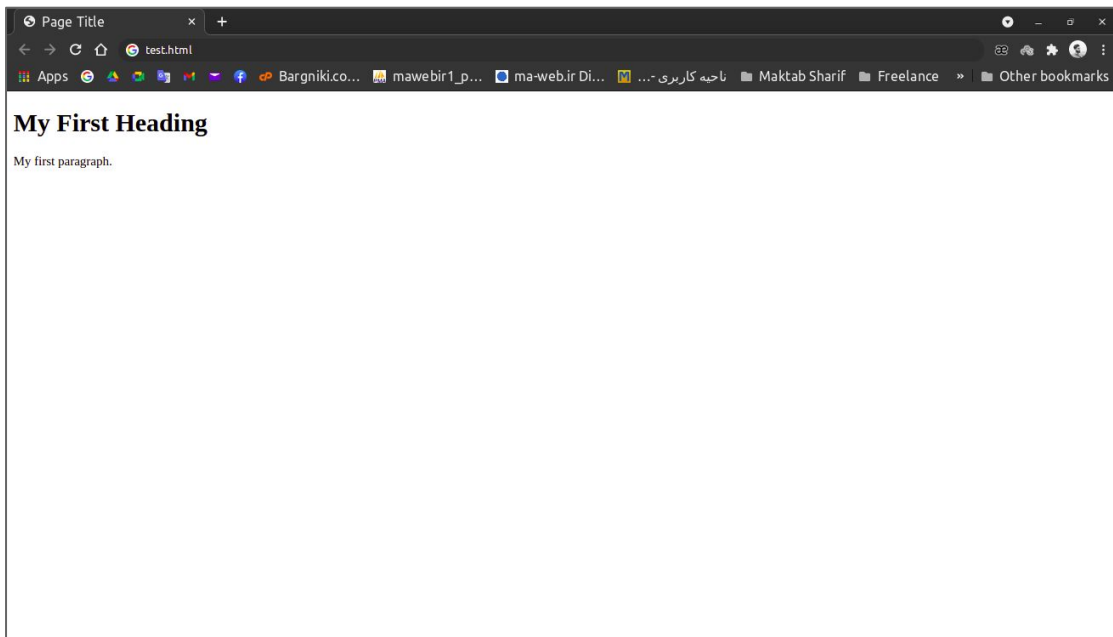# Web browser

You can easily display your html file using web browsers like Google chrome, FireFox, Opera, ...

```html
<!DOCTYPE html>
<html lang="en">
<head>a
    <title>Page Title</title>
</head>
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

</body>
</html>
```
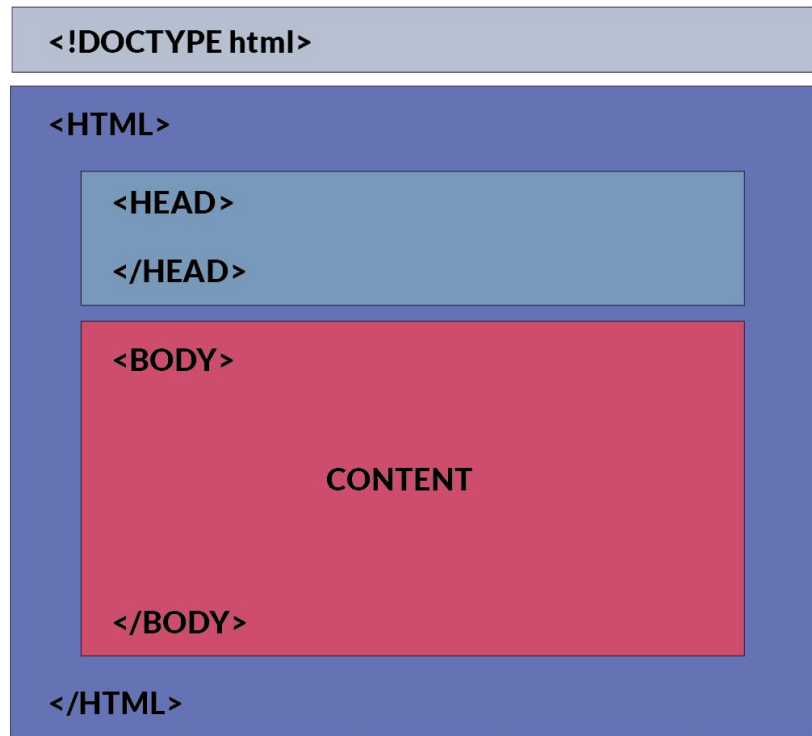
HTML Basics

HTML structure

HTML file sections:

- **!DOCTYPE** : defines that this document is an HTML5 document
- **Head**: contains meta information about the HTML page
- **Body**: defines the document's body, and is a container for all the visible contents, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.

```
<!DOCTYPE html>
<HTML>
    <HEAD>

    </HEAD>
    <BODY>


              CONTENT



    </BODY>
</HTML>
```

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HTML Elements

The HTML element is everything from the start tag to the end tag:

<tagname>Content goes here...</tagname>

Examples of some HTML elements:

<h1>My First Heading</h1>

<p>My first paragraph.</p>

Element		
Start tag	Content	End tag

`<p class="foo">This is a paragraph.</p>`

Attribute name / value

* Never Skip the End Tag!

<p>This is a paragraph

<p>This is a paragraph

Nested Elements

Nested HTML Elements

HTML elements can be nested (this means that elements can contain other elements).

All HTML documents consist of nested HTML elements.

Example:

The following example contains four HTML elements (`<html>`, `<body>`, `<h1>` and `<p>`):

```
<!DOCTYPE html>
<html>
<body>

<h1>My First Heading</h1>
<p>My first paragraph.</p>

</body>
</html>
```

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Self closing tags (Empty Tags, void-elements)

Some of html tags comes with no content within.

Like
 (Line break): inserts a single line break.

```
<p>This is a <br> paragraph with a line break. </p>
```

This is a
paragraph with a line break.

Elements Attributes

HTML Attributes

- All HTML elements can have attributes
- Attributes provide additional information about elements
- Attributes are always specified in the start tag
- Attributes usually come in name/value pairs like: name=

Example:

```
<a href="https://www.google.com" > A Link to google WebSite </a>
```

A Link to google WebSite

Some attributes:
id: The HTML `id` attribute is used to specify a unique id for an HTML element.

class: The HTML `class` attribute is used to specify a class for an HTML element.

Multiple HTML elements can share the same class.

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Some html Tags

`<h1></h1>, <h2></h2>, ..., <h6></h6>`

HTML Headings

HTML headings are defined with the `<h1>` to `<h6>` tags.

`<h1>` defines the most important heading. `<h6>` defines the least important heading.

Headings Are Important

Search engines use the headings to index the structure and content of your web pages.

Users often skim a page by its headings. It is important to use headings to show the document structure.

`<h1>` headings should be used for main headings, followed by `<h2>` headings, then the less important `<h3>`, and so on.

```
<h1>Heading 1</h1>
<h2>Heading 2</h2>
<h3>Heading 3</h3>
<h4>Heading 4</h4>
<h5>Heading 5</h5>
<h6>Heading 6</h6>
```

Heading 1

Heading 2

Heading 3

Heading 4

Heading 5

Heading 6

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<p></p>: Paragraphs

The HTML `<p>` element defines a paragraph.

A paragraph always starts on a new line, and browsers automatically add some white space (a margin) before and after a paragraph.

You cannot be sure how HTML will be displayed. Large or small screens, and resized windows will create different results.

With HTML, you cannot change the display by adding extra spaces or extra lines in your HTML code.

The browser will automatically remove any extra spaces and lines when the page is displayed:

```
<p>
This paragraph
contains a lot of lines
in the source code,
but the browser
ignores it.
</p>
<p>
This paragraph
contains          a lot of spaces
in the source       code,
but the      browser
ignores it.
</p>
```

This paragraph contains a lot of lines in the source code, but the browser ignores it.

This paragraph contains a lot of spaces in the source code, but the browser ignores it.

The number of lines in a paragraph depends on the size of the browser window. If you resize the browser window, the number of lines in this paragraph will change.

`<a></a>`: Links

The HTML `<a>` tag defines a hyperlink. It has the following syntax:

`<a href="url">link text</a>`

The most important attribute of the `<a>` element is the `href` attribute, which indicates the link's destination.

The *link text* is the part that will be visible to the reader.

Clicking on the link text, will send the reader to the specified URL address.

```
<a href="https://www.w3schools.com/">Visit W3Schools.com!</a>
```

Visit W3Schools.com!

\<img\>: Images

HTML Images Syntax

```
<img src="akbar.jpg" alt="akbar">
```

The HTML `<img>` tag is used to embed an image in a web page.

Images are not technically inserted into a web page; images are linked to web pages. The `<img>` tag creates a holding space for the referenced image.

The `<img>` tag is empty, it contains attributes only, and does not have a closing tag.

The `<img>` tag has two required attributes:

- src - Specifies the path to the image
- alt - Specifies an alternate text for the image

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<div></div>: Division

The `<div>` tag defines a division or a section in an HTML document.

The `<div>` tag is used as a container for HTML elements - which is then styled with CSS or manipulated with JavaScript.

The `<div>` tag is easily styled by using the class or id attribute.

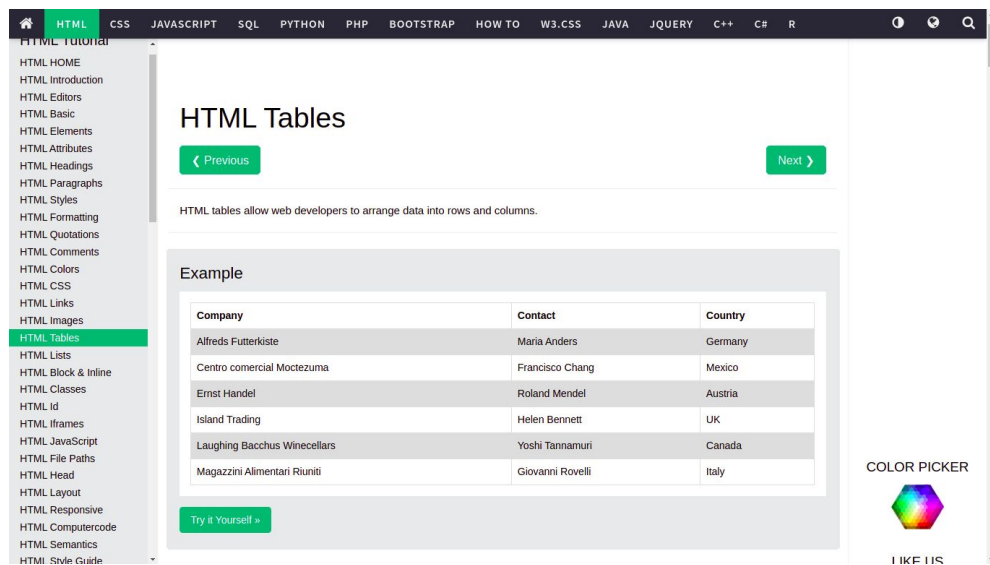**Any sort of content can be put inside the `<div>` tag!**

```
<div>
  <h2>This is a heading in a div element</h2>
  <p>This is some text in a div element.</p>
</div>
```

This is a heading in a div element

This is some text in a div element.

Read more at:

1. W3Schools HTML Tutorial
2. W3Schools HTML References
3. Search it! E.g.: list tag in html

Practice: Profile Page

Create a html page like the following sample : **Do it individually**

Profile: Akbar Babaii

Information

- **First Name:** Akbar
- **Last Name:** Babaii
- **Phone number:** 09123456789
- **Email:** akbar.b@gmail.com
- **Gender:** Male

Image

Skills

1. Python
2. HTML
3. Django

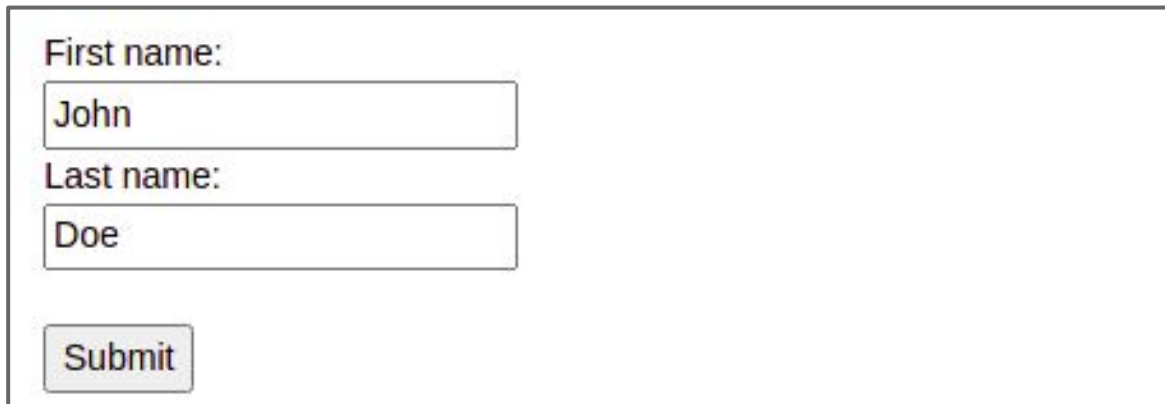**Social media**

Facebook Instagram Twitter

Forms

Intro

An HTML form is used to collect user input. The user input is most often sent to a server for processing

HTML forms send a http request from html page.

First name:

John

Last name:

Doe

Submit

\<form\>...\</form\>

The \<form\> Element

The HTML `<form>` element is used to create an HTML form for user input:

The `<form>` element is a container for different types of input elements, such as: text fields, checkboxes, radio buttons, submit buttons, etc.

```
<form>
  <label for="fname">First name:</label><br>
  <input type="text" id="fname" name="fname"><br>
  <label for="lname">Last name:</label><br>
  <input type="text" id="lname" name="lname"><br>
  <input type="submit">
</form>
```

First name:

John

Last name:

Doe

Submit

Attributes: action

The `action` attribute defines the action to be performed when the form is submitted.

Usually, the form data is sent to a file on the server when the user clicks on the submit button.

In the example below, the form data is sent to a file called "action_page.php". This file contains a server-side script that handles the form data:

```
<form action="https://www.url-example.ir">
  <label for="fname">First name:</label><br>
  <input type="text" id="fname" name="fname" value="John"><br>
  <label for="lname">Last name:</label><br>
  <input type="text" id="lname" name="lname" value="Doe"><br><br>
  <input type="submit" value="Submit">
</form>
```

First name:

John

Last name:

Doe

Submit

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Attributes: method

The `method` attribute specifies the HTTP method to be used when submitting the form data.

The form-data can be sent as URL variables (with `method="get"`) or as HTTP post transaction (with `method="post"`).

The default HTTP method when submitting form data is **GET.**

```
<form action="https://www.url-example.ir" action="post">
...
</form>
```

More Form attributes

Elements: input

One of the most used form element is the `<input>` element.

The `<input>` element can be displayed in several ways, depending on the `type` attribute.

```
<input type="text" name="fname">
```

Attributes:

- **type:** type of the input:
  - Text
  - Button
  - Password
  - More types
- **name:** name of param that placed in the request
- More attributes

Elements: label

The `<label>` element defines a label for several form elements.

The `<label>` element is useful for screen-reader users, because the screen-reader will read out loud the label when the user focus on the input element.

The `<label>` element also help users who have difficulty clicking on very small regions (such as radio buttons or checkboxes) - because when the user clicks the text within the `<label>` element, it toggles the radio button/checkbox.

The `for` attribute of the `<label>` tag should be equal to the `id` attribute of the `<input>` element to bind them together.

Elements: select

The `<select>` element defines a drop-down list:

```
<label for="cars">Choose a car:</label>
<select id="cars" name="cars">
  <option value="volvo">Volvo</option>
  <option value="saab">Saab</option>
  <option value="fiat">Fiat</option>
  <option value="audi">Audi</option>
</select>
```

Choose a car: Volvo ⌄ Submit

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Elements: textarea

The `<select>` element defines a drop-down list:
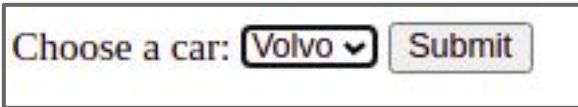
```
<label for="cars">Choose a car:</label>
<select id="cars" name="cars">
  <option value="volvo">Volvo</option>
  <option value="saab">Saab</option>
  <option value="fiat">Fiat</option>
  <option value="audi">Audi</option>
</select>
```

Choose a car: [Volvo ▾] [Submit]

[More form elements](#)

Styles

Intro

The HTML `style` attribute is used to add styles to an element, such as color, font, size, and more.

Setting the style of an HTML element, can be done with the `style` attribute.

The HTML `style` attribute has the following syntax:

```
<tagname style="property:value;">
```

Example:

```
<p>I am normal</p>
<p style="color:red;">I am red</p>
<p style="color:blue;">I am blue</p>
<p style="font-size:40px;">I am big</p>
```

I am normal

I am red

I am blue

I am big

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background-color

The `background-color` property specifies the background color of an element.

Example:

```
<div style="background-color: red">
    <h1>A simple heading</h1>
    <p>A simple Paragraph</p>
</div>
```

text-align

The `text-align` property specifies the horizontal alignment of text in an element.

Syntax:
text-align: `left|right|center|justify|initial|inherit;`

Example:

```
<div style="text-align: center">
    <h1>A simple heading</h1>
    <p>A simple Paragraph</p>
</div>
```


A simple heading

A simple Paragraph

color

Text Color

The color property is used to set the color of the text. The color is specified by:

- a color name - like "red"
- a HEX value - like "#ff0000"
- an RGB value - like "rgb(255,0,0)"

Example:

```
<div>
    <h1 style="color: blue">A simple heading</h1>
    <p style="color: red">A simple Paragraph</p>
</div>
```

A simple heading

A simple Paragraph

font-size

The `font-size` property sets the size of the text.

Being able to manage the text size is important in web design. However, you should not use font size adjustments to make paragraphs look like headings, or headings look like paragraphs.

Always use the proper HTML tags, like <h1> - <h6> for headings and <p> for paragraphs.

Example:

```
<div style="font-size: 40px">
    <h1>A simple heading</h1>
    <p>A simple Paragraph</p>
</div>
```

A simple heading

A simple Paragraph

border

The **border** properties allow you to specify the style, width, and color of an element's border.

Example:

```
<div style="border: 4px solid red">
    <h1>A simple heading</h1>
    <p>A simple Paragraph</p>
</div>
```

A simple heading

A simple Paragraph

Format:
border: {WIDTH} {STYLE} {COLOR};

Practice: Register page

Create a html page like the following sample :
Do it individually

Pre-reading

- **Responsive web page**
- **Bootstrap**
- **CSS properties**