

Introduction to JavaScript

Week #1

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Introduction to Web Development

- Web Development can be divided in 2 categories:
 - Front End
 - Back End
- **Front End (Client side):**
 - Everything that happens on the client side
 - Generally composed of 3 things:
 - **HTML**: Defines the content of web pages
 - **CSS**: Defines the layout of web pages
 - **JavaScript**: Defines the behavior of web pages



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Introduction to Web Development

- **Back End (Server side):**
 - Everything that happens on the server side
 - Usually made of a server with some code in a backend language and a database
 - Modern Popular backend programming languages:
 - Python (Django / Flask)
 - JavaScript (NodeJs)
 - PHP (WordPress / Drupal / Laravel) (pls don't 😊)
 - Popular Databases:
 - MySQL (Relational)
 - MongoDB (Non-Relational / NoSQL)



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Introduction to Web Development

- In this course, we will learn:
 - Front End
 - HTML
 - CSS
 - JavaScript
 - Back End
 - JavaScript (NodeJs)



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Why JavaScript?

- Very easy to get started with
- Can be used on the front end to generate HTML pages
- Can be used as a back end language to communicate with databases, store user data, etc.
- Can be used outside of the web (tasks automation, scripting)



Editor & Dev Tools

- 1) Download IntelliJ IDEA Community:
<https://www.jetbrains.com/idea/download/>
- 2) Install Google Chrome: <https://www.google.com/chrome/>



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Introduction to HTML

- HTML stands for Hyper Text Markup Language
- HTML is a Markup language, not a programming language
- Used to describe the web page's content



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Introduction to HTML: Tags

- Composed of tags (**<tagname>** tag content... **</tagname>**)
- Browser **does not** display tags, but uses them to render the content of the pages
- Some basic tags:
 - h1 to h6: Defines HTML headings
 - p1: Defines a paragraph
 - a: Defines a link
 - img: Defines an image
- Tags Reference: <https://www.w3schools.com/tags/default.asp>



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Introduction to HTML

```
<!DOCTYPE html>
<html>
  <head>
    <title>HTML Review</title>
  </head>
  <body>
    <h1>My first heading</h1>
  </body>
</html>
```



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Introduction to HTML

- `<!DOCTYPE html>`
 - Document type declaration
 - Marks the file as an “HTML” document
- An HTML document begins with `<html>` and ends with `</html>`
- The document’s metadata will be between `<head>` and `</head>`
- The visible part of the HTML document is between `<body>` and `</body>`



Introduction to HTML: Attributes

- All HTML elements can have attributes
- Attributes provide additional information about an element
- Attributes are always specified in the start tag
- Attributes usually come in name/value pairs
- e.g.:

`This is a link to my website`

``

- Attributes reference:
https://www.w3schools.com/tags/ref_attributes.asp



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Introduction to HTML: Comments

- Comment tags are used to insert comments in the HTML source code.
- Comments will not display anything on the browser, they are only used to help us developers
- e.g.:

`<!-- This is a comment -->`



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Workshop #1: Your first HTML page

- Create an HTML page that displays the following:
 - Your name (Large text)
 - Your age (Slightly smaller text)
 - A link your favorite website
 - A picture of your favorite animal
- Make sure that your HTML file is well formed (Includes the HTML doctype declaration, as well as a body tag)
- Bonus: Add a title to the page by adding a “title” element in the “head” portion of the page



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Introduction to HTML: Classes & IDs

- Class and ID attributes are used to identify an element or a group of elements.
 - **ID**: Used to identify a **single element**
 - **Class**: Used to identify a **group of elements**



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Introduction to HTML: Classes

- The class attribute is used to identify a **group of elements**
- Usage:

`<h1 class="karim">My first heading</h1>`

`<h1 class="karim">My second heading</h1>`

- In this example, both elements have the class “karim”



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Introduction to HTML: IDs

- The id attribute is used to identify a **single element**
- An ID must be unique, meaning that only a single element can have a specific ID.
- Usage:

`<h1 id="my_element">My first heading</h1>`

- In this example, the elements have the class “karim”



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