"Intro to JS"

8th Lecture

for
4th class students
in
CED at UoT

JavaScript

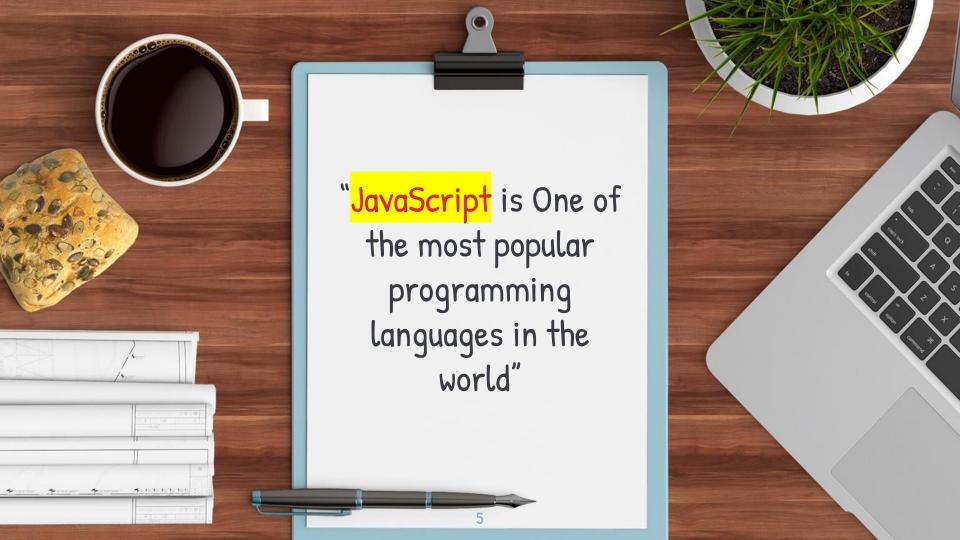# Hello!

We are **Abdulhakeem Qusay Albayati**
&
Sara Mohammed Najm

Assistant Lecturers in CED at UoT

OUTLINES

1. Introduction to JavaScript.
2. What is JS capable of doing with HTML documents?
3. What is DOM?
4. How can JS be connected with HTML?
5. What are methods to view data with JS?

1.

Introduction to JavaScript

"==JavaScript== is One of the most popular programming languages in the world"

WHAT IS JS?

> JS is the abbreviation of JavaScript.

> It is one of the significant legs in the triangle of the front-end languages in web development that anyone concerned must learn to be a developer of web pages.

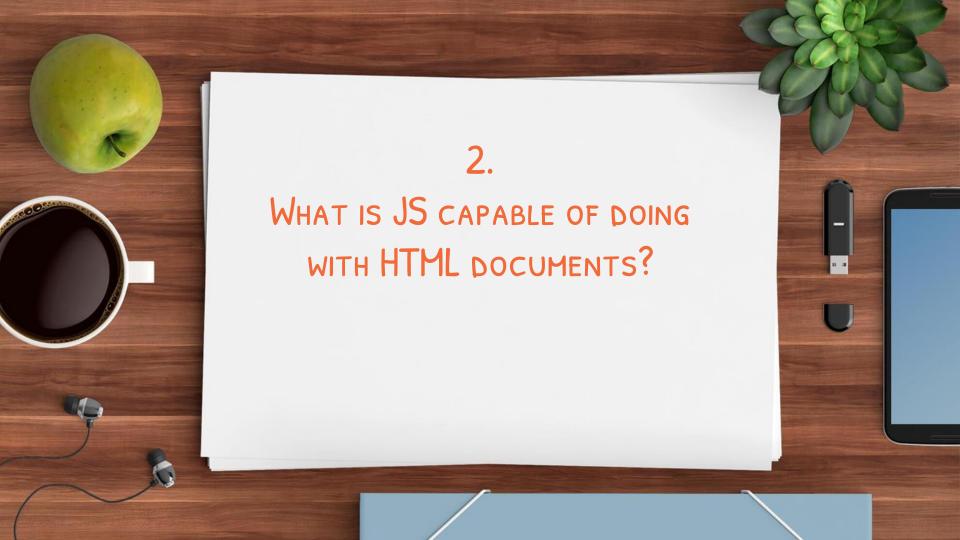> It converts web pages from static pages to dynamic and interactive pages

ECMAScript (ES)

JS is compatible with
ES standards and it could be
considered as formal name.

2.
What is JS capable of doing with HTML documents?

JS CAN DO DIFFERENT THINGS AS SHOWN BELOW:

> JS could be used to modify content of HTML.

> JS could be used to modify attribute values of HTML.

> JS could be used to modify styles of HTML.
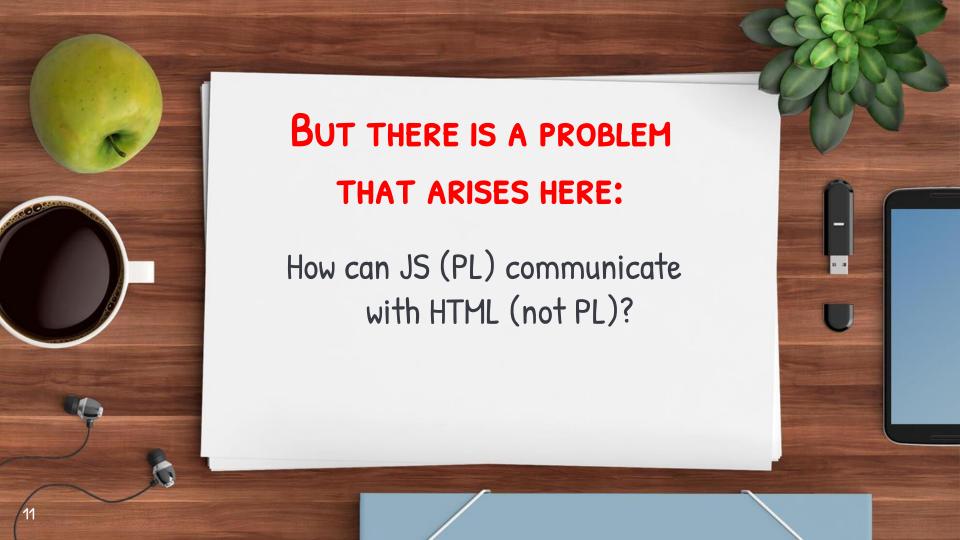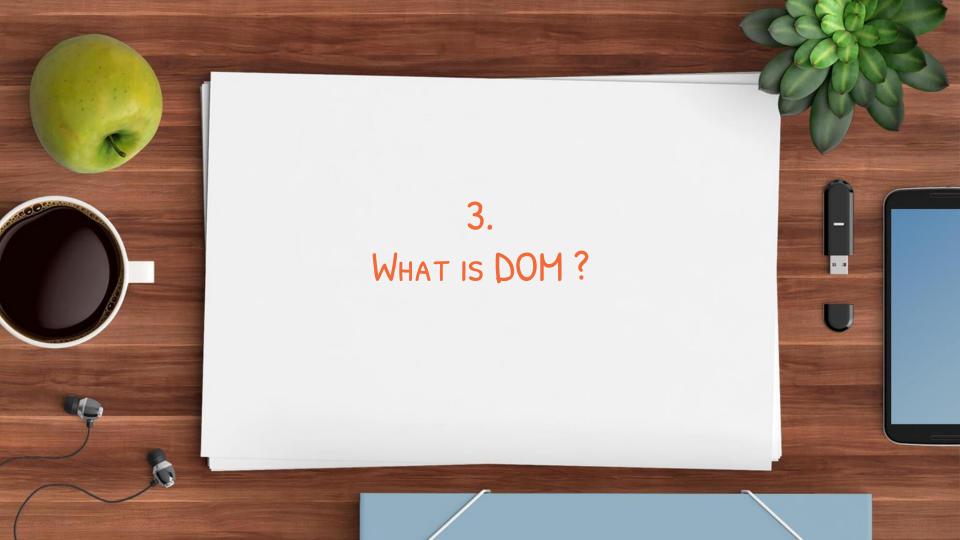
> JS could be used to show/hide elements of HTML.

DON'T FORGET

JS is a case-sensitive language

But there is a problem that arises here:

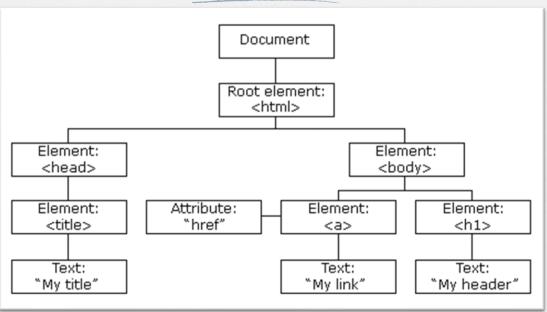How can JS (PL) communicate with HTML (not PL)?

3.
What is DOM ?

DOM

> DOM is an acronym of the Document Object Model.

> DOM is an application programming interface (API) for HTML and XML documents to connect with programming or scripting languages such as: JS.

> It specifies the logical structure of documents and how they are accessed and altered.

```
[ HTML ] ──── ( DOM ) ──── [ Prog. Lang.
                              like: JS ]
```
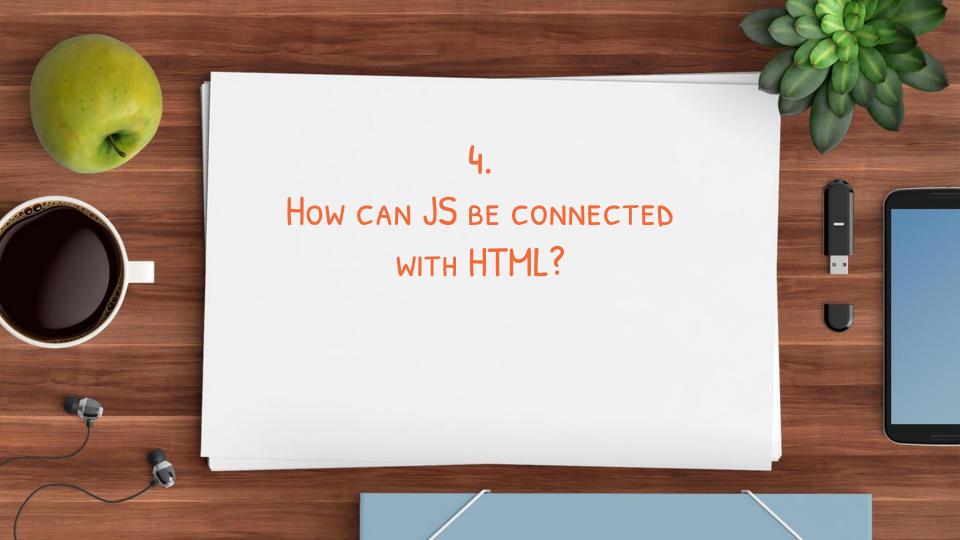
DOM Tree Representation

JS HTML DOM

> The HTML DOM describes:
 - HTML elements as objects
 - Properties, methods, and events for all HTML elements.

> Also HTML DOM works as an API for JS therefore:
 - JS may add, modify, and delete HTML elements.
 - JS may add, modify, and delete HTML properties.
 - JS may add, modify, and delete CSS styles.
 - JS may able to respond to HTML events
 - JS may add, modify, and delete HTML events.

How to access to access HTML elements by JavaScript

> There are multiple methods to finding HTML elements:

- By id
- By tag name
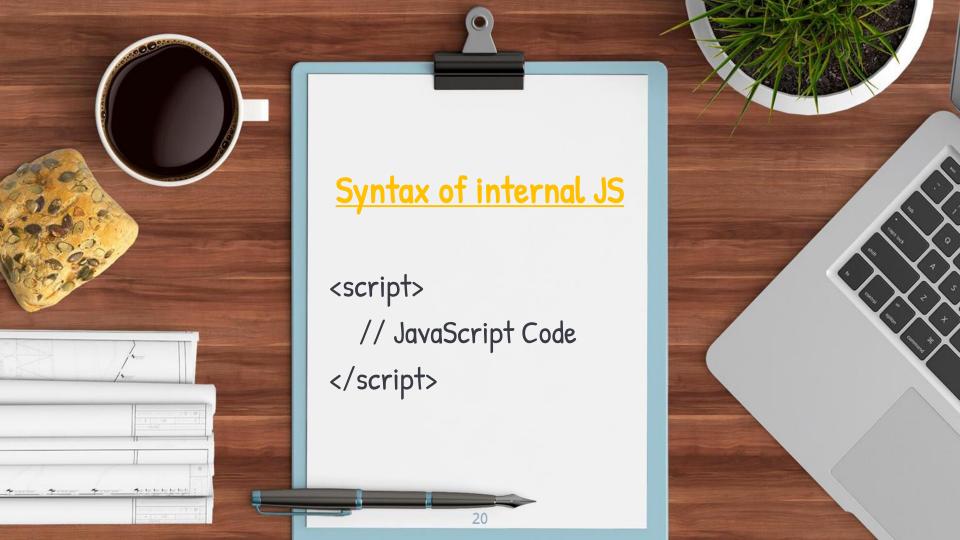- By class name
- By CSS selectors
- By HTML object collections

4.
How can JS be connected with HTML?

<SCRIPT> TAG

AND METHODS TO WRITE JS CODES IN HTML

> JS code is embedded in HTML between start and end tags of <script> .

> There are two main methods for embedding JS codes within HTML:

1. Internal JS.

2. External JS.

Internal JS

> It can be put any number of scripts in an HTML doc.

> In anywhere in the doc. could be located scripts in the head or in the body or in both.

> The best place to put the scripts is at the bottom of the body section before the end tags to speed and enhance the display page.

Syntax of internal JS

```
<script>
    // JavaScript Code
</script>
```
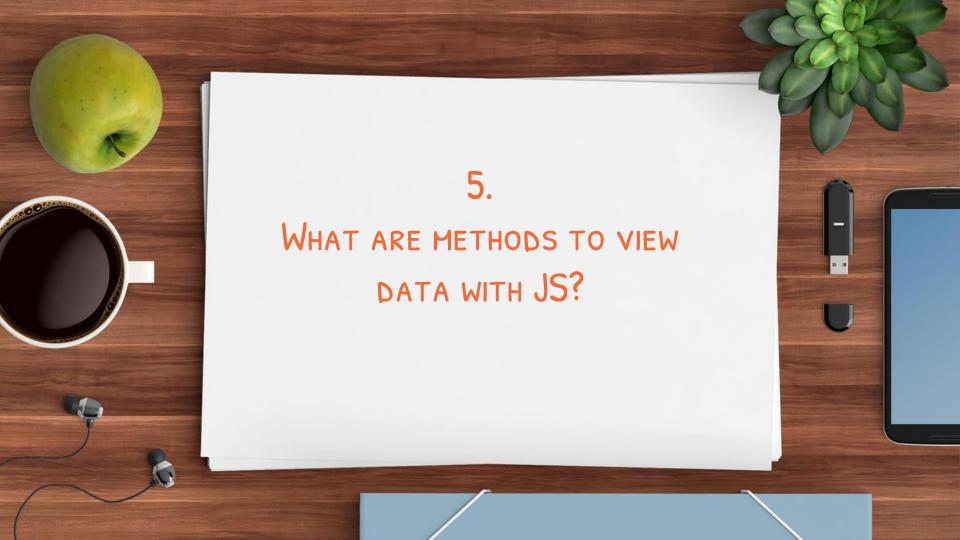
External JS

> Scripts can also be written in an external file and embedded in HTML doc. with <script> tag.

> The external file that has JS codes must be saved with the file extension **.js**

> It can be used the external file in HTMl by setting the name of the file as a value in the src attribute of a <script> tag.

Syntax of external JS

<script src="name.js"></script>

Merits of External JS

> There are many merits with external JS as shown bellow:

1. When the same JS codes must be used in multiple web pages.
2. When JS codes split from HTML doc., this is letting the document and the external file simpler in reading and repairs.
3. If the JS codes are long, then the external file is very useful by cashing it to accelerate loading the web page.

5.

What are methods to view data with JS?

Output of JS

> There are numerous methods to display data in JS:

>> Using innerHTML property to write into HTML elements.

>> Using document.write() to display data in the output of HTML.
It is suitable to use for testing purposes only.

>> Using window.alert() to display data in an alert box.

>> Using console.log() to display data in the console of the browser for debugging purposes.

"In JS, there is no print method or print object to display data, except window.print() method to print the content of a web page by a printer."

Thanks!

Any questions?