JavaScript – W1S0
Getting started

Cyrille Jegourel – Singapore University of Technology and Design

A quick word about me

- Cyrille JEGOUREL
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Outline (Day 1, Session1)

- About this course: syllabus, objectives, etc.
- Starting with JavaScript
- Our first programs!

Objectives of this course

Objectives:

- Give the students the fundamentals in JavaScript

Delivery:

- 4 full days + 2 half days online (1 for consultation and 1 for presentation)
- Lessons include a bit of theory (pdf slides) and practice activities

Topics

- Day 1S1: Basic of HTML, CSS, JS
- Day 1S2: Functions and Operators in JS
- Day 1S3: Conditional Statements and Loops
- Day 2S1: Arrays and Memory Management
- Day 2S2: Advanced concepts in functions (recursion, closure, callback)
- Days 3 and 4: Objects, Event Handlers, DOM, BOM, etc… (Stanley)

Uploads

Teaching materials

- PDF contain the lecture materials
- Activities files and, most of the time, their answers
- The teaching materials will be uploaded on a Google Drive and made available on the same day.
- https://drive.google.com/drive/folders/1Bkmr_bed8K6MyuyjkTmf8uIQQR7kBuf2?usp=sharing

Homeworks and extras

Practice?

- In-class activities
- Some solutions are provided on other files.

Need some extra practice?

- Homework: sometimes ☺
- Extra practice: basic exercises and notions, to practice the concepts seen in class a bit more.
- Extra challenges: advanced versions of the activities discussed in class.
- None of them are mandatory. Most of solutions are provided.

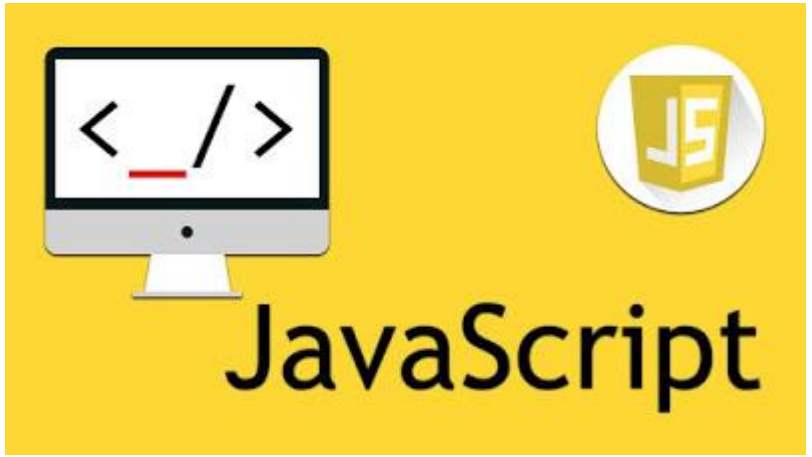
Project

- You are expected to make a project during this course.
- During the consultation half-day, you can contact me for guidance, help, advice, etc.
- During the presentation half-day, you will present your project.
- The project consists of creating a custom website to display several comics. Let’s have a look on the Assessment_Plan_and_Project pdf document in W1S0.
- Up to you to make it fancy or simple. ☺

JavaScript: what is it?

About JavaScript: JS is a high-level, just-in-time compiled, general-purpose programming language.

- Created by Brendan Eich and first released in 1995.
- Conforms to the ECMAScript specification (ES in short), a regularly updated standard meant to ensure the interoperability of web pages across different web browsers.
- Object oriented (but not only), mainly known to be the script language of web pages.
- **Careful:** Java and JavaScript are two different languages!



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- Used in many aspects of web development
- Notably, to add interactive elements in websites, to alter some webpage (text) contents, to validate form input, to react to user events, etc.
- **Client-side or Server-side? Both**

- In Fundamentals in JavaScript:
  - Focus on the language itself
  - Client-side oriented.
- In Fundamentals in Backend Dev:
  - Server-side oriented.

Client-side and server-side JavaScript

- A client-side language is run through the client being used by the viewer (typically a web browser).
- Used e.g., to change the content of some elements on a web page when the user clicks on a link or a button, prevent malicious or incomplete information sent to a server through a form, etc.
- Limitations: cannot save information directly.

- A server-side language runs on a server.
- Used e.g., to receive information from a web browser, manipulate data and save them on a database and send information back to a web browser.
- Limitations: cannot deal with special features of the client (contents of a form before submission, width of the browser window, etc.)
- Before, it was handled by PHP, Java, etc. but Node.js allowed the opportunity of using JS on the server side.

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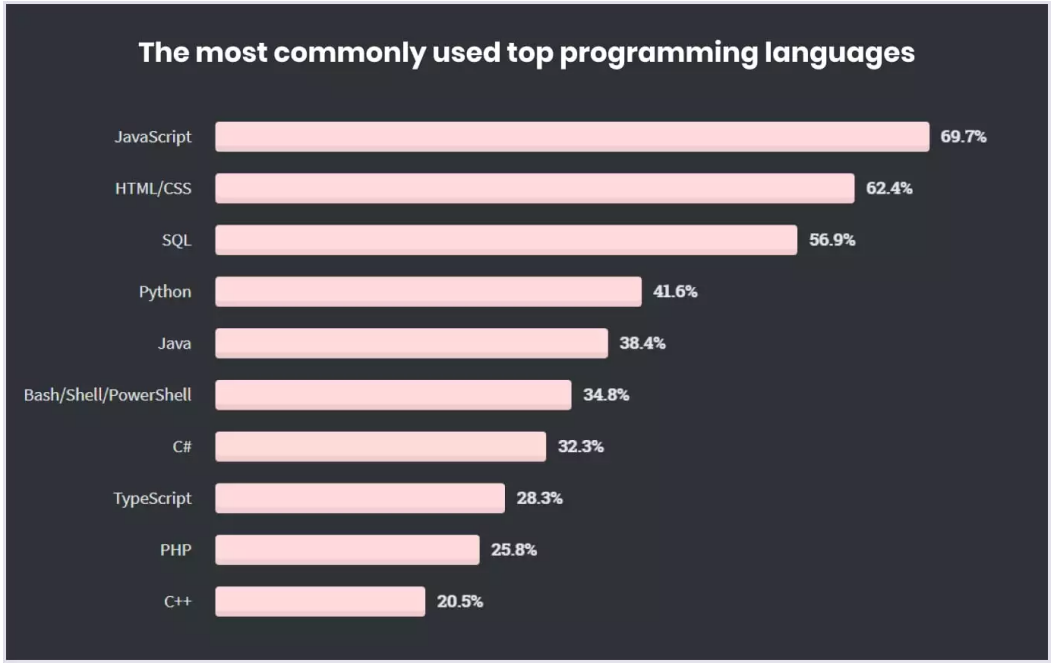
- **JS is the #1 language for web development at the moment:** most popular language by Github projects



Install Javascript?

- Well, there is nothing to install.
- You just need a **text (or HTML) editor** and a **Web browser**.
- Recommend text editors: Visual Studio Code, Notepad++, Sublime…
- For convenience, I might also use the interactive editor on www.scrimba.com
- I suggest to create a free account on this website.
- Which browser to use? It's up to you. I recommend the latest version of:
  - Google Chrome
  - Mozilla Firefox
  - Microsoft Edge