FRONT END DEVELOPMENT

WEEK 1 – KICK OFF !

CADT IDT

KICK OFF OBJECTIVES

Kick Off

- What you will be **able to do** at the end of this course
- **Course agenda**, **learning** objectives, **evaluation**
- Expected **work** and **attitudes**

JavaScript Ecosystem

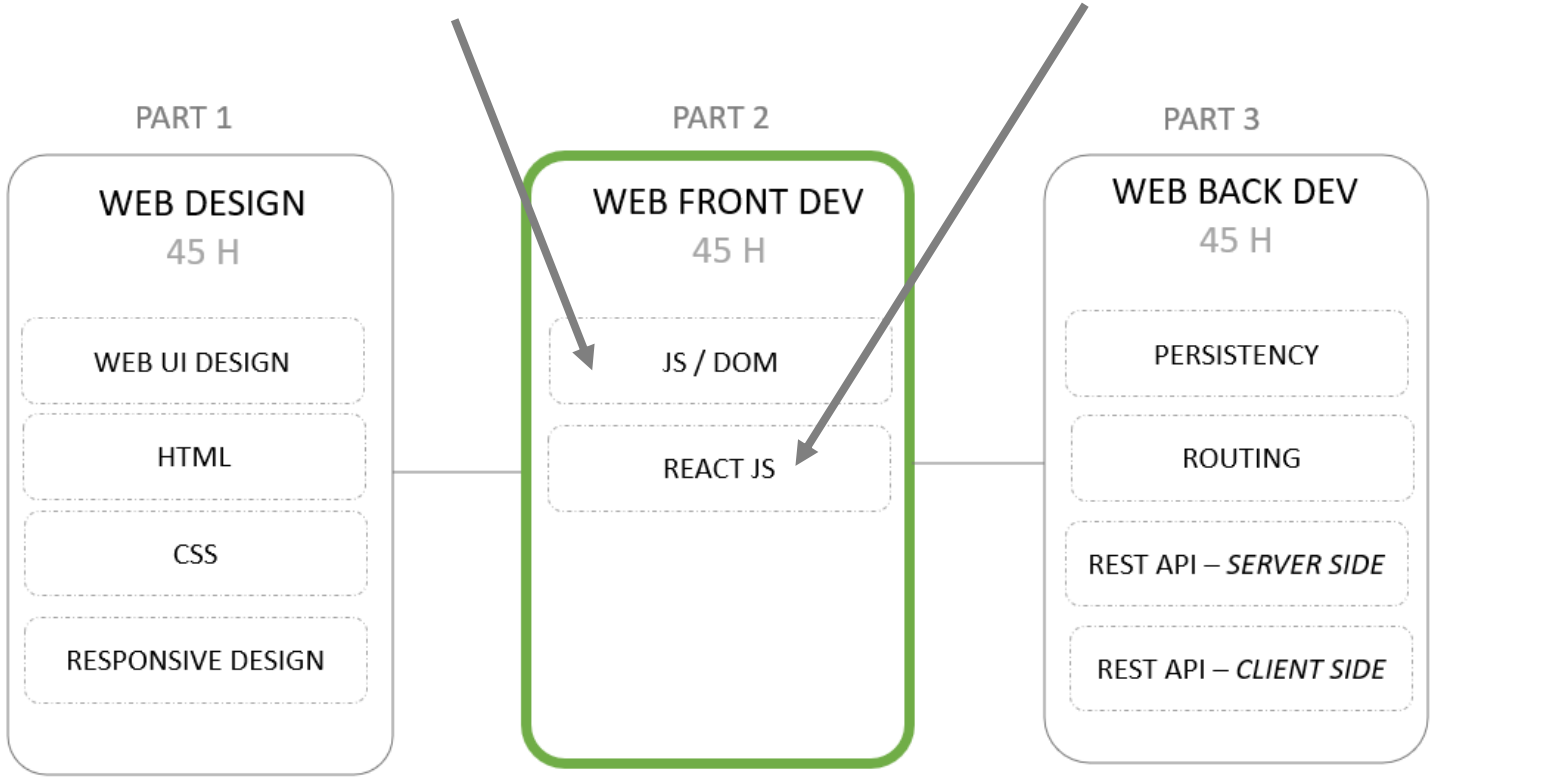
- What does JS bring to front end?
- JS Syntax Overview

COURSE SCOPE

*Build **dynamic** & **interactive** web applications*

We will first begin with **JavaScript** fundamentals, including variables, functions, and DOM manipulation

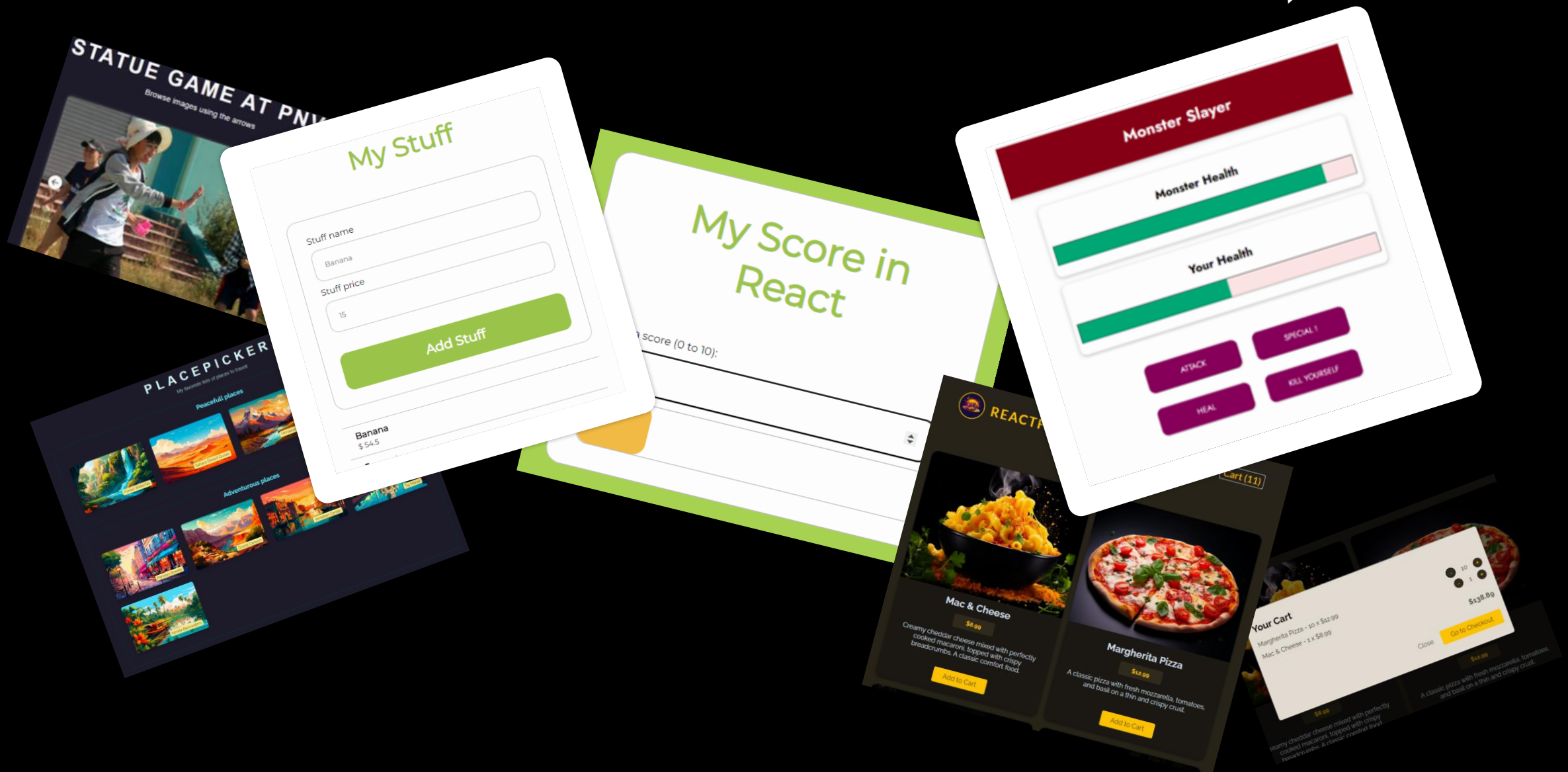
We will then transition into **React**
You will develop skills in **building components**, managing state, handling events, and fetching data from APIs



WHAT YOU WILL BE ABLE TO DO

At the end of this course

Click to try !



COURSE MODULES - **OVERVIEW**

JAVASCRIPT

- JS Syntax
- Arrays & Objects
- DOM Tree & UI Events
- Node & NPM

REACT JS

- JSX
- Components
- Events
- Debugging
- Dynamic Data
- Props
- States
- Styling

COURSE AGENDA

	Learning	Practice	Exam	Project
W 01	Course Kick Off JavaScript Ecosystem C++ to JS	Get familiar with JS Syntax Manipulate Array and Objects in JS		
W 02	Navigate in the DOM structure Handle DOM Events	Build a Calculator Build a Currency converter		
W 03	Conditional and list display Modules and Packages	NPM packages ES6: *Array find, map, filter, foreach*		Quiz player
W 04	Overview of React An overview of React	ES6: *Array function, destructuring, spread operator*		
W 05	JSX Dynamic Data React Components	Create a first React component Create a header / Main / Footer Display the atomic clock dynamically		
W 06	Props List Display	Display a list of data Display images dynamically Pass data to components using props		
W 07	Revisions Peer review	Conditional Display Build a student score app	Mid Term	
W 08	Handle UI Events Use states hook	Build a Calculator Build a Currency converter		Proposal
W 09	Reflect on a state's management Understand React lifecycle Pass functions as value to props	Create a score bar component Handle a list of groceries Create a checkout component		
W 10	Fix bugs Use breakpoints Use React DevTools	Monster Slayer app		
W11			Final	Jury

COURSE EVALUATION

TYPE OF EVALUATION	RATIO
Attendance & Participation	10 %
Assignments	30 %
Mid Term	10 %
Final Exam	20 %
Project	30 %

COURSE **PROJECT**

As part of this course, you will undertake a **project in pair**

1

- **Define** your website proposal
- **Present how you plan** to develop this app within the next 4 weeks.

2

- Project **Jury**

Organize your data !

Structure your course into folders

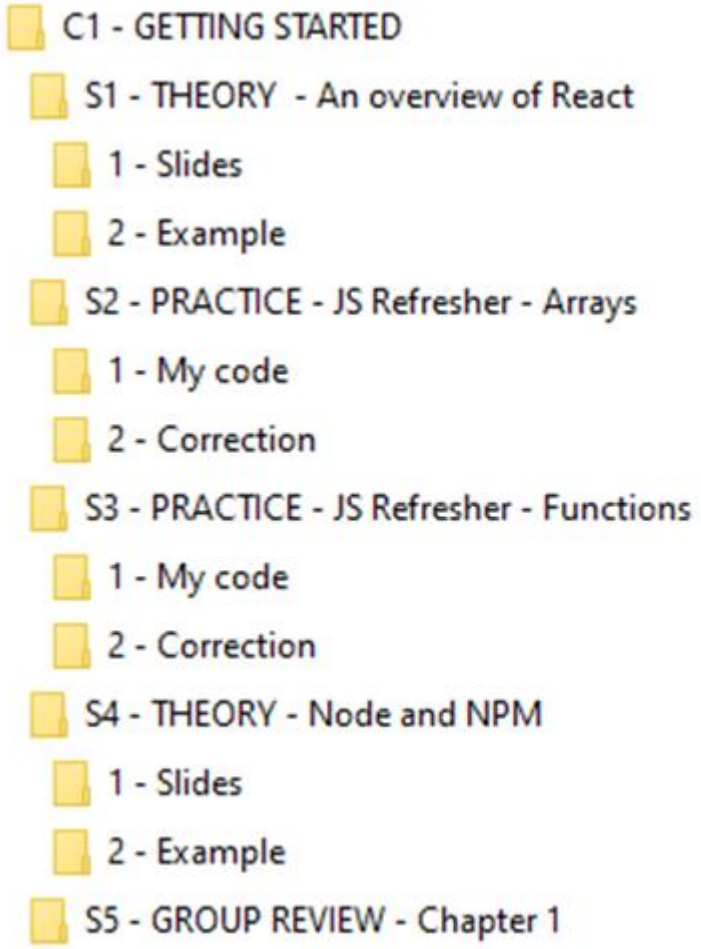
Level 1 **Chapters**

Level 2 **Sessions**

Level 3

Your code
The teacher code

Teacher slides
Examples viewed in class

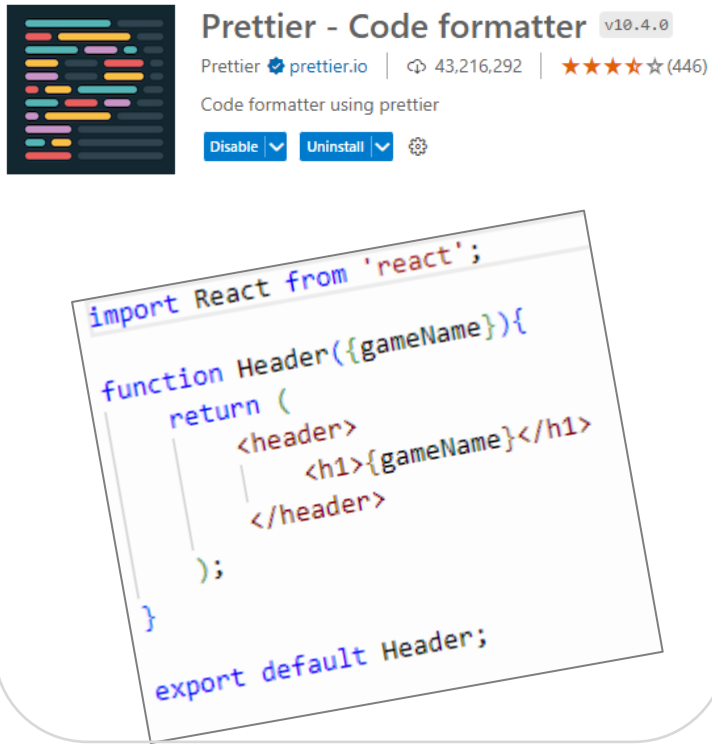


VS Code extensions

Tools to install to work efficiently

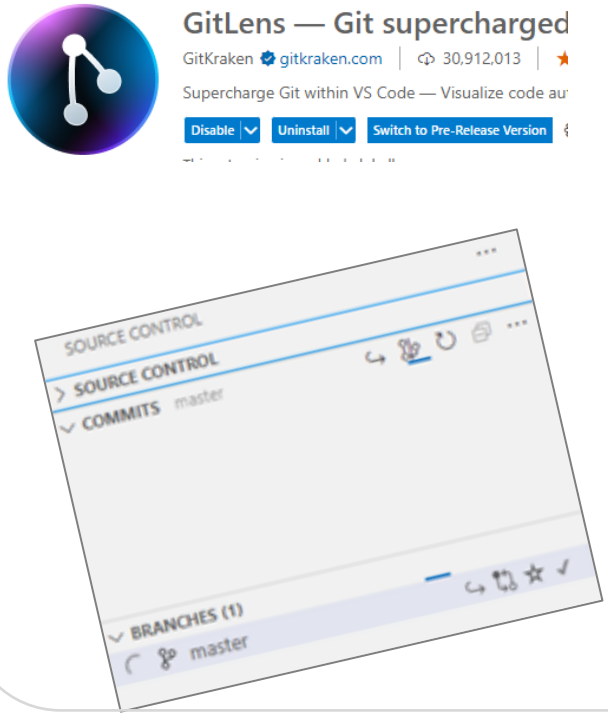
PRETTIER

Format your JS, JSX, HTML, CSS code



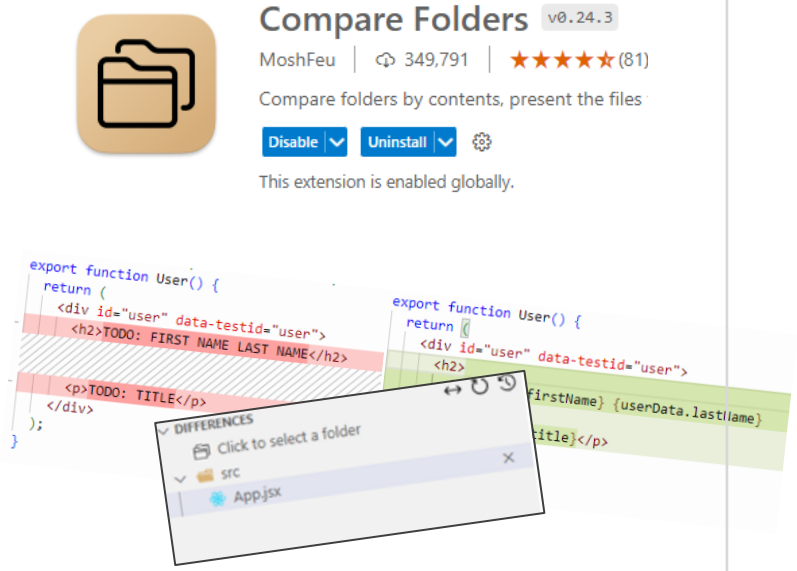
GIT LENS

Mange Git operations quickly



COMPARE FOLDER

Analyze differences between your code and the correction



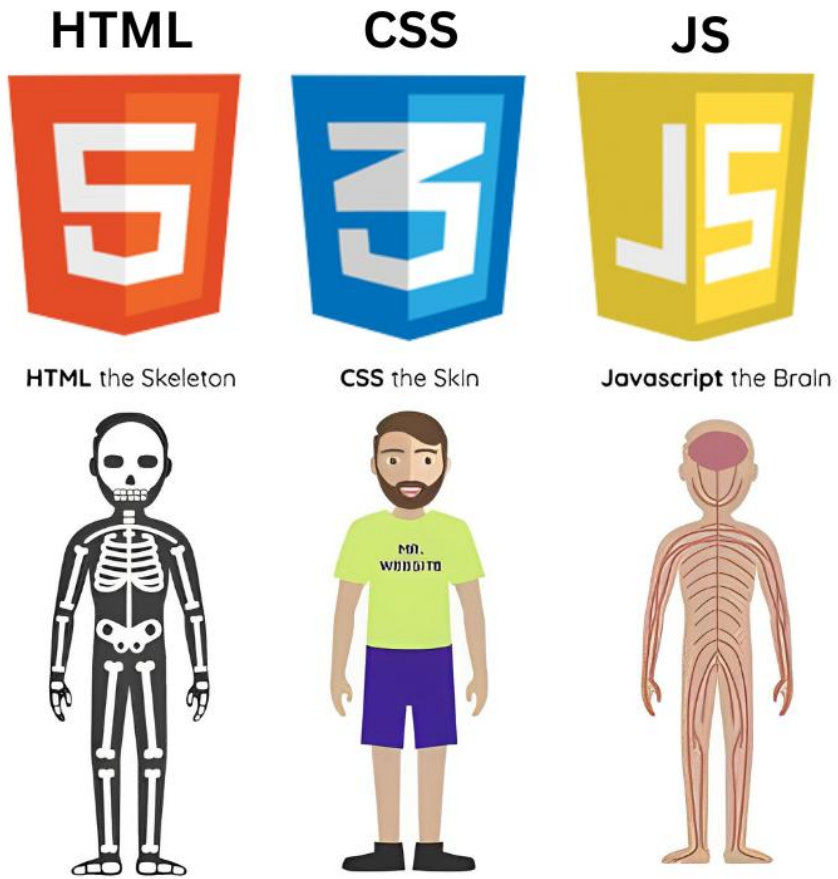
EXPLAIN

How **JS** contribute to Web apps?

HTML tags are essential components that create elements on a webpage.

CSS is employed to enhance the visual style and layout of web pages

JavaScript is employed to introduce interactivity and functionality to web pages.

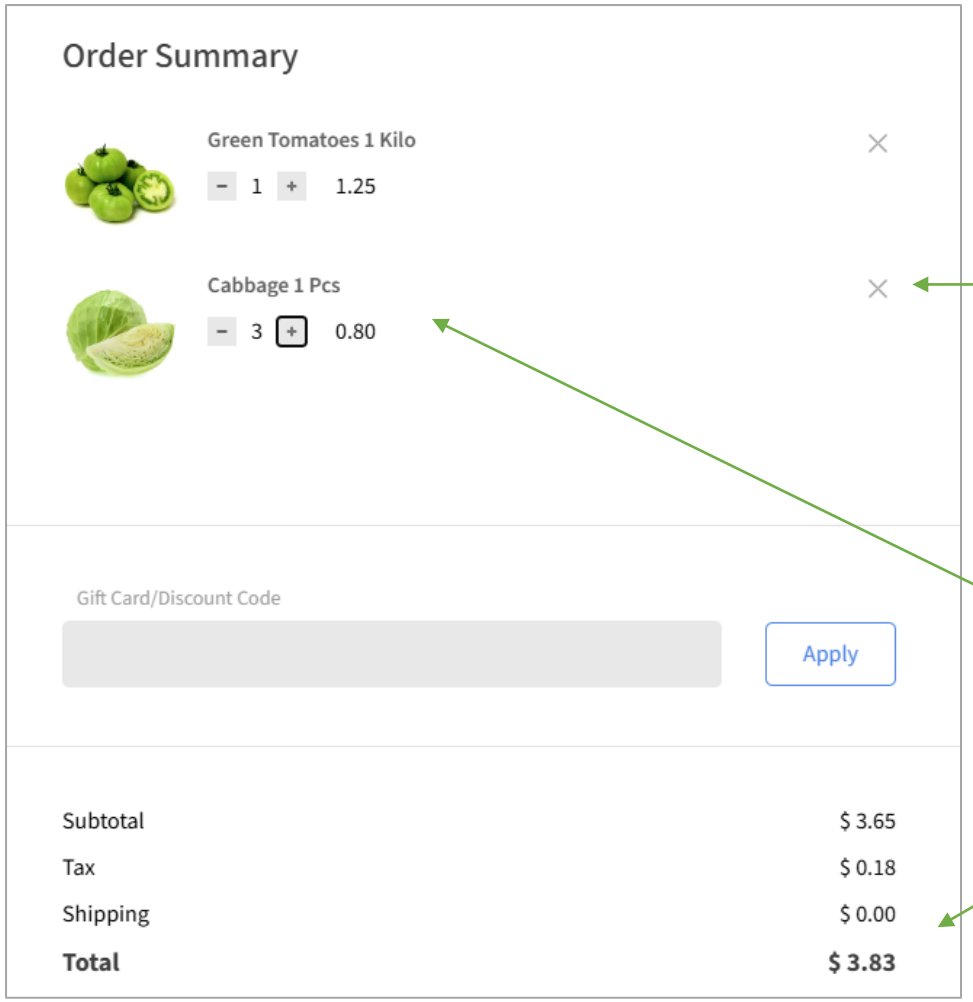


EXPLAIN

What JS **can bring** to a Web Application?

https://codepen.io/leonam-silva-de-souza/pen/RwXZVQr

Check the code !



Remove item from the list

Dynamically update the total price

EXPLAIN

Your **first JS** program *in 3 steps*

Chrome or any other **Web Browser** can execute JavaScript code while loading HTML

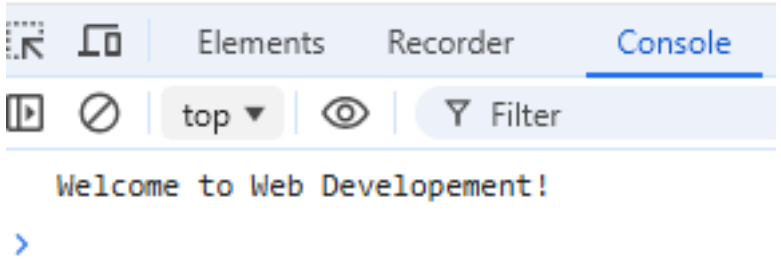
STEP 1 - Create a index.html file, that links to a index.js file:

```
<!DOCTYPE html>
<html>
<head>
    <title>Let s run JS on a Browser</title>
    <script src='index.js'></script>
</head>
<body>
</body>
</html>
```

STEP 2 - Write some JS code

```
// Example of JS code, printing on console
const courseName = "Web Developement";
console.log("Welcome to " + courseName + "!");
```

STEP 3 - Open your index.html on a browser and check the console view



EXPLAIN

JS Syntax - **Example 1**

Let’s analyze the bellow code

`let` `const` `String` `Number` `Boolean` `Conditions`

```
let username = "John"; // let  - Can be reassigned
const isLoggedIn = true; // const  - Cannot be reassigned

let greeting = "Hello, " + username;          // String
let age = 25;                                 // Number
let isAdult = age >= 18;                      // Boolean

console.log(greeting); // "Hello, John"
console.log("Is adult:", isAdult); // true

if (isLoggedIn) {           //  Condition
  if (isAdult) {
    console.log(`${username} is an adult and logged in.`); //  Print on console
  } else {
    console.log(`${username} is not an adult but logged in.`);
  }
} else {
  console.log("User is not logged in.");
}
```

EXPLAIN

JS Syntax - **Example 2**

Let’s analyze the bellow code

`let` `String` `Number` `Boolean` `Conditions` `Loops`

```
let name = "Alice";                    // String
let balance = 100;                     // Number
let isPremiumUser = false;             // Boolean


balance += 50; // Add 50 to the balance
let hasEnoughBalance = balance >= 100;

if (hasEnoughBalance) {                // Condition
  console.log(`${name} has enough balance: $${balance}`); // String interpolation ($)
} else {
  console.log(`${name} needs more funds.`);
}

for (let i = 1; i <= 5; i++) {                 // Loops
  console.log(`Transaction ${i}: $${i * 10}`);
}
```

EXPLAIN

JS Syntax - **Example 3**

Let’s analyze the bellow code

`let` `Array` `Object` `Conditions` `Loops` `Function`

```
let hasMembership = true;
let favoriteBooks = ["1984", "To Kill a Mockingbird", "The Great Gatsby"]; // Array

let user = {        // Object
  name: userName,
  age: userAge,
  membership: hasMembership,
  books: favoriteBooks
};

function displayUserInfo(user) {     // Function Definition
  console.log(`Membership: ${user.membership ? "Active" : "Inactive"}`); // Access to object member
  console.log("Favorite Books:");
  for (let book of user.books) {              // For-of to loop on array members
    console.log(`- ${book}`);
  }
}

if (user.membership) {      // Condition
  displayUserInfo(user);              // Function call
} else {
  console.log("User does not have an active membership.");
}
```

WHAT WE HAVE LEARNT

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JavaScript Ecosystem

- What does JS bring to front end?
- JS Syntax Overview

RESSOURCES FOR THIS COURSE

JAVASCRIPT

https://cstart.mines.edu/web/Day2/2-JavaScriptBasicSyntax.pdf

https://www.integral-domain.org/lwilliams/mis462/JavaScript.pdf

https://www.gurukultti.org/admin/notice/javascript.pdf

https://www.w3schools.com/js/default.asp

WEBSITES

W3Scholl documentation

React official documentation

REACT

You tube channel about react JS

Udemy React Course (not free)

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