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# Week 4: Web Development

## 1. Revision and Quiz



Flex box  
Grid Garden  
CSS Dinner



## WHAT'S THE DIFFERENCE?



**HTML**  
Hypertext Markup Language

### Create the structure

- Controls the layout of the content
- Provides structure for the web page design
- The fundamental building block of any web page



**CSS**  
Cascading Style Sheet

### Stylize the website

- Applies style to the web page elements
- Targets various screen sizes to make web pages responsive
- Primarily handles the «look and feel» of a web page



**Javascript**

### Increase interactivity

- Adds interactivity to a web page
- Handles complex functions and features
- Programmatic code which enhances functionality



## 2. Transition in CSS

transition

transition-delay

transition-duration

transition-property

transition-timing-function

## 3. Grid

offers a grid-based layout system

with rows and columns,

## 4. Introduction to JavaScript

JavaScript is a programming language used for creating dynamic and interactive web pages.

### 2.1 Adding JS to Webpage

Create an HTML file: Start by making a new file with a .html extension.

Set up the HTML structure: Write the basic HTML structure with `<html>`, `<head>`, and `<body>` tags.

Add a `<script>` tag: Inside the `<body>` section, insert a `<script>` tag for your JavaScript code.

Write your JavaScript: Between the `<script>` tags, write your JavaScript code.

```
console.log("Hey there, let's learn JS ")
```

Save your HTML file: Save your changes to the HTML file.

Open in a web browser: Double-click the HTML file to open it in your browser.

View the console: Use browser developer tools to view JavaScript console output.

### Console

```
console.log("Hello, JavaScript!");
```

### Variables & Const Variables

Variables are used to store data values. In JavaScript, variables can be declared using `var`, `let`, or `const`.

	BLOCK SCOPED	TDZ	CREATES GLOBAL PROPERTY	REASSIGNABLE	REDECLARABLE
<b>var</b>	✗	✗	✓	✓	✓
<b>let</b>	✓	✓	✗	✓	✗
<b>const</b>	✓	✓	✗	✗	✗

```
// Variable declaration
var age = 25;
let name = "John";
const PI = 3.14;
```

## Numbers & Strings

```
// Numeric and string data types
var num = 10;
var str = "Hello, world!";
```

## Booleans

```
// Boolean values
var isTrue = true;
var isFalse = false;
```

## Type conversion

```
var numAsString = "10";
var numAsNumber = parseInt(numAsString);
```

## Array

```
var colors = ["red", "green", "blue"];
```

## Object

```
var person = {  
  name: "John",  
  age: 30,  
  city: "New York"  
};
```

## Operators

```
var x = 10;  
var y = 5;  
var sum = x + y; // Addition  
var isGreater = x > y; // Comparison  
x++; // Increment  
y--; // Decrement
```

## Conditional statements

```
var age = 18;  
if (age >= 18) {  
  console.log("You are an adult.");  
} else if (age >= 13 && age < 18) {  
  console.log("You are a teenager.");  
} else {  
  console.log("You are a child.");  
}
```

## Switch statement

```
var day = "Monday";  
switch (day) {  
  case "Monday":  
    console.log("It's Monday.");  
    break;  
  case "Tuesday":  
    console.log("It's Tuesday.");  
}
```

```
        break;
    default:
        console.log("It's neither Monday nor Tuesday.");
}
```

## Loops

```
// For loop
for (var i = 0; i < 5; i++) {
    console.log("Iteration " + i);
}
```

```
// While loop
var count = 0;
while (count < 5) {
    console.log("Count: " + count);
    count++;
}
```

## Function declaration

```
function greet(name) {
    console.log("Hello, " + name + "!");
}
greet("John");
```

## Alert , Confirm, Prompt

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Button Click Alert</title>
</head>
<body>

    <h1>Click the button to see an alert</h1>

    <!-- Button with onclick attribute -->
    <button onclick="showAlert()">Click Me</button>

    <!-- JavaScript code -->
    <script>
        function showAlert() {
            alert("Hello, world!");
        }
    </script>
```

```
</body>  
</html>
```

## Try catch

```
try {  
    // Code that may cause an error  
    var x = y / 0; // This will cause a division by zero error  
} catch (error) {  
    // Handle the error  
    console.error("An error occurred:", error.message);  
}
```

# Lab Tasks

Complete the Flex box

<https://blog.hubspot.com/website/css-transition-vs-animation>

[https://www.w3schools.com/css/css3\\_transitions.asp](https://www.w3schools.com/css/css3_transitions.asp)