Lesson 02: Understanding Code (HTML, CSS & JavaScript Basics)

Start

In order to get help from the AI generates we need to know some basics about HTML, CSS and Javascript

🧠 Learning Objectives

Identify HTML, CSS, and JavaScript sections

Explain what each language is responsible for in a webpage

Read and understand basic code structures

Modify simple HTML, CSS, and JavaScript safely

Predict the effect of small code changes before running them

🎯 These objectives describe practical skills you will use in every future lesson.

🎯 Deliverables

✓ An HTML webpage

✓ At least one HTML content modification

✓ At least one CSS style modification

✓ At least one JavaScript behavior modification

✓ A working page that still loads correctly in the browser

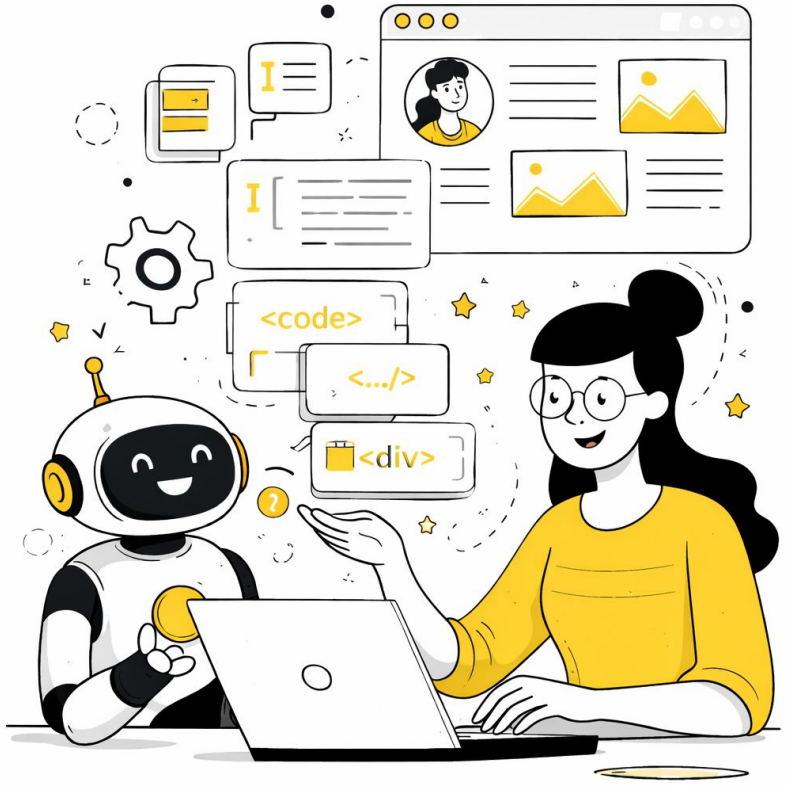
🧠 If your page works and you understand why your changes worked, you have succeeded.

AI Learning Support for This Lesson

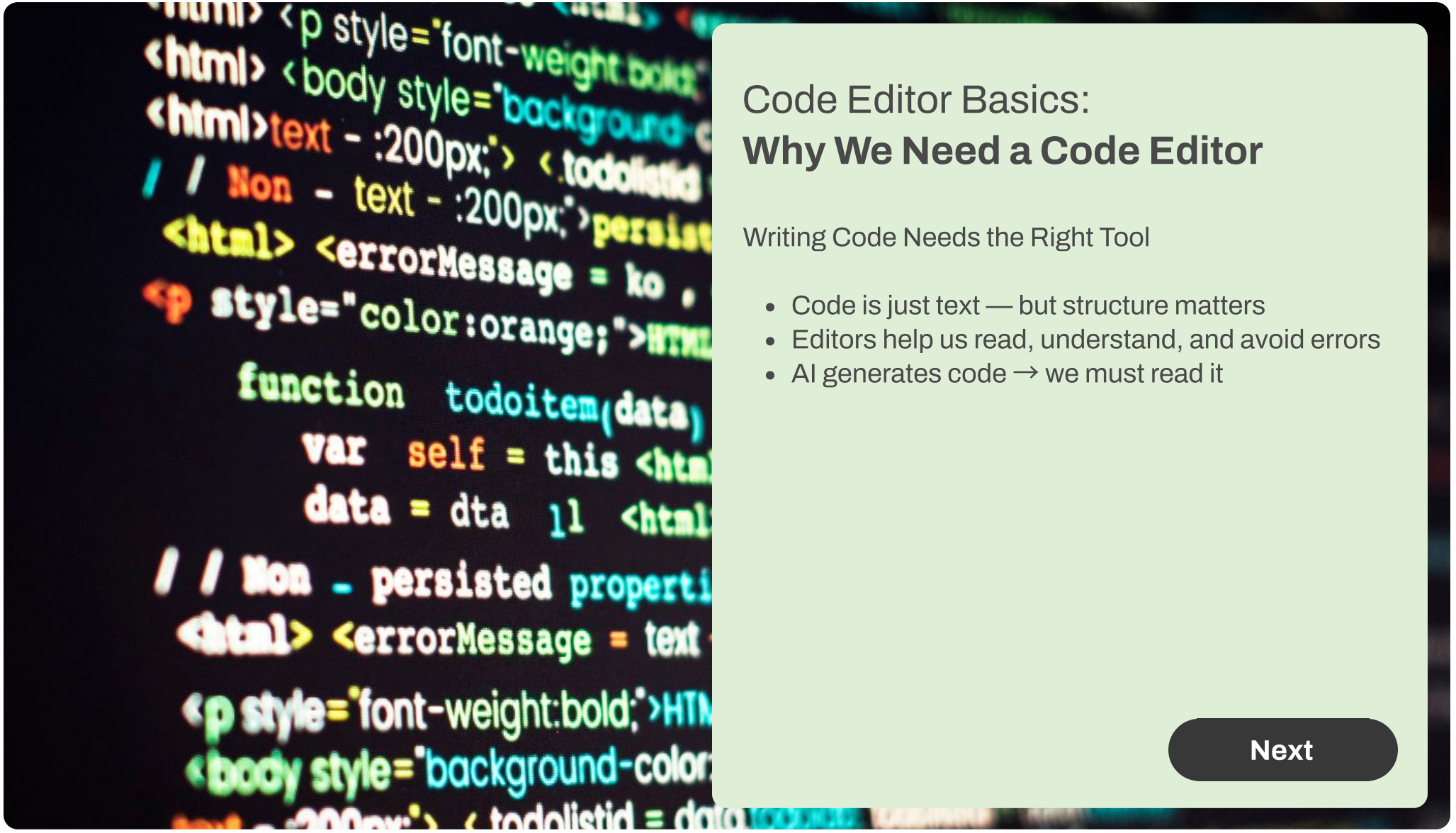
In this lesson, the AI tutor will help you understand code, not just generate it.

A guided prompt is available to support you while you learn how to read and modify HTML, CSS and Javascript code. You can use it to help you:

- Understand the role of HTML, CSS, and JavaScript
- Identify different sections of code
- Make small, safe changes to existing code
- Predict what a change will do before running it
- Gain confidence working with code you didn't write yourself



💡 Use the AI to ask "why" and "what happens if...", not just "do it for me": **Lesson Prompt**



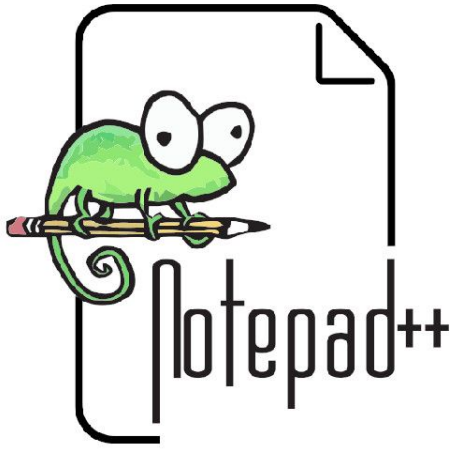
Code Editor Basics:
Why We Need a Code Editor

Writing Code Needs the Right Tool

- Code is just text — but structure matters
- Editors help us read, understand, and avoid errors
- AI generates code → we must read it

Next

Installing Notepad++



Our Editor: **Notepad++**

- Free, lightweight, beginner-friendly
- Supports many programming languages
- Ideal for learning fundamentals

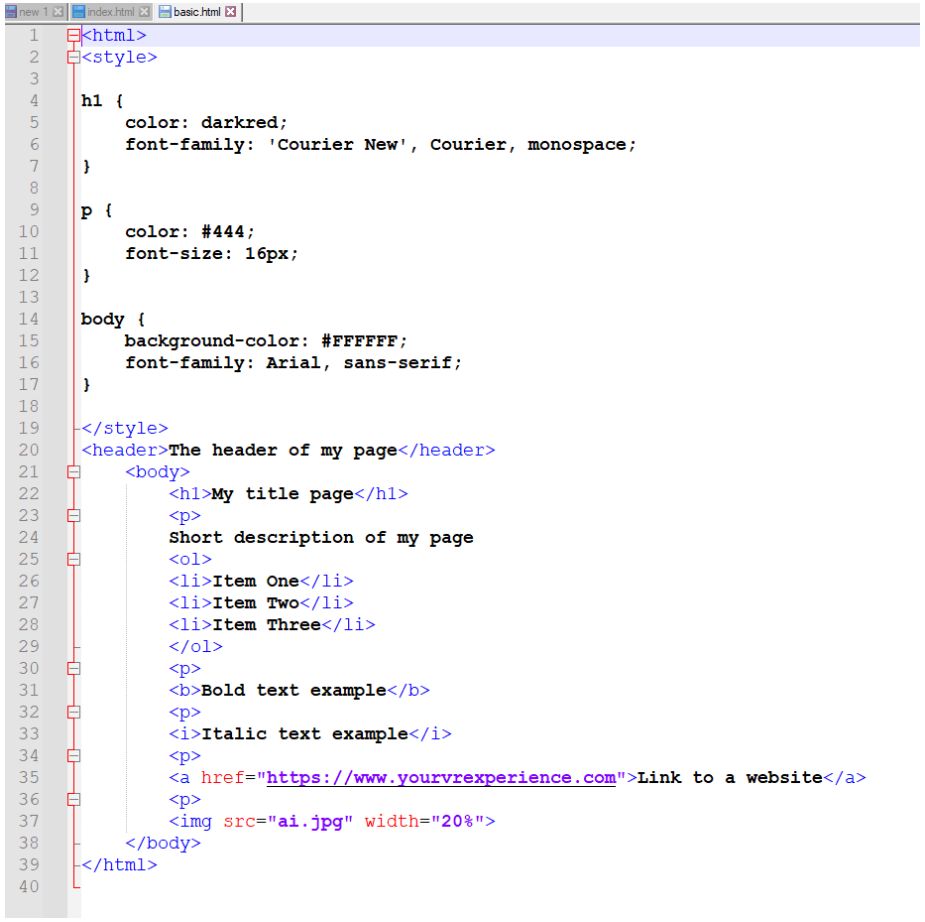
Download Notepad++

```
>The header of my page</header>
ly>
 <h1>My title page</h1>
 <p>
 Short description of my page
 <ol>
 <li>Item One</li>
 <li>Item Two</li>
 <li>Item Three</li>
 </ol>
 <p>
 <b>Bold text example</b>
 <p>
 <i>Italic text example</i>
 <p>
 <a href="https://www.yourvrexperience.com">Link to a we
 <p>
 <img src="ai.jpg" width="20%">
>dy>
```

Why Colors Matter:
Syntax Highlighting = Visual Help

- Download the file **(example.html)** file with Notepad++
- Colors help identify:
  - Tags
  - Attributes
  - **Text content**

Live demo idea:
Change language → show how colors change.



```
new 1 | index.html | basic.html
1  <html>
2  <style>
3
4  h1 {
5      color: darkred;
6      font-family: 'Courier New', Courier, monospace;
7  }
8
9  p {
10     color: #444;
11     font-size: 16px;
12 }
13
14 body {
15     background-color: #FFFFFF;
16     font-family: Arial, sans-serif;
17 }
18
19 </style>
20 <header>The header of my page</header>
21     <body>
22         <h1>My title page</h1>
23         <p>
24         Short description of my page
25         <ol>
26         <li>Item One</li>
27         <li>Item Two</li>
28         <li>Item Three</li>
29         </ol>
30         <p>
31         <b>Bold text example</b>
32         <p>
33         <i>Italic text example</i>
34         <p>
35         <a href="https://www.yourvrexperience.com">Link to a website</a>
36         <p>
37         <img src="ai.jpg" width="20%">
38     </body>
39 </html>
40
```

HTML Basics

HTML defines the **structure**

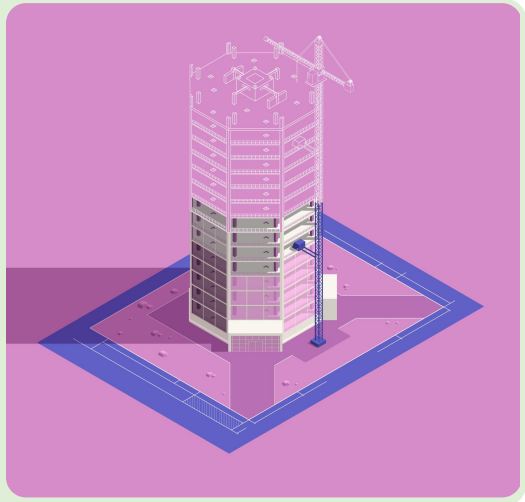
Next

HTML Basics

What is HTML?

HTML Builds the Structure

More

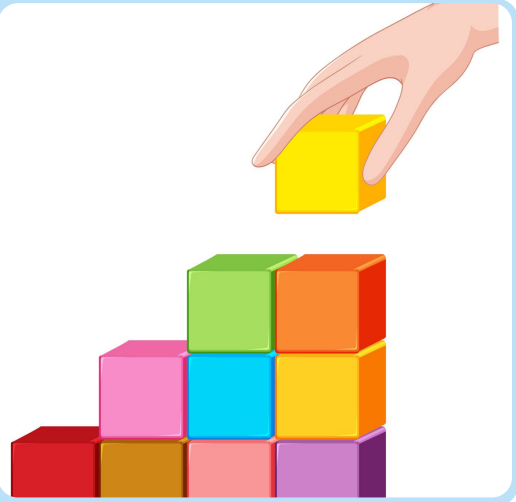


Understanding HTML Tags

The HTML tag is the building block:

<tag>Content</tag>

More



Special Tags

Tags without closing

Examples:

Every HTML Page Starts Like This

Base

Most tags have:

- Opening tag <tag>
- Closing tag </tag>

Example:

** **Text here** **

```
new 1 | index.html | basic.html
1  <html>
2  <style>
3
4  h1 {
5      color: darkred;
6      font-family: 'Courier New', Courier, monospace;
7  }
8
9  p {
10     color: #444;
11     font-size: 16px;
12 }
13
14 body {
15     background-color: #FFFFFF;
16     font-family: Arial, sans-serif;
17 }
18
19 </style>
20 <header>The header of my page</header>
21     <body>
22         <h1>My title page</h1>
23         <p>
24         Short description of my page
25         <ol>
26         <li>Item One</li>
27         <li>Item Two</li>
28         <li>Item Three</li>
29         </ol>
30         <p>
31         <b>Bold text example</b>
32         <p>
33         <i>Italic text example</i>
34         <p>
35         <a href="https://www.yourvrexperience.com">Link to a website</a>
36         <p>
37         <img src="ai.jpg" width="20%">
38     </body>
39 </html>
40
```

HTML = structure of a webpage

Like the **skeleton** of a house.

Defines:

- HTML (<html>)
- Header (<header>)
- Body (<body>)
- Titles (<h1>,<h2>,<h3>)
- Text
- Images (<img>)
- Links (<a href="...">)

```
<html>
 <header>The header of my page</header>
 <body>
  Content goes here
 </body>
</html>
```

Basic Page Structure

Essential HTML tags

- <html>
- <header>
- <body>

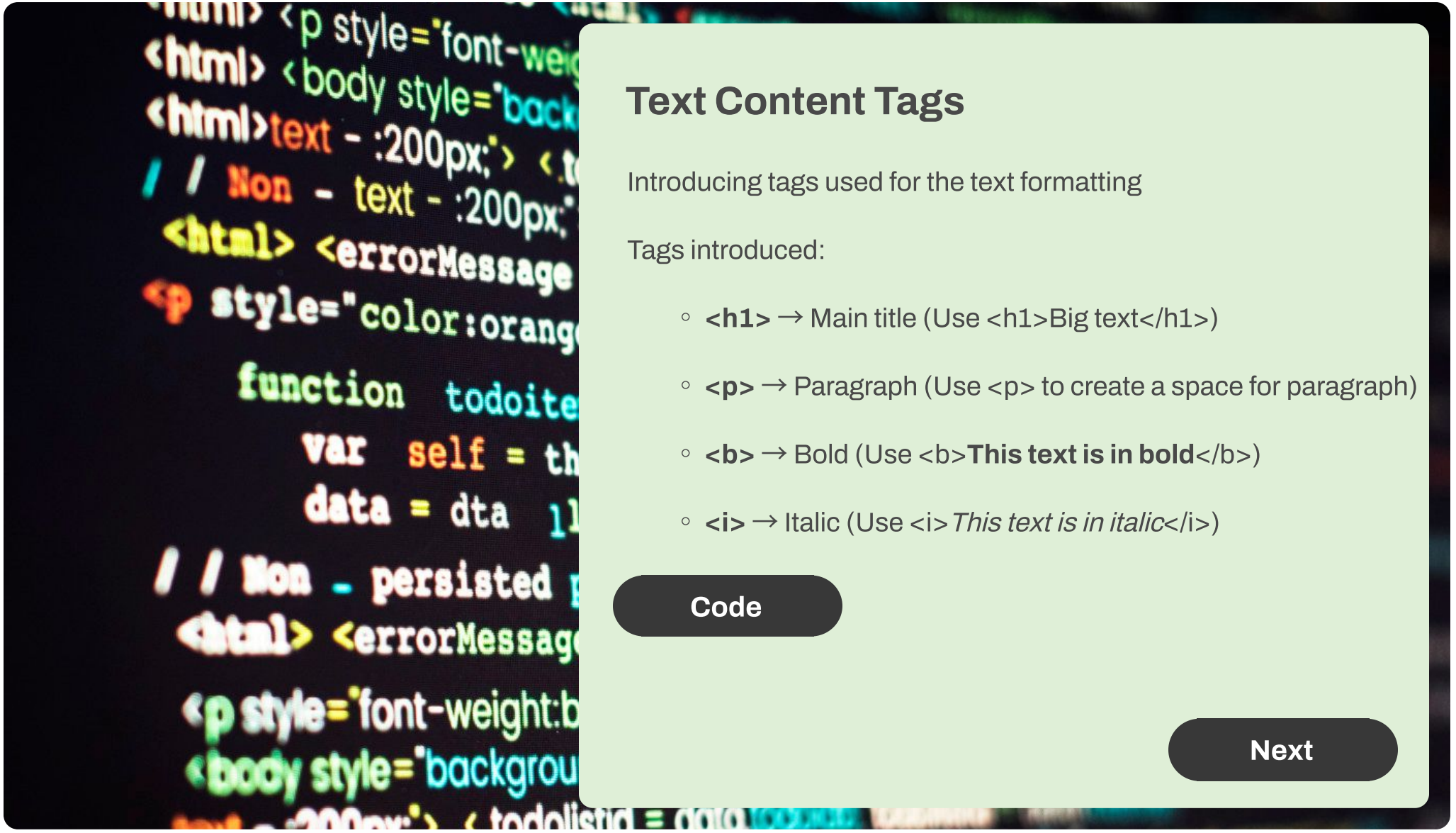
Create a new file “basics.html”

Customize the content and open the file with a web browser:

Code

< >

```
<html>
   <header>The header of my page</header>
   <body>
    Short description of my page
   </body>
</html>
```



Text Content Tags

Introducing tags used for the text formatting

Tags introduced:

- **<h1>** → Main title (Use <h1>Big text</h1>)
- **<p>** → Paragraph (Use <p> to create a space for paragraph)
- **** → Bold (Use **This text is in bold**)
- **** → Italic (Use *This text is in italic*)

Code

Next

<
>

```
<html>
      <header>The header of my page</header>
      <body>
      <h1>My title page</h1>
      <p>
      Short description of my page
      <p>
      <b>Bold text example</b>
      <p>
      <i>Italic text example</i>
  </body>
 </html>
```

Lists, Links & Images

More usual tags for lists, links and image

Tags introduced:

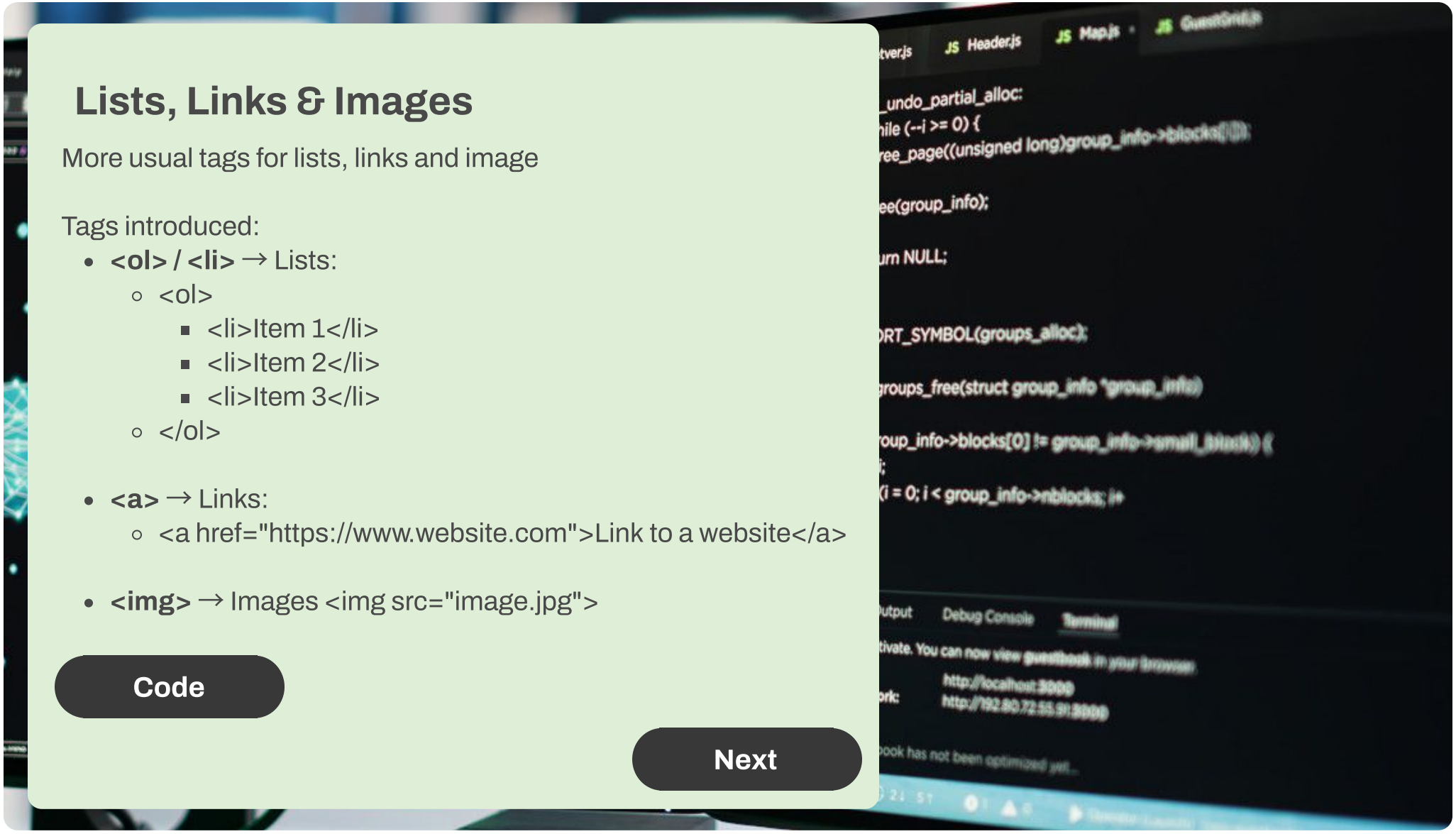
- ** / ** → Lists:
  -
    - Item 1
    - Item 2
    - Item 3
  -

- **<a>** → Links:
  - Link to a website

- **<img>** → Images <img src="image.jpg">

Code

Next

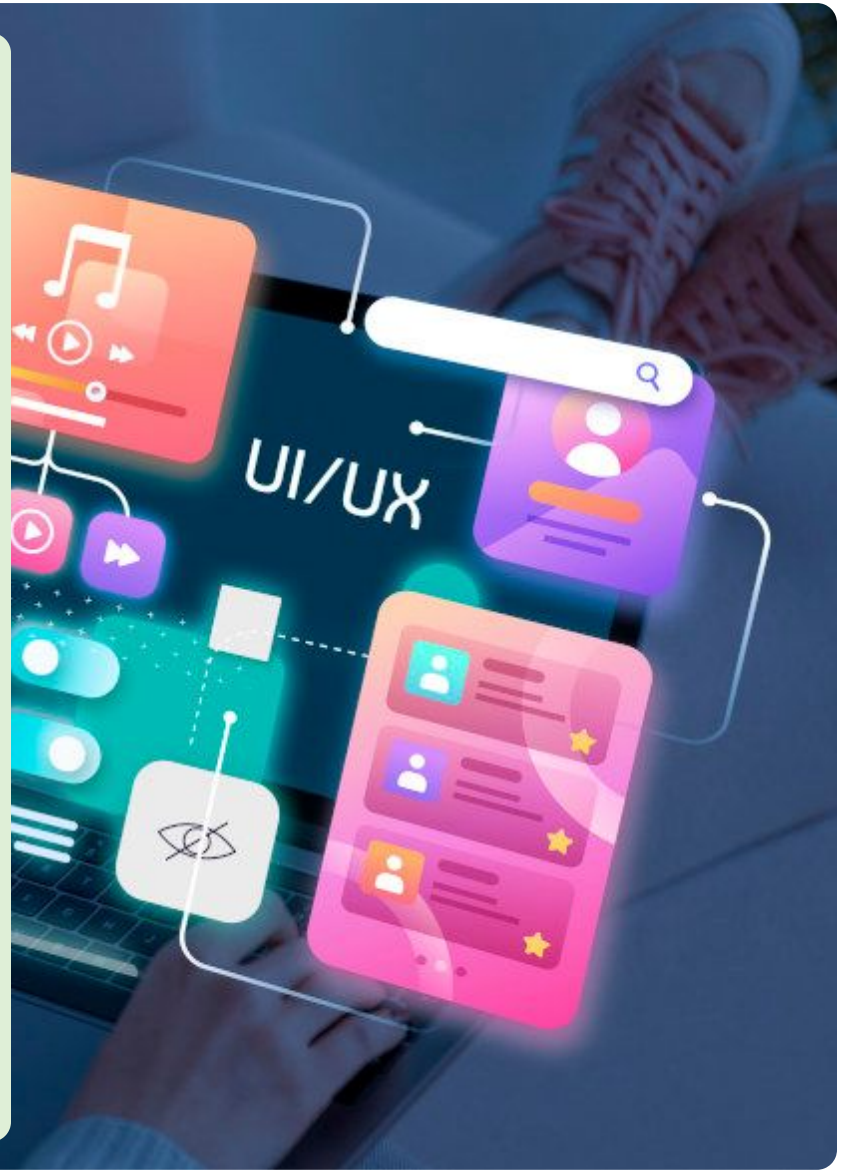


```
<html>
    <header>The header of my page</header>
    <body>
    <h1>My title page</h1>
    <p>
    Short description of my page
    <ol>
       <li>Item One</li>
       <li>Item Two</li>
       <li>Item Three</li>
    </ol>
    <p>
    <b>Bold text example</b>
    <p>
    <i>Italic text example</i>
    <p>
    <a href="https://www.yourvrexperience.com">Link to a website</a>
    <p>
    <img src="image.jpg" width="20%">
  </body>
 </html>
```

CSS Basics

CSS defines the **style**

Next



CSS Basics

What is CSS?

CSS Makes It Look Good

CSS Inside <style>

<html>

<style>
CSS rules...
</style>

</html>

Let's create our first CSS rule

Styling the title:

- Selector (h1)
- Properties (color, font-family)

Styling more elements (Part 1/2)

Improving Readability

Styling the paragraph <p>

Code

Improving body

Styling the <body>

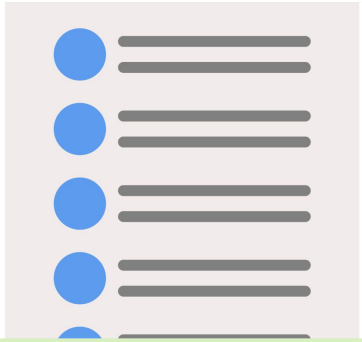
Code

Improving header

Styling the <header>

Code

Styling more elements (Part 2/2)



Styling lists <ol>

Code

Styling links <a> and showing CSS can have access to some minor interactions

Code

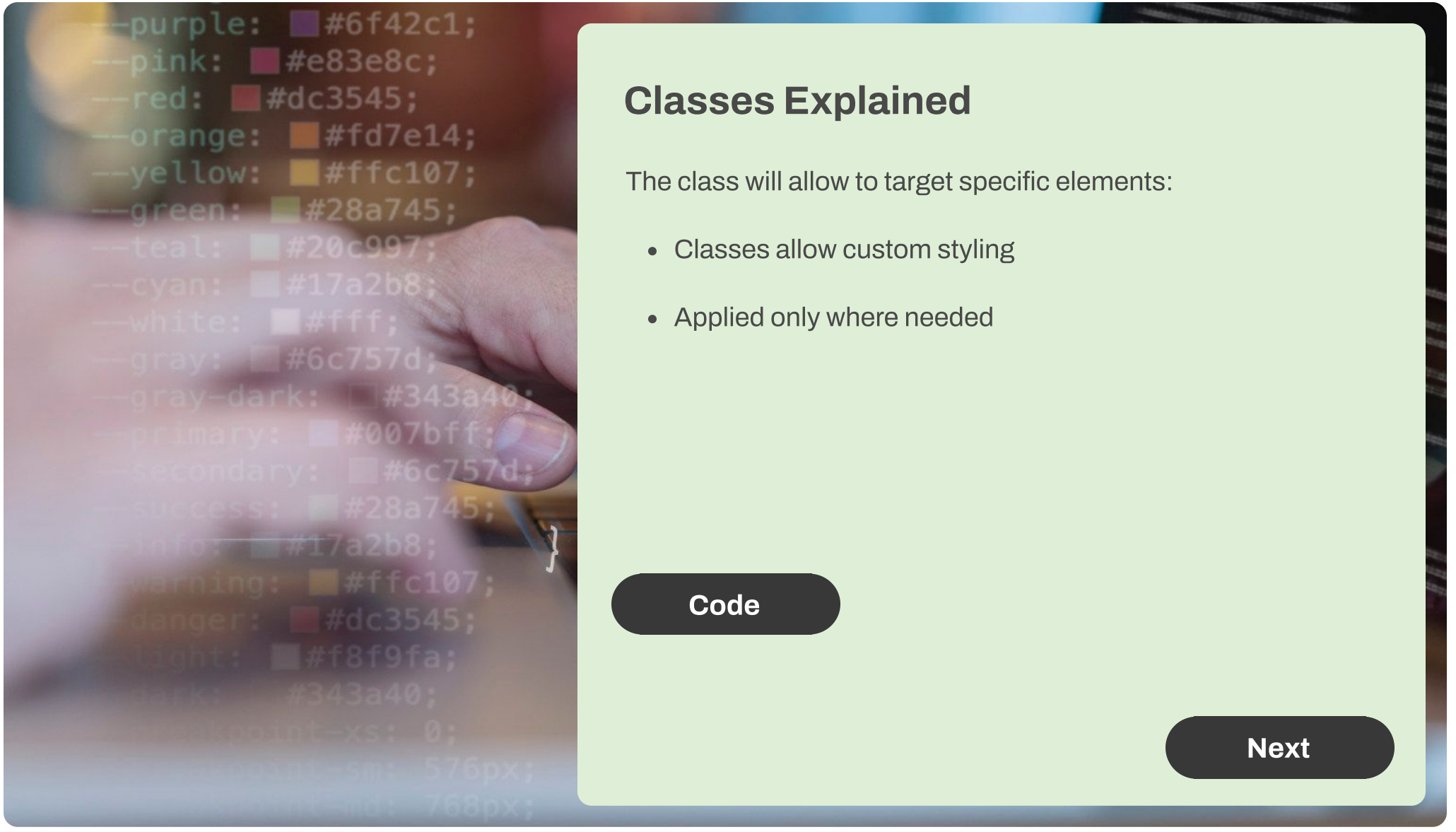
Styling images <img>

Code

3R

<

>



Classes Explained

The class will allow to target specific elements:

- Classes allow custom styling
- Applied only where needed

Code

Next

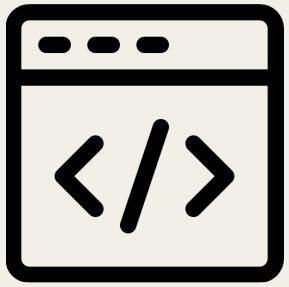
<
>

```
<html>
  <style>
       .highlight {
          background-color: #fff3cd;
          padding: 10px;
          border-left: 5px solid orange;
        }
  </style>
  <body>
   <p class="highlight">Short description of my page</p>
  </body>
 </html>
```

Grouping elements: Divisions

Explained

We need a clean element type so we can customize it from scratch.

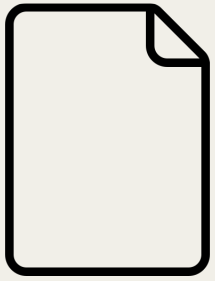


Add class to

Add a class to the that will allow us to customize with CSS the content inside the

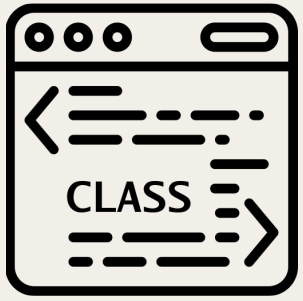
Repeat

Wrap the List in Another



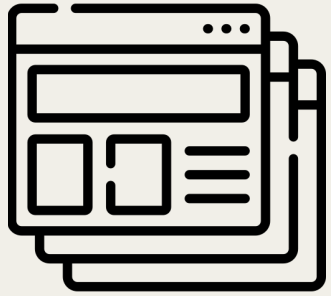
Add to HTML

Observe nothing changes. We have just grouped the content we want



Add CSS for class

Add the CSS rule “content-box”



```
<div>
  <h1>My title page</h1>
  <p class="highlight">Short description of my page</p>
 </div>
```

```
.content-box {
    background-color: rgb(255,255,255);
    padding: 20px;
    border-radius: 8px;
    margin-bottom: 20px;
 }
```

```
<div class="content-box">
    <ol>
        <li>Item One</li>
        <li>Item Two</li>
        <li>Item Three</li>
    </ol>
</div>
```

```
<div class="content-box">
  <h1>My title page</h1>
  <p class="highlight">Short description of my page</p>
 </div>
```

The ** ** tag allows to **group a specific content** so we can fully customize it from scratch with CSS.

Mental model:

- **HTML = structure**
- ** = grouping blocks**
- **CSS = styling blocks**

JavaScript Basics

JavaScript defines the **functionality**

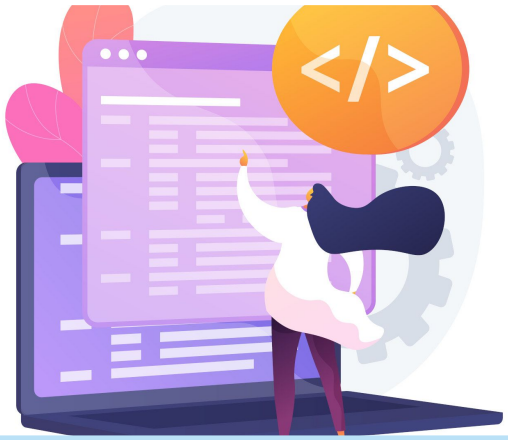
Next

JavaScript Basics

What is JavaScript?

JavaScript Adds Behavior

More



Tag for Javascript : <script>

Add the <script></script> tag after the closing tag </body>

Code

```
</body>

<script>
    alert("Hello from JavaScript!");
</script>

</html>
```

The first action

Create an alert that will display an image when the page is loaded

Code

<
>

```
<html>
    <style>
     ...
    </style>
    <body>
     ...
    </body>
    <script>
    </script>
</html>
```

Actions:

- Reacts to user actions
- Changes content dynamically
- Talks to HTML & CSS

Goals:

- By the end of this lesson, you will be able to use JavaScript to interact with HTML elements, respond to user actions, and change content dynamically.

```
<html>
    <style>
     ...
    </style>
    <body>
     ...
    </body>
    <script>
       alert("Hello from JavaScript!");
    </script>
</html>
```

Variables

```
dy>

ipt>
// "message" is a variable containing a
let message = "Welcome to my page!";

alert(message);
ript>
```

Let's do a simple variable creation. We create a variable that contains a string that we will display in the previous alert.

Code

We need to have a way to check what happens with our code. That why we have the debug console in order to print information.

CTRL+Shift+I to show the **Debug Console** and describe it.

Code

```
<script>
   // "message" is a variable containing a string
   let message = "Welcome to my page!";
   alert(message);
</script>
```

```
<script>
    let name = "Student";
    console.log("Hello " + name);
</script>
```

IDs and Uniqueness

Connecting Javascript with HTML & CSS

In order to connect Javascript code with the HTML elements we can use the parameter “id” (identification) to uniquely identify the element.

Selecting Elements

Now JavaScript has to find the HTML element

Changing Content

Let’s use Javascript to dynamically change text of the main title.

On the inspector we are going to check the most critical information about the object (innerText, innerHTML, localName, id, style)

Code:

```
<script>
    let title = document.getElementById("main-title");
    console.log(title);
</script>
```

Concept:

- IDs must be unique
- JavaScript needs precision

Code: Add the id

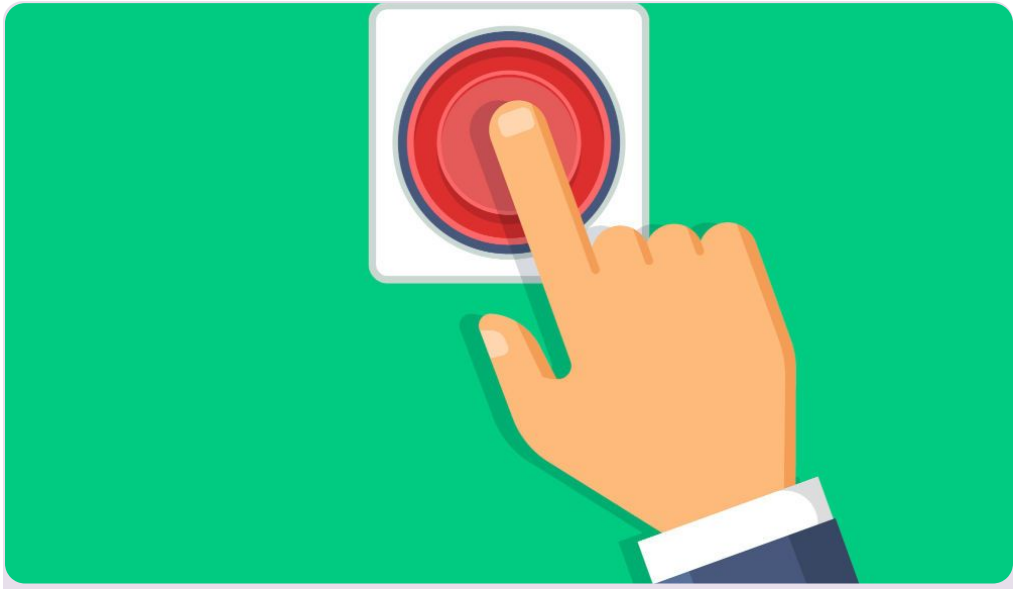
```
<h1 id="main-title">My title page</h1>
```

We are accessing the property “**innerText**” in order to have access to that section.

Code:

```
 <script>
      let title = document.getElementById("main-title");
      title.innerText = "Title changed with JavaScript!";
</script>
```

Buttons & Events



Creating an interaction

Let’s create some interativity by creating a button

Code

Changing HTML with Javascript

Now we are going to listen when the user clicks on the button to perform the action of changing the innerText of the main-title.

Code

```
<script>
    let button = document.getElementById("changeButton");
    let title = document.getElementById("main-title");
    // We listen on the button event "click" to perform an action
    button.addEventListener("click", function () {
        title.innerText = "You clicked the button!";
    });
</script>
```

Concept:

- Event listeners
- User interaction

Code: Create a button with an “id”

```
<button id="changeButton">Change title</button>
```

Mini Challenge

🎯 Challenge (5 minutes)

The students should in Javascript:

- Select a by class
- Change its background color on click
- Change text inside a <p>

Feel free to use AI to help you out, but try not to ask directly for the solution.

Code

Next

```
<style>
     .content-box { ... }
</style>
<body>
   <div class="content-box">
      <h1>My title page</h1>
      <p class="highlight">Short description of my page</p>
   </div>
</body>
<script>
  let contentbox = document.querySelector(".content-box");
  button.addEventListener("click", function () {
      contentbox.innerText = "My changed content";
      contentbox.style.backgroundColor = "#ff0000";
  });
</script>
```

✓ Conclusions

Remember this visual metaphor:

- ☒ HTML builds the house
- 🎨 CSS paints the house
- 🔔 JavaScript turns lights on and off

Code

What you can do Now:

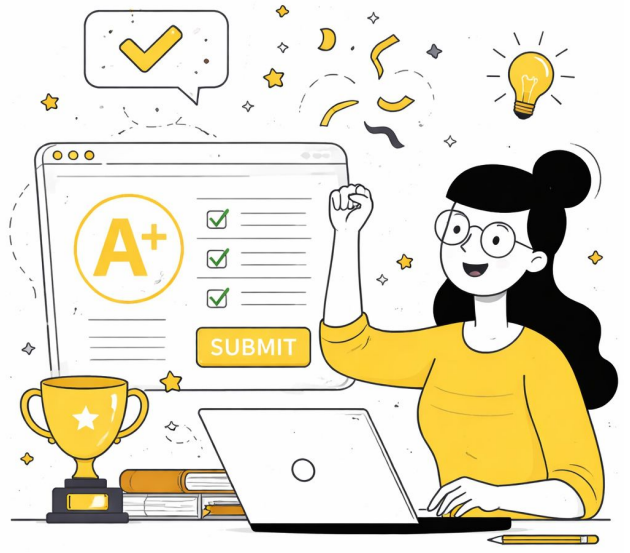
- Read AI-generated code
- Identify HTML, CSS & JS
- Make small edits confidently
- Debug simple issues
- Understand GitHub Pages examples

```
<html>
    <style>
     🎨 CSS paints the house
    </style>
    <body>
     ☒ HTML builds the house
    </body>
    <script>
     🚨 JavaScript turns lights on and off
    </script>
</html>
```

Knowledge Test Questions

Understanding AI-Generated Code (HTML, CSS & JavaScript Basics)

Roles of Web Technologies	Question
Understanding Website Structure	Question
Visual Changes vs Structure	Question
JavaScript Purpose	Question



What is the main role of HTML in a webpage?

To control the visual style of the page

To define the structure and content of the page

To handle user interactions and behavior

Which of the following is a typical use of JavaScript in a webpage?

- Creating the main text content of the page
- Styling elements with colors and fonts
- Reacting to user actions and changing content dynamically

What is the basic building block that HTML uses to define its structure?

All the content inside the tag style: <style>Content</style>

The tag format that allows to define sections: <tag>Content</tag>

All the content inside the tag body: <body>Content</body>

If you change the color of a title using CSS, what aspect of the webpage are you modifying?

- The structure of the page
- The behavior of the page
- The visual appearance of the page

Help us to improve

With your feedback we will keep improving for you to get the best results

Which part of this lesson was the hardest to understand, and what made it challenging?

Write your answer here.

Send

After this lesson, how confident do you feel that you can modify existing code on your own?

Write your answer here.

What change would most improve this lesson for future students?

Send

Write your answer here.

Send