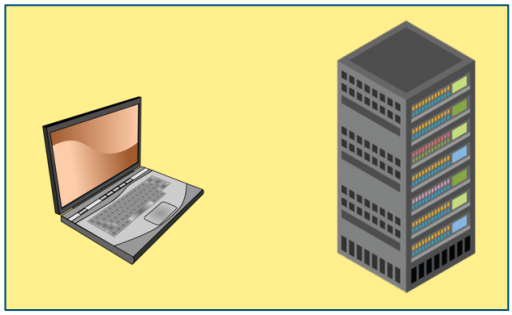
What is JavaScript?

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

JavaScript code is typically interpreted and executed within the user's web browser (such as Chrome, Safari, Firefox, or Edge). It works in conjunction with HTML. This contrasts with standalone programming languages like C++, which compile code into independent executable files. JavaScript requires a web browser to execute. It is not a general-purpose language; it is designed to manipulate web pages. JS allows developers to manipulate HTML, CSS, and other elements of a webpage.

JavaScript was invented in 1995, and it became an ECMA standard in 1997. ECMAScript is what defines the standards for JavaScript.

Before 2009, JavaScript was primarily a front-end language. However, with backend environments like Node.js, it can now be used on the backend as well. While JavaScript is commonly executed within the user's browser, Node.js enables it to run on a server before being sent to the user.



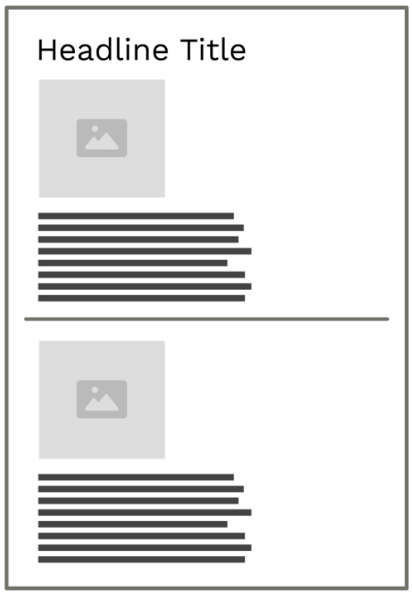
In this course, we will only be using JavaScript on the front-end. This means the browser will interpret the code as it arrives on the user's computer.

Also, don't confuse JavaScript with Java. JavaScript and Java are completely different languages, both in concept and design. Historically, Java was very popular when JavaScript was released, and the name was an attempt to capitalize on Java's popularity. It's important not to confuse the two. Java does not rely on a browser to run; it is used for server-side development.

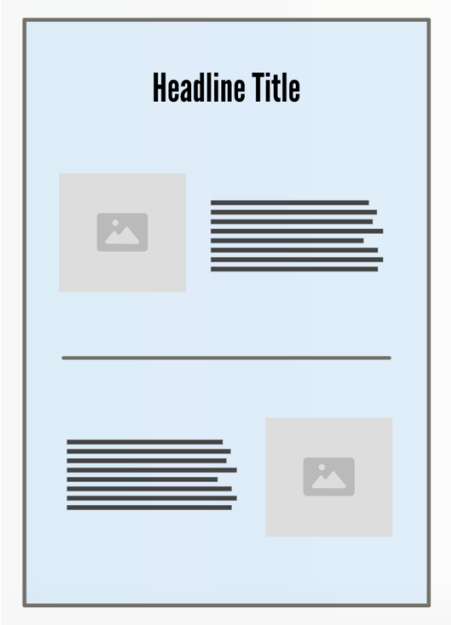
HTML, CSS, and JavaScript form the foundation of web development.

HTML is a markup language that affects content. For example, HTML determines elements for page structure. HTML would help with questions like: What is your headline? How many

divisions are on your page? What images do you have? How many paragraphs are there? What are the contents of those paragraphs?



CSS is a style sheet language that effects presentation. For example, CSS styles your web page. CSS would help with questions like: What font does the headline use, what's the background color of the page, what's the width of the div that the paragraphs are in? How is the page laid out?



JavaScript is a programming language that affects behavior and interactivity. For example, JavaScript would help with questions like: What happens when you click an image, what

happens when you type the wrong value in a form field, how long does a photo slideshow take to move from one image to the next?

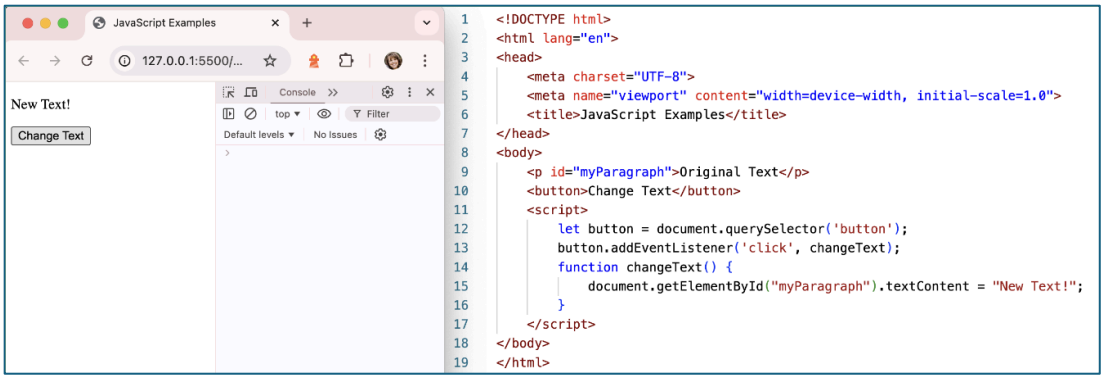
With JS you can now make web applications and web apps, not just websites. With JavaScript you can now make web applications and web apps, not just websites. JavaScript can handle:

1. Accessing Content

   Selecting elements of the page, users can input values that JavaScript can access. For instance, you can retrieve the text from a paragraph in HTML and display it in the console.

2. Modify Content

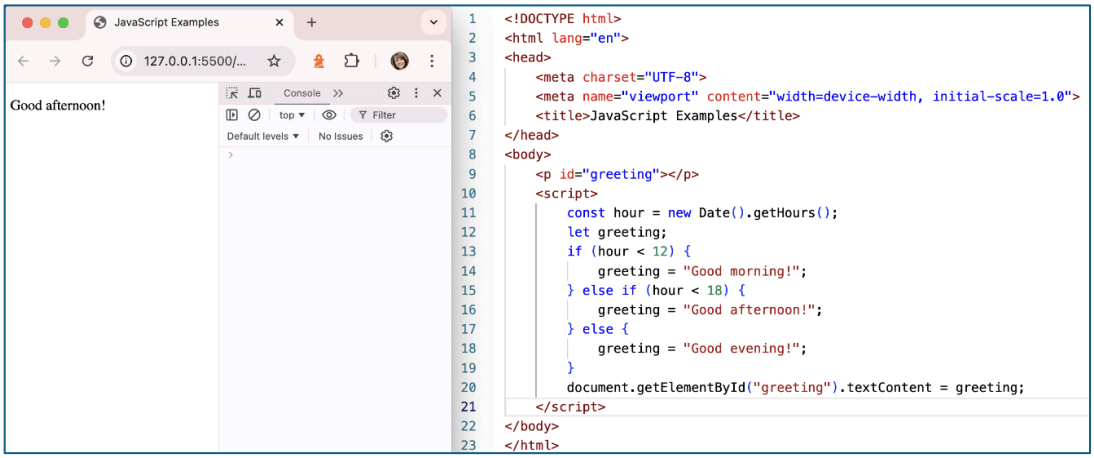
   You can add attributes to elements, add text to pages, or change CSS classes to apply new CSS rules. You can also show and hide elements using CSS. For example, you can change the paragraph text to ‘New Text!”.



3. Program Rules

   You can define different steps for a computer to follow. This includes making calculations, determining which image grows larger when clicked, and ensuring an animation always starts at the bottom of a page regardless of the user’s device.

For example, you can check which hour of the day it is and greeting users accordingly.



4. React to Events

   You can run code when a button is pressed, or information from a form has been submitted, or when the page loads.

   For example, the background color of the button can change when the button is clicked.

So now you have a basic idea of what JavaScript is.