

Introduction to JavaScript

Topics Covered:

- What is JavaScript?
- How is JavaScript executed?
- How to include scripts in HTML?
- How to change the HTML content via JavaScript?
- How can JS modify/add styles to HTML elements?

Topics in Detail:

What is JavaScript?

- JavaScript is a powerful, flexible, and fast programming language.
- JavaScript powers the dynamic behavior on websites.
- JavaScript remains at the core of web development.
- JavaScript is used mainly for enhancing the interaction of a user with the webpage.
- With the help of JavaScript, web pages can be made live and interactive.

How is JavaScript executed?

- The browser is responsible for running JavaScript code, being a scripting language, JavaScript cannot run on its own.
- When a user requests an HTML page with JavaScript in it, the script is sent to the browser and it is up to the browser to execute it.
- The main advantage of JavaScript is that all modern web browsers support JavaScript.

How to include scripts in HTML?

- HTML <script> tag is used to embed data or executable client side scripting language in HTML pages.
- Example:

```
<!DOCTYPE html>
<html>
<head>
</head>
<body>
  <h1> JavaScript Tutorials</h1>

  <script>
    //write JavaScript code here..
    alert('Hello, how are you?')
  </script>
</body>
</html>
```

- A `<script>` tag can also be used to include an external script file to an HTML web page by using the `src` attribute.
- If you don't want to write inline JavaScript code in the `<script></script>` tag, then you can also write JavaScript code in a separate file with `.js` extension and include it in a web page using `<script>` tag and reference the file via `src` attribute.
- The `<script>` tag can be included in the `<head>` or `<body>` part of the HTML.
- Example:

```
<!DOCTYPE html>
<html>
<head>
    <script src="/MyJavaScriptFile.js" ></script>
</head>
<body>
    <h1> JavaScript Tutorials</h1>

</body>
</html>
```

How to change the HTML content via JavaScript?

- HTML elements can be accessed from scripts by using `getElementById()` method.
- The `getElementById()` method accesses the HTML element based on its unique id.
- Example - HTML Code:

```
<!DOCTYPE html>
<html>
<head>
    <title>Intro to JS</title>
    <link href="style.css" rel="stylesheet" type="text/css" />
</head>
<body>
    <p id="intro">Introduction to JavaScripts</p>
    <p id="p1"></p>
    <script src="script.js"></script>
</body>
</html>
```

- JS Code:

```
document.getElementById("p1").innerHTML = "Hello JavaScript";
```

- Output:

Introduction to JavaScripts

Hello JavaScript

How can JS modify/add styles to HTML elements?

- The style of the HTML elements can be modified by accessing them from JavaScript.
- Syntax:
`document.object.style.Property-name = "property-value"`
- Example - HTML Code:

```
<!DOCTYPE html>
<html>
  <head>
    <title>Intro to JS</title>
    <link href="style.css" rel="stylesheet" type="text/css" />
  </head>
  <body>
    <p id="intro">Introduction to JavaScripts</p>
    <p id="p1"></p>
    <script src="script.js"></script>
  </body>
</html>
```

- JS Code:

```
document.getElementById("p1").innerHTML = "Hello JavaScript";
document.getElementById('p1').style.color='red';
document.getElementById('intro').style.fontSize='35px';
document.body.style.backgroundColor = "lightyellow";
```

- Output:

Introduction to JavaScripts

Hello JavaScript