

JavaScript Lab Assignment: Digital Clock

Jan 19

Objective

Create a digital clock using HTML, CSS, and JavaScript. The clock should display the current time and update every second.

Requirements

1. **HTML:** Create a basic HTML structure with a `div` element to display the clock.
2. **CSS:** Style the clock display for a clean and readable appearance.
3. **JavaScript:** Write JavaScript code to update the clock every second with the current time.

Assignment Details

HTML

- Create a `div` with an id, such as `id="clock"`, which will be used to display the time.

CSS

- Style the clock `div` to be centrally aligned on the page.
- Choose a legible font and size for the time display.

JavaScript

- Use the `Date` object to get the current time.
- Write a function to update the clock every second.
- Format the time to display hours, minutes, and seconds (`HH:MM:SS`).

Hints

- Remember to clear the interval when it's no longer needed to avoid memory leaks.
- To format numbers less than 10, consider adding a leading zero for a consistent look.

Bonus Challenge

Add a button to toggle between 12-hour and 24-hour time formats. This will require:

- A button in HTML to trigger the format change.
- A JavaScript function to switch between 12-hour and 24-hour formats.
- Updating the time display accordingly when the button is clicked.

Additional CSS and HTML Elements

- Add appropriate classes and ids for styling the button and clock.
- Use CSS to style the button in a way that matches the overall design of the clock.