

Internship Assignment: Background generator with user input

Objective

Assess the candidate's proficiency in HTML, CSS, and JavaScript by developing an interactive web page that dynamically changes its background color based on a user-inputted 6-digit number.

Assignment Overview

Create a web page where users can enter any **6-digit number**, and the page background will change to the corresponding color (hex code equivalent). The UI should be **highly interactive** and include **smooth animations** for an engaging experience.

Requirements

1. Input Field

- A **single input box** (large enough for visibility and easy typing).
- Should accept only **6-digit numerical values**.
- Display an **error message** on the same input field if the entered value is invalid (less than 6 digits, more than 6 digits, or contains non-numeric characters).

2. Dynamic Background Color Change

- When a valid 6-digit number is entered, convert it into a **hex color** (e.g., 123456 → #123456).
- Apply the color as the **background** of the page.

3. Scroll-Driven Animation

- As the user **scrolls down**, the input box should smoothly move **to the top of the page**.
- Utilize **CSS Grid** to center the text dynamically.

4. User Experience & UI Enhancements

- Ensure a **smooth scrolling effect** when the input field moves to the top.

- The color should **fade in smoothly** when changed.
- Display the **entered number** in large, centered text over the background.

Technology Stack

- **HTML**: Structure the page with semantic elements.
- **CSS**: Use CSS Grid for layout, and animations/transitions for effects.
- **JavaScript**: Validate input, update UI, and handle scroll-based interactions.

Code Quality

Write clean and well-documented HTML, CSS, and JavaScript code. Ensure the website is compatible with major web browsers. Implement responsive design principles for a smooth experience on various devices.

Submission Instructions

- Complete the assignment within **one week**.
- Upload the project to your own **GitHub repository**.
- Share the **GitHub repository link** along with a **README.md** containing:
 - Brief description of the project.
 - Steps to run the project.
 - Any additional features implemented.

Bonus Points (Optional Enhancements)

- Add a **button** to reset the background color.
- Provide a **preview** of the color before applying it.
- Implement a **smooth entry animation** for the input box when the page loads.

Evaluation Criteria

- **Code Quality**: Clean, well-structured, and commented code.
- **Functionality**: All core requirements must work correctly.
- **Design & UX**: Smooth animations and an engaging interface.
- **GitHub Usage**: Proper repository structure, README, and commits.

Good luck!