Color Palette Generator - Complete Project Prompt

Project Overview

Create a modern color palette generator that creates random color combinations, allows copying hex codes, and saves favorite palettes. Build using three separate files: HTML, CSS, and JavaScript.

Project Structure

color-palette-generator/

├── index.html

├── style.css

└── script.js

HTML File (index.html)

Required elements:

- Proper DOCTYPE and responsive meta tags

- Link to external CSS and JavaScript files

- Main container with header

- Color palette display area (5 color boxes)

- Generate new palette button

- Lock/unlock buttons for each color

- Copy buttons for hex codes

- Save to favorites button

- Favorites section to display saved palettes

- Clear favorites button

CSS File (style.css)

Design requirements:

- **Modern layout** with centered container

- **Color boxes** - large, clickable squares with hex codes

- **Responsive grid** for color display

- **Button styling** - modern buttons with hover effects

- **Favorites section** - compact saved palette display

- **Copy feedback** - animation when hex code copied

- **Lock indicators** - visual feedback for locked colors

- **Mobile responsive** design

JavaScript File (script.js)

Core functionality:

- **Random color generation** - generate hex colors

- **Palette creation** - create 5-color combinations

- **Lock/unlock colors** - keep specific colors while generating new ones

- **Copy to clipboard** - copy individual hex codes

- **Save favorites** - store palettes in localStorage

- **Display favorites** - show saved palettes with delete option

- **Color validation** - ensure readable hex codes

Key Features to Implement

1. Color Generation

```
function generateRandomColor() {

  return '#' + Math.floor(Math.random()*16777215).toString(16).padStart(6, '0');

}
```

2. Palette Structure

- 5 colors per palette

- Each color shows hex code

- Click color box to copy hex

- Lock button to preserve specific colors

3. Lock/Unlock System

- Toggle lock for each color

- Locked colors stay same during new generation

- Visual indicator (lock icon) for locked colors

4. Copy Functionality

- Click color box or copy button to copy hex

- Visual feedback (copied message/animation)

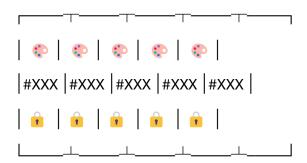- Copy individual hex codes to clipboard

5. Favorites System

- Save current palette to favorites

- Display saved palettes in compact view

- Delete individual saved palettes

- Store in localStorage for persistence

Essential Functions

1. generatePalette() - Create new random palette

2. copyHexCode(color) - Copy hex to clipboard

3. toggleLock(index) - Lock/unlock specific color

4. savePalette() - Save current palette to favorites

5. loadFavorites() - Display saved palettes from localStorage

6. deletePalette(index) - Remove palette from favorites

Color Palette Layout

LocalStorage Structure

```
const favorites = [

 {

  id: timestamp,

  colors: ['#ff6b6b', '#4ecdc4', '#45b7d1', '#96ceb4', '#ffeaa7']

 }

]
```

Color Scheme

```css
:root {
  --primary: #667eea;
  --secondary: #764ba2;
  --bg: #f8fafc;
  --card-bg: #ffffff;
  --text: #2d3748;
  --border: #e2e8f0;
  --success: #48bb78;
  --shadow: rgba(0,0,0,0.1);
}
```

Responsive Design

- **Mobile**: Stacked color boxes, full-width buttons
- **Desktop**: Grid layout, hover effects

Interactive Features

- **Click color box**: Copy hex code
- **Lock button**: Preserve color during generation
- **Generate button**: Create new palette (respecting locks)
- **Save button**: Add to favorites
- **Favorite palettes**: Click to load, delete button to remove

File Organization

Provide complete code for all three files:

1. **index.html** - Structure with color boxes and favorites section
2. **style.css** - Modern styling with grid layout and animations
3. **script.js** - Full functionality with localStorage integration

Expected Output

A functional color palette generator that:

- Generates beautiful random color combinations

- Allows copying individual hex codes with one click

- Saves and manages favorite palettes

- Works responsively on all devices

- Provides smooth user experience with visual feedback

Default Behavior

- Generate initial palette on page load

- Load saved favorites from localStorage

- Show copy confirmation when hex copied

- Lock visual indicators for preserved colors

Note: Uses localStorage for favorites persistence and modern clipboard API for copying functionality.