



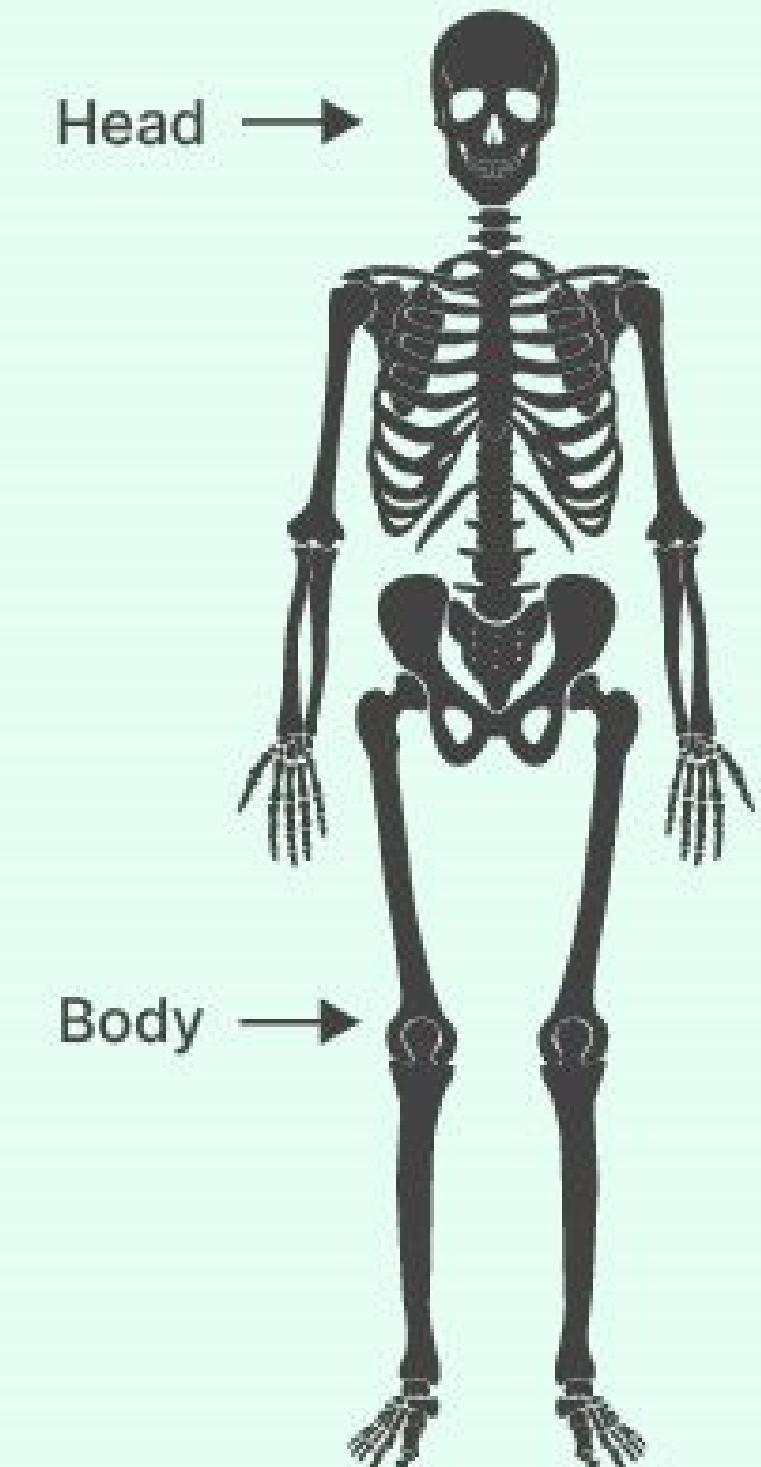
INTERNATIONAL INSTITUTE OF  
INFORMATION TECHNOLOGY  
HYDERABAD

## S25CS6.201 Introduction to Software Systems

# CSS IN MOTION: CRAFTING INTERACTIVE WEBSITES

12th March 2025

I assume you all  
understand HTML...

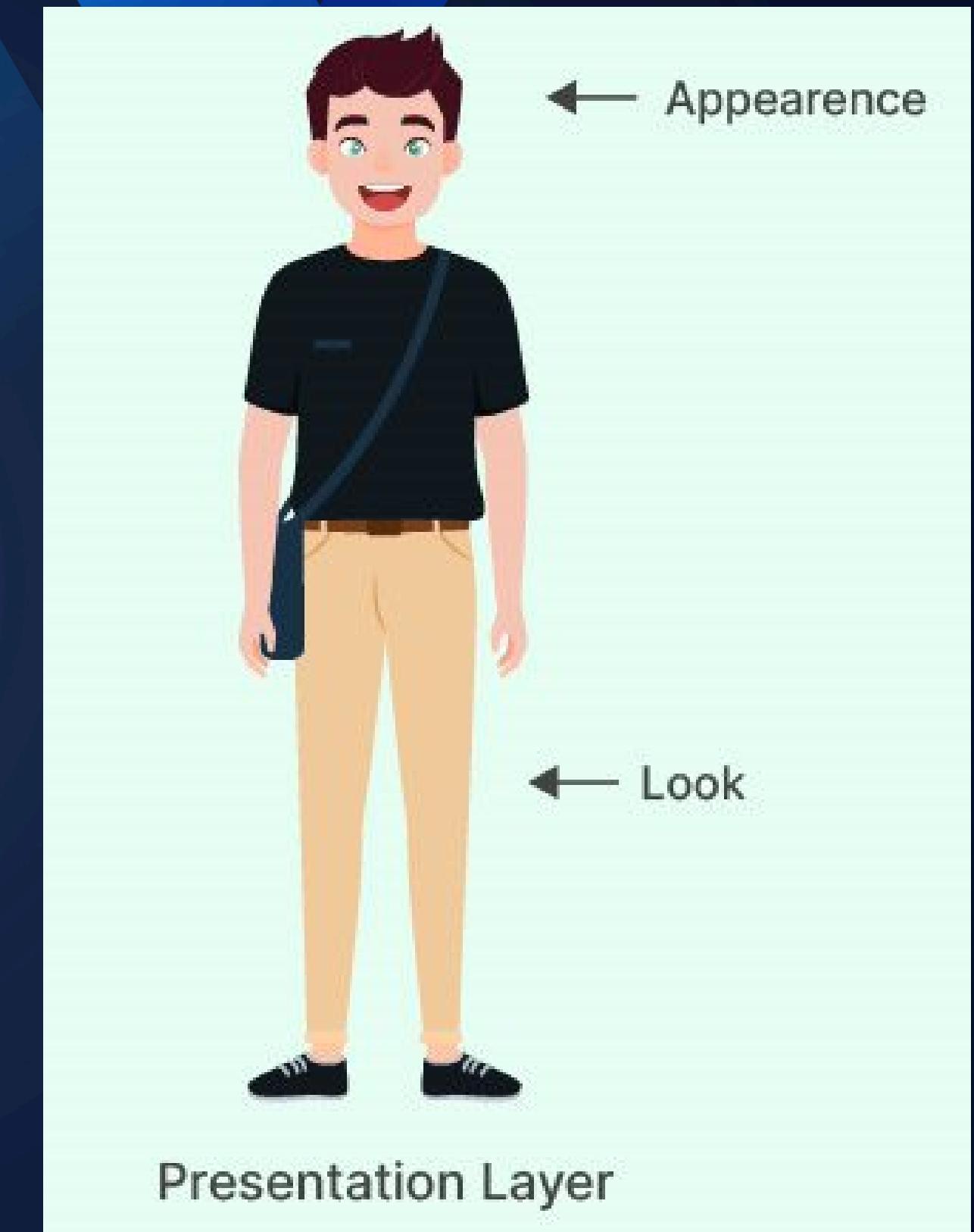


# what is CSS?

# Cascading Style Sheets

=

## Website's makeup artist!



# Styling Language for the Web

- **What?**: CSS (Cascading Style Sheets) defines how HTML elements look and are displayed.
- **Role**: Adds colors, fonts, layouts, and animations to websites.

## Separation of Content and Design

- **HTML** = Structure (e.g., headings, paragraphs).
- **CSS** = Presentation (e.g., red text, centered images).

## Controls Layout and Responsiveness

- **Arranges elements**: Use grids, flexbox, or positioning.
- **Adapts to screens**: Makes websites mobile-friendly with media queries.

## Enables Interactivity

- **Dynamic effects**: Hover animations, transitions, and click-triggered styles.
- **Pseudo-classes**: Style elements based on user actions (e.g., :hover, :focus).

**Bonus:** Works with JavaScript to create rich, interactive web experiences! 

# How to Use CSS - 3 ways to include CSS

Inline CSS - Style directly in an HTML tag.

```
<p style="color: red; font-weight: bold;">This is urgent!</p>
```

Internal CSS - Style inside `<style>` tags in the HTML `<head>`.

```
<head>
  <style>
    .highlight {
      background: yellow;
      padding: 10px;
    }
  </style>
</head>
<body>
  <div class="highlight">Important note!</div>
</body>
```

# How to Use CSS - 3 ways to include CSS

External CSS - Link a .css file to HTML.

```
.button {  
    background: #4CAF50;  
    padding: 12px;  
    border-radius: 5px;  
}
```

Create styles.css:

```
<head>  
    <link rel="stylesheet" href="styles.css">  
</head>  
  
<body>  
    <button class="button">Click Me</button>  
</body>
```

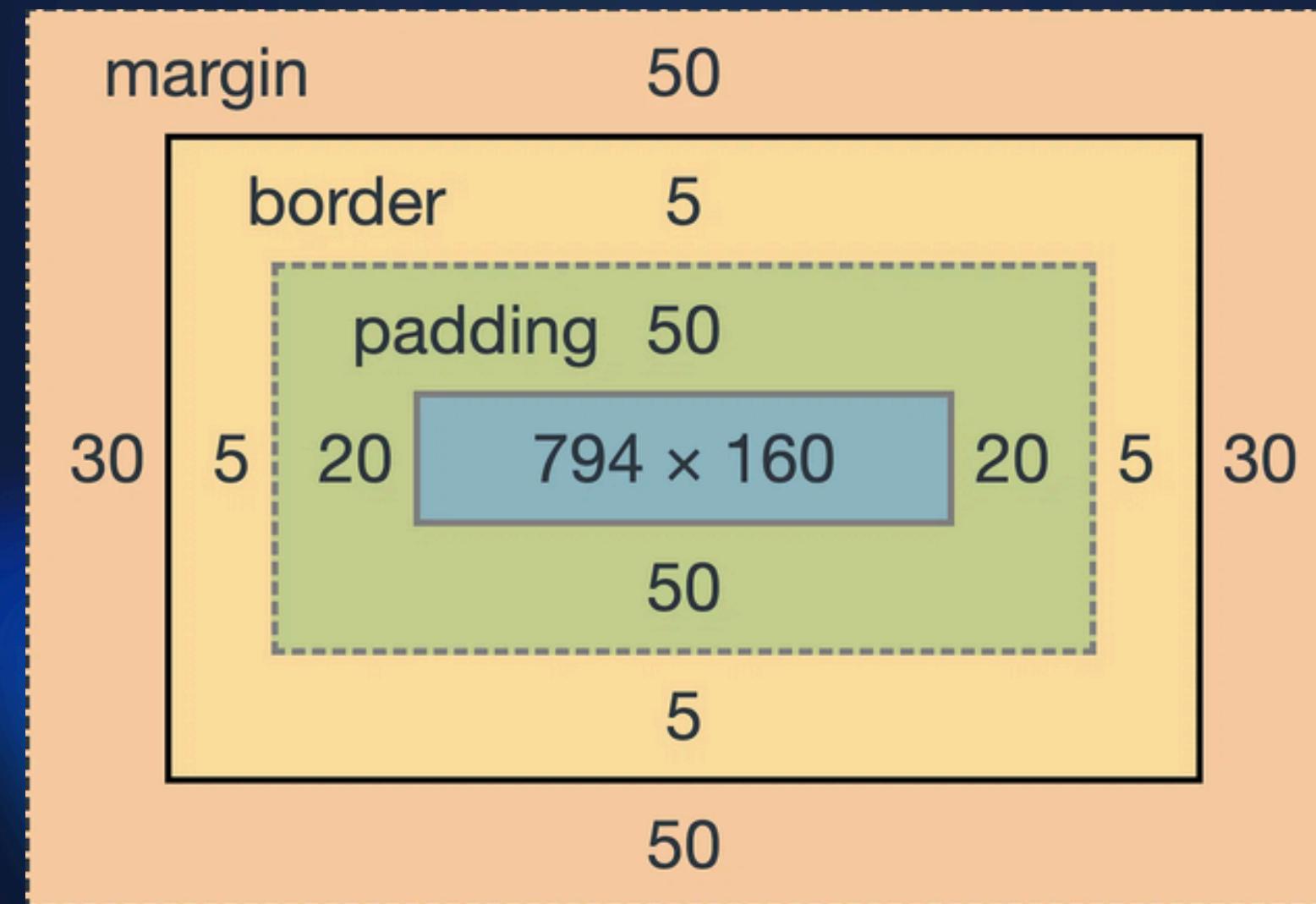
# Selectors

**Types:**

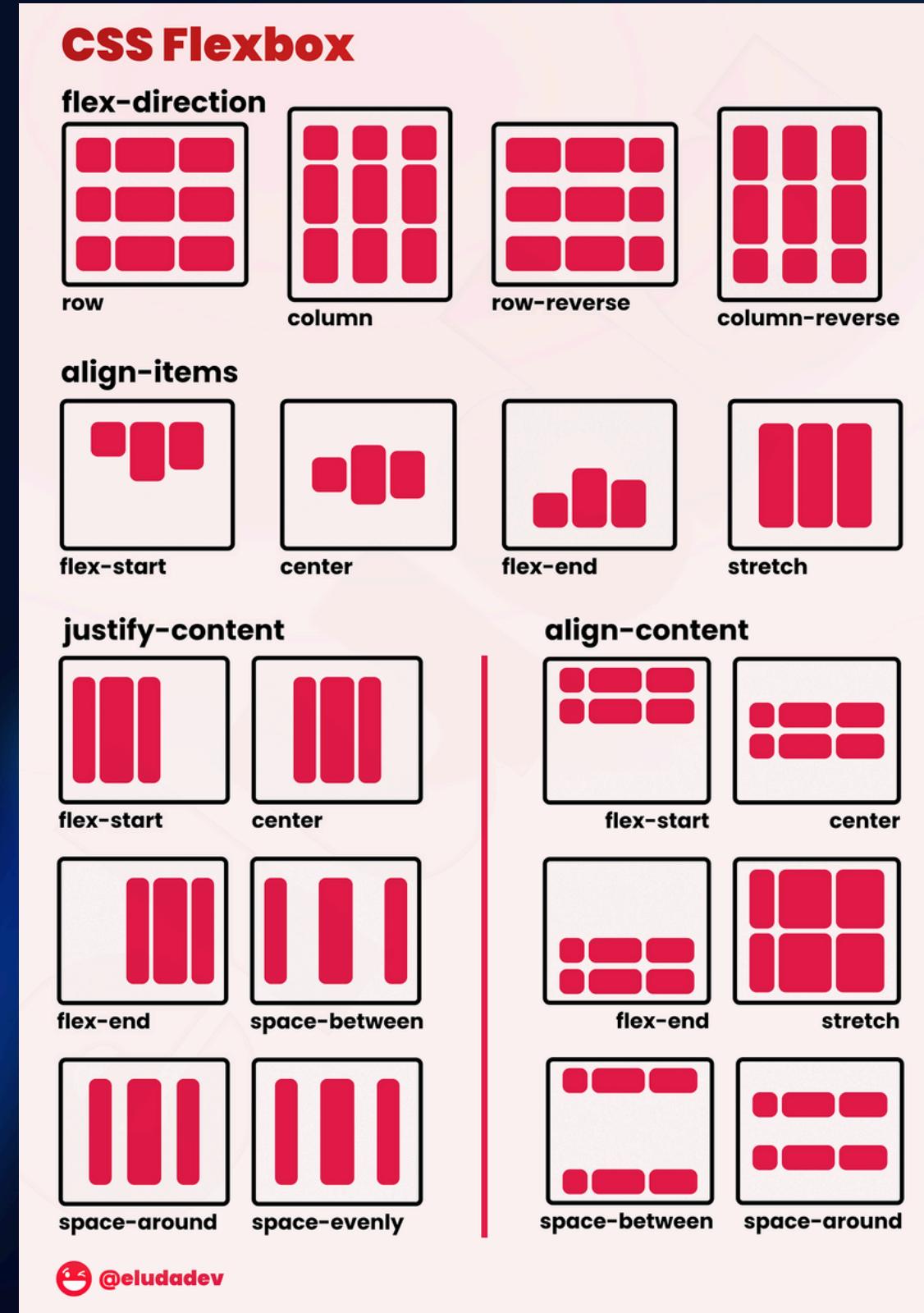
Element (p), Class (.button), ID (#header).

Use classes for reuse, IDs for uniqueness!

## The Box Model



# Some Interesting styles:



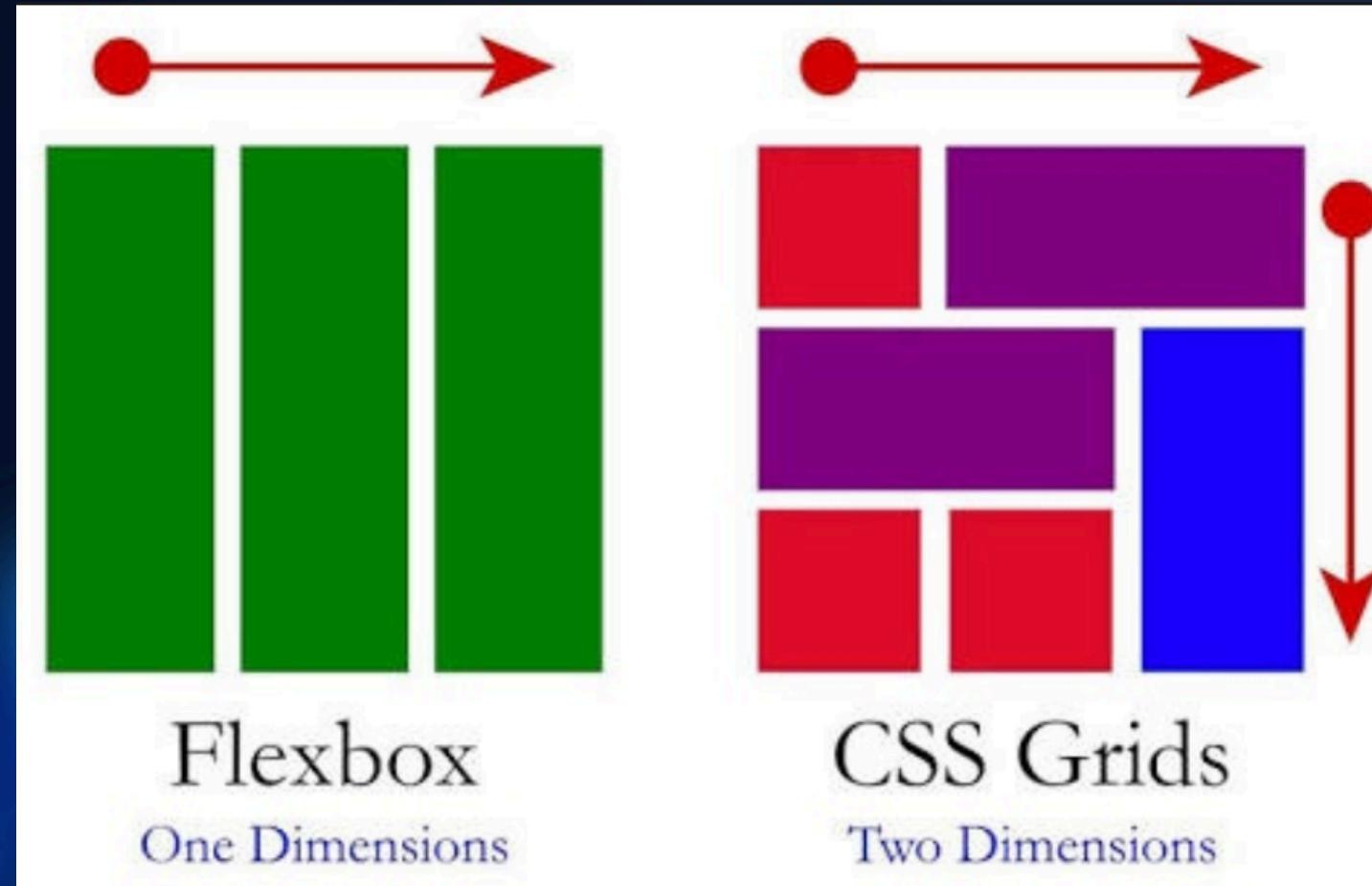
Styling Text & Colors →

```
p {  
    color: #ff69b4;  
    font-family: "Comic Sans MS";  
    text-align: center;  
}
```

<- Flexbox

```
.container { display: flex; justify-content: center; }
```

# Some Interesting styles:



## Using flex

```
.wrapper {  
    width: 500px;  
    display: flex;  
    flex-wrap: wrap;  
}
```

## Using Grid

```
.wrapper {  
    display: grid;  
    grid-template-columns: repeat(3, 1fr);  
}
```

# Introduction to Pseudo-Classes

## Style elements based on state

`:hover { color: red; }`

Styles when the user hovers over an element.

`:active { transform: scale(0.95); }`

Styles while an element is being clicked.

`:focus { border-color: blue; }`

Styles when an element is selected (e.g., input field).

`:checked { accent-color: green; }`

Styles checked checkboxes/radio buttons.

`:disabled { opacity: 0.5; }`

Styles disabled form elements.

`:first-child { font-weight: bold; }`

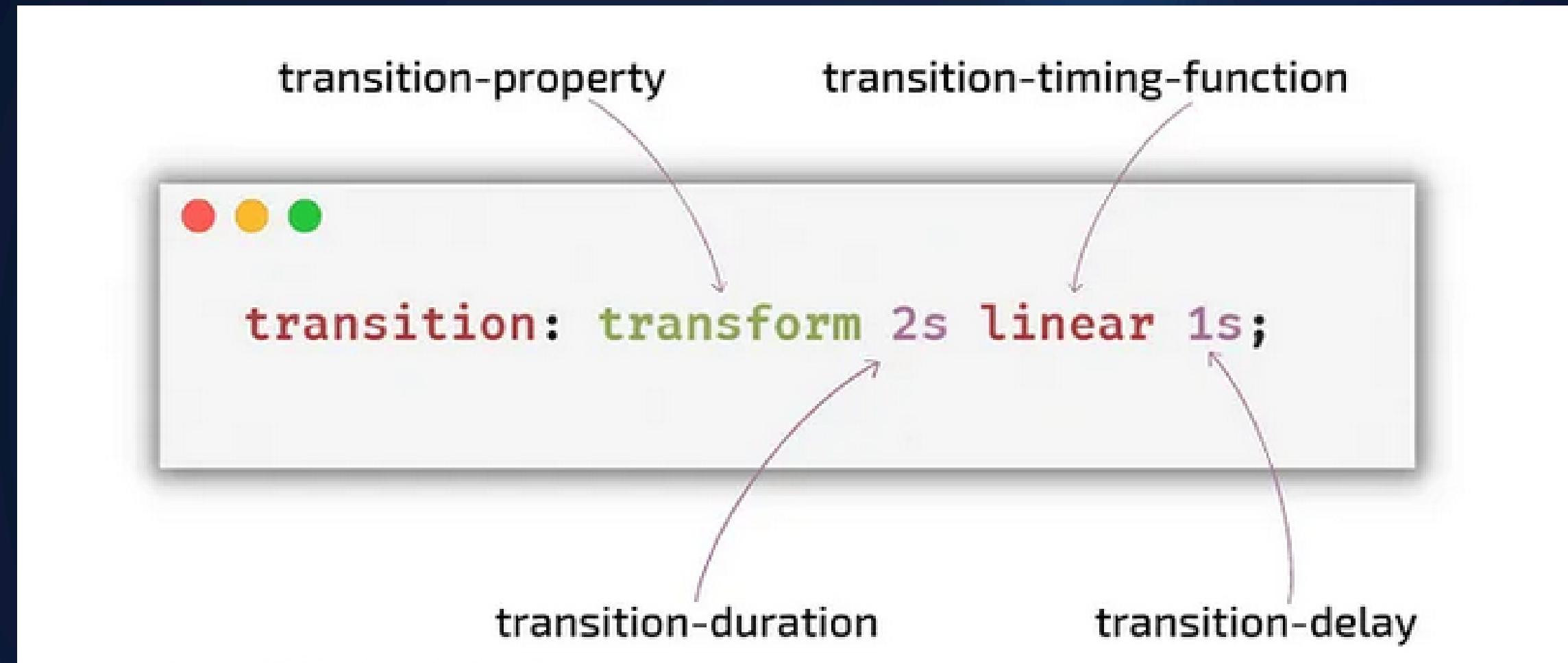
Styles the first child of a parent.

`:nth-child(odd) { background: #ff5; }`

Styles elements based on their position (e.g., odd/even).

```
.button:hover {  
    background: #4CAF50;  
}
```

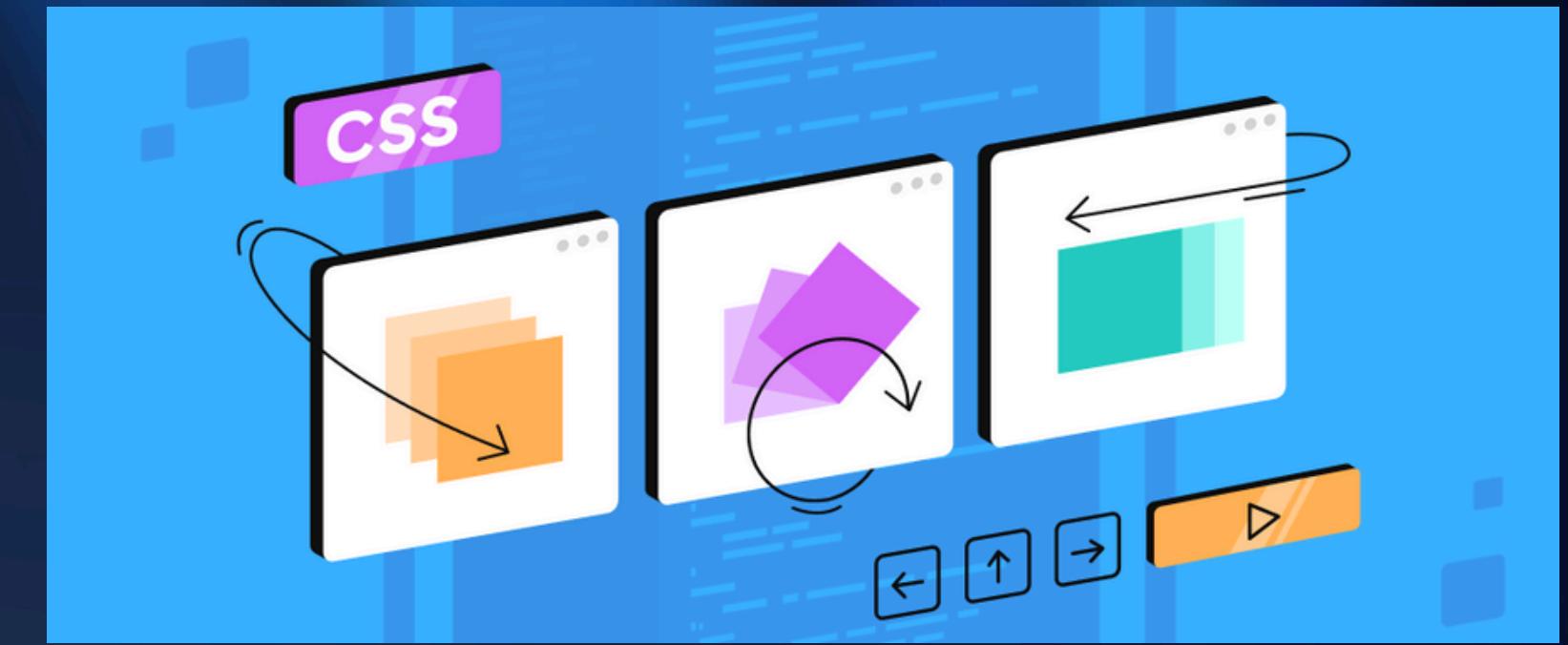
# Transitions - Smooth State Changes



```
a { transition: color 0.3s ease-in-out; }
a:hover { color: gold; }
```

# Animations with Keyframes

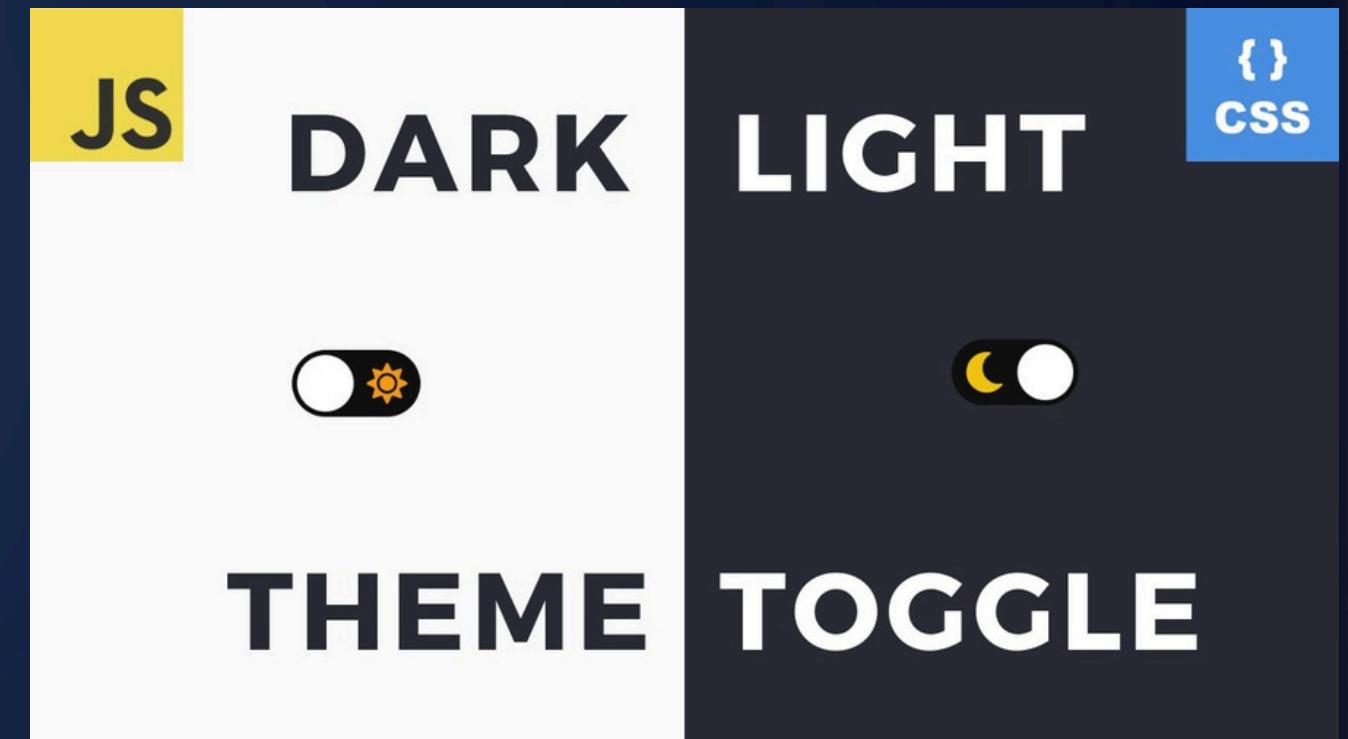
- Define @keyframes.
- Apply with animation property



```
@keyframes bounce {  
 0%, 100% { transform: translateY(0); }  
 50% { transform: translateY(-20px); }  
}  
.bounce { animation: bounce 1s infinite; }
```

# Combining CSS + JavaScript

- **Idea:** Use JS to add/remove CSS classes for interactivity.
- **Example:** Toggle a “dark mode” class on button click.



```
.dark-mode { background: #333; color: white; }
```

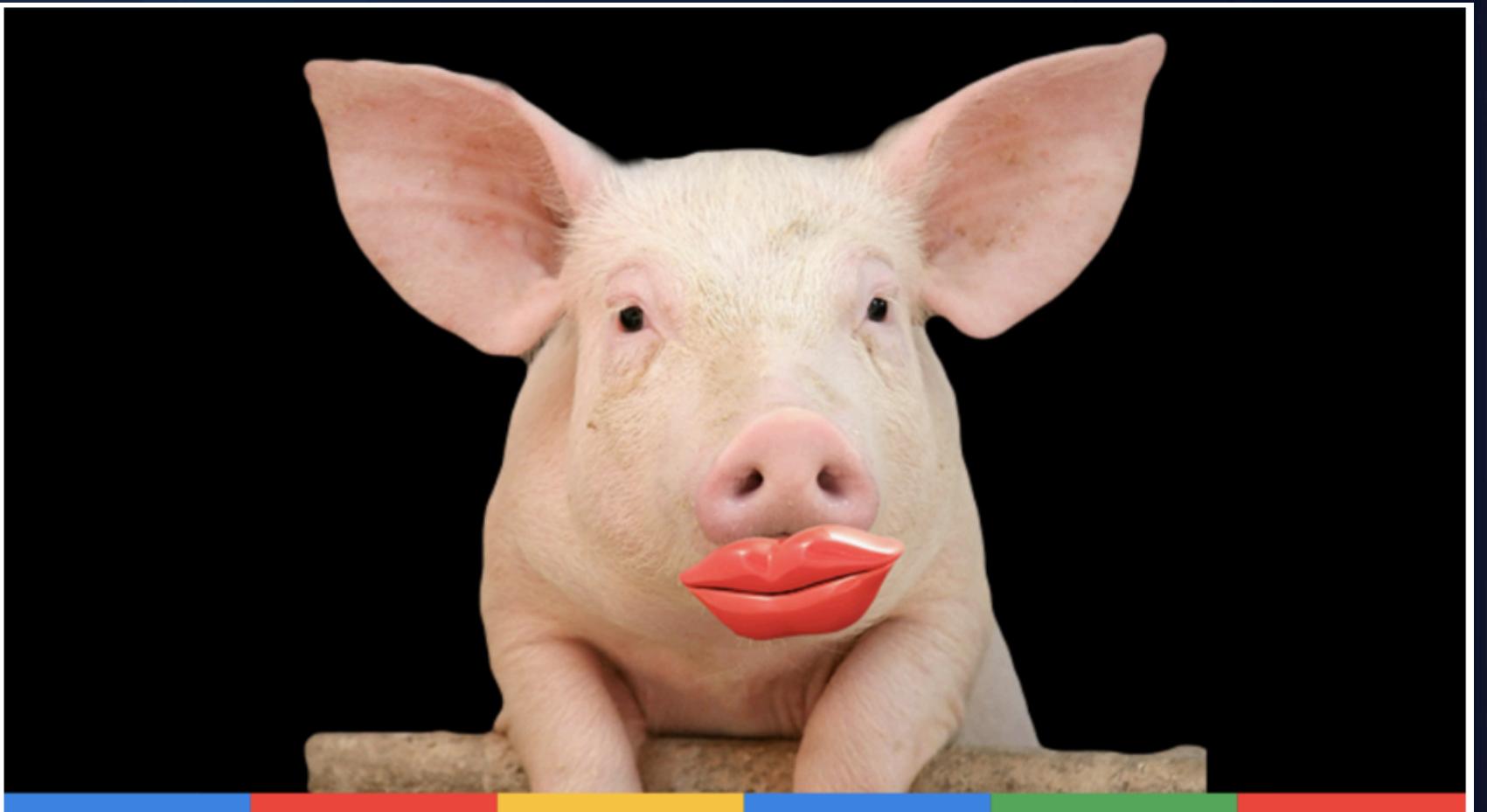
```
document.querySelector("#toggleBtn").addEventListener("click", () => {
  document.body.classList.toggle("dark-mode");
});
```

# **CSS is not about dumping all the available styles**

Make your website eye feast for the user.

Dumping styles won't make your site beautiful

Use the styles only when they are necessary, as they may increase your website loading time and also load on the website



**Time for the Lab Activity**  
**Happy Coding :)**