

# Assignment - 2

## CSS Basics

### 1. Selectors

- Element Selector: Selects elements by tag name Eg. `p {color: blue;}`
- Class Selector: Selects elements by class name Eg. `.classname {color: red;}`
- Id Selector: Selects elements by ID. Eg. `#idname {color: green;}`
- Attribute Selector: Selects elements by attribute Eg. `[type="text"] {color: black;}`

### 2. Combinators

- Descendant Selector: `div p { ... }`
- Child Selector: `div > p { ... }`
- Adjacent Sibling Selector: `h1 + p { ... }`
- General Sibling Selector: `h1 ~ p { ... }`

## CSS Properties and Styling Techniques

### 1. Color and Background

- `color`: sets the text color
- `background-color`: sets the background color
- `background-image`: sets a background image
- `opacity`: sets the transparency.

### 2. Text Styling

- `font-family`: sets the font type.
- `font-size`: sets the font size
- `font-weight`: sets the thickness of the font
- `text-align`: Aligns the text.
- `text-decoration`: Adds decoration to text

### 3. Box Model

- width and height : sets the width and height of an element.
- padding : space inside the border
- margin : space outside the border
- border : sets the border around an element.

### 4. Layout and Positioning

- display : specifies display behaviour , eg → block, inline
- position : specifies positioning method . eg → relative, absolute
- float : positions elements next to each other
- clear : Clears floated elements

### 5. flexbox

- display : flex; : enables flexbox layout.
- justify-content : Aligns items along the main axis.
- align-items : Aligns items along the cross axis.
- flex-direction : Defines the direction of flex items.

### 6. Grid

- display : grid; : Enables grid layout
- grid-template-columns : Defines columns in a grid.
- grid-template-rows : Defines rows in a grid.
- grid-gap : sets the gap between rows and columns

### 7. Responsive Design

media queries : Apply styles based on device conditions.

viewport units : Use units like vw and vh

## 8. Transitions and Animations

- transition : Smoothly transitions property changes  
eg → `transition: background-color 0.5s;`
- animation : Creates animations.

## 9. Pseudo-classes and Pseudo-elements

- Pseudo-classes: `:hover`, `:active`, `:focus`  
eg → `a:hover { color: red; }`
- Pseudo-elements: `::before`, `::after`  
eg → `p::before { content: "Note: "; }`