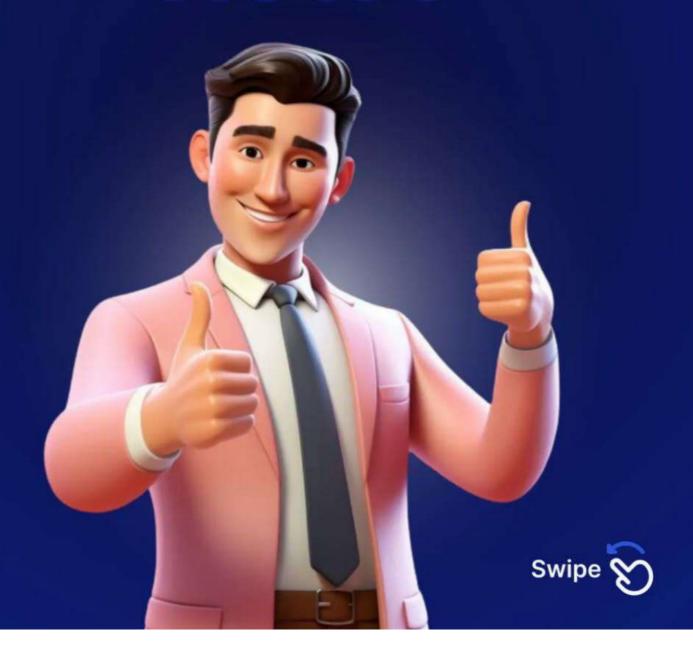# CSS
Notes

1. Introduction to CSS

What is CSS?

CSS (Cascading Style Sheets) is used to style and layout web pages.

How CSS Works

It controls the look and feel by applying styles to HTML elements.

2. Basic Syntax

CSS Rule Structure

```
selector {
    property: value;
}
```

Selector targets the HTML element.
Property and Value define the style (e.g., color: red;).

3. CSS Selectors

Basic Selectors

Target elements in various ways

```css
/* Tag selector */
p { color: blue; }

/* Class selector */
.class-name { color: green; }

/* ID selector */
#id-name { color: purple; }
```

4. Typography

Fonts and Text Styling

```css
body { font-family: Arial, sans-serif; font-size: 16px; }
p { font-weight: bold; text-align: center; color: navy; }

#id-name { color: purple; }
```

5. Colors and Backgrounds

Colors

Set text, background, and border colors.

```css
body { color: #333; background-color: #f0f0f0; }
```

Background Images

```css
body {
  background-image: url("image.jpg"); background-size: cover;
}
```

6. Box Model

Box Model Basics

Every element has a content area, padding, border, and margin

```css
div {
    width: 200px;
    padding: 10px;
    border: 1px solid black;
    margin: 20px;
}
```

7. CSS Layouts

Flexbox

Simplifies layout alignment and distribution

```css
.container {
    display: flex;
    justify-content: center; /* horizontal alignment */
    align-items: center;     /* vertical alignment */
}
```

Grid

For creating complex, two-dimensional layouts

```css
.grid-container {
  display: grid;
  grid-template-columns: 1fr 1fr 1fr; /* 3 columns */
  gap: 10px;
}
```

8. Positioning

Position Property

Controls how elements are positioned on the page.

```css
.absolute-box {
  position: absolute; top: 50px; left: 100px;
}

.fixed-header {
  position: fixed; top: 0;
}
```

9. Responsive Design
Media Queries

Make layouts responsive across devices

```css
@media (max-width: 600px) {
  body { font-size: 14px; }
}
```

10. CSS Transitions & Animations
Transitions

Smoothly change properties over time

```css
button {
  transition: background-color 0.3s;
}
button:hover { background-color: blue; }
```

Animations

Create animations with @keyframes.

```css
@keyframes slide {
  from { left: 0; }
  to { left: 100px; }
}
```

11. Advanced Selectors & Pseudo-Classes

```css
a:hover { color: red; } /* When mouse hovers over */
input:focus { border-color: green; } /* On input focus */
```