

Assignment Overview

A. Pages using Custom CSS (style.css)

- **login.html:** Uses Flexbox for centering the card and gradients for the background.
- **student_dashboard.html:** Uses CSS Grid (`display: grid`) to layout the charts side-by-side.
- **student_view.html:** Uses custom table styling with specific borders and hover effects.

B. Pages using Bootstrap 5 Framework

- **teacher_dashboard.html:** Uses the Bootstrap Grid System (`row, col-md-6`) for layout and Bootstrap Cards.
- **teacher_view.html:** Uses Bootstrap Table classes (`table-striped, table-hover`) and Badge classes.
- **mark_attendance.html:** Uses Bootstrap Form controls (`form-select, form-check`) and button groups.
- **attendance_success.html:** Uses Bootstrap containers and spacing utilities, combined with a custom CSS animation.

1. HTML5 Tags Used

- **<!DOCTYPE html>:** Defines the document as HTML5.
- **<html>:** Root element.
- **<head>:** Container for metadata, title, and links.
- **<title>:** Sets the title shown in the browser tab.
- **<link>:** Connects CSS files (custom and Bootstrap) and icon libraries.
- **<script>:** Embeds JavaScript logic and loads libraries (Chart.js, Bootstrap Bundle).
- **<style>:** Used for page-specific internal CSS (e.g., in teacher_view.html).
- **<body>:** Contains all visible content.
- **<nav>:** Semantic tag for the navigation bar.
- **<div>:** Generic container for grouping content (cards, rows, columns).
- **:** Inline container for small text or icons.
- **<i>:** Used by FontAwesome to render icons (e.g., `<i class="fas fa-user"></i>`).
- **<h2>, <h3>, <h5>:** Headings for titles and card headers.
- **<p>:** Paragraph tags for text descriptions.
- **<a>:** Anchor tags for links (navigation buttons).
- **<button>:** Clickable buttons (Login, Submit, Role Toggle).
- **<form>:** Wrapper for the login input fields.
- **<label>:** Text label for input fields.
- **<input>:** Fields for user input (Text, Password, Checkbox).
- **<select>:** Dropdown menus (Class/Subject selection).
- **<option>:** Items inside a dropdown menu.
- **<table>:** Wrapper for attendance data grids.

- **<thead>**: Table header group.
- **<tbody>**: Table body group (where rows are injected).
- **<tr>**: Table row.
- **<th>**: Table header cell (bold).
- **<td>**: Table data cell.
- **<small>**: Used for smaller text (e.g., "Date:" in Mark Attendance).
- **<canvas>**: The container where Chart.js draws the graphs.

2. Custom CSS Selectors (from style.css & Internal)

Styles written manually for the Login, Student Dashboard, and specific animations.

1. Element Selectors

Target specific HTML tags to apply global styles.

- **body**: Sets the default font (Segoe UI) and removes default browser margins.
- **table**: Defines the width and border-collapse properties for the custom student tables.

2. Class Selectors (.)

Target elements with a specific class attribute. This is the primary styling method.

- **.login-bg**: Applies the linear gradient background to the login page.
- **.login-card**: Styles the white container for the login form (padding, rounded corners, shadow).
- **.navbar-custom**: Styles the custom white navigation bar on the top.
- **.dashboard-container**: Manages the padding and maximum width of the student dashboard content.
- **.grid-charts**: Applies **CSS Grid** (`display: grid`) to position charts side-by-side responsively.
- **.badge-score**: defines the specific size and padding for the percentage badges in the reports.

3. ID Selectors (#)

Target unique elements. Primarily used here for JavaScript interactions.

- **#lineChart / #donutChart**: Targets the specific canvas elements to draw graphs.
- **#classSelector**: Used to identify the specific dropdown used for filtering class data.

- **#userMenu**: Targets the dropdown menu for the "Logout" option.

4. Descendant Selectors

Target elements nested inside other elements.

- **.input-group label**: Styles <label> tags only when they are inside an .input-group.
- **.dropdown-menu a**: Styles links only when they appear inside the dropdown menu.

5. Pseudo-Class Selectors (:)

Target elements based on their state.

- **:hover**: Defines styles when a user hovers over an element (e.g., lifting the .action-card or darkening a button).
- **:root**: Defines global CSS variables (e.g., --primary: #4e73df).

6. Animation Selectors

- **@keyframes popIn**: Defines the custom animation sequence for the success checkmark.
- **.check-icon**: The class that applies this animation to the icon element.

3. Bootstrap 5 Classes Used

Pre-defined classes used in Teacher Dashboard, Mark Attendance, and Reports.

1. Layout & Grid System

The Bootstrap grid system uses a series of containers, rows, and columns to layout and align content.

- **.container**: A responsive fixed-width container. It centers your content on the page and adds horizontal padding so content doesn't touch the edges of the screen.
- **.container-fluid**: A full-width container that spans the entire width of the viewport (screen).
- **.row**: A wrapper for columns. It creates a horizontal group of columns and ensures they align properly by removing the default padding (gutters) from the container.
- **.col-12**: A column that spans all **12 available grid spaces** (100% width). This is often used for stacking elements vertically on mobile screens.
- **.col-md-6**: A responsive column that spans **6 out of 12 grid spaces** (50% width) only on "Medium" screens (tablets/laptops) and larger. On smaller screens, it automatically stacks to full width.

- **.col-md-4:** A column that spans **4 out of 12 grid spaces** (33.3% width) on medium screens and up. Used to create a 3-column layout.
- **.g-3:** "Gutter 3". Adds a specific amount of spacing (gap) between columns in a grid so they aren't stuck together.

2. Components

Pre-built interface elements that provide immediate styling and functionality.

- **.navbar:** The parent wrapper for the navigation bar component.
- **.navbar-light:** Applies a light-themed color scheme to the navbar (dark text for contrast).
- **.fixed-top:** CSS utility that fixes the navbar to the top of the viewport, so it stays visible even when scrolling down the page.
- **.card:** A flexible and extensible content container with a border, background, and rounded corners. It is the primary building block for the dashboard widgets.
- **.card-header:** A shaded area at the top of a card, used here to display chart titles like "Attendance Trends".
- **.card-body:** The main content area of a card where the text, forms, or charts reside.
- **.btn:** The base class for buttons, setting properties like font-size, padding, and removing default borders.
- **.btn-primary:** Adds the specific "Primary Blue" background color and white text to a button.
- **.btn-success:** Adds the "Success Green" background color (indicating a positive action).
- **.table:** Adds basic styling (padding and horizontal dividers) to an HTML table.
- **.table-striped:** Adds zebra-striping (alternating background colors) to table rows for better readability.
- **.table-hover:** Adds a hover effect (darkens the background) to table rows when the mouse moves over them.
- **.form-select:** Styles <select> dropdowns with custom borders, padding, and a dropdown arrow icon.
- **.form-control:** Styles textual <input> fields (like text or password) to span 100% width and look modern.
- **.badge:** A small labeling component used to highlight the percentage scores.
- **.rounded-pill:** A utility class that makes the corners of the .badge fully rounded (like a pill shape).

3. Utility Classes

Single-purpose helper classes to adjust spacing, colors, and alignment without writing custom CSS.

Spacing (Margin & Padding)

- **m** = Margin (space *outside* an element), **p** = Padding (space *inside* an element).
- **t** = Top, **b** = Bottom, **s** = Start (Left), **e** = End (Right), **x** = X-axis (Left & Right), **y** = Y-axis (Top & Bottom).
- **mt-3**: Adds "Spacer level 3" (approx 1rem) margin to the **Top**.
- **mb-4**: Adds "Spacer level 4" margin to the **Bottom**.
- **p-4**: Adds padding level 4 to all sides of the element.
- **px-4**: Adds padding level 4 to the **Left and Right** only.

Flexbox Alignment

- **.d-flex**: Activates the Flexbox layout model on a container.
- **.justify-content-between**: Distributes items evenly, with the first item at the start and the last item at the end (used in the Navbar).
- **.align-items-center**: Aligns items vertically in the center of the container (prevents items from stretching).

Visuals & Typography

- **.shadow**: Adds a large box-shadow to elements (giving a "lifted" 3D effect).
- **.shadow-sm**: Adds a subtle, smaller shadow.
- **.border-0**: Removes the default border from an element (used on Cards to make them look cleaner).
- **.bg-white**: Sets the background color to white.
- **.bg-light**: Sets the background color to a very light grey.
- **.text-white**: Sets the text color to white.
- **.text-secondary**: Sets the text color to a muted grey.
- **.text-center**: Aligns text to the center.
- **.fw-bold**: Sets the font-weight to bold (700).
- **.w-100**: Forces an element to take up 100% of the available width.