**Lab Exercise 0- Demonstrating WCAG 2.1 Conformance Levels (A, AA, AAA)**

**Objective**

To create and evaluate three simple HTML pages, each compliant with one WCAG conformance level—A, AA, and AAA—to understand accessibility standards and their practical implications.

**Setup**

**Tools Required:**

* Text editor (VS Code, Sublime, etc.)
* Browser with accessibility extensions (like Axe, WAVE, Lighthouse)
* Color contrast checker (e.g., WebAIM)
* Screen reader (e.g., NVDA or VoiceOver)

**Part 1: Level A Compliance – Minimum Requirements**

**Goal:**

Meet the **25 baseline success criteria** focusing on basic content accessibility and keyboard access.

**Steps:**

Create a simple HTML page with:

* Proper use of semantic elements (<header>, <main>, <nav>, <footer>)
* All images include alt text
* Video has text transcript
* Interactive content is accessible via keyboard
* Document language is set (<html lang="en">)
* Clear focus order

**Sample Snippet:**

<html lang="en">

<head><title>Level A Example</title></head>

<body>

<header><h1>Welcome</h1></header>

<img src="logo.png" alt="Company Logo">

<a href="#main" tabindex="1">Skip to Content</a>

<main id="main">

<p>Use the tab key to navigate links and buttons.</p>

<button onclick="alert('Clicked!')">Click Me</button>

</main>

</body>

</html>

**Test For:**

* Alt text presence (1.1.1)
* Keyboard navigation (2.1.1)
* Language set (3.1.1)
* Focus order (2.4.3)

**Part 2: Level AA Compliance – Solving Major Barriers**

**Goal:**

Enhance the above with **13 additional AA criteria** to address most accessibility challenges.

**Steps:**

Extend the same page by:

* Providing **captions for videos** (1.2.4)
* Ensuring **text contrast ratio is ≥ 4.5:1** (1.4.3)
* Implementing **text resizable to 200%** (1.4.4)
* Avoiding **images of text** (1.4.5)
* Ensuring **visible focus indicators** (2.4.7)
* Using **clear headings and labels** (2.4.6)

**Sample Snippet:**

<style>

body { color: #000; background-color: #fff; font-size: 1em; }

a:focus, button:focus { outline: 2px solid blue; }

</style>

<video controls>

<source src="intro.mp4" type="video/mp4">

<track src="intro-captions.vtt" kind="captions" srclang="en" label="English">

</video>

**Test For:**

* Contrast ratio (WebAIM checker)
* Resizable text (Zoom to 200%)
* Captions (1.2.4)
* Focus visibility (2.4.7)

**Part 3: Level AAA Compliance – Highest Standard**

**Goal:**

Achieve **23 additional AAA criteria** for maximum inclusivity, especially for cognitive and sensory disabilities.

**Steps:**

Further enhance the page:

* Provide **sign language** for videos (1.2.6)
* Offer **definitions or glossaries** for complex words (3.1.3)
* Ensure **reading level** is suitable (3.1.5)
* Allow **adjustment of background and text color** (1.4.8)
* Ensure **sections have proper headings** (2.4.10)
* Provide **detailed error messages and help** (3.3.5, 3.3.6)

**Sample Snippet:**

<section>

<h2>About Our Services</h2>

<p>Our team provides <abbr title="User Experience">UX</abbr> support for better design outcomes.</p>

</section>

<form>

<label for="email">Email</label>

<input id="email" type="email" required>

<span aria-live="polite">Please enter a valid email format.</span>

</form>

**Test For:**

* Help and suggestions for form errors (3.3.5, 3.3.6)
* Use of definitions (3.1.3)
* Enhanced contrast (7:1 for AAA)

**Compare and Reflect**

| **Feature** | **Level A** | **Level AA** | **Level AAA** |
| --- | --- | --- | --- |
| Image alt text | ✔ | ✔ | ✔ |
| Captions for video | ✘ | ✔ | ✔ |
| Sign language for video | ✘ | ✘ | ✔ |
| 4.5:1 text contrast | ✘ | ✔ | ✔ |
| 7:1 enhanced contrast | ✘ | ✘ | ✔ |
| Reading level requirement | ✘ | ✘ | ✔ |
| Focus visibility | ✘ | ✔ | ✔ |
| Error suggestions in forms | ✘ | ✔ | ✔ |

**Learning Outcomes**

* Distinguish between the levels of WCAG conformance
* Understand practical implementation of guidelines