WAVE Report of Accessibility

10 Errors:
- 1 missing alt text
- 3 linked images missing alt text
- 5 missing form label
- 1 language missing or invalid

3 Contrast Errors in the Links section (Accessibility Research at CMU, Disability Services at CMU, Hampster Dance)

5 Alerts:
- 1 No heading structure
- 1 No page regions
- 1 broken same-page link
- 1 Very small text
- 1 HTML5 video or audio

4 Features: Missing alt text

2 ARIA:
- 2 ARIA tab index

Description:

The WAVE tool identified several accessibility issues,
including 10 errors such as missing alt text for images, linked images, and form labels, as well as an invalid or missing language
attribute. Additionally, it found 3 contrast errors affecting the visibility of links. The report also highlighted 5 alerts, including
the absence of a heading structure, page regions, and a broken same-page link, as well as very small text and the use of an HTML5 video or audio element.
There were 4 missing alt text features and 2 ARIA tab index issues.

--------------------LAB NOTEBOOK --------------------

Web structure issues I fixed:
Lab notebook:
Based on the WAVE report, I fixed the following issues:

1 missing alt text for the image of the graph representing employment percentages between disabled and non-disabled Americans.

   Problem: The image lacked descriptive alt text, making it inaccessible to screen readers, which meant that users with visual impairments could not understand the image's content.
   Severity: High. This type of issue prevents users from accessing critical information conveyed in the image.
   Fix: I added a meaningful alt text description to the image to ensure accessibility:
   html

   <img width="50px" height="50px" src="pics/play.png" alt="Graph representing employment percentages between disabled and non-disabled Americans.">

3 linked images missing alt text

Problem: Three linked images used as navigation buttons were missing alt text, making them inaccessible for screen readers and preventing visually impaired users from navigating the site effectively.
Severity: High. This affects navigation, one of the most critical features for accessibility.
Fix: I added descriptive alt text for each of the images:
html

```
<a href="#home"><img src="pics/home.png" alt="home button"></a>
<a href="#links"><img src="pics/links.png" alt="additional links button"></a>
<a href="#signup"><img src="pics/signup.png" alt="button that leads to sign-up page"></a>
```

5 missing form labels

Problem: Form fields lacked labels, making it difficult for users with screen readers to know what information to input. Missing labels can cause confusion and prevent users from completing forms accurately.
Severity: High. Missing form labels create significant barriers to completing tasks for users with disabilities.
Fix: I added appropriate labels to the form fields to provide clarity:
html

```
<label for="fn">First Name:</label>
<input name="fn" type="text" size="10" id="fn">
<label for="mi">Middle Initial:</label>
<input name="mi" type="text" size="1" id="mi">
<label for="ln">Last Name:</label>
<input name="ln" type="text" size="10" id="ln"><br>
<label for="em">Email:</label>
<label for="spamyn">
<img src="pics/checked.png" alt="checkbox" tabindex="0">
</label>
<label for="comments">Comments:</label><br>
<textarea id="comments" name="comments" rows="5" cols="40"></textarea>
```

1 language missing or invalid within the HTML structure

Problem: The HTML document did not have a language attribute, making it harder for screen readers to correctly interpret the text's language, especially for multilingual users.
Severity: Medium. The lack of a language attribute impacts screen reader users and global accessibility standards.
Fix: I added the appropriate language attribute to the HTML tag:
html

```
<html lang="en">
```

3 Contrast Errors in the Links section (Accessibility Research at CMU, Disability Services at CMU, Hampster Dance)

Problem: The text links had poor contrast, making them difficult to read for users with low vision or color blindness.
Severity: High. Contrast issues are common accessibility problems that significantly reduce readability for users with visual impairments.
Fix: I adjusted the contrast in the CSS stylesheet by changing the text color to black and bolding the links for better visibility:

css

```css
a {
    text-decoration: none;
    font-weight: bold;
    color: black;
}
```

1 Very small text

Problem: Text in the .offscreen class was too small, rendering it unreadable for all users, especially those with visual impairments.
Severity: Medium. Small text is a common barrier to accessibility and impacts the user experience.
Fix: I increased the font size from 1px to 20px in the CSS file to make the text legible:
css

```css
.offscreen {
    top: -1000px;
    font-size: 20px;
}
```

1 HTML5 video or audio without captions

Problem: The HTML5 video lacked captions, making it inaccessible to users with hearing impairments.
Severity: High. Multimedia content without captions significantly hinders accessibility for deaf or hard-of-hearing users.
Fix: I added a caption track to the video element to provide subtitles:
html

```html
<video width="480" height="360" controls>
<source src="employment-movie.mp4" type="video/mp4">
<track src="subtitles_en.vtt" kind="subtitles" srclang="en" label="English">
Your browser does not support the video tag.
</video>
```

High contrast banner image

Problem: The banner image had too much contrast, making the text overlay difficult to read.
Severity: Medium. Poor contrast in images can strain users' eyes and make reading text harder.
Fix: I applied a CSS filter to improve the readability of the banner text:

```css
filter: contrast(100%) brightness(80%) saturate(80%);
```

Missing heading structure

Problem: The page lacked a clear heading structure, making it difficult for screen readers to navigate the content effectively.
Severity: High. A clear heading hierarchy is essential for navigation and accessibility.
Fix: I added headings using <h1> and <h2> tags to define the page's structure:

```html
<h1>Main Title</h1>
<h2>Video Overview</h2>
<h2>Links</h2>
<h2>Sign Up!</h2>
```

-------------------LAB NOTEBOOK --------------------

Web structure issues I fixed:

Based on the WAVE report I fixed the following issues:

  * 1 missing alt text for the image of the graph representing employment percentages
    between disabled and non-disabled Amereicans.

    I fixed it by editing the code:
    <img width="50px" height="50px" src="pics/play.png" alt = "Graph representing employment
percentages between disable and non-disabled Americans.">

  * 3 linked images missing alt text

    I fixed it by adding alt text to each menu image:
    <img src="pics/home.png" alt="home button"><img
src="pics/links.png" alt="additional links button"> <img src="pics/signup.png"
alt="button that leads to sign up page">

  * 5 missing form label - Sign up form is missing label for the form fields

    I fixed this ny editing the following code:

    <label for="fn">First Name:</label>
    <input name="fn" type="text" size="10" id="fn">
    <label for="mi">Middle Initial:</label>
    <input name="mi" type="text" size="1" id="mi">.
    <label for="ln">Last Name:</label>
    <input name="ln" type="text" size="10" id="ln">
    <label for="em">Email:</label>
        <label for="spamyn">
        <img src="pics/checked.png" alt="checkbox" tabindex="0">
        </label>
    <label for="comments">Comments:</label>
    <textarea id="comments" name="comments" rows="5" cols="40"></textarea>

  * 1 language missing or invalid within the HTML structure.

    I fixed by adding the following line of code:
    <html lang="en">

  * 3 Contrast Errors in the Links section (Accessibility Research at CMU, Disability Services at CMU,
Hampster Dance)

    I fixed this by editing the CSS style sheet to chnage the text color from gray to black adn also bolden
the text:
    a {
        text-decoration: none;
        font-weight: bold;

```
      color: black;
  }
```

 * 1 Very small text

   I fixed it by editing the .offscreen class in the CSS file:
   .offscreen {
      top: -1000px;
      font-size: 20px;
   }
   and increasing the font size from 1px to 20px

 * 1 HTML5 video or audio

  This message represents a section of code that identifies a videa and flags for a transcript or closed captioning.
  In this code we see there is no CC:

```
      <video width="480" height="360" id="thevideo">
      <source src="employment-movie.mp4" type="video/mp4">
      </video>
```

  I fixed it by:

```
 <video width="480" height="360" controls>
   <source src="employment-movie.mp4" type="video/mp4">
   <track src="subtitles_en.vtt" kind="subtitles" srclang="en" label="English">
   Your browser does not support the video tag.
</video>
```

 * high contrast banner image:

   The contrast in the image was making it hard to read so I added a custom filter
   to make it easier to see.

   filter: contrast(100%) brightness(80%) saturate(80%);

 * Missing headind structure

   How I fixed it:
   Added <h1> for the main title, and <h2> for sections like "Video Overview", "Links", and "Sign Up!".
This provides a clear hierarchy and structure.