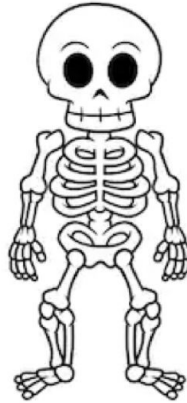# Introduction to Accessible Web

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What is used to build the Web?

HTML is the skeleton

CSS describes the appearance

Javascript describes the behavior

HTML

HTML + CSS

HTML+CSS+JavaScript

HTML / CSS

Element/Tag

Attribute

Styles

```
<img src="image.jpg" width="500" height="600">

<h1>I am a heading</h1>
```

```
img {
  width: 500px;
  height: 600px;
}
```

Color Contrast

Choosing a good color contrast helps ensure legibility.

Good Contrast:

| Food & Drink | Kitchen & Lifestyle | Best Sellers |

Ratio: 14.9:1

Bad Contrast:

| Food & Drink | Kitchen & Lifestyle | Best Sellers |

Ratio: 1.4:1

There are many tools that will calculate the contrast ratio for you, one of them is:
https://webaim.org/resources/contrastchecker/

https://www.w3.org/WAI/WCAG21/Understanding/contrast-minimum.html

Focus Indicator

Food & Drink   Kitchen & Lifestyle   Kitchen & Lifestyle   Best Sellers

Focus Indicator

- Keyboard navigation is usually done via the Tab key

- The focus indicator helps one orient where they are in the page.

Food & Drink   Kitchen & Lifestyle   Kitchen & Lifestyle   Best Sellers

Focus Indicator

- Focus indicators should always be available

- Default focus styling can changed using CSS via the :focus pseudo-selector

```css
a {
  color: #007bff;
  outline: 0;
}

a:focus {
  color: #dc3545
}
```

Food & Drink   Kitchen & Lifestyle   Kitchen & Lifestyle   Best Sellers

Image Alt Text

- We must include image descriptions

- Used by assistive technologies to describe the image.


```
<img src='smoothie.jpg' />
```

Announced as: Unlabelled image

```
<img
  src='smoothie.jpg'
  alt='banana smoothie in a cup with sliced bananas as garnish'
/>
```

Announced as: banana smoothie in a cup with sliced bananas as garnish, image

https://www.w3.org/TR/UNDERSTANDING-WCAG20/text-equiv-all.html

NO IMAGE
AVAILABLE

NO IMAGE
AVAILABLE

NO IMAGE
AVAILABLE

Add to Cart

Add to Cart

Add to Cart

Menu

Shop

Cart

Heading

Banana and oat smoothie

Heading

HTML headings provide valuable information of important topics and the structure of the document.

Banana and oat smoothie

- Screen readers use headlines to navigate content.

- Users can jump from one headline to another to locate content faster

Heading

Banana and oat smoothie

`<div>Banana and oat smoothie</div>`

Announced as:
Learning web accessibility

`<h1>Banana and oat smoothie</h1>`

Announced as:
Heading level 1, Learning web accessibility

Semantic Elements

- HTML elements designed with a specific purpose or intent.
- Semantic elements provides accessibility for free
- Links/Buttons have additional keyboard shortcuts

```html
<h1>Level 1</h1>
<h2>Level 2</h2>
<h3>Level 3</h3>
<h4>Level 4</h4>
<h5>Level 5</h5>
<h6>Level 6</h6>

<button>Click Me!</button>
```

```html
<button>Click Me!</button>

<input type="text" name="email" />

<a href="https://www.weightwatchers.com">Visit WW</a>
```

https://developer.mozilla.org/en-US/docs/Web/HTML/Element

Semantic Elements

Announced as:
See recipe

Announced as:
link, See recipe

Semantic Elements

```
<div onclick="window.location.href='/recipe/banana-pancakes'">See Recipe</div>
```

Announced as:
See recipe

```
<a href="/recipe/banana-pancakes">See Recipe</a>
```

Announced as:
link, See recipe

Semantic Elements

```
<div>Ingredients</div>
<div>
  <div>2 bananas</div>
  <div>1 cup of milk</div>
  <div>half a cup of oats</div>
</div>
```

Announced as:
Ingredients
2 bananas
1 cup of milk
half a cup of oats

```
<h1 id='recipe-ingredients'>Ingredients</h1>
<ul aria-labelledby="recipe-ingredients">
  <li>2 bananas</li>
  <li>1 cup of milk</li>
  <li>half a cup of oats</li>
</ul>
```

Announced as:
Heading level 1, Ingredients
list, Ingredients, 3 items
2 bananas, 1 of 3
1 cup of milk, 2 of 3
Half a cup of oats, 3 of 3
end of list

https://developer.mozilla.org/en-US/docs/Web/HTML/Element

Input and Labels
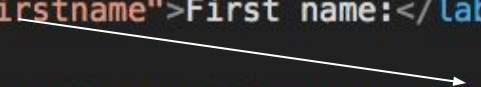
First name:

Input and Labels

First name:

- All inputs need to have a label associated with it.
- Screen reader will read of the label when user lands on the input.

```
First name:
<br />
<input type="text" name="firstname">
```

Announced as:
edit text, blank

```
<label for="firstname">First name:</label>
<br />
<input type="text" name="firstname" id="firstname">
```

Announced as:
First name:, edit text

Hidden Context

Assistive technology may navigate by links on the page.

Ensure links on the page have unique labels

```
<style>
  .visually-hidden {
    border: 0;
    clip: rect(0 0 0 0);
    height: 1px;
    margin: -1px;
    overflow: hidden;
    padding: 0;
    position: absolute;
    width: 1px;
  }
</style>

<span class='visually-hidden'>I am only detected by the screen reader</span>
```

NEW: Cookbooks

Embrace a Mediterranean lifestyle with 100-plus recipes and helpful tips.

Shop now

Prep your kitchen

Make your fave foods from home with our essential tools.

Shop now

Hidden Context


```
<h2>Cookbooks</h2>
<a href='/shop/cookbooks'>Shop Now</a>

<h2>Kitchen Tools</h2>
<a href='/shop/kitchen'>Shop Now</a>
```

Announced as:
link, Shop Now
link, Shop Now

```
<h2>Cookbooks</h2>
<a href='/shop/cookbooks'>
  Shop Now
  <span class='visually-hidden'>Cookbooks</span>
</a>

<h2>Kitchen Tools</h2>
<a href='/shop/kitchen'>
  Shop Now
  <span class='visually-hidden'>Kitchen Tools</span>
</a>
```

Announced as:
link, Shop Now Cookbooks
link, Shop Now Kitchen Tools

Demo Time

Built a recipe webpage using the examples we saw:

1. Minimal accessibility
2. Accessibility in mind

We'll navigate each website with a screen reader and see the differences.

Demo - Subpar

55

Accessibility

These checks highlight opportunities to improve the accessibility of your web app. Only a subset of accessibility issues can be automatically detected so manual testing is also encouraged.

Navigation — These are opportunities to improve keyboard navigation in your application.

⚠ The page does not contain a heading, skip link, or landmark region ⌄

Contrast — These are opportunities to improve the legibility of your content.

⚠ Background and foreground colors do not have a sufficient contrast ratio. ⌄

Names and labels — These are opportunities to improve the semantics of the controls in your application. This may enhance the experience for users of assistive technology, like a screen reader.

⚠ Image elements do not have [alt] attributes ⌄

⚠ Form elements do not have associated labels ⌄

Demo - Better

100

Accessibility

These checks highlight opportunities to improve the accessibility of your web app. Only a subset of accessibility issues can be automatically detected so manual testing is also encouraged.

Additional items to manually check (10) — These items address areas which an automated testing tool cannot cover. Learn more in our guide on conducting an accessibility review.

Passed audits (17)

Not applicable (27)

Questions?

https://github.com/aoxrud-ww/girls-who-code