

# HTML

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HTML  
=  
SEMANTIC  
=  
ACCESSIBILITY



# Web Stack

**HTML**



HTML

**CSS**



CSS

**JS**



JavaScript



# Full Web Stack

**HTML**



HTML

**CSS**



CSS

**JS**



JavaScript



ARIA



SEMANTIC HTML IS  
ALREADY ACCESSIBLE!



# Overview



**Document Structure and Landmarks**

**Lists**

**Navigation and Skip Links**

**Tables**

**Forms, Focus, and Color Contrast**



# Document Structure and Landmarks

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# Document Structure

## **Page Structure**

**Machine Readable Code**

**Landmarks**

## **Content Structure**

**Human Readable Code**

**Headings**





# Summary



`<!doctype>`, language, and encoding

Text resizing via viewport and relative units (*em* or *rem*)

Unique Page `<title>`

Landmarks

Headings `<h1>` - `<h6>`



# Lists

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# Lists

Ordered List

```
<ol />
```

Unordered List

```
<ul />
```

Description List

```
<dl />
```





Why bother?





Improved Semantics





Screen readers

Same experience

Discoverable Lists

Type of List

Total Items in List

Item Number (ex, “Item 3 of 5”)



## 1.3.1 – Info and Relationships

Information, structure, and relationships conveyed through presentation can be programmatically determined or are available in text.



# Level A 1.3.1 – Info and Relationships

**Logical structure**

**Visual cues, via CSS, must be conveyed non-visually via semantics**





# Summary



**Ordered List**

**Unordered List**

**Description List**

**Level A 1.3.1 – Info and Relationships**



# Navigation and Skip Links

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# Overview



**Consistent navigation**

**Multiple ways to find pages/ content**

**Meaningful link content**

**Consistent overall interface**

**Skip Links**



## Level AA 1.4.4 – Resize Text

Except for captions and images of text, text can be resized without assistive technology up to 200 percent without loss of content or functionality.



## Level AA 1.4.5 – Images of Text

If the technologies being used can achieve the visual presentation, text is used to convey information rather than images of text.



## Level AA 3.2.3 – Consistent Navigation

Navigational mechanisms that are repeated on multiple Web pages within a set of Web pages occur in the same relative order each time they are repeated, unless a change is initiated by the user.



## Level AA 2.4.5 – Multiple Ways

More than one way is available to locate a Web page within a set of Web pages except where the Web Page is the result of, or a step in, a process.



## Level AA 3.2.4 – Consistent Identification

Components that have the same functionality within a set of Web pages are identified consistently.





Buttons/ Icons should be labelled the same for similar functionality. Don't switch things up!



## Level A 2.4.4 – Link Purpose

The purpose of each link can be determined from the link text alone or from the link text together with its programmatically determined link context, except where the purpose of the link would be ambiguous to users in general.

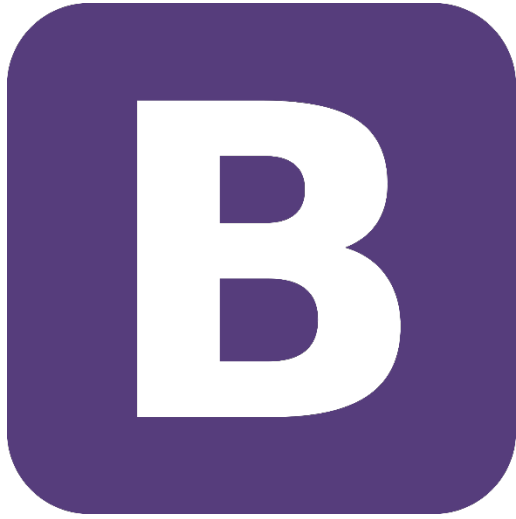




Read More?



# Visually Hidden Text - Frameworks



`sr-only`



`show-for-sr`



# Visually Hidden CSS

```
.visuallyHidden {  
    border: 0;  
    clip: rect(0, 0, 0, 0);  
    height: 1px;  
    margin: -1px;  
    overflow: hidden;  
    padding: 0;  
    position: absolute;  
    white-space: nowrap;  
    width: 1px;  
}
```



## Level A 2.4.1 – Bypass Blocks

A mechanism is available to bypass blocks of content that are repeated on multiple Web pages.



# Skip Link

A shortcut link directly to the main content



# Skip Link CSS

```
.skip-link {  
    left: -100%;  
    position: absolute;  
}  
  
.skip-link:focus {  
    left: 50%;  
}
```





# Skip Link JS

```
var skipLink = document.querySelector('.skip-link');  
skipLink.addEventListener('click', function (e) {  
    document.querySelector(skipLink.getAttribute('href')).focus();  
});
```



# Summary



**Consistent Navigation**

**Multiple Ways**

**Link Purpose**

**Consistent Identification**

**Skip Links**



# Tables

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<table>

Used to display data into rows and columns of cells



Tables should not be used  
for layout!



# Parts of a Table



`<caption>`

`<thead>`, `<tfoot>`, `<tbody>`

`<th>`

scope and headers



Complex tables should have  
a summary of how the table  
data is structured





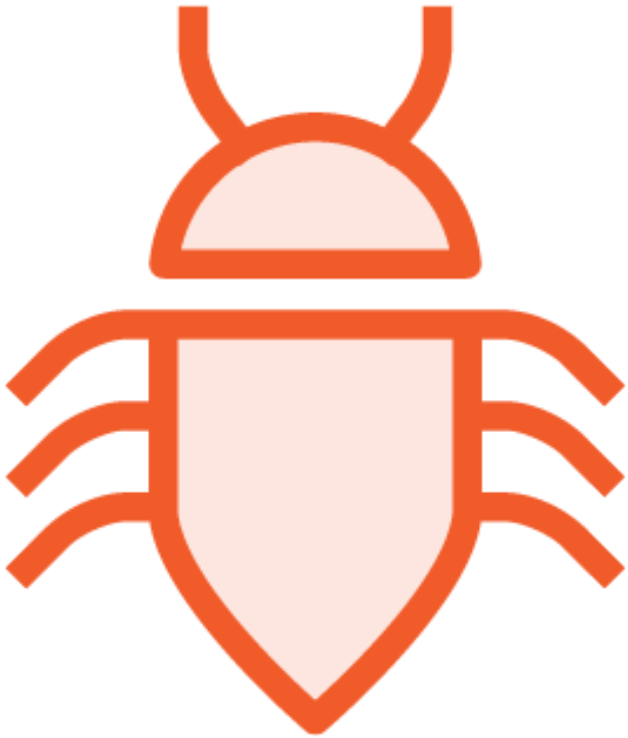
`<table summary="...">`



An easy solution: add to the  
<caption>



# Table Issues



**Complex tables are complex to navigate**

**Personal user settings**

**Screen Reader/ Browser Combinations**

It's your job to add the  
proper content using the  
proper markup





Avoid complex tables

Avoid nesting and spanned columns/ rows

Flatten data as much as possible



# Summary



Tables for tabular data, not layout

Table grouping: `<thead>`,  
`<tfoot>`, `<tbody>`

`<th>` vs `<td>`

Associating headers and cells:  
scope vs headers

Simple vs Complex Tables

# Forms

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# Overview



**Accessible Forms**

**Error Identification**

**Color**

**Keyboard Navigation/ Focus Indication**



## Level AA 1.4.3 – Contrast

The visual presentation of text and images of text has a contrast ratio of at least 4.5:1





Foreground stands out  
from background



Does not apply to disabled  
elements or logos



Applies to images and  
videos



# Level AA 1.4.11 – Non-Text Contrast

User interface components and graphical objects have a contrast ratio of at least 3:1



## Level A 3.3.2 – Labels or Instructions

Labels or instructions are provided when content requires user input



# Special Formats

Date	Currencies
MM/DD/YYYY	\$99,999
MM/DD/YY	\$99,999.00
MM/YYYY	\$99999
DD/MM/YYYY	99,999\$



Prefer visible labels



## Level A 2.5.3 – Label in Name

Labels should match the text that is presented visually.





## Level A 4.1.2 – Name, Role, Value

For all user interface components (including but not limited to: form elements, links and components generated by scripts), the name and role can be programmatically determined; states, properties, and values that can be set by the user can be programmatically set; and notification of changes to these items is available to user agents, including assistive technologies



## Level A 1.3.3 – Sensory Characteristics

Instructions provided for understanding and operating content do not rely solely on sensory characteristics of components such as shape, size, visual location, orientation, or sound



## Level A 2.1.1 - Keyboard

All functionality of the content is operable through a keyboard interface without requiring specific timings for individual keystrokes



## Level A 2.1.2 – No Keyboard Traps

If keyboard focus can be moved to a component of the page using a keyboard interface, then focus can be moved away from that component using only a keyboard interface





Hijacking keystrokes

Preventing blur event

Common responsive patterns



## Level A 2.1.4 – Character Key Shortcuts

Users should have the ability to turn off, remap, or activate only on focus.



## Level AA 2.4.7 – Focus Visible

Any keyboard operable user interface has a mode of operation where the keyboard focus indicator is visible.



## Level A 1.4.1 – Use of Color

Color is not used as the only visual means of conveying information, indicating an action, prompting a response, or distinguishing a visual element





10% of men are color blind.



75% of those are red/ green  
deficient.



# Forms and Error Validation



## Level A 3.3.1 – Error Identification

If an input error is automatically detected, the item that is in error is identified and the error is described to the user in text



## Level AA 3.3.3 – Error Suggestion

If an input error is automatically detected and suggestions for correction are known, then the suggestions are provided to the user, unless it would jeopardize the security or purpose of the content



Never set a tabindex  
greater than 0!

Acceptable values are -1 or 0



Tab index follows visual  
order

Visual order follows DOM order



# Acceptable tabindex Values

**tabindex="-1"**

Removed from natural tab order

Focusable via JS, e.g. `element.focus()`

**tabindex="0"**

Added to natural tab order

Focusable via JS, e.g. `element.focus()`







Level A 3.3.2 – Labels or Instructions

Level A 4.1.2 – Name, Role, Value

Level A 3.3.1 – Error Identification

Level AA 3.3.3 – Error Suggestion

Level A 1.3.1 – Info and Relationships

Level AA 2.4.6 – Headings and Labels



# Additional Guidelines

## **Level AA 3.3.4 – Error Prevention**

**Web pages that cause legal commitments or financial transactions for the user to occur, or that modify or delete user-controllable data in data storage systems, must be reversible, checked, and confirmed**

## **Level A 2.2.1 - Timing Adjustable**

**For each time limit that is set by the content, the user is able to either turn off, adjust, or extend the time limit**



# Summary



**Accessible Forms**

**Error Identification**

**Color**

**Keyboard Navigation/ Focus Indication**

