

# Basics of HTML and CSS

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1

## Table of Content

HTML: The Basics

CSS: The Basics

2

# HTML: The Basics

3

## HTML: The Basics

- Introduction
- Structure
- HTML Typography
- HTML Lists
- HTML Links
- HTML Images
- HTML Tables
- HTML Forms
- Conclusion

4

# Introduction

HTML is a markup language

Stands for *Hypertext Markup Language*

A markup language is used to format plain text

Every internet page that you see is composed with HTML

The essence of HTML programming is tags

A tag is a keyword enclosed by angle brackets

5

Tags come in pairs and act like containers

Opening tag

Closing tag

**Element** - comprises the opening tag and the closing tag and any content that lies between them

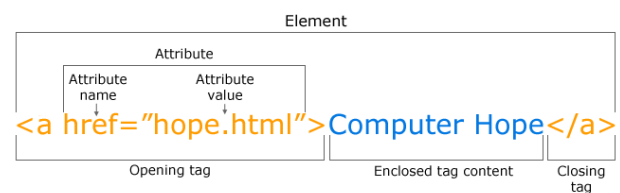
**Attributes** - provide additional information about the contents of an element

Attribute name indicates type of extra information

Attribute value is the information or setting for the attribute

The id and class attributes allow you to identify particular elements

## Breakdown of an HTML Tag



6

# Structure

An HTML document consists of three main parts:

## The **Head**

This contains information about the page

## The **Title**

Used by browser for title bar or tab

## The **Body**

Everything inside this element is shown inside the main browser window

```
<!DOCTYPE html>

<html>

  <head>
    <meta charset="utf-8">
    <title>Title here</title>
  </head>

  <body>
    Page content goes here.
  </body>

</html>
```

7

**<!DOCTYPE>** tell browsers which version of HTML you are using

*<!-- This is a comment. Comments can be multiline. -->*

The **<meta>** tag describe a page's content

Block elements

Block elements appear on a new line

**<div>** is the generic block element

Inline elements

Inline elements appear to continue on the same line

**<span>** is the generic inline element

**<!DOCTYPE > <div> <span> and <meta>**

8

# HTML Typography

HTML has six "levels" of headings:

<h1> is used for main headings

<h2> is used for subheadings

If there are further sections under the subheadings then the <h3> element is used, and so on...

<p>Content Here</p>

Text placed between the angled brackets displays as a paragraph

<i>Content Here</i>

Italics

<b>Content Here</b>

Bold

<sup> Content Here</sup>

Superscript

<sub>Content Here</sub>

Subscript

<br />

Adds a line break

<strong> Content Here</strong>

Content has strong importance

9

# HTML Lists

There are three types of HTML lists:

Ordered: lists where each item in the list is numbered

Unordered: lists that begin with a bullet point

Definition: lists are made up of a set of terms along with the definitions for each of those terms

<ol>Content Here</ol>

Ordered

<li>Content Here</li>

Used to separate the items in a list

<ul>Content Here</ul>

Unordered

<dl>Content Here</dl>

defines a description list.

<dd>Content Here</dd>

defines terms/names

<dt>Content Here</dt>

describes each term/name

10

# HTML Links

`<a href="page.html"> label </a>`

Displays a hyperlink

A link lets you move from one page to another, play movies and sound, send email, download files, and more

You specify which page you want to link to using the href attribute

A link has three parts: a destination, a label, and a target

11

# HTML Images

``

Adds an image to your page

Specify a src attribute to indicate the source of an image and an alt attribute to describe the content of an image

Save images at the size you will be using them on the web page and in the appropriate format

12

# HTML Tables

Tables used to display rows and columns of data, create multi-column text, captions for images, and sidebars

`<table>Table</table>`

`<tr>Rows</tr>`

`<td>Cells</td>`

`<th>Header</th>`

More Tags

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

```
<TABLE HIEGHT=10 WIDTH=30 BORDER=0>
```

<TH> Header1 </TH>	<TH> Header2 </TH>
<TD> </TD>	<TD> </TD>
<TD> </TD>	<TD> </TD>
<TD> </TD>	<TD> </TD>
<TD> </TD>	<TD> </TD>

```
</TABLE>
```

13

# HTML Forms

A form used to collect all kinds of information

HTML tags are used to create the form

Using HTML you can create text boxes, radio buttons, checkboxes, drop-down menus, and more...

This is my form

Email:

Password:

Confirm Password:

Upload Your Picture:

Gender: ☐ Male ☐ Female

Select Country:

Hobby: ☐ Cricket ☐ Football

Address:

14

```
<form action="/action_page.php">Form
</form>
```

create an HTML form for user input

```
<input type="text" name="FirstName"
value="Mickey"></input>
```

Declare input controls that allow users to input data

Used to create several different form controls.

The value of the type attribute determines the kind of input created

*type="text"*

Creates a single-line text input

*type="password"*

Creates a text box that acts like a single-line text input, except the characters are blocked out

*type="radio"*

Creates radio buttons that allow users to pick just one of a number of options

*type="checkbox"*

Creates checkboxes that allow users to select (and unselect) one or more options

*type="submit"*

Creates submit button that is used to send a form to the server

15

```
<button type="button">Click
Me!</button>
```

Defines a clickable button

```
<textarea>Content Here</textarea>
```

Defines a multi-line text input control

```
<select> </select>
```

Create a drop-down list

```
<option value="Option A">Option
A</option>
```

Specify the options that the user can select from

The image shows a collection of HTML form controls rendered in a browser. At the top is a 'Text field' containing the text 'Some text'. Below it are two radio buttons: 'Radio button 1' (which is selected) and 'Radio button 2'. Next is a 'Checkbox' which is also selected. Below the checkbox is a 'Select' dropdown menu currently displaying 'Select option 2'. Underneath the select menu is a 'Textarea' containing the text 'More text'. At the bottom of the form is a 'Submit' button.

16



## Conclusion

One of the best resources on the internet is known as w3schools.

Should you progress further into using HTML and CSS this is an excellent reference guide providing examples and interactive test scenarios.

<http://www.w3schools.com/html/default.asp>

17



CSS: The Basics

18

# CSS: The Basics

Introduction

CSS Color

CSS Typography

CSS Boxes

Visibility, Layout and more

Pseudo-classes

Positioning Schemes

Conclusion

19

## Introduction

CSS Stands for **Cascading Style Sheets**

Language for styling documents

Styles provide powerful control over the presentation of html pages

A style sheet consists of a set of rules

Each rule consists of one or more selectors and a declaration block

Different types of selectors allow you to target your rules at different elements

20

Declarations have two parts:

- The Properties of the element

- The Values of those properties

A declaration block consists of a list of declarations in curly braces ({}).

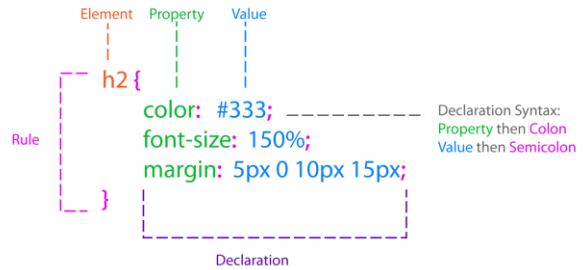
Each declaration consists of

- A property

- A colon (:)

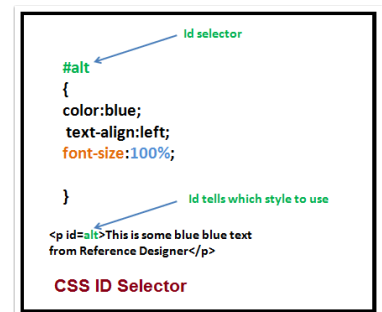
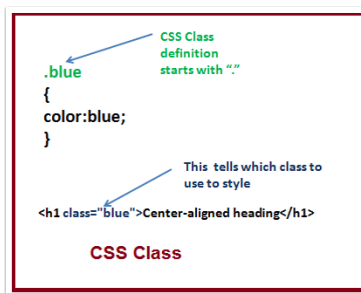
- A value

- Then a semi-colon (;)



21

```
p {
  text-align: center;
  color: red;
}
```



Types of Selectors

22

**Inline CSS**

- Placed directly in the HTML element
- Applies only to the HTML element

**Internal CSS**

- Placed in the head section of HTML
- Uses the `<style> </style>` tag
- Applies only to the current HTML page

**External CSS**

- Saved as a separate .css file, linked to the HTML page
- Uses the `<link> </link>` tag in the `<head>` tag
- Can contain all the styles needed for all the pages on the site

**Inline CSS**

```
<p style="color: blue;">This is a paragraph.</p>
```

**Internal CSS**

```
<head>
  <style type = text/css>
    body {background-color: blue;}
    p { color: yellow;}
  </style>
</head>
```

**External CSS**

```
<head>
  <link rel="stylesheet" type="text/css" href="style.css">
</head>
```

## Three Different Scopes of CSS

# 23

## CSS Color

Can set text color and background color

Several ways to describe color

- six digit hex code (e.g., #ee3e80)
- color names: 147 predefined names
- rgb(red, green, blue): amount of red, green, and blue
- hsla(hue, saturation, lightness, alpha): alternative scheme for describing colors

Can set opacity (opacity) from 0.0 to 1.0

```
body {
  color: Red;
  background-color: rgb(200, 200, 200); }
h1 {
  background-color: DarkCyan; }
h2 {
  color: #ee3e80; }
p {
  color: hsla(0, 100%, 100%, 0.5); }
div.overlay {
  opacity: 0.5; }
```

# 24

# CSS Typography

Control the choice of font, size, weight, style, and spacing

Control the space between lines of text, individual letters, and words

Text can also be aligned to the left, right, center, or justified

25

**font-family** - typeface

**font-size** - size of the text

**font-weight** - bold text

Normal

Bold

**font-style** - italic text

Normal

Italic

Oblique

**font-weight: bold**

*font-style: italic*

FONT-VARIANT: SMALL-CAPS

TEXT-TRANSFORM: UPPERCASE

26

**text-transform:** uppercase, lowercase, capitalize

**text-decoration:** none, underline, overline, line-through

**letter-spacing:** space between letters

**text-align:** left, right, center, justify

**line-height:** total of font height and empty space between lines

**vertical-align:** top, middle, bottom

**text-shadow:** [x offset][y offset][blur offset][color]

```
h2 {
  text-transform: uppercase;
  text-decoration: underline;
  letter-spacing: 0.2em;
  text-align: center;
  line-height: 2em;
  vertical-align: middle;
  text-shadow: 1px 1px 0 #666666;
}
```

**THIS TEXT IS IMPORTANT**

27

### Unordered Lists

- none
- disc
- circle
- square

### Ordered Lists

- decimal
- decimal-leading-zero
- lower-alpha
- upper-alpha
- lower-roman
- upper-roman

Lists: list-style-type

28

# CSS Boxes

CSS treats each HTML element as if it has its own box

CSS can control the dimensions of a box

CSS can also control the borders, margin and padding for each box with CSS

width, height

min-width, max-width

min-height, max-height

```
.centered {
  width: 300px;
  margin: 10px auto 10px auto;
  border: 2px solid #0088dd;
}
```

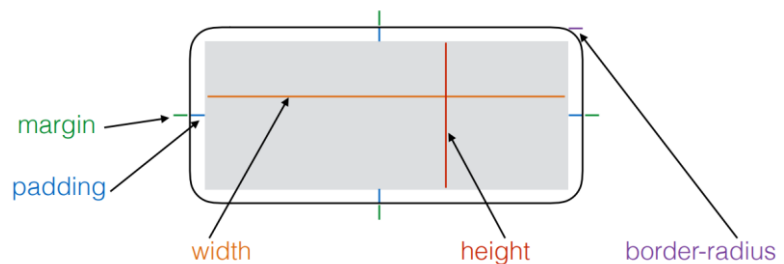
This box is centered in its container.

29

**Margin** - controls the gap between boxes

**Borders** - specify the style, width, and color of an element's border

**Padding** - specify how much space should appear between the content of an element and its border



30

border-width

border-color

border-style

Solid

Dotted

Dashed

Double

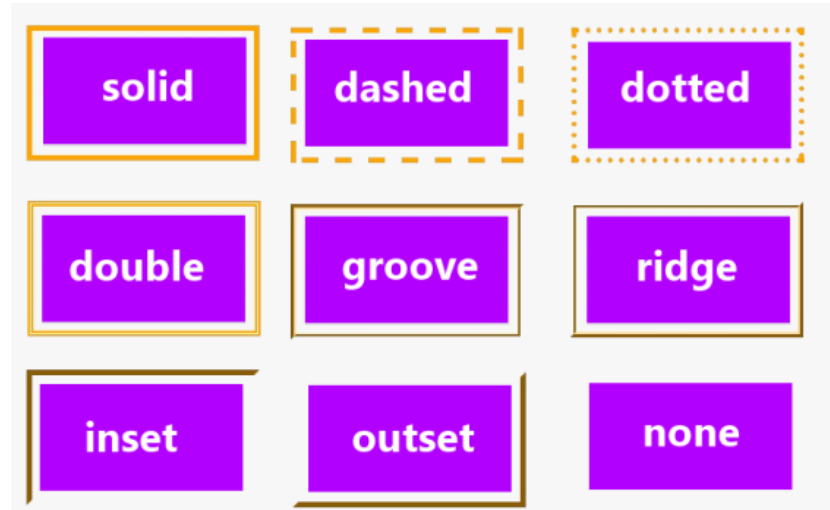
Groove

Ridge

Inset

Outset

Hidden/None



31

## Visibility, Layout and more

**Overflow** - tells the browser what to do if the content contained within a box is larger than the box itself

overflow:hidden

overflow:scroll

overflow:visible

overflow:auto

**Display** - turn an inline element into a block-level element or vice versa

display: inline

display: block

display: inline-block

display: none

**Visibility**

visibility: hidden

visibility: visible

32



**Color** - change the color of the text on the button

**text-shadow** - can give a 3D look to the text

**background-color** - can make the submit button stand out from other items around it

**:hover** - can be used to change the appearance of the button when the user hovers over it



## Buttons 33

**background-image**

**background-repeat**

repeat

repeat-x

repeat-y

no-repeat

**background-color**

**background-position**

left top

left bottom

center top

center bottom

right top

right bottom

**background-attachment**

## Background-Image Property 34

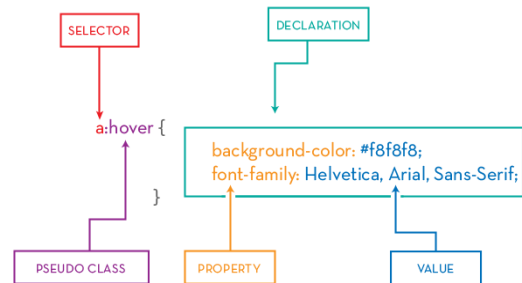
# Pseudo-classes

## Classes that are automatically attached to elements based on their attributes

**:hover** - when a user hovers over an element with a pointing device such as a mouse

**:active** - when an element is being activated by a user

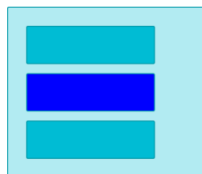
**:focus** - when an element has focus



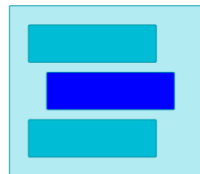
# Positioning Schemes

The position attribute has 5 different values:

- position: static
- position: relative
- position: absolute
- position: fixed
- position: sticky



```
position: relative
left: 20px
```



```
position: absolute
bottom: 0; right: 0
```



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37

# Thank You!

38