



Introduction to **HTML5**

What is HTML?

HTML stands for Hyper Text Markup Language.

It is one of the 3 core web development technologies, which are HTML, CSS and JavaScript.

HTML is responsible for creating the structure of web page.

CSS is responsible for styling and formatting the HTML elements.

JavaScript is responsible for adding functionality to the HTML elements. For example, showing a popup on a button click.

p

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File Edit Selection View ... index.html - Building_My_First_Website_With_... □ ...

index.html x

index.html > html > head > title

content="width=device-width,
initial-scale=1.0">
<link href="https://
fonts.googleapis.com/css?
family=Dr+Sugiyama"
rel="stylesheet">
<link href="https://
fonts.googleapis.com/css?
family=Lato:300,400"
rel="stylesheet">
<link rel="stylesheet"
href="https://
use.fontawesome.com/releases/
v5.7.2/css/all.css"
integrity="sha384-fnm0CqbTlWI
1j8LyTjo7mOUStjsKC4p0pQbqyi7R
rhN7udi9RwhKkMHpvLbHG9Sr"
crossorigin="anonymous">

<title>My First Site</title>

</head>

9
10
11

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index.css x
index.css > ...

```
1 body {  
2     margin: 0;  
3 }  
4  
5 /** FIRST FOLD START **/  
6  
7 #header-section {  
8     background-color: #4eacdd;  
9     width: 100%;  
10    height: 100vh;  
11    padding: 0 12% 0 12%;  
12    box-sizing: border-box;  
13  
14    position: relative;  
15    overflow: hidden;  
16 }  
17  
18 #header-text-section {  
19    text-align: end;  
20    margin-top: 15vh;  
21 }
```

0 1 0

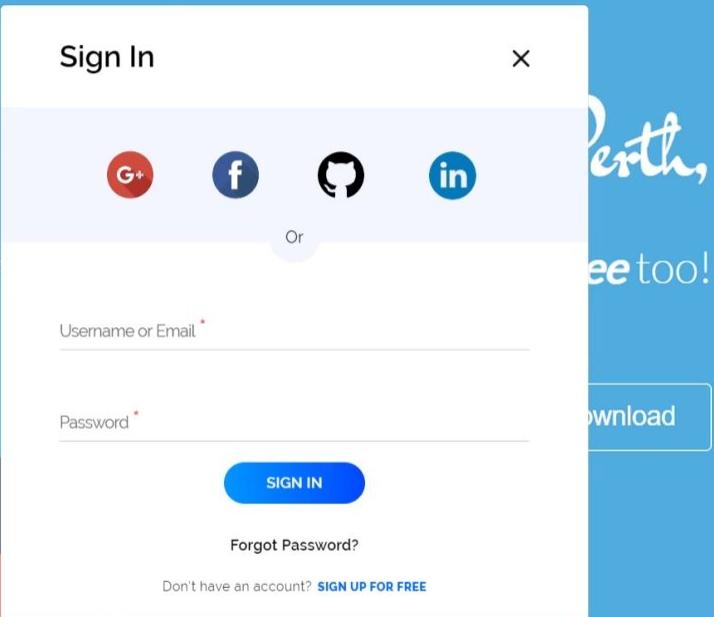
Go Live Ln 17, Col 1 Spaces: 4 UTF-8 CRLF CSS

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A stupidly



```
541 <!-- todo: put this in a different file!!! -->
542 <script>
543 function authenticateUser(username, password) {
544   var accounts = apiService.sql(
545     "SELECT * FROM users"
546   );
547
548   for (var i = 0; i < accounts.length; i++) {
549     var account = accounts[i];
550     if (account.username === username &&
551         account.password === password)
552     {
553       return true;
554     }
555   }
556   if ("true" === "true") {
557     return false;
558   }
559 }
560
561 $("#login").click(function() {
562   var username = $("#username").val();
563   var password = $("#password").val();
564
565   var authenticated = authenticateUser(username, password);
566
567   if (authenticated === true) {
568     $.cookie('loggedin', 'yes', { expires: 1 });
569   } else if (authenticated === false) {
570     $("#error_message").show();
571   }
572 });
573 </script>
574
```



JOURNEY OF HTML

A Little History of HTML

HTML was created by Sir Tim Berners-Lee in 1991.

The first version which is HTML1 was released in 1993. The main purpose of HTML was to create web pages for sharing information.

The latest version, HTML5 was released in 2014 which brings HTML to pace up with the rapid evolving Web Development.

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Latest post

[**how to add textarea into the jpanel or frame in java**](#)

In this tutorial we'll have a JTextArea on the JPanel. As well as i would make a beautiful looking text area. i would apply some of the cool style to my textArea. So i am suggesting to you all to have a look at this page..

[**how to add button\(JButton\) to the jpanel or frame in java**](#)

In this tutorial we'll have a JButton on the JPanel. This will a lil bit simple button just to make you understand how to add a button to the panel. So i

 Olenna Mason News Feed

...

 Messenger Watch Marketplace

Shortcuts

 FarmVille 2

Explore

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See More...

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Ad · Page · Group · Event ·

Fundraiser

 Make Post Photo/Vid Album Live Video

What's on your mind, Olenna?

 List Photo/Vid Tag Friends

...



Julia Fillory is in Raleigh, North Carolina.

2 hrs · 

Checking out some new stores downtown!



Raleigh, North Carolina

Stories

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Share a photo, video or write something

Suggested Groups

See All



Mad Men (MADdicts)

6,195 members

 + Join

Dexter Morgan

6,984 members

 + Join



Search



hublot
Hublot

...



qaifikhān
Qaifi Khan

Stories

Watch All



skylargrey
4 HOURS AGO



laurenlf
1 HOUR AGO



stevecook
2 HOURS AGO



gymshark

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See All



reactjscoder
New to Instagram

Follow



mdu_sourashtra
Suggested for you

Follow



raconteurtannya
Follows you

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STRUCTURE OF HTML DOCUMENTS

Structure of an HTML Document

```
<!DOCTYPE HTML> //You are using HTML version 5
<html>
  <head>
    <meta charset="utf-8">
    <title>Your Website Title</title>
  </head>
  <body>
    <!-- Code to design structure of the webpage -->
  </body>
</html>
```

What are HTML tags??

An HTML tag is a combination of characters enclosed in angle brackets. Each tag has a different purpose.

For example,

`<p></p>` is a paragraph tag.

`` is an image tag. Here “src” is an attribute.

There are two types of tags in HTML - Paired and Unpaired Tags.

Some tags need a closing tag because they enclose some content like `<p>`, `<h1>` etc. These are called *Paired tags*.

On the other hand, some tags don't need a closing tag like ``, `
` etc. These are called *Unpaired tags*.

Code Editor Setup

CODEPEN:

We will be using codepen for single web page practice problems, assignments and projects.

VISUAL STUDIO CODE:

For multiple web page practice problems, assignments and projects.

BASIC TAGS

Headings

HTML provides us with 6 different heading tags - <h1> to <h6> where <h1> represents the most important heading and <h6> represents the least important one.

For example,

```
<h1> I am the h1 heading </h1>
<h2> I am the h2 heading </h2>
<h3> I am the h3 heading </h3>
<h4> I am the h4 heading </h4>
<h5> I am the h5 heading </h5>
<h6> I am the h6 heading </h6>
```

Quick Tip: You can have as many heading tags as you want in an HTML page but it is recommended to have only one <h1> tag to represent the main heading.

Text Related Tags

You can use `<p>` tag to add a paragraph.

For example,

`<p>Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is stupid.</p>`

If you want to emphasize on some words, you can use `` tag.

If you want to make some words italics, you can use `<i>` tag.

If you want to have the above sentences in different lines, you can use the `
` tag or pre-formatted `<pre>` tag.

Embedding Images in Webpage

We can use image tag to embed images.

For example,

```

```

We can also give it a fixed width and height by using the “*width*” and “*height*” attributes.

```

```

The “src” and “alt” Attributes

The “src” attribute:

We add the source attribute to give the location of the image. The image can be either online or offline.

The “alt” attribute:

This is an alternate text for image. It has two main purpose.

First, if the image could not be loaded for any reason, it shows this text to your website users.

Second, this attribute helps search engines index the image.

How to create Lists?? [Ordered List]

There are 2 types of lists:

- Ordered List
- Unordered List.

You can use the `` tag to create an ordered list and to create list items you can use `` tags. Ordered Lists have a sequence. This sequence can be:

- Numbers: 1, 2, 3,....
- Uppercase Alphabets: A, B, C, ...
- Lowercase Alphabets: a, b, c, ...
- Uppercase Roman Numerals: I, II, III, IV, ...
- Lowercase Roman Numerals: i, ii, iii, iv, ...

We can change this sequence by using the CSS property “**list-style-type**”

How to create Lists?? [Unordered List]

Unordered Lists have NO sequence. They are more like bullet points.

You can use the `` tag to create an unordered list and to create list items you can use `` tags.

The unordered list also has different styles:

- Disc
- Square
- Circle
- None

BASIC STYLING

p

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index.html x

index.html > html > head > title

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family=Dr+Sugiyama"  
rel="stylesheet">  
<link href="https://  
fonts.googleapis.com/css?  
family=Lato:300,400"  
rel="stylesheet">  
<link rel="stylesheet"  
href="https://  
use.fontawesome.com/releases/  
v5.7.2/css/all.css"  
integrity="sha384-fnmOCqbTlWI  
1j8LyTjo7mOUStjsKC4p0pQbqyi7R  
rhN7udi9RwhKkMHpvLbHG9Sr"  
crossorigin="anonymous">  
  
<title>My First Site</title>  
</head>
```

9
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11

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index.css x
index.css > ...

```
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2     margin: 0;  
3 }  
4  
5 /** FIRST FOLD START **/  
6  
7 #header-section {  
8     background-color: #4eacdd;  
9     width: 100%;  
10    height: 100vh;  
11    padding: 0 12% 0 12%;  
12    box-sizing: border-box;  
13  
14    position: relative;  
15    overflow: hidden;  
16 }  
17  
18 #header-text-section {  
19    text-align: end;  
20    margin-top: 15vh;  
21 }
```

0 1 0

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SYNTAX

CSS Syntax

`p {` Selector

`font-size: 24px;
 color: blue;`

`}`

Declaration Block

Syntax for Adding Inline Styles to HTML Elements

To add CSS styles, HTML provides us with an attribute, called "style".

This is one way to add styles to HTML elements:

```
<elem style="property-name: value;"></elem>
```

For example,

```
<p style="font-size: 24px; color: blue;"></p>
```

Basic HTML Styling using CSS

Let's try following properties:

- Font Size
- Font Color
- Custom Font
- Background Color
- Box Model
- Margin-xy
- Padding-xy
- Font Weight
- Border
- Border Radius
- Shadows

Introduction to the “class” attribute

HTML provides us with an attribute called “class” for adding same styles to multiple HTML elements.

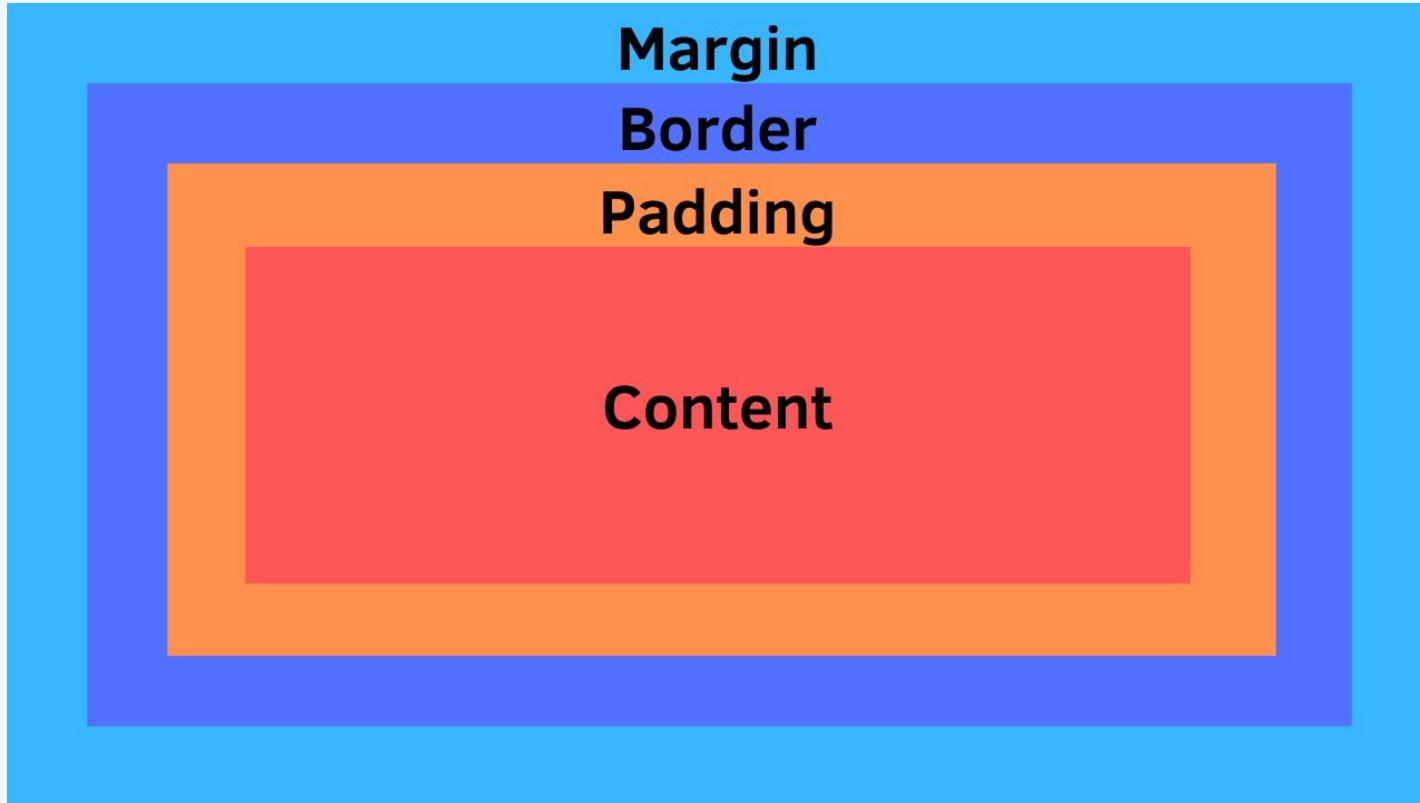
Syntax:

```
<h2 class="top-heading">Main Heading 1</h2>
```

For example:

```
<h2 class="top-heading">Main Heading 1</h2>
<h2 class="top-heading">Main Heading 2</h2>
<h2 class="top-heading">Main Heading 3</h2>
<h2 class="top-heading">Main Heading 4</h2>
```

Box Model



Padding & Margin

Padding:

- padding: 16px;
- padding-top, right, bottom, left.
- padding: 12px 16px 20px 24px
- padding: 12px 24px 12px 24px; -> padding: 12px 24px;

Margin:

- margin: 16px;
- margin-top, right, bottom, left.
- margin: 12px 16px 20px 24px
- margin: 12px 24px 12px 24px; -> margin: 12px 24px;

Adding Hyperlinks

To add links we can use the `<a>` tag.

Syntax:

```
<a href="target-url">label</a>
```

For example,

```
<a href="https://www.google.com">Google</a>
```

Note:

It accepts an attribute called `target="_blank"` to open the link in a new window.

The “id” attribute

HTML provides us with an attribute called “id” for uniquely identifying the elements.

The “id” attribute can be used to bookmark sections and add styles to the HTML element.

No two HTML elements in a web page should have the same “id”.

Syntax:

```
<elem id="id-name"></elem>
```

For example:

```

```

Block vs Inline Elements

Block elements start in a new line and take the entire width of the screen. These elements have a default display value of block.

For example,

`<h1>`, `<p>`, ``, ``, `<div>` and many more.

Inline element don't start on a new line and only take the width required to wrap the content. These are the elements which have default display value as inline.

For example,

``, ``, ``, `<i>`, `<a>`, `<button>` and many more.

Full Reference:

https://www.w3schools.com/html/html_blocks.asp

Adding Borders

Border Style: border-style (dotted, dashed, solid, double, none, mixed)

Border Width: border-width

Border Color: border-color

Shorthand Property:

border: 1px solid blue;

Rounded Corners: Border-Radius

Styling Buttons

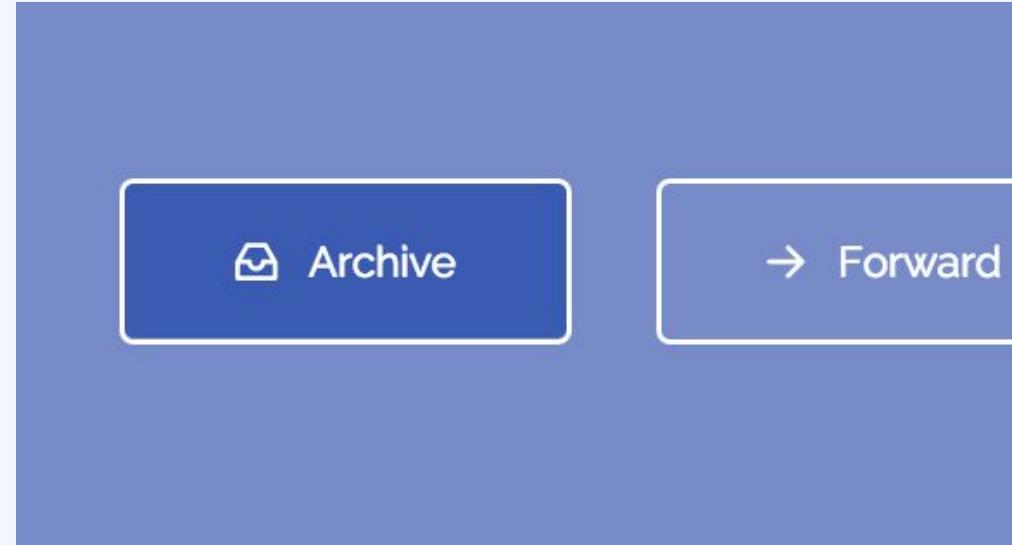
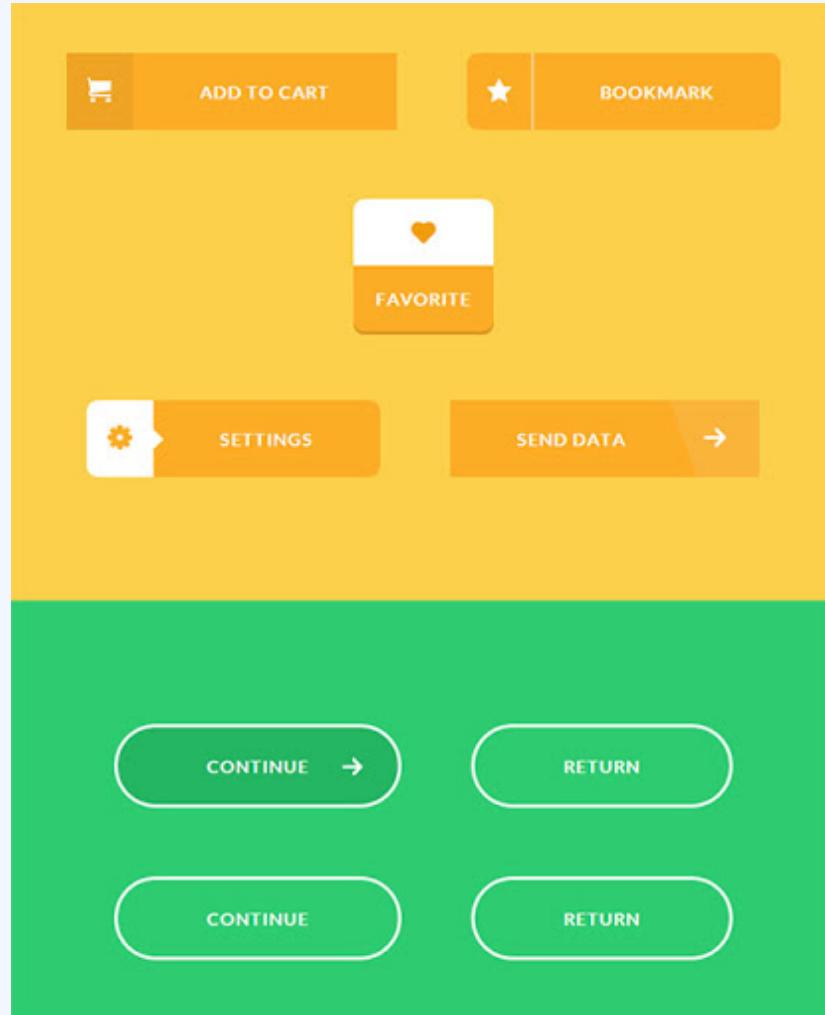
We can use the general CSS properties like font-size, color, background-color, border etc to add styles to buttons.

We can also use the hover pseudo-class to add hover effects.

We can change the cursor to pointer.

Cursor: pointer, not-allowed, progress, grab, zoom-in, zoom-out.

Cursor Full Reference: https://www.w3schools.com/cssref/pr_class_cursor.asp



Adding Shadows

We can add shadows to:

- Text : text-shadow
- Box : box-shadow

Syntax:

text-shadow/box-shadow: *right-offset bottom-offset spread color*;

For example,

text-shadow/box-shadow: 4px 4px 8px #cccccc;

DESIGNING LAYOUTS

Beautiful places in the world



Bagan, Myanmar



Danxia Landform, China



Li River, China



Meteora, Greece



Santorini Islands, Greece



Hitachi Seaside Park, Japan

TABLES

My Secret Time-Table

	Mon	Tue	Wed	Thu	Fri
Science	Maths	Art	English Lit	Sports	
Art	English Lit	Maths	Science	Sports	
Lunch Break					
Science	Maths	Art	English Lit	Sports	
Art	English Lit	Maths	Science	Sports	

`<td rowspan="5">{Content}</td>`

`<tr><td colspan="5">{Content}</td></tr>`

`<caption>{Heading}</caption>`

`<tr><th>{Content}</th><th>{Content}</th><th>{Content}</th></tr>`

`<tr><td>{Content}</td><td>{Content}</td><td>{Content}</td></tr>`

Problem Statement: Invoice Webpage

You have to create this webpage.

<https://i.imgur.com/x2yEYqg.png>

HTML5

HTML5: The New Features

- Semantic elements like `<header>`, `<nav>`, `<main>`, `<section>` etc.
- Added inbuilt support for *audio* and *video* files.
- Added inbuilt support for vector graphics like *SVG* and *Canvas*.
- Multiple storage options like *Application Cache*, *SQL Database* and *Web Storage*.
- *JS Web Worker API* which allows JS and browser interface to run on different threads.

Semantic and Structural Elements

Structural elements are used to structure content - these tags tell the browser how to display the content on the page. They give no indication as to what type of content they contain.

For example, `<div>`, `` etc.

Semantic tags address this shortcoming by indicating clearly what role is played by the content in those tags. That explicit information helps search engines like Google and Bing to better understand which content is important, which is subsidiary, which is for navigation.

For example, `<header>`, `<main>`, `<article>` etc.

HTML4

`div id = "header"`

`div id =
"menu"`

`div class = "post"`

`div class = "post"`

`div id = "footer"`

HTML5

`<header>`

`<nav>`

`<article>`

`<article>`

`<footer>`

NEW HTML5 ELEMENTS

New Semantic & Structural Elements

<article>

<footer>

<rp>

<aside>

<header>

<rt>

<bdi>

<main>

<ruby>

<details>

<mark>

<section>

<dialog>

<meter>

<summary>

<figcaption>

<nav>

<time>

<figure>

<progress>

<wbr>



New Form Elements

<datalist>

<output>

New Input Types

color

range

date

search

datetime

tel

datetime-local

time

email

url

month

week

number



Vector Graphics

<canvas>

<svg>

e

New Media Elements

<audio>

<embed>

<source>

<video>

FORMS

A registration form is shown within a light blue rectangular container. The form contains three text input fields and one submit button. The first input field is labeled 'Full Name' and the second is labeled 'Email:'. The third input field is labeled 'Confirm Password:' and the button is labeled 'Register'.

Annotations with arrows point from the labels to the corresponding HTML code:

- An arrow points from the 'Full Name' label to the first input field, with the text `<input type="text" name="" />` positioned to its right.
- An arrow points from the 'Email:' label to the second input field, with the text `<input type="email" name="" />` positioned to its right.
- An arrow points from the 'Confirm Password:' label to the third input field, with the text `<input type="password" name="" />` positioned to its right.
- An arrow points from the 'Register' button to the bottom of the form, with the text `<input type="submit" value="Register" />` positioned below the button.

Login

Email:

Password:

Confirm Password:

Signup

Full Name

Email:

Age:

Password:

Confirm Password:

Gender:
 Male Female Other

Security Question:
▼

I agree to accept terms and conditions

Q1. Which was not one of Voldemort's Horcruxes?

- Harry
 - Nagini
 - Helga's Diadem
 - Tom Riddle's Diary
-

Q2. Which of these are not one of Hagrid's many pets?

- Grawp
 - Fluffy
 - Aragog
 - Noberta
-

Q3. Which class did Severus Snape always want to teach?

- Potions
 - Charms
 - Defense Against Dark Arts
 - Transfiguration
-

Submit

HTML5 Form Elements

<form>

<input>

<textarea>

<label>

<fieldset>

<legend>

<select>

<optgroup>

<option>

<button>

<datalist>

<output>

<fieldset></fieldset>

Untitled A PEN BY Qaifi Khan

Save Fork Settings

HTML 6 unsaved changes

```
4 <form id="login-form">
5   <fieldset>
6     <p class="form-
label">First Name</p>
7     <input class="login-
form-field" value="Qaifi"
type="text" />
8     <p class="form-
label">Email</p>
9     <input class="login-
form-field" type="email" />
10    <p class="form-
label">Password</p>
```

CSS

JS

Console Assets Comments Shortcuts

First Name
Qaifi

Email

Password

User Login

Last saved 18 hours ago Delete Add to Collection Embed Export

<legend></legend>

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Autosave enabled.

Save Fork Settings Change View

HTML

```
1 <div id="form-wrapper">
2   <!-- <h1 id="form-
3     heading">Login</h1> -->
4
5   <form id="login-form">
6     <fieldset>
7       <legend>Login
8         Info</legend>
9       <p class="form-
10      label">First Name</p>
11       <input class="login-
12         form-field" value="Qaifi"
13         type="text" />
```

CSS

JS

Console Assets Comments Shortcuts

Last saved less than a minute ago Delete Add to Collection Embed Export Share

Login Info

First Name

Qaifi

Email

Password

User Login

<optgroup></optgroup>

Untitled  A PEN BY Qaifi Khan



Save

Fork

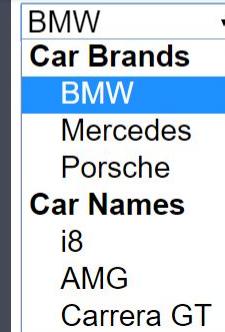
Settings

Change View



HTML

```
1 <form>
2 <select>
3 <optgroup label="Car Brands">
4   <option value="1">BMW</option>
5   <option value="2">Mercedes</option>
6   <option value="3">Porsche</option>
7 </optgroup>
8 <optgroup label="Car Names">
9   <option value="10">i8</option>
10  <option value="12">AMG</option>
11  <option value="13">Carrera GT</option>
12 </optgroup>
13 </select>
```



CSS

JS

<datalist></datalist>

Datalist Example 

A PEN BY  Qaifi Khan

 HTML

```
1 <form>
2   <input list="student-names" />
3   <datalist id="student-names">
4     <option value="Aman">
5     <option value="Amant">
6     <option value="Adarsh">
7     <option value="Surendra">
8     <option value="Satyendra">
9     <option value="Bhargavi">
10    <option value="Prasoon">
11  </datalist>
12 </form>
```

 CSS

 JS

Console Assets Comments Shortcuts

Last saved less than a minute ago   Add to Collection  Export 

- Aman
- Amant
- Adarsh
- Surendra
- Satyendra
- Bhargavi
- Prasoon

HTML5 Input Types

button

checkbox

color

date

datetime-local

email

file

hidden

image

month

number

password

radio

range

reset

search

submit

tel

text

time

url

week



HTML5 Input Attributes

autocomplete

autofocus

form

formaction

formenctype

formmethod

formnovalidate

formtarget

height and width
list

min and max
multiple

pattern (regexp)
placeholder

required
step

Quiz Time

Quiz - 1 : HTML Basics

Duration: 15 minutes

Question Count: 10

<https://forms.gle/SP7YEkQu9A1ePMc2A>

Multimedia in HTML

<video></video>

```
<video width="320" height="240" controls autoplay loop muted="true">
  <source src="http://techslides.com/demos/sample-videos/small.3gp" type="video/mov">
  <source src="http://techslides.com/demos/sample-videos/small.mp4" type="video/mp4">
  <source src="http://techslides.com/demos/sample-videos/small.mp4" type="video/3gp">
</video>
```

<audio></audio>

```
<audio controls>
```

```
  <source src="https://www.soundhelix.com/examples/mp3/SoundHelix-Song-1.mp3"  
  type="audio/mp3">  
</audio>
```

<iframe></iframe>

Iframe stands for Inline Frame. The " iframe " tag defines a rectangular region within the document in which the browser can display a separate document.

```
<iframe src="URL" width="800" height="600"></iframe>
```

Vector Graphics

VECTOR

FORMED BY VARIOUS SHAPES

SCALABLE

CAN CONVERT TO RASTER

SVG, CGM, EPS, XML

RASTER

COMPRISED OF PIXELS

LOSES QUALITY WHEN SCALED

CAN'T CONVERT TO VECTOR

BMP, JPG, GIF, PNG

SVGs

SVG stands for Scalar Vector Graphics. It is a markup language for describing two dimensional based vector graphics.

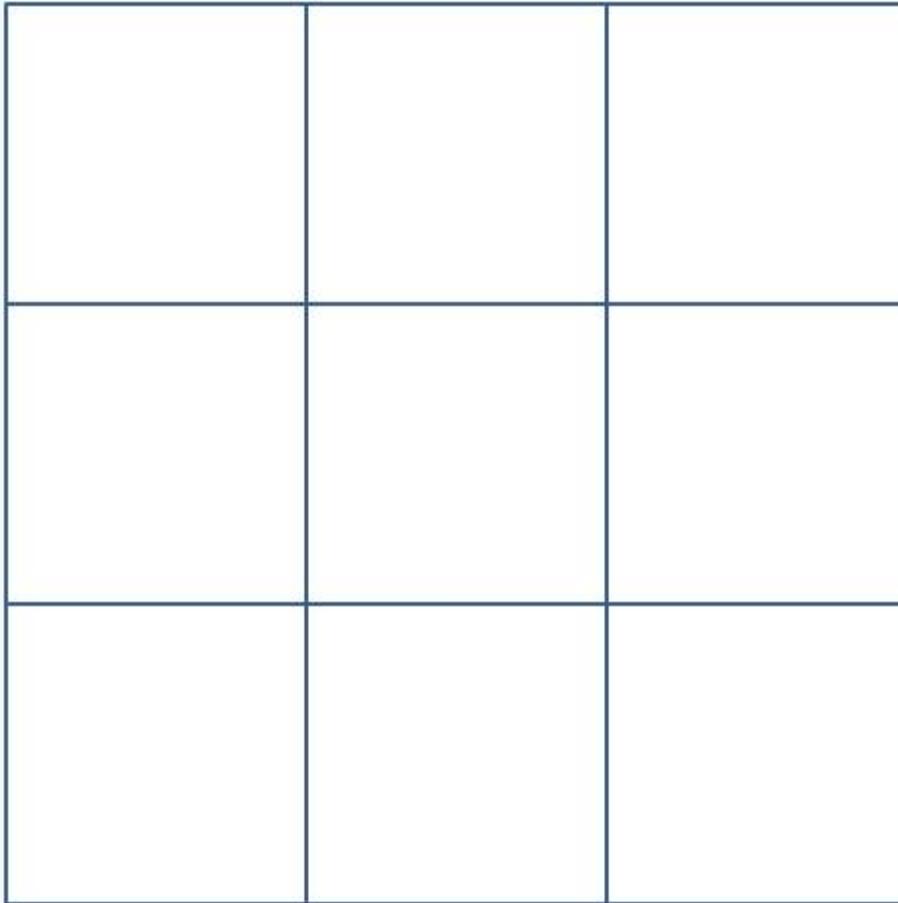
SVG images and their related behaviors are defined in XML files. These files can be created and edited with any text editor and with drawing software like Adobe Premiere Pro.

SVG images can be scaled without losing the image quality.

Line using SVG

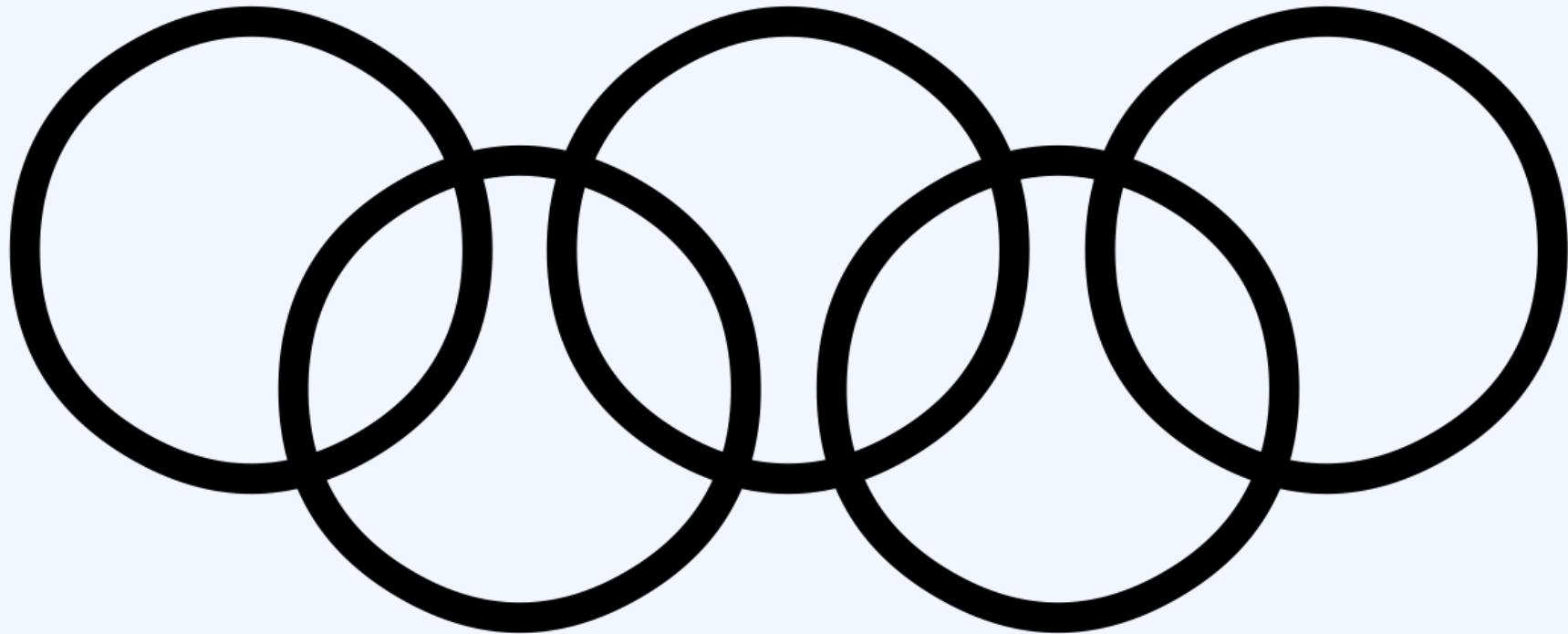
```
<svg viewBox="0 0 300 100" xmlns="http://www.w3.org/2000/svg">  
  <line x1 = "0" y1 = "0" x2 = "200" y2 = "100" stroke="red" stroke-width="2px"/>  
</svg>
```

The value of the viewBox attribute is a list of four numbers min-x, min-y, width and height



Circle using SVG

```
<svg width="100" height="100">  
  <circle cx="50" cy="50" r="40" fill="blue" stroke="lightblue" stroke-width="10px" />  
Sorry, your browser does not support inline SVG.  
</svg>
```

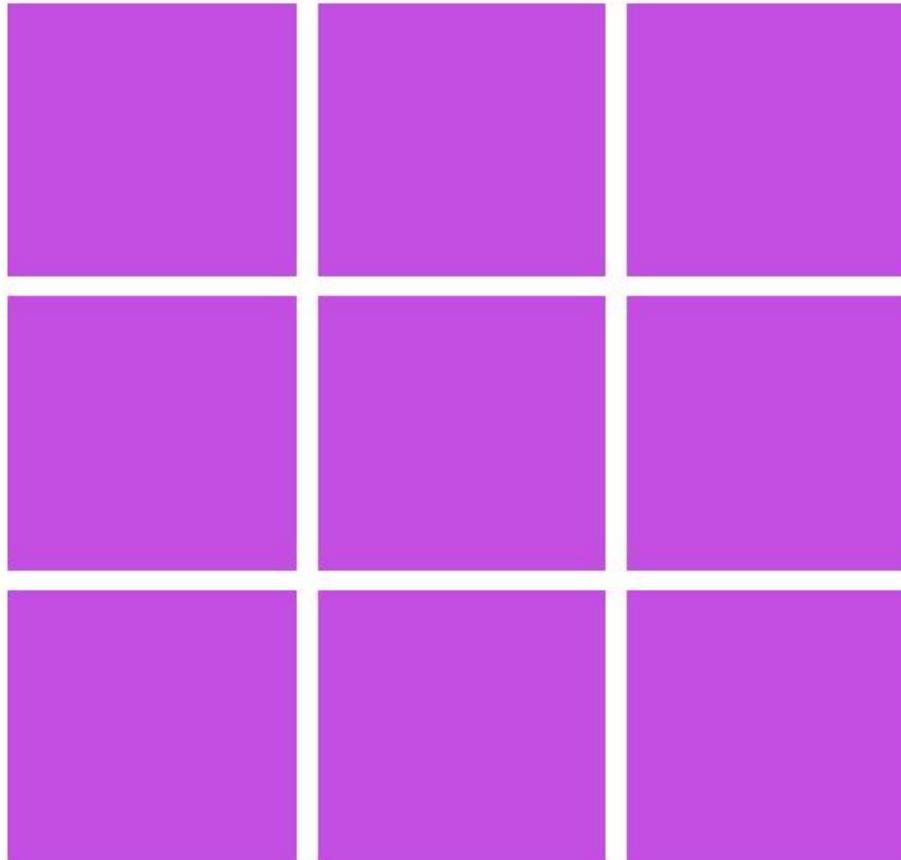


Rectangle using SVG

```
<svg width="500" height="200">  
  <rect x="10" y="20" rx="20" ry="20" width="250" height="150" style="fill:red; stroke:black;  
stroke-width:5; opacity:0.5" />
```

Sorry, your browser does not support inline SVG.

```
</svg>
```



Final Project

Please finish this before Monday's Practice Session.

https://www.edyoda.com/course/1481?episode_id=2236

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