



# 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">
6 <link href="https://
fonts.googleapis.com/css?
family=Dr+Sugiyama"
rel="stylesheet">
7 <link href="https://
fonts.googleapis.com/css?
family=Lato:300,400"
rel="stylesheet">
8 <link rel="stylesheet"
href="https://
use.fontawesome.com/releases/
v5.7.2/css/all.css"
integrity="sha384-fnmOCqbTlWI
lj8LyTj07m0UStjsKC4p0pQbqyi7R
rhN7udi9RwhKkMHpvLbHG9Sr"
crossorigin="anonymous">
9
10 <title>My First Site</title>
11 </head>
```



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```
File Edit Selection View ... index.css - Building_My_First_Website_With_H...
# 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 }
```

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p

HOME ABOUT CONTACT LOGIN

Sign In

✕



Or

Username or Email \*

Password \*

SIGN IN

Forgot Password?

Don't have an account? [SIGN UP FOR FREE](#)

Download

```
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
```

0 0

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2:35 PM

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# 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.

# Computer Master

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## Java most beginner

### 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 be a lil bit simple button just to make you understand how to add a button to the panel. So i



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What's on your mind, Olenna?

[List](#)[Photo/Video](#)[Tag Friends](#)

**Julia Fillory** is in Raleigh, North Carolina.

2 hrs ·

Checking out some new stores downtown!



**Raleigh, North Carolina**

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2 HOURS AGO



gymshark

Suggestions For You

See All



reactjscoder  
New to Instagram

Follow



mdu\_sourashtra  
Suggested for you

Follow



raconteurtannya  
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# STRUCTURE OF HTML DOCUMENTS

# Structure of an HTML Document

```
<!DOCTYPE HTML>
<html>
  <head>
    <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 `<img />`, `<br />` etc. These are called *Unpaired tags or self-closing*.

# 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 `<b>` 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 `<br>` 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 `<ol></ol>` tag to create an ordered list and to create list items you can use `<li></li>` 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 `<ul></ul>` tag to create an unordered list and to create list items you can use `<li></li>` tags.

The unordered list also has different styles:

- Disc
- Square
- Circle
- None

# BASIC STYLING

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family=Dr+Sugiyama"
rel="stylesheet">
7 <link href="https://
fonts.googleapis.com/css?
family=Lato:300,400"
rel="stylesheet">
8 <link rel="stylesheet"
href="https://
use.fontawesome.com/releases/
v5.7.2/css/all.css"
integrity="sha384-fnmOCqbTlWI
lj8LyTj07m0UStjsKC4p0pQbqyi7R
rhN7udi9RwhKkMHpvLbHG9Sr"
crossorigin="anonymous">
9
10 <title>My First Site</title>
11 </head>
```



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File Edit Selection View ... index.css - Building_My_First_Website_With_H...
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2     margin: 0;
3 }
4
5 /** FIRST FOLD START **/
6
7 #header-section {
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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 }
```

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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>`, `<ul>`, `<ol>`, **`<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,

`<img />`, `<span>`, `<b>`, `<i>`, `<a>`, `<button>` and many more.

Full Reference:

[https://www.w3schools.com/html/html\\_blocks.asp](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

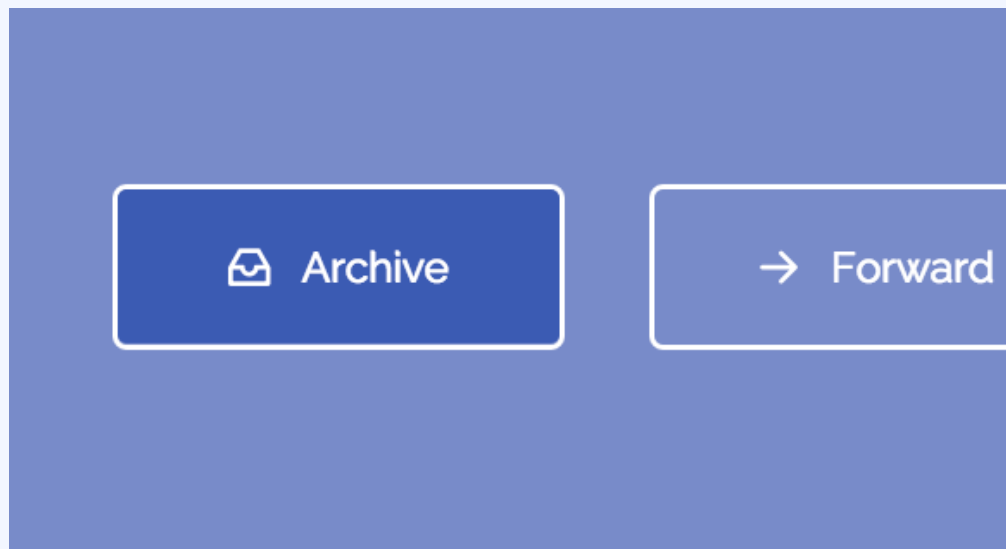
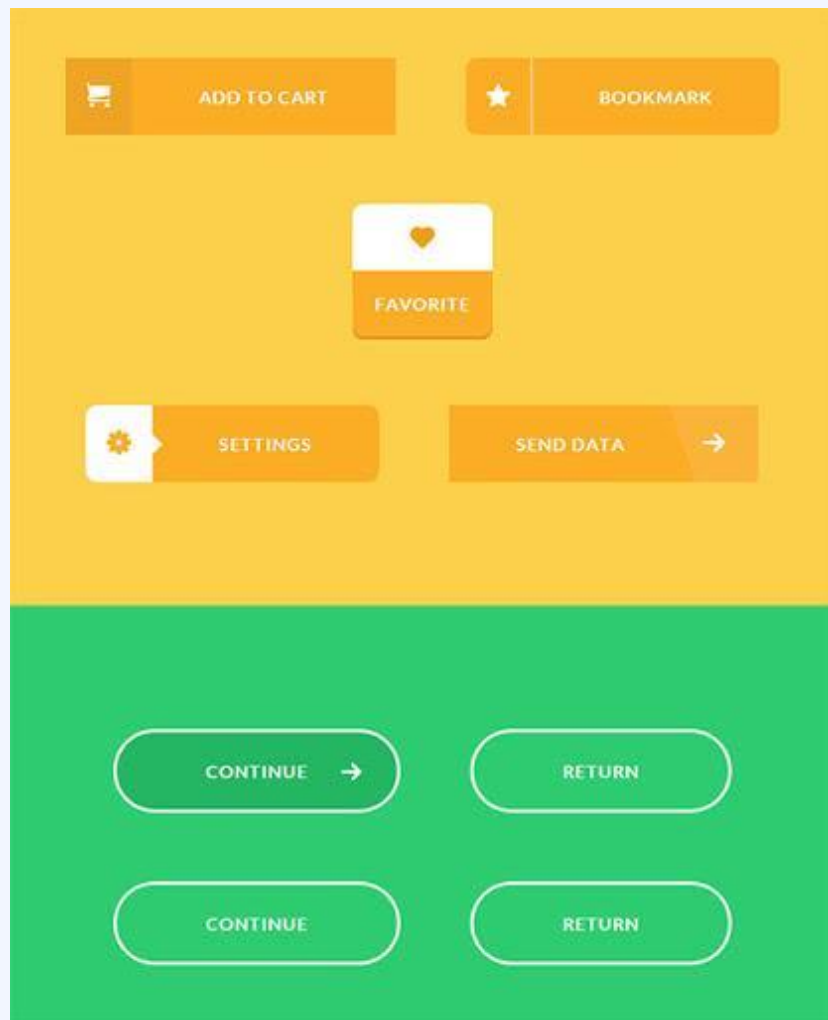
We can use the general CSS properties like font-size, color, background-color, border etc to add styles to buttons.

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](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;

# TABLES

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

My Secret Time-Table

Hours	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

`<tr>`

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

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

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

`</tr>`

`<tr>`

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

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

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

`</tr>`

`<td rowspan="5">`

`{Content}`

`</td>`

`<tr>`

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

`</tr>`



# DESIGNING LAYOUTS

## Beautiful places in the world



Bagan, Myanmar



Danxia Landform, China



Li River, China



Meteora, Greece



Santorini Islands, Greece



Hitachci Seaside Park, Japan

# 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.

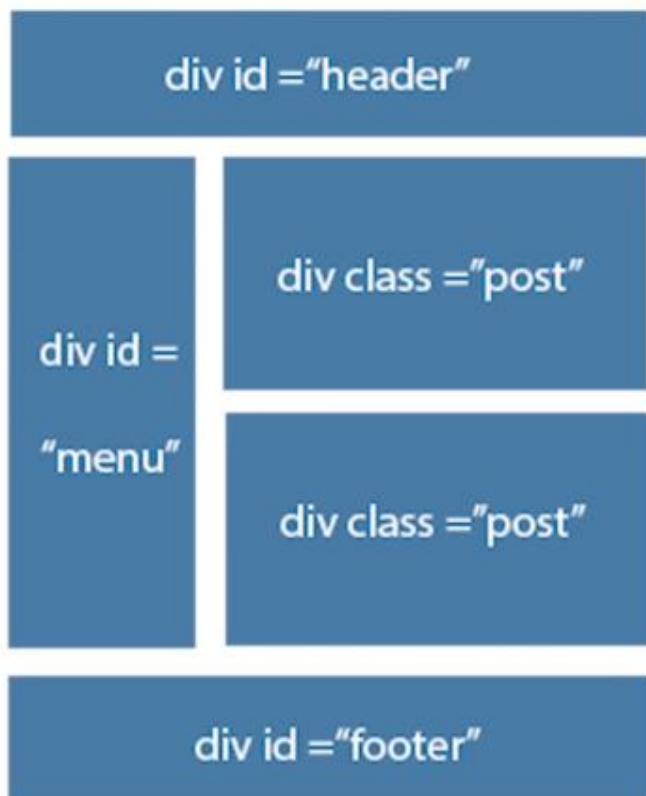
# Semantic and Structural Elements

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.

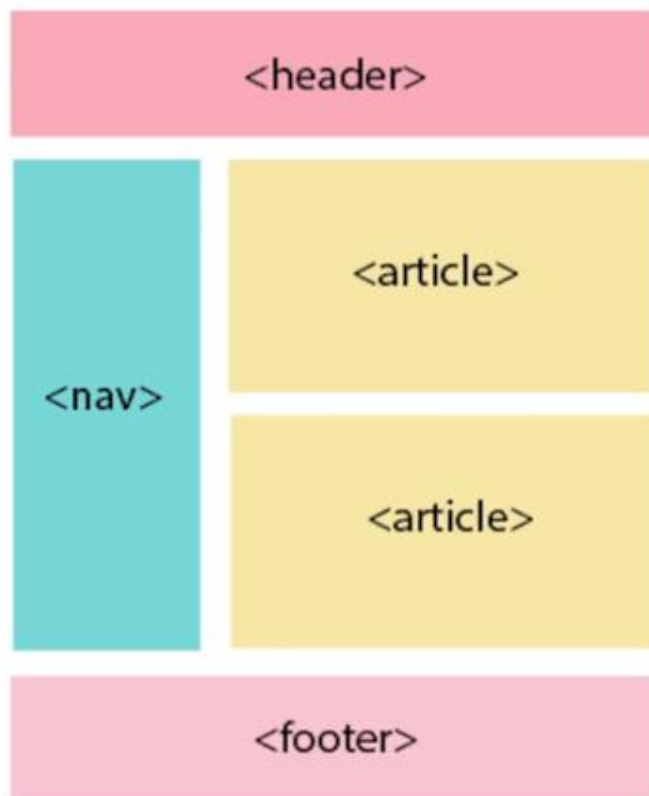
For example, `<div>`, `<span>` etc.

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



# HTML5



# **NEW HTML5 ELEMENTS**



# New Semantic & Structural Elements

<article>

<aside>

<bdi>

<details>

<dialog>

<figcaption>

<figure>

<footer>

<header>

<main>

<mark>

<meter>

<nav>

<progress>

<rp>

<rt>

<ruby>

<section>

<summary>

<time>

<wbr>



# New Form Elements

`<datalist>`

`<output>`



# New Input Types

color

date

datetime

datetime-local

email

month

number

range

search

tel

time

url

week



# Vector Graphics

<canvas>

<svg>



# New Media Elements

<audio>  
<embed>

<source>  
<video>



# FORMS

A registration form is shown within a light blue border. It contains three input fields: 'Full Name', 'Email:', and 'Confirm Password:'. Below these fields is a 'Register' button. Arrows point from the HTML code snippets on the right to each of these elements: the first arrow points to the 'Full Name' field, the second to the 'Email:' field, the third to the 'Confirm Password:' field, and the fourth to the 'Register' button.

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

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

`<input type="password" name="" />`

`<input type="submit" value="Register" />`

# Login

Email:

Password:

Confirm Password:

Login



# Signup

Full Name

Email:

Age:

Password:

Confirm Password:

Gender:

☐ Male ☐ Female ☐ Other

Security Question:

What was your first pet name? ▼

☐ I agree to accept terms and conditions

Register

**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

Change View

★

👤

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

First Name

Qaifi

Email

Password

User Login

Console

Assets

Comments

Shortcuts

Last saved 18 hours ago 

Delete

Add to Collection

Embed

Export

Share

# <legend></legend>



HTML

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

CSS

JS

Login Info

First Name

Email

Password

User Login

# <optgroup></optgroup>

Untitled .  
A PEN BY Qaifi Khan

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>
```

BMW

Car Brands

BMW

Mercedes

Porsche

Car Names

i8

AMG

Carrera GT

Console

Assets

Comments

Shortcuts

Last saved less than a minute ago

Delete


Add to Collection


Embed

Export

Share

# <datalist></datalist>

 Datalist Example  
A PEN BY Qaifi Khan

 Save Fork Settings Change View

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>
```

Aman  
Amant  
Adarsh  
Surendra  
Satyendra  
Bhargavi  
Prasoon

CSS

JS

Console Assets Comments Shortcuts

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

# 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



# 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/3gp">  
  <source src="http://techslides.com/demos/sample-videos/small.mp4"  
type="video/mp4">  
</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>
```

# Final Project

Please finish this before Monday's Practice Session.

[https://www.edyoda.com/course/1481?episode\\_id=2236](https://www.edyoda.com/course/1481?episode_id=2236)

**KEEP LEARNING!!**

# TOP HEADING

LOTS OF MAIN MAIN CONTENT

LOREM IPSUM DOLOR DOLOR DOLOR LOREM IPSUM DOLOR



**HEADING**