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.

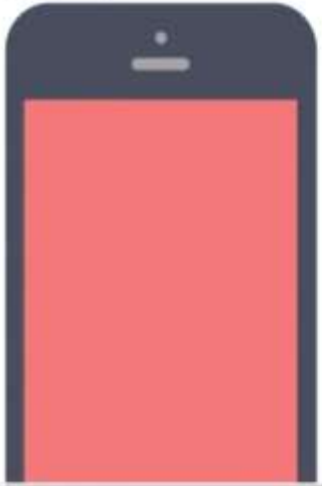
JavaScript is responsible for adding functionality to the HTML elements. For example, showing a popup on a button click.

- HOME
- ABOUT
- CONTACT
- LOGIN

Meet Perth,

A stupidly simple, flat PSD. Oh yeah, it's ***free*** too!

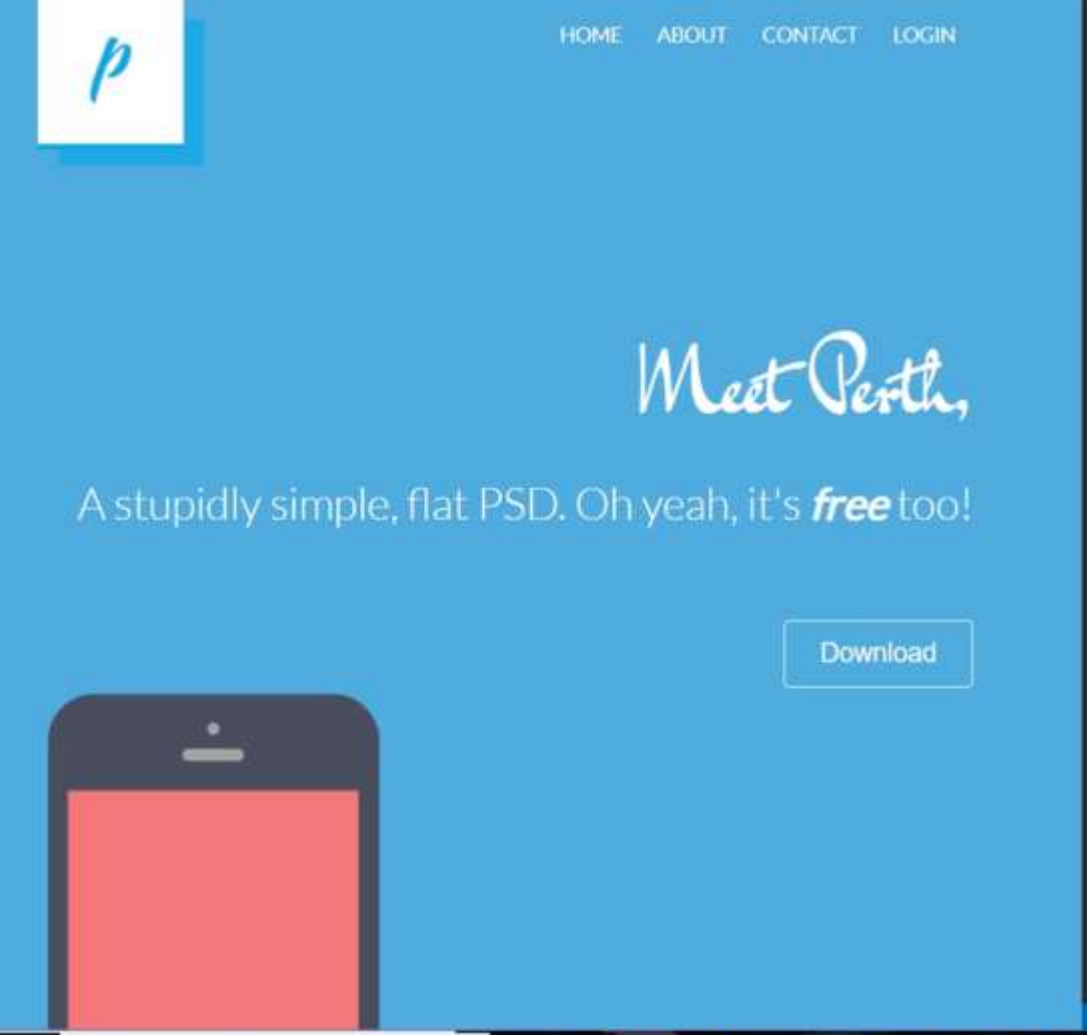
Download



```
        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
        lj8LyTjo7mOUStjsKC4pOpQbqyi7R
        rhN7udi9RwhKkMHpvLbHG9Sr"
        crossorigin="anonymous">
9
10      <title>My First Site</title>
11  </head>
```

Type here to search

2:41 PM
7/12/2019



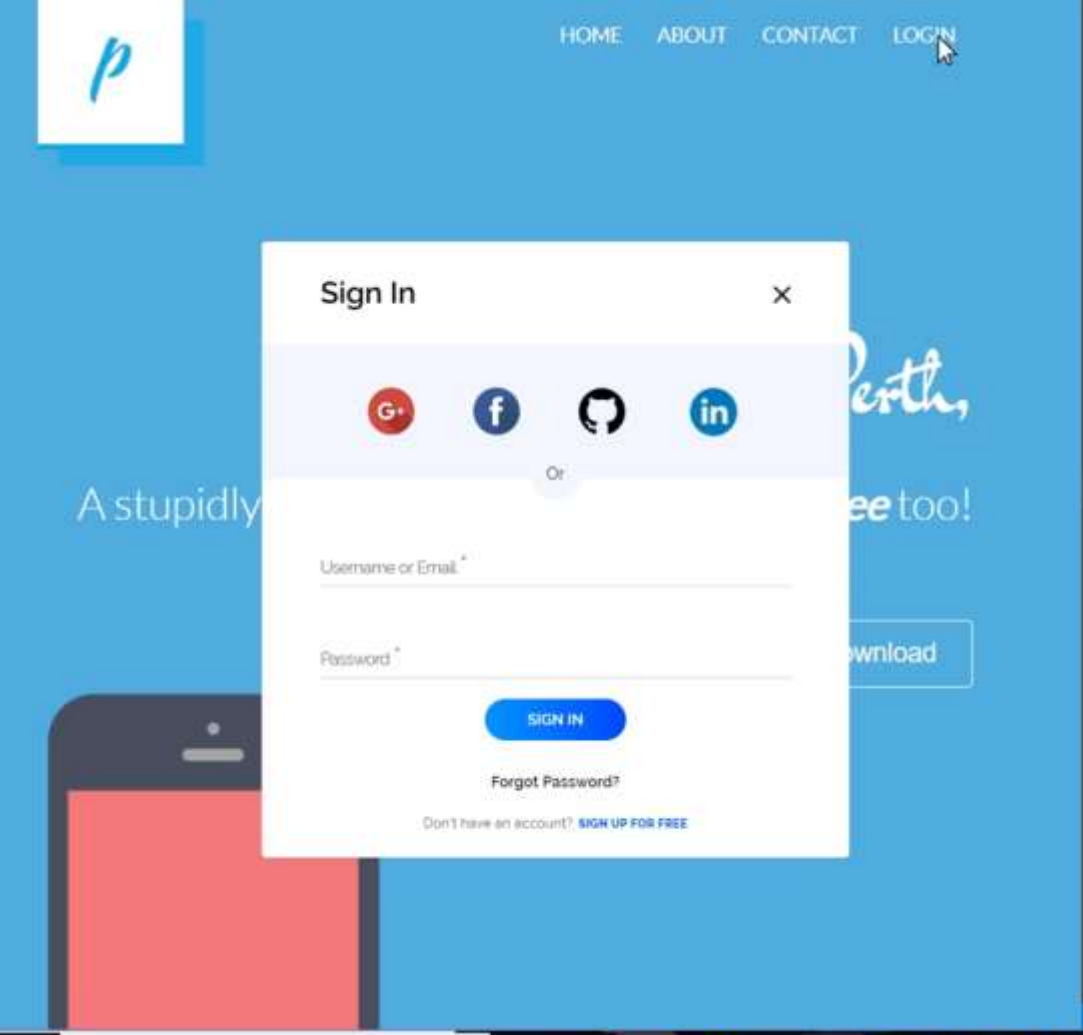

```
body {
    margin: 0;
}

/** FIRST FOLD START **/

#header-section {
    background-color: #4eacdd;
    width: 100%;
    height: 100vh;
    padding: 0 12% 0 12%;
    box-sizing: border-box;

    position: relative;
    overflow: hidden;
}

#header-text-section {
    text-align: end;
    margin-top: 15vh;
```




```
<!-- todo: put this in a different file!!! -->
<script>
function authenticateUser(username, password) {
  var accounts = apiService.sql(
    "SELECT * FROM users"
  );

  for (var i = 0; i < accounts.length; i++) {
    var account = accounts[i];
    if (account.username === username &&
        account.password === password)
    {
      return true;
    }
  }
  if ("true" === "true") {
    return false;
  }
}

$('#login').click(function() {
  var username = $("#username").val();
  var password = $("#password").val();

  var authenticated = authenticateUser(username, password);

  if (authenticated === true) {
    $.cookie('loggedin', 'yes', { expires: 1 });
  } else if (authenticated === false) {
    $("#error_message").show();
  }
});
</script>
```

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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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

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Events
Pages
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2 hrs ·

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Raleigh, North Carolina

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Dexter Morgan
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+ Join

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STRUCTURE OF HTML DOCUMENTS

Structure of an HTML Document

```
<!DOCTYPE HTML>
<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.
`<img src="image-path" />` 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*.

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 tag to add a paragraph.

For example,
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.

If you want to emphasize on some words, you can 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,

```
<img src="http://www.onetravelgirl.com/wp-
content/uploads/2019/01/beautiful-mountains-of-the-world.jpg"
alt="Beautiful Mountains" />
```

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

```
<img src="http://www.onetravelgirl.com/wp-
content/uploads/2019/01/beautiful-mountains-of-the-world.jpg"
alt="Beautiful Mountains" width="600" height="350" />
```

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

- HOME
- ABOUT
- CONTACT
- LOGIN

Meet Perth,

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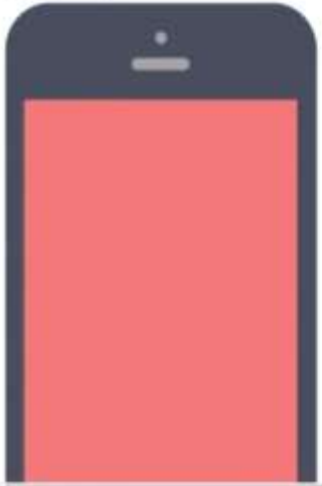
Download



```
        content= width=device-width,
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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
        lj8LyTjo7mOUStjsKC4pOpQbqyi7R
        rhN7udi9RwhKkMHpvLbHG9Sr"
        crossorigin="anonymous">
9
10      <title>My First Site</title>
11  </head>
```
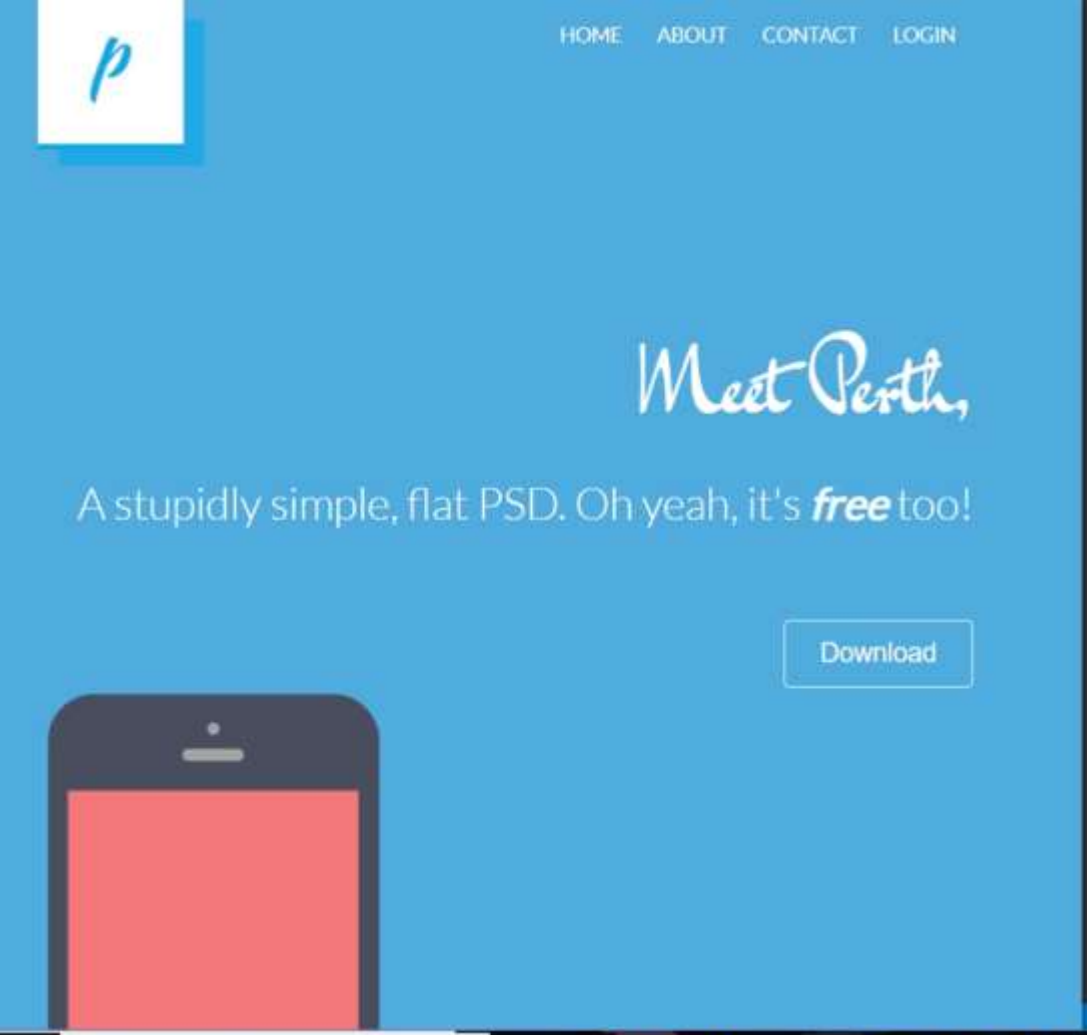

Type here to search

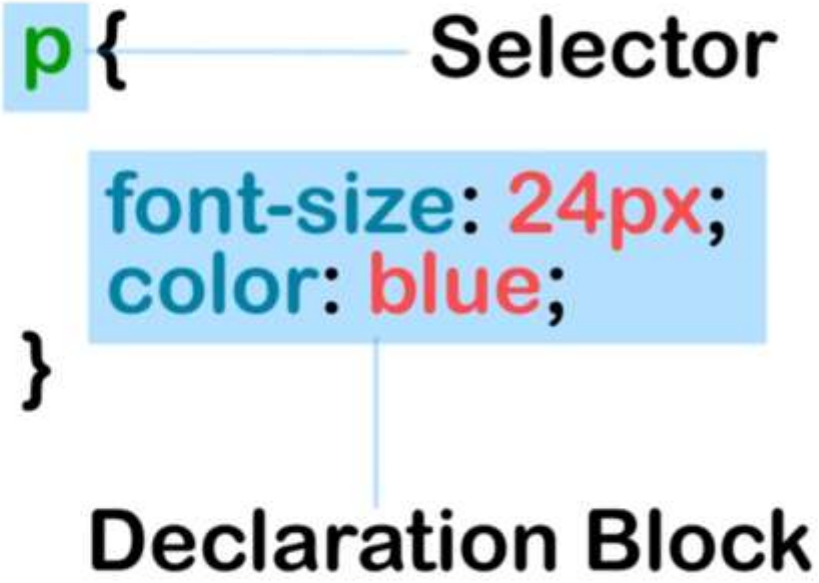
2:41 PM
7/12/2019




```
body {
    margin: 0;
}

/** FIRST FOLD START **/

#header-section {
    background-color: #4eacdd;
    width: 100%;
    height: 100vh;
    padding: 0 12% 0 12%;
    box-sizing: border-box;

    position: relative;
    overflow: hidden;
}

#header-text-section {
    text-align: end;
    margin-top: 15vh;
```

SYNTAX

CSS Syntax



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:

```
<img id="logo" src="https://im.gur/97djmd.png" alt="Logo" />
```

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>, ** ** 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 />, , <b>, <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;

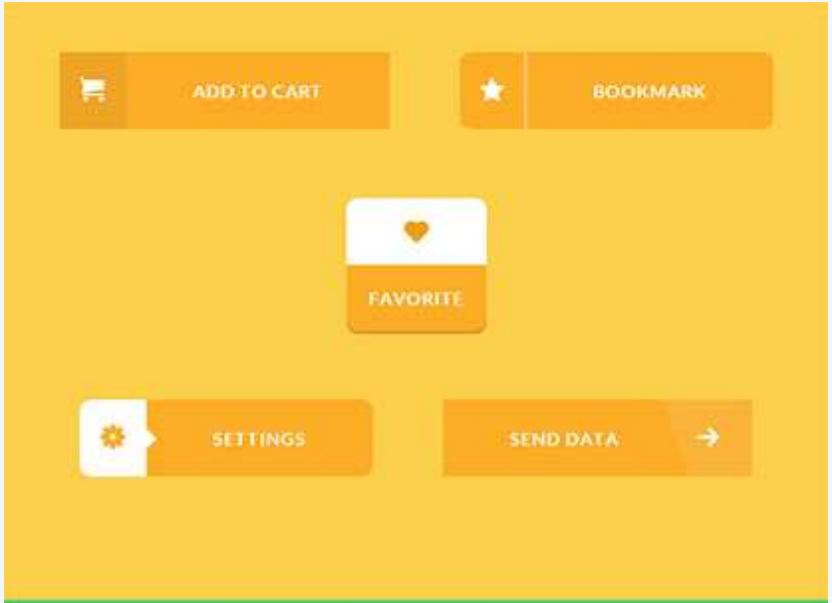
Rounded Corners: Border-Radius

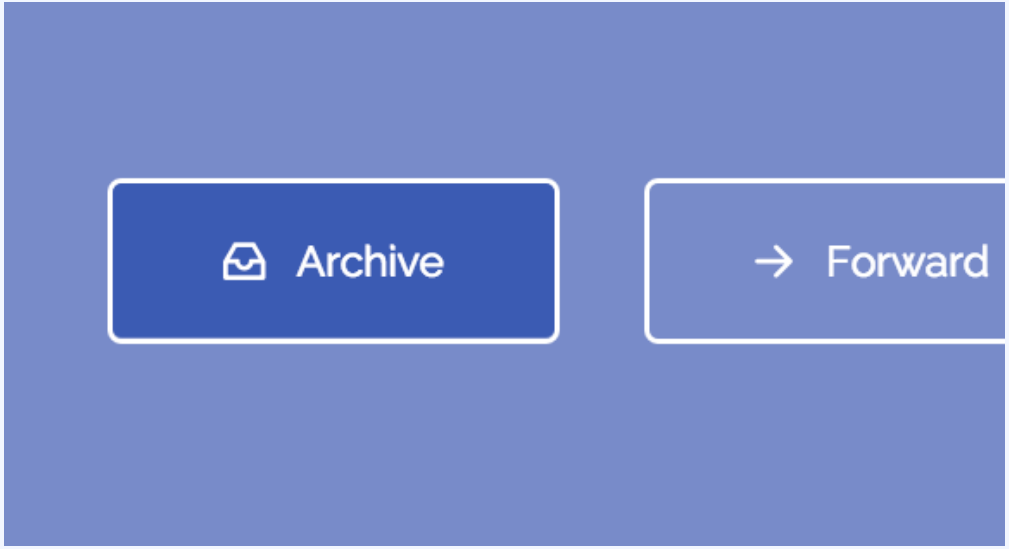
Styling Buttons

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


ADD TO CART
BOOKMARK
FAVORITE
SETTINGS
SEND DATA


Archive
Forward

CONTINUE
RETURN
CONTINUE
RETURN

Call To Action
Remove
This is a Long Call to Action
with a Line Break

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

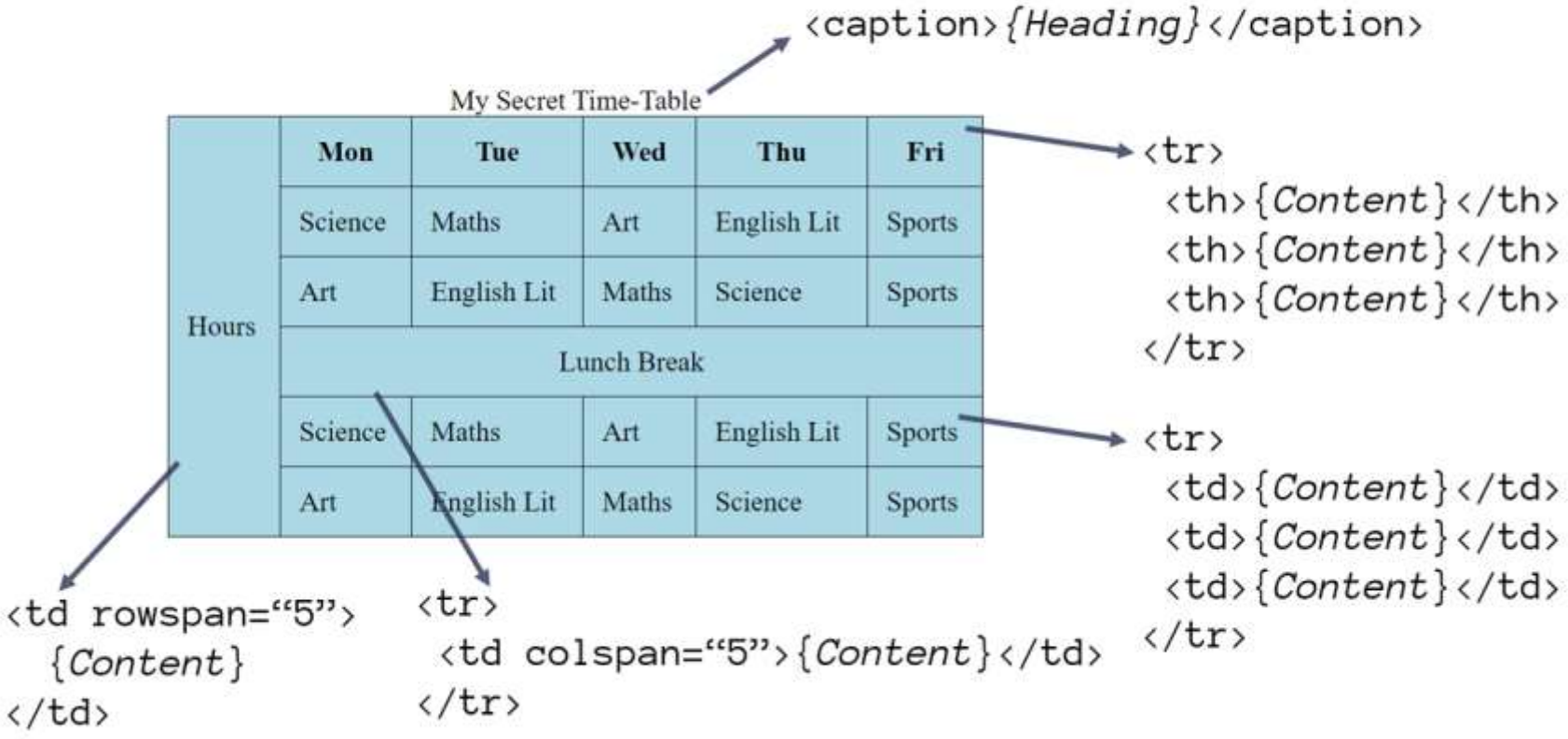
Li River, China

Meteora, Greece

Santorini Islands, Greece

Hitachci Seaside Park, Japan

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>

Problem Statement: Invoice Webpage

You have to create this webpage.

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

HTML5

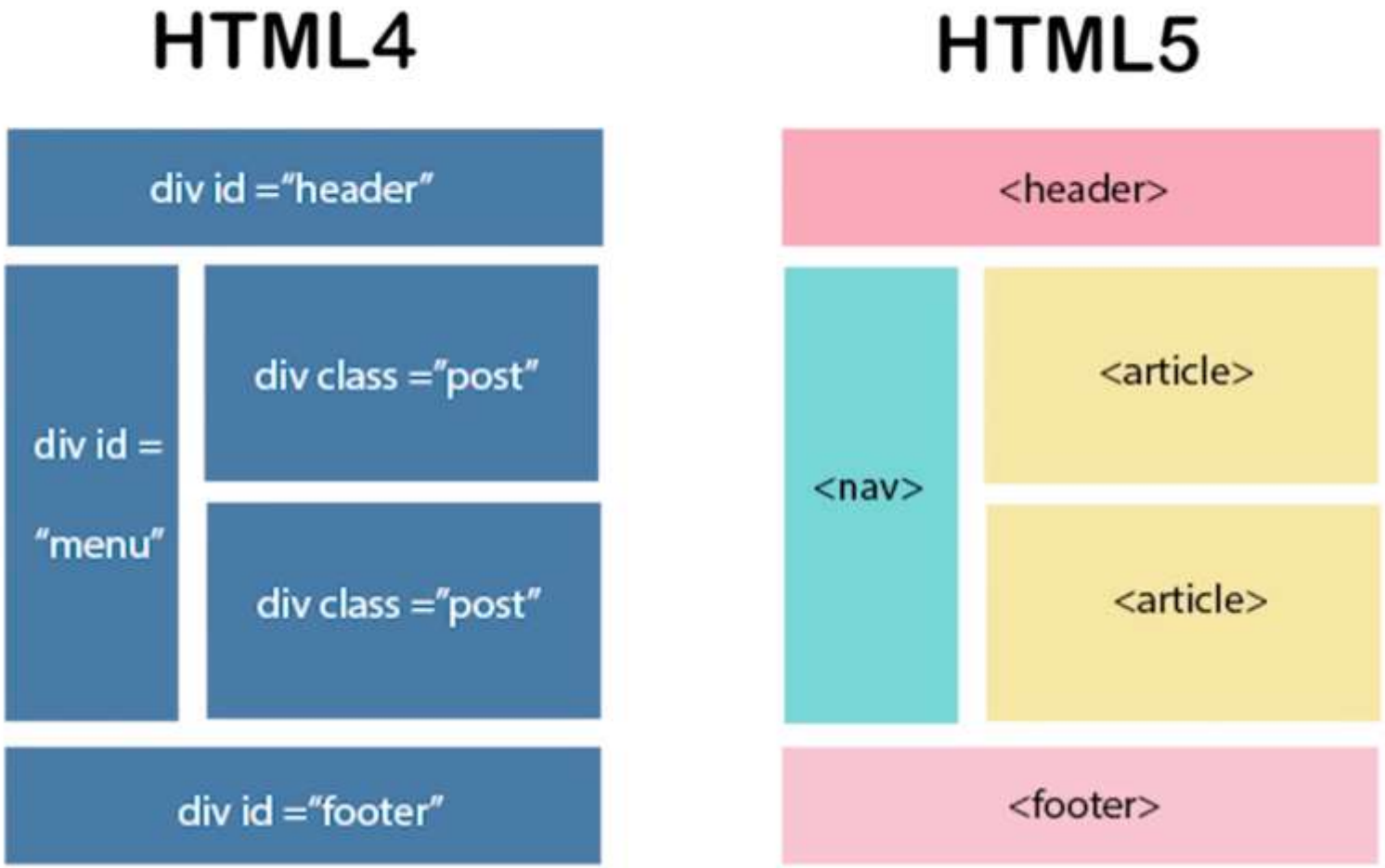
HTML5: The New Features

- **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, , 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>
<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

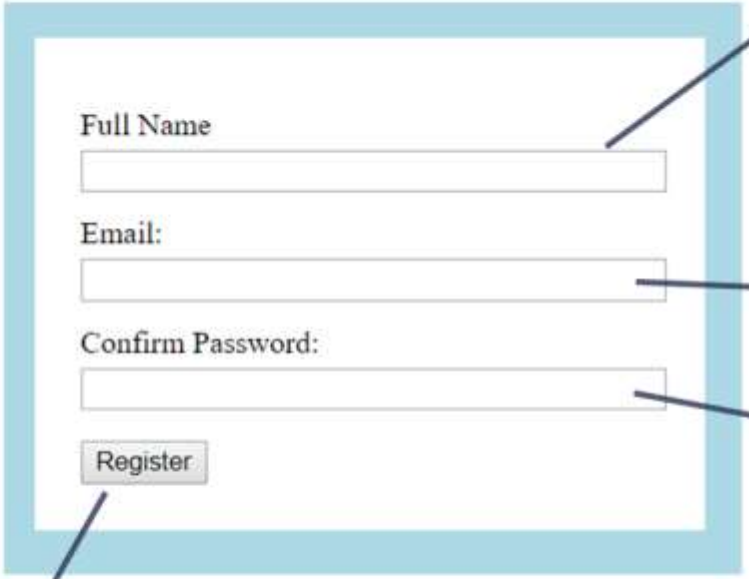
<canvas>

<svg>

New Media Elements

<audio>
<embed>
<source>
<video>

FORMS




```
<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

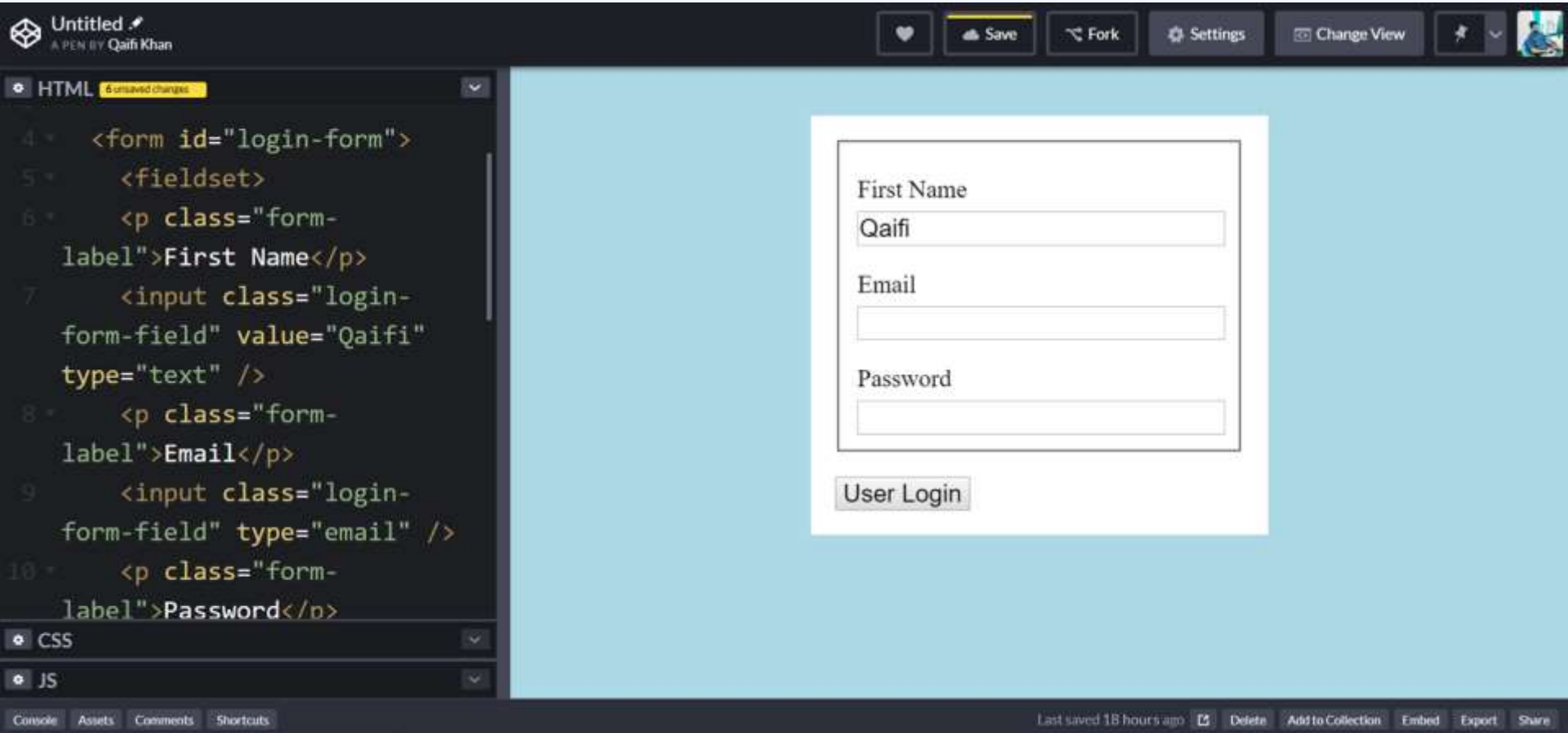
Submit

HTML5 Form Elements

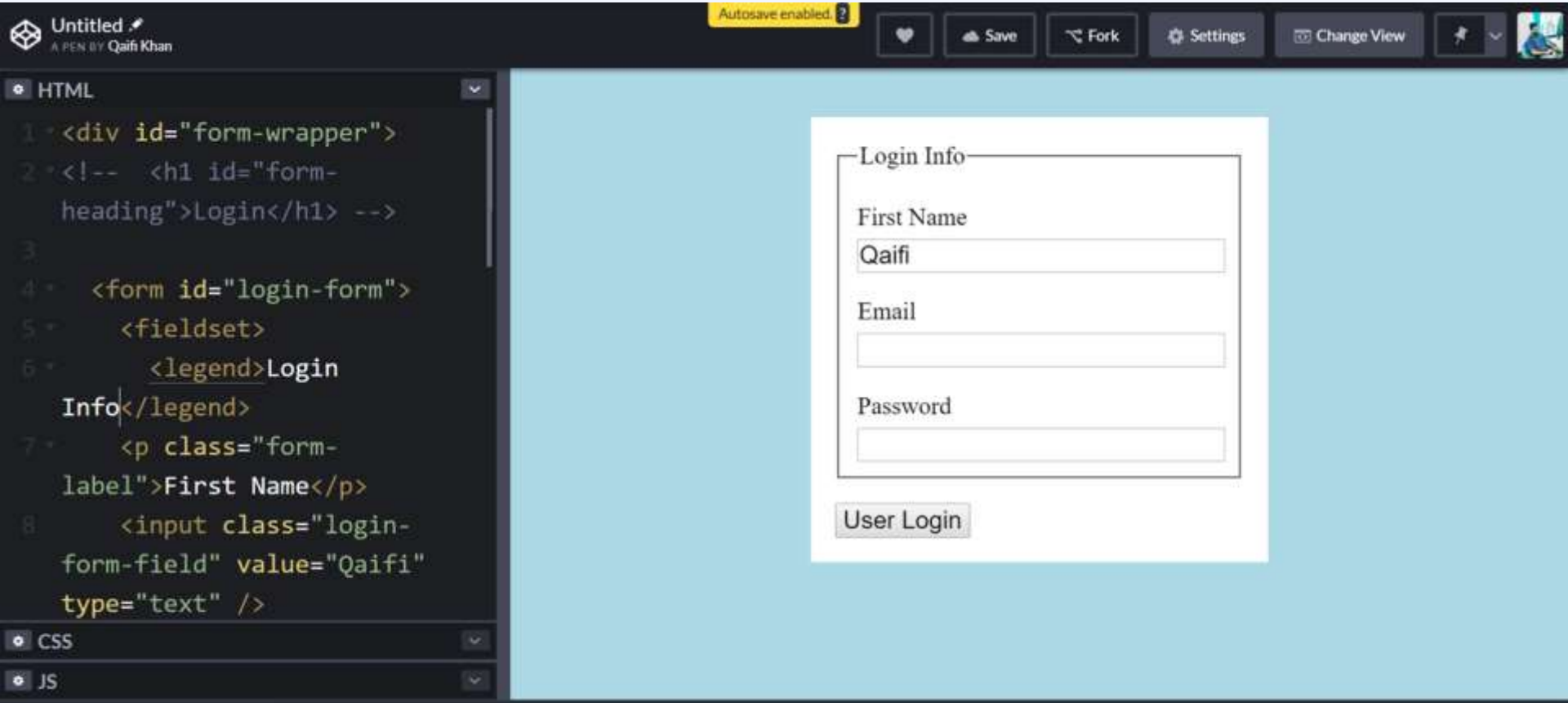
<form>
<input>
<textarea>
<label>
<fieldset>
<legend>

<select>
<optgroup>
<option>
<button>
<datalist>
<output>

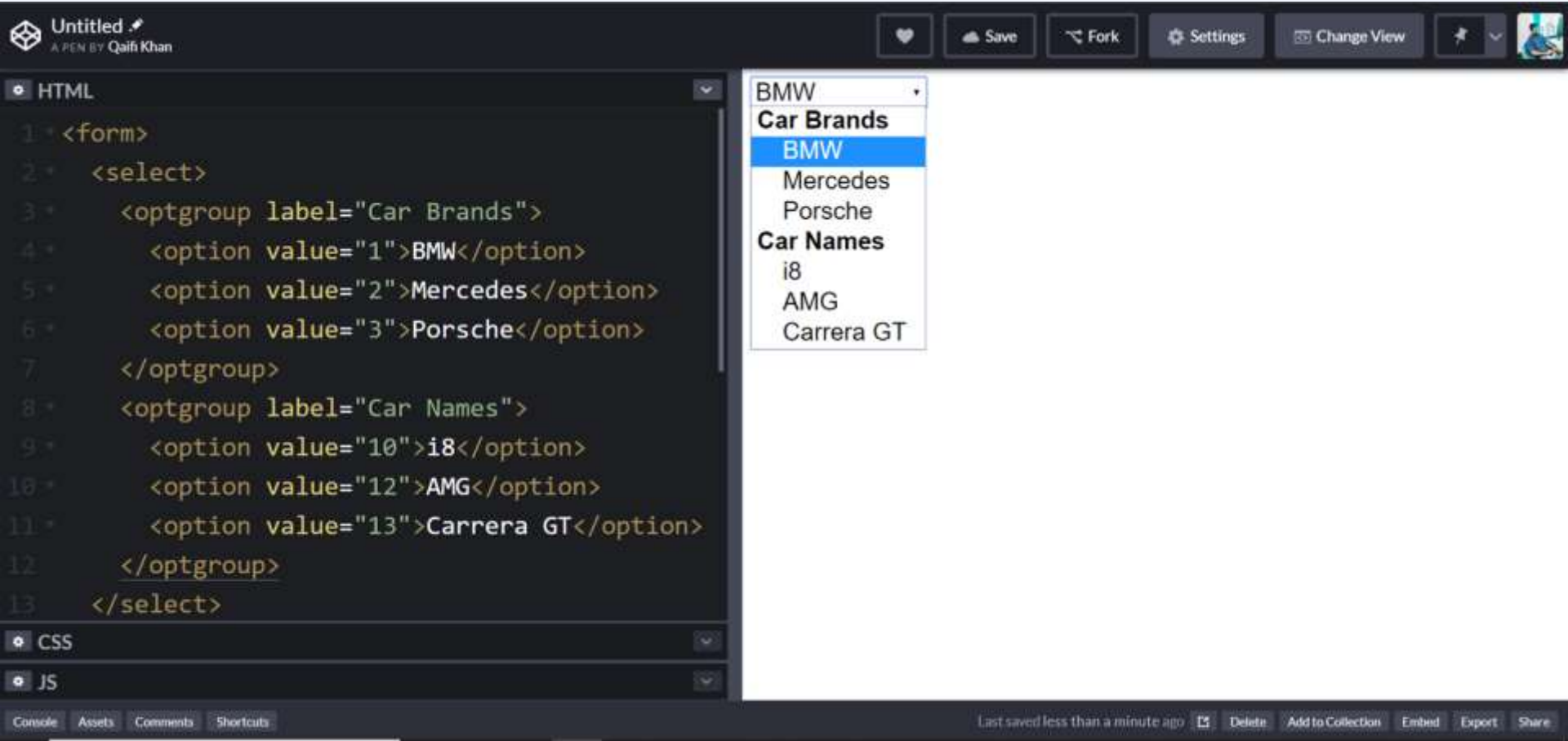
<fieldset></fieldset>



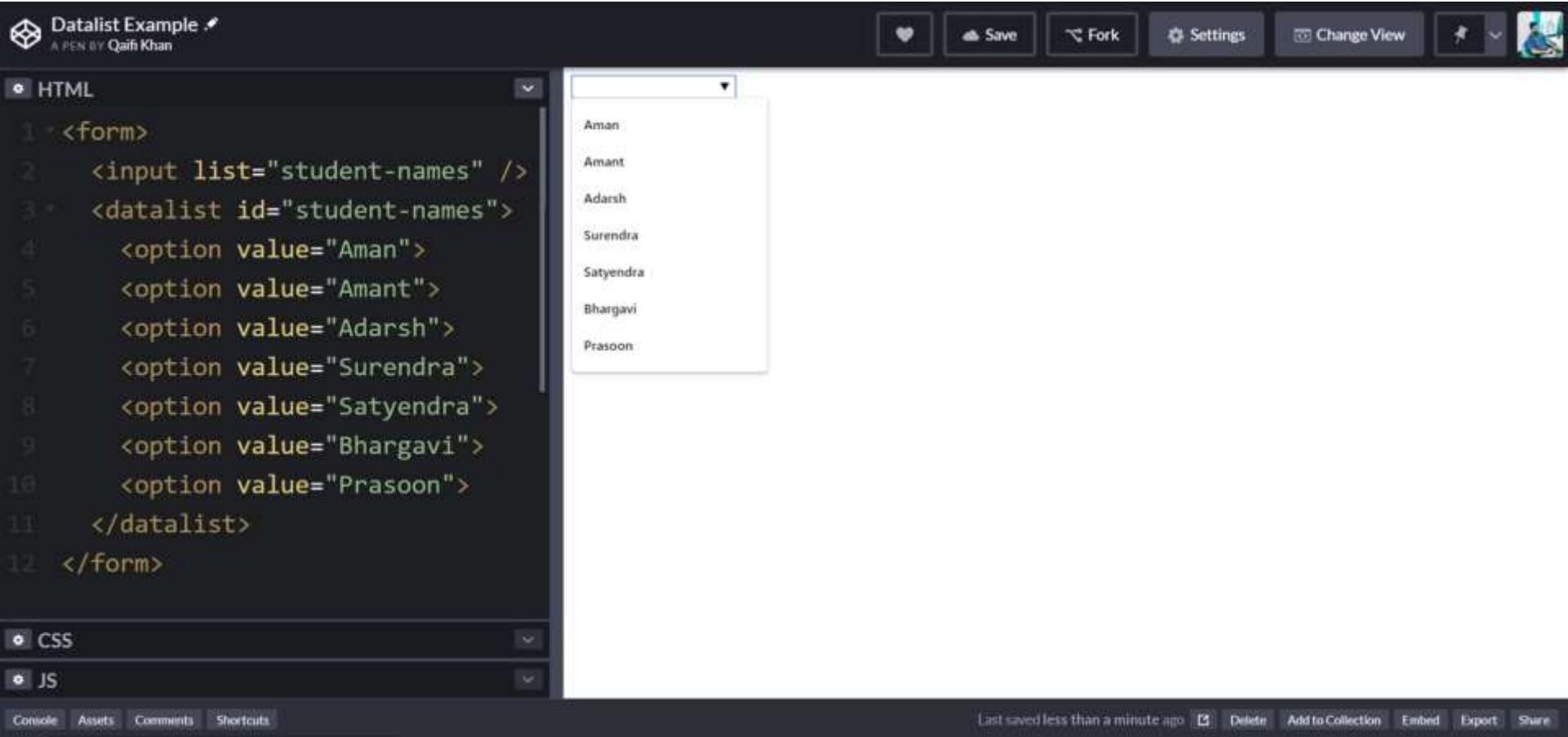
<legend></legend>



<optgroup></optgroup>



<datalist></datalist>



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/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>
```

Vector Graphics

VECTOR	RASTER
FORMED BY VARIOUS SHAPES	COMPRISED OF PIXELS
SCALABLE	LOSES QUALITY WHEN SCALED
CAN CONVERT TO RASTER	CAN'T CONVERT TO VECTOR
SVG, CGM, EPS, XML	BMP, JPG, GIF, PNG

SVGs

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

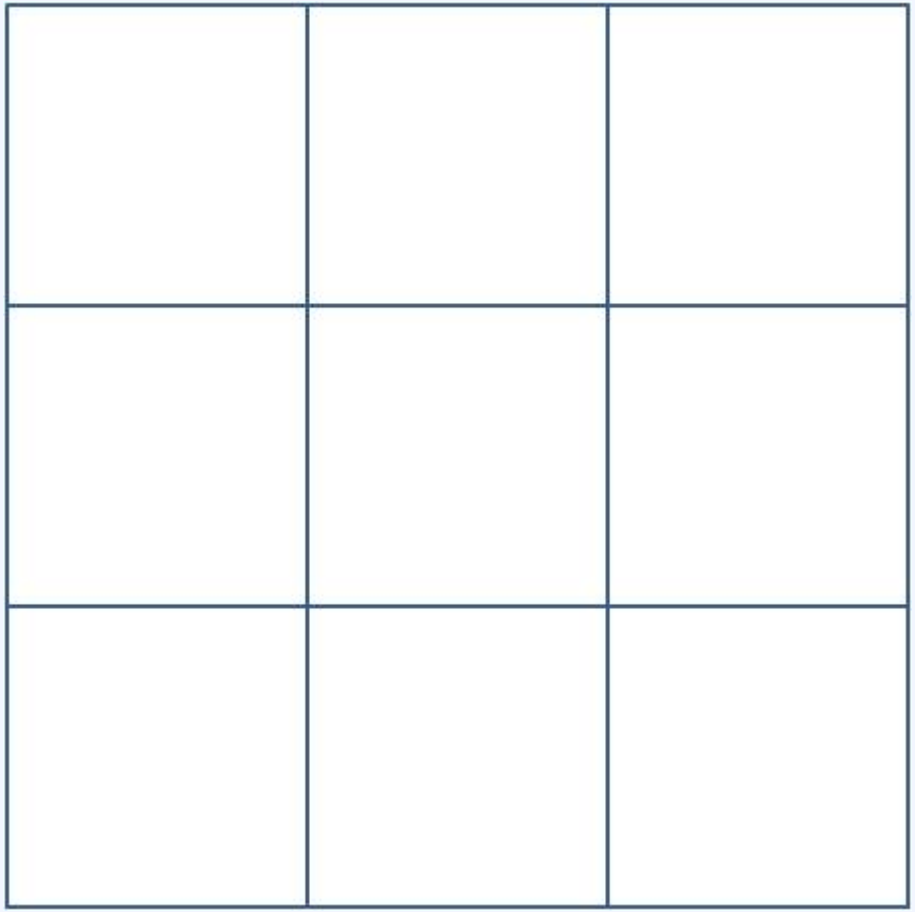
SVG images and their related behaviors are defined in XML files. These files can be created and edited with any text editor and with drawing software like Adobe Premiere Pro.

SVG images can be scaled without losing the image quality.

Line using SVG

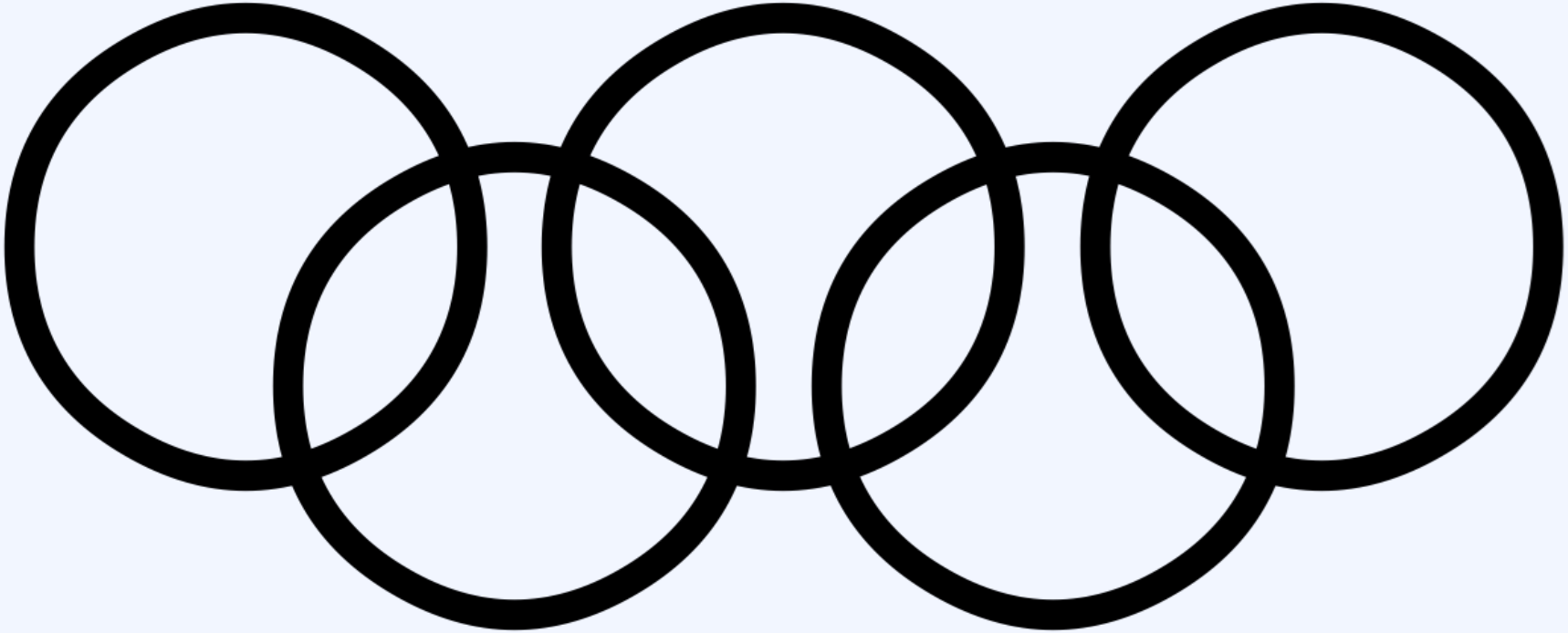
```
<svg viewBox="0 0 300 100" xmlns="http://www.w3.org/2000/svg">
  <line x1 = "0" y1 = "0" x2 = "200" y2 = "100" stroke="red"
stroke-width="2px"/>
</svg>
```

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



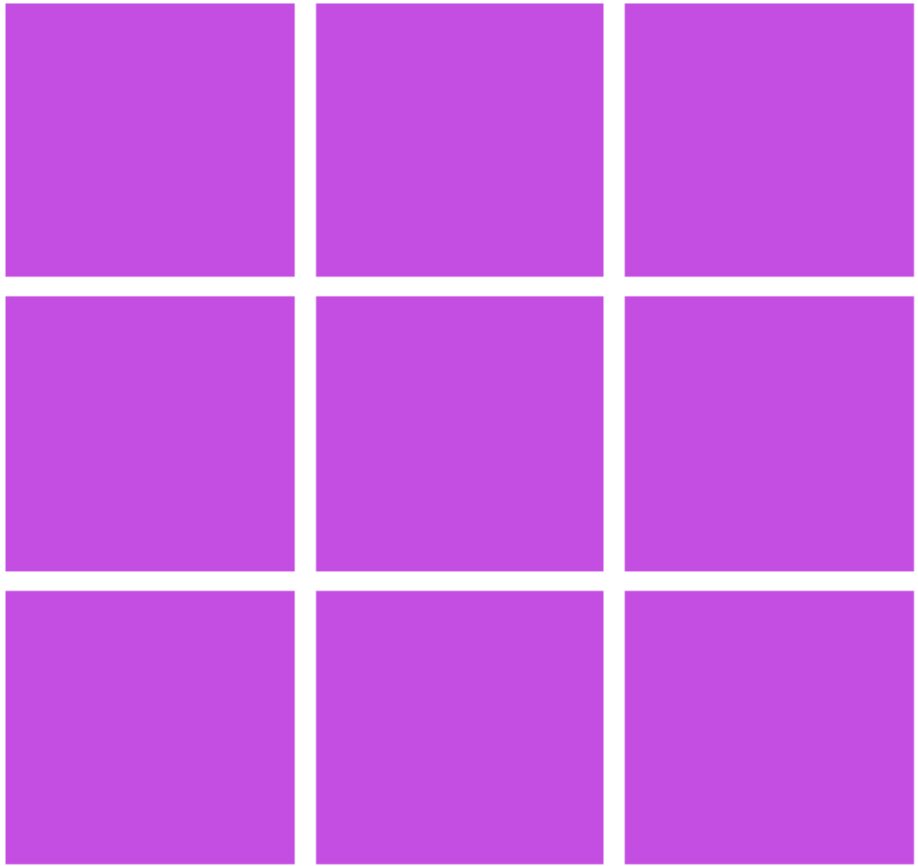
Circle using SVG

```
<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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