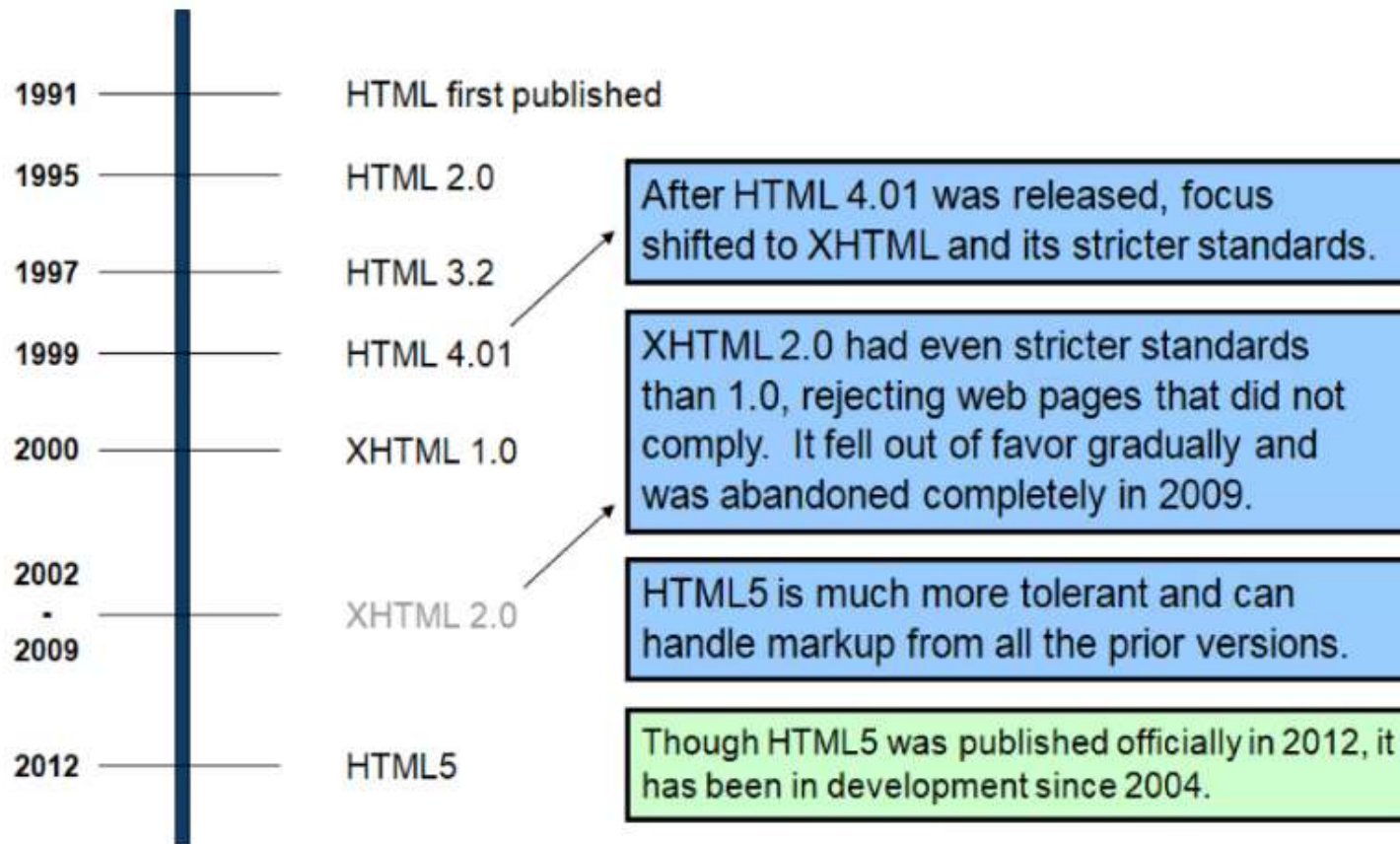


# HTML Evolution:



# HTML

- HyperText Markup Language
- Set of Text commands that can be used to format how a web is displayed.

## Tags:

- Keywords surrounded by angular brackets.
- Not case sensitive
- No space allowed in between Eg: ~~<h e a d>~~
- Eg: <head></head> <p>
- Two types of tags:
- Container tags: <title></title>
- Empty tags: <br><hr>
- Comments are put inside <!--.....-->

## Some major Tags:

Tags	Description
<code>&lt;!DOCTYPE...&gt;</code>	defines the document type and HTML version.
<code>&lt;html&gt;</code>	encloses the complete HTML document and mainly comprises of the <code>&lt;head&gt;..&lt;/head&gt;</code> and <code>&lt;body&gt;....&lt;/body&gt;</code>
<code>&lt;head&gt;</code>	represents the document's header which can keep other HTML tags like <code>&lt;title&gt;</code> , <code>&lt;link&gt;</code> etc.
<code>&lt;title&gt;</code>	used inside the <code>&lt;head&gt;</code> tag to mention the document title.
<code>&lt;body&gt;</code>	represents the document's body which keeps other HTML tags like <code>&lt;h1&gt;</code> , <code>&lt;div&gt;</code> , <code>&lt;p&gt;</code> etc.
<code>&lt;br&gt;</code>	Used to break the line
<code>&lt;p&gt;</code>	Used to create a paragraph in the webpage
<code>&lt;hr&gt;</code>	Used to draw horizontal line across the page

## Some Basic Tags:

Tags	Description
<h1>...<h6>	Heading tags: used to set different headings on the document.
<b>	Used to set the text in boldface.
<i>	Used to set the text in italic format.
<u>	Used to underline the text
<sup>	Used to convert the text in superscript like $a^2$ , $b^2$
<sub>	Used to convert the text in subscript like $a_2$ , $b_2$
<img>	Used to insert images
<table>	Used to create table

## Attributes:

- Provide additional information to describe the content of tags.
- Always in the start tag.
- Eg: `<body bgcolor = "green">`



## Basic structure of HTML document:

`<html>`

`<head>`

`<title>`

`</title>`

`</head>`

`<body>`

`</body>`

`</html>`

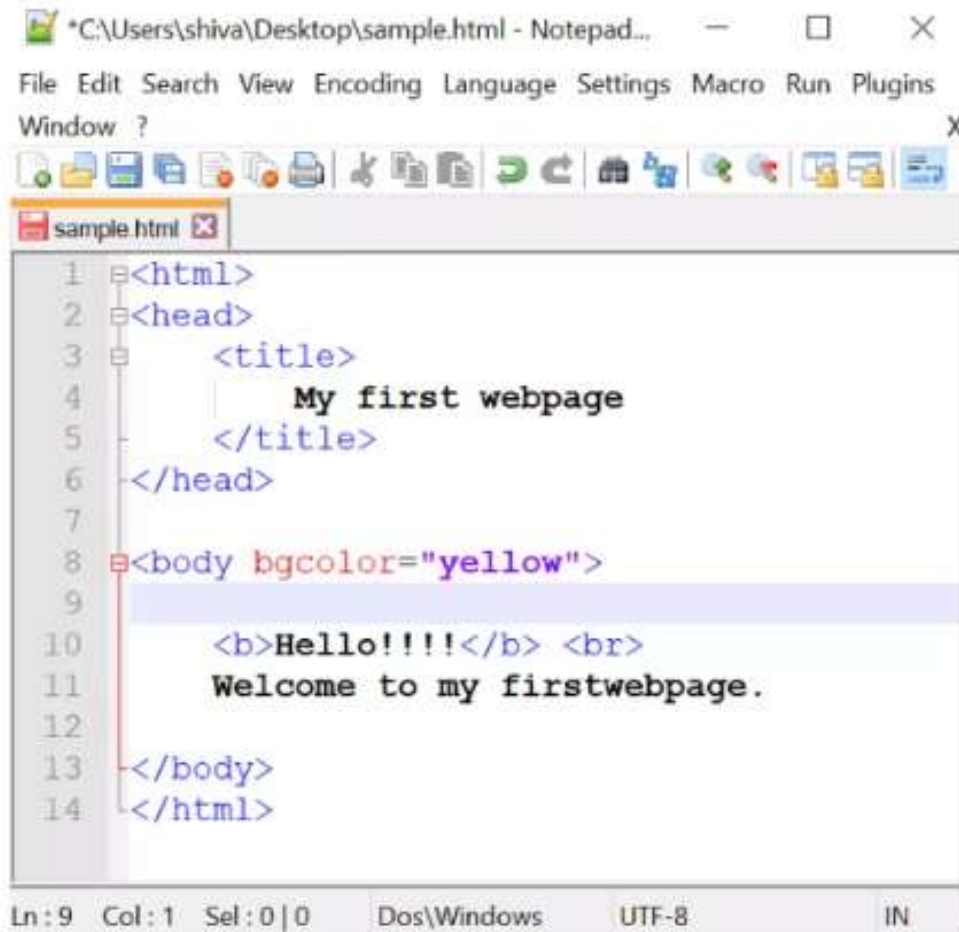
***Start and finish  
with the "html" tag***

***"Head" tag is the  
next tag***

***"Head" includes  
the "Title" tag***

***Next comes the  
"body" tag. This  
is where most of  
the visible Web  
content appears***

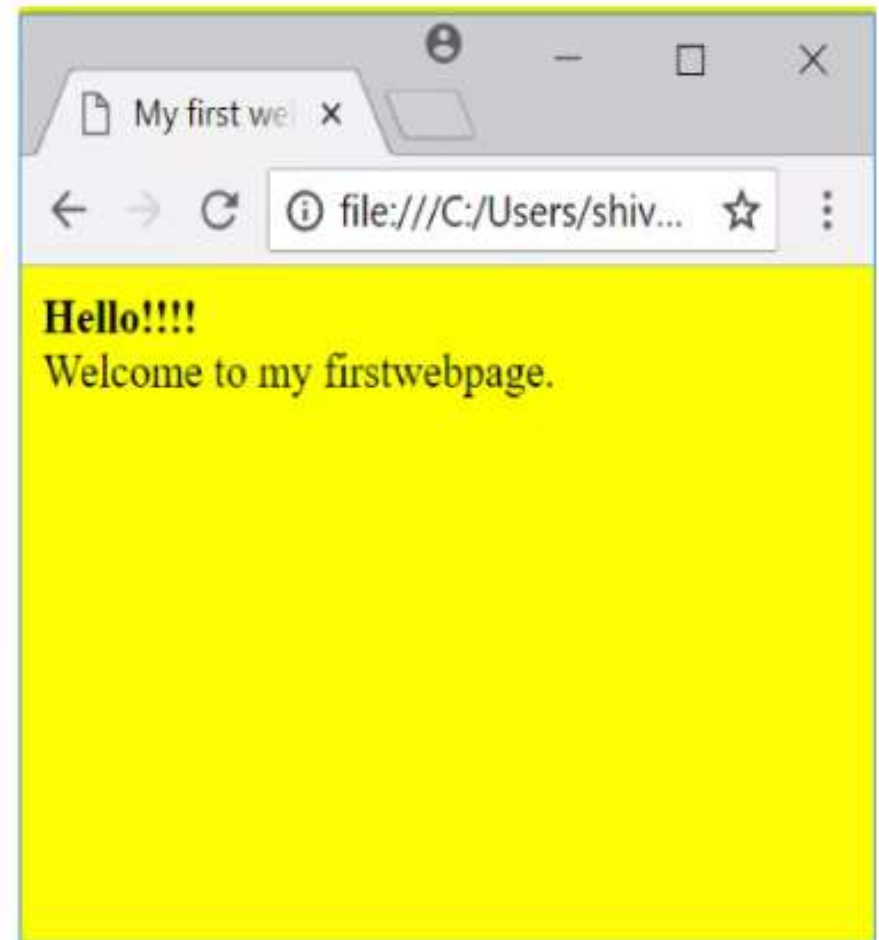
# Sample:



The screenshot shows a Notepad++ window with the title bar '\*C:\Users\shiva\Desktop\sample.html - Notepad...'. The menu bar includes File, Edit, Search, View, Encoding, Language, Settings, Macro, Run, and Plugins. The toolbar contains various icons for file operations and editing. The main text area displays the following HTML code:

```
1 <html>
2 <head>
3   <title>
4     My first webpage
5   </title>
6 </head>
7
8 <body bgcolor="yellow">
9
10   <b>Hello!!!!</b> <br>
11   Welcome to my firstwebpage.
12
13 </body>
14 </html>
```

The status bar at the bottom indicates 'Ln: 9 Col: 1 Sel: 0 | 0 Dos\Windows UTF-8 IN'.





## The heading tag:

```
<html>

  <head>
    <title>Heading Example</title>
  </head>

  <body>
    <h1>This is heading 1</h1>
    <h2>This is heading 2</h2>
    <h3>This is heading 3</h3>
    <h4>This is heading 4</h4>
    <h5>This is heading 5</h5>
    <h6>This is heading 6</h6>
  </body>

</html>
```

**This is heading 1**

**This is heading 2**

**This is heading 3**

**This is heading 4**

**This is heading 5**

**This is heading 6**

## The Paragraph and Break tags:

**<p>...</p>**

**<br>**

```
<html>

  <head>
    <title>Line Break  Example</title>
  </head>

  <body>
    <p>Hello Everyone!!!<br>
    Please pay attention.<br>Thanks<br>Shiva</p>
  </body>

</html>
```

Hello Everyone!!!  
Please pay attention.  
Thanks  
Shiva

# The Horizontal line tag:

**<hr>**

```
<html>

  <head>
    <title>Horizontal Line Example</title>
  </head>

  <body>
    <p>This is paragraph one and should be on top.</p>
    <hr>
    <p>This is paragraph two and should be at bottom.</p>
  </body>

</html>
```

This is paragraph one and should be on top.

---

This is paragraph two and should be at bottom.

## HTML elements:

- An HTML element usually consists of a **start** tag and **end** tag, with the content inserted in between:

`<tagname>..content goes here...</tagname>`

- The HTML **element** is everything from the start tag to the end tag:

`<p>My first paragraph.</p>`

- Empty elements: have no content, do not have an end tag, Eg: `<br>`

## The Table tag:

- `<table> .....</table>`
- Used for making table
- `<th>` tag used for table heading
- `<tr>` tag used for table row
- `<td>` tag used for cell of a table

```

<!--table tag implementation-->
<html>

  <head>
    <title>HTML Table Background</title>
  </head>

  <body>
    <table border = "2" bgcolor = "lightgreen">
      <tr>
        <th>Items</th>
        <th>Qty</th>
        <th>Rate</th>
        <th>Amount</th>
      </tr>
      <tr>
        <td>Apple</td>
        <td>5</td>
        <td>10</td>
        <td>50</td>
      </tr>
      <tr>
        <td>Orange</td>
        <td>3</td>
        <td>5</td>
        <td>15</td>
      </tr>
      <tr>
        <td align="right" colspan = "3">Grand Total</td>
        <td>65</td>
      </tr>
    </table>
  </body>
</html>

```

## The Table tag:

 Result

Items	Qty	Rate	Amount
Apple	5	10	50
Orange	3	5	15
Grand Total			65



## The listing tags:

- HTML supports three types of Lists:

1. Ordered or Numbered List

- `<OL>` tag

2. Unordered List

- `<UL>` tag

3. Definition List

- `<DL>` tag

The item of the list are inserted using `<LI>` tag

# The listing tags:



```
<!--listing tags implementation-->
```

```
<html>
```

```
<head>
```

```
<title>HTML Listing </title>
```

```
</head>
```

```
<body>
```

```
List of Input Devices: <br>
```

```
<OL>
```

```
<LI>Keyboard</LI>
```

```
<LI>Mouse</LI>
```

```
<LI>Scanner</LI>
```

```
</OL>
```

```
List of Favorite places:<br>
```

```
<UL type="square">
```

```
<LI>Keyboard</LI>
```

```
<LI>Mouse</LI>
```

```
<LI>Scanner</LI>
```

```
</UL>
```

```
<DL>
```

```
<DT>Webpage
```

```
<DD>It is a HTML document interpreted by webbrowser.</DD>
```

```
<DT>Homepage
```

```
<DD>It is the starting page of a website.</DD>
```

```
</DL>
```

```
</body>
```

```
</html>
```

List of Input Devices:

1. Keyboard
2. Mouse
3. Scanner

List of Favorite places:

- Keyboard
- Mouse
- Scanner

Webpage

It is a HTML document interpreted by webbrowser.

Homepage

It is the starting page of a website.

## **Form Element**

- A form is container that holds multiple controls.
- Forms collect data from site visitor and post it back to back-end application.

# Input Elements:

Input type	Syntax	Description
Text	<code>&lt;input type="text"&gt;</code>	defines a <b>one-line text input field</b>
Password	<code>&lt;input type="password"&gt;</code>	defines a <b>password field</b>
Submit	<code>&lt;input type="submit"&gt;</code>	defines a button for <b>submitting</b> form data to a <b>form-handler</b> .
Reset	<code>&lt;input type="reset"&gt;</code>	defines a <b>reset button</b> that will reset all form values to their default values.
Radio	<code>&lt;input type="radio"&gt;</code>	defines a <b>radio button</b> . Radio buttons lets user select <b>ONLY ONE</b> of a limited number of choices.
Checkbox	<code>&lt;input type="checkbox"&gt;</code>	defines a <b>checkbox</b> . Checkboxes let a user select <b>ZERO or MORE</b> options of a limited number of choices.
Button	<code>&lt;input type="button"&gt;</code>	defines a <b>button</b> .

# Input Attributes:



Attributes	Description	Example
value	the initial value for an input field.	<code>&lt;input type="text" name="firstname" value="Hari"&gt;</code>
name	Used to give a name to the control which is sent to the server to be recognized and get the value.	<code>&lt;input type="text" name="firstname" value="Hari"&gt;</code>
size	specifies the size (in characters) for the input field:	<code>&lt;input type="text" name="firstname" value="John" size="40"&gt;</code>
maxlength	specifies the maximum allowed length for the input field	<code>&lt;input type="text" name="firstname" maxlength="10"&gt;</code>
readonly	specifies that the input field is read only (cannot be changed)	<code>&lt;input type="text" name="firstname" value="Hari" readonly&gt;</code>
disabled	specifies that the input field is disabled. Its value will not be sent when submitting the form:	<code>&lt;input type="text" name="firstname" value="Hari" disabled&gt;</code>



# A simple login form

```
<html>

<head>
  <title>Checkbox Control</title>
</head>

<body>
  <form>
    Username: <input type = "text" name = "username" placeholder="Enter
      username" /><br><br>
    Password: <input type = "password" name = "password" placeholder="Enter
      password" /><br><br>
    <input type = "checkbox" name = "remember" value = "on"> Remember Password
      <br>
    <input type="button" name="button" value="Login">
  </form>
</body>

</html>
```

Username:

Password:

☐ Remember Password

Login



# XHTML

- XHTML:  
**EX**tensible **HyperText Markup Language**
- almost identical to HTML
- stricter than HTML
- XHTML is HTML defined as an XML application
- XHTML is supported by all major browsers
- was developed by combining the strengths of HTML and XML.

## Why XHTML ?

- The reason for XHTML to be developed was convoluted browser specific tags. Pages coded in HTML appeared different in different browsers.
- To solve some cross-browser compatibility issues

# The Most Important Differences from HTML:



## 1. Document Structure

- XHTML DOCTYPE is **mandatory**
- The xmlns attribute in <html> is **mandatory**
- <html>, <head>, <title>, and <body> are **mandatory**

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">

<html xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <title>Title of document</title>
  </head>
  <body>
    some content
  </body>
</html>
```

file:///F:/0.%20MScISE/Web%20En... ☆ ⋮

This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<html>
  <head>
    <title>Title of document</title>
  </head>
  <body> some content </body>
</html>
```

## The Most Important Differences from HTML:

### 2. XHTML Elements

- XHTML elements must be **properly nested**
- XHTML elements must always be **closed**
- XHTML elements must be in **lowercase**
- XHTML documents must have **one root element**

## The Most Important Differences from HTML:

Restriction	Valid in HTML	Valid in XHTML
<b>XHTML Elements Must Be Properly Nested</b>	<code>&lt;b&gt;&lt;i&gt;This text is bold and italic&lt;/b&gt;&lt;/i&gt;</code>	<code>&lt;b&gt;&lt;i&gt;This text is bold and italic&lt;/i&gt;&lt;/b&gt;</code>
<b>XHTML Elements Must Always Be Closed</b>	<code>&lt;p&gt;This is a paragraph</code> <code>&lt;p&gt;This is another paragraph</code>	<code>&lt;p&gt;This is a paragraph&lt;/p&gt;</code> <code>&lt;p&gt;This is another paragraph&lt;/p&gt;</code>
<b>XHTML Elements Must Be In Lower Case</b>	<code>&lt;BODY&gt;</code> <code>&lt;P&gt;This is a paragraph&lt;/P&gt;</code> <code>&lt;/BODY&gt;</code>	<code>&lt;body&gt;</code> <code>&lt;p&gt;This is a paragraph&lt;/p&gt;</code> <code>&lt;/body&gt;</code>
<b>Empty Elements Must Also Be Closed</b>	A break: <code>&lt;br&gt;</code> A horizontal rule: <code>&lt;hr&gt;</code> An image: <code>&lt;img src="happy.gif" alt="Happy face"&gt;</code>	A break: <code>&lt;br /&gt;</code> A horizontal rule: <code>&lt;hr /&gt;</code> An image: <code>&lt;img src="happy.gif" alt="Happy face" /&gt;</code>



## The Most Important Differences from HTML:

### 3. XHTML Attributes

- Attribute names must be in **lower case**
- Attribute values must be **quoted**
- Attribute minimization is **forbidden**



## The Most Important Differences from HTML:



Restriction	Valid in HTML	Valid in XHTML
XHTML Elements Must Be In Lower Case	<code>&lt;BODY&gt;</code> <code>&lt;P&gt;This is a paragraph&lt;/P&gt;</code> <code>&lt;/BODY&gt;</code>	<code>&lt;body&gt;</code> <code>&lt;p&gt;This is a paragraph&lt;/p&gt;</code> <code>&lt;/body&gt;</code>
XHTML Attribute Names Must Be In Lower Case	<code>&lt;table WIDTH="100%"&gt;</code>	<code>&lt;table width="100%"&gt;</code>
Attribute Values Must Be Quoted	<code>&lt;table width=100%&gt;</code>	<code>&lt;table width="100%"&gt;</code>

## HTML 5

- The newest version of HTML, only recently gaining partial support by the makers of web browsers.
- Incorporates all features from earlier versions of HTML, including the stricter XHTML.
- Adds a diverse set of new tools for the web developer to use.
- It is still a work in progress. No browsers have full HTML5 support.

## Goals of HTML5

- Support all existing web pages.
- Reduce the need for external plugins and scripts to show website content.
- Improve the semantic definition (i.e. meaning and purpose) of page elements.
- Make the rendering of web content universal and independent of the device being used.
- Handle web documents errors in a better and more consistent fashion

## Some New Elements in HTML5

Tag	Description
<a href="#"><u>&lt;article&gt;</u></a>	Defines an article in a document
<a href="#"><u>&lt;aside&gt;</u></a>	Defines content aside from the page content
<a href="#"><u>&lt;dialog&gt;</u></a>	Defines a dialog box or window
<a href="#"><u>&lt;figcaption&gt;</u></a>	Defines a caption for a <figure> element
<a href="#"><u>&lt;figure&gt;</u></a>	Defines self-contained content
<a href="#"><u>&lt;footer&gt;</u></a>	Defines a footer for a document or section
<a href="#"><u>&lt;header&gt;</u></a>	Defines a header for a document or section
<a href="#"><u>&lt;main&gt;</u></a>	Defines the main content of a document
<a href="#"><u>&lt;mark&gt;</u></a>	Defines marked/highlighted text
<a href="#"><u>&lt;meter&gt;</u></a>	Defines a scalar measurement within a known range (a gauge)
<a href="#"><u>&lt;nav&gt;</u></a>	Defines navigation links
<a href="#"><u>&lt;progress&gt;</u></a>	Represents the progress of a task
<a href="#"><u>&lt;section&gt;</u></a>	Defines a section in a document
<a href="#"><u>&lt;summary&gt;</u></a>	Defines a visible heading for a <details> element
<a href="#"><u>&lt;time&gt;</u></a>	Defines a date/time
<a href="#"><u>&lt;wbr&gt;</u></a>	Defines a possible line-break

## New features in HTML 5

- Built-in audio and video support (without plugins)
- Vector graphics and animation
- Enhanced form controls and attributes
- The Canvas (a way to draw directly on a web page)
- Drag and Drop functionality
- Support for CSS3 (the newer and more powerful version of CSS)
- More advanced features for web developers, such as data storage and offline applications.



# Advantages of HTML 5



## **1) Cleaner markup/ Improved code:**

enable web designers to use cleaner, neater code. We can remove div tags and replace them with semantic HTML5 elements.

## **2) Elegant forms:**

enables designer to use fancier forms. There will be different type of inputs, search and different fields for different purpose.

## **3) Consistency:**

As websites will adopt the new HTML5 elements for consistency. This will make it much easier for designers and developers to immediately understand how a web page is created.

## **4) Supports rich media elements:**

HTML5 has an inbuilt capability to play audio and video eliminating the plugin tags.

## **5) Offline Application Cache:**

HTML5 offers an offline application cache facility which will load the page the user has visited even if the user is temporarily offline. This feature will help the files to load much faster and reduces load on server



# XHTML vs HTML5

## The DOCTYPE declaration

It tells the browser which type and version of document to expect.

## XHTML

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"  
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

## HTML5

```
<!DOCTYPE html>
```

# XHTML vs HTML5

## The DOCTYPE declaration

It tells the browser which type and version of document to expect.

## XHTML

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"  
    "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

## HTML5

```
<!DOCTYPE html>
```

# XHTML vs HTML5

## <head> section

### XHTML

```
<head>
  <meta http-equiv="Content-type" content="text/html; charset=UTF-8" />
  <title>My First XHTML Page</title>
  <link rel="stylesheet" type="text/css" href="style.css" />
</head>
```

### HTML5

```
<head>
  <meta charset="utf-8">
  <title>My First HTML5 Page</title>
  <link rel="stylesheet" href="style.css">
</head>
```

# Add-Subtract Calculator

(HTML code):

```
<!DOCTYPE html>
<html>
<head>
<meta charset=utf-8 />
<title>Addition and Subtraction of Two Numbers in JavaScript</title>
<link rel="stylesheet" href="addition.css">
<script type="text/javascript" src="addition.js"></script>
</head>
<body>
<hr>
<h2> Add-Subtract Calculator </h2>
<hr>

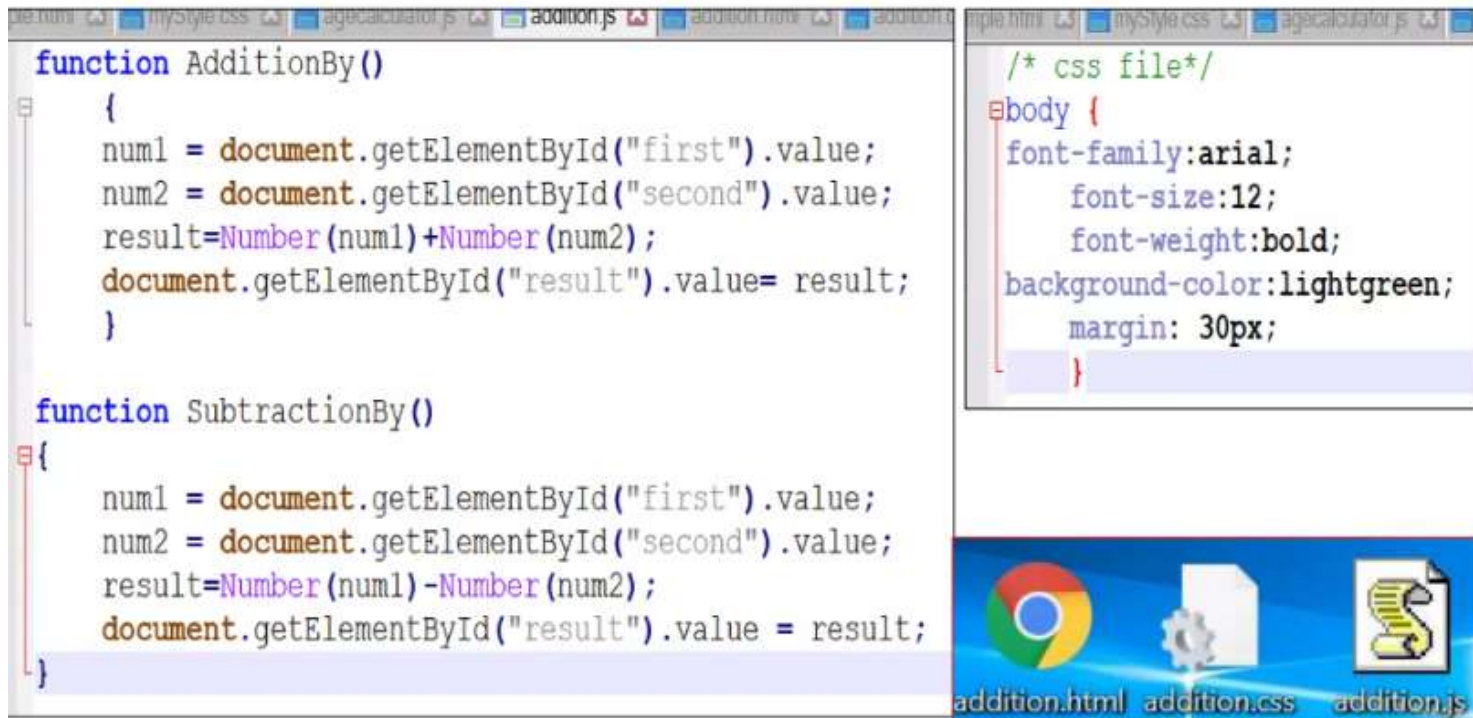
<form>
Enter 1-st Number : <input type="text" id="first" maxlength="4" / size="4"><br>
Enter 2nd Number : <input type="text" id="second" maxlength="4" size="4" />

<br><br>
<input type="button" onClick="AdditionBy()" Value="Addition"
title="Click here to find the sum of the two numbers." />

<input type="button" onClick="SubtractionBy()" Value="Subtraction"
title="Click here to find the difference of the two numbers." />
</form> <br><br>

<p>The Final Result is : <input id="result" maxlength="4" size="4"/></p>
</body>
</html>
```

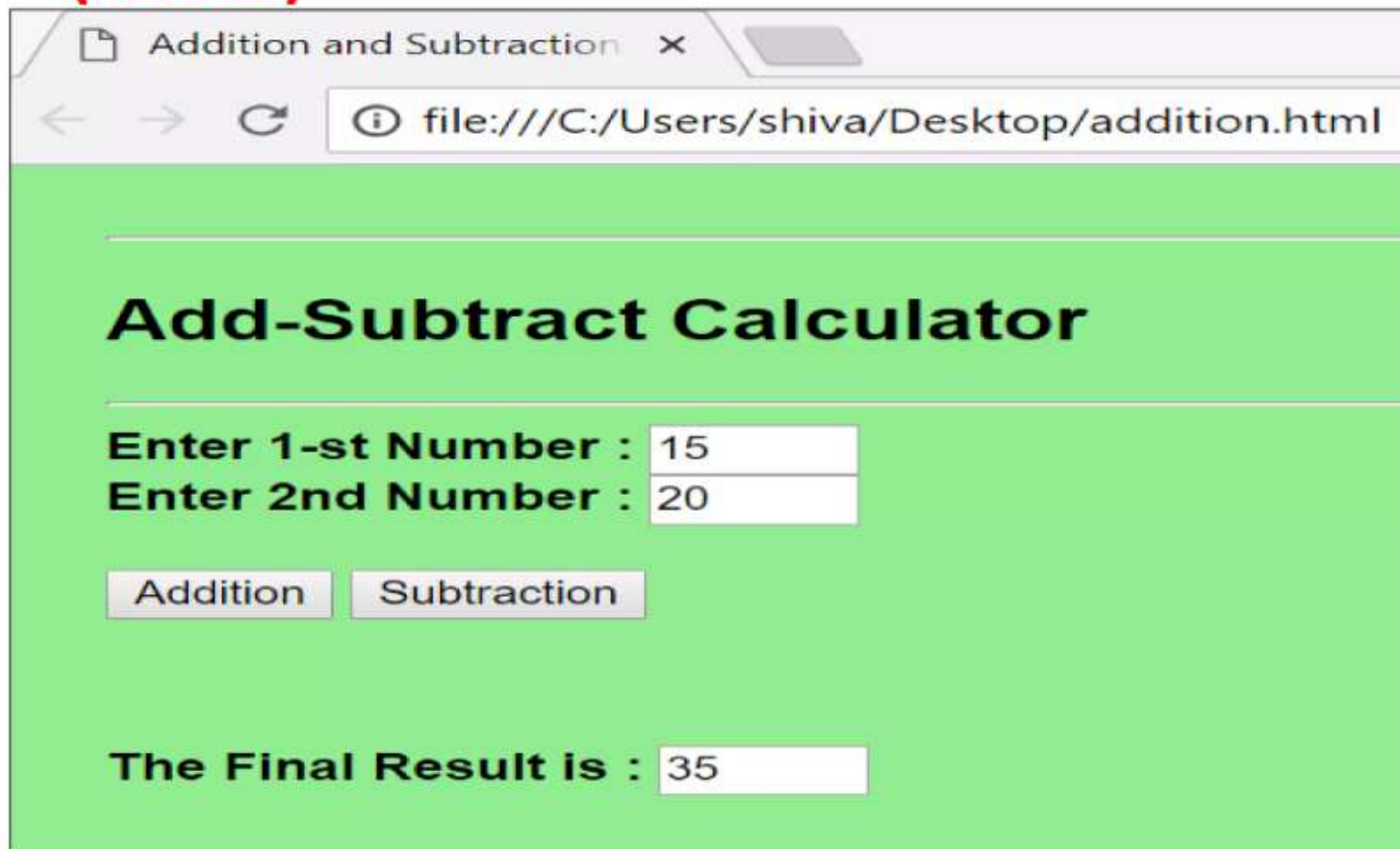
# Add-Subtract Calculator (JavaScript & CSS):





# Add-Subtract Calculator

## (Result)



The screenshot shows a web browser window with a single tab titled "Addition and Subtraction". The address bar displays the file path: `file:///C:/Users/shiva/Desktop/addition.html`. The main content area has a light green background and contains the following elements:

- A horizontal line.
- The title "Add-Subtract Calculator" in bold black text.
- Another horizontal line.
- Two input fields with labels: "Enter 1-st Number : 15" and "Enter 2nd Number : 20".
- Two buttons: "Addition" and "Subtraction".
- A final result line: "The Final Result is : 35".