1. What is Html?

1 HTML stands for Hyper Text Markup Language.
2 It is the standard markup language for creating web pages.
3 It describes the structure of a web page.
4 HTML elements tell the browser how to display the content.
5 HTML files are saved with .html extension.

(Notes)
1 Frontend -> refers to how a web page looks.
2 Backend -> refers to how it works.
3 Frontend Developer -> is someone who creates websites and web applications.
4 Website -> is a collection of linked web pages that share a unique domain name.
5 Web Page -> is a document written in html that you see online, using a web browser.

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2. Why do we need to Know HTML?

All browser understands only the mark-up language (HTML) and whatever code that we write like DotNet, React, Angular that will be converted into HTML and displayed on browser.

(Example)
.net,reactjs,angularjs =>   html   => web browser
                    (code conversion)

----

3. Pros and Cons of HTML:

Advantages	Disadvantages
1 Easy to learn and use.	1 Extensive code.
2 Simple syntax.	2 Static Language.
3 SEO-Friendly.	3 Limited Security.
4 Supported by all browsers.	
5 Platform-independent.	

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4. Purpose of Creating a Web Page

To share the information universally in a standard form without any software restrictions.

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5. Boilerplate
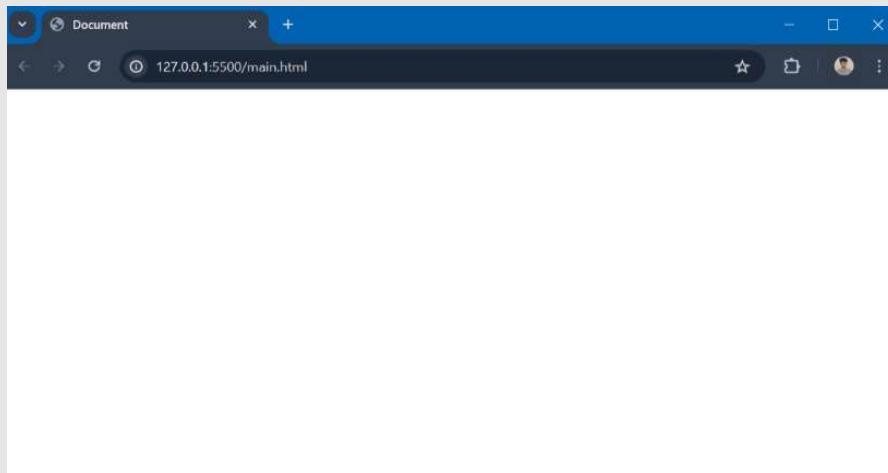
1 Boilerplate is a template you will add at the start of your project.

2 It helps you build fast, robust and adaptable web apps or sites.

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6. Structure of html

Main.html

```html
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Document</title>
</head>
<body>
</body>
</html>
```

ELEMENT	DESCRIPTION
1 `<!DOCTYPE html>`	* tells version of html.
2 `<html lang="en">`	* `<html>` tag defines the root of an HTML document. * lang attribute specifies the language of the element's content. (en - english, es - spanish, fr - french)
3 `<head></head>`	* defines information about the html document.
4 `<body></body>`	* hold contents of the html document.
5 `<title></title>`	* defines the document title.
6 `<meta charset="UTF-8">`	* charset attribute specifies the character encoding for the HTML document. (Unicode Transformation Format-8)
7 `<meta name="author" content="Pon Pandian">` `<meta name="description" content="My first web page">`	* `<meta>` tag provides metadata or information about an html document.
8 `<meta name="viewport" content="width=device-width, initial-scale=1.0">`	* Responsive web design (RWD) refers to designing websites to adapt to a user's device. * A responsive web design will automatically adjust for
9 `<!--...-->`	* defines a comment.

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7. Tags ---------->   1 HTML tags are used to hold the html elements.
                      2 HTML tag starts with < and ends with >.

```
--------(Element)--------
     <p>     hello world     </p>
 (tag name)   (Contents)   (tag name)
 (start tag)               (end tag)
```

----

8. Elements ------> 1 HTML elements holds the content.

                      2 Whatever written within a html tag are html elements.

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9. Attributes ----> 1 HTML attributes are used to describe the characteristic of an html element in detail.

                      2 HTML attributes are found only in the starting tag.

```
    ----(Attribute)------      --(Attribute)--
<img src="images/image.jpg"    alt   = "image"/>
    (keyword)  (value)       (keyword)  (value)
```

----

10. Types of Tags

                1 Paired tags --------------------> Contains closing tag.

                                              (Example) <h1></h1>

                2 Unpaired tag or Self-closing tag -> Closing tag is not required.

                                              (Example)
,<hr>,<img>

,<hr/>,<img/>

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11. File Paths

                1 Relative Path -> describes the location of a file relative to the current directory.

                                        (Example) index.html

                                                      /images/image.png

                2 Absolute Path -> describes the location of a file relative to the root directory.
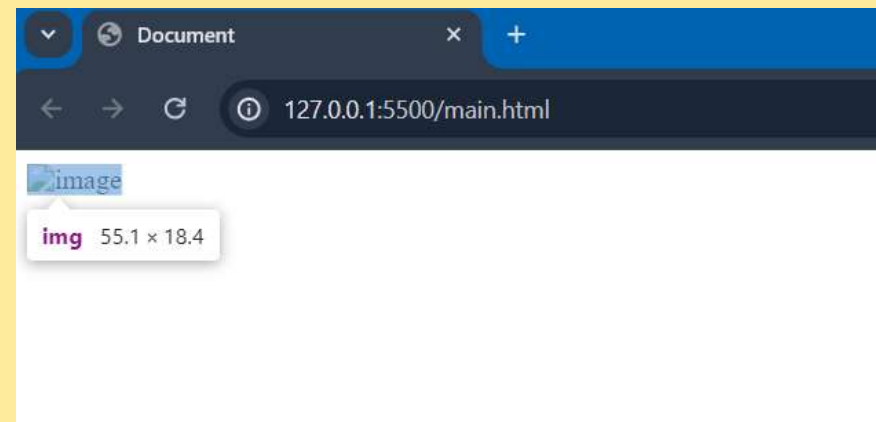
                                        (Example) http://www.mysite.com

                                                      http://www.mysite.com/images/image.png

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12. Block Level and Inline Level Element

1 Block Level Element ---> always starts on a new line and takes up the full
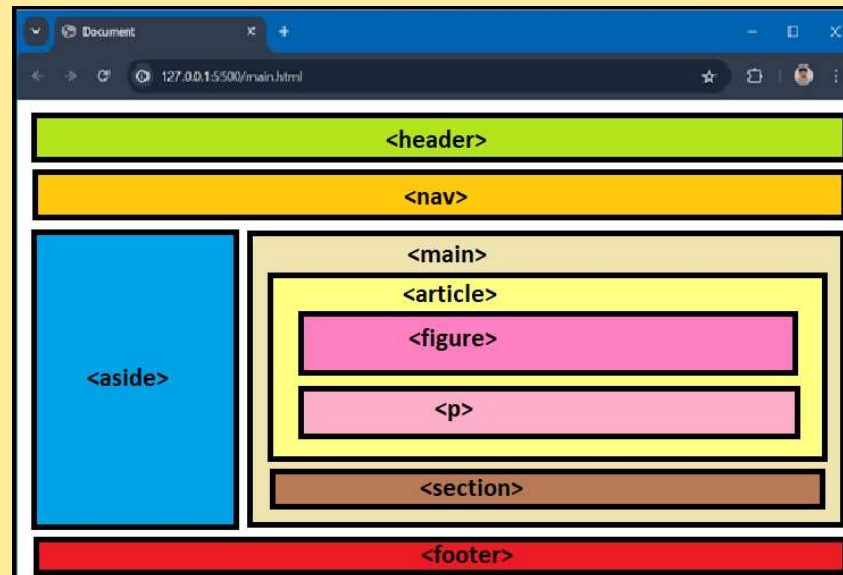**(Example) <div></div>,<p></p>**
<p>Paragraph</p>
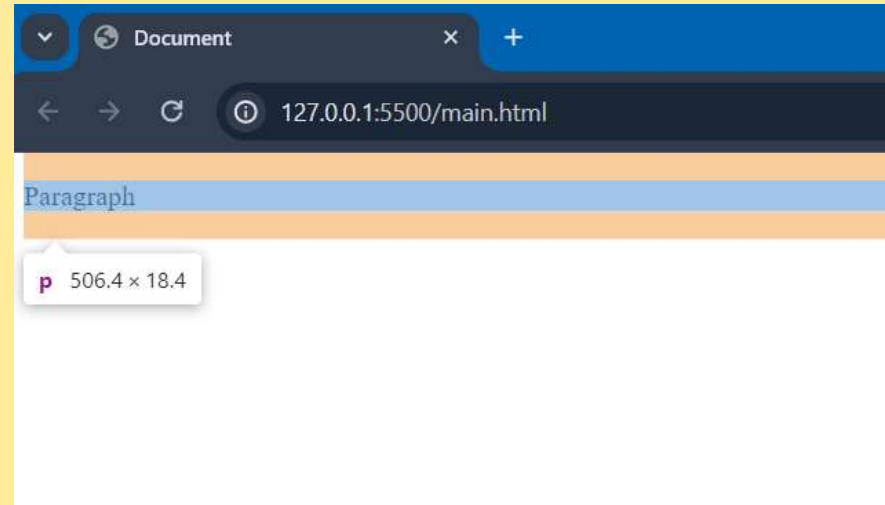
2 Inline Level Element --> does not start on a new line and it only takes up
as much width as necessary.
(Example) <a>,<img>
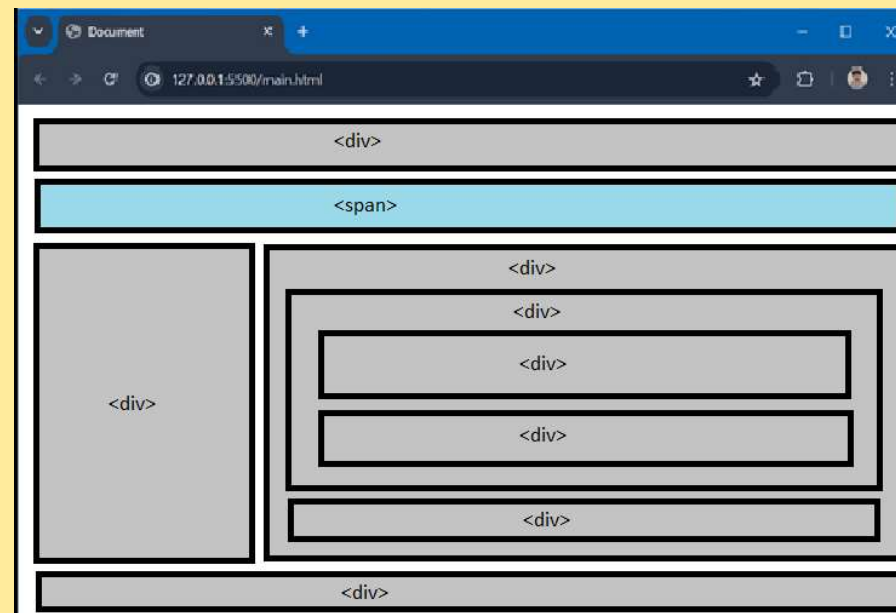****

13. Semantic and Non-Semantic

1 **Semantic Element ------>** A semantic element clearly describes its meaning to both the browser and the developer.

(HTML 5)

2 **Non-Semantic Element -->** Non-Semantic elements unlike semantic elements they don't have any meaning.

(HTML 4)

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14. **List** ---> series of names or items arranged in a rows.

    Types ---> Ordered lists, Unordered lists and Definition lists.

1 Orderd lists

```
<ol type="">
    <li>Bike</li>
    <li>Car</li>
</ol>
<ol type="a">
    <li>Bike</li>
    <li>Car</li>
</ol>
    <ol type="i">
    <li>Bike</li>
    <li>Car</li>
</ol>
```

```
1. Bike
2. Car

a. Bike
b. Car

 i. Bike
ii. Car
```

2 Unorderd lists

```
<ul type="">
    <li>Bike</li>
    <li>Car</li>
</ul>
<ul type="circle">
    <li>Bike</li>
    <li>Car</li>
</ul>
<ul type="square">
    <li>Bike</li>
    <li>Car</li>
</ul>
```

```
• Bike
• Car

○ Bike
○ Car

■ Bike
■ Car
```

3 Definition lists

```
<dl>
    <dt>Introduction</dt>
    <dd>This is my first
        web page.</dd>
    <dt>Conclusion</dt>
    <dd>This is my first
        web page.</dd>
</dl>
```

```
Introduction
        This is my first web page.
Conclusion
        This is my first web page.
```

ELEMENT	DESCRIPTION
1 `<ol type=""></ol>`	* defines ordered list or numbered list.
2 `<ul type=""></ul>`	* defines unordered list or bulleted list.
3 `<dl></dl>`	* defines a definition list or description list.
4 `<li></li>`	* defines list item..
5 `<dt></dt>`	* defines a definition term.
6 `<dd></dd>`	* defines a definition description.

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15. Table ----> a way of presenting data or information using rows and columns.
    Types ----> Simple table, Inline table and Accordion table.

	(Table)	(Description)	(Example)
1	Simple Table	data that must be displayed is limited.	
2	Inline Table	edit or delete the existing data in all the rows.	
3	Accordion Table	a table that allows you to hide information until the user clicks on the heading to expand that heading.	

Table (inside body tag)

table head

```html
<table>
  <thead>
    <tr>
      <th rowspan="2">Colours</th>
      <th colspan="5">Items</th>
    </tr>
    <tr>
      <th>Ball</th>
      <th>Bat</th>
      <th>Helmet</th>
      <th>Jersey</th>
      <th>Pant</th>
    </tr>
  </thead>
```
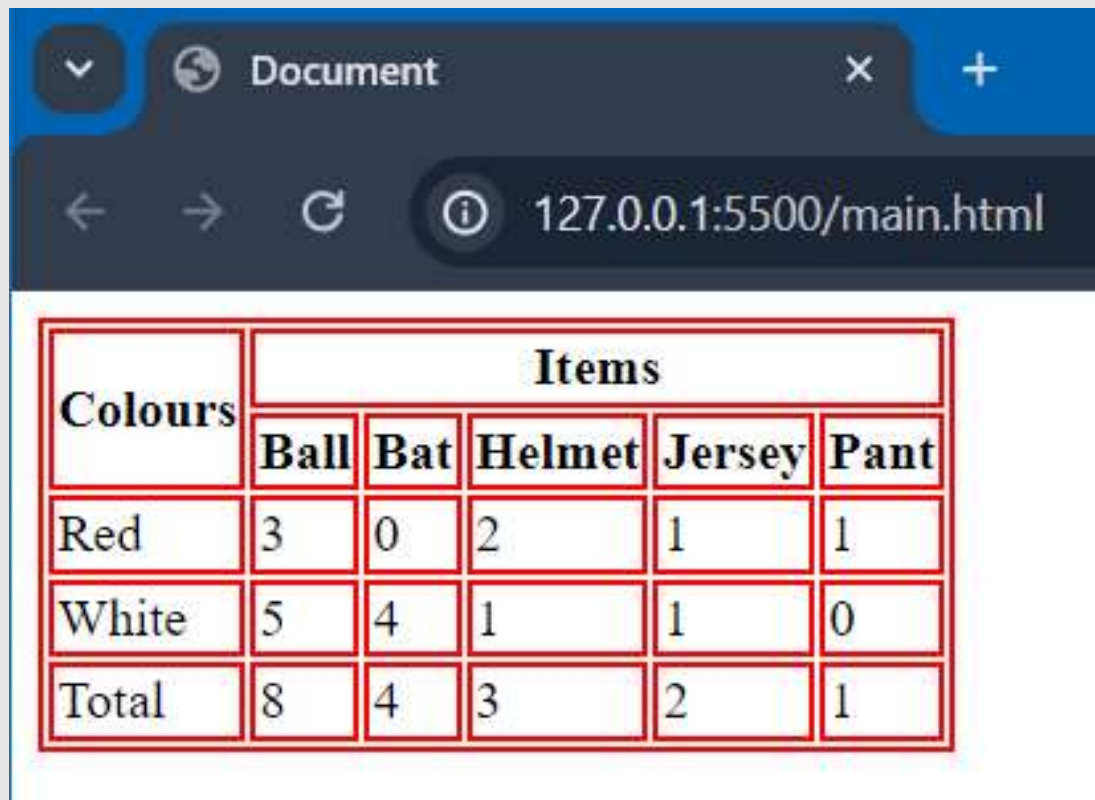
Table (inside body tag)

table foot

```html
  <tfoot>
    <tr>
      <td>Total</td>
      <td>8</td>
      <td>4</td>
      <td>3</td>
      <td>2</td>
      <td>1</td>
    </tr>
  </tfoot>
</table>
```

Table (inside body tag)

table body

```html
<tbody>
    <tr>
      <td>Red</td>
      <td>3</td>
      <td>0</td>
      <td>2</td>
      <td>1</td>
      <td>1</td>
    </tr>
    <tr>
      <td>White</td>
      <td>5</td>
      <td>4</td>
      <td>1</td>
      <td>1</td>
      <td>0</td>
    </tr>
  </tbody>
```

Table Style (inside head tag)

style (Internal css)

```html
<head>
  <style>
    table,th,tr,td{
      border:2px solid red;
    }
  </style>
</head>
```

Items					
Colours	Ball	Bat	Helmet	Jersey	Pant
Red	3	0	2	1	1
White	5	4	1	1	0
Total	8	4	3	2	1

	ELEMENT	DESCRIPTION
1	`<table></table>`	* defines an html table.
2	`<thead></thead>`	* is used to group header content in a table.
3	`<tbody></tbody>`	* is used to group body content in a table.
4	`<tfoot></tfoot>`	* defines a table footer.
5	`<tr></tr>`	* defines a table row.
6	`<th></th>`	* defines a table header.
7	`<td></td>`	* defines a table data or table cell.
8	`<th rowspan="2">Colours</th>`	* rowspan attribute is used to make a cell span over multiple rows.(eg. rowspan="2")
9	`<th colspan="5">Items</th>`	* colspan attribute is used to make a cell span over multiple columns.(eg. colspan="2")

16. Form ----> To collect data and validate data using forms.
**   Types ----> Simple form, wizarded form, Tabbed form and Accordion form.**

(Simple form)   **(Wizarded form)**   **(Tabbed form)**   **(Accordion form)**

Data that must be displayed is limited.

multiple steps of forms.

we can move any where we want without completing details.

used to simplify long forms by breaking them up into smaller sections.

Form (inside body tag)

form

```html
<form action="code.html"><!-- <form>tag is used to create an html form for user input.-->
            <!-- linking html form fields and labels using "for" attribute.-->
            <label for="name">name</label><!-- defines a label.-->
            <!-- <input>tag defines an input field.-->
            <input type="hidden">
            <input type="number" min="2" max="3">
            <input type="month">
            <input type="date">
            <input type="time">
            <input type="datetime-local">
            <input type="week">
            <input type="email" required>
            <input type="image">
            <input type="password">
            <input type="file">
            <input type="radio">
            <input type="checkbox">
            <input type="color">
            <input type="range" min="0" max="50" step="10">
            <input type="search">
            <input type="tel">
            <input type="url">
            <input type="button" value="button">
            <input type="reset">
            <!-- <form action="code.html">-->
            <input type="submit">
```

```html
<!-- dropdown (multiple choices) -->
<select name="" multiple size="2">
        <option value="a">a</option>
        <option value="b">b</option>
        <option value="c">c</option>
    </select>
<!-- dropdown -->
<select name="">
        <option value="a">a</option>
        <option value="b" selected>b</option>
        <option value="c">c</option>
    </select>
<!-- radio button -->
<input type="radio" value="car" name="vehicles">car
<input type="radio" value="bike" name="vehicles" checked>bike
<input type="radio" value="cycle" name="vehicles">cycle
<!-- checkboxes -->
<input type="checkbox" name="hobbies">drawing
<input type="checkbox" name="hobbies">painting
<!-- text area field -->
<textarea name="comments" cols="100" rows="5"></textarea>
<!-- grouping html form fields with fieldset tag -->
<fieldset>
    <legend>forms</legend>
</fieldset>
<!--button-->
<button onclick="document.location='code.html'">code page</button>
</form>
```

17. **Entity ---> is a piece of text that begins with an ampersand(&) and ends with a semicolon(;).**

    (Example)

	non-breaking space	
<	less than	<
>	greater than	>
&	ampersand	&

(EMOJIS)

Emoji	Value
	🗻
	🗼
	🗽
	🗾
	🗿
	😀
	😁
	😂
	😃
	😄
	😅

Char	Number	Entity	Description
©	©	©	COPYRIGHT SIGN
®	®	®	REGISTERED SIGN
€	€	€	EURO SIGN
™	™	™	TRADEMARK
←	←	←	LEFTWARDS ARROW
↑	↑	↑	UPWARDS ARROW
→	→	→	RIGHTWARDS ARROW
↓	↓	↓	DOWNWARDS ARROW
♠	♠	♠	BLACK SPADE SUIT
♣	♣	♣	BLACK CLUB SUIT
♥	♥	♥	BLACK HEART SUIT
♦	♦	♦	BLACK DIAMOND SUIT

(MATHEMATICAL SYMBOLS)

Char	Number	Entity	Description
∀	∀	∀	FOR ALL
∂	∂	∂	PARTIAL DIFFERENTIAL
∃	∃	∃	THERE EXISTS
∅	∅	∅	EMPTY SETS
∇	∇	∇	NABLA
∈	∈	∈	ELEMENT OF
∉	∉	∉	NOT AN ELEMENT OF
∋	∋	∋	CONTAINS AS MEMBER
∏	∏	∏	N-ARY PRODUCT
∑	∑	∑	N-ARY SUMMATION

(GREEK LETTERS)

Char	Number	Entity	Description
Α	Α	Α	GREEK CAPITAL LETTER ALPHA
Β	Β	Β	GREEK CAPITAL LETTER BETA
Γ	Γ	Γ	GREEK CAPITAL LETTER GAMMA
Δ	Δ	Δ	GREEK CAPITAL LETTER DELTA
Ε	Ε	Ε	GREEK CAPITAL LETTER EPSILON
Ζ	Ζ	Ζ	GREEK CAPITAL LETTER ZETA

18. ELEMENTS AND ITS DESCRIPTION

```
* <tt> (HTML4)      - <tt> tag defines teletype text.
                        <tt>Hello</tt>

* MonoSpace (HTML5)

            <p style="font-family:'Courier New', Courier, monospace">Hello</p>
```
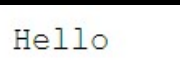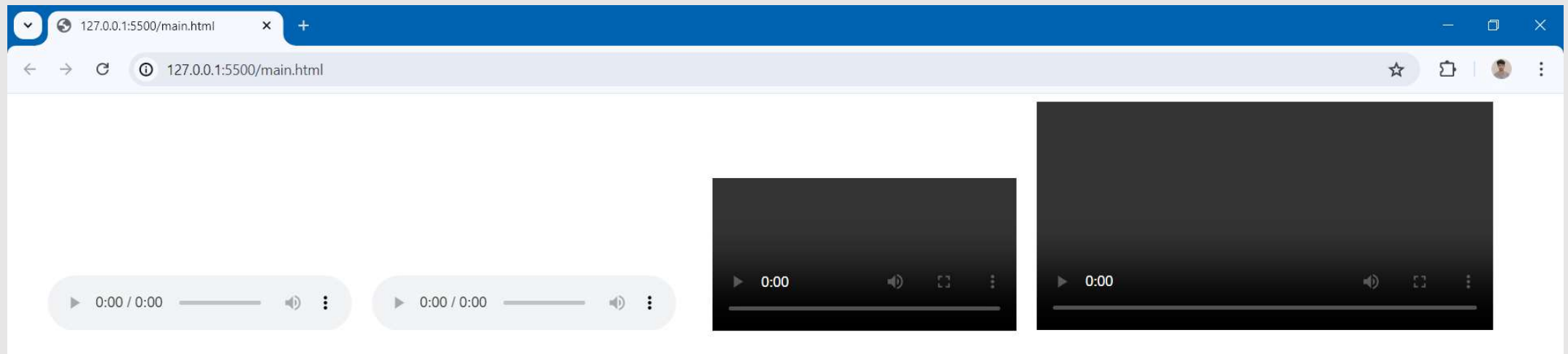
Hello
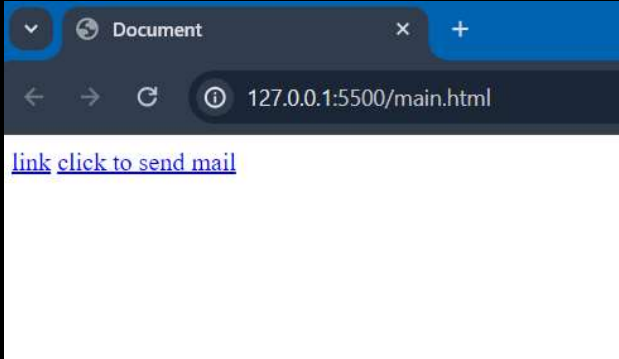
Hello

MIME - Multipurpose Internet Mail Extensions

audio tag

```
<audio src="" controls></audio>
<audio controls>
    <source src="" type="audio/wav">
    <source src="" type="audio/mp3">
    <source src="" type="audio/m4a">
    <source src="" type="audio/ogg">
</audio>
```
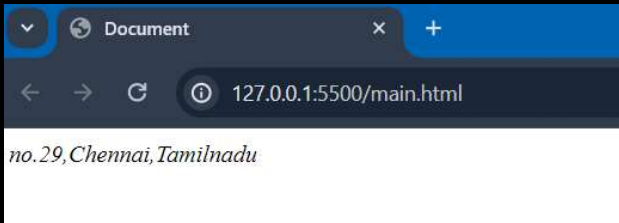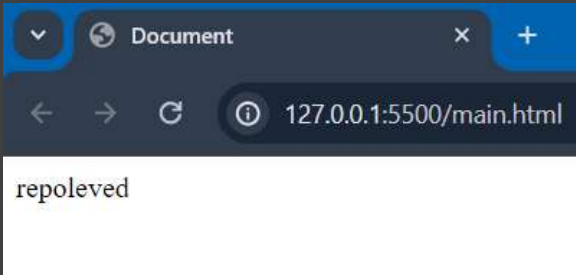
video tag

```
<video src="" controls></video>
<video controls width="450">
    <source src="" type="video/avi">
    <source src="" type="video/mp4">
    <source src="" type="video/webm">
</video>
```

127.0.0.1:5500/main.html
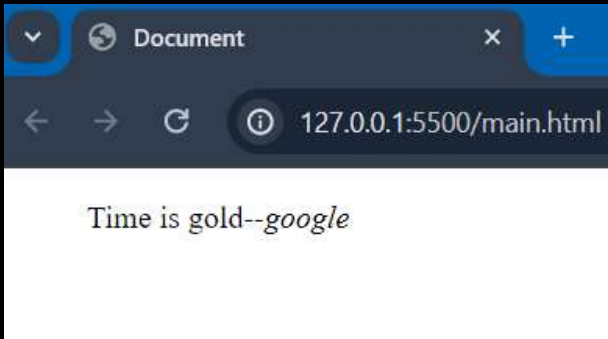
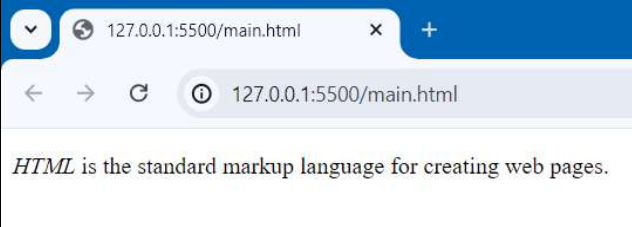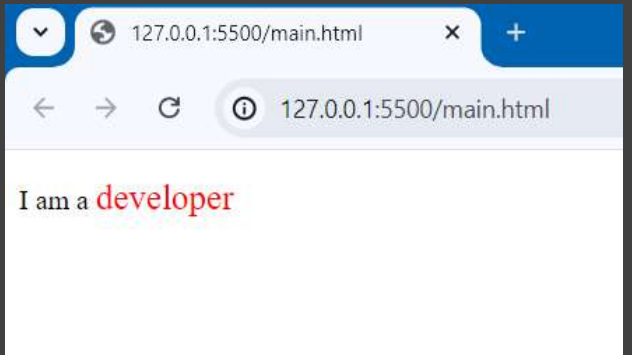| ELEMENT	DESCRIPTION	OUTPUT
1 `<a href="main.html" target="_blank">link</a>` `<a href= "mailto:ponpandian@gmail.com"> click to send mail</a>`	* anchor tag defines a hyperlink. * href attribute specifies the location of the linked document. * target attribute is used to open a link in new window.	
2 `<abbr title="doctor">Dr. </abbr>` `<abbr title="Indian space research organisation"> ISRO</abbr>`	* defines an abbreviation or acronym. (HTML 5) `<abbr>` tag defines an abbreviation. (HTML 4) `<acronym>` tag defines an acronym. (HTML 4)	
3 `<address>no.29,Chennai, Tamilnadu</address>`	* `<address>` tag defines the contact information.	
4 `<aside></aside>`	* The aside content should be indirectly related to the surrounding content.	
5 `<b></b>` or `<strong></strong>`	(defines bold text) (defines important text)	

ELEMENT	DESCRIPTION	OUTPUT
6 `<bdo dir="rtl">developer</bdo>`	* `<bdo>` tag is used to override the current text direction. (BDO - Bi Directional Override) * dir attribute specifies the text direction. ("ltr","rtl")	Document × + 127.0.0.1:5500/main.html repoleved
7 `<blockquote cite="https://www.google.com">Time is gold<cite>--google</cite></blockquote>`	* `<blockquote>` tag defines a section that is quoted from another source. * cite attribute specifies the source of a quotation. * `<cite>` tag (citation) is to identify the source of a quote.	Document × + 127.0.0.1:5500/main.html Time is gold--google
8 ` `	* inserts a single line break.	
9 `<del></del>` or `<s></s>`	(defines deleted text) (defines strike through text)	
10 `<div></div>`	(defines a division or a section in an html document) (is used as a container for html elements)	
11 `<h1></h1>` to `<h6></h6>`	* defines the headings which are titles or subtitles.	
12 `<hr>`	(horizontal rule) is used to create a horizontal line.	

ELEMENT	DESCRIPTION
13 `<figure><img src="images/image.png" alt="image">` `<figcaption>figure 1.0 </figcaption></figure>`	* `<figure>` tag defines self-contained contents, like diagrams, photos, illustrations, code listings, etc. * `<img>` tag defines an image. * src attribute specifies the location of the external resource. * alt attribute specifies an alternate text, if the image cannot be displayed. * `<figcaption>` tag is used to add caption for the `<figure>` element.
14 `<i></i>` or `<em></em>`	(defines italic text) or (defines emphasized text)
15 `<iframe src="main.html"> </iframe>`	* `<iframe>` tag defines an inline frame. * It is used to embed another document within the current html document.
16 `<link rel="stylesheet" type="text/css" href="css/main.css">`	* `<link>` tag defines the relationship between the current document and an external resource. * rel attribute specifies the relationship between the current document and the linked document. * type attribute specifies the type of the linked document.
17 `<mark></mark>`	* defines marked or highlighted text
18 `<marquee direction="right" scrollamount="20">` news headline`</marquee>`	* `<marquee>` tag is used to create scrolling text or image. * direction attribute is used to set the direction of scrolling. (right, left, up, down) * scrollamount attribute is used to change speed of a marquee.

ELEMENT	DESCRIPTION	OUTPUT
19 `<p title="html definition"> <dfn>HTML</dfn> is the standard markup language for creating web pages.</p>`	* title attribute specifies extra information about an element. * `<dfn>` tag defines the definition element.	 *HTML* is the standard markup language for creating web pages.
20 `<p>I am a <span style="font-size:20px; color:red">developer</span> </p>`	* `<p>` tag defines a paragraph. * `<span>` tag is an inline container used to mark up a part of a text. * style attribute specifies an inline style for an element.	 I am a developer
21 `<pre></pre>`	defines preformatted text.	
22 `<quote></quote>`	defines a short quotation.	
23 `<style></style>`	is used to define style information for a document.	
24 `<sub></sub>`	defines a subscripted text.	
25 `<sup></sup>`	defines a superscripted text.	
26 `<u></u>` or `<ins></ins>`	(defines underline text) (defines inserted text)	