//HTML Notes--(HTML5 and CSS3)

1.HTML tags are case sensitive ....eg).<p>,</p> etc.

2.<em></em> tag is to display data in ITALIC.

3.
```
<em>first</em><em>second</em><em>third</em>            //the output will be on the same line.

<p>fourth</p><p>fifth</p><p>sixth</p>                  //the output will be on different lines.
```

4.Empty Elements(void elements) -

the elemets which have only opening tags are called Empty Elements.
eg).
```
<img src="https://raw.githubusercontent.com/mdn/beginner-html-site/gh-pages/images/firefox-icon.png">
```

5.Attributes-

Elements can also have attributes ,those which user don't want to display or they are used for different purpose.
eg). class.

```
      <p class="editor">My dog always barks</p>
```

Some other attributes are:

1.href: Needs a web address.

2.title: this specifies extra information about the link,this will appear as a tooltip when the element is hovered over.

3.target: if this attribute is set to "_blank",then the link will be displayed in other tab.

//example to demonstrate all this is:

```
            <p>A link to my <a href="https://www.mozilla.org/" title="The Mozilla homepage" target="_blank">favorite website</a>.</p>
```

6.Boolean Attributes-

these are the attributes that have oonly one value and these are attributes without names.

eg).
```
<input type="text" disabled="disabled">     //generally they have the same value as of their names.
```

//One can use single quotes or double quotes no matter.

7.Anatomy Of an HTML Document-

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">                              // it can now handle any textual content you might put on it. There is no reason not to set this, and it can help avoid some problems later.
    <title>My test page</title>
  </head>
  <body>
    <p>This is my page</p>
  </body>
</html>
```

8.Special characters in HTML-

In HTML, the characters <, >,",' and & are special characters.

9. HTML Comments-

```
<!-- <p>I am!</p> -->
```

10.HTML head-

```
      1. <title>First Page</title>             //gives a title to the webpage.
      2. <meta charset="utf-8">                //this describes about the data and there are a lot of different meta elements
                                      we can add references to custom icons in the metadata, one of the most commonly used is 'favicon' (short for favorite icon)
```

11.Applying CSS and JavaScript to HTML-

```
      1.<link> is used to apply CSS on a HTML page.
            for example- <link href="My_css.css" rel="stylesheet">
            //this is always defined in the <head> tag.

      2.<script> is used to apply JavaScript on HTML.
            for example- <script src="my_js.js"></script>
            //this is defined after the closing of the </body> tag.
```

12. Setting Language Of Your Page-

```
<html lang="eng-US">
```

//this will help as it will index your HTML page more effectively.

13.Headings-

```
<h1></h1>
<h2><h3><h4> etc  are some tags that changes text size.
```

14.Lists-

```
      1.Unordered Lists-
      -------------------
      <ul></ul>  //order of the elements does'nt matter.
```

2.Ordered Lists-

```
<ol></ol>  //order of the elements do matter.
```

//in both of the lists the elements are wrapped inside <li></li>

```
eg).<ul>
  <li>milk</li>
  <li>eggs</li>
  <li>bread</li>
  <li>hummus</li>
</ul>
```

//these lists can be nested ie..,there can be an unordered list inside an ordered list and vice versa.

15.Strong, Italic ,Bold ,Underline-

```
<strong></strong>
<i></i>
<b></b>
<u></u>
```

16.HyperLinks-

they are used to link some document with the HTML paga...
that can be a HTML page too.

eg).

```
a)-   <a href="https://www.mozilla.org/en-US/" title="Mozilla">the
Mozilla homepage</a>    //title is used so that when we hover on the link
it will show "mozilla".


b)-   <a href="https://www.mozilla.org/en-US/">
      <img src="mozilla-image.png" alt="mozilla logo that links to the
mozilla homepage">
      </a>
      //this will make the image a hyperlink.
```

What if we want to hyperlink something present inside our Computer....???

1.SAME DIRECTORY-

```
      <a href="contacts.html">contacts page</a>.</p>
```

2.SUBDIRECTORY-

```
      <p>Visit my <a href="projects/index.html">project
homepage</a>.</p>
```

3.PARENT DIRECTORY-

```
      <p>A link to my <a href="../pdfs/project-brief.pdf">project
brief</a>.</p>
```

Hyperlinking specific part of the HTML on which we are working or some other page also---??
----

this is done by using 'id' tag..

```
eg). <h2 id="Mailing_address">Mailing address</h2>
      <p>Want to write us a letter? Use our <a
href="#Mailing_address">mailing address</a>.</p>   //for same page.
```

```
eg).<p>Want to write us a letter? Use our <a
href="contacts.html#Mailing_address">mailing address</a>.</p>   //for
some other page (here contacts.html is other page).
```

17. Absolute URLs and Relative URLs-

Two terms you'll come across on the Web are absolute URL and relative URL:

absolute URL: Points to a location defined by its absolute location on the web, including protocol and domain name. So for example, if an index.html page is uploaded to a directory
called projects that sits inside the root of a web server, and the web site's domain is http://www.example.com, the page would be available at http://www.example.com/projects/index.html
(or even just http://www.example.com/projects/, as most web servers just look for a landing page such as index.html to load if it is not specified in the URL.)

An absolute URL will always point to the same location, no matter where it is used.

relative URL: Points to a location that is relative to the file you are linking from, more like what we looked at in the previous section. For example, if we wanted to link from
our example file at http://www.example.com/projects/index.html to a PDF file in the same directory, the URL would just be the filename — e.g. project-brief.pdf — no extra information
needed. If the PDF was available in a subdirectory inside projects called pdfs, the relative link would be pdfs/project-brief.pdf (the equivalent absolute URL would be http://www.example.com/projects/pdfs/project-brief.pdf.)

A relative URL will point to different places depending on the actual location of the file you refer from — for example if we moved our index.html file out of the projects directory
and into the root of the web site (the top level, not in any directories), the pdfs/project-brief.pdf relative URL link inside it would now point to a file located at http://www.example.com/pdfs/project-brief.pdf, not a file located at
http://www.example.com/projects/pdfs/project-brief.pdf.

Of course, the location of the project-brief.pdf file and pdfs folder won't suddenly change because you moved the index.html file — this would make your link point to the wrong place, so it wouldn't work if clicked on.

18.Linking to Non-HTML resources-

eg).(A)-

```
<p><a href="http://www.example.com/large-report.pdf">
  Download the sales report (PDF, 10MB)
</a></p>

<p><a href="http://www.example.com/video-stream/" target="_blank">
  Watch the video (stream opens in separate tab, HD quality)
</a></p>

<p><a href="http://www.example.com/car-game">
  Play the car game (requires Flash)
</a></p>
```

eg).(B)-

```
<a href="https://download.mozilla.org/?product=firefox-latest-ssl&os=win64&lang=en-US"
   download="firefox-latest-64bit-installer.exe">
  Download Latest Firefox for Windows (64-bit) (English, US)
</a>

//USING THE DOWNLOAD ATTRIBUTE TO GIVE A DOWNLOADING OPTION.
```

19.Creating a Navigation Menu-

//this is created by creating a unordered list and then giving hyperlinks to each item.

20.Sending Emails-

options can be created so that user can send message to an email..
eg).

```
      <a href="mailto:nowhere@mozilla.org">Send email to nowhere</a>
```

21.Advance Text Formatting-

....

1.Description Lists-

```
           <dl>
            <dt>soliloquy</dt>
             <dd>In drama, where a character speaks to themselves,
representing their inner thoughts or feelings and in the process relaying
them to the audience (but not to other characters.)</dd>
           <dt>monologue</dt>
           <dd>In drama, where a character speaks their thoughts out
loud to share them with the audience and any other characters
present.</dd>
           <dt>aside</dt>
           <dd>In drama, where a character shares a comment only with
the audience for humorous or dramatic effect. This is usually a feeling,
thought, or piece of additional background information.</dd>
           </dl>

//dl - description List
//dt - description Term
//dd - description Definition
```

2.Quotations-

a).BlockQuotes-

```
                       <p>The <strong>HTML
<code>&lt;blockquote&gt;</code> Element</strong> (or <em>HTML Block
                       Quotation Element</em>) indicates that the
enclosed text is an extended quotation.</p>
```

Output:-The HTML <blockquote> Element (or HTML Block Quotation Element) indicates that the enclosed text is an extended quotation.

3.Abbreviations -

<abbr> is used for abbreviations.

```
           eg).<p>We use <abbr title="Hypertext Markup
Language">HTML</abbr> to structure our web documents.</p>
                 //this will show the full form of HTML if the mouse is
hovered over HTML.
```

4.Marking Up Contact Details-

<address></address> is used for this purpose.

eg).

```
           <address>
             <p>
           Chris Mills<br>
           Manchester<br>
              The Grim North<br>
           UK
           </p>

             <ul>
           <li>Tel: 01234 567 890</li>
           <li>Email: me@grim-north.co.uk</li>
            </ul>
           </address>
```

5.Subscript And Superscript-

<sup></sup> for SUPERSCRIPT

<sub></sub> for SUBSCRIPT

Output will be like - My birthday is on the 25th of May 2001.

Caffeine's chemical formula is C8H10N4O2.

6.Representing A Computer Code-

//we can represent a computer code with the help of <code> and <pre>

```
eg).<pre><code>var para = document.querySelector('p');

      para.onclick = function() {
      alert('Owww, stop poking me!');
      }</code></pre>
```

7.Date and Time-

<time datetime="2016-01-20">20 January 2016</time>

---

22. DOCUMENT AND WEBSITE STRUCTURE -

....

1.Basic section of a document-

a.header - <header>

b.navigation bar - <nav>

c.main content - <main> and its subsections are (<article> <section> <div>)

d.sidebar - <aside>

e.footer - <footer>

2.Non Semantic Wrappers -

a.<div>

b.<span>

//in both class can be used (use them less so that it become easy to update your page in future times.

3.Line Break -

<br> is used to break a line.

4. Horizontal rules -

<hr> is used to give a horizontal line

5.What are common elements of a page ??

header:title,logo

footer:contact details and copyright notice

site language choice

accessibility policy

23.MULTIMEDIA AND EMBEDDING IN html -

....

```
1.Images -
      <img>
      eg).<img src="images/dinosaur.jpg">

      //we can give alternative text also so that if the immage can't be
displayed then that text will bbe displayed.
      <img src="images/dinosaur.jpg"
     alt="The head and torso of a dinosaur skeleton;
          it has a large head with long sharp teeth">
      ///we can set the height and width of the image.

      //also by using 'title=" " ' we can show the titlee of the image.

      example)-
#################################################

<figure>
  <img src="images/dinosaur.jpg"
       alt="The head and torso of a dinosaur skeleton;
            it has a large head with long sharp teeth"
       width="400"
       height="341">

  <figcaption>A T-Rex on display in the Manchester University
Museum.</figcaption>
</figure>

here we have figure and figcaption
###############################################################

2.Video and Audio -
      A)-<video>


<video controls width="400" height="400"
       autoplay loop muted
       poster="poster.png">
  <source src="rabbit320.mp4" type="video/mp4">
  <source src="rabbit320.webm" type="video/webm">
  <p>Your browser doesn't support HTML video. Here is a <a
href="rabbit320.mp4">link to the video</a> instead.</p>
</video>


      B)-<audio>


<audio controls>
  <source src="viper.mp3" type="audio/mp3">
  <source src="viper.ogg" type="audio/ogg">
  <p>Your browser doesn't support HTML5 audio. Here is a <a
href="viper.mp3">link to the audio</a> instead.</p>
</audio>

      c) IFRAMES (imporatant) -
      #########################
##############################################
```

<iframe> elements are designed to allow you to embed other web documents into the current document.

//example we can use google maps or youtube in our website.

eg).

```
<iframe src="https://developer.mozilla.org/en-US/docs/Glossary"
        width="100%" height="500" frameborder="0"
        allowfullscreen sandbox>
  <p>
    <a href="https://developer.mozilla.org/en-US/docs/Glossary">
       Fallback link for browsers that don't support iframes
    </a>
  </p>
</iframe>
```

..But there are many security concerns--(Do Read)

3.Vector graphics -
....

there are two types of images - 1.Raster Images (png jpeg gif etc.)
                       2.Vector Images

//when we zoom up a png image it becomes pixellated but vector image remains the same.

SVG- (it is an XML based language for describing vector images.)

(read it after sometime)

4.Responsive Images -
....

they can be created with HTML and CSS too ..
read about them at - https://developer.mozilla.org/en-US/docs/Learn/HTML/Multimedia_and_embedding/Responsive_images

---

24.HTML Tables -
###

Syntax :-

```
<table>
      <tr>                  //this will select a particular row (here
row1)
            <td></td>        //row =1,column=1
            <td></td>        //row=1,column=2
      </tr>
      <tr>                           //row=2
```

```
           <td></td>        //row=2,column=1
           <td></td>        //row=2,column=2
      </tr>
</table>
```

## WE CAN GIVE HEADERS TOO TO A TABLE ->
....

```
<tr>                                    //a row with these headings will
be created
    <td>&nbsp;</td>                     // we can use <th> instead of
<td> here .
    <td>Knocky</td>
    <td>Flor</td>
    <td>Ella</td>
    <td>Juan</td>
  </tr>
```

//We can use rowspan and colspan to span these rows or columns.

ADDING CAPTIONS TO THE TABLE
....

by using <caption> we can do so.

eg).

```
<table>
  <caption>Dinosaurs in the Jurassic period</caption>

  ...
</table>
```

ADDING STRUCTURES TO A TABLE
....

```
<thead>
<tbody>
<tfoot>
```

NESTED TABLES
....

one table can be nested inside a table's row or a column.

25.HTML FORMS -
#################################

Web forms are one of the main points of interaction between a user and a web site or application.

All the form starts like this :-

```
      <form action="/my-handling-form-page" method="post">      // action
has a URL where all the collected information is sent.
```

```
      </form>                                         // method defines
which HTTP method to send the data (usually 'get' or 'post')
```

example:-
....

```
<form action="/my-handling-form-page" method="post">
 <ul>
  <li>
    <label for="name">Name:</label>                                //
label is used to give a name to box or anything you want to ask for
    <input type="text" id="name" name="user_name">         // input is
used to take input .(type='text' means a textbox will be created)
  </li>
  <li>
    <label for="mail">E-mail:</label>
    <input type="email" id="mail" name="user_email">              //
type='email'
  </li>
  <li>
    <label for="msg">Message:</label>
    <textarea id="msg" name="user_message"></textarea>           // here
textarea is used so a big text box will be created.
  </li>
 </ul>
</form>
```

# CREATING A BUTTON :-
....

```
<li class="button">
  <button type="submit">Send your message</button>
</li>
```

.///////The <button> element also accepts a type attribute — this accepts one of three values: submit, reset, or button.

# How to Structure a HTML form -
....

```
<form>
 <fieldset>
      <legend>Name of Form</legend>
        //all data to be input
 </fieldset>
</form>
```

1> Label -
....

```
 <label for="name">Name:</label>     //this will display the value the
form ask for.


2> Input Fields -
..................

   Single line text fields -
      <input type="text" id="comment" name="comment" value="I'm a text
field">

   Password field -
      <input type="password" id="pwd" name="pwd">

   Hidden content -
      <input type="hidden" id="timestamp" name="timestamp"
value="1286705410">

   Checkable items: checkboxes and radio buttons -
      Check box -
            <input type="checkbox" id="carrots" name="carrots"
value="carrots" checked>          // that checked will make this value
already checked when the page loads.

      Radio button -
            <input type="radio" id="soup" name="meal" checked>

  Buttons -
      Submit / reset / button-
            <button type="submit">                            //we can
use two other values here instead of 'submit' ie., 'reset' and 'button'.
            This is a <strong>submit button</strong>
            </button>
            <input type="submit" value="This is a submit button">

      Image Button -
            <input type="image" alt="Click me!" src="my-img.png"
width="80" height="30">  //this will make an image clickable.

  File Picker - (imprt)
      <input type="file" name="file" id="file" accept="image/*" multiple>
      //this method makes us able to pick a file from device.

  E-mail address field -
      <input type="email" id="email" name="email">             // we can
use 'multiple' keyword in order to take more then one email here.

  Search Field -
      <input type="search" id="search" name="search">

  Phone number field -
      <input type="tel" id="tel" name="tel">

  URL Field -
      <input type="url" id="url" name="url">

  Numeric Field -
      <input type="number" name="age" id="age" min="1" max="10" step="2">
  Slider Controls -
      <label for="price">Choose a maximum house price: </label>
      <input type="range" name="price" id="price" min="50000"
max="500000" step="100" value="250000">    //Value here is the default
value it will have.
      <output class="price-output" for="price"></output>

  Date and time pickers -
      <input type="datetime-local" name="datetime" id="datetime">
//Local datetime
      <input type="month" name="month" id="month">
//Month
      <input type="time" name="time" id="time">
//time
      <input type="week" name="week" id="week">
//week

  Color picker control -
      <input type="color" name="color" id="color">

  Multi-line text fields -
      <textarea cols="30" rows="8"></textarea>

  Drop-down controls -
      Select Box -
           <select id="simple" name="simple">                     // we
can select multiple options by changing id='multi' and by giving multipe
size='2' vale.
           <option>Banana</option>
              <option selected>Cherry</option>
              <option>Lemon</option>
           </select>

                             //We can also use <optgroup label =
'fruits'>
                                              <option>mango</option>
                                            </optgroup>
                                          <optgroup label='vegetables'>
                                              <option>kaddu</option>
                                          </optgroup>

  Autocomplete box -
      <label for="myFruit">What's your favorite fruit?</label>
      <input type="text" name="myFruit" id="myFruit" list="mySuggestion">
      <datalist id="mySuggestion">
      <option>Apple</option>
      <option>Banana</option>
      <option>Blackberry</option>
      <option>Blueberry</option>
      <option>Lemon</option>                         //when user inters a
value menu will suggest
      <option>Lychee</option>
      <option>Peach</option>
      <option>Pear</option>
      </datalist>

  Some other form features are progres and meters -
```

```
            <progress max="100" value="75">75/100</progress>
            <meter min="0" max="100" value="75" low="33" high="66" optimum="50">75</meter>
```

Form Styling -
....

We can do a lot of form styling using HTML --

read this -

https://developer.mozilla.org/en-US/docs/Learn/Forms/Styling_web_forms

----

26.Client-side form validation -

----

we can use javascript to validate a form instead of just using already available features like -

required: Specifies whether a form field needs to be filled in before the form can be submitted.
minlength and maxlength: Specifies the minimum and maximum length of textual data (strings)
min and max: Specifies the minimum and maximum values of numerical input types
type: Specifies whether the data needs to be a number, an email address, or some other specific preset type.
pattern: Specifies a regular expression that defines a pattern the entered data needs to follow.

1.Built-in form validation examples-
....

The required attribute-

```
  <label for="choose">Would you prefer a banana or cherry? (required)</label>
```

Validating against a regular expression-

```
  <input id="choose" name="i_like" required pattern="[Bb]anana|[Cc]herry">
```

Constraining the length of your entries-

```
  //done by using minlength or maxlength.
  <input type="text" id="choose" name="i_like" required minlength="6" maxlength="6">
```

Constraining the values of your entries -

```
  <input type="number" id="number" name="amount" value="1" min="1" max="10">
```

//to see how CSS works with these visit -
https://developer.mozilla.org/en-US/docs/Learn/Forms/Form_validation

2.Validating forms using JavaScript -
....

visit - https://developer.mozilla.org/en-US/docs/Learn/Forms/Form_validation

3.Sending forms through JavaScript -
....

visit - https://developer.mozilla.org/en-US/docs/Learn/Forms/Sending_forms_through_JavaScript