**Useful Extensions in vscode**

Prettier, live server, vscode-icons

**The head element <head></head>**

The head element in HTML is used to contain metadata about the HTML document. Metadata is data about data, and it is not displayed on the page. The head element is placed between the html element and the body element.

The following elements can be used in the head element:

* title: This element defines the title of the HTML document. The title is displayed in the browser's title bar and in search engine results pages (SERPs).
* meta: This element can be used to specify various pieces of metadata about the HTML document, such as the character set, keywords, and author.
* link: This element can be used to link to external resources, such as style sheets and JavaScript files.
* script: This element can be used to embed JavaScript code in the HTML document.

Meta Data

Metadata in the head element of HTML is used to provide information about the HTML document. This information is not displayed on the page, but is used by browsers, search engines, and other web services.

Some of the most common uses of metadata in the head element include:

* Defining the document title: The title tag is used to specify the title of the HTML document. This title is displayed in the browser's title bar and in search engine results pages (SERPs).
* Specifying the character set: The charset meta tag is used to specify the character set used in the HTML document. This is important for ensuring that the text on the page is displayed correctly in different browsers and devices.
* Adding keywords: The keywords meta tag is used to specify keywords that describe the HTML document. This information is used by search engines to index the document and make it more likely to be found in search results.
* Adding author information: The author meta tag is used to specify the author of the HTML document. This information is displayed in the browser's developer tools and can be used to credit the author of the document.
* Adding viewport settings: The viewport meta tag is used to specify the initial size and scale of the HTML document in the browser's viewport. This can be used to improve the user experience on mobile devices.
* Metadata in the head element of HTML can be used to provide a variety of information about an HTML document. This information can be used by browsers, search engines, and other web services to improve the user experience and make the document more accessible.

Here are some examples of how metadata can be used:

* A website owner might use the title tag to make their website more visible in search results.
* A blog author might use the keywords meta tag to help people find their blog posts.
* A mobile app developer might use the viewport meta tag to ensure that their app looks good on all devices.
* Metadata can be a powerful tool for improving the user experience of your website or app. By using metadata effectively, you can make your content more accessible and discoverable.

Title tag

The title element is a required element in HTML documents. It defines the title of the document, which is displayed in the browser's title bar and in search engine results pages (SERPs). The title element must be placed in the head element of the document.

The title element has no attributes. The title text must be text-only and cannot contain any HTML markup. The title text should be descriptive and accurate, and it should be no more than 60 characters long.

The title element is an important part of any HTML document. It helps users to identify the document and to find it in search results. The title element is also used by browsers to display the document in the title bar.

Here are some tips for writing good title elements:

* Make the title text descriptive and accurate.
* Keep the title text short, no more than 60 characters long.
* Use keywords that are relevant to the content of the document.
* Avoid using special characters or HTML markup in the title text.

Favicon

<link rel="icon" href="./html5-logo.JPG" type="image/x-icon">

rel stands for relationship

A favicon (/ˈfæv.ɪˌkɒn/; short for favorite icon), also known as a shortcut icon, website icon, tab icon, URL icon, or bookmark icon, is a file containing one or more small icons associated with a particular website or web page. A web designer can create such an icon and upload it to a website (or web page) by several means, and graphical web browsers will then make use of it.

Favicons are often used to identify websites in bookmarks, browser tabs, and address bars. They can also be used to identify websites in search engine results pages (SERPs).

Favicons are typically 16x16 pixels in size, but they can be any size. They are usually saved in the ICO file format, but they can also be saved in other file formats, such as PNG, GIF, and JPEG.

To add a favicon to your website, you can use a favicon generator or create your own favicon using a graphics editor. Once you have created your favicon, you need to upload it to your website's root directory.

Code snippet to view the website in dark mode

 <style>

  html{

   font-size: 22px;

  }

  body{

   background-color: #333;

   color: whitesmoke;

  }

 </style>

Or else we can put css in an external file and link it to our html document

<link rel="stylesheet" href="" type="text/css">

It is recommended to validate your files using w3c validator.

Link: <https://validator.w3.org/>

**Text Basics**

One page should have only one h1

To copy lines shift + alt + down arrow

We can use <hr> to apply horizontal rule which adds a horizontal line

Html is white space collapsed. Even we add spaces it will not be displayed in web page.

We can add line breaks within elments(<p>)

H and P elements are block level elements. They always start with a new line

**Some inline elements**

* em – emphasis
* strong – to make text bold

**Entities**

When we need to add some white space, when we need to put < or >

&nbsp; is an HTML entity that represents a non-breaking space. A non-breaking space is a space that will not break into a new line, even if the text is wrapped. This is useful for keeping certain words or phrases together, such as initials, units, dates, and amounts of money.

To use &nbsp; in HTML, you simply insert it into your text where you want the non-breaking space to appear. For example:

<p>This is a sentence with an &nbsp; non-breaking space.</p>

Note that &nbsp; is not the same as a regular space. A regular space can be inserted by pressing the spacebar on your keyboard. However, a regular space can be broken into a new line, while a non-breaking space cannot.

Here are some examples of how &nbsp; can be used:

* To keep initials together:

Some other entities

&lt; – less than <

&copy; – copy right symbol

&gt; - greater than symbol >

Some other

&amp; Represents the ampersand (&) character.

&lt; Represents the less-than sign (<) character.

&gt; Represents the greater-than sign (>) character.

&quot; Represents the double quote (") character.

&apos; Represents the single quote (') character.

&nbsp; Represents a non-breaking space.

&euro; Represents the euro symbol (€).

&pound; Represents the pound sterling symbol (£).

&yen; Represents the Japanese yen symbol (¥).

&dollar; Represents the US dollar symbol ($).

&cent; Represents the cent symbol (¢).

&copy; Represents the copyright symbol (©).

&reg; Represents the registered trademark symbol (®).

&trade; Represents the trademark symbol (™).

&deg; Represents the degree symbol (°).

&plusmn; Represents the plus or minus sign (±).

&micro; Represents the micro symbol (µ).

&deg; Represents the degree symbol (°).

&times; Represents the multiplication sign (\*).

&divide; Represents the division sign (/).

&frac12; Represents the fraction 1/2.

&frac14; Represents the fraction 1/4.

&frac34; Represents the fraction 3/4.

&raquo; Represents the right angle quotation mark (»).

&laquo; Represents the left angle quotation mark («).

&middot; Represents the middle dot (·).

&bull; Represents the bullet (•).

&hellip; Represents an ellipsis (…).

&mdash; Represents an em dash (—).

&ndash; Represents an en dash (–).

&sect; Represents the section symbol (§).

&copy; Represents the copyright symbol (©).

&reg; Represents the registered trademark symbol (®).

&trade; Represents the trademark symbol (™).

&deg; Represents the degree symbol (°).

&plusmn; Represents the plus or minus sign (±).

&micro; Represents the micro symbol (µ).

&deg; Represents the degree symbol (°).

&times; Represents the multiplication sign (\*).

&divide; Represents the division sign (/).

&frac12; Represents the fraction 1/2.

&frac14; Represents the fraction 1/4.

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&bull; Represents the bullet (•).

&hellip; Represents an ellipsis (…).

&mdash; Represents an em dash (—).

&ndash; Represents an en dash (–).

&sect; Represents the section symbol (§).

**Abbreviations**

When we hover mouse it will show what it means, simply we get a tooltip

<p> <abbr title="Mozilla Developer Network">MDN</abbr> is a great resource for web development</p>

Abbreviation will not be read in assistive technology (screen readers).

**Address Element**

Says the browser that the content is an address

<p>some places I would like to visit</p>

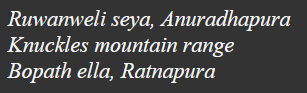
<address>

 Ruwanweli seya, Anuradhapura <br>

 Knuckles mountain range <br>

 Bopath ella, Ratnapura

</address>

Output

Screen readers support address element.

**HTML Comments**

<!-- this is a comment -->

Make sure to delete all the comments before you upload your site to server because comments are visible in inspect tools

**Lists**

3 Types

* Ordered list
* Unordered list
* Description list

CTRL + D selects similar elements one by one

<p>Ordered List Example</p>

<ol>

 <li>Ordered list </li>

 <li>Unordered list</li>

 <li>Description list</li>

</ol>

<p>Unordered List Example</p>

<ul>

 <li>Unordered item 1</li>

 <li>Unordered item 2</li>

 <li>Unordered item 3</li>

</ul>

<p>Description List Example</p>

<dl>

 <!--dt stands for description term -->

 <dt>Description item 1</dt>

 <!-- dd stands for description details -->

 <dd>Description item 1 details</dd>

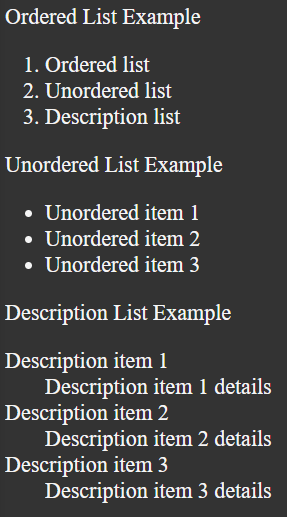
 <dt>Description item 2</dt>

  <dd>Description item 2 details</dd>

 <dt>Description item 3</dt>

  <dd>Description item 3 details</dd>

</dl>



**Links**

We use anchor tag to create links href attribute is required to provide the link

Absolute reference example (full path for a website)

<p> <abbr title="Mozilla Developer Network"> <a href="https://developer.mozilla.org/">MDN</a> </abbr> is a great resource for web development</p>

Relative reference example

<a href="./about.html"> Amitha Shehan </a>

Internal reference example

On top of the page

    <section id="top">

      <h1>Hello World!</h1>

    </section>

At the end of the page

<a href="#top">Go to Top</a>

If we want to go back to the top we could use following snipped at the bottom as well

<a href="#">Go to Top</a>

Link naming conventions

* Do not put the URL
* Keep it short as possible
* Give a small description what is in the next page

To set a downloadable link

  <li>Download<a href="./html5-logo.JPG" download> html 5 logo</a></li>

Link to email

  <li>Contact me at <a href="mailto:random@email.com">My Email Address</a></li>

Make a call

<li>Dial <a href="tel:+94714886895">me at</a></li>

Open a link in new tab

<li><a href="https://google.com/" target="\_blank"> Google</a></li>

To go back home from anywhere

<p><a href="/">back to home</a></p>

**Images**

Img elment does not have an ending tag

Src attribute says where to grab the image

Alt says alternative text, helps assistive technology (screen readers) to read description. If image cannot be grabbed alt text will be shown with a broken image

Title attribute will not be read by screen readers. Not necessary. This will give a tool tip.

Width and height can be provided. If we provide only one other one will automatically adjusted. It is necessary to give both height and width to avoid cumulative layout shift.

<img src="./Images/hero-img.png" alt="A picture of Amitha Shehan" title="Amitha Shehan" width="624" height="811">

Loading attribute

Eager is the default value. Any image below the fold set loading attribute to lazy to improve the loading time of web page.

To check go to inspect>network > disable cache> img then check

Figure and figcaption element

The <figure> and <figcaption> tags are used to represent self-contained content, such as illustrations, diagrams, photos, code listings, etc. While the content of the <figure> element is related to the main flow, its position is independent of the main flow, and if removed it should not affect the flow of the document.

The <figcaption> element is used to add a caption for the <figure> element. The <figcaption> element can be placed as the first or last child of the <figure> element.

Here is an example of how to use the <figure> and <figcaption> tags:

<figure>

<img src="image.jpg" alt="Image of a cat">

<figcaption>This is a picture of a cat.</figcaption>

</figure>

The <figure> and <figcaption> tags can be used to improve the accessibility of your content. Screen readers can announce the content of the <figcaption> element to users, which can help them to understand the content of the page.

Here are some additional tips for using the <figure> and <figcaption> tags:

* Use the <figure> tag to group together related content.
* Use the <figcaption> tag to provide a caption for the <figure> element.
* Make sure the <figcaption> element is descriptive and informative.
* Use the <figcaption> element to improve the accessibility of your content.

By following these tips, you can use the <figure> and <figcaption> tags to improve the quality of your HTML code and make your content more accessible to users.

    <img src="./html5-logo.JPG" alt="html 5 logo" title=" html 5 logo" width="121" height="138" loading="lazy">

    <figcaption>

     this is put using fig caption

    </figcaption>

    </figure>

Figure element adds indentation

Figcaption should be the either first or last element in figure element

It always doesn’t require to have an image in figure element. It can be text, code or something else. Good way to insert HTML codes

<figure>

     <figcaption>

      An Example of HTML5 code

     </figcaption>

     <p>

      <code>&lt;h1&gt;Hello World&lt;/h1&gt;</code>

     </p>

    </figure>

**Resources to find free images**

Placeholder.com

Fillmurfey.com

Pexels.com

Gratisography.com

Pixabay.com

Irfanview.com – free image software

Canva.com

Tinypng.com to reduce image file size

**Semantic HTML**

Semantic HTML is the use of HTML markup to reinforce the semantics, or meaning, of the information in web pages and web applications rather than merely to define its presentation or look. Semantic HTML is processed by traditional web browsers as well as by many other user agents.

There are a number of benefits to using semantic HTML, including:

Improved accessibility: Semantic HTML can make your content more accessible to users with disabilities, such as screen readers.

Improved search engine optimization (SEO): Semantic HTML can help search engines understand the meaning of your content, which can improve your ranking in search results.

Improved readability: Semantic HTML can make your content easier to read and understand.

Improved maintainability: Semantic HTML can make your code easier to maintain and update.

There are a number of ways to use semantic HTML, including:

Using the correct HTML elements for the content you are displaying.

Using attributes to provide additional information about the content.

Using classes and IDs to style the content.

By using semantic HTML, you can create web pages that are more accessible, search engine friendly, readable, and maintainable.

Here are some examples of semantic HTML:

* Using the <header> element to mark up the header of a page.
* Using the <footer> element to mark up the footer of a page.
* Using the <article> element to mark up an independent piece of content, such as a blog post or news article.
* Using the <section> element to mark up a section of content, such as a list of products or a gallery of images.
* Using the <aside> element to mark up content that is related to the main content of the page, but is not essential.
* Using the <nav> element to mark up the navigation of a page.

By using semantic HTML, you can create web pages that are more understandable to both humans and machines.

Main semantics

Header – one per page

Main – one per page

Footer – one per page

Nav – one or many per page

If there are many navs its better to label them

<nav aria-label="primary-navigation">

     <ul>

      <li></li>

     </ul>

    </nav>

Section – one or many

Article – one or many (has a clear topic) can add several sections within article

Aside – details that are not much necessary

<aside>

  <summary>

   <details>

    <summary>

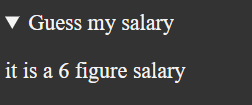
     Guess my salary

    </summary>

    <p>it is a 6 figure salary</p>

   </details>

 </aside>



Shows the answer when clicked on arrow

 <h3>this text is <mark>marked</mark></h3>

 <h3> is start work at <time datetime="05:00"> 5 am </time> and I work for <time datetime="PT8H">8 hours</time> </h3>

We can use **html outliner** extension in chrome to see what are the sections in page

**Tables**

Table are different from other elements, it takes space only to accommodate things inside. It does not take entire width of the page

Better to add caption to the page. So that it will give an idea for screen readers as well

<table>

  <caption>My Daily Schedule</caption>

  <thead>

   <tr>

    <th>&nbsp;</th>

    <th scope="col">Time</th>

    <th scope="col">Activity</th>

   </tr>

  </thead>

  <tbody>

   <tr>

    <th scope="row">Morning</th>

    <td>

     <time datetime="08:00">8am</time>-<time datetime="11:00">11am</time>

    </td>

    <td>Write Code</td>

   </tr>

   <tr>

    <th scope="row">Break</th>

    <td>

     <time datetime="11:00">11am</time>-<time datetime="12:00">12pm</time>

    </td>

    <td>Eat Lunch</td>

   </tr>

   <tr>

    <th scope="row">Afternoon</th>

    <td>

     <time datetime="12:00">12pm</time>-<time datetime="17:00">5pm</time>

    </td>

    <td>Study for Other Courses</td>

   </tr>

   <tr>

    <th scope="row">Evening</th>

    <td rowspan="2">All Other Times</td>

    <td>Free Time</td>

   </tr>

   <tr>

    <th scope="row">Night</th>

    <td>Sleep</td>

   </tr>

  </tbody>

  <tfoot>

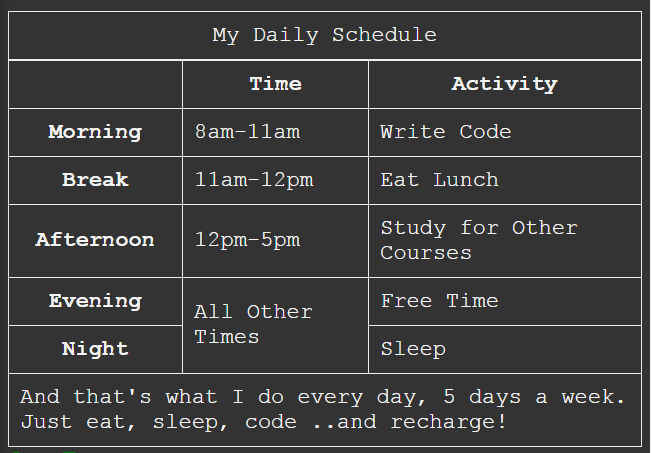
   <tr>

    <td colspan="3">And that's what I do every day, 5 days a week. Just eat, sleep, code ..and

     recharge!</td>

   </tr>

  </tfoot>

</table>

**Forms**

Id in input element should match with for in label element, name attribute in input label is how it is identified at server label.

Autocomplete attribute will save previously entered data and those data will be suggested (on/off)

Required attribute means the fields must be filled. It can be either required or required = “true”, if it is not required we can neglect or required = “false”.

Autofocus attribute when the page is loaded the cursor will be at the field ready for data to be entered. Can type instantly. Its not a good practice to put autofocus for a form in contact us page. Only one input can have autofocus

If the input is a password type attribute in input element should be password

Autofocus cannot be in password

If the input is a phone number type attribute shall be tel. pattern is another attribute for telephone number input. We can add regular expressions for that.

For example if the format should be 555-5555-555, the regular expression would be [0-9]{3}-[0-9]{4}-}-[0-9]{3}.

Tel will bring numeric keypad in mobile. Dash will not be available so adjust your regular expression based on that.

If the input is a number type attribute shall be number. We can add min, max, step and value as attributes.

Select element gives drop down list. With option element with value attribute. If we want to allow multiple selections we can add multiple attribute in select element. Size attribute will control how many list items will be shown at once before drop down is opened. We can select multiple by keep pressing ctrl

Selected attribute will be added to default one.

Optgroup – option group what is inside label is what user will see.

If we add list attribute (list=”coffee-list”) we can narrow down selection by typing.

Fieldset is an element for organizing forms. (semantic)

Legend comes under fieldset for organizing

In radio buttons name should be equal on all to not to select more than one choice.

When we put ids they need to be different

To submit data in a form type should be submit.

To reset data in a form type should be reset.

Never send sensitive data in get request. All the information will be visible in url

<form action="https://httpbin.org/get" method="get">

   <fieldset>

    <legend>Personal Info</legend>

    <p>

     <label for="firstName">First Name:</label>

     <input type="text" name="firstName" id="firstName" placeholder="Jane" autocomplete="on" required autofocus />

    </p>

    <p>

     <label for="lastName">Last Name:</label>

     <input type="text" name="lastName" id="lastName" placeholder="Doe" autocomplete="on" required />

    </p>

    <p>

     <label for="password">Password:</label>

     <input type="password" name="password" id="password" placeholder="your secret" required />

    </p>

    <p>

     <label for="phone">Phone:</label>

     <input type="tel" name="phone" id="phone" placeholder="5555555555" pattern="[0-9]{3}[0-9]{3}[0-9]{4}" required />

    </p>

    <p>

     <label for="decade">Favorite Decade:</label>

     <input type="number" name="decade" id="decade" min="1950" max="2020" step="10" value="1980" />

    </p>

    <p>

     <label for="coffee">Favorite Coffee:</label>

     <select name="coffee" id="coffee" multiple size="5">

      <optgroup label="Coffees">

       <option value="regular coffee">Regular Coffee</option>

       <option value="iced coffee">Iced Coffee</option>

      </optgroup>

      <optgroup label="Espresso Drinks">

       <option value="latte" selected>Latte</option>

       <option value="cappuccino">Cappuccino</option>

       <option value="cortado">Cortado</option>

       <option value="americano">Americano</option>

      </optgroup>

      <option value="other">Other</option>

     </select>

    </p>

    <!-- <p>

                    <label for="coffee">Favorite Coffee:</label>

                    <input type="text" name="coffee" id="coffee" list="coffee-list">

                    <datalist id="coffee-list">

                        <option value="coffee">

                        <option value="latte">

                        <option value="espresso">

                        <option value="cortado">

                        <option value="americano">

                        <option value="other">

                    </datalist>

                </p> -->

   </fieldset>

   <br />

   <fieldset>

    <legend>What is your favorite food?</legend>

    <p>

     <input type="radio" name="food" id="tacos" value="tacos" />

     <label for="tacos">Tacos</label>

    </p>

    <p>

     <input type="radio" name="food" id="pizza" value="pizza" />

     <label for="pizza">Pizza</label>

    </p>

    <p>

     <input type="radio" name="food" id="other" value="other" />

     <label for="other">Other</label>

    </p>

   </fieldset>

   <br />

   <fieldset>

    <legend>Do you have pets?</legend>

    <p>

     <input type="checkbox" name="pets" id="dog" value="dog" />

     <label for="dog">Dog</label>

    </p>

    <p>

     <input type="checkbox" name="pets" id="cat" value="cat" />

     <label for="cat">Cat</label>

    </p>

    <p>

     <input type="checkbox" name="pets" id="fish" value="fish" />

     <label for="fish">Fish</label>

    </p>

    <p>

     <input type="checkbox" name="pets" id="otherPet" value="otherPet" />

     <label for="otherPet">Other</label>

    </p>

   </fieldset>

   <br />

   <fieldset>

    <legend>Send Me A Note</legend>

    <label for="message">Your Message:</label>

    <br />

    <textarea name="message" id="message" cols="30" rows="10" placeholder="Type your message here"></textarea>

   </fieldset>

   <br />

   <button type="submit">Submit</button>

   <button type="submit" formaction="https://httpbin.org/post" formmethod="post">

    Post

   </button>

   <button type="reset">Reset</button>

  </form>