

HTML:

- ❖ Basic Editor – codepen.io
- ❖ Html documentation – devdocs.io
- ❖ Inside head tag give meta tag `<meta charset="utf-8">` - This tag helps us in displaying emoji in our website. For copying emoji visit Unicode website.
`<meta name="viewport" content="width=device-width, initial-scale=1.0">` - The viewport is the user's visible area of a web page. It varies with the device - it will be smaller on a mobile phone than on a computer screen. The size of the screen whether computer or mobile gets adjusted with this tag.
- ❖ `<i>` = `` - Both are similar for making the text italicized. It is good practice to use ``.
- ❖ `` = `` - Both are similar in making the text bold. It is good practice to use ``
- ❖ `<hr>` - To draw a horizontal line. `<hr size="3">` - Size of the line is of width 3.
- ❖ `` - Unordered list – Used to create bullets points.
- ❖ `` - Ordered list – Used to create numbered bullets. `<ol type="i">` - To start with Roman Numerals. `<ol type="7">` - To start with a particular number(7).
- ❖ ``. The alt tag displays the text when the browser is unable to display the image. This helps Google users to search the index of the description and the google will display all the information. Photobucket is a website which helps us in uploading the image and get the URL to paste the URL in `` tag. After uploading the image right click the image to get the URL.
- ❖ Anchor tag - `` - To hyper link the text and redirect the text to the link given.
- ❖ `<table></table>` - TO create a table. `<tr></tr>` - Table row. `<td></td>` - Table data. `<th>` - Table head element. `<thead>`, `<tbody>`, `<tfoot>` help in neat alignment and adding different styles and colors to different part of the section of the table.

CSS:

- ❖ Beautiful color palette website – colorhunt.co
- ❖ The browsers has some default **CSS** styles and values. If your code doesn't work try changing the default values to the necessary. Google the default CSS styles of the browser and try changing it.
- ❖ As a professional developer we should always use external CSS. To access the external CSS the following code should be used `<link rel="stylesheet" href="CSSfilepath">`
- ❖ **Emojipedia** gives the different image by different companies for a particular image you are searching for.
- ❖ In CSS, class must have **"."** at first to define the CSS code.
- ❖ In CSS, Id must have **"#"** at first to define the CSS code.
- ❖ **Id** is used for a specific change in our website while **Class** can be used for a group of different tags that must affect the change in our website. A particular **Id** can only be used **once** whereas **class** can be used **more than once**. We cannot have more than one Id for a particular html tag whereas for class many classes can be specified for a particular html tag.
- ❖ Id's and Classes are **more specific** than other CSS code given to the html tags like body, img, etc.
- ❖ **:hover** is used to change the color when it is hovered over using mouse.
Syntax - Html tag : hover
- ❖ **Favicon** is the one which displays on the top before the title in our website. To create or generate a favicon go to favicon.io website.
Syntax - <link rel="icon" href="favicon file name that ends with .ico">
- ❖ If your code doesn't work, there the will always be **default code** given by the browser itself. Try inspecting the code and check for the code and implement the changes.
- ❖ We can also define CSS code like this. Ex: **border-width: 0px 10px 20px 30px;** This sets the border width in a **clockwise direction**.
- ❖ **Margin** is the space around the box (for an example). **Padding** is the space around the box.
- ❖ **Span tag** is used when you need to change a specific and particular thing in a whole. Eg: I am a Programmer. Code for it - `<p> I am a Pro</p>` and define the CSS code for pro.

- ❖ ``, ``, `<a>` - These tags are some of the inline elements (i.e They don't require whole block of space)
- ❖ `<p>`, `<h1>` to `<h6>`, `<div>`, `` `` ``, `<forms>` - These tags are some of the common block elements (i.e They will require the whole block of space. They do not allow its space for other things)
- ❖ In inline we cannot change the width and in block we can change the width with CSS code. Whereas we can use both the features of the inline and the block by the following CSS code – `display:inline-block;`
- ❖ If we wanted to remove or hide the part of the sentence we use the following CSS code - `display: none;` (deletes the part of the sentence even the code for the sentence is present)
- ❖ **Static Positioning** - Default CSS code by the browser is `position: static;` **Relative Positioning** – This works with respect to the margin (Not with the margin of our webpage, margin with the respective tag). **Syntax - `position:relative;` (`left:30px;right:100px;etc`).** **Absolute Positioning** – This is very helpful I think. This works with respect to the parent (i.e. the background). **Syntax-`position:absolute;left:100px;`** **Fixed Positioning-`position:fixed;`** This helps the text or the other tag that will remain fixed in its position even after scrolling the webpage.
- ❖ **CSS code – `text-align:center;`** makes the text to be at the center and this code doesn't work when the small margin is already set.

```
margin: 5%;           /* All sides: 5% margin */
margin: 10px;         /* All sides: 10px margin */

margin: 1.6em 20px;   /* top and bottom: 1.6em margin */
                    /* left and right: 20px margin*/

margin: 10px 3% -1em; /* top:           10px margin */
                    /* left and right: 3% margin */
                    /* bottom:          -1em margin */

margin: 10px 3px 30px 5px; /* top:    10px margin */
                        /* right:   3px margin*/
                        /* bottom:  30px margin */
                        /* left:    5px margin*/
```

- ❖ You should use **embedded font** to make your fonts given to your webpage appear the same way to all - follow the steps below to achieve it: Go to **fonts.google.com**. Then select the font you needed add it to your clipboard and the **embed** the font (i.e. copy the URL and embed the URL inside the **Head section**(head tag<head></head>) of your HTML code) and the copy the CSS code and paste the CSS code to your CSS file of your webpage.
- ❖ If one of your font is not installed in your browser then use the following **CSS code - font-family: 'Montserrat', sans-serif;** if Montserrat is not found in our browser then the browser display the second font family (i.e. sans-serif). It is good to use the above point while you want your font to look as such as you have coded to display for everybody. So, use **embedded fonts**.
- ❖ **www.flaticon.com** is a good website for searching the **best icon** for our webpage. **www.giphy.com** is a good website for searching the **best GIF's** for our webpage.
- ❖ **Standard values - 16px=100%=1em.** If you want a size of 90px in terms of percentage the calculation goes as follows – $90/16=5.625\%$ (Instead of 5.625% you can also use 5.625em – No change will be observed for 5.625% and 5.625em)
- ❖ **rem(root em)** applies to our webpage even a different size is given in the body of our code. This is **least error prone and is mostly used**.
- ❖ The **font-weight property** sets how **thick or thin** characters in text should be displayed
- ❖ The **line-height property** specifies the height of a line. For specifying the line-height remember to always **use only the number** and not **%,px,etc.Ex:line-height:2;**
- ❖ The **float property** is used for **positioning and formatting content** e.g. let an image float left to the text in a container. So now the image will be on the left and the text will be beside it. The opposite of the float property is the **clear property** this works as **anti-float property**.
- ❖ To center a text we can also use the **CSS code margin:auto; or text-align:center;**
- ❖ If we wanted our **image to be circular** use the following CSS code **border-radius:50%**(the required percentage value).
- ❖ **border-radius property** helps defines the radius of the element's corners. **CSS code - border-radius: 15px 50px 30px 5px;** (first value applies to top-left

corner, **second** value applies to top-right corner, **third** value applies to bottom-right corner, and **fourth** value applies to bottom-left corner):

- ❖ **Text decoration CSS property** make the text **underlin**. Eg: **text-decoration:none;** or **text-decoration:underline;**
- ❖ **CSS overflow property**- The **overflow** property specifies whether to **clip the content** or to **add scrollbars** when the content of an element is too big to fit in the specified area.

Advanced CSS Topics:

- ❖ **Absolute positioning** – To explain in **easy words**: the elements or the code **stacks over the parent code**(i.e. one code **overlaps** the other code)This removes the **flow of the code**. The **last written code** appears to the **overlapping code** and the **prominent code** than the **primary code**.
- ❖ The **z-index (CSS advanced topic)** – In order to **change and implement the z-index** we have to change the **position property from static** (default set by the **browser**) to the **any other positioning**. The **default z-index** is set to **zero** so **no changes** can be seen **before applying z-index to a different value**. **The z-index affects the stacking order**.
- ❖ **CSS Media queries**: CSS code- `@media print{h1{color:red;}}` Html Code - `<h1>Hello world</h1>`. The Hello world appears to be in black color when it is viewed and the text color changes to red when it is printed. `@media (max-width:900px){h1{ color:red;}}` The color changes with the screen width. We can also change the font size and other code we wanted to change responsive to the width of the screen.
- ❖ `href="#"` works for id (not for classes) to navigate to a particular section of a page.

Refactoring the code:

- ❖ **Best programmer** – It's always good to refactor our code to increase readability, reduce the lines of code, modularity in our code and for efficiency of our code.
- ❖ It's always good to maintain our code in efficient way. Our code should not be a mess for others. Our code should be in way that other should easily understand by our code.

- ❖ If there is a space between two classes or id then it means that we should read from right to left and this code works only if the child has a parent. If there is no space between two classes or id then it means that we should read from left to right and this works normally as we usually do with our code.
- ❖ It's easy to spot and correct our mistake if we define and use classes.
- ❖ The order for preference of our CSS code to be applied are Id followed by classes and then the html elements. Inline CSS has got the highest priority.
- ❖ Uses Id's only for section so that we can easily navigate to a particular section using href. Use Id's very sparingly. Always consider using classes rather than Id's.
- ❖ It's really a bad style to use Inline CSS and it's not the professional way.
- ❖ Always include certain comments in CSS code that will explain the title of the code and this will really help us in correcting our mistakes.

Bootstrap:

- ❖ codeply.com is a [playground](https://codeply.com) for [Bootstrap](https://codeply.com). We can check our bootstrap code that works or not with codeply.com
- ❖ Every Bootstrap code is already there in the Internet and we have to [only use](#) it to make our website look beautiful.
- ❖ In order to use Bootstrap, we have to [include the link](#) which is available in [Bootstrap official website](#) to make Bootstrap effect on our website.
- ❖ To generate a false information (i.e. To save time instead of typing large content to check whether our content works or not) head over to ["lorem ipsum in google search bar "](#) to [generate words, paragraphs, etc](#) and the name of the website is www.lipsum.com
- ❖ To find beautiful icons head over to fontawesome.com . We should also include the [link in the head section](#) to access the resources of the website like Bootstrap. It's necessary to [register](#) (Create an account) in fontawesome.com to get the starter link which has to be included in the head section.
- ❖ Color [hex code](#) for black is #000 and for white #fff
- ❖ We can also [rotate the image](#) using CSS property with this code [transform: rotate\(25deg\);](#)
- ❖ We can also use [Section tag](#). The Section tag defines the [section of a website](#).

- ❖ **Bootsnip.com** is a website that has **readymade code for certain layouts** that will make our work easy. This is **very useful** so check it.

➤ **Bootstrap Topics**

- **Wireframing** – Frame work for our website (How actually it should look after everything is done – Mostly I don't prefer)
- **Navigation Bar** – The topmost bar which mostly contains Home, Contact Us, Delivery, etc.
- **Grid Layout** – The whole desktop screen is divided into **12 equal parts** and this is very important to remember to code in Bootstrap.
- **Bootstrap Containers** – They determine how the container (a part) of the webpage to look like.
- **Bootstrap buttons** – They are a lot of style buttons in Bootstrap.
- **Carousel** in Bootstrap - A **slideshow** component for cycling through elements—images or slides of text -like a carousel (Similar to Merry-go-round)
- **Bootstrap Cards** – The bootstrap provides us with the **card view of a particular group of texts.**

Web Design:

- ❖ The pillars of the web designing are Color theory, Typography, User Interface design, User Experience Design.
- ❖ Color Theory:
 - Red – Love, Energy, Intensity
 - Yellow – Joy, Intellect, Attention
 - Green – Freshness, Safety, Growth
 - Blue – Stability, Trust, serenity
 - Purple – Royalty, Wealth, Femininity
- ❖ Check the color wheel photo and the complimentary color (opposite colors in the color wheel photo) are the best looking to grab the attention of the people.
- ❖ It's also good to draw a triangle, rectangle in the color wheel and check for the best color combination.
- ❖ For checking the best color combination head over to <https://color.adobe.com> and drag for the mouse cursor to find the best combination of the colors.

- ❖ Other website named colorhunt.co also has the professional's selection color palette schemes that will best suited for our website. The hot and the popular section of the website
- ❖ Typography – The Serif family has got a little foot below the letters of their family and the Sans-serif family do not have those. Many people love to use Sans-serif family. Fonts like Tahoma, Verdana are highly readable tags and they are mostly used in the body section. Its a professional way of choosing only two fonts for the whole webiste in order to make our website look better. Professionals use Serif font family for the title and the Sans-serif family for the body or the vice-cersa in order to grab the attention of the people.



Example :

- ❖ Alignment of the content in the website should be the best to grab the attention of the people.
- ❖ User Interface Design – Always keep the following five things in mind. They are Hierachy, Layout, Alignmnet, White space, and our audience for our website.
- ❖ User Experience Design – Always keep the following five things in mind. They are Simplicity, Consistency (People reading pattern with respect to the alphabets are the alphabets F, Z pattern)
- ❖ The website <https://www.dailyui.co/> provide people to design a website as a challenge. The website <https://collectui.com/> has already designed standard design for the website we can download it and use the design of the website if necessary. The website <http://www.canva.com> - canvas a graphic design platform that allows users to create social media graphics, presentations, posters and other visual content.

JavaScript – Document Object Programming(DOM):

- ❖ There are three types of adding javascript to our website as same as CSS.They are inline js, internal js, external js as CSS does. External js code - `<script src="filename.js">`. Adding the javascript code at the bottom(i.e. just above the ending of the body tag) is a professional way of writing js code.
- ❖ `<body onload="alert('hello')">` - This javascript code displays hello on loading the website using an alert box.
- ❖ `Prompt("What's ur name");` - is a way of getting information from the user.
- ❖ Dot element is used in js to access the flow of the code. Js Properties include innerHTML, style, firstChild, etc. Js Methods include click(), appendChild(), setAttribute().

jQuery:

- ❖ jQuery is a popular library in javascript.
- ❖ jquery shortens the code of the javascript. The same function that the lengthy javascript does can be done by a short jQuery code.
- ❖ Incorporating jQuery is same as javascript incorporation. It's always good to incorporate the javascript code and jQuery code at the bottom before the closing of the body tag.
- ❖ We should include the jQuery CDN same as in javascript CDN in the head section of our HTML code in order to use jQuery in our website.

Unix Commands:

- ❖ It is same as you code to do everything in a LINUX,UNIX based Operating System.We can use gitbash or Hyper for execution of the commands.
- ❖ `pwd` – This commanf tells us in which directry we are curenntly in.
- ❖ `mkdir` – This command is used to create a repository(Similar to a file). Ex: `mkdir unknown`(Creates a repository named unknown)
- ❖ `touch` – This command is used to create a file. Ex: `touch unknown.txt`(Creates a text file named unknown)
- ❖ `open` – This command opens a particlar file. Ex: `Open unknown.txt` Or we can also open a file in a particular app Ex: `Open atom unknown.txt`
- ❖ `rm` - This command removes the file. Ex: `rm unknown.txt` . In order to delete the entire file use the command `rm *`
- ❖ `~` - This redirects us to the starting(Home) directory

- ❖ ls –This command lists all the elements present in the directory(Folder)
- ❖ rm -r unknown – This command removes a directory.
- ❖ clear – This commands cleans the Command Window(Gitbash or Hyper)
- ❖ Ctrl + c – This helps us to exit the command and we will be able to type a new command only after pressing Ctrl + c.

BACK END DEVELOPMENT

Node.js:

- ❖ First we have to install node.js in our machine or computer.
- ❖ Node Package Manager(NPM) - We can initiaze NPM by the command – npm init. This command runs a wizard and asks for a few question and stores the data in file called package.json. Head over to <https://www.npmjs.com/> and search for a package that we need and install it by the commands given as in that NPM documentation. The Documents also shows how to command and make the command work. After installing a package from npmjs.com that creates a file and a dependency parameter.
- ❖ We can also run our code directly in gitbash as we do in chrome developer tools by typing node in gitbash and then we can type our code and verify it directly like in a console.
- ❖ In order to run a file in node.js type node followed by the file name.

Express.js:

- ❖ Instead of restarting our servers to mark the changes in our code we can install and use nodemon. Install nodemon using the official documentation and type nodemon filename.js to restart the server and make the changes in our website.

JavaScript:

- ❖ We can use chrome developer tools for writing our javascript code and check in hand in hand what that code actually does.
- ❖ Javascript code - alert(“Hello World”); is used to display an alert box.
- ❖ Javascript code – typeof(23); - It is used to describe the type of the content given inside the parenthesis.