

## Important Notes

Color code for that note:

- Green -> Tag
- Blue -> Attribute
- Yellow -> Attribute's value
- Red -> Important

### HTML (HyperText Markup Language)

- Developer tool --> Inspect
- <https://validator.w3.org/> ----> checking syntax of html
- Why Index.html ?--> Servers always search for "Index file" so use it to avoid conflict such as in GitHub
- Comments --> <!-- -->
- Spaces --> Normal spaces using enter or space, the browser will ignore them 'we be displayed in inspect but will not in the webpage'

## Tags

- <Head> : Includes all the meta data (all instructions that given to the browser to tell him how to treat with your webpage "ex: name, language ")
  - <Meta/> : Self-closing tag (Includes some information about information "Ex, **charset=**" الترميز هو البروتوكول اللي على اساسه هنقول الموقع دة ("يُدعم اللغة او الحروف الفلانية مثلا ولا لا فعلی سبیل المثال في ترمیز معین لو اتكتب هيتعامل مع العربي انه لغة مجھولة والكلام مش هيطلع في الصفحة اللي بيكتب هنا هو الكلام اللي بيظهر تحت العنوان بتاع الصفحة ولكن مش في الصفحة نفسها انما لما تعملی "بحث علیها مثلًا في جوجل"
  - Note that : Any one can create a new meta it's totally up to u
    - <Style></Style> : Related to CSS code "Internal styling"
    - <Link>: Link external CSS file , Attributes (**rel= "stylesheet"**)
    - rel for -> Relation , **href= "External CSS file"**
    - <Script></Script> : Related to JS code "Internally also"
    - <Script></Script>: With attribute **scr= "Will link External Js**
    - <Title> : Title of the website
- <!DOCTYPE html>: This is not a html tag, This is an instruction must be exist at the top of HTML file. This instruction tell the browser on which version of HTML we are working in "This syntax for html5"
  - What if I didn't write this instruction ?  
Then the browser will render your webpage in "Quirks mode" which will lead to unexpected behavior with common tag يعني ممكن يشغل تاج بصورة مختلفة عن اللي انت عايزه  
But if you wrote that instruction then the page will be rendered in standard mode "في العادي منه يعني"
- Headings : <h1></h1> to <h6></h6>"
  - 1- Style : When using Heading the user agent (Browser) embedded built in style for each heading (Later, using CSS you can modify those styles )
  - 2- Purpose : You use those headings to add hierarchy to your webpage and make it Search engine friendly  
Note that, You have to use them with the same sequence. Otherwise will be wrong
- <P> : The most Important note is "<P> tag is a **block element** == It takes the whole width of the page even if the content doesn't need it + the User agent embedded a top and bottom margin to it to separate each paragraph "
- <b> : Bold, for fun " مجرد شكل و مش هيفرق معاك في المعلومة "
- <strong>: Bold also but it indicates importance+ Search engines look for that to indicates importance
- <i> : Italic, for fun " مجرد شكل و مش هيفرق معاك في المعلومة "
- <em>: Emphasized ,indicates importance
- <mark>: Highlight some text or words
- <u>: Underlined
- <small> : Smaller text than the exist sentences
- <del> : Deleted text "Line over the words ". This tag is super important in case you want to delete some content from your released webpage, You mustn't remove it completely from the code to stay trusted with search engines then you can use <del> to remove it



Title : [Two Weeks Notice \(2002\)](#)

Content : Two Weeks Notice: Directed by Marc Lawrence. With Sandra Bullock, Hugh Grant,

- <ins>: Inserted text , This tag is super important in case you want to add or insert some content from your released webpage so to indicate that this part is new added.
- <sub>: Subscript text
- <sup>: Superscript text
- <a> : a for Anchor, used for links (External links || other HTML files || particular part in page using id and href="# that id" || Email by writing 'href= [mailto:write the contact mail here'](#))  
and its attribute is href "Hypertext reference" & target = "For example : \_blank" which means that link will open a new tab & title "This is a tool tip when user hover the link this title will appear " (title is a **global attribute**)  
Note that : It is **inline element**
- <img>: Used to insert image , attributes : src for source and alt for alternate text in case the image doesn't appear. You also have width and height as attributes but it is not preferred to use them in HTML file we will do it using CSS  
Important note related to paths :
  - To move forward in files as you know you use '/' and so on
  - To move backward to exit the project's folder : use '../'
- <ul> : Unordered List this is the main frame of the list and inside it we will put the <li> . <ul> is a **block element**
- <li>: List item, The main tag that include the items inside both lists (ordered || unordered )
- <ol> : ordered list, we have attributes such as: Reversed => reverse the order of list, Start => I decide to start ordering from which number. I also can control the start at <li> by using value and then the starting number , Type => type of ordering (1,A,a,l,i,ect.)
- <dl>: Description list and it considers the main frame also, Inside it we have 2 tags <dt> : Term , and inside the <dt> we have <dd> which is the description  
Focus on hierarchy : <dl> then <dt> then <dd>
- <table>: The main root of the table (Inside it we will write the table)  
We have multiple tags(all of them are inside <table>) in that part :
  - <thead> => Inside it we write 2 tags :<tr>(Table Row) inside it we wrote <th> (Table heading Cell)
  - <tbody> => Inside it we will write the whole content of the table using <tr> and <td> (table data)
  - <tfoot> => Inside it we will write the last row in that table
  - What is the importance of those tags (<thead>, <tbody>, <tfoot>)? - Simply: They maintained the structure of the table in case you made a mistake
  - <caption>: We use it after <table> tag to insert a caption into table
  - **Attributes :** <table border = "1" , cellpadding="2"> (**DON'T USE THEM**) , <td colspan = "2"> This is used for merging more than one **cell** together . <td rowspan = "2"> This is used for merging more than one **row** together
- <span> : This tag is used mainly to isolate some sentences in a paragraph, How ?  
  - Span is an **Inline element**
  - By using span tag you can catch some sentences and add CSS style for it (Span tag doesn't have and style by user agent) so play as you want
- <br>: Break line OR new line (**self-closing tag**)
- <hr>: Horizontal line (**Block element**)
- <div>: Division || Container (**Block element**) . Div is exist to contain more than one element to catch them all using the div and add more control (styling CSS for example). Note that most time divs don't include words, they carry elements
- Semantic Elements :
  - Why ? => Semantic elements are new tags exist in HTML5, we use them in some situations where the excessive usage of div is meaningless
  - All of Semantic elements are **Block elements**

- Semantic elements are:
  1. `<header>`: The most top of the webpage, and it's okay to find a header in multiple sections within the page
  2. `<nav>`: Is used for links
  3. `<main>`: Includes main content
  4. `<section>` : In case you will divide the webpage into sections and Groups related content together
  5. `<article>`: In case you want to Represent standalone content ex, post
  6. `<aside>` : Sidebar in webpage
  7. `<figure>` : This tag is considered as a special div but only contains the `<img>` and `<figcaption>` tag
  8. `<figcaption>`: used to describe the image within `<figure>` tag
  9. `<footer>`: The most bottom of the webpage (Usually contains the copywrites and contact us info) , and it's okay to find a footer in multiple sections within the page

- `<audio>` : This tag is used to embed an audio file in your webpage, This tag have multiple attributes:
  - `Src`: To add the source of that file (**NOT recommended**) because incase something went wrong the audio file will not work , we will use instead `<source>` tag to add multiple extensions for the same audio file
  - `Controls` : Which is responsible for showing the icon of any audio such as 'play, stop, the volume of the sound, etc.'
  - `Autoplay`: Responsible for auto playing the audio whenever you refresh the webpage (**NOT recommended**)
  - `Loop`: Repeat and Repeat the audio
  - `Muted`: Start the audio with muted sound

**Note that :** In case the browser doesn't support the whole audio tag then we can write 'some sentence that explain that the browser doesn't support that tag '
- `<source>` : This tag is used inside the audio tag to indicate the source of the audio file, It has 2 attributes :
  - `Src`: To add the source of that file
  - `Type` : The value of that tag is equal to something called MIME TYPE :[https://developer.mozilla.org/en-US/docs/Web/HTTP/MIME\\_types/Common\\_types](https://developer.mozilla.org/en-US/docs/Web/HTTP/MIME_types/Common_types)
- `<video>`: This tag is used to embed an video file in your webpage, This tag have multiple attributes:
  - Same attributes of `<audio>` in addition to other attributes
  - `Width`: Controls video's width
  - `Height`: controls video's height
  - `Poster` : The value of it equals to the path of the image that will appear till the video load
- `<track>` : This tag is used to add translated file or captions to a video (So, It is located inside the video tag), It has multiple attributes:
  - `Src`: Used to add path
  - `Kind`: chose the kind of that file
  - `Srclan`: Select a language
  - `Label` : Write the label will appear on video
- `<form>`: This tag is responsible for starting creating form == Form's root, it has multiple attributes:
  - `Action`: This attribute will carry the path of the file were the submitted data will go to (back-end tip), whenever you don't use it or leave the value empty, the data will go to the same page
  - `Method`: This attribute is responsible for displaying the sent data in URL or not
    - Appear in URL when click submit => `method = 'GET'`
    - Doesn't appear => `method = 'POST'`
  - `Novalidate`: Is used whenever you what to test your work
  - `Target`: When the value of it equals `_blank` , it will open a second webpage with cleaned data and remains the entered information in other tap
- `<label>` : Inside that tag we write the word appeared beside the input field , This tag is **inline element** , This tag has an attribute called `for` => This attribute is used to link the label with it's input field , It's value = to the id's value of the input tag
- `<input>`: Tag which allow users to enter data, it has multiple attributes , This tag is **inline element**
  - `Type` : Indicates the data type will be written inside that tag (ex: `text, password, email, submit`, etc.). Now we will talk about some types:
    - `Hidden` : In this type the input will be hidden, Used when the value mustn't appear on webpage but will appear on inspect normally

- **Reset**: Reset all the written data in fields
- **Color**: This type let you pick color from palette
- **Range**: You want the user to determine some range, In case your input type is range so you have some other attributes to match that value such is (**min, max, step**)
- **Number**: You want the user to determine specific number (accept only numbers), In case your input type is number so you have some other attributes to match that value such is (**min, max, step**)
- **Radio**: This type is used when you want the user to select **ONE OPTION ONLY** form multiple options, In case your input type is radio so you have some other attributes to match that value such is (**checked**)
- **Checkbox**: This type is used when you want the user to select **Multiple OPTIONS** form multiple options, In case your input type is checkbox so you have some other attributes to match that value such is (**checked**)
- **File** : This type is used to upload files to the form
- **Search** : Used to search for something in the webpage (The input field hence include 'x' to clear the field )
- **URL**: This input field accept only URLs
- **Date** : used to select the full date from it (includes year,month,day)
- **Month**: used to select date from it (includes year,month)
- **Time**: used to select hours from it (includes hours, minutes, am/pm)
  
- **Placeholder**: This attributes writing a shadow text inside the input field (will disappear whenever the user wrote anything )
- **Required**: User must fill that field
- **Value** : it's value will stay however you refresh the webpage, or in another word 'the start of your field '
- **Name**: This attribute is responsible for clarity of the sent information 'will appear in 2 places {The url after click submit, the query string}'
- **Readonly**: this attribute made the value inside the field is **Read ONLY** but note that the **data is sent in normal way**
- **Disabled**: this attribute made the value inside the field **unchanged** and note that the **data is NOT sent with other data**
- **Autofocus**: Concentrate the focus in specific input field
- **Minlength**: Strict with the minimum number of characters
- **Maxlength**: Strict with the maximum number of characters
- **Id** : This is an identifier, one of its usage is to link the input tag with specific label

- <select>: Is the tag which is responsible for dropdown menu , <select> is the root and inside it we put several options, it has multiple attributes such as (**name** => this attribute represent the name of sent data بغير عن اسم الداتا اللي هتتحدد بمعنى تاني هيظهر الاسم دة وبعدها URL , **id** => Typical id ). Inside <select> we have :

- <option>: this tag represent the options in the menu and has some attributes (**value** => the sent value under the name of name attribute in <select> tag, **selected** => select one option at the beginning of the page )
- <optgroup>: used to group multiple <option> tags in one category, it has attribute called **label** => which will be the name of that category

- <input> 'without type ': This input is used to create a data list, it includes an attribute called **list** that carry the name of it

- <datalist>: This tag is used to collect all options of the list, It has an **id** = to the list name (for linking)

- <option> 'without closing tag': here you list your options, it has attribute called **value** = to option

- **What is the difference between select and datalist ?**
  - **In datalist, We can search with letters for whatever we want but in select we can't**

- <textarea>: Used to embedded a text area in page, attributes: (**name, "cols, rows** => we don't use them, we do it using CSS " )

**Note that : all the mentioned tags started from <form> till now are placed inside a <form> tag**

- <q> : This tag is used to insert a quote " حكمة " inside the webpage (Inline element)
- <blockquote>: This tag is used to insert a quote " حكمة " inside the webpage (block element)
- <button>: add button, Usually used in js
- <wbr>: "Word break opportunity", It also breaks the line like <br> BUT < wbr> doesn't force the break, it made it with URLs and whenever it's necessary ONLY

- <bdi>: b direction isolation , this tag is used to isolate some content from the normal flow of the webpage (This is used mainly when you mix between Arabic and English words )
- <code>: This tag is used when you want to insert block of code inside your page
- <pre>: 'pre-formatted text', This tag keep the text inside it formatted with the same ways the developer wrote it in HTML file "No escape for spaces or change in anything"
- <iframe>: Used to call (Insert other webpage in your webpage) 'You can do it by using API (Which actually used )'

## Entities

Entities in html equals to escape characters used in programming. For example, If you want to write <p> inside your paragraph, then the browser will consider it as <p> tag which is not correct

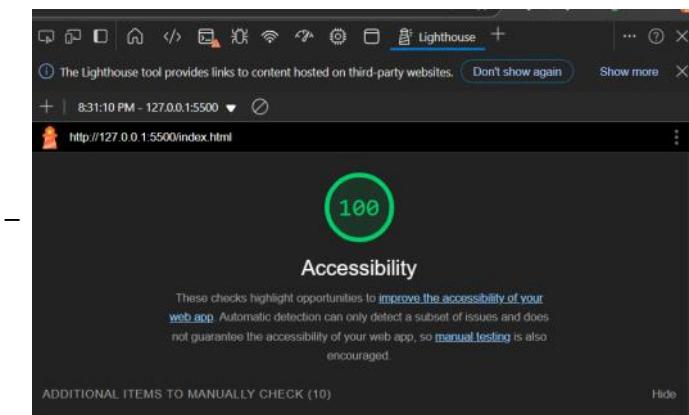
Solution:

Use Entities : <https://www.freeformatter.com/html-entities.html>

## Accessibility

What is the meaning of accessibility ?

- It means to make your webpage disabled friendly, in terms of colors, screen readers, labels, chose the correct tag to use, etc.
- We can check the correctness of accessibility in our website using ([Light house](#))



## ARIA "Accessible Rich Internet Application"

Idea => Screen readers help the blind to read each word in webpage, and actually understand the idea of each tag,

BUT for unfortunately there are some tags mystery 'such as div'. That's why we have [ARIA](#)

Scenario => Create a checkbox using div, hence we use some attributes :

- **Role** : Indicate the role of that element (In our scenario = '[checkbox](#)')
- **Aria-checked**: which is equal to [checked](#) attribute in <input>, it's value = [true/false](#)
- **Tapindex**: which is responsible for moving between elements using (tab on keyboard) , it's value = "[0](#)"
- **Aria-labeledby**: Equal to [id](#) in <input> tag , we link that value with the <label> tag

## Attributes

- ⇒ Attribute name = 'Attribute value '. You can remove the quote " or "" in case the attribute's value is one word **ONLY** Otherwise the browser will treat it as an attribute
- ⇒ We have two types of attributes : Global and elements attributes. Global ones : Can be applied to any element such as "[class](#), [id](#), [hidden](#), etc.". Elements attributes: they are related to specific tag "example : img tag --> attribute "[src](#) / [alt](#) they are element attributes "

## **Short cuts**

- Source code on browser --> **ctrl+u**
- Take a copy downside in vs :**alt+ shift + down arrow**
- **.** And the class name will create a div with that class name
- **#** and the id name will create a div with that id name