

Web Development

LEARN MORE





Hello there!

**I'm France, and I'll be sharing with you my
expertise in Web Development.**

 <https://github.com/francejules22>

 <https://francejules22.github.io/francis-portfolio/>

 <https://www.facebook.com/francisjules.celeste/>

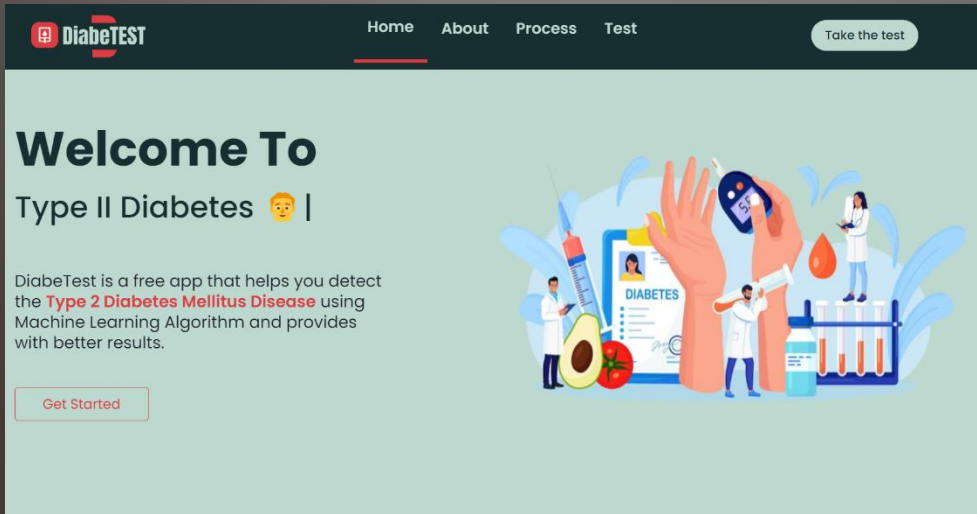
 https://www.instagram.com/frnce_juls/

 <https://www.linkedin.com/in/francejules/>

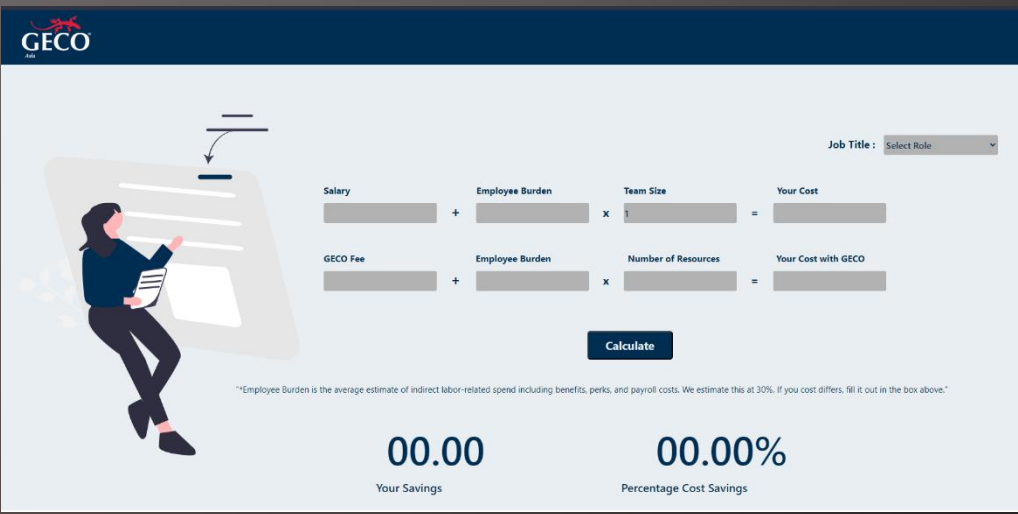
 <https://www.behance.net/francisparto>



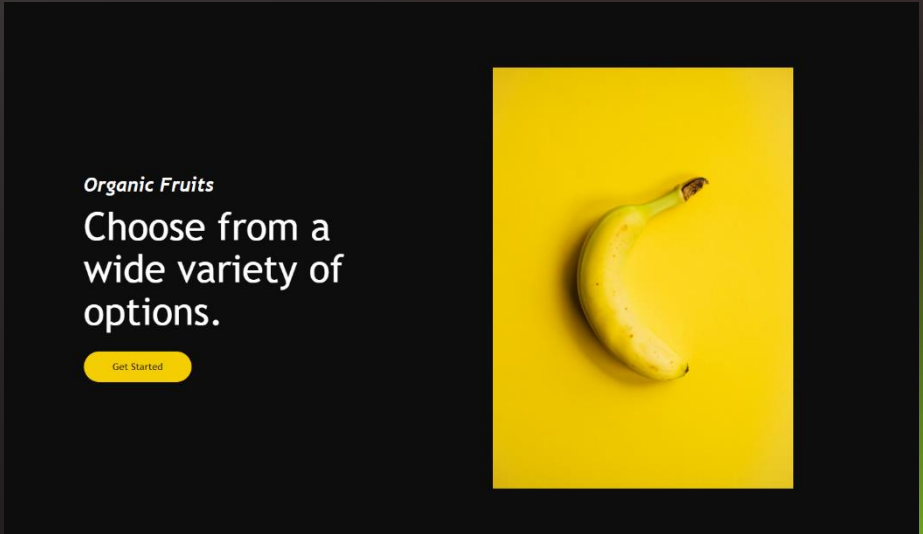
My Projects



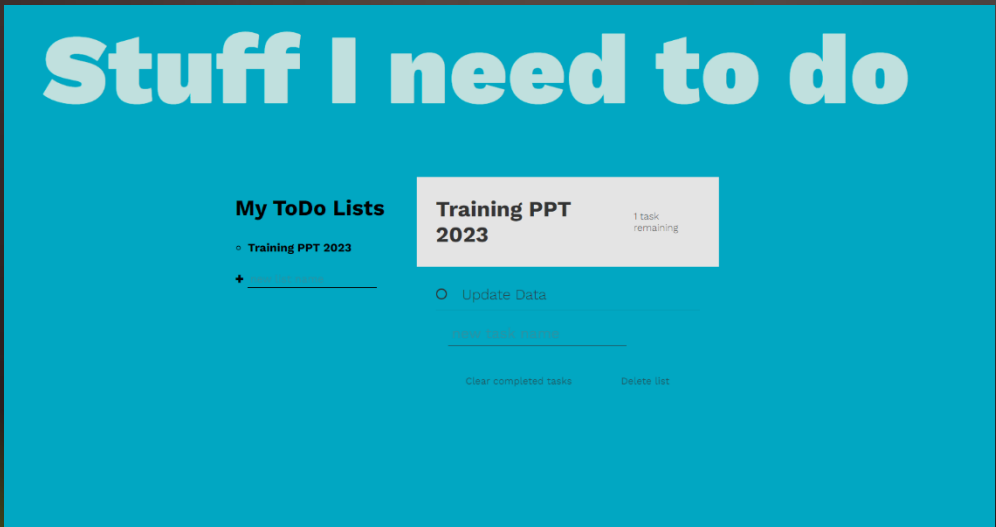
Project 01



Project 02



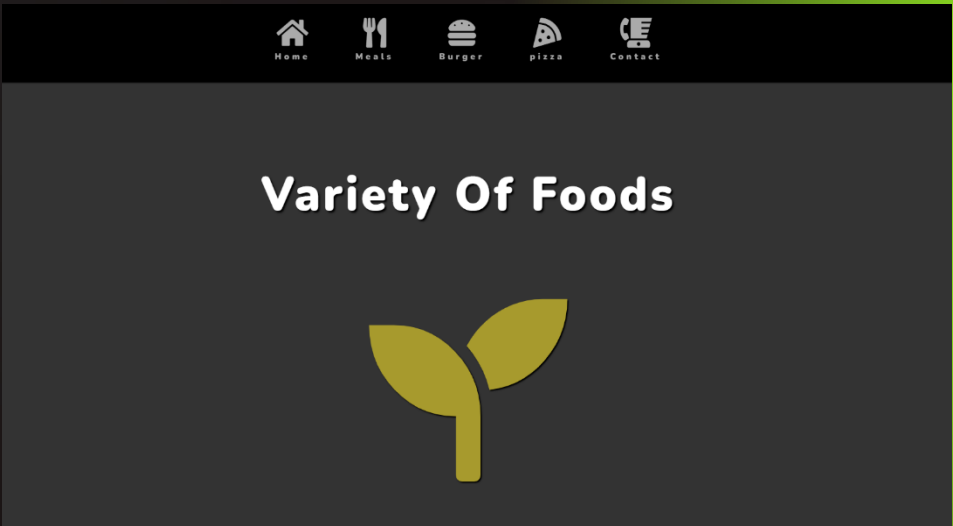
Project 03



Project 04



Project 05



Project 06



What is Web Development?

Web Development refers to the building, creating, and maintaining of websites. It includes aspects such as web design, web publishing, web programming, and databases management.

The word Web Development is made up of two words, that is:

Web: It refers to websites, web pages or anything that works over the internet.

Development: Building the application from scratch.



Websites vs Web Application

Websites

A website is a set of universally accessible interlinked web pages in a single domain name. Typically, they are information in nature.

Other than submitting a question via the contact form or receiving a monthly newsletter or performing a search, there is minimal interaction on the part of the visitor.

Web Application

A web application is an interactive page. It allows users to add inputs and get data in many ways via interactions.

Web Application are similar to any other apps, but the main advantage of a web application is that it's stored on the internet and can be accessed on a browser.



Web Development Classification



Front-End Development

The development of the graphical user interface of a website, through the use of HTML, CSS, and/or JavaScript, so that users can view and interact it

Back-End Development

The development of functions and activities of the website that users cannot see and interact. It is responsible for storing and organizing data, and ensuring everything on the client-side actually works.

Full Stack Development

Full stack development is the end-to-end development of applications. It includes both the front end and back end of an application.



Web Development Classification

Websites

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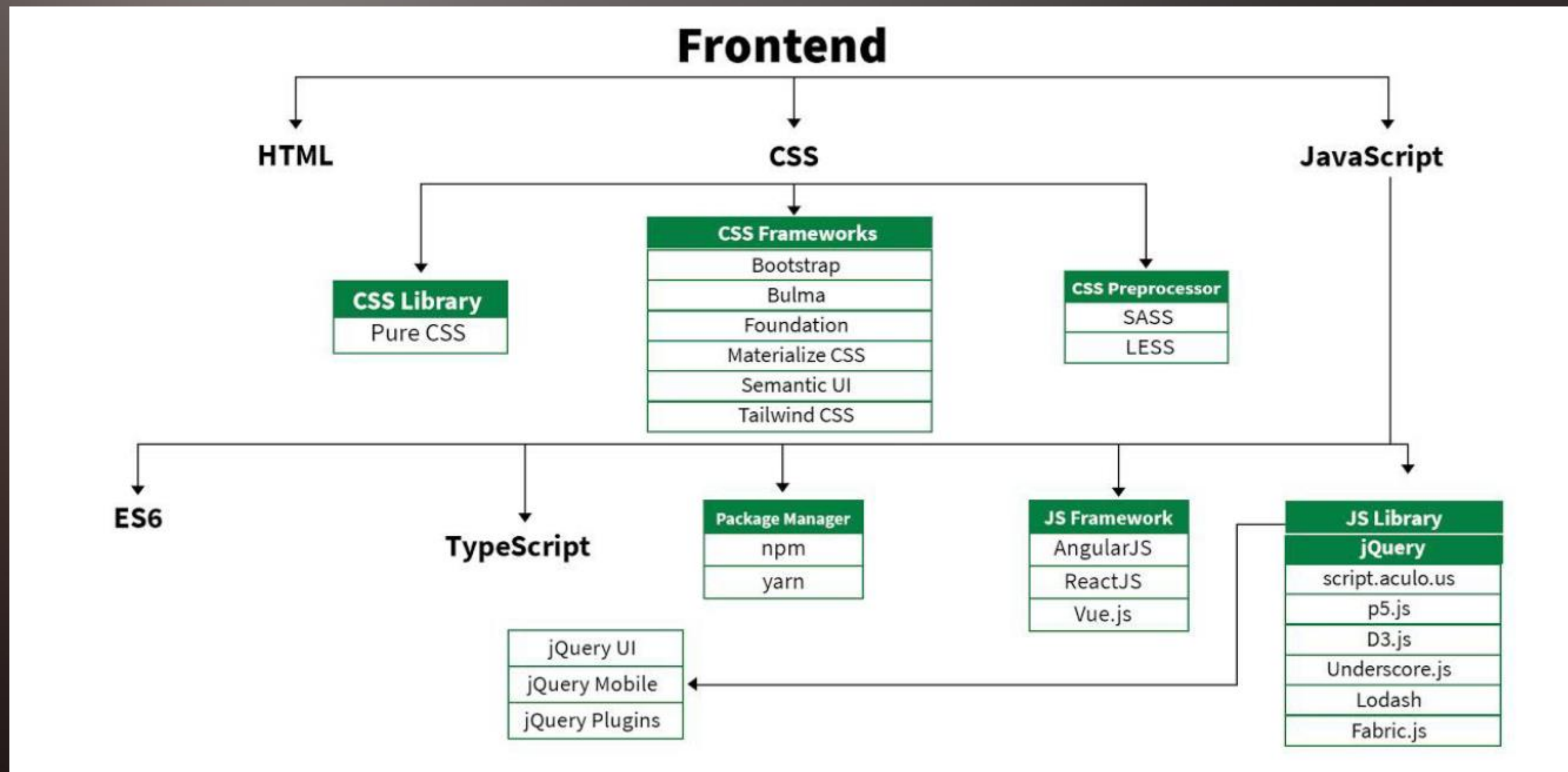
Web Application

A web application is an interactive page. It allows users to add inputs and get data in many ways via interactions.

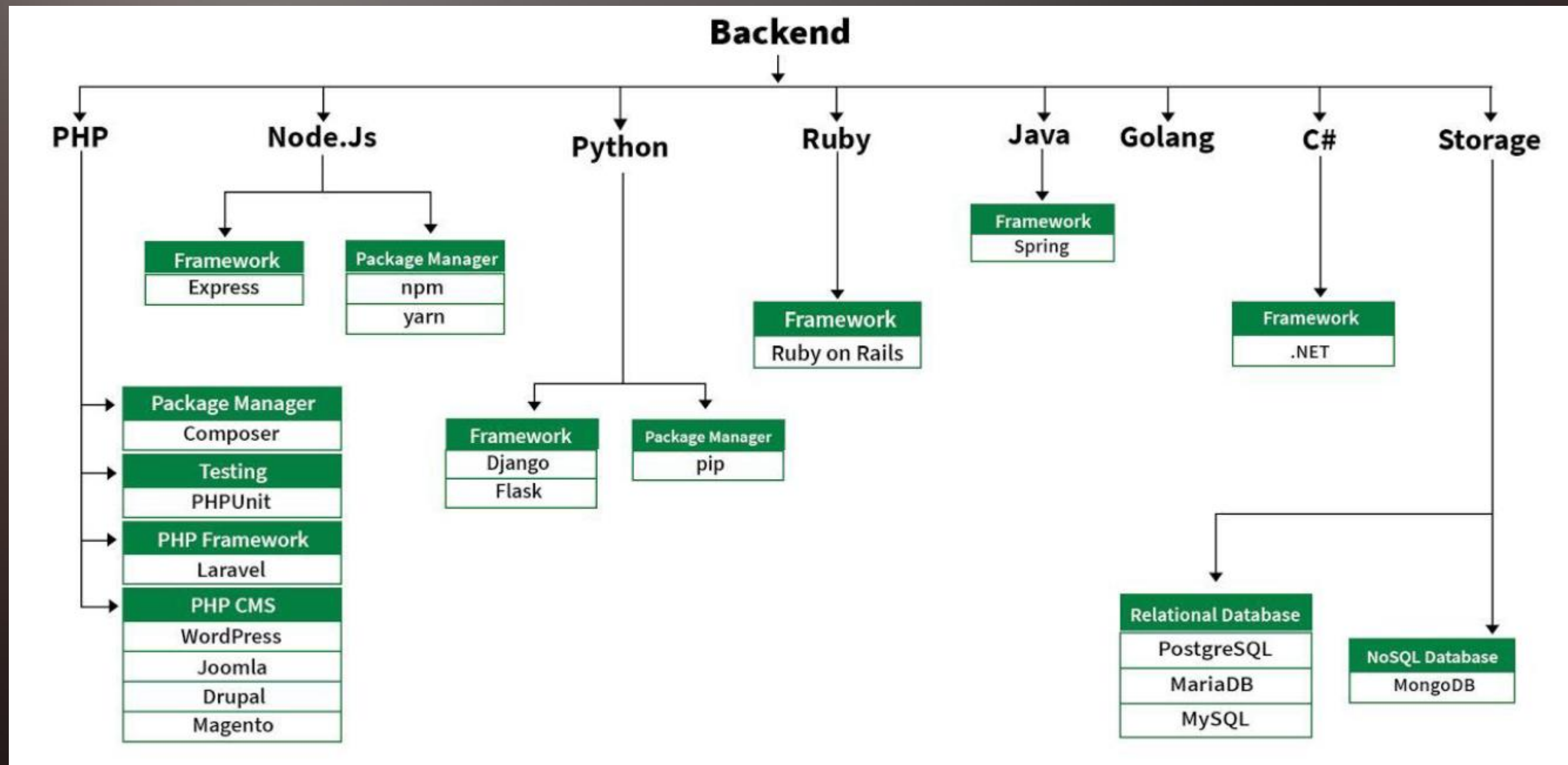
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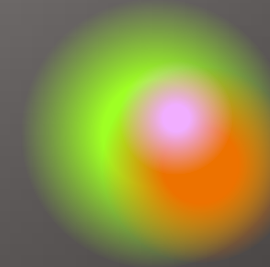
Frontend Roadmap



Backend Roadmap

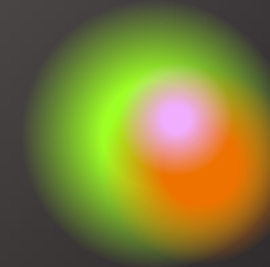


Web Development Tools



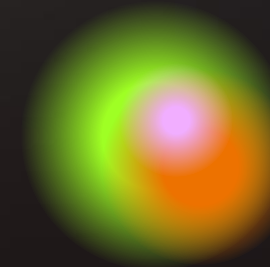
Browsers

- Firefox
- Google Chrome
- Microsoft Edge
- Safari
- Opera



Source Code Editor

- Notepad++
- Sublime Text
- Atom
- Visual Studio Code (VS Code)



Web Performance Checker

- Pingdom Speed Test
- Google PageSpeed Insights
- Web Dev Lighthouse





HTML



What is HTML?

HTML stands for HyperText Markup Language.

- It is used to design the front end portion of web pages using markup languages.
- It acts as a skeleton for a website since it is used to make the structure of a website.
- It is the standard markup language for creating web pages.



HTML STRUCTURE

HTML is consist of:

- Tags
- Attributes
- Elements

```
<!DOCTYPE html> |----- DEFINES THAT THIS DOCUMENT IS  
AN HTML5 DOCUMENT  
  
<html> |----- IS THE ROOT ELEMENT OF AN HTML PAGE  
  
<head> |----- CONTAINS META INFORMATION ABOUT THE PAGE  
  
  <title>Page Title</title> |----- SPECIFIES A TITLE FOR  
  THE PAGE  
  
  </head>  
  
  <body> |----- IS A CONTAINER FOR ALL THE VISIBLE CONTENT  
  
    <h1>My First Heading</h1> |----- DEFINES A LARGE HEADING  
  
    <p>My first paragraph.</p> |----- DEFINES A PARAGRAPH  
  
  </body>  
  
</html>
```



Tags

HTML tag is a special word or letter surrounded by angle brackets, < and > .

- <html> - The root element
- <head> - The document head
- <title> - The page title
- <body> - The page's content
- <h1> - A section heading
- <p> - A paragraph
- <a> - A link
- - An image

<div>

Let's be **together**.

We should **break** up.

<body>

I need to lose **weight**.

Attributes

HTML attributes are special words used inside the opening tag to control the element's behaviour. They provided additional information about elements.

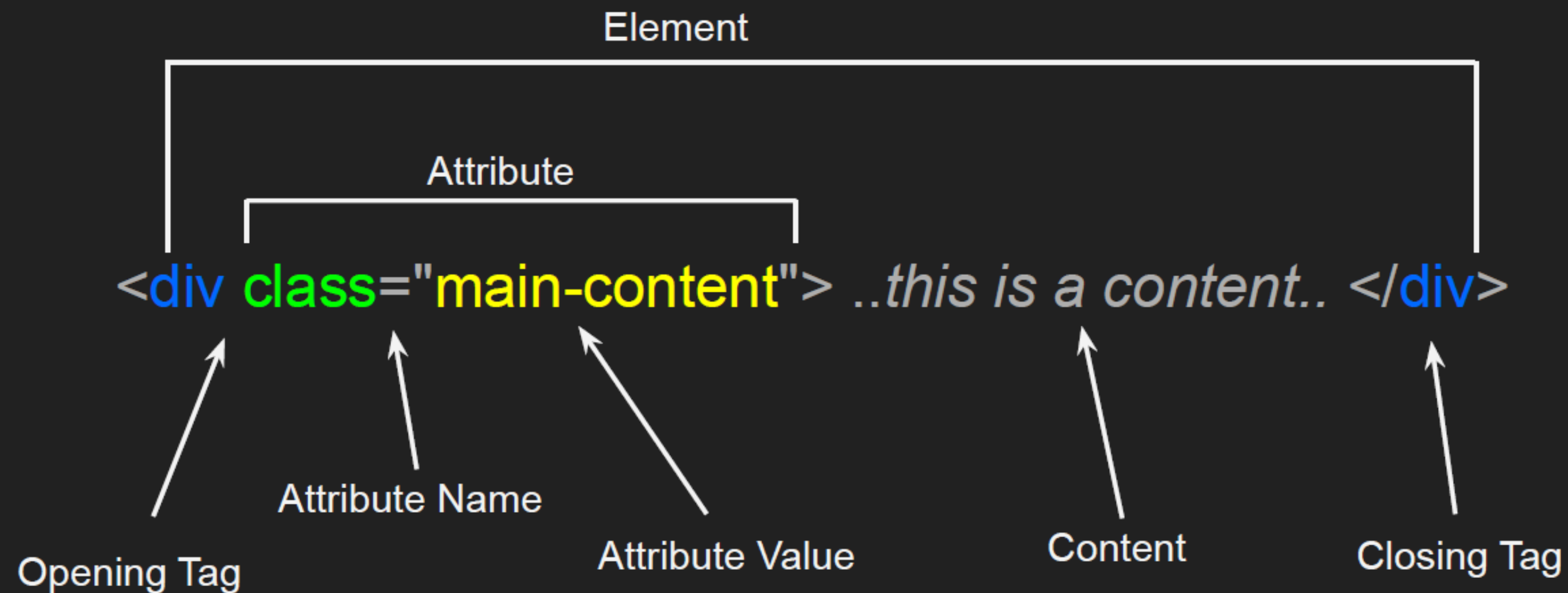
- Attributes are used by including them in an opening HTML tag:

```
<tag_name attribute_name="value"> ..Content.. </tag_name>
```



Elements

HTML elements is defined by a start tag, some content, and an end tag. It is a set of opening and closing tags.



Comments

An HTML comment begins with `<!--` and the comment closes with `-->`

HTML comments are visible to anyone that views the page source code, but are not rendered when the HTML document is rendered by a browser.

```
<!-- This is a comment -->  
<p>This is a paragraph.</p>  
<!-- Comments are not displayed in the browser -->
```



Link Tags

The `<a>` tag defines a hyperlink, which is used to link from one page to another. The most important attribute of the `<a>` element is the `href` attribute.



HTML Lists

Used to group a set of related items in lists

Unordered HTML list:

- Item
- Item
- Item

Ordered HTML list:

1. First item
2. Second item
3. Third item
4. Fourth item



Unordered List

An unordered list starts with the `` tag. Each list item starts with the `` tag.

Ex:

```
<ul>  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ul>
```

- Coffee
- Tea
- Milk

Ordered List

An ordered list starts with the `` tag. Each list item starts with the `` tag.

Ex:

```
<ol>  
  <li>Coffee</li>  
  <li>Tea</li>  
  <li>Milk</li>  
</ol>
```



1. Coffee
2. Tea
3. Milk

Nested List

A nested list or a sublist is a list within a list.

Ex:

```
<ol start="3" >
  <li>Drinks
    <ul>
      <li>Coffee</li>
      <li>Tea</li>
      <li>Milk</li>
    </ul>
  </li>
  <li>Burgers</li>
  <li>Pizzas</li>
</ol>
```

- 
3. Drinks
- Coffee
 - Tea
 - Milk
4. Burgers
5. Pizzas

CSS



What is CSS?

- A style sheet language used to style HTML documents
- It is used to format the layout of a web page.
- CSS can control the layout of multiple pages all at once.



HTML

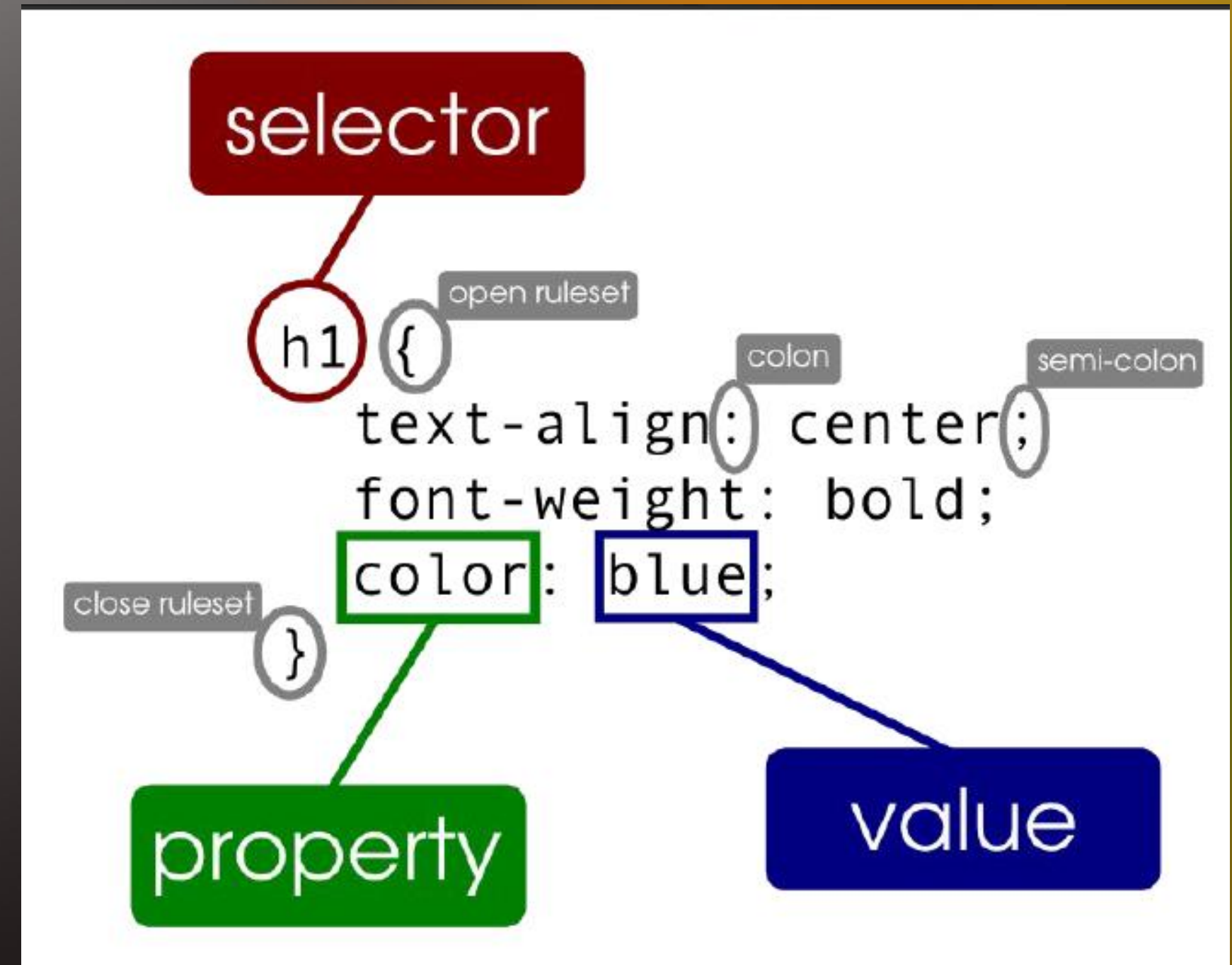
HTML + CSS

CSS Structure

A CSS rule-set consists of a selector and a declaration block.

There are three ways you can use to implement CSS into your HTML:

- Inline
- Internal
- External



Inline CSS

Using style attribute in HTML elements.

Ex:

```
<span style="color: yellow;">
```

.. example content contained in span element ..

```
</span>
```



Internal CSS

Using style tag (mostly in the head section of HTML document).

Ex:

```
<style>  
  span {  
    color: yellow;  
  }  
</style>
```



External CSS

Linking a CSS file in the head section of HTML document using the <link> tag.

Ex:

```
<head>
```

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

```
</head>
```



CSS Comments

CSS comment starts with `/*` and ends with `*/`

```
/* This is a single-line comment */  
p {  
  color: red;  
}
```

```
p {  
  color: red;  /* Set text color to red */  
}
```

```
/* This is  
a multi-line  
comment */
```

```
p {  
  color: red;  
}
```



CSS Colors

Colors are specified using:

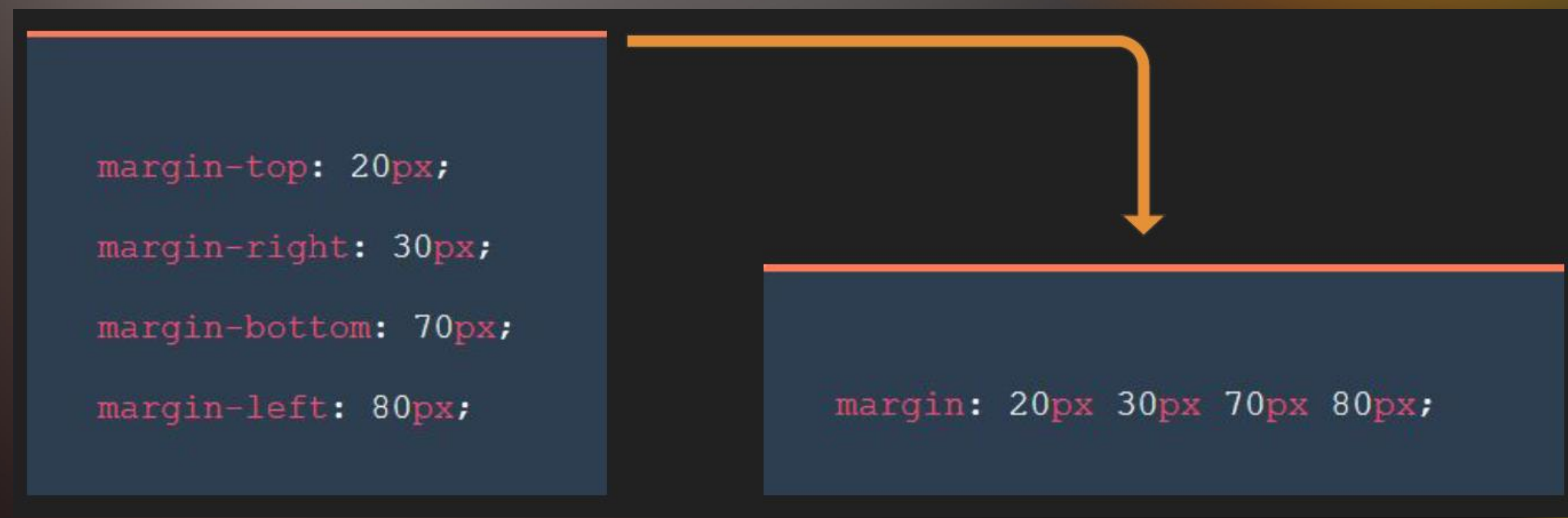
- RGB
- HEX
- HSL
- RGBA
- HSLA
- Predefined color names

```
#rgb{
  color:rgb(33,123,156);
}
#rgba{
  color:rgba(22,134,231,0.5);
}
#hex{
  color:#C269B2;
}
#hsl{
  color:hsl(0,60%,50%);
}
#hsla{
  color:hsla(0,40%,80%,0.5);
}
#built{
  color:green;
}
```



Shorthand properties

CSS shorthand is a group of CSS properties that allow values of multiple properties to be set simultaneously.



The diagram illustrates the concept of CSS shorthand properties. On the left, a dark blue box contains four lines of CSS code: `margin-top: 20px;`, `margin-right: 30px;`, `margin-bottom: 70px;`, and `margin-left: 80px;`. On the right, another dark blue box contains the shorthand code `margin: 20px 30px 70px 80px;`. An orange arrow originates from the top of the left box and points down to the shorthand code in the right box, indicating that the shorthand property is a more concise way to set the same values.

```
margin-top: 20px;  
margin-right: 30px;  
margin-bottom: 70px;  
margin-left: 80px;
```

```
margin: 20px 30px 70px 80px;
```

JavaScript



Why study JavaScript?

It is one of the 3 languages all web developers must learn.

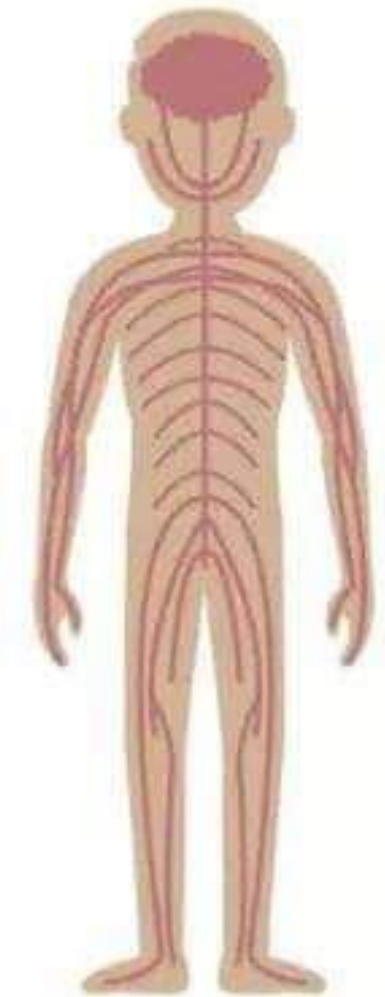
HTML the Skeleton



CSS the Skin



Javascript the Brain



What can JavaScript do?

- JavaScript can change HTML content
- JavaScript can change HTML attribute values
- JavaScript can change HTML styles
- JavaScript can hide HTML elements
- JavaScript can show HTML elements
- JavaScript can remove existing HTML elements and attributes.
- JavaScript can add new HTML elements and attributes
- JavaScript can react to all existing HTML events in the page
- JavaScript can create new HTML events in the page



Implementation

There are two ways you can use to implement JS into your HTML:

- Internal
- External

```
<script type="text/javascript" src="javascripts/jquery-1.6.1.min.js"></script>

<script type="text/javascript">

    function sayHello() {
        alert("Hello!");
    };

</script>
```



Internal JavaScript

JavaScript can be implemented using the `<script>` HTML tag. You can place the `<script>` tags, containing your JavaScript, anywhere within your web page.

A simple syntax of your JavaScript will appear as follows:

```
<script type="text/javascript">  
..JavaScript Code Here..  
</script>
```



External JavaScript

Other way to implement JavaScript is by using an external script.

Put the name of the script file in the src (source) attribute of a <script> tag:

```
<script src="path/to/script.js"></script>
```



Comments

JavaScript comments can be used to explain JavaScript code, and to make it more readable.

JavaScript comments can also be used to prevent execution, when testing alternative code

Single line comments starts with `//`.

```
// Change heading:
document.getElementById("myH").innerHTML = "My First Page";

// Change paragraph:
document.getElementById("myP").innerHTML = "My first paragraph.";
```

Multi-line comments starts with `/*` and ends with `*/`

```
/*
The code below will change
the heading with id = "myH"
and the paragraph with id = "myP"
in my web page:
*/
document.getElementById("myH").innerHTML = "My First Page";
document.getElementById("myP").innerHTML = "My first paragraph.";
```



Variables

4 ways to declare a JavaScript Variable:

- Using var
- Using let
- Using const
- Using nothing

Variables must be identified with unique names called identifiers:

- Can contain letters, digits, underscores, and dollar signs
- Must begin with a letter
- Can also begin with \$ and _
- Names are case sensitive (y and Y are different variables)
- Reserved words cannot be used as names



Functions

A JavaScript function is a block of code designed to perform a particular task.

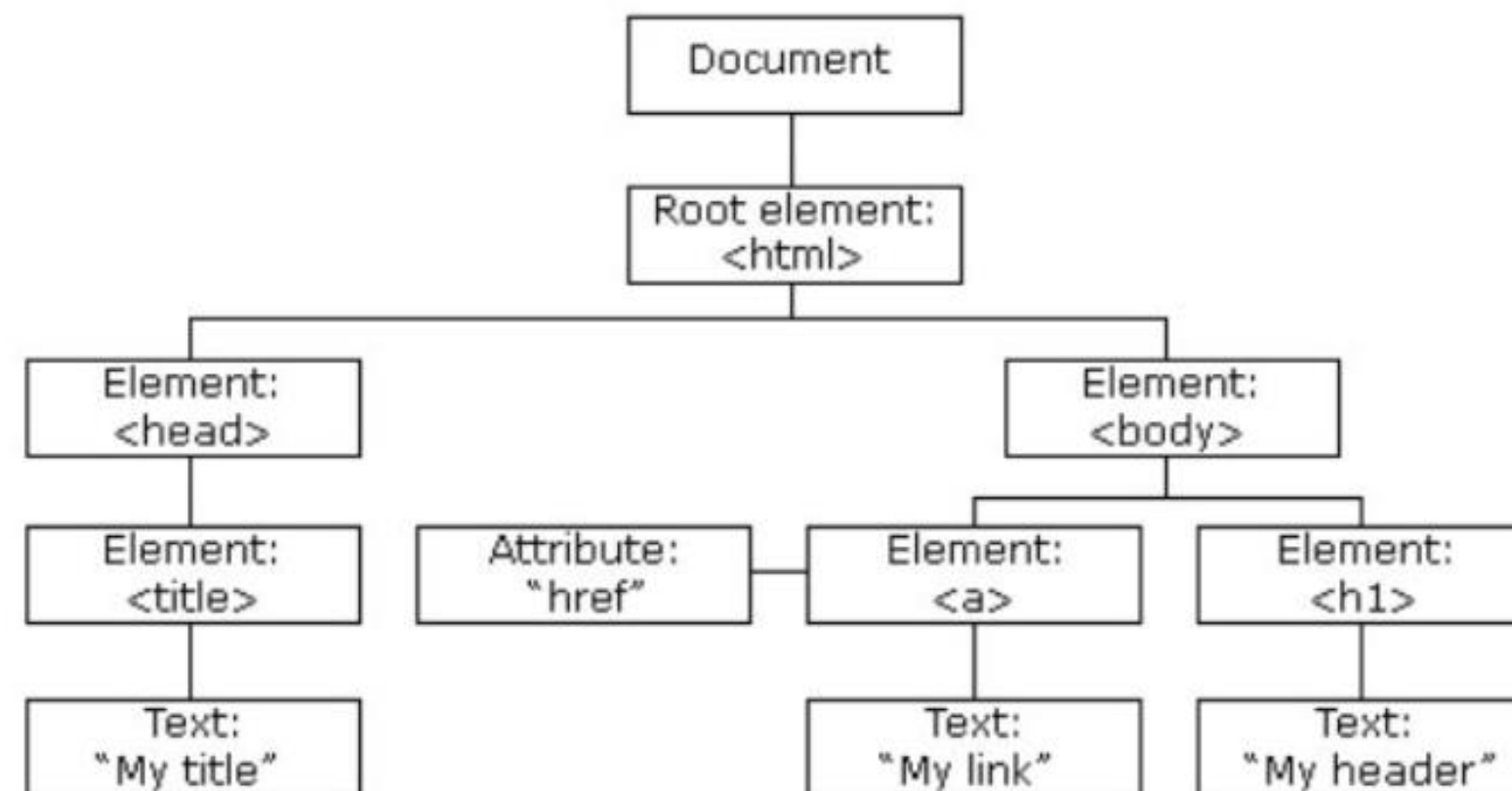
- It is defined with the function keyword, followed by a name, followed by parentheses ().
- Function names can contain letters, digits, underscores, and dollar signs (same rules as variables)
- Parentheses may include parameter names separated by commas.



HTML DOM

With HTML DOM, JavaScript can manipulate all the elements of an HTML document.
When a web page is loaded, the browser creates a Document Object Model of the page.

The HTML DOM Tree of Objects



HTML DOM Methods

- HTML DOM methods are actions you can perform (on HTML Elements).
- HTML DOM properties are values (of HTML Elements) that you can set or change.
 - a property is a value that you can get or set (change).
 - a method is an action you can do (add or delete).

Finding HTML Elements

| Method | Description |
|---|-------------------------------|
| <code>document.getElementById(<i>id</i>)</code> | Find an element by element id |
| <code>document.getElementsByTagName(<i>name</i>)</code> | Find elements by tag name |
| <code>document.getElementsByClassName(<i>name</i>)</code> | Find elements by class name |



Useful Links:

- <https://www.geeksforgeeks.org/>
- <https://www.w3schools.com/>
- <https://www.tutorialspoint.com/>
- <https://www.freecodecamp.org/>
- <https://codepen.io/>
- <https://css-tricks.com/>
- <https://animista.net/>
- <https://bgjar.com>
- <https://cssbuttons.io>
- <https://flexboxfroggy.com>
- <https://cssgridgarden.com>
- <https://keyframes.app>
- <https://roadmap.sh/>

