

# UI BASICS



# INTRODUCTION

- User Interface (UI)
- HTML History
- Anatomy of HTML Elements
- HTML Document Boilerplate
- What is in the HEAD
- Styling (CSS)
- Anatomy of CSS Declaration
- Adding CSS to HTML Document
- Cascading Order
- Exercises

## User Interface (UI)

- The User Interface is the visual part of an application or device that determines how a user interacts with it and how information is displayed on the screen
- This can include display screens, keyboards, a mouse and the appearance of a desktop.
- It is also the way through which a user interacts with an application or a website.

The UI is often talked about in conjunction with user experience (UX), which may include the aesthetic appearance of the device, response time and the content that is presented to the user within the context of the user interface.

HTML and CSS have been geared toward making it easier to create a strong user interface and experience.



## HTML

- HTML stands for *Hyper Text Markup Language*
- HTML is the **standard markup language** for creating Web pages
- HTML describes the **structure of a Web page**
- HTML consists of a **series of elements**
- HTML elements **tell the browser how to display the content**
- HTML elements label pieces of content such as "this is a heading", "this is a paragraph", "this is a link", etc.

Its called  
markup language  
because it marks the  
information by  
tagging them.



“Markup” means  
the way you can structure  
or format content.

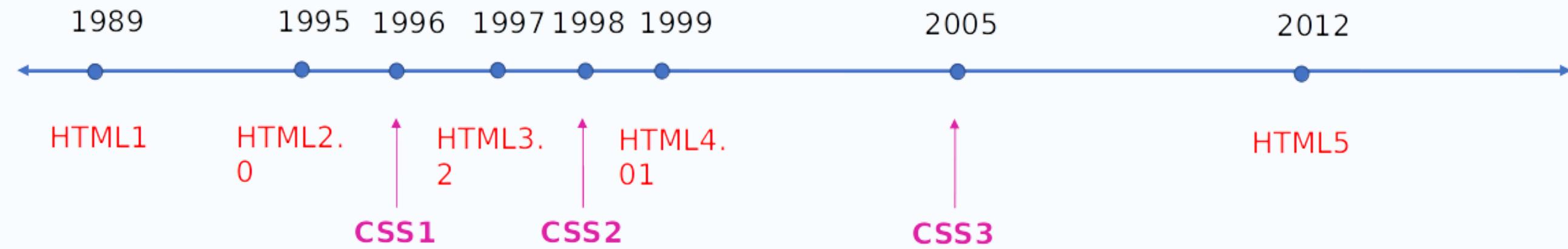
When the document is processed  
for display, the markup language  
is **not shown**, and is only  
**used to format the text**.

# HTML

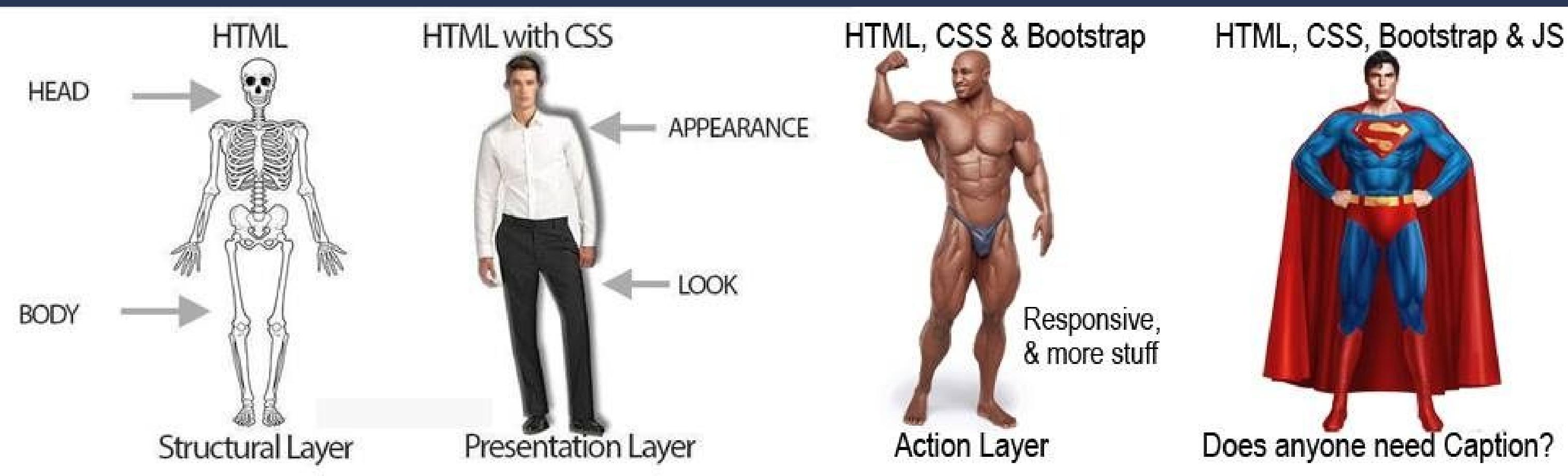


The first version of HTML was written by

**TIM BERNERS-LEE**



# HTML



## HTML Element

The HTML element is everything from the start tag to the end tag

```
<tagname>Content goes here...</tagname>
```

↑              ↑              ↑  
start tag      some content    end tag

```
<a href="">...</a>  
  
<img src="" alt="" width="" height="">  
  
<p title="">...</p>  
  
<div class="">...</div>  
  
<div id="">...</div>
```

- All HTML elements can have attributes
- Attributes provide **additional information** about elements
- Attributes are always specified in **the start tag**
- Attributes usually come in name/value pairs like: **name = "value"**

## HTML Empty Elements

```
<br>
<link>
<hr>
<meta>
<img>
<input>
```

- Some HTML elements have no content.
- These elements are called **empty elements**.
- Empty elements do not have an end tag!

## Web Browsers



Opera



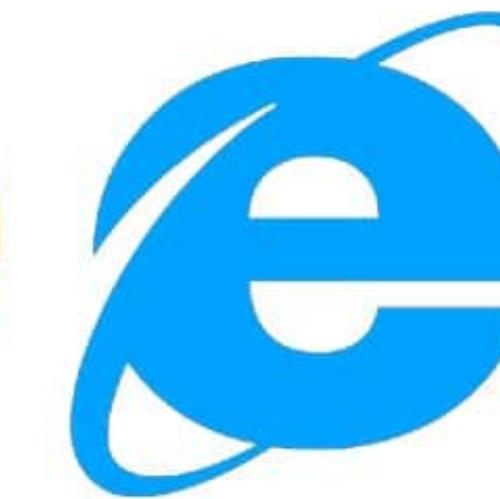
Google Chrome



Safari



Mozilla Firefox



Internet Explorer

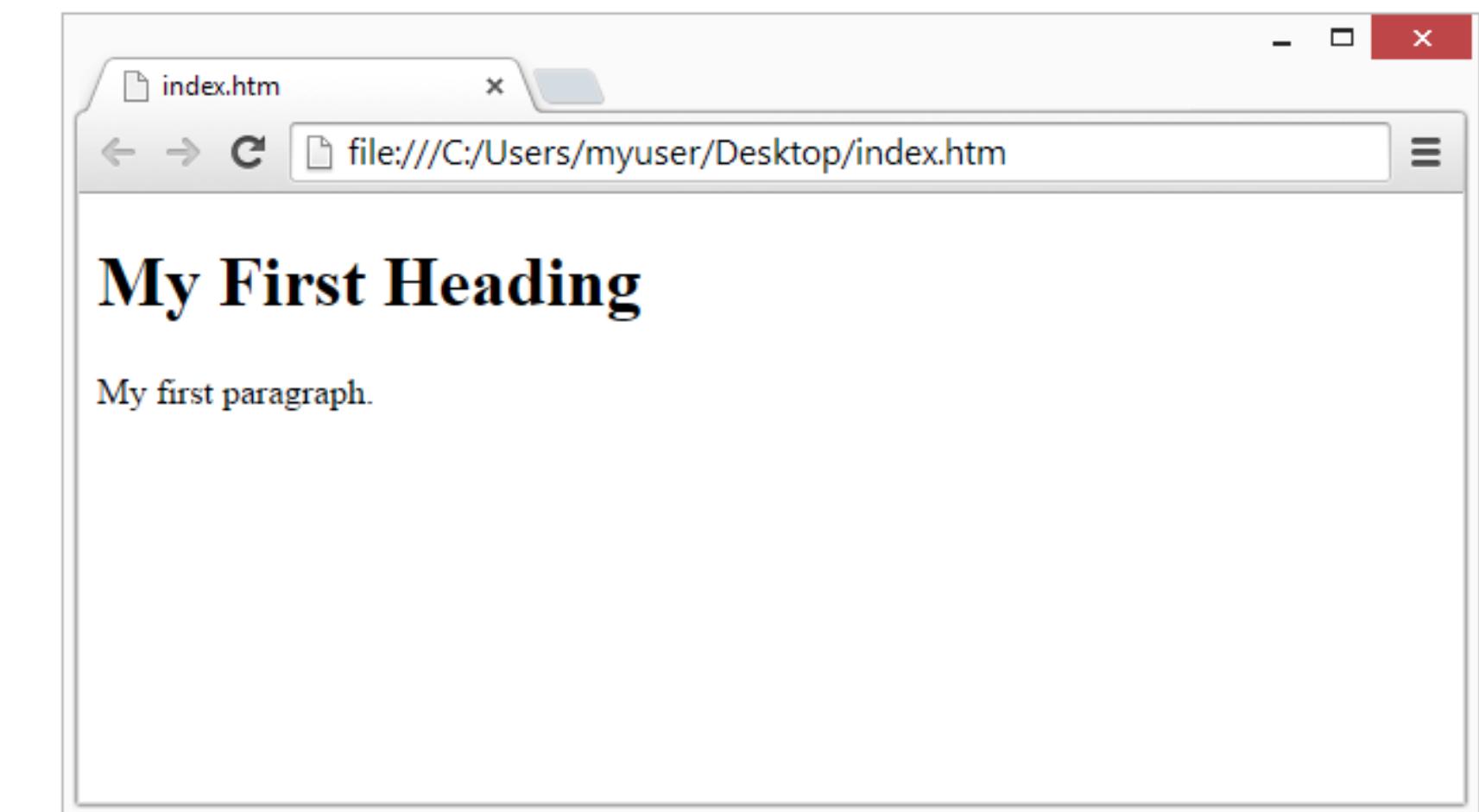


Microsoft Edge

- The purpose of a **web browser** (Chrome, Edge, Firefox, Safari etc.) is to read HTML documents and display them correctly.
- A browser **does not display the HTML tags**, but uses them **to determine how to display the document**

```
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>
    <h1>My First Heading</h1>
    <p>My first paragraph.</p>
  </body>
</html>
```

```
<html>
  <head>
    <title>Page title</title>
  </head>
  <body>
    <h1>This is a heading</h1>
    <p>This is a paragraph.</p>
    <p>This is another paragraph.</p>
  </body>
</html>
```



**NOTE :** Only the content inside the `<body>` section (the white area above) will be displayed in a browser.

```
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>
    <h1>My First Heading</h1>
    <p>My first paragraph.</p>
  </body>
</html>
```

**NOTE :**  
HTML is  
**Not Case Sensitive**

The `<!DOCTYPE html>` declaration defines that this document is an HTML5 document

The `<html>` element is the root element of an HTML page

The `<head>` element contains meta information about the HTML page

The `<title>` element specifies a title for the HTML page

The `<body>` element defines the document's body, and is a container for all the visible contents, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.

The `<h1>` element defines a large heading

The `<p>` element defines a paragraph

## Exercise - I

1. Create an HTML file.
2. In the file, declare the document type as HTML5.
3. Create the root element of the document.
4. Nested in that root element, create a head and a body element.
5. In body element create a heading and a paragraph.



## WHAT IS IN THE HEAD

### LANGUAGE ATTRIBUTE

to declare the language of the Web Page  
This is meant to assist search engines and  
browsers

### METADATA

HTML metadata is data about the HTML document.  
**Metadata is not displayed on the page.**

```
<!DOCTYPE html>
<html lang="en">
  <head>
    // meta data here
  </head>
  <body>
    ...
  </body>
</html>
```

```
<meta>
<link>
<title>...</title>
<style>...</style>
<script>...</script>
<base>...</base>
```

## HTML <meta> Element

The <meta> element is typically used to specify the character set, page description, keywords, author of the document, and viewport settings

```
<head>
  <meta charset="UTF-8">
  <meta name="description" content="Free Web tutorials">
  <meta name="keywords" content="HTML, CSS, JavaScript">
  <meta name="author" content="John Doe">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
</head>
```

## HTML <link> Element

- The <link> element defines a link between the current document and an external resource.
- The rel attribute specifies the relationship between the two documents.

### EXAMPLES

to link to external style

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

to link to favicon icon

```
<link rel="icon" type="image/png" href="images/logo_icon.png">
```

to link to external font-family source

```
<link href="https://fonts.googleapis.com/css2?family=Kalam&display=swap" rel="stylesheet">
```

to link to external bootstrap library source

```
<link rel="stylesheet"  
      href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css">
```

## HTML <title> Element

- The <title> element defines the title of the document.
- The title must be text-only, and it is shown in the browser's title bar or in the page's tab.
- The contents of a page title is very important for search engine optimization (SEO)! The page title is used by search engine algorithms to decide the order when listing pages in search results. So, try to make the title as accurate and meaningful as possible!

```
<title>A Meaningful Page Title</title>
```

## HTML <style> Element

The <style> element is used to define style information for a single HTML page

```
<!DOCTYPE html>
<html>
<head>
  <title>Page Title</title>
  <style>
    body {background-color: powderblue;}
    h1 {color: red;}
    p {color: blue;}
  </style>
</head>
<body>

<h1>This is a Heading</h1>
<p>This is a paragraph.</p>

</body>
</html>
```

# This is a Heading

This is a paragraph.

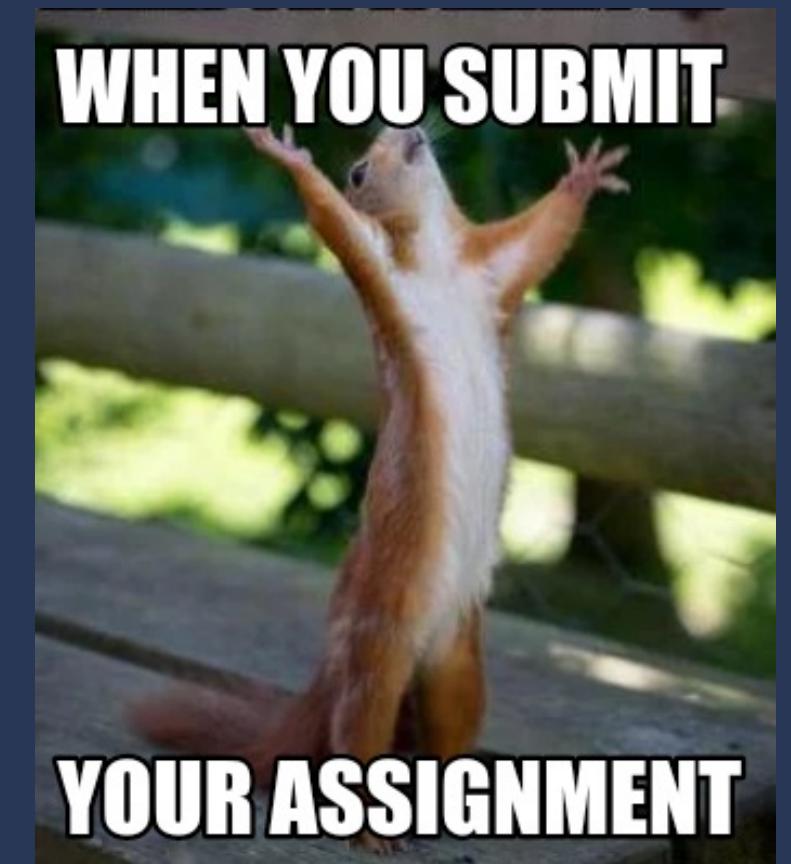
## HTML <script> Element

The <script> element is used to define client-side JavaScripts.

```
<script>
  function myFunction() {
    document.getElementById("demo").innerHTML = "Hello
      JavaScript!";
  }
</script>
```

### Exercise - II

1. Create an HTML file.
2. In the file, declare the document type and add the root element.
3. Nested in the root element, add a head element and a body element.
4. In the head element, create a meta tag for charset and author. Add your name to the author tag.
5. Add a title in the head and give your document a title.





- **CSS** stands for **Cascading Style Sheets**
- CSS describes **how HTML elements are to be displayed on screen or in other media**
- CSS **saves a lot of work**. It can control the layout of multiple web pages all at once
- External stylesheets are stored in **CSS files**

## Anatomy of a CSS Declaration

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



- The **selector** points to the HTML **element** you want to style.
- Each **declaration** includes a CSS property name and a value, **separated by a colon**.
- Multiple **CSS declarations** are separated with **semicolons**, and **declaration blocks** are surrounded by **curly braces**.

```
p { color: red; text-align: center; font-size: 16px;}
```

## Three ways to insert CSS

An **inline style** may be used to apply a unique style for a single element.

An **internal style** sheet may be used if one single HTML page has a unique style.

An **external style** sheet file inside the `<link>` element, inside the head section. It must be saved with a `.css` extension.

### Inline CSS

```
<p style="color: blue;">This is a paragraph.</p>
```

### Internal CSS

```
<head>
  <style type = text/css>
    body {background-color: blue;}
    p { color: yellow;}
  </style>
</head>
```

### External CSS

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

## Cascading Order

What style will be used when there is more than one style specified for an HTML element?

- Inline style (inside an HTML element)
- External and internal style sheets (in the head section)
- Browser default

**NOTE :** number one has the highest priority.

## Exercise - III

1. Go to the HTML file. Add a style tag to the head of the document.
2. Change the color of the paragraph elements.
  
1. Create an HTML file.
2. In the file, declare the document type and add the root element.
3. Nested in the root element, add a head element and a body element.
4. In the head element,
  5. - Create a meta tag for charset, viewport, description, keywords and author.
  6. - Add your name to the author tag.
  7. - Add a favicon icon
  8. - Give your document a title.
9. Create a myStyle.css file and for h1 selector add color red, for paragraph add color blue
10. In body create a h1 heading and two different paragraph tags
11. With the last paragraph create an inline style and give color green