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DHTML (Dynamic HTML)

"Dynamic HTML" is typically used to describe the combination of HTML, **Style Sheets and Scripts** that allows documents to be animated. Dynamic HTML allows a web page to change after it's loaded into the browser. There doesn't have to be any communication with the web server and client browser. You can think of it as 'animated' HTML.

For example, a piece of text can change from one size or color to another, in response to some kind of user action: eg. Clicking a button, moves cursor over a link, press a key, load the page, close the page, submit a form & etc.

The major components of Dynamic HTML technologies are:

1. **CSS** (Cascading Style Sheet/ Style Sheet)

2. **Scripting Languages** (JavaScript, VBScript, JScript, PerlScript, & etc.)

CSS (Cascading Style Sheet)

- Style Sheets are little bit of codes that tell the style of the text under of certain tag. This is useful because you won't have to repeat a section of code every time you add a certain HTML tag. To write a CSS codes, you must first initialize the programming area or separate file.

- CSS reduces the need to put formatting tags/attributes on your individual pages. This means that your HTML pages will have less code, less code means smaller file sizes, smaller file sizes means faster loading pages.

- CSS gives you the ability to control almost every aspect of your page's layout, text font faces, text line height, text styles (italic), colors & etc.

Styles can be use in **HTML tag four** ways:

1. Styles can be use **existing tag**:
   For example, the following few lines will set all text which appears inside a <P> to font face is Arial, font point size is 12 pixels, and font color is blue, remove underline in all hypertext links.

   ```
   <style type="text/css">
   <!--
      P {font-family:Arial; font-size:12px; color:blue}
      A {text-decoration:none}
   // -->
   </style>
   ```

   In body section
   ```
   <p>Welcome to Jaffna</p>
   <a href="jaffna.html">Jaffna</a>
   ```

2. Different styles for the **same type of HTML tag**:
   With the class selector you can define different styles for the same type of HTML element. Say that you would like to have two types of paragraphs in your document: one right-aligned paragraph, and one center-aligned paragraph.

   ```
   <STYLE type="text/css">
      P.r {text-align:right; font-family:verdana, Arial;}
      P.c {text-align:center; font-family:verdana, Arial;}
   </STYLE>
   ```

In the body section
<P class="c">Jaffna</P>
<P class="r">Colombo</P>

3. Styles can be use **HTML any tags:**
   ```
   <style type="text/css">
   .menubar {
       font-size: 11px;
       text-decoration: none;
       color: #000000;
       font-family: Verdana, Arial;
       font-weight: bold;
   }
   .activemenubar {
       background-color: #E0DFBC;
       line-height: 22px;
   }
   </style>
   ```

   In the body section
   ```
   <td class="activemenubar">C++ Book</td>
   <td class="menubar">Visit to Jaffna</td>
   ```

4. **Rollover Links**

One of the most popular uses of stylesheets is to create mouse rollover effects on links on your site.
```
A:link {text-decoration: underline; color: #0000FF}
A:visited {text-decoration: underline; color: #990099}
A:hover {text-decoration: none; color: #FF0000}
A:active {text-decoration: none; color: #FF0000}
```

Cascading Style Sheets can be implemented in HTML file in 3 ways:

1. Style elements can be a direct part of a HTML document (**Internal style sheet**), this means written directly into the HTML document in the <head> section.

2. Style elements can be added directly to an HTML tag, called an **"Inline style sheet"**.

3. Styles can also be a separate "**External style sheet**" file, which will be called from a web address (URL) every time the HTML document is loaded. The link to a separate external style sheet also has to be placed in the <head> section.

1. Internal Style Sheet

```
<head>
<title>Document's title</title>
<style type="text/css">
<!--
  P {font-family: Arial; font-size: 12px; color: blue}
  A {text-decoration: none}
// -->
</style>
</head>
<body>
    <p>Welcome to Jaffna</p>
    <a href="jaffna.html">Jaffna</a>
</body>
```

2. Inline Style Sheet
```
<head>
<title>Document's title</title>
</head>
<body>
<input name="email" type="text" style="color:#000000; background-color:#cccccc;">
</body>
```

3. External Style Sheet
```
<head>
<title>Document's title</title>
<link href="filename.css" rel="stylesheet" type="text/css">
</head>
<body>
    <p class="paratext">
</body>
```

All style elements will be placed in a separate document, which has to be given a .css extension. For example, If we want to use an external file containing all of my style elements, first open notepad (or any other text editor) put all the style elements in it & save it as a .css file.

Now which kind of style sheet should we use?

- o **Inline style** is not very practical, because you always have to write the style elements over and over again in every HTML tag. If you only have one or a few tags you should consider using an inline style method.

- o If you only have one or a few pages you should consider using an **internal style sheet.**

- o If you have a website with a lot of pages that use all the style elements over and over again you should better use an **external style sheet** file. In that case if you want to change the color or size of the text on all of your pages you don't have to change it in all your HTML files but only have to do that once since all style elements are called from one external file containing all these style elements.

CSS Properties
Fonts

font-family
The font-family style element allows you to choose a font face.

        p { font-family: Verdana, Arial, Times New Roman}
        .menubar {font-family: Verdana, Arial}

If the browser reads this style: The first font in the row will be taken, in this case the font Verdana, if this font is not present on the user's computer, the browser will take the next one, Arial and so on. If none of the fonts can be found it will use a default font which in your computer. So it's recommended to end with a default font (Default font is Times New Roman)

font-style
This style element has 2 possible values: normal, italic.

        p {font-style:italic}
        .normaltext {font-style:normal}

font-weight
Possible values are: normal | bold | 200 | 600 | 700 | 800 | 900

        p {font-weight:bold}
        .headtext {font-weight:200}

font-size
Allows us to change the size of the font. Possible values are in px
.menubarTxt {font-size:10px}

Text

text-align
This style element is used for aligning text. Possible values: left | right | center | justify
p {text-align:center}
.normaltext {text-align:justify}
h1.sub {text-align:left}

text-decoration
Describes decorations that are added to the text.
Possible values are: none | underline | overline | line-through | blink
p {text-decoration:underline}
div {text-decoration: none}

text-transform
This attribute controls capitalization effects of text.
Possible values are: capitalize | uppercase | lowercase | none
h1 {text-transform:uppercase}
p {text-transform:capitalize} - Each word first letter change capital letter

Color

The color style element allows you to choose a font color.
.subtitle {color:#000000; }

Background

Background-color: Sets the background color of an element
Eg: body {Background-color: #c0c0c0}
Background-image: Sets an image as the background
Eg: body {background-image: url("/images/bg.gif")}

The Main Document Scrollbar
I got the effect on the document's main scrollbar.
BODY {scrollbar-base-color: orange; scrollbar-arrow-color: green; scrollbar-darkshadow-color: blue}

Increase the space between lines:
This example shows how to increase the space between the lines.
.activemenubar {line-height:22px; }

```
body {
        Background-color: #c0c0c0;
        margin-top: 0px;
        margin-right: 0px;
        margin-bottom: 0px;
        margin-left: 0px;
}
```

Example: (file name: styles.css)
```
<style type="text/css">
body {background:#000000; background-image: url(../images/bg.gif)}

.title {background:#c0c0c0; font-family:Verdana, Arial; font-weight:bold; text-align:center}

.subtitle {background:#000000; color:#ffffc0; font-family:Book Antiqua,Times New Roman,
Serif; font-size:13px; font-weight:bold; text-decoration:underline; text-align:left; }

.tamiltext {color:#000000; font-size:14px; font-family:bamini}

</style>
```