

# Experiment - 02

AIM: Implement a webpage index.htm for any client website (e.g. a restaurant website project) using the following -

- a) HTML Syntax: heading tags, basic tags, and attributes, frames, tables, images, lists, links for text and images, forms, etc.
- b) Use of internal CSS, Inline CSS, External CSS.

## THEORY :

### I] HTML and CSS-

- HTML (Hypertext Markup language) and CSS (Cascading Style Sheets) are the fundamental technologies for building and designing web pages.
- HTML is used to create structure of webpage by defining elements such as headings, paragraphs, images, and links. It acts as the backbone of a website.
- CSS is used to style and enhance the appearance of HTML elements by controlling colors, fonts, layouts and animations.
- Together, HTML and CSS allow developers to build visually appealing, structured and responsive webpages that improve user experience and engagement.

## (i) HTML Tags.

### 1. Heading Tags -

`<h1>` to `<h6>` - Define headings, with `<h1>` being the largest and `<h6>` the smallest, used for organizing content.

### 2. Basic Tags -

- `<html>` - The root element that contains all HTML content.
- `<head>` - Contains meta information, title, and links to external resources.
- `<title>` - Sets the title of the webpage, displayed in the browser tab.
- `<body>` - Contains all visible content of the web page.
- `<p>` Defines a paragraph for text content.
- `<br>` - Inserts a line break within text.
- `<hr>` - Creates a horizontal line to separate sections.
- `<b>` - Makes text bold for emphasis.
- `<i>` - Italicizes text for emphasis or stylistic purposes.
- `<u>` - Underlines text for emphasis.
- `<img>` - Displays an image on the webpage.
- `<a>` - Creates hyperlinks to navigate between pages or external websites.



## (2). HTML Attributes -

- href (in `<a>`) - Specifies the URL of the link destination
- src (in `<img>`) - Defines the source file path of an image.
- alt (in `<img>`) - Provides alternative text for an image (useful for accessibility and SEO).
- width & height (in `<img>`) - Set the dimensions of an image.
- id - Assigns a unique identifier to an element for styling or scripting.
- class - Assign a reusable class name for CSS styling.
- style - Allows inline CSS styling for individual elements.
- target (in `<a>`) - Defines how a link should open (-blank for a new tab, -self for the same tab).
- title - Provides additional information when the user hovers over an element.

These tags and attributes collectively help in structuring and enhancing the index.htm page for your website.

\* CSS (Cascading Style Sheets) is used to style HTML elements. Selectors help target specific elements for styling -

- Basic Selectors -

- Universal selector that applies styles to all elements.

- Following are syntaxes of each selector -

1. element (eg. p, h1) - Targets all elements of a specific type.

2. # id - Selects an element with a specific id attribute.

3. .class - Selects all elements with a specified class attribute.

4. Grouping and Combinators -

- Selector1, selector2 - Applies the same style to multiple elements.

- Selector1 Selector2 - Targets elements inside another element (descendent Selector)

- Selector1 > Selector2 - Targets direct child elements.

- Selector1 + Selector2 - Targets the adjacent sibling element.

- Selector1 ~ Selector2 - Targets all sibling elements after the first one.



## (2). CSS Properties and values -

### 1. Text and Font styling -

- color - sets the text color (eg - color : red;).
- font-size - Defines the size of the text (eg - font-size : 16px;)
- font-family - Specifies the font type (eg. font-family : Arial;)
- font-weight - Defines the thickness of the text (eg - font-weight : bold;)
- text-align - Aligns text (left, center, right)
- text-decoration - Adds or removes text decorations (underline, none).
- line-height - Sets the space between lines of text.

### 2. Background and Box styling -

- background-color - Sets the background color
- background-image - Sets an image as a background.
- border - Defines the border (width, style, color)
- border-radius - Rounds the corners off an element
- margin - Sets the outer space around an element.
- padding - sets the inner space inside an element.

### 3. Layout and Positioning -

- display - Specifies the display behaviour (block, inline, grid, flex).
- position - Defines the positioning (static, relative, absolute, fixed).

- top-left, right, bottom - Positions an element when position is not static.
- z-index - Controls the stack order of elements
- overflow - Handles content overflow (hidden, scroll).

#### 4. Flexbox and grid -

- display : flex; - Enables the flexbox layout.
- justify-content - Aligns items horizontally in a flex container (center, space-between).
- align-items - Align items vertically (flex-start, center).
- grid-template-columns - Defines columns structure in a grid layout.

#### 5. Animations and Effects -

- opacity - Controls transparency (0 for fully transparent, 1 for opaque).
- transitions - Adds smooth animations to property changes.

\* **Conclusion** : Thus, an index.htm page was successfully created using the html tags and css attributes, properties.

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