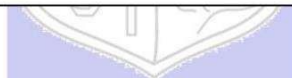## Experiment No. 01

Title: Design a Website Home page using HTML5 tags.

Batch:SY-IT(B3)   **Roll No:16010423076**   **Experiment No:1**

Aim: To plan and design Home page for Website using HTML5 tags.

Resources needed: Notepad++, Bracket, Sublime Text, any Web Browser and Internet.

Theory:

HyperText Markup Language, commonly referred to as HTML, is the standard markup language used to create web pages. HTML describes the structure of a website semantically along with cues for presentation, making it a markup language, rather than a programming language. HTML is the Web's core language for creating documents and applications for everyone to use, anywhere.

The language is written in the form of HTML elements consisting of *tags* enclosed in angle brackets (like <html>). Browsers do not display the HTML tags and scripts, but use them to interpret the content of the page. HTML can embed scripts written in languages such as JavaScript which affect the behavior of HTML web pages. HTML can be edited by using professional HTML editors like: Microsoft WebMatrix, Sublime Text etc. However, for learning HTML we recommend a text editor like Notepad (PC) or TextEdit (Mac).

All HTML documents must start with a type declaration: **<!DOCTYPE html>**.

The HTML document itself begins with **<html>** and ends with **</html>**.

The visible part of the HTML document is between **<body>** and **</body>**.

Sample HTML Document

```
<!DOCTYPE html>
<html>
<head>
<title>PageTitle</title>
</head>
<body>
<h1>MyFirstHeading</h1>
<p>Myfirstparagraph.</p>

</body>
</html>
```

HTML Tags

The basic structure of an HTML document includes tags, which surround content and apply meaning to it. HTML tags are **keywords** (tag names) surrounded by **angle brackets**.

Attributes

Tags can also have **attributes**, which are extra bits of information. Attributes appear inside the opening tag and their values sit inside quotation marks. They look something like <tag attribute="value">Margarine</tag>.

Heading Tags

Any document starts with a heading. HTML also has six levels of headings, which use the elements **<h1>, <h2>, <h3>, <h4>, <h5>, and <h6>**
Format: <h1> A Heading </h1>

Body Tags

The BODY tag surrounds all the content of your site. It allows you to set the look and feel of your site through **its attributes**.

TEXT	The TEXT attribute allows you to set the color of the text: <BODY TEXT=red> A page with that body will have red text.
BGCOLOR	The BGCOLOR attribute allows you to set the color of the background: <BODY BGCOLOR=blue> A page with that body will have a blue background.
BACKGROUND	The BACKGROUND attribute allows you to set an image as the background: <BODY BACKGROUND=monkey.jpg> A page with that body will have a monkey for a background (if there was an image monkey.jpg in the same folder as it).

Paragraph Tag

The **<p>** tag offers a way to structure your text into different paragraphs. Each paragraph of text should go in between an opening <p> and a closing </p> tag
Format: <p> Some text </p>

Font Tag
The FONT tags allow you to set the color and size of a specific piece of text. Unlike the BODY tag the FONT tag only changes the text between the opening <FONT> and closing </FONT> tag.

COLOR	The COLOR attribute allows you to set the color of the text: <FONT Color=red>Red Text </FONT>
SIZE	The SIZE attribute allows you to set the size of the text: <FONT SIZE=6>Big Text </FONT>

Line Break Tag
The BR tag inserts a line break in the page.

Format:
Some text

Centering Content
The CENTER tags align the text between them in the center of the page

Format: <center>Some text</center>

Horizontal Lines

Horizontal lines are used to visually break up sections of a document. The **<hr>**tag creates a line from the current position in the document to the right margin and breaks the line accordingly.
Format: <hr> Some text

Links
The A tag is used for links and anchors. If the link is to another page HREF is set equal to the URL of that page. If the NAME attribute is included instead of the HREF attribute then the A tag is being used to mark a spot in the page that can later be pointed to by a link.
Format: <a HREF="a URL">the link
        <a NAME=ANCHORNAME>

Images
This tag is used to insert an image into a page. The image is displayed where the <IMG> tag is inserted. The SRC tag tells the browser what image to insert. The width tag tells the browser what the dimensions of the image should be. If the dimensions of the image are different than what is given the browser stretches the image to make it fit. The height tag tells the browser what the dimensions of the image should be. If the dimensions of the image are different than what is given the browser stretches the image to make it fit.
Format: <img src="photo.jpg">

Tables
The <table> tag must surround an entire table. It's attributes determine how the table looks.

BORDER	This defines how big the borders of a table will be.
CELLPADDING	This defines how far from the edge of a cell the content in that cell will be
CELLSPACING	This defines how far apart the cells of the table will be.
WIDTH	This defines the width of the table
BGCOLOR	This defines the background color of the table. If a color is specified in the TR or TD tags BGCOLOR is ignored for that row, or cell respectively.

List
The LI tag creates a new element in an ordered or unordered list. The OL tags start and end an ordered list. All of the elements in the list must be inside these two tags.
Format:
 <OL>
<LI>element one.
<LI>element two.
</OL>

HTML is mark-up language – provides a way to describe structure of text and graphics on a web page using its set of elements and attributes, deals with alignment of elements on the web page too, derived from SGML. HTML 5.0 was started by World Wide Consortium (W3C) and the Web Hypertext Application Technology Working Group (WHATWG). HTML 5.0 reduces the need for external plug-ins.
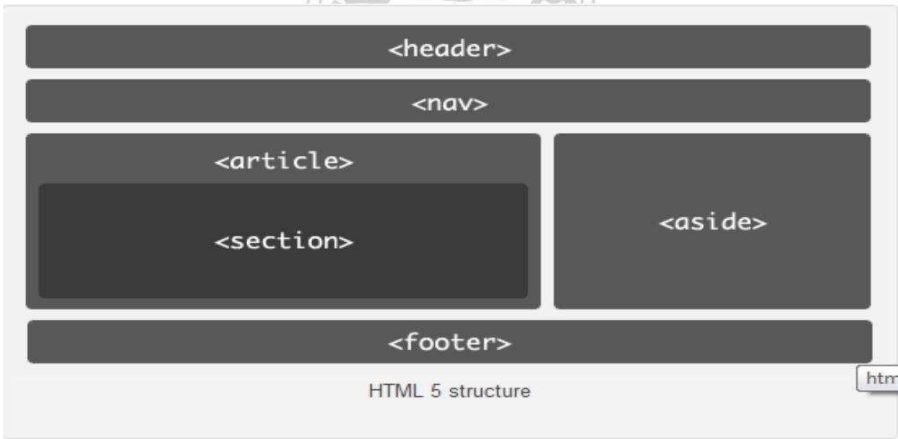

Fig 1. HTML 5 structure

New features in HTML5.0
- New content specific Structural elements like article, footer, header, nav , section…etc
- New Form elements and attributes like calendar, date, time, email, url, search
- Canvas Element to draw graphic on a web page using JavaScript
- Video and Audio elements for media playback
- Geo Location

Video Tag

Video element is used for playing videos or movies. HTML 5 video element is a standard way to include video. You can play the video without the help of external plug-ins like flash player.

Syntax:

<video src="myvideo.mp4" controls="controls">
        Your Browser wont support this tag
</video>

Video Attributes:

Attributes	Value	Description
src	url	Specify the location of the video file
height	pixels	Sets the height of the video player
width	pixels	Sets the width of the video player

Audio Tag

Audio element is used for playing audio files.Audio element represents a audio or sound stream HTML 5 audio element is a standard way to include audio You can play the audio without the help of external plug-ins like flash player. Content can be given between the opening and closing of the audio tag. This content should not be shown by the user agents and is intended for the older browsers which do not support audio tag.

Syntax:

<audio src="myvideo.mp3" controls="controls">
        Your Browser wont support this tag
</audio>

1. src attribute is used to identify the media
2. controls attribute is used to specify whether or not to display audio controls.

Audio attributes:

Attributes	Value	Description
src	url	Specify the location of the video file
controls	Boolean- any value sets this to true	If present, then the browser will display the default media controls

The different types of input types for selecting date and time are:

Input Types	Description
date	Selects date, month and year
month	Selects month and year
week	Selects week and year
Time	Selects time (hour and minute)
datetime	Selects time, date, month and year(UTC time)

- **Search:**

Search input is used for search fields like Yahoo search, Google search or Site search.
Syntax:

<input type="search" >

- **Color:**

Color input type is used for <u>input fields </u>that should contain a color. If you use color type
, it will allow you to pick a color from the color picker. **Syntax:**

<input type="color" >

Activities:
- To design a web page illustrating the following tags heading, content, background color, table, list and image, HTML structural elements tags, audio and video tags,
- To set the values of minimum two attributes for the above mentioned tags.

Results: (Document printout as per the format discussed by the faculty)
Script :

Login Page :

```html
<!DOCTYPE html>
<html lang="en">
<head>
   <meta charset="UTF-8">
   <meta name="viewport" content="width=device-width, initial-scale=1.0">
   <title>Login Page</title>
</head>
<body>
<header>
    <center>
       <h1 style="color: #00036f;">👤🖥 Welcome to Cyber Awareness Portal 👤🖥</h1>
    </center>
  </header>

  <center>
    <form action="cyber.html" method="get">
      <table>
        <tr>
          <td><label for="userId">ID:</label></td>
          <td><input type="text" id="userId" name="userId" required></td>
        </tr>
        <tr>
          <td><label for="password">Password:</label></td>
          <td><input type="password" id="password" name="password" required></td>
        </tr>
        <tr>
          <td colspan="2" align="center">
             <button type="submit">Submit</button>
          </td>
        </tr>
      </table>
    </form>
  </center>
</body>
```

```html
</html>
```

Landing Page :

```html
<!DOCTYPE html>
<html>
<head>
  <title>Cyber Awareness Platform</title>
</head>
<body>

  <header>
    <center>
      <h1 style="color: #00036f;">👤💻 Welcome to Cyber Awareness Portal 👤💻</h1>
    </center>
  </header>

  <nav style="color: #FFFFFF; background-color: #E6E6FA; padding: 20px 0px;">
    <center>
      <a href="#about">About</a>
      <a href="#resources">Resources</a>
      <a href="#contact">Contact Us</a>
      <a href="#Knowmore">Know More</a>
      <a href="login.html">Sign Out</a>
    </center>
  </nav>

        <br><br/>


  <section id="about">
    <center>
      <h2 style="color: #8E24AA;">About The Portal</h2>
      <p>Cyber Awareness is crucial to protect yourself and your data online. <br><br/>Learn tips and best practices to stay safe in the digital world.</p>
      <img src="bg.gif" width="700" alt="bg image">
    </center>
  </section>

  <section id="resources">
    <center>

      <br><br/>
      <br><br/>

      <h2 style="color: #8E24AA;">Resources</h2>

        <table border="1" cellpadding="15" cellspacing="7">
      <tr>
              <th align="center" style="color: #000000; background-color: #E6E6FA;">Resource</th>
              <th align="center" style="color: #000000; background-color: #E6E6FA;">Type</th>
              <th align="center" style="color: #000000; background-color: #E6E6FA;">Link</th>
      </tr>
      <tr>
              <td align="center" style="color: #000000;">Cybersecurity 101</td>
```

```
                <td align="center" style="color: #000000;">Article</td>
                <td align="center" style="color: #000000;"><a href="#">Read</a></td>
        </tr>
          <tr>
                <td align="center" style="color: #000000;">Online Safety Tips</td>
                <td align="center" style="color: #000000;">Video</td>
                <td align="center" style="color: #000000;"><a
href="#quicktips">Watch</a></td>
        </tr>
          </table>

        <h3 style="color: #8E24AA;">Watch: Introduction to Digital Security</h3>
        <video width="500" controls>
           <source src="cybervideo.mp4" type="video/mp4">
           Your browser does not support the video tag.
        </video>

           <h3 style="color: #8E24AA;">Listen: Cyber Awareness Podcast</h3>
        <audio src="sample.mp3" controls></audio>


        <h4 style="color: #8E24AA;">Quick Tips:</h3>
        <ul align="center">
           <li align="center">Use strong passwords and enable two-factor authentication.</li>
           <li align="center">Be cautious of phishing emails and suspicious links.</li>
        </ul>

      </center>
    </section>

        <br><br/>
        <br><br/>

    <footer style="color: #FFFFFF; background-color: #000000; padding: 17px 0px;">
      <center>
         <p>© 2025 Cyber Awareness<br/>All rights reserved</p>
      </center>
    </footer>

</body>
</html>
```
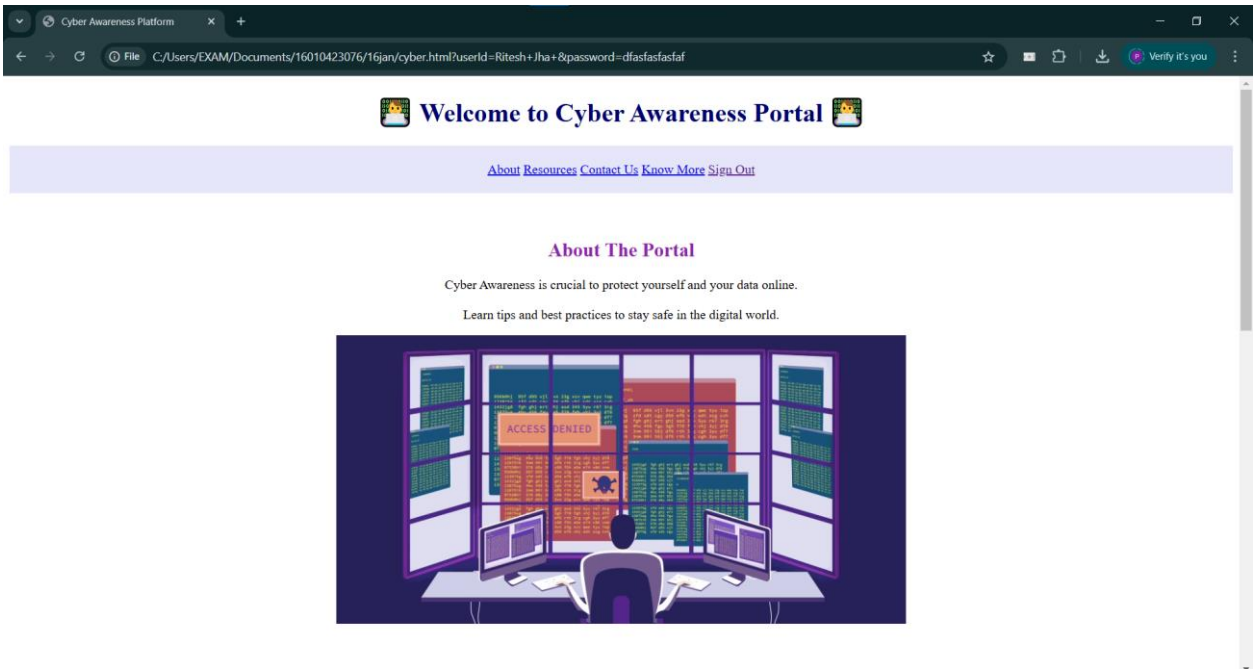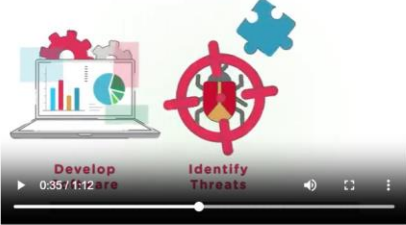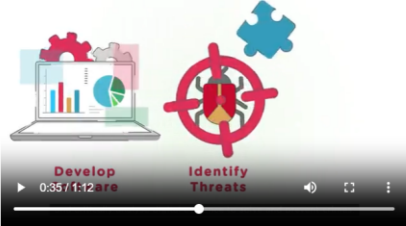
Output :

Questions:

1. What is the difference between HTML and HTML5 tags.

HTML5 is an updated version of HTML, the language used to create web pages. The main difference is that HTML5 introduces new tags and features to improve how websites function and look. For example, HTML5 has specific tags like `<section>`, `<article>`, and `<nav>`, which help organize content better. It also supports multimedia elements like `<video>` and `<audio>`, making it easier to embed media without third-party plugins. HTML5 is more versatile and future-proof, supporting modern web technologies like local storage, offline capabilities, and better integration with mobile devices.

2. Write the HTML code to nest tables within a table?

To nest tables within a table, you can place one `<table>` tag inside a `<td>` (table data) cell of another table. Here's an example:

```
<table border="1">
 <tr>
```

```
   <td>
    <table border="1">
     <tr>
      <td>Nested Table Cell 1</td>
      <td>Nested Table Cell 2</td>
     </tr>
    </table>
   </td>
   <td>Main Table Cell 2</td>
  </tr>
</table>
```

Nested Table Cell 1	Nested Table Cell 2	Main Table Cell 2

3. What are the different ways to organise web page contents?

There are several ways to organize content on a webpage to make it easy for users to navigate and understand. A common method is using a **header** for the title or navigation menu, followed by a **main content area** with articles or information. You can use a **sidebar** for additional links or advertisements. Dividing content into **sections** with headings helps users quickly find what they need. Another way is to use a **grid layout** or **flexbox** to organize elements neatly, especially on responsive sites. Finally, placing a **footer** at the bottom with contact info or additional links is common for overall page structure.

Outcomes:
CO2: Create Web pages using HTML 5 and CSS

Conclusion:
(Conclusion to be based on objectives and outcomes achieved)

From this experiment, I learned that HTML5 offers new, more organized tags like <section>, <article>, and <nav> to structure content effectively. It also supports multimedia elements such as <video> and <audio>, which make embedding media simpler. I practiced nesting tables within a table using the <table> and <td> tags. Additionally, I learned various ways to organize web page content, such as using headers, navigation menus, sections, sidebars, and footers for better user experience and accessibility. Overall, this experiment improved my understanding of modern web development practices using HTML5.

Grade: AA/AB/BB/BC/CC/CD/DD/FF

Signature of faculty in-charge with date

References: Books/ Journals/ Websites:
- "Web Technologies: Black Book", Dreamtech publication
- http://www.w3schools.com/