

DELHI TECHNOLOGICAL UNIVERSITY

(Formerly Delhi College of Engineering) Shahbad
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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



WEB TECHNOLOGY (CO - 425) LAB FILE

November 2022

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7th Semester, 2022

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WEB TECHNOLOGY

DELHI TECHNOLOGICAL UNIVERSITY

INDEX

SL.NO	NAME OF THE EXPERIMENT	DATE	SIGNATURE
01	Create a webpage with HTML describing your department. Use paragraph and list tags.		
02	Apply various colors to suitably distinguish keywords. Also apply font styling like italics, underlining, and two other fonts to words you find appropriate. Also, use header tags.		
03	Insert an image and create a link such that clicking on the image takes the user to another page. Change the background color of the page. At the bottom create a link to take the user to the top of the page.		
04	Design a single-page website for a university containing a description of the courses offered, it should also contain some general information about the university such as its history, the campus, and its unique features the page should be colored and each section should have different color		
05	Design page that has 5 equal columns the table should look the same in all screen resolution.		
06	Write an HTML code for making a table to containing a different option for different questions		
07	Write the Frameset tags and Frame tags for the following frameset		
08	Write html code to generate following output: Coffee, Tea, Black Tea, Green Tea, Milk		
09	Write a HTML code to generate following output of registration form		

10	Write a HTML code to generate following output contain blocks of different colours as Orange, Blue , Red, Green with border		
11	Create a web page of your college with following specifications. Place your College name at the top of the page in large text followed by address in smaller size. Add names of courses offered each in a different colour, style and typeface. Add scrolling text with a message of your choice Add college image at the bottom.		
12	Write a HTML code to generate following output with name and addresses , qualification s, favourite sites , scrolling message,blinking reminders, Image.		
13	Create an html page containing the polynomial expression as follows $a_0 + a_1 x + a_2 x^2 + a_3 x^3$		
14	Write a HTML code to generate the following output. Name of the friend, post, contain images , source codes , binary codes..		
15	Create a simple form to submit user input like his name, age, address and favorite subject. Put validation checks on values entered by the user using JavaScript (such as age should be a value between 1 and 150).		
16	Write a JavaScript program to display information box as soon as page loads.		
17	Write a JavaScript program to change background colour after 5 seconds of page load.		
18	Write a JavaScript program to dynamically bold, italic and underline words and phrases based on user actions.		
19	Write a JavaScript program to display a hidden div (e.g. showing stats of a player when user clicks on his name).		

EXPERIMENT -01

AIM: It is required to Create a webpage with HTML describing our department and use paragraph and list tags.

THEORY: HTML stands for Hyper Text Markup Language. It is the standard markup language for creating Web pages and describes the structure of a Web page. The language consists of a series of elements. 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.

HTML used predefined tags and attributes to tell the browser how to display content, which means in which format, style, font size, and images to display. HTML is a case-insensitive language. Case insensitive means there is no difference in upper case and lower case (capital and small letters) both treated as the same, for example 'D', and 'd' both are the same here.

There are generally two types of tags in HTML:

1. Paired Tags: These tags come in pairs. That is they have both opening(< >) and closing(</ >) tags.
2. Empty Tags: These tags do not require to be closed.

Description of tags used in the structure body of HTML code:

- 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 (which is shown in the browser's title bar or in the page's tab)
- 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.

Source Code:

```
1  <html>
2      <head>
3          <h1>Describing My Department</h1>
4      </head>
5      <body>
6          <p><h2>Name of the Department in DTU:</h2></p>
7          <p>
8              <ol>
9                  <li>Computer Enginerring</li>
10                 <li>Electrical Engineering</li>
11                 <li>Mathematics and Computing</li>
12                 <li>Civil Engineering</li>
13                 <li>software Engineering</li>
14             </ol>
15         </p>
16     </body>
17 </html>
```

Output:

Describing My Department

Name of the Department in DTU:

1. Computer Engineering
2. Electrical Engineering
3. Mathematics and Computing
4. Civil Engineering
5. Software Engineering

Learning Outcomes: Here, we have learned about basic common HTML tags where we constructed a simple webpage and applied list tags to it.

EXPERIMENT -02

AIM: It is required to Apply various colors to suitably distinguish keywords and also apply font styling like italics, underlining, and two other fonts to words you find appropriate. Also, we use header tags.

THEORY: HTML tags must be opened and closed with a forward slash, as in `h1> /h1>`. Tags are components of the HTML structure. The tag comes in different forms; some are self-closing and don't need to be closed, while others are empty and allow us to add any characteristics. HTML tags can have additional characteristics called attributes that specify a tag's specific properties. in other words, width, height, controls, loops, input, and autoplay. By utilizing the name, content, and type properties, these attributes also aid us in storing data in meta tags.

An HTML Document is mainly divided into two parts:

- **HEAD:** This contains the information about the HTML document. For Example, the Title of the page, version of HTML, Meta Data, etc.
- **BODY:** This contains everything you want to display on the Web Page.

Search engines index the structure and content of our web pages using the headers. Users frequently scan pages for headers. Using headings to display the document's structure is crucial. Main headings should start with an h1 heading, then move on to h2 headings, h3 headings, and so forth.

While using multiple `<h1>` elements on one page is allowed by the HTML standard (as long as they are not nested), this is not considered a best practice. A page should generally have a single `<h1>` element that describes the content of the page (similar to the document's `<title>` element).

SOURCE CODE:

```

1  <!DOCTYPE html>
2  <html>
3      <head>
4          <p>
5              <h1><span style="color:blue; font-family:verdana"><u>Describing My Department</u></span></h1>
6              I am <span style="color:blue; font-family:Roboto"><i>Sristi Mitra</i></span>, Roll(2k19/CO/389). I am enrolled in
7              <span style="color:blue; font-family:Courier New; font-size:20px"><i>Computer Engineering (COE)</i></span> department. COE is one of the most
8              prestigious department of DTU and it is renowned all over India.
9
10         </p>
11     </head>
12     <body>
13         <p><h2><u><span style="color:blue; font-family:verdana">Name of the Department in DTU:</span></u></h2></p>
14         <p>
15             <ol>
16                 <li>Computer Engineering</li>
17                 <li>Electrical Engineering</li>
18                 <li>Mathematics and Computing</li>
19                 <li>Civil Engineering</li>
20                 <li>Software Engineering</li>
21             </ol>
22         </p>
23     </body>
24 </html>

```

Output:

Describing My Department

I am *Sristi Mitra*, Roll(2k19/CO/389). I am enrolled in *Computer Engineering (COE)* department. COE is one of the most prestigious department of DTU and it is renowned all over India.

Name of the Department in DTU:

1. Computer Engineering
2. Electrical Engineering
3. Mathematics and Computing
4. Civil Engineering
5. Software Engineering

Learning Outcomes: Here, we have learned about using various fonts and different colors. We also used list tags and header tags as well.

EXPERIMENT -03

AIM: It is required to Insert an image and create a link such that clicking on the image takes the user to other pages. Change the background color of the page. At the bottom create a link to take the user to the top of the page.

THEORY: The first tag on each page should always be this tag. It should go at the very top, before the html tag. You'll notice that, unlike the other tags, this one begins with an exlamation mark (!). Technically it is not a tag but an instruction to the brower on how to interpret the rest of the document. For HTML 5 we simply refer to the type as **html**. For previous versions of HTML there were different types that it could be so it was important to specify which.

The **head** of the html document is where ancilliary information goes. This is information relating to the document but not directly part of the document. There are many items which can go here but the template above includes the basic items which every page should have

Next in the **head** we have the two **meta** tags for description and keywords. These are used by search engines (to varying degrees) and can also be used by other systems (such as when your page is linked to on social media and other sharing sites).

The **description** is used to provide a summary of what the page is about. Search engines will typically place this under your title in their results pages

The **keywords** meta tag is used to provide a series of words that would match what the page is about. Search engines used to place weight on this aspect of your page but it was abused to the point that it holds very little weight nowadays. You should still include it however for completeness and also as it is estimated that some search engines will mark you down for not having it. Their reasoning is that if you are lazy and can't be bothered putting this tag in then you're probably lazy in other areas too so the quality of your page, in their opinion, is less.

Source Code:

```

1  <!DOCTYPE html>
2  <html>
3      <head>
4          <div class="center">
5              <a href="https://http://www.dtu.ac.in/">
6                  
7              </a>
8          </div>
9          <p>
10             <h1><span style="color: #0000ff;font-family:verdana"><u>Describing My Department</u></span></h1>
11             I am <span style="color: #0000ff;font-family:Roboto"><i>Sristi Mitra</i></span>, Roll(2k19/CO/389). I am enrolled in
12             <span style="color: #0000ff;font-family:Courier New;font-size:20px"><i>Computer Engineering (COE)</i></span> department. COE is one of the most
13             prestigious department of DTU and it is renowned all over India.
14
15         </p>
16     </head>
17     <body style="background-color: #rgb(191, 236, 236);">
18         <a name="top"></a>
19         <p><h2><u><span style="color: #0000ff;font-family:verdana">Name of the Department in DTU:</span></u></h2></p>
20         <p>
21             <ol>
22                 <li>Computer Engineering</li>
23                 <li>Electrical Engineering</li>
24                 <li>Mathematics and Computing</li>
25                 <li>Civil Engineering</li>
26                 <li>Software Engineering</li>
27             </ol>
28         </p>
29         <a href="#top">Back to top of page</a>
30     </body>
31 </ht

```

Output:



Describing My Department

I am *Zishmendu Sarker*, Roll(2k19/CO/450). I am enrolled in *Computer Engineering (COE)* department. COE is one of the most prestigious department of DTU and it is renowned all over India.

Name of the Department in DTU:

1. Computer Engineering
2. Electrical Engineering
3. Mathematics and Computing
4. Civil Engineering
5. Software Engineering

[Back to top of page](#)

Learning Outcome: Here, we have learned how to put background colours, put different colours in texts and add images to the webpage.

EXPERIMENT -04

AIM: It is required to Design a single-page website for a university containing a description of the courses offered, it should also contain some general information about the university such as its history, the campus, and its unique features the page should be colored and each section should have a different color.

THEORY: Those who are not CSS specialists will find it challenging to create an appealing page. We won't be able to make the website more beautiful without employing CSS. So, an understanding of HTML and CSS is required in order to create a web page. Implementing CSS will be the key priority. We must first develop an HTML web structure before we can design a web page.

CSS design: We will use CSS to give proper design effects to the HTML web structure that we have created in HTML code. The most difficult part is to display the picture in a different direction. Consider the picture is in the right direction and the text along with it is in the left direction. When we use flex-direction:row-reverse, the image which is on the right side will be shown on the left side and the text will be shown on the right side.

SOURCE CODE:

```

1  <!DOCTYPE html>
2  <html>
3      <head>
4          <div class="center">
5              <a href="https://http://www.dtu.ac.in//>
6                  
7              </a>
8          </div>
9          <p>
10             <h1><span style="color: #0000ff; font-family:verdana"><u>Delhi Technological University</u></span></h1>
11             <span style="color: #0000ff; font-family:Courier New;font-size:20px"><i>History</i></span>
12             <p><span style="color: #0000ff; font-family:Roboto">"75 years of Tradition of excellence in Engineering & Technology Education,
13                 Research and Innovations" Delhi College of Engineering, (initially established with the name # Delhi Polytechnic) came into existence
14                 in the year 1941 to cater the needs of Indian industries for trained technical manpower with practical experience and sound theoretical
15                 knowledge. The institution was set up at historic Kashmere Gate campus as a follow up of the Wood and Abbott Committee of 1938. It comprised of a
16                 multi disciplinary and multi level institution offering wide ranging programmes in engineering, technology, arts and sculpture, architecture, pharmacy ar
17                 The national diploma awarded by the institution was recognized as equivalent to degree level for the purposes of employment. In 1952 the college was affil
18                 of Delhi and started formal Degree level Programmes. The department of Architecture later became the School of Planning and Architecture, now a Deemed Ur
19                 of National importance. The department of Arts and Sculpture became College of Arts and the departments of Chemical Technology and Textile Technology wer
20                 mark beginning of the IIT Delhi at its new campus at Hauz Khas. The department of commerce was later abolished and the faculty of management studies of t
21                 established by Prof. A Das Gupta, of DCE. Delhi College of Engineering is thus the mother institution of a number of national projects including IITD, SF
22
23             Till 1962, the college was under the direct control of Ministry of Education, Government of India. In 1963, the administration of the college was handed
24                 Delhi College of Engineering was under the administrative control of Department of Technical Education & Training, Govt. of NCT of Delhi. For academic pu
25                 affiliated to University of Delhi since 1952. From July 2009, the DCE has become Delhi Technological University vide Delhi act 6 of 2009.</span></p>
26
27             <span style="color: #0000ff; font-family:Times 'Times New Roman', Times, serif;font-size:20px"><i>The Campus</i></span>
28             <p><span style="color: #0000ff; font-family:Roboto">
29                 The erstwhile DCE has functioned from its historic Kashmere Gate Campus for almost 55 years and has shifted in 1996 to its lush green sprawling campus of
30                 adjoining Sector-17, Rohini, Delhi-42. Its shifting to new campus has added the dimension of research and caused innovations in plenty, which has receive
31                 As a Delhi Technological University it has the desired autonomy to excel and shape itself as a world class Technological University.</span></p>
32         </p>

```

```

32   </p>
33   </head>
34   <body style="background-color: #rgb(191, 236, 236);">
35     <a name="top"></a>
36     <p><h2><u><span style="color: #rgb(140, 0, 255);font-family:verdana">Name of the Courses offered in DTU:</span></u></h2></p>
37     <p>
38       <ol>
39         <li>Computer Engineering</li>
40         <li>Electrical Engineering</li>
41         <li>Mathematics and Computing</li>
42         <li>Civil Engineering</li>
43         <li>Software Engineering</li>
44       </ol>
45     </p>
46     <a href="#top">Back to top of page</a>
47   </body>
48 </ht

```

OUTPUT:



[Delhi Technological University](#)

The Campus

"75 years of Tradition of excellence in Engineering & Technology Education, Research and Innovations" Delhi College of Engineering, (initially established with the name – Delhi Polytechnic) came into existence in the year 1941 to cater the needs of Indian industries for trained technical manpower with practical experience and sound theoretical knowledge. The institution was set up at historic Kashmere Gate campus as a follow up of the Wood and Abbot Committee of 1938. It comprised of a multi disciplinary and multi level institution offering wide ranging programmes in engineering, technology, arts and sculpture, architecture, pharmacy and commerce. The national diploma awarded by the institution was recognized as equivalent to degree level for the purposes of employment. In 1952 the college was affiliated with University of Delhi and started formal Degree level Programmes. The department of Architecture later became the School of Planning and Architecture, now a Deemed University and Institution of National importance. The department of Arts and Sculpture became College of Arts and the departments of Chemical Technology, Textile Technology, Electrical Engineering, the IIT Delhi at its new campus in Hauz Khas, Government of Commerce were established and the faculty of management studies of the University of Delhi was established. Prof. A Das Gupta, then Vice Chancellor of DCE, Delhi College of Engineering is thus the mother institution of a number of national projects including ITD SPA, College of Arts and even the famous FMS. Till 1962, the college was under the direct control of Ministry of Education, Government of India. In 1963, the administration of the college was handed over to Delhi Administration. Delhi College of Engineering was under the administrative control of Department of Technical Education & Training, Govt. of NCT of Delhi. For academic purposes, the college was affiliated to University of Delhi since 1962. From July 2009, the DCE has become Delhi Technological University vide Delhi act 6 of 2009.

The Campus

The erstwhile DCE has functioned from its historic Kashmere Gate Campus for almost 55 years and has shifted in 1996 to its lush green sprawling campus of 164 Acres at Bawana Road, adjoining Sector-17, Rohini, Delhi-42. Its shifting to new campus has added the dimension of research and caused innovations in plenty, which has received high national and international acclaim. As a Delhi Technological University it has the desired autonomy to excel and shape itself as a world class Technological University.

Name of the Courses offered in DTU:

- 1. Computer Engineering
- 2. Electrical Engineering
- 3. Mathematics and Computing
- 4. Civil Engineering
- 5. Software Engineering

[Back to top of page](#)

Learning Outcome: Here, we have learned how to put background colours, put different colours in texts and add images to the webpage.

EXPERIMENT -05

AIM: It is required to design a page that has 5 equal columns the table should look the same in all screen resolutions.

THEORY: Designing websites to fit all resolutions is a very important web design principle. Try out the Entheos site in all resolutions higher than 800 x 600 and you will find that it is designed to fit the page exactly. Therefore, visitors who have higher resolution can see more content on one page which reduces scrolling. Most websites are designed for only one resolution. They may look perfect in an 800 x 600 resolution but if viewed in a 1024 x 768 resolution look a little empty. You'll find a lot of wasted space around it making the website look quite small.

we have found that the majority of our viewers are on 1024x768 resolutions and higher. As time goes by more and more people are going to switch to higher resolutions as seen by our site statistics. It is therefore very important to design websites for all resolutions. That is one of the principles we follow while designing websites for our clients. With that bit of background information, let's get started on how to design a website for all screen resolutions.

- Step 1: Decide on the lowest Screen Resolution
- Step 2: Design Your Web Site On This Resolution
- Step 3: While converting your design to HTML make sure all your tables are measured in terms of percentages
- Step 4: Within the table measure cells in terms of pixels except for the cell for the content.

SOURCE CODE:

```

1  <!DOCTYPE html>
2  <html>
3
4  <head>
5      <meta charset="utf-8">
6      <meta name="viewport"
7          content="width=device-width,
8              initial-scale=1,
9              shrink-to-fit=no">
10
11     <link rel="stylesheet"
12         href=
13         "https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/css/bootstrap.min.css" />
14
15     <title>EXPERIMENT 5 - 5 Columns</title>
16
17     <style>
18         .row .col {
19             width: 200px;
20             height: 300px;
21             background: #rgba(128, 0, 70, 0.475);
22         }
23     </style>
24 </head>
25
26 <body>
27
28     <div class="container px-5 py-5">
29         <div class="row">
30             <div class="col mx-1">
31                 <h5 style="font-style: italic;">This is column 1. Here you can add your content and make required changes accordingly.</h5>
32

```

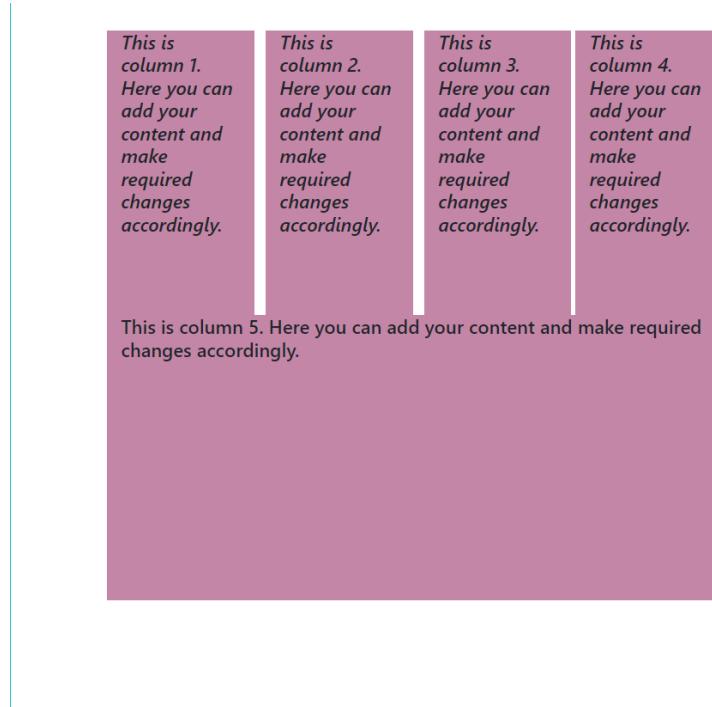
```

<title>EXPERIMENT 5 - 5 Columns</title>
<style>
    .row .col {
        width: 200px;
        height: 300px;
        background: #rgba(128, 0, 70, 0.475);
    }
</style>
</head>
<body>
    <div class="container px-5 py-5">
        <div class="row">
            <div class="col mx-1">
                <h5 style="font-style: italic;">This is column 1. Here you can add your content and make required changes accordingly.</h5>
            </div>
            <div class="col mx-2">
                <h5 style="font-style: italic;">This is column 2. Here you can add your content and make required changes accordingly.</h5>
            </div>
            <div class="col mx-1">
                <h5 style="font-style: italic;">This is column 3. Here you can add your content and make required changes accordingly.</h5>
            </div>
            <div class="col mx-1">
                <h5 style="font-style: italic;">This is column 4. Here you can add your content and make required changes accordingly.</h5>
            </div>

```

```
42 </div>
43 <div class="col mx-3">
44     <h5 style="font-style: italic;">This is column 4. Here you can add your content and make required changes accordingly.</h5>
45 </div>
46 <div class="col mx-1">
47     <h5 style="font-style: italic;">This is column 5. Here you can add your content and make required changes accordingly.</h5>
48 </div>
49 </div>
50 </div>
51 </div>
52 </div>
53
54     <script src=
55 "https://code.jquery.com/jquery-3.2.1.slim.min.js">
56 </script>
57     <script src=
58 "https://maxcdn.bootstrapcdn.com/bootstrap/4.0.0/js/bootstrap.min.js">
59 </script>
60 </body>
61
62 </html>
63
64 
```

OUTPUT:



LEARNING OUTCOMES: Here, we made a column in which the resolution will be the same on screen.

EXPERIMENT -06

AIM: It is required to write an HTML code for making a table containing the different options.

Theory: Tables allow the reader to see results or conclusions at a glance, rather than poring over text to find the numeric data or key points. Making a post or page more readable in this way can help attract and keep visitors on your site and ultimately improve their user experience.

To make a table in HTML, use the `<table>` tag. Within this table tag, you'll place the `<tr>`, `<th>`, and `<td>` tags.

- The `<tr>` tag defines a table row.
- The `<th>` tag defines the table header. By default, any text in the `<th>` tag is bold and centered.
- The `<td>` tag defines the table data (ie. table cells). By default, any text in the `<td>` tag is unbolted and left-aligned.

It's important to note that the `<td>` tag can contain a range of HTML elements — not just text. Possible elements include images, numbered or bulleted lists, and other tables.

The HTML tables allow web authors to arrange data like text, images, links, other tables, etc. into rows and columns of cells.

The HTML tables are created using the `<table>` tag in which the `<tr>` tag is used to create table rows and `<td>` tag is used to create data cells. The elements under `<td>` are regular and left aligned by default

Source code:

```

1  <!DOCTYPE html>
2  <html>
3      <head>
4          <h1>Table containing different options:</h1>
5      </head>
6      <body>
7          <TABLE BORDER="2">
8              <TR>
9                  <TD>Which is your favourite colour?</TD>
10                 <TD>Who is your national leader?</TD>
11                 <TD>Who is the highest test centuries person in India</TD>
12             </TR>
13             <TR>
14                 <TD>Red</TD>
15                 <TD>Sardar Patel</TD>
16                 <TD>Kapil Dev</TD>
17             </TR>
18             <TR>
19                 <TD>Green</TD>
20                 <TD>Gandhiji</TD>
21                 <TD>Sachin Tendulkar</TD>
22             </TR>
23             <TR>
24                 <TD>Yellow</TD>
25                 <TD>Indiraji</TD>
26                 <TD>Sunil Gawaskar</TD>
27             </TR>
28             <TR>
29                 <TD>Blue</TD>
30                 <TD>Nehruji</TD>
31                 <TD>Ajay Jadeja</TD>
32             </TR>

```

```

16             </TABLE>
17         </TR>
18     <TR>
19         <TD>Green</TD>
20         <TD>Gandhiji</TD>
21         <TD>Sachin Tendulkar</TD>
22     </TR>
23     <TR>
24         <TD>Yellow</TD>
25         <TD>Indiraji</TD>
26         <TD>Sunil Gawaskar</TD>
27     </TR>
28     <TR>
29         <TD>Blue</TD>
30         <TD>Nehruji</TD>
31         <TD>Ajay Jadeja</TD>
32     </TR>
33     </TABLE>
34   </body>
35 </html>

```

Output:

Table containing different options:

Which is your favourite colour?	Who is your national leader?	Who is the highest test centuries person in India
Red	Sardar Patel	Kapil Dev
Green	Gandhiji	Sachin Tendulkar
Yellow	Indiraji	Sunil Gawaskar
Blue	Nehruji	Ajay Jadeja

Learning Outcome: Here, we learned about making tables and putting elements in the table according to the question given.

EXPERIMENT -07

AIM: It is required to write the Frameset tags and Frame tags for the following frameset.

Theory: HTML Frames are used to divide the web browser window into multiple sections where each section can be loaded separately. A frameset tag is the collection of frames in the browser window.

Creating Frames: Instead of using body tags, use frameset tags in HTML to use frames in web browsers. But this Tag is deprecated in HTML 5. The frameset tag is used to define how to divide the browser. Each frame is indicated by a frame tag and it basically defines which HTML document shall open into the frame. To define the horizontal frames use row attribute of frame tag in HTML document and to define the vertical frames use col attribute of frame tag in HTML document.

The <frameset> tag in HTML is used to define the frameset. The <frameset> element contains one or more frame elements. It is used to specify the number of rows and columns in frameset with their pixel of spaces. Each element can hold a separate document. The <frameset> tag is not supported in HTML5.

- **cols:** The cols attribute is used to create vertical frames in a web browser. This attribute is basically used to define the no. of columns and their size inside the frameset tag.
- **rows:** The rows attribute is used to create horizontal frames in the web browser. This attribute is used to define the no. of rows and their size inside the frameset tag.
- **border:** This attribute of the frameset tag defines the width of the border of each frame in pixels. Zero value is used for no border.
- **frameborder:** This attribute of the frameset tag is used to specify whether a three-dimensional border should be displayed between the frames or not for this use two values 0 and 1, where 0 defines no border and value 1 signifies that yes there will be a border.
- **framespacing:** This attribute of the frameset tag is used to specify the amount of spacing between the frames in a frameset. This can take any integer value as a parameter which basically denotes the value in pixel.

Source code:

```

1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>Frameset</title>
7      <link rel="stylesheet" type="text/css" href="../main.css">
8      <link href="https://fonts.googleapis.com/css2?family=Lato:wght@100;300&display=swap" rel="stylesheet">
9  </head>
10 <body>
11     <div class="container">
12         <div class="first">
13             <div class="row">
14                 <iframe src="./physics.html"></iframe>
15             </div>
16             <div class="row">
17                 <iframe src="./chemistry.html"></iframe>
18             </div>
19             <div class="row">
20                 <iframe src="./biology.html"></iframe>
21             </div>
22             <div class="row">
23                 <iframe src="./zoology.html"></iframe>
24             </div>
25         </div>
26         <div class="second">
27             <div class="row">
28                 <iframe src="./welcome.html"></iframe>
29             </div>
30             <div class="row">
31                 <iframe src="./heading.html"></iframe>
32             </div>
33     </div>
34 </body>
35 <html lang="en">
36
37 <head>
38     <meta charset="UTF-8">
39     <meta name="viewport" content="width=device-width, initial-scale=1.0">
40     <title>Physics</title>
41     <link href="https://fonts.googleapis.com/css2?family=Lato:wght@100;300&display=swap" rel="stylesheet">
42     <style>
43         * {
44             margin: 0;
45             padding: 0;
46             font-family: 'Lato', Arial, Helvetica, sans-serif;
47             color: #rgb(0, 0, 0);
48             font-size: 20px;
49         }
50
51         html {
52             height: 100vh;
53         }
54
55         body {
56             background-color: #eeda2a;
57             height: 100%;
58             display: flex;
59             flex: 1;
60             justify-content: center;
61             align-items: center;
62         }
63     </style>
64 </head>
65 <body>
66     Heading.html
67 </body>

```

```
1  <!DOCTYPE html>
2  <html lang="en">
3
4  <head>
5      <meta charset="UTF-8">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <title>Physics</title>
8      <link href="https://fonts.googleapis.com/css2?family=Lato:wght@100;300&display=swap" rel="stylesheet">
9      <style>
10         * {
11             margin: 0;
12             padding: 0;
13             font-family: 'Lato', Arial, Helvetica, sans-serif;
14             color: #fff;
15             font-size: 20px;
16         }
17
18         html {
19             height: 100vh;
20         }
21
22         body {
23             background-color: #f61c5d;
24             height: 100%;
25             display: flex;
26             flex: 1;
27             justify-content: center;
28             align-items: center;
29         }
30     </style>
31 </head>
32 <body>
```

```
3
4  <head>
5      <meta charset="UTF-8">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <title>Physics</title>
8      <link href="https://fonts.googleapis.com/css2?family=Lato:wght@100;300&display=swap" rel="stylesheet">
9      <style>
10         * {
11             margin: 0;
12             padding: 0;
13             font-family: 'Lato', Arial, Helvetica, sans-serif;
14             color: #fff;
15             font-size: 20px;
16         }
17
18         html {
19             height: 100vh;
20         }
21
22         body {
23             background-color: #057a7e;
24             height: 100%;
25             display: flex;
26             flex: 1;
27             justify-content: center;
28             align-items: center;
29         }
30     </style>
31 </head>
32 <body>
33     Chemistry.html
34 </body>
```

```
3
4  <head>
5    <meta charset="UTF-8">
6    <meta name="viewport" content="width=device-width, initial-scale=1.0">
7    <title>Physics</title>
8    <link href="https://fonts.googleapis.com/css2?family=Lato:wght@100;300&display=swap" rel="stylesheet">
9    <style>
10      * {
11        margin: 0;
12        padding: 0;
13        font-family: 'Lato', Arial, Helvetica, sans-serif;
14        color: #fff;
15        font-size: 20px;
16      }
17
18      html {
19        height: 100vh;
20      }
21
22      body {
23        background-color: #008d23;
24        height: 100%;
25        display: flex;
26        flex: 1;
27        justify-content: center;
28        align-items: center;
29      }
30    </style>
31  </head>
32  <body>
33    Biology.html
34  </body>
```

```
2  <html lang="en">
3
4  <head>
5    <meta charset="UTF-8">
6    <meta name="viewport" content="width=device-width, initial-scale=1.0">
7    <title>Physics</title>
8    <link href="https://fonts.googleapis.com/css2?family=Lato:wght@100;300&display=swap" rel="stylesheet">
9    <style>
10      * {
11        margin: 0;
12        padding: 0;
13        font-family: 'Lato', Arial, Helvetica, sans-serif;
14        color: #fff;
15        font-size: 20px;
16      }
17
18      html {
19        height: 100vh;
20      }
21
22      body {
23        background-color: #007a33;
24        height: 100%;
25        display: flex;
26        flex: 1;
27        justify-content: center;
28        align-items: center;
29      }
30    </style>
31  </head>
32  <body>
33    Account.html
```

Output:



Learning Outcome: Here, we have learned about frames and frametags in this experiment.

EXPERIMENT -08

AIM: It is required to write html code to generate following output:

Theory: The element is for grouping a collection of items that do not have a numerical ordering, and their order in the list is meaningless. Typically, unordered-list items are displayed with a bullet, which can be of several forms, like a dot, a circle, or a square. The bullet style is not defined in the HTML description of the page, but in its associated CSS, using the list-style-type property.

The and elements may be nested as deeply as desired. Moreover, the nested lists may alternate between and without restriction.

The and elements both represent a list of items. They differ in that, with the element, the order is meaningful. To determine which one to use, try changing the order of the list items; if the meaning is changed, the element should be used, otherwise, you can use .

Source code:

```
1  <!DOCTYPE html>
2  <html>
3  <body>
4
5
6  <ul>
7  <li>Coffee</li>
8  <li>Tea</li>
9  <ul>
10 <li>Black Tee</li>
11 <li>Green Tee</li>
12 </ul>
13 <li>Milk</li>
14 </ul>
15
16 </body>
17 </html>
```

Output:

- Coffee
- Tea
 - Black Tee
 - Green Tee
- Milk

Learning Outcome: Here, in the experiment, we have learned about the unordered list, how to use the attributes and print the unordered list.

EXPERIMENT -09

AIM: It is required to write a HTML code to generate following output:

Theory: The class attribute is often used to point to a class name in a style sheet. It can also be used by a JavaScript to access and manipulate elements with the specific class name.

Though the specification doesn't put requirements on the name of classes, web developers are encouraged to use names that describe the semantic purpose of the element, rather than the presentation of the element. For example, an attribute describes an attribute rather than italics, although an element of this class may be presented in italics. Semantic names remain logical even if the presentation of the page changes.

Source code:

```
1 <!DOCTYPE html>
2 <html>
3
4 <head>
5   <link rel="stylesheet" href="./main_exp9.css">
6 </head>
7
8 <body>
9   <div class="container">
10    <div class="row">
11      <h2>Registration Form</h2>
12    </div>
13
14    <div class="row">
15      <form action="#">
16        <div class="row">
17          <div class="column">
18            <label for="username">Username</label>
19          </div>
20          <div class="column">
21            <input type="text" id="username" name="username">
22          </div>
23        </div>
24
25        <div class="row">
26          <div class="column">
27            <label for="password">Password</label>
28          </div>
29          <div class="column">
30            <input type="text" id="password" name="password">
31          </div>
32        </div>
33    </div>
34  </div>
```

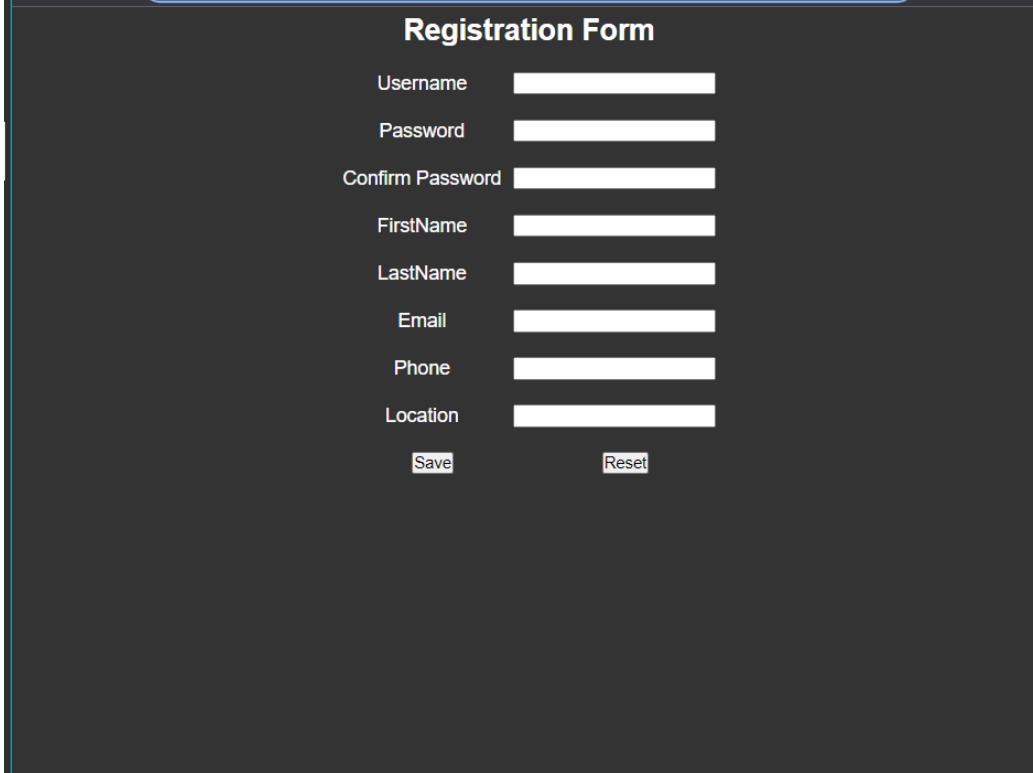
```
34 |           <div class="row">
35 |             <div class="column">
36 |               <label for="confirmpas">Confirm Password</label>
37 |             </div>
38 |             <div class="column">
39 |               <input type="text" id="confirmpas" name="confirmpas">
40 |             </div>
41 |           </div>
42 |
43 |           <div class="row">
44 |             <div class="column">
45 |               <label for="fname">FirstName</label>
46 |             </div>
47 |             <div class="column">
48 |               <input type="text" id="fname" name="fname">
49 |             </div>
50 |           </div>
51 |
52 |           <div class="row">
53 |             <div class="column">
54 |               <label for="lname">LastName</label>
55 |             </div>
56 |             <div class="column">
57 |               <input type="text" id="lname" name="lname">
58 |             </div>
59 |           </div>
60 |
61 |           <div class="row">
62 |             <div class="column">
63 |               <label for="email">Email</label>
64 |             </div>
65 |             <div class="column">
```



```
66 |               <input type="text" id="email" name="email">
67 |             </div>
68 |           </div>
69 |
70 |           <div class="row">
71 |             <div class="column">
72 |               <label for="phone">Phone</label>
73 |             </div>
74 |             <div class="column">
75 |               <input type="text" id="phone" name="phone">
76 |             </div>
77 |           </div>
78 |
79 |           <div class="row">
80 |             <div class="column">
81 |               <label for="location">Location</label>
82 |             </div>
83 |             <div class="column">
84 |               <input type="text" id="location" name="location">
85 |             </div>
86 |           </div>
87 |           <div class="row">
88 |             <div class="column">
89 |               <input type="submit" value="Save">
90 |             </div>
91 |
92 |             <div class="column">
93 |               <input type="reset" value="Reset">
94 |             </div>
95 |           </div>
96 |         </form>
97 |       </div>
98 |     </div>
99 |
100 |   </body>
101 | 
```

```
4      font-family: Arial, Helvetica, sans-serif;
5  }
6
7  body {
8      background-color: #333333;
9      color: #fff;
10 }
11
12 .container {
13     display: flex;
14     flex: 1;
15     flex-direction: column;
16 }
17
18 .row {
19     flex: 1;
20     display: flex;
21     flex-direction: row;
22     justify-content: center;
23     align-items: center;
24     padding: 5px;
25 }
26
27 .column [
28     flex: 1;
29     padding: 5px;
30     display: flex;
31     flex-direction: column;
32     justify-content: center;
33     align-items: center;
34 ]
```

Output:



A screenshot of a registration form titled "Registration Form". The form consists of eight input fields: "Username", "Password", "Confirm Password", "FirstName", "LastName", "Email", "Phone", and "Location", each with a corresponding text input box. Below the input fields are two buttons: "Save" on the left and "Reset" on the right.

Learning Outcome: Here, we have learned about html classes and how to put input into database.

EXPERIMENT -10

AIM: It is required to write a HTML code to generate following output:

Theory: When referencing a class name in a style sheet, the class attribute is frequently utilised. Additionally, a JavaScript can utilise it to interact with elements that have the specified class name.

Web developers are advised to choose names that represent the semantic purpose of the element rather than the element's display, even if the specification doesn't place requirements on the names of classes. Instead of using italics to describe an element of this class, for instance, an attribute is used instead. Even if the page's presentation changes, semantic names continue to make sense.

Source code:

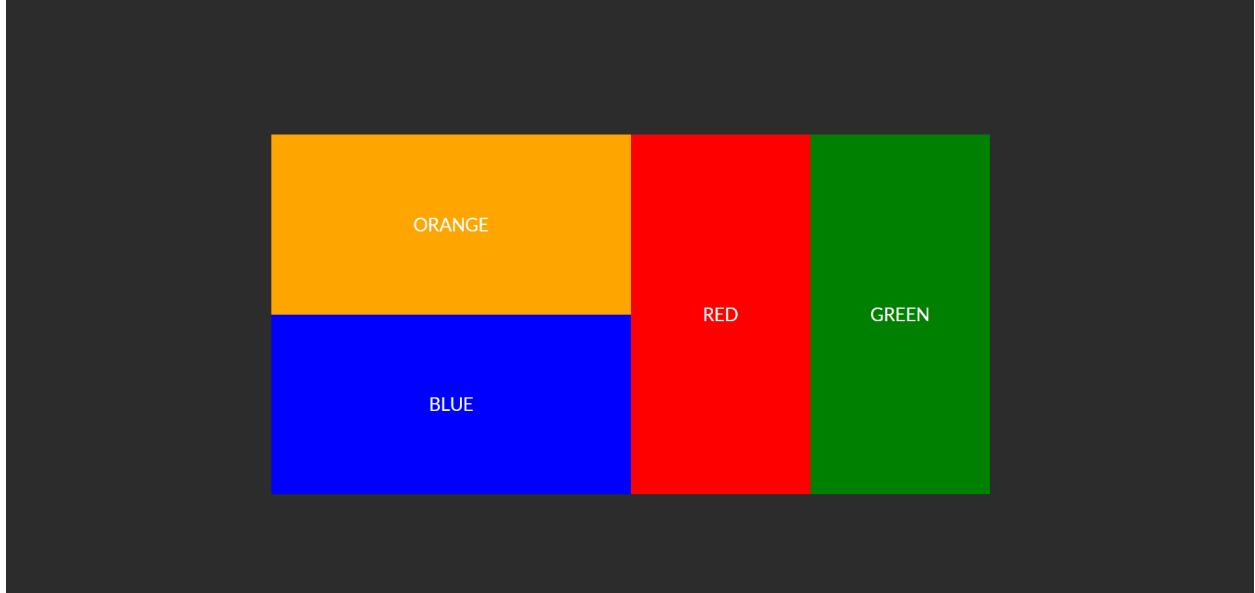
```

1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>Blocks</title>
7      <link rel="stylesheet" type="text/css" href="./main.css">
8      <link href="https://fonts.googleapis.com/css2?family=Lato:wght@100;300;400&display=swap" rel="stylesheet">
9  </head>
10 <body>
11     <div class="container">
12         <div class="col1">
13             <div class="row1">
14                 Orange
15             </div>
16             <div class="row2">
17                 Blue
18             </div>
19         </div>
20         <div class="col2">
21             <div class="row3">
22                 Red
23             </div>
24             <div class="row4">
25                 Green
26             </div>
27         </div>
28     </div>
29 </body>
30 </html>

```

```
1  * {
2    margin : 0;
3    padding: 0;
4    text-rendering: optimizeLegibility;
5    font-family: 'Lato', sans-serif;
6  }
7
8 body {
9   display: flex;
10  height: 100vh;
11  flex-direction: column;
12  justify-content: space-evenly;
13  align-items: center;
14  margin: 0 20%;
15  background-color: #2c2c2c;
16  color: #fff;
17  font-size: 25px;
18  text-transform: uppercase;
19 }
20
21 .container {
22   display: flex;
23   width: 1000px;
24   height: 500px;
25   flex-direction: row;
26 }
27
28 .col1, .col2 {
29   display: flex;
30   flex: 1;
31 }
32
33 .col1 {
34   flex-direction: column;
35 }
36
37 .col2 {
38   flex-direction: row;
39 }
40
41 .row1, .row2, .row3, .row4 {
42   display: flex;
43   flex: 1;
44   flex-direction: column;
45   justify-content: center;
46   align-items: center;
47 }
48
49 .row1 {
50   background-color: #orange;
51 }
52
53 .row2 {
54   background-color: #blue;
55 }
56
57 .row3 {
58   background-color: #red;
59 }
60
61 .row4 {
62   background-color: #green;
63 }
```

Output:



Learning Outcome: Here we have learned how to divide the screen and put different background colors.

EXPERIMENT -11

Aim : Create a web page of your college with following specifications. Place your college name at the top of the page in large text followed by address in smaller size. Add names of courses offered each in a different colour, style and typeface. Add scrolling text with a message of your choice Add college image at the bottom

Code:

```

1  <!DOCTYPE html>
2  <div lang="en">
3
4      <head>
5          <meta charset="UTF-8">
6          <meta name="viewport" content="width=device-width, initial-scale=1.0">
7          <link rel="stylesheet" type="text/css" href=".res/css/main.css">
8          <link href="https://fonts.googleapis.com/css2?family=Lato:wght@100,300&display=swap" rel="stylesheet">
9          <title>Delhi Technological University</title>
10     </head>
11
12     <body>
13         <div id="cover">
14             
15             <p>
16                 Delhi Technological University
17             </p>
18             <h2>( Formerly Delhi College of Engineering )</h2>
19             <h4>Shahbad Daulatpur,<br />
20                 Main Bawana Road,<br />
21                 Delhi-110042.<br />
22                 India</h4>
23         </div>
24     </div>
25
26     <div class="about">
27         <div class="container">
28             <div class="text">
29                 <h2>
30                     About Delhi Technological University
31                 </h2>
32                 <p>
33                     "75 years of Tradition of excellence in Engineering & Technology Education, Research and
34                     Innovations" Delhi College of Engineering, (initially established with the name Delhi
35                     Polytechnic)
36                     came into existence in the year 1941 to cater the needs of Indian industries for trained
37                     technical
38                     manpower with practical experience and sound theoretical knowledge. The institution was set up
39                     at
40                     historic Kashmere Gate campus as a follow up of the Wood and Abott Committee of 1938. It
41                     comprised
42                     of a multi disciplinary and multi level institution offering wide ranging programmes in
43                     engineering,
44                     technology, arts and sculpture, architecture, pharmacy and commerce.
45                 </p>
46             </div>
47             <div class="image">
48                 
49             </div>
50         </div>
51     </div>
52
53     <div class="campus">
54         <div class="container">
55             <div class="image">
56                 
57             </div>
58             <div class="text">
59                 <h2>
60                     Campus
61                 </h2>
62             </div>
63         </div>
64     </div>

```

```

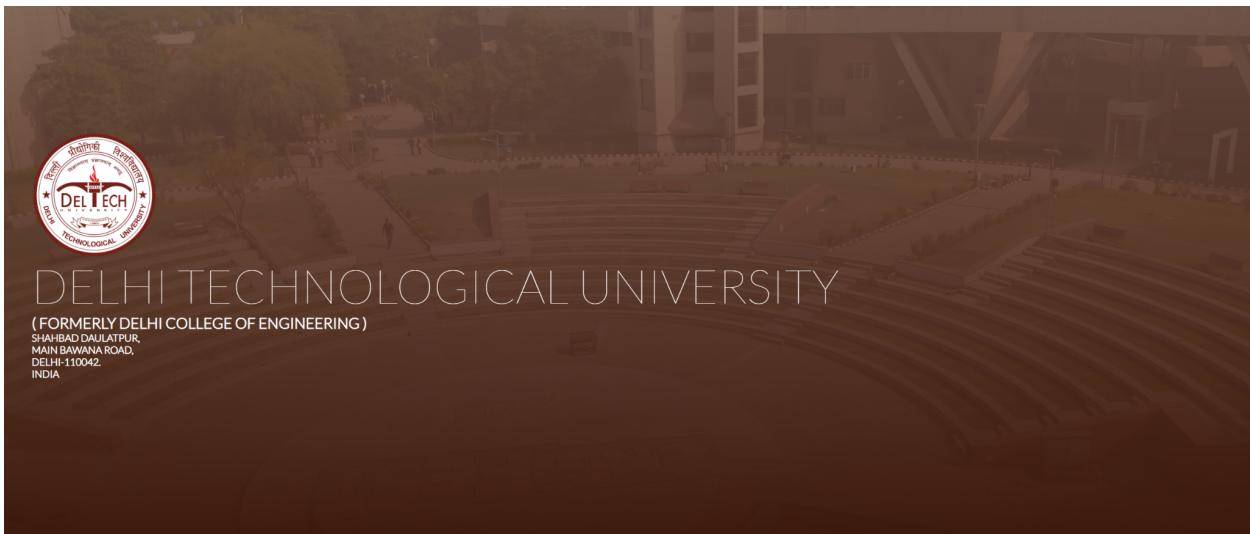
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150

      <h2>
        Campus
      </h2>
      <p>
        DTU has 164 acres of a lush green, tech-savvy main campus, with approximately 1,56,000 square metres of built up area, 15 academic departments, research centres, and residences for students, faculty and staff. It is a zero discharge campus having Sewage Treatment Plant and Waste to Energy Plant in the campus itself. The University, as on date, has 11,019 students in its undergraduate, postgraduate and Ph.D programs.
      </p>
    </div>
  </div>

  <div class="courses">
    <div class="container">
      <div class="courses-header">
        <h2>Courses Offered</h2>
      </div>
      <div class="courses-body">
        <div class="course">
          <div class="image">
            
          </div>
          <div class="caption">
            <h3>B.Tech</h3>
          </div>
          <div class="text">
            <p>
              B.Tech is a professional four years undergraduate degree programme in technology awarded to candidates after completion of the school study. The college offers B.Tech in 15 departments
            </p>
          </div>
        </div>
        <div class="course">
          <div class="image">
            
          </div>
          <div class="caption">
            <h3>M.Tech</h3>
          </div>
          <div class="text">
            <p>
              M.Tech is a professional two years postgraduate master degree programme in technology awarded to candidates after completion of two years of study in the discipline of engineering/technology.
            </p>
          </div>
        </div>
        <div class="course">
          <div class="image">
            
          </div>
          <div class="caption">
            <h3>Ph.D</h3>
          </div>
          <div class="text">
            <p>
              The University offers Ph.D. programme in wide range of areas in Engineering, Sciences and Humanities. The academic programme of Ph.D. degree is broad-based and involves a course credit requirement.
            </p>
          </div>
        </div>
        <div class="course">
          <div class="image">
            
          </div>
          <div class="caption">
            <h3>B.Des</h3>
          </div>
          <div class="text">
            <p>
              DTU has decided to provide facilities for excellent design education and training to suit the needs of the society. Department of Design is envisioned to pursue excellence in design thinking, scholarship and practice.
            </p>
          </div>
        </div>
      </div>
    </div>
  </div>
</body>

```

Output:



About Delhi Technological University

"75 years of Tradition of excellence in Engineering & Technology Education, Research and Innovations" Delhi College of Engineering, (initially established with the name - Delhi Polytechnic) came into existence in the year 1941 to cater the needs of Indian industries for trained technical manpower with practical experience and sound theoretical knowledge. The institution was set up at historic Kashmere Gate campus as a follow up of the Wood and Abbott Committee of 1938. It comprised of a multi disciplinary and multi level institution offering wide ranging programmes in engineering, technology, arts and sculpture, architecture, pharmacy and commerce.



Campus

DTU has 164 acres of a lush green, tech-savvy main campus, with approximately 1,56,000 square metres of built up area, 15 academic departments, research centres, and residences for students, faculty and staff. It is a zero discharge campus having Sewage Treatment Plant and Waste to Energy Plant in the campus itself. The University, as on date, has 11,019 students in its undergraduate, postgraduate and Ph.D programs.

Courses Offered



Learning Outcome:

At the completion of this experiment we will be able to learn to give headings to the topics and then describe it in different font, color, size and block.

EXPERIMENT -12

AIM: Write a HTML code to generate following output:

Theory: The class attribute is often used to point to a class name in a style sheet. It can also be used by a JavaScript to access and manipulate elements with the specific class name.

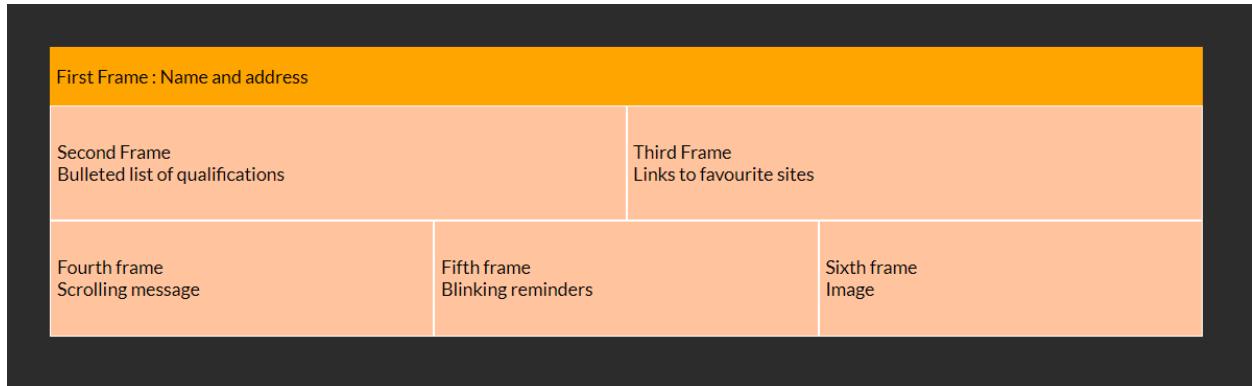
Though the specification doesn't put requirements on the name of classes, web developers are encouraged to use names that describe the semantic purpose of the element, rather than the presentation of the element. For example, an attribute describes an attribute rather than italics, although an element of this class may be presented in italics. Semantic names remain logical even if the presentation of the page changes.

Source code:

```

1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>Frames</title>
7      <link rel="stylesheet" type="text/css" href "./main.css">
8      <link href="https://fonts.googleapis.com/css2?family=Lato:wght@100;300;400&display=swap" rel="stylesheet">
9  </head>
10 <body>
11     <div class="container">
12         <div class="header">
13             First Frame : Name and address
14         </div>
15         <div class="row">
16             <div class="col">
17                 Second Frame
18                 <br/>
19                 Bulleted list of qualifications
20             </div>
21             <div class="col">
22                 Third Frame
23                 <br/>
24                 Links to favourite sites
25             </div>
26         </div>
27         <div class="row">
28             <div class="col">
29                 Fourth frame
30                 <br/>
31                 Scrolling message
32             </div>
33             <div class="col">
34                 Fifth frame
35                 <br/>
36                 Blinking reminders
37             </div>
38             <div class="col">
39                 Sixth frame
40                 <br/>
41                 Image
42             </div>
43         </div>
44     </div>
45 </body>
46 </html>
```

Output:



Learning Outcome: Here we have learned how to divide the screen and put different background colors.

EXPERIMENT -13

AIM: It is required to write a html page containing the polynomial expression as follows $a_0 + a_1 x + a_2 x^2 + a_3 x^3$

Theory: The `<sup>` HTML element specifies inline text which is to be displayed as superscript for solely typographical reasons. Superscripts are usually rendered with a raised baseline using smaller text.

The `<sup>` element should only be used for typographical reasons—that is, to change the position of the text to comply with typographical conventions or standards, rather than solely for presentation or appearance purposes.

For example, to style the wordmark of a business or product which uses a raised baseline should be done using CSS (most likely vertical-align) rather than `<sup>`. This would be done using, for example, vertical-align: super or, to shift the baseline up 50%, vertical-align: 50%.

Appropriate use cases for `<sup>` include (but aren't necessarily limited to):

Displaying exponents, such as "x³ ." It may be worth considering the use of MathML for these, especially in more complex cases. See Exponents under Examples below.

Displaying superior lettering, which is used in some languages when rendering certain abbreviations. For example, in French, the word "mademoiselle" can be abbreviated "M^{lle}"); this is an acceptable use case.

Code:

```

1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>Subscript</title>
7      <link rel="stylesheet" type="text/css" href="./main.css">
8      <link href="https://fonts.googleapis.com/css2?family=Lato:wght@100,300,400&display=swap" rel="stylesheet">
9  </head>
10 <body>
11     <div class="container">
12         <h1>
13             a<sub>0</sub>+a<sub>1</sub>x+a<sub>2</sub>x<sup>2</sup>+a<sub>3</sub>x<sup>3</sup>
14         </h1>
15     </div>
16 </body>
17 </html>

```

Output :

$$a_0 + a_1x + a_2x^2 + a_3x^3$$

Learning Outcome:

After completing this experiment we learned to calculate the the roots of the quadratic equation using html and also created a web page that takes the coefficient of equation and gives its roots as a output.

EXPERIMENT -14

AIM: Write a HTML code to generate the following output:

Enter Name of your friend	<input type="text"/>
Choose the file you want to post to your friend	
<input type="file"/>	<input type="button" value="Browse..."/>
What does the file contain?	
<input checked="" type="checkbox"/> Image <input checked="" type="checkbox"/> Source code <input type="checkbox"/> Binary code	<input type="button" value="Submit Query"/>
You have Completed the Form .	

Theory: Inline text that is to be shown as superscript purely for typographical reasons is specified using the HTML element. Superscripts are often presented with smaller font and a raised baseline.

The element should only be used for typographical purposes, not only for presentation or appearance; that is, to move the text to conform to typographical rules or standards.

For instance, employing CSS (likely vertical-align) rather than should be used to style a company or product's wordmark that has a raised baseline. For instance, vertical-align: super or vertical-align: 50% to move the baseline up 50% would be used to accomplish this.

Suitable use cases for could be, but need not be, the following:

Displaying exponents, such as "x³ ." It may be worth considering the use of MathML for these, especially in more complex cases. See Exponents under Examples below.

Displaying superior lettering, which is used in some languages when rendering certain abbreviations. For example, in French, the word "mademoiselle" can be abbreviated "M^{lle} "); this is an acceptable use case.

Source Code :

```

1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>Form</title>
7      <link rel="stylesheet" type="text/css" href="_/main.css">
8      <link href="https://fonts.googleapis.com/css2?family=Lato:wght@100;300;400&display=swap" rel="stylesheet">
9  </head>
10 <body>
11     <div class="container">
12         <form>
13             <label for="name">Enter Name of your friend</label>
14             <input type="text" name="name" id="name"/>
15             <br/>
16             <label for="file">Choose the file you want to post to your friend</label>
17             <br/>
18             <input type="text" name="file" id="file"/>
19             <button>Browse...</button>
20             <p>What does this file contain?</p>
21             <input type="checkbox" id="img"/>
22             <label for="img">Image</label>
23             <input type="checkbox" id="sc"/>
24             <label for="sc">Source code</label>
25             <input type="checkbox" id="bc"/>
26             <label for="bc">Binary code</label>
27             <br/>
28             <b>You have completed the form</b>
29             <button>Submit Query</button>
30         </form>
31     </div>
32 </body>
33 </html>
```

Output:

Enter Name of your friend

Choose the file you want to post to your friend

What does this file contain?

Image Source code Binary code

You have completed the form

Learning Outcome :

After completion of this experiment we learned to create an HTML page that take key words as an input and browse its corresponding query from the web.

EXPERIMENT -15

AIM: It is required to Create a simple form to submit user input like his name, age, address and favorite subject. Put validation checks on values entered by the user using JavaScript (such as age should be a value between 1 and 150).

Theory: Javascript example is easy to code. JavaScript provides 3 places to put the JavaScript code: within body tag, within head tag and external JavaScript file.

The script tag specifies that we are using JavaScript.

The text/javascript is the content type that provides information to the browser about the data.

The document.write() function is used to display dynamic content through JavaScript. We will learn about document object in detail later.

3 Places to put JavaScript code

1. Between the body tag of html
2. Between the head tag of html
3. In .js file (external javaScript)

Source Code :

```

1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>Form Validation</title>
7      <link rel="stylesheet" type="text/css" href="./main.css">
8      <link href="https://fonts.googleapis.com/css2?family=Lato:wght@100,300&display=swap" rel="stylesheet">
9      <script src="./main.js" defer></script>
10 </head>
11 <body>
12     <div id="error"></div>
13     <form method="GET" id="form">
14         <div>
15             <label for="name">Name</label>
16             <input name="name" id="name">
17         </div>
18         <div>
19             <label for="age">Age</label>
20             <input name="age" id="age" type="number">
21         </div>
22         <div>
23             <label for="address">Address</label>
24             <input name="address" id="address" type="text">
25         </div>
26         <div>
27             <label for="favourite-subject">Favourite Subject</label>
28             <input name="favourite-subject" id="favourite-subject" type="text">
29         </div>
30         <button type="submit">Submit</button>
31         <button type="reset">Reset</button>
32     </form>
33 </body>
34 </html>
```

```
1 * {
2     box-sizing: border-box;
3     margin : 0;
4     padding: 0;
5     text-rendering: optimizeLegibility;
6     font-family: 'Lato', sans-serif;
7 }
8
9 body {
10     height: 100vh;
11     display: flex;
12     flex-direction: column;
13     justify-content: center;
14     align-items: center;
15     margin: 0 20%;
16     background-color: #121212;
17     color: #ffffff;
18 }
19
20 form {
21     padding: 10px;
22     border-radius: 10px;
23     background-color: #rgb(58, 58, 58);
24 }
25
26 form div {
27     display: flex;
28     flex: 1;
29     justify-content: space-between;
30     flex-direction: column;
31 }
32
33 input {
34     outline: none;
35     border: none;
36     color: #ffffff;
37     background-color: #rgb(110, 110, 110);
38     height: 40px;
39     font-size: 1.2rem;
40     padding-left: 10px;
41     padding-right: 10px;
42     margin: 5px;
43     border-radius: 10px;
44 }
45
46 label {
```

```
1 const name = document.getElementById('name');
2 const age = document.getElementById('age');
3 const address = document.getElementById('address');
4 const favouriteSubject = document.getElementById('favourite-subject');
5
6 const form = document.getElementById('form');
7 const errorElement = document.getElementById('error');
8
9 form.addEventListener('submit', (e) => {
10     let messages = [];
11
12     if (name.value === '' || name.value == null) {
13         messages.push('Name is required');
14     }
15
16     if (parseFloat(age.value) < 1 || parseFloat(age.value) > 150 || age.value === '') {
17         messages.push('Age should be between 1 and 150');
18     }
19
20     if (address.value === '' || address.value == null) {
21         messages.push('Address is required');
22     }
23
24     if (favouriteSubject.value === '' || favouriteSubject.value == null) {
25         messages.push('Favourite subject is required');
26     }
27
28     if (messages.length > 0) {
29         e.preventDefault();
30         errorElement.innerText = messages.join(', ');
31     }
32});
```

Output:

The image shows a mobile application interface on a black background. At the top center is a small red circular icon. Below it is a rectangular form card with rounded corners. The card contains four input fields, each with a label and a corresponding input box. The labels are "Name", "Age", "Address", and "Favourite Subject". At the bottom of the card are two blue buttons labeled "Submit" and "Reset".

Learning Outcome : Here, we have learned how to incorporate javascript in html and css and do basic coding in javascript.

EXPERIMENT -16

AIM: It is required to write a JavaScript program to display the information box as soon as the page loads.

Theory: The onload event occurs when an object has been loaded.

onload is most often used within the <body> element to execute a script once a web page has completely loaded all content (including images, script files, CSS files, etc.).

The onload event can be used to check the visitor's browser type and browser version, and load the proper version of the web page based on the information.

The onload event can also be used to deal with cookies (see "More Examples" below).

Source Code:

```
1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>JS Popup</title>
7      <link rel="stylesheet" href="./main.css">
8      <script src="./main.js" defer></script>
9      <link href="https://fonts.googleapis.com/css2?family=Lato:wght@100;300;400&display=swap" rel="stylesheet">
10 </head>
11 <body>
12     <div id="popup">
13         |   This is an information box
14     </div>
15 </body>
16 </html>
```

```

1  * {
2      box-sizing: border-box;
3      margin : 0;
4      padding: 0;
5      text-rendering: optimizeLegibility;
6      font-family: 'Lato', sans-serif;
7  }
8
9  body {
10     background-color: #2c2c2c;
11     color: #ffffff;
12     display: flex;
13     flex: 1;
14     justify-content: center;
15     align-items: center;
16     min-height: 100vh;
17 }
18
19 #popup {
20     background-color: #rgb(47, 136, 209);
21     padding: 15px;
22     border-radius: 10px;
23     display: none;
24     transition: all 0.3s;
25 }
```

```

1 const popup = document.getElementById('popup');
2
3 window.onload = () => {
4     setTimeout(() => {
5         popup.style.display = 'flex';
6     }, 1000);
7 }
```

Learning Outcome: Here we have learned to use a variety of methods, one uses Javascript window.onload function in a simple function call from a script or from the body as in the solutions above, you can also use jQuery to do this but its just a modification of Javascript

EXPERIMENT -17

AIM: Write a JavaScript program to change background colour after 5 seconds of page load.

Theory: background = color; } window.addEventListener("load",function() { changeBackgroundColor('red') }); Note: this does depend a bit on how your page is put together, for example if you're using a DIV container with a different background colour you will need to modify the background colour of that instead of the document body.

Code:

```

1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>Background Color Change</title>
7      <script src="../main.js" defer></script>
8  </head>
9  <body>
10
11 </body>
12 </html>

```

```

1  window.onload = () => {
2      setTimeout(() => {
3          console.log('Changing background color');
4          document.body.style.backgroundColor = '#2c2c2c'
5      }, 5000);
6 }

```

Output:



Learning Outcome: Here, in the experiment we learned about JavaScript program to display the information box as soon as the page loads.

EXPERIMENT -18

AIM: Write a JavaScript program to dynamically bold, italic and underline words and phrases based on user actions.

Theory: HTML, CSS, and JavaScript are essential parts of building an interactive website. Most of the developers utilized inline CSS formatting to implement styles within HTML element tags. One of them, a style attribute, has its own importance in changing the background color of HTML elements. It is implemented on various elements such as headings, paragraphs, tables, or whole pages. This style attribute can also be utilized via JavaScript as well. This article demonstrates how to change the background color in JavaScript.

The property “backgroundColor” is employed to return the color of the specified element. Users can access the HTML element and then apply this property to change the background color. The syntax is given here by assigning the background color in JavaScript.

Code:

```

1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>Change Style</title>
7      <link rel="stylesheet" type="text/css" href="./style.css">
8      <link href="https://fonts.googleapis.com/css2?family=Lato:wght@100;300;400&display=swap" rel="stylesheet">
9      <script src="./script.js" defer></script>
10 </head>
11 <body>
12     <div id="container">
13         <div id="text">
14             Click the Buttons to change the text style.
15             <br>
16             Hover to Bold the text.
17             </div>
18             <div>
19                 <button id="myBtn" onclick="italics()">Italics</button>
20                 <button onclick="underlines()">Underline</button>
21             </div>
22         </div>
23     </body>
24 </html>

```

```
1  * {
2      box-sizing: border-box;
3      margin : 0;
4      padding: 0;
5      text-rendering: optimizeLegibility;
6      font-family: 'Lato', sans-serif;
7  }
8
9  body {
10     height: 100vh;
11     display: flex;
12     flex-direction: column;
13     justify-content: center;
14     align-items: center;
15     margin: 0 20%;
16     background-color: #9731CE;
17     color: white;
18 }
19
20 #container {
21     height: 50vh;
22     width: 50vw;
23     display: flex;
24     flex-direction: column;
25     justify-content: center;
26     align-items: center;
27     text-align: center;
28     margin: 0 20%;
29     background-color: #470E65;
30     color: white;
31     border-style: solid;
32     font-size: 30px;
33 }
34
35 button {
36     height: 5vh;
37     width: 10vw;
38     background-color: #44A9C6;
39     border: none;
40     border-radius: 8px;
41     box-shadow: 0 8px 16px 0 rgba(0,0,0,0.2), 0 6px 20px 0 rgba(0,0,0,0.19);
42     color: white;
43     text-align: center;
44     font-size: 18px;
45 }
```

```
1 const italics = () => {
2   document.getElementById("text").style.fontStyle = "italic";
3 }
4
5 const underlines = () => {
6   document.getElementById("text").style.textDecoration = "underline";
7 }
8
9 document.getElementById("text").addEventListener("mouseover", ()=>{
10   document.getElementById("text").style.fontWeight = "bold";
11 });
```

Learning Outcome : Here, in the experiment we learn about JavaScript program to change background colour after 5 seconds of page load.

EXPERIMENT -19

AIM: Write a JavaScript program to display a hidden div (e.g. showing stats of a player when user clicks on his name).

Theory: The style display property is used to hide and show the content of HTML DOM by accessing the DOM element using JavaScript/jQuery. Quickstarts explain how to set up and run an app that calls a Google Workspace API.

Google Workspace quickstarts use the API client libraries to handle some details of the authentication and authorization flow. We recommend that you use the client libraries for your own apps. Before you can run the sample app, each quickstart requires that you turn on authentication and authorization. If you're unfamiliar with authentication and authorization for Google Workspace APIs, read the [Authentication and authorization overview](#).

Create a JavaScript command-line application that makes requests to the Drive API.

Code:

```

1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-scale=1.0">
6      <title>Stats</title>
7      <link rel="stylesheet" type="text/css" href="/style.css">
8      <link href="https://fonts.googleapis.com/css2?family=Lato:wght@100;300;400&display=swap" rel="stylesheet">
9      <script src="./script.js" defer></script>
10 </head>
11 <body>
12     <div id="container">
13         <div id="stats">
14             <div>Mohit</div>
15             <div id="Vishal">
16                 <br>Roll.No : 2k17/co/188<br>
17                 Branch : Computer Engineering<br>
18                 Hobby   : Counter Strike: Global Offensive<br><br>
19             </div>
20             <button id="visBtn" onclick="showVishal()">Show Stats</button>
21         </div>
22         <div id="stats">
23             <div id="Yashasvi">Shivam</div>
24             <div id="Yash">
25                 <br>Roll.No : 2k17/co/326<br>
26                 Branch : Computer Engineering<br>
27                 Hobby   : Counter Strike: Global Offensive<br><br>
28             </div>
29             <button id="yashBtn" onclick="showYash()">Show Stats</button>
30         </div>
31     </div>
32 </body>
33 </html>

```

```

body {
  height: 100vh;
  display: flex;
  flex-direction: column;
  justify-content: center;
  align-items: center;
  margin: 0 20px;
  background-color: #9731CE;
  color: white;
}

#container {
  height: 50vh;
  width: 50vw;
  display: flex;
  flex-direction: row;
  justify-content: space-evenly;
  align-items: center;
  text-align: center;
  margin: 0 20px;
  background-color: #470E65;
  color: white;
  border-style: solid;
  font-size: 30px;
}

#Vishal ,#Yash {
  font-size: 16px;
  text-align: left;
  border-style: solid;
  padding: 10px;
  background-color: #42B3C1;
  border-radius: 8px;
}

button {
  height: 5vh;
  width: 10vw;
  background-color: #44A9C6;
  border: none;
  border-radius: 8px;
  box-shadow: 0 8px 16px 0 rgba(0,0,0,0.2), 0 6px 20px 0 rgba(0,0,0,0.19);
  color: white;
  text-align: center;
  font-size: 18px;
}

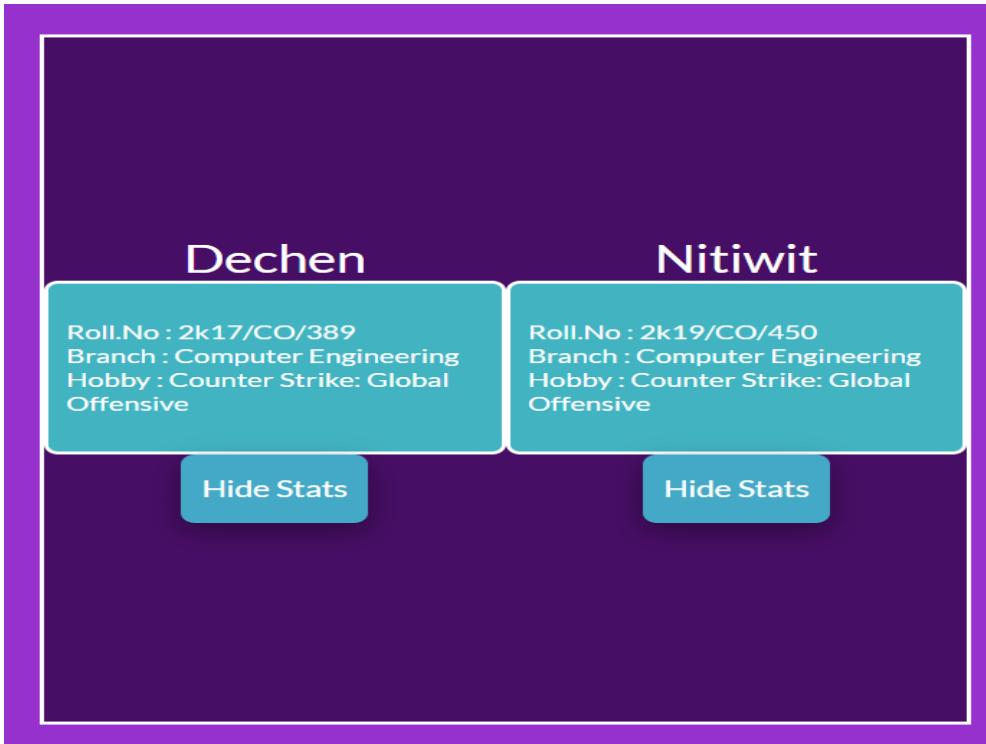
```

```

1  document.getElementById("Vishal").style.display = "none";
2  document.getElementById("Yash").style.display = "none";
3
4  const showVishal = () => {
5    var x = document.getElementById("Vishal");
6    if (x.style.display === "none") {
7      x.style.display = "block";
8      document.getElementById("visBtn").innerHTML = "Hide Stats";
9    } else {
10      x.style.display = "none";
11      document.getElementById("visBtn").innerHTML = "Show Stats";
12    }
13  }
14
15 const showYash = () => {
16  var x = document.getElementById("Yash");
17  if (x.style.display === "none") {
18    x.style.display = "block";
19    document.getElementById("yashBtn").innerHTML = "Hide Stats";
20  } else {
21    x.style.display = "none";
22    document.getElementById("yashBtn").innerHTML = "Show Stats";
23  }
24}

```

Output:



Learning Outcome: Here, in this experiment we learned about JavaScript program to display a hidden div (e.g. showing stats of a player when user clicks on his name).