S.NO	Name of Experiment	Page Number	Teacher's Signature	Dated
1.	Create a webpage with HTML describing your department. Use paragraph and list tags.			
2.	Apply various colours to suitably distinguish key words. Also apply font styling like italics, underline and two other fonts to words you find appropriate. Also use header tags.			
3.	Insert an image and create a link such that clicking on image takes user to another page. Change the background colour of the page. At the bottom create a link to take user to the top of the page.			
4.	Design a single page web site 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 coloured and each section should have different colour.			
5.	Design page that has 5 equal columns the table should look the same in all screen resolution.			
6.	Write a HTML code for making table to containing different option for different questions as specified.			
7.	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.			

8.	Write a HTML code to generate mentioned output.			
9.	Create a simple form to submit user input like his name, age, address and favourite subject. Put validation checks on values entered by the user using JavaScript (such as age should be a value between 1 and 150).			
10.	Write a JavaScript program to display information box as soon as page loads.			
11.	Write a JavaScript program to change background colour after 5 seconds of page load.			
12.	Write a JavaScript program to dynamically bold, italic and underline words and phrases based on user actions.			
13.	Write a JavaScript program to display a hidden div.			
14.	Write a JavaScript function to check whether an `input` is a string or not and if it is a string, then check if it is blank or not?			
15.	Write a JavaScript program to sort the items of an array.			
16.	Write a JavaScript program which accept a string as input and swap the case of each character. For example if you input 'The Quick Brown Fox' the output should be 'tHEqUICKbROWNfOX'.			

OBJECTIVE

This WEB PROGRAMMING Laboratory (PAPER CODE: COE 316) provides introduction to web page creation languages i.e. HTML and javaScript. It includes in depth study of the WEB environment. HTML and javascript learning in essential in workplace as they are one most frequently used to create the frontend.

The course aims at equipping the students with knowledge of HTML and JavaScript using which they are able to perform website design.

- Various terminology and conventions associated with the Internet.
- Gain a good understanding of the Internet and all its services and what each can do for the user.
- Understand the World Wide Web and how to put information on it through creating their own home page using basic Hypertext Markup Language (HTML) and javascript.

EXPERIMENT 1

AIM: Create a webpage with HTML describing your department. Use paragraph and list tags.

Theory:

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. HTML is not a programming language but a markup language.

- Hypertext refers to the way in which Web pages (HTML documents) are linked together. Thus the link available on a web page is called Hypertext.
- As its name suggests, HTML is a Markup Language which means you use HTML to simply "mark up" a text document with tags that tell a Web browser how to structure it to display.

With Cascading Style Sheets (CSS) and JavaScript it forms a triad of cornerstone technologies for the World Wide Web. HTML lets you format text, add graphics, create links, input forms, frames and tables.
HTML elements are the building blocks of HTML pages.The first tag in the pair in a pair are the start tag, and the second tag is the end tag. Tags which require an end tag are called container tags. Examples
 <I>. The tags which do not require a closing tag are called empty tags. Examples are
, <HR> etc.

The purpose of a web browser (Chrome, IE, Firefox, Safari) is to read HTML documents and display them. The browser does not display the HTML tags, but uses them to determine how to display the document:

The HTML page structure is:

```
<HTML>
<HEAD>
        <TITLE>Page Title</TITLE>
</HEAD>
<BODY>
        <h1>This is a heading</h1>
        <p>This is a paragraph.</p>
        <p>This is another paragraph.</p>
</BODY>
</HTML>
```

Unordered HTML List

An unordered list starts with the <ul> tag. Each list item starts with the <li> tag. The list items will be marked with bullets (small black circles) by default.

The default numbering is done using bullets. You can change this using attribute of <ul> as:
<ul type=”square”> , < ul type=”circles”> ,< ul type=”disc”> , etc.
An unordered HTML list example:

- Coffee
- Tea
- Milk

Ordered HTML List

An ordered list starts with the <ol> tag. Each list item starts with the <li> tag. The list items will be marked with numbers by default.

The default numbering is done as 1,2,3.. .you can change this using type attribute of <ol> as:
<ol type=”1”> , < ol type=”i”> ,< ol type=”a”> , etc.

An ordered HTML list example:

1. Coffee
2. Tea
3. Milk

HTML Description Lists

HTML also supports description lists. A description list is a list of terms, with a description of each term. The <dl> tag defines the description list, the <dt> tag defines the term (name), and the <dd> tag describes each term:

A definition list is a list of items, with a description of each item. The <dl> tag defines a definition list. The <dl> tag is used in conjunction with <dt> (defines the item in the list) and <dd> (describes the item in the list)

A Description List Example:

Coffee
- black hot drink

Milk
- white cold drink

Tags Used:

TAG Name	Type	Description
<HTML>	Container	The <html> tag tells the browser that this is an HTML document.
<HEAD>	Container	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<TITLE>	Container	The <title> tag is used inside the <head> tag to mention the document title.
<BODY>	Container	This tag represents the document's body which keeps other HTML tags like <h1>, , <p> etc.
<P>	Container	This tag represents a paragraph.
<H1> to <H6>	Container	These tags represents the heading.
 	Empty	Inserts a single line break.
<IMG>	Empty	The <img> tag defines an image in an HTML page.The <img> tag has two required attributes: src and alt
<OL>	Container	The tag defines an ordered list. An ordered list can be numerical or alphabetical.
<LI>	Container	The tag defines a list item.
<DL>	Container	It is used for creating descriptive lists.
<DT>	Container	It is used for defining elements in a descriptive list.
<DD>	Empty	It is used for giving description of elements in a descriptive list.

Code:

```
<HTML>
<HEAD>
<H1
STYLE=BACKGROUND-COLOR:#602157;COLOR:WHITE;TEXT-ALIGN:CENTER>
DEPARTMENTS</H1>
<TITLE>
DTU DEPARTMENTS
</TITLE>
</HEAD>
<BODY>
<CENTER>
<IMG SRC=1.png WIDTH=500 HEIGHT=100>
</CENTER>
<CENTER>
<IMG SRC=22.jpg WIDTH=1100 HEIGHT=300 HSPACE=5 VSPACE=5
BORDER="1">
</CENTER>
<BR>
<P>
<OL
STYLE=BACKGROUND-COLOR:#ffe5a9;COLOR:#002654;TEXT-ALIGN:LEFT;FON
T-SIZE=20px>
<BR>
<LI>Applied Chemistry</LI>
<LI>Applied Mathematics</LI>
<LI>Applied Physics</LI></LI>
<LI>Biotechnology</LI>
<LI>Computer Engineering</LI>
<LI>Civil Engineering</LI>
<LI>Delhi School Of Management</LI>
<LI>Electronics And Communication</LI>
<LI>Information Technology (IT) </LI>
<LI>Electrical Engineering</LI>
<LI>Humanities</LI>
<LI>Mechanical Engineering (AE) </LI>
</P>
</BODY>
</HTML>
```

Procedure:

1. Type the HTML code in notepad or any other editor as Dreamweaver and visual studio using proper syntax and values of each tag.
2. Save the HTML document using .html or .htm as extension. The file will be saved at the specified locations as a web page of default web browser.
3. Go to the location of the web page and open it. The formatted web page will have the effects of tags but will not show the tags names.

Output:

DEPARTMENTS

DELHI TECHNOLOGICAL UNIVERSITY
formerly Delhi College of Engineering
(under Delhi Act 6 of 2009, Govt. of NCT Delhi)

1. Applied Chemistry
2. Applied Mathematics
3. Applied Physics
4. Biotechnology
5. Computer Engineering
6. Civil Engineering
7. Delhi School Of Management
8. Electronics And Communication
9. Information Technology (IT)
10. Electrical Engineering
11. Humanities
12. Mechanical Engineering (AE)

Discussion/Learning:

Create a webpage with HTML describing computer department.Paragraph and list tags are used in the creation of web page. <h1> tag is used for first heading. The <ol> tag defines an ordered (numbered) list. The <li> tag defines a list item.

EXPERIMENT 2

AIM: Apply various colors to suitably distinguish key words. Also apply font styling like italics, underline and two other fonts to words you find appropriate. Also use header tags.

Theory:

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. HTML is not a programming language but a markup language.

- Hypertext refers to the way in which Web pages (HTML documents) are linked together. Thus the link available on a webpage is called Hypertext.
- As its name suggests, HTML is a Markup Language which means you use HTML to simply "mark up" a text document with tags that tell a Web browser how to structure it to display.

Headings and the Fonts play very important role in making a website more interactive, user friendly and increasing content readability. Font face and color depends entirely on the computer and browser that is being used to view your page but you can use HTML <font> tag to add style, size, and color to the text on your website. You can use a <basefont> tag to set all of your text to the same size, face, and color.

The <h1> to <h6> tags are used to define HTML headings. <h1> defines the most important heading. <h6> defines the least important heading.

The HTML page structure is:

```
<HTML>
<HEAD>
        <TITLE>Page Title</TITLE>
</HEAD>
<BODY>
        <h1>This is a heading</h1>
        <p>This is a paragraph.</p>
        <p>This is another paragraph.</p>
</BODY>
</HTML>
```

Tags Used:

TAG Name	Type	Description
<HTML>	Container	The <html> tag tells the browser that this is an HTML document.
<HEAD>	Container	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<TITLE>	Container	The <title> tag is used inside the <head> tag to mention the document title.
<BODY>	Container	This tag represents the document's body which keeps other HTML tags like <h1>, , <p> etc.
<P>	Container	This tag represents a paragraph.
<H1> to <H6>	Container	These tags represent the heading.
 	Empty	Inserts a single line break.
<IMG>	Empty	The <img> tag defines an image in an HTML page. The <img> tag has two required attributes: src and alt
<OL>	Container	The tag defines an ordered list. An ordered list can be numerical or alphabetical.
<LI>	Container	The tag defines a list item.
<STYLE>	Container	The <style> tag is used to define style information for an HTML document. Inside the <style> element you specify how HTML elements should render in a browser.
<B>	Container	The <B> tag specifies bold text.
<I>	Container	The <I> tag specifies italics text.
<U>	Container	The <U> tag specifies underlined text.

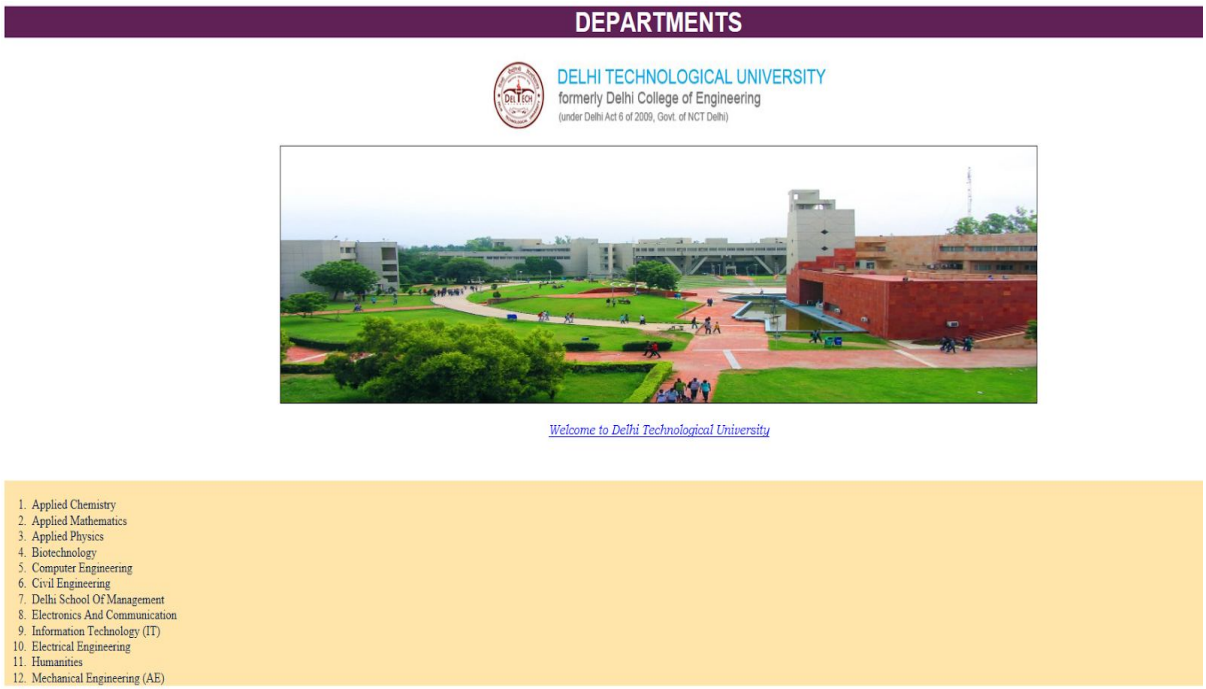
Code:

```
<HTML>
<HEAD>
<STYLE>
P.center{
text-align:center;
font-family:"Bookman Old Style";
color:blue;}
</STYLE>
<H1
STYLE=BACKGROUND-COLOR:#602157;COLOR:WHITE;TEXT-ALIGN:CENTER;
FONT-FAMILY:ARIAL>DEPARTMENTS</H1>
<TITLE>
DTU DEPARTMENTS
</TITLE></HEAD>
<BODY><CENTER>
<IMG SRC=1.png WIDTH=500 HEIGHT=100>
</CENTER>
<CENTER>
<IMG SRC=22.jpg WIDTH=1100 HEIGHT=300 HSPACE=5 VSPACE=5
BORDER="1">
<P class="center"><I><U>Welcome to Delhi Technological University</U></I></P>
</CENTER><BR><P>
<OL
STYLE=BACKGROUND-COLOR:#ffe5a9;COLOR:#002654;TEXT-ALIGN:LEFT;FON
T-SIZE=20px><BR>
<LI>Applied Chemistry</LI>
<LI>Applied Mathematics</LI>
<LI>Applied Physics</LI></LI>
<LI>Biotechnology</LI>
<LI>Computer Engineering</LI>
<LI>Civil Engineering</LI>
<LI>Delhi School Of Management</LI>
<LI>Electronics And Communication</LI>
<LI>Information Technology (IT) </LI>
<LI>Electrical Engineering</LI>
<LI>Humanities</LI>
<LI>Mechanical Engineering (AE) </LI>
</P>
</BODY>
</HTML>
```

Procedure:

1. Type the HTML code in notepad or any other editor as Dreamweaver and visual studio using proper syntax and values of each tag.
2. Save the HTML document using .html or .htm as extension. The file will be saved at the specified locations as a web page of default web browser.
3. Go to the location of the web page and open it. The formatted web page will have the effects of tags but will not show the tags names.

Output:



Discussion/Learning:

Create a web page which has various colours to suitably distinguish key words. Also font styling like italics, underline are used. Also header tags is used in the creation of web page.The content of the <i> tag is usually displayed in italic. The <b> tag specifies bold text.

EXPERIMENT 3

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

Theory:

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. HTML is not a programming language but a markup language. With Cascading Style Sheets (CSS) and JavaScript it forms a triad of cornerstone technologies for the World Wide Web. HTML lets you format text, add graphics, create links, input forms, frames and tables.

- Hypertext refers to the way in which Web pages (HTML documents) are linked together. Thus the link available on a webpage is called Hypertext.

- As its name suggests, HTML is a Markup Language which means you use HTML to simply "mark up" a text document with tags that tell a Web browser how to structure it to display.

In HTML, images are defined with the **<img>** tag. The <img> tag is empty; it contains attributes only, and does not have a closing tag. The src attribute specifies the URL (web address) of the image.

Images are inserted into an HTML page and then the images are linked to HTML pages. To link an image to another document, simply nest the <img> tag inside <a> (anchor) tags. The

The <img> tag has two required attributes:

- src
- alt.

Attribute for changing the background color -The bgcolor attribute is used which specifies the background color of a document.

CSS can also be used to specify the background colours and other formatting parameters.

Tags Used :

TAG Name	Type	Description
<HTML>	Container	The <html> tag tells the browser that this is an HTML document.
<HEAD>	Container	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<TITLE>	Container	The <title> tag is used inside the <head> tag to mention the document title.
<BODY>	Container	This tag represents the document's body which keeps other HTML tags like <h1>, , <p> etc.
<P>	Container	This tag represents a paragraph.
<H1> to <H6>	Container	These tags represent the heading.
 	Empty	Inserts a single line break.
<IMG>	Empty	The <img> tag defines an image in an HTML page. The <img> tag has two required attributes: src and alt
<STYLE>	Container	The <style> tag is used to define style information for an HTML document. Inside the <style> element you specify how HTML elements should render in a browser.
<A>	Container	The <a> tag defines a hyperlink, which is used to link from one page to another. The most important attribute of the <a> element is the href attribute, which indicates the link's destination.

Code:

main.html

```
<HTML>
<HEAD>
<A NAME="top"></A>
</HEAD>
```

```
<BODY BGCOLOR=#F0FFFF>
<CENTER>
<IMG SRC=2.jpg WIDTH=500 HEIGHT=200>
</CENTER>
<BR><BR><BR>
<CENTER>
<A HREF="lotus.htm">
<IMG SRC=Untitled.png WIDTH=1100 HEIGHT=400 HSPACE=5 VSPACE=5
ALT="Its Delhi">
</CENTER>
</A>
<H3 STYLE=BACKGROUND-COLOR: RED; COLOR: WHITE; TEXT-ALIGN:
LEFT>About Us</H3>
<P>
Delhi Tourism, a government undertaking facilitating tourism since 1975 will take you to a
guided tour of the Delhi through this website which explores the wonders of this city be it
its heritage, the art  and crafts, the diverse cuisine and culture.
A symbol of the country's rich past and thriving present, Delhi is a city where ancient and
modern blend seamlessly together. It is a place that not only touches your pulse but even
fastens it to a frenetic speed.
Home to millions of dreams, the city takes on unprecedented responsibilities of realizing
dreams bringing people closer and inspiring their thoughts.
Just a century ago, the British moved the seat of their empire from Kolkata to Delhi. And it
has been the Capital of India ever since. Now a thriving, cosmopolitan metro, the city has
much to celebrate as it has already reached the milestone of completing 100 years as a
Capital. With a history that goes back many centuries, Delhi showcases an ancient culture
and a rapidly modernizing country. Dotted with monuments there is much to discover here.
The seat of many powerful empires in the past, its long history can be traced in its many
carefully-preserved monuments, ancient forts and tombs.
All this is combined with the best features of a modern city such as a metro system,
bustling markets and fabulous eating places. The past and the present meld seamlessly
together, making centuries-old monuments a part of the city's daily life. Delhi is very much
a history's child. The story of the city is as old as the epic Mahabharata, when the town
was known as Indraprastha, where Pandavas used to live. Over the centuries, eight more
cities came alive adjacent to Indraprastha: Lal Kot, Siri, Dinpanah, Quila Rai Pithora,
Ferozabad, Jahanpanah, Tughlakabad and Shahjahanabad. Many empires rose to the
heights of their power and were destroyed here. Among the prominent dynasties which
made Delhi their capital were the Tughlaqs, the Khiljis and the Mughals.
</P><BR>
<P ALIGN=CENTER>
<A HREF="#top">Back To Top</A></P>
</BODY>
</HTML>
```

lotus.htm

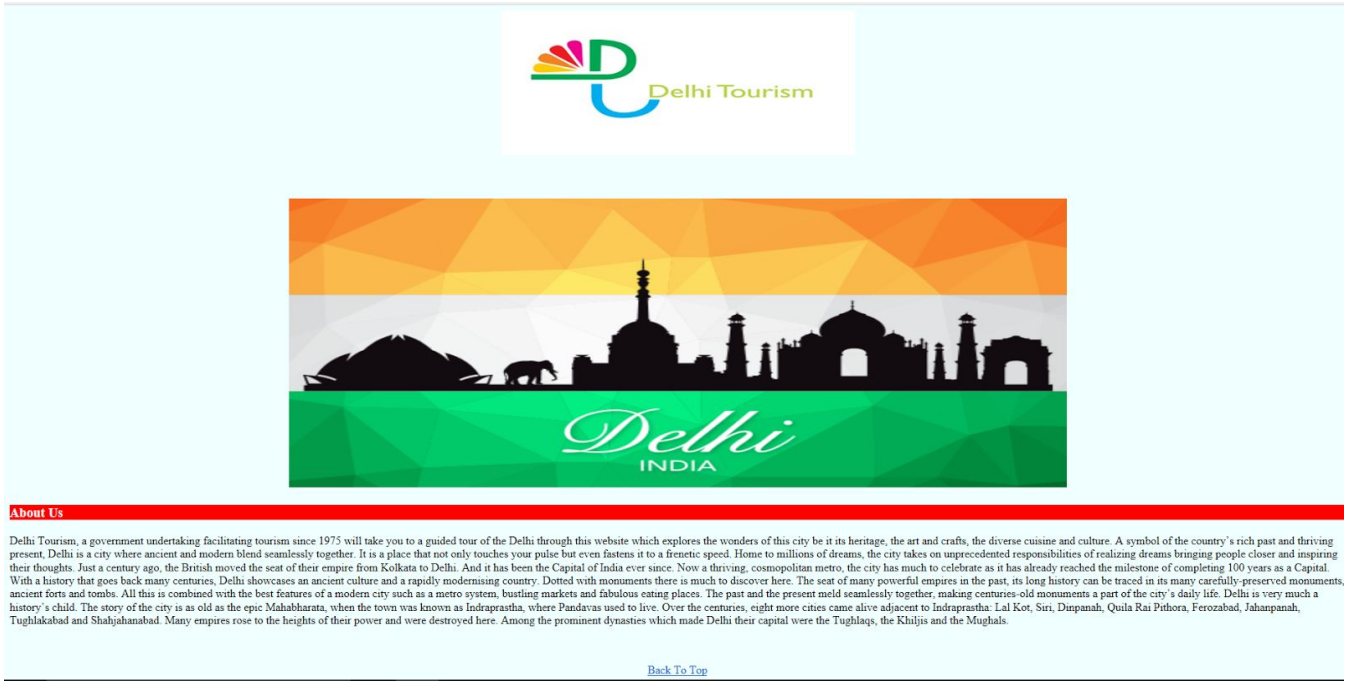
```
<HTML>
<HEAD>
</HEAD>
<BODY BGCOLOR=#F0FFFF>
```

```
<CENTER>
<IMG SRC=2.jpg WIDTH=500 HEIGHT=200>
</CENTER>
<BR><BR><BR>
<CENTER>
<IMG SRC=ras.jpg WIDTH=1100 HEIGHT=400 HSPACE=5 VSPACE=5>
</CENTER><H3
STYLE=BACKGROUND-COLOR:RED;COLOR:WHITE;TEXT-ALIGN:CENTER>Ras
htrapati Bhavan</H3><P>
Rashtrapati Bhavan, home to the President of the world's largest democracy, is emblematic
of Indian democracy and its secular, plural and inclusive traditions. It was designed by Sir
Edwin Lutyens and Herbert Baker and stands on a 330 acre estate. It took seventeen years
to build this presidential palace which was completed in the year 1929. Almost seven
hundred million bricks and three million cubic feet of stone were used in building this
architectural marvel that has 2.5 kilometers of corridors and 190 acres of garden area. The
main building covers an area of 5 acres and has 340 rooms spread over four floors. The
famous Mughal Gardens of the Rashtrapati Bhavan cover an area of 15 acres and have 159
celebrated varieties of roses, 60 varieties of bougainvillea and many other varieties of
flowers. The Estate also has a state-of-the-art Rashtrapati Bhavan Museum Complex
(RBMC) comprising the Clock Tower, the Stables and the Garages showcasing past as well
as current presidencies, the regal ceremonies, and the rich flora and fauna of Rashtrapati
Bhavan, amongst other things. The RBMC was inaugurated by President Pranab
Mukherjee on 25th July, 2016.</P>
<BR>
</P><P ALIGN=CENTER>
<A HREF=dept.htm>Home</A></P>
</BODY>
</HTML>
```

Procedure:

1. Type the HTML code in notepad or any other editor as Dreamweaver and visual studio using proper syntax and values of each tag.
2. Save the HTML document using .html or .htm as extension. The file will be saved at the specified locations as a web page of default web browser.
3. Go to the location of the web page and open it. The formatted web page will have the effects of tags but will not show the tags names.

Output:



Discussion/Learning:

Create a web page which has an image and image has a link such that clicking on image takes user to another page.And at the bottom the page has a link to take user to the top of the page.

EXPERIMENT 4

AIM : Design a single page web site 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 coloured and each section should have different colour.

Theory: Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. HTML is not a programming language but a markup language. With Cascading Style Sheets (CSS) and JavaScript it forms a triad of cornerstone technologies for the World Wide Web. HTML lets you format text, add graphics, create links, input forms, frames and tables.

- Hypertext refers to the way in which Web pages (HTML documents) are linked together. Thus the link available on a webpage is called Hypertext.
- As its name suggests, HTML is a Markup Language which means you use HTML to simply "mark up" a text document with tags that tell a Web browser how to structure it to display.

Designing of a single page web site for our university, various set of tags are used. A large collection of HTML tags are used to create the webpage designing the various courses offered by the Delhi Technological University.

The courses being offered are:

1. Electronics & Communication Engineering (ECE),
2. Computer Engineering (COE),
3. Mechanical Engineering (ME),
4. Electrical Engineering (EE),
5. Production & Industrial Engineering (PIE),
6. Civil Engineering (CE),
7. Environmental Engineering(ENE),
8. Polymer Science & Chemical Technology (PCT),
9. Information Technology (IT),
10. Bio-Technology (BT),
11. Software Engineering (SE),
12. Electrical and Electronics Engineering (EEE) ,

Tags Used:

TAG Name	Type	Description
<HTML>	Container	The <html> tag tells the browser that this is an HTML document.
<HEAD>	Container	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<TITLE>	Container	The <title> tag is used inside the <head> tag to mention the document title.
<BODY>	Container	This tag represents the document's body which keeps other HTML tags like <h1>, , <p> etc.
<P>	Container	This tag represents a paragraph.
<H1> to <H6>	Container	These tags represent the heading.
 	Empty	Inserts a single line break.
<IMG>	Empty	The <img> tag defines an image in an HTML page. The <img> tag has two required attributes: src and alt
<STYLE>	Container	The <style> tag is used to define style information for an HTML document. Inside the <style> element you specify how HTML elements should render in a browser.
<UL>	Container	The tag defines an unordered (bulleted) list.
<LI>	Container	The tag defines a list item.

Code:

```
<HTML>
<HEAD>
<H1
STYLE=BACKGROUND-COLOR:#DC7633;COLOR:WHITE;TEXT-ALIGN:CENTER>
DELHI TECHNOLOGICAL UNIVERSITY </H1></HEAD>
<BODY BGCOLOR="#EBF5FB"><CENTER>
<IMG SRC=1.png WIDTH=500 HEIGHT=100></CENTER><CENTER>
<IMG SRC=22.jpg WIDTH=1100 HEIGHT=300 HSPACE=5 VSPACE=5
BORDER="1"></CENTER><BR><H2
STYLE=BACKGROUND-COLOR:#5499C7;COLOR:WHITE;TEXT-ALIGN:CENTER>
About Us</H2>
<P STYLE=BACKGROUND-COLOR:#B0D8E0;COLOR:A02820>
```

Delhi Technological University (DTU), formerly known as Delhi College of Engineering (DCE), is a premier government university located in New Delhi, India. It is one of the oldest engineering colleges in India and Delhi's first engineering college. It was established in 1941 as Delhi Polytechnic and was under the control of the Government of India. The college has been under the government of the National Capital Territory of Delhi since 1963 and was affiliated with the University of Delhi from 1952 to 2009. In 2009, the college was given state university status, thus changing its name to Delhi Technological University.
</P>
<H2
STYLE=BACKGROUND-COLOR:#FF6347;COLOR:WHITE;TEXT-ALIGN:CENTER>
Campus</H2><P STYLE=BACKGROUND-COLOR:#FFFFE0;COLOR:#006000>
Delhi Technological University (Delhi College of Engineering) operated from the Kashmiri Gate campus in the heart of Old Delhi until 1989, when construction began at the New Campus at Bawana Road in May. Moving of operations from Kashmiri Gate to the new 164 acres campus at Bawana Road began in 1995, and the new campus formally started classes for all four years of study starting 1999.
The new campus is a lush green campus well connected by road.Facilities includes a library, a computer center, a sports complex, eight boys' hostels, six girls' hostels, and a married couples' hostel. The campus has residential facilities for faculty and staff. The campus has an auditorium and an open-air theater.</P>
<H2
STYLE=BACKGROUND-COLOR:#196F3D;COLOR:WHITE;TEXT-ALIGN:CENTER>
Courses</H2>
<UL STYLE=BACKGROUND-COLOR:#82E0AA;COLOR:#008080>
<LI>B.Tech</LI><LI>B.Tech(Evening)</LI>
<LI>M.Tech</LI><LI>MBA</LI>
<LI>PHD</LI></UL>
</BODY>
</HTML>

Procedure:

1. Type the HTML code in notepad or any other editor as Dreamweaver and visual studio using proper syntax and values of each tag.
2. Save the HTML document using .html or .htm as extension. The file will be saved at the specified locations as a web page of default web browser.
3. Go to the location of the web page and open it. The formatted web page will have the effects of tags but will not show the tags names.

Output:

Discussion/Learning:

Create a single page web site for a university containing a description of the courses offered. The web page also contain some general information about the university such as its history, the campus and its unique features the page should be coloured and each section should have different colour.

EXPERIMENT 5

AIM: Design page that has 5 equal columns the table should look the same in all screen resolution.

Theory:
Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. HTML is not a programming language but a markup language. With Cascading Style Sheets (CSS) and JavaScript it forms a triad of cornerstone technologies for the World Wide Web. HTML lets you format text, add graphics, create links, input forms, frames and tables.

- Hypertext refers to the way in which Web pages (HTML documents) are linked together. Thus the link available on a webpage is called Hypertext.
- As its name suggests, HTML is a Markup Language which means you use HTML to simply "mark up" a text document with tags that tell a Web browser how to structure it to display.

Here we design a table of five columns that look the same in all screen resolutions. When the size of table is reduced less than the minimum then a scrollable text appears.A web page is created having only five columns of equal width by giving each column the 20% of the total table width or we can say the 20% of window size, so that in each resolution the columns of the table appear of same size.

Tags Used:

TAG Name	Type	Description
<HTML>	Container	The <html> tag tells the browser that this is an HTML document.
<HEAD>	Container	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<TITLE>	Container	The <title> tag is used inside the <head> tag to mention the document title.
<BODY>	Container	This tag represents the document's body which keeps other HTML tags like <h1>, , <p> etc.
<H1> to <H6>	Container	These tags represent the heading.

 	Empty	Inserts a single line break.
<DIV>	Container	The tag defines a division or a section in an HTML document. The tag is used to group block-elements to format them with CSS.
<TABLE>	Container	The <table> tag defines an HTML table.
<TR>	Container	The <tr> tag defines a row in an HTML table.
<TD>	Container	The <td> tag defines a standard cell in an HTML table. The text in <td> elements is regular and left-aligned by default.
<TH>	Container	The <th> tag defines a header cell in an HTML table. The text in <th> elements is bold and centered by default.

Code:

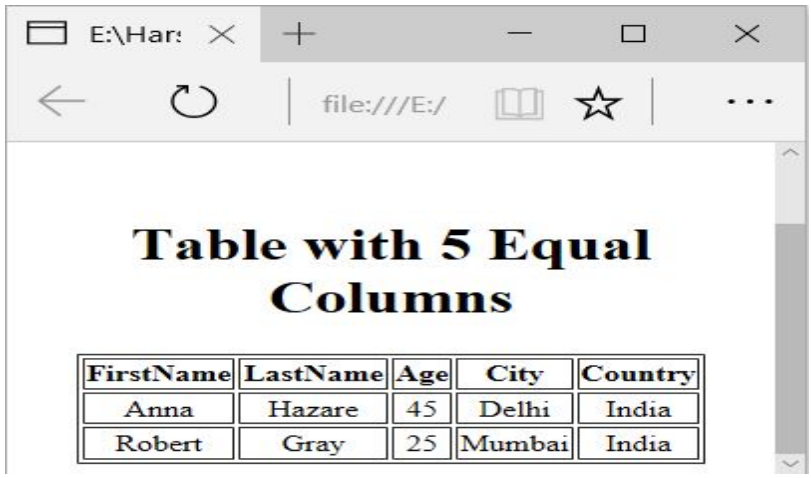
```
<HTML>
<BODY>
<BR>
<BR>
<BR>
<BR>
<H1><P ALIGN="CENTER">Table with 5 Equal Columns </P></H1>
<div class="container">
<div class="table-responsive">
<table class="table" border="1px" width=45% align="center">
<TR>
<TH>FirstName</TH>
<TH>LastName</TH>
<TH>Age</TH>
<TH>City</TH>
<TH>Country</TH>
</TR>
<TR align="center">
<TD>Anna</TD>
<TD>Hazare</TD>
<TD>45</TD>
<TD>Delhi</TD>
<TD>India</TD>
</TR>
```

```
<TR align="center">
<TD>Robert</TD>
<TD>Gray</TD>
<TD>25</TD>
<TD>Mumbai</TD>
<TD>India</TD>
</TR>
</TABLE>
</div>
</div>
</BODY>
</HTML>
```

Procedure:

1. Type the HTML code in notepad or any other editor as Dreamweaver and visual studio using proper syntax and values of each tag.
2. Save the HTML document using .html or .htm as extension. The file will be saved at the specified locations as a web page of default web browser.
3. Go to the location of the web page and open it. The formatted web page will have the effects of tags but will not show the tags names.

Output:



Discussion/Learning:

Create a web page that has 5 equal columns in a table and the table looks same in all screen resolution.<Table> tag is used for the web page creation. The <table> tag defines an HTML table.
An HTML table consists of the <table> element and one or more <tr>, <th>, and <td> elements..

EXPERIMENT 6

AIM: Write a HTML code for making table to containing different option for different questions:

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

Theory: Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. HTML is not a programming language but a markup language. With Cascading Style Sheets (CSS) and JavaScript it forms a triad of cornerstone technologies for the World Wide Web. HTML lets you format text, add graphics, create links, input forms, frames and tables.

- Hypertext refers to the way in which Web pages (HTML documents) are linked together. Thus the link available on a webpage is called Hypertext.
- As its name suggests, HTML is a Markup Language which means you use HTML to simply "mark up" a text document with tags that tell a Web browser how to structure it to display.

Here we create a table having three columns, in which the heading of each column specifies a question and the four consecutive rows contains the four different options for the question. It is more like a multiple choice question, contained in a table.

Here we can also make use of radio or check box buttons to help the user select an answer from the following options. A header using <TH>tag should be used to differentiate the size of question and options. A different set of attributes could be used to make it look more user friendly.

Tags Used:

TAG Name	Type	Description
<HTML>	Container	The <html> tag tells the browser that this is an HTML document.
<HEAD>	Container	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<TITLE>	Container	The <title> tag is used inside the <head> tag to mention the document title.
<BODY>	Container	This tag represents the document's body which keeps other HTML tags like <h1>, , <p> etc.
<H1> to <H6>	Container	These tags represent the heading.
 	Empty	Inserts a single line break.
<DIV>	Container	The tag defines a division or a section in an HTML document. The tag is used to group block-elements to format them with CSS.
<TABLE>	Container	The <table> tag defines an HTML table.
<TR>	Container	The <tr> tag defines a row in an HTML table.
<TD>	Container	The <td> tag defines a standard cell in an HTML table. The text in <td> elements is regular and left-aligned by default.
<TH>	Container	The <th> tag defines a header cell in an HTML table. The text in <th> elements is bold and centered by default.

Code:

```
<HTML><HEAD>
<STYLE>
TD,TH{
BORDER:1px solid black;
TEXT-ALIGN:CENTER;
PADDING:8px;}
</STYLE></HEAD>
<BODY><BR><BR><BR><CENTER>
<TABLE WIDTH:100%; ALIGN:CENTER><TR>
<TH>Which is your favourite colour?</TH>
<TH>Who is your national leader?</TH>
<TH>Who is the highest test centuries person in India?</TH>
</TR><TR>
<TD>Red</TD>
<TD>Sardar Patel</TD>
<TD>Kapil Dev</TD></TR><TR>
<TD>Green</TD>
<TD>Gandhiji</TD>
<TD>Sachin Tendulkar</TD></TR><TR>
<TD>Yellow</TD>
<TD>Indiraji</TD>
<TD>Sunil Gavaskar</TD>
</TR><TR>
<TD>Blue</TD>
<TD>Nehruji</TD>
<TD>Ajay Jadeja</TD>
</TR>
</TABLE></CENTER>
</BODY>
</HTML>
```

Procedure:

1. Type the HTML code in notepad or any other editor as Dreamweaver and visual studio using proper syntax and values of each tag.
2. Save the HTML document using .html or .htm as extension. The file will be saved at the specified locations as a web page of default web browser.
3. Go to the location of the web page and open it. The formatted web page will have the effects of tags but will not show the tags names.

Output:

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 Gavaskar
Blue	Nehruji	Ajay Jadeja

Discussion/Learning:

Create a HTML code for making table to containing different option for different questions .The table has different choices for favourite color, national leader,and who is the highest test centuries person in India.Table tag and buttons are used for the creation of web page. The <table> tag defines an HTML table.
An HTML table consists of the <table> element and one or more <tr>, <th>, and <td> elements.

EXPERIMENT 7

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.

Theory:

Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. HTML is not a programming language but a markup language. With Cascading Style Sheets (CSS) and JavaScript it forms a triad of cornerstone technologies for the World Wide Web. HTML lets you format text, add graphics, create links, input forms, frames and tables.

- Hypertext refers to the way in which Web pages (HTML documents) are linked together. Thus the link available on a webpage is called Hypertext.
- As its name suggests, HTML is a Markup Language which means you use HTML to simply "mark up" a text document with tags that tell a Web browser how to structure it to display.

Collect the logo and the department picture and information from the university website. These things will aid you in creating the webpage of the university. Divisions (tag) are used properly to distribute the content of the department over the webpage, although developer could also use the frames for the same.

Divide the webpage into multiple divisions and use different background colour in each of the division to distinguish it from rest of the page. Image tag to be used for having logo at top and department image at bottom of the page, and use different headers to vary the size of the content. Have a division of smaller size having a large amount of content regarding description of the department, so that text could be scrolling.

Tags Used:

TAG Name	Type	Description
<HTML>	Container	The <html> tag tells the browser that this is an HTML document.
<HEAD>	Container	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<TITLE>	Container	The <title> tag is used inside the <head> tag to mention the document title.
<BODY>	Container	This tag represents the document's body which keeps other HTML tags like <h1>, , <p> etc.
<H1> to <H6>	Container	These tags represent the heading.
 	Empty	Inserts a single line break.
<DIV>	Container	The tag defines a division or a section in an HTML document.The tag is used to group block-elements to format them with CSS.
<TABLE>	Container	The <table> tag defines an HTML table.
<TR>	Container	The <tr> tag defines a row in an HTML table.
<TD>	Container	The <td> tag defines a standard cell in an HTML table. The text in <td> elements is regular and left-aligned by default.
<TH>	Container	The <th> tag defines a header cell in an HTML table. The text in <th> elements is bold and centered by default.
<LI>	Container	The tag defines a list item.

Code:

```
<HTML>
<HEAD>
<H1
STYLE=BACKGROUND-COLOR:PURPLE;COLOR:#ccff99;TEXT-ALIGN:CENTER;
```

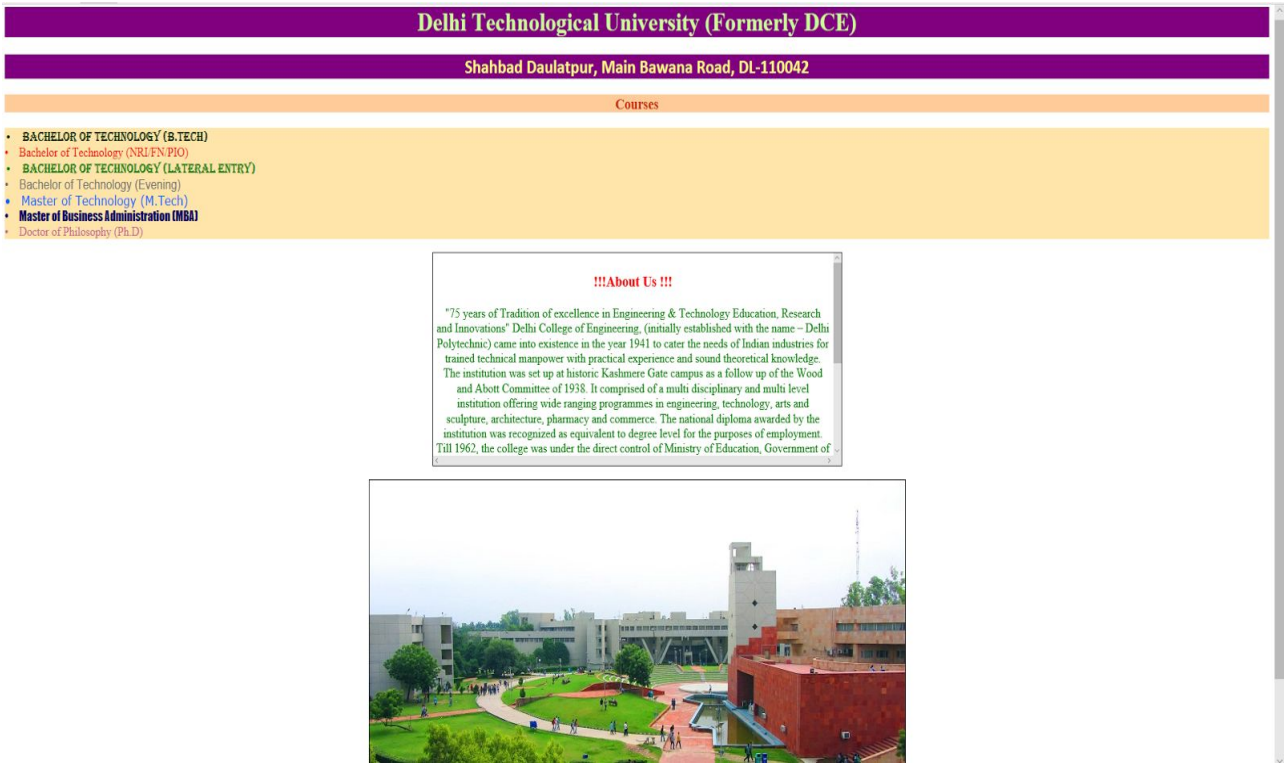
```
FONT-FAMILY:Times New Roman>Delhi Technological University (Formerly
DCE)</H1>
<H2
STYLE=BACKGROUND-COLOR:PURPLE;COLOR:#ffff80;TEXT-ALIGN:CENTER;F
ONT-FAMILY:Calibri>Shahbad Daulatpur, Main Bawana Road, DL-110042</H2>
</HEAD>
<STYLE>
.scroll{
display:block;
border:1px solid black;
padding:5px;
margin-top:5px;
width:600px;
height:250px;
color:green;
overflow:scroll;
}
</STYLE>
<BODY><H3
STYLE=BACKGROUND-COLOR:#ffcc99;COLOR:#cc2900;TEXT-ALIGN:CENTER;F
ONT-SIZE=40px>
Courses</H3>
<LI
STYLE=BACKGROUND-COLOR:#ffe5a9;COLOR:#003300;TEXT-ALIGN:LEFT;FON
T-SIZE=30px;FONT-FAMILY:Algerian>Bachelor of Technology          (B.Tech)</LI>
<LI
STYLE=BACKGROUND-COLOR:#ffe5a9;COLOR:RED;TEXT-ALIGN:LEFT;FONT-S
IZE=30px;FONT-FAMILY:Times New Roman>Bachelor of Technology
(NRI/FN/PIO)</LI>
<LI
STYLE=BACKGROUND-COLOR:#ffe5a9;COLOR:GREEN;TEXT-ALIGN:LEFT;FON
T-SIZE=30px;FONT-FAMILY:Algerian>Bachelor of Technology          (Lateral
Entry)</LI>
<LI
STYLE=BACKGROUND-COLOR:#ffe5a9;COLOR:#737373;TEXT-ALIGN:LEFT;FON
T-SIZE=30px;FONT-FAMILY:Arial Black>Bachelor of Technology
(Evening)</LI>
<LI
STYLE=BACKGROUND-COLOR:#ffe5a9;COLOR:#0066ff;TEXT-ALIGN:LEFT;FON
T-SIZE=30px;FONT-FAMILY:Verdana Italic>Master of Technology
(M.Tech)</LI>
<LI
STYLE=BACKGROUND-COLOR:#ffe5a9;COLOR:#000066;TEXT-ALIGN:LEFT;FON
T-SIZE=30px;FONT-FAMILY:Impact>Master of Business Administration (MBA)</LI>
<LI
STYLE=BACKGROUND-COLOR:#ffe5a9;COLOR:#cc6699;TEXT-ALIGN:LEFT;FON
T-SIZE=30px;FONT-FAMILY:Trebuchet MS Italic>Doctor of Philosophy
(Ph.D)</LI>
```

```
<P><CENTER><div class="scroll">
<H3 STYLE=COLOR:RED;TEXT-ALIGN:CENTER>!!!About Us !!!</H3>
"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 Abott 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.
                    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 1952. From July 2009, the DCE has become Delhi Technological University vide Delhi act 6 of 2009.
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.
</div></P>
<IMAGE SRC="22.jpg" BORDER=1px>
</BODY>
</HTML>
```

Procedure:

1. Type the HTML code in notepad or any other editor as Dreamweaver and visual studio using proper syntax and values of each tag.
2. Save the HTML document using .html or .htm as extension. The file will be saved at the specified locations as a web page of default web browser.
3. Go to the location of the web page and open it. The formatted web page will have the effects of tags but will not show the tags names.

Output:



Discussion/Learning:

Create a web page of DTU with specifications : College name at the top of the page in large text followed by address in smaller size.Names of courses offered each in a different colour, style and typeface. Web page has scrolling text with a message of some choice And the bottom has DTU image.<img>,<marquee> tags are used in the creation of web page.

EXPERIMENT 8

AIM: Write html code to generate following output:

<table>
<tr><td colspan="3">First Frame: Name and address</td></tr>
<tr><td colspan="2">Second frame

Bulleted list of qualifications</td><td>Third frame

Links to favourite sites</td></tr>
<tr><td>Fourth frame

Scrolling message</td><td>Fifth frame

Blinking reminders</td><td>Sixth frame

Image</td></tr>
</table>

Theory: Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. HTML is not a programming language but a markup language. With Cascading Style Sheets (CSS) and JavaScript it forms a triad of cornerstone technologies for the World Wide Web. HTML lets you format text, add graphics, create links, input forms, frames and tables.

Frames are important component of a HTML document. Frames are used to divide your browser window into multiple sections where each section can load a separate HTML document.

A frameset is referred to as the collection of frames in the browser window.
The window is organized in a similar function as tables into rows and columns.

Disadvantages of Frames

There are few drawbacks with using frames, so it is not used:

- Some smaller devices cannot cope with frames often because their screen is not big enough to be divided up.
- Sometimes your page will be displayed differently on different computers due to different screen resolution.
- The browser's back button might not work as the user hopes.

There are still few browsers that do not support frame technology.

Tags Used:

TAG Name	Type	Description
<HTML>	Container	The <html> tag tells the browser that this is an HTML document.
<HEAD>	Container	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<TITLE>	Container	The <title> tag is used inside the <head> tag to mention the document title.
<BODY>	Container	This tag represents the document's body which keeps other HTML tags like <h1>, , <p> etc.
<H1> to <H6>	Container	These tags represent the heading.
 	Empty	Inserts a single line break.
<DIV>	Container	The tag defines a division or a section in an HTML document. The tag is used to group block-elements to format them with CSS.
<TABLE>	Container	The <table> tag defines an HTML table.
<TR>	Container	The <tr> tag defines a row in an HTML table.
<FRAME>	Container	The <frame> tag defines one particular window (frame) within a <frameset>.Each <frame> in a <frameset> can have different attributes, such as border, scrolling, the ability to resize, etc.
<FRAMESET>	Container	The <frameset> tag defines a frameset. The <frameset> element holds one or more <frame> elements. Each <frame> element can hold a separate document.

Code:

```
<HTML>
<FRAMESET ROWS="30%,35%,35%">
<FRAME SRC="first.html">
<FRAMESET COLS="50%,*">
<FRAME SRC="second.html">
<FRAME SRC="third.html">
</FRAMESET>
<FRAMESET COLS="33%,33%,*">
<FRAME SRC="fourth.html" SCROLLING="yes">
<FRAME SRC="fifth.html">
<FRAME SRC="sixth.html">
</FRAMESET>
</FRAMESET>
</HTML>
```

first.html

```
<HTML>
<HEAD>
<BODY BGCOLOR="#ffa31a" TEXT="RED">
<BR>
<BR>
<CENTER>
<H1>Name:Vikas Kumar</H1>
<H1>Address:Galaxy Apartments,Delhi</H1>
</CENTER>
</BODY>
</HTML>
```

second.html

```
<HTML>
<BODY BGCOLOR="#ffd699" TEXT="green">
<BR>
<BR>
<CENTER><H1>Qualifications</H1></CENTER>
<BR>
<OL>
<LI> Master of Technology      (MTECH)</LI>
<LI> Master of Business Studies    (MBA)</LI>
<LI> Bachelor of Technology    (BTECH)</LI>
</OL>
</BODY>
</HTML>
```

third.html

```
<HTML>
```

```
<HEAD>
<BODY BGCOLOR="#ffd699" TEXT="green">
<BR>
<CENTER><H1>Favourite Sites</H1></CENTER>
<BR>
<OL>
<LI><A HREF="www.dtu.ac.in">DTU Website</A></LI>
<LI><A HREF="www.facebook.com">Facebook</A></LI>
<LI><A HREF="www.twitter.com">Twitter</A></LI>
<OL>
</BODY>
</HTML>
```

fourth.html

```
<HTML>
<HEAD>
</HEAD>
<BODY BGCOLOR="#fff5e6" TEXT="red">
<BR>
<BR>
<H1><CENTER>Message</CENTER></H1>
<BR>
<B>Technical Proficiencies<B>
<BR>
<BR>
<B>Platforms:</B>     Windows Vista/7/10; Mac OS X; Oracle; SAP
<BR>
<BR>
<B>Software : </B>     Word, Excel, Outlook, PowerPoint.
<BR>
<BR>
<B>Languages: </B>     Java, HTML, C++, PHP, Python, Ruby
</BODY>
</HTML>
```

fifth.html

```
<HTML>
<HEAD>
</HEAD>
<BODY BGCOLOR="#fff5e6" TEXT="RED">
<BR>
<BR>
<BR>
<BR>
<BR>
<MARQUEE><B><CENTER>Job Interview on 10th of April</CENTER></B></MARQUEE>
</BODY>
</HTML>
```

sixth.html

```
<HTML>
<HEAD>
<BODY BGCOLOR="#fff5e6" TEXT="black">
<BR>
<BR>
<BR>
<CENTER><IMAGE SRC="a.jpg" WIDTH="200" HEIGHT="200" BORDER="2">
</CENTER>
</BODY>
</HTML>
```

Procedure:

1. Type the HTML code in notepad or any other editor as Dreamweaver and visual studio using proper syntax and values of each tag.
2. Save the HTML document using .html or .htm as extension. The file will be saved at the specified locations as a web page of default web browser.
3. Go to the location of the web page and open it. The formatted web page will have the effects of tags but will not show the tags names.

Output:

Discussion/Learning:

Create a web page with frame tag which has information about person,his qualification and list of favourite websites.Frame tag with list tag is used in the creation of web page. The <frame> tag defines one particular window (frame) within a <frameset>.
Each <frame> in a <frameset> can have different attributes, such as border, scrolling, the ability to resize, etc

EXPERIMENT 9

AIM: 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 is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities. It is open and cross-platform.

External JavaScript

If you are going to define a functionality which will be used in various HTML documents then it's better to keep that functionality in a separate JavaScript file and then include that file in your HTML documents. A JavaScript file will have extension as .js and it will be included in HTML files using <script> tag.

Internal Script

You can write your script code directly into your HTML document. Usually we keep script code in header of the document using <script> tag, otherwise there is no restriction and you can put your source code anywhere in the document but inside <script> tag.

Advantages of JavaScript

The merits of using JavaScript are −

- Less server interaction − you can validate user input before sending the page off to the server. This saves server traffic, which means fewer loads on your server.
- Immediate feedback to the visitors − they don't have to wait for a page reload to see if they have forgotten to enter something.
- Increased interactivity − you can create interfaces that react when the user hovers over them with a mouse or activates them via the keyboard.
- Richer interfaces − you can use JavaScript to include such items as drag-and-drop components and sliders to give a Rich Interface to your site visitors.

Limitations of JavaScript

We cannot treat JavaScript as a full-fledged programming language. It lacks the following important features −

- Client-side JavaScript does not allow the reading or writing of files. This has been kept for security reason.
- JavaScript cannot be used for networking applications because there is no such support available.
- JavaScript doesn't have any multithreading or multiprocessor capabilities.

JavaScript program structure:

```
<HTML>
<BODY>

<SCRIPT language=”javascript” type=”text/javascript”>
     <! –
       Document.write(“Hello World”)
      //-->
</SCRIPT>
</BODY>
</HTML>
```

Tags Used:

TAG Name	Type	Description
<HTML>	Container	The <html> tag tells the browser that this is an HTML document.
<HEAD>	Container	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<TITLE>	Container	The <title> tag is used inside the <head> tag to mention the document title.
<BODY>	Container	This tag represents the document's body which keeps other HTML tags like <h1>, , <p> etc.
<SCRIPT>	Container	Defines a client-side script
<NOSCRIPT>	Container	Defines an alternate content for users that do not support client-side scripts

Code:

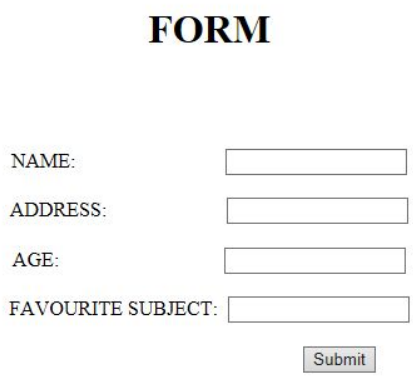
```
<HTML>
<BODY>
<SCRIPT>
function validate(){
if(document.myform.name.value==""){
alert("Please provide your Name !");
return false;}
if(document.myform.address.value==""){
alert("Please provide your Address !");
return false;}
if(document.myform.age.value==""){
alert("Please provide your Age !");
return false;}
if(document.myform.name.subj==""){
alert("Please provide your Name !");
return false;}}
function agecheck(){
if(document.myform.age.value<1 || document.myform.age.value>125){
alert("Reenter Age!"); }}
</SCRIPT>
<BR>
<BR>
<CENTER><H1>FORM</H1>
<BR>
<BR>
<BR>
<FORM NAME="myform" method="post" onsubmit="return validate()">
NAME:                      
       <INPUT TYPE="text" NAME="name">
<BR>
<BR>
ADDRESS:                    
   <INPUT TYPE="text" NAME="address">
<BR>
<BR>
AGE:                         
          <INPUT TYPE="text" Name="age">
<BR><BR>
FAVOURITE SUBJECT:  <INPUT TYPE="text" NAME="subj">
<BR><BR>
                         
       
                     
```

```
<INPUT TYPE="Submit" value="Submit" onclick=agecheck()>
</FORM>
</BODY>
</HTML>
```

Procedure:

1. Type the HTML code in notepad or any other editor as Dreamweaver and visual studio using proper syntax and values of each tag.
2. Save the HTML document using .html or .htm as extension. The file will be saved at the specified locations as a web page of default web browser.
3. Go to the location of the web page and open it. The formatted web page will have the effects of tags but will not show the tags names.

Output:



Discussion/Learning:

Create a simple form to submit user input like his name, age, address and favourite subject. And a validation is put to check on values of age entered by the user (such as age should be a value between 1 and 150). The <script> tag is used to define a client-side script (JavaScript). The <script> element either contains scripting statements, or it points to an external script file through the src attribute.
Common uses for JavaScript are image manipulation, form validation, and dynamic changes of contents.

EXPERIMENT 10

AIM : Write a JavaScript program to display information box as soon as page loads.

Theory:
JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities. It is open and cross-platform.

JavaScript supports three kinds of popup boxes: Alert box, Confirm box, and Prompt box.

Alert Box

An alert box is often used if you want to make sure information comes through to the user. When an alert box pops up, the user will have to click "OK" to proceed.

Confirm Box

A confirm box is often used if you want the user to verify or accept something. When a confirm box pops up, the user will have to click either "OK" or "Cancel" to proceed.

Prompt Box

A prompt box is often used if you want the user to input a value before entering a page. When a prompt box pops up, the user will have to click either "OK" or "Cancel" to proceed after entering an input value.

Tags Used:

TAG Name	Type	Description
<HTML>	Container	The <html> tag tells the browser that this is an HTML document.
<HEAD>	Container	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<TITLE>	Container	The <title> tag is used inside the <head> tag to mention the document title.
<BODY>	Container	This tag represents the document's body which keeps other HTML tags like <h1>, , <p> etc.
<SCRIPT>	Container	Defines a client-side script
Alert()	-	The alert () method displays an alert box with a specified message and an OK button. An alert box is often used if you want to make sure information comes through to the user.

Code:

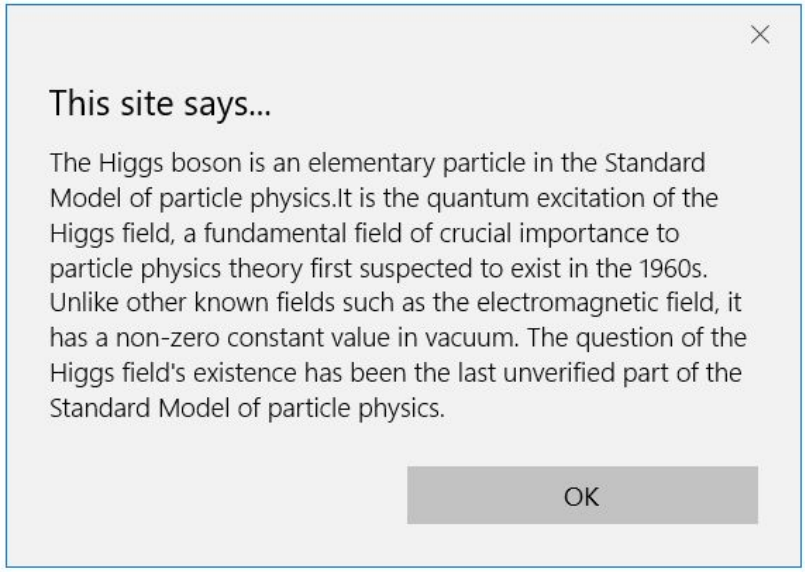
```
<HTML>
<BODY onload="fun()">
<CENTER><H1>Higgs Boson</H1></CENTER>
<script>
function fun(){

alert("The Higgs boson is an elementary particle in the Standard Model of particle physics.It is the quantum excitation of the Higgs field, a fundamental field of crucial importance to particle physics theory first suspected to exist in the 1960s. Unlike other known fields such as the electromagnetic field, it has a non-zero constant value in vacuum. The question of the Higgs field's existence has been the last unverified part of the Standard Model of particle physics."
);
}
</script>
</BODY>
</HTML>
```

Procedure:

1. Type the HTML code in notepad or any other editor as Dreamweaver and visual studio using proper syntax and values of each tag.
2. Save the HTML document using .html or .htm as extension. The file will be saved at the specified locations as a web page of default web browser.
3. Go to the location of the web page and open it. The formatted web page will have the effects of tags but will not show the tags names.

Output:



Discussion/Learning:

Create a JavaScript program to display information box as soon as page loads. The alert() method displays an alert box with a specified message and an OK button.
An alert box is often used if you want to make sure information comes through to the user.

EXPERIMENT 11

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

Theory:
JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities. It is open and cross-platform.

JavaScript program structure:

```
<HTML>
<BODY>

<SCRIPT language=”javascript” type=”text/javascript”>
      <! –
        Document.write(“Hello World”)
       //-->
</SCRIPT>
</BODY>
</HTML>
```

Tags Used:

TAG Name	Type	Description
<HTML>	Container	The <html> tag tells the browser that this is an HTML document.
<HEAD>	Container	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<TITLE>	Container	The <title> tag is used inside the <head> tag to mention the document title.
<BODY>	Container	This tag represents the document's body which keeps other HTML tags like <h1>, , <p> etc.
<SCRIPT>	Container	Defines a client-side script

<BODY BGCOLOR ONLOAD>	Container	Defines the document's body & with bgcolor attribute, it specifies a background color for an HTML document and with onload attritute, it Executes a JavaScript immediately after a page has been loaded.

Code:

```
<HTML>
<SCRIPT>
var x;
function changecolour(){
x=1;
setInterval(change,5000);  //setInterval(function,milliseconds)}
function change(){
if(x==1){
color="red";
x=2;}
else{
color="green";
x=1;}
document.body.style.background=color;}
</SCRIPT>
<BODY ONLOAD="changecolour()">
</BODY>
</HTML>
```

Procedure:

1. Type the HTML code in notepad or any other editor as Dreamweaver and visual studio using proper syntax and values of each tag.
2. Save the HTML document using .html or .htm as extension. The file will be saved at the specified locations as a web page of default web browser.
3. Go to the location of the web page and open it. The formatted web page will have the effects of tags but will not show the tags names.

Discussion/Learning:

Create a JavaScript program to change background colour after 5 seconds. Here we use setInterval function that changes background colour on page load.

EXPERIMENT 12

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

Theory:

JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities. It is open and cross-platform.

JavaScript program structure:

```
<HTML>
<BODY>

<SCRIPT language=”javascript” type=”text/javascript”>
      <! –
        Document.write(“Hello World”)
       //-->
</SCRIPT>
</BODY>
</HTML>
```

Firstly in javascript, 3 functions are defined for bold, italic and underline respectively which will link the text to be designed with these functions using id attribute then clickable buttons are defined which when clicked by user, perform the particular function which is associated with it.

Tags Used:

TAG Name	Type	Description
<HTML>	Container	The <html> tag tells the browser that this is an HTML document.
<HEAD>	Container	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<TITLE>	Container	The <title> tag is used inside the <head> tag to mention the document title.
<BODY>	Container	This tag represents the document's body which keeps other HTML tags like <h1>, , <p> etc.

<SCRIPT>	Container	Defines a client-side script
<BUTTON ONCLICK>	Container	Defines a clickable button & with onclick event attribute it executes a java script when a button is clicked.

Code:

```
<HTML>
<BODY>
<CENTER>
<H1 STYLE=COLOR:RED>
Higgs Boson
</H1><BR><BR><BR><BR>
</CENTER>
<P id="demo" onmouseenter="mouseenter( )" onmouseleave="mouseleave( )">The Higgs boson is an elementary particle in the Standard Model of particle physics. It is the quantum excitation of the Higgs field,a fundamental field of crucial importance to particle physics theory first suspected to exist in the 1960s. Unlike other known fields such as the electromagnetic field, it has a non-zero constant value in vacuum. The question of the Higgs field's existence has been the last unverified part of the Standard Model of particle physics and, according to some, "the central problem in particle physics".
The presence of the field, now confirmed by experimental investigation, explains why some fundamental particles have mass when, based on the symmetries controlling their interactions, they should be massless. The existence of the Higgs field would also resolve several other long-standing puzzles, such as the reason for the weak force's extremely short range.
Although it is hypothesized that the Higgs field permeates the entire Universe, evidence for its existence has been very difficult to obtain. In principle, the Higgs field can be detected through its excitations, manifested as Higgs particles, but these are extremely difficult to produce and detect. The importance of this fundamental question led to a 40 year search, and the construction of one of the world's most expensive and complex experimental facilities to date, CERN's Large Hadron Collider, in an attempt to create Higgs bosons and other particles for observation and study. On 4 July 2012, the discovery of a new particle with a mass between 125 and 127 GeV/c2 was announced; physicists suspected that it was the Higgs boson.
Since then, the particle has been shown to behave, interact, and decay in many of the ways predicted by the Standard Model. It was also tentatively confirmed to have even parity and zero spin, two fundamental attributes of a Higgs boson. This appears to be the first elementary scalar particle discovered in nature. More studies are needed to verify that the discovered particle has properties matching those predicted for the Higgs boson by the Standard Model, or whether, as predicted by some theories, multiple Higgs bosons exist.
```

```
</P>
<BR><CENTER>
<button onclick="clickB()" >Bold</button>
   
<button onclick="clickI()">Italic</button>
   
<button onclick="clickU()">Underline</button>
   
<button onclick="clickN()">Normal</button>
</CENTER>
<script>
function clickN(){
document.getElementById("demo").style.fontWeight='normal';}
function clickB(){
document.getElementById("demo").style.fontWeight='bold';}
function clickI(){
document.getElementById("demo").style.fontStyle='italic';}
function clickU(){
document.getElementById("demo").style.textDecoration='underline';}
function mouseenter(){
document.getElementById("demo").style.color="green";}
function mouseleave(){
document.getElementById("demo").style.color="blue";}
</script>
</BODY>
</HTML>
```

Procedure:

1. Type the HTML code in notepad or any other editor as Dreamweaver and visual studio using proper syntax and values of each tag.
2. Save the HTML document using .html or .htm as extension. The file will be saved at the specified locations as a web page of default web browser.
3. Go to the location of the web page and open it. The formatted web page will have the effects of tags but will not show the tags names.

Output:

Discussion/Learning:

Create a JavaScript program to dynamically bold, italic and underline words and phrases based on user actions. Here we create a button such that clicking on a particular button bolds, italics or underlines the text.

EXPERIMENT 13

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

Theory:
JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities. It is open and cross-platform.

JavaScript program structure:

```
<HTML>
<BODY>

<SCRIPT language=”javascript” type=”text/javascript”>
      <! –
        Document.write(“Hello World”)
       //-->
</SCRIPT>
</BODY>
</HTML>
```

A button named 'click' is defined which on click event refers to showhide() created in the JavaScript. Showhide() will get the particular div using its id attribute.

Tags Used:

TAG Name	Type	Description
<HTML>	Container	The <html> tag tells the browser that this is an HTML document.
<HEAD>	Container	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<TITLE>	Container	The <title> tag is used inside the <head> tag to mention the document title.
<BODY>	Container	This tag represents the document's body which keeps other HTML tags like <h1>, , <p> etc.
<SCRIPT>	Container	Defines a client-side script

<BUTTON ONCLICK>	Container	Defines a clickable button & with onclick event attribute it executes a java script when a button is clicked.

Code:

```
<HTML>
<BODY>
<CENTER>
<BR><BR>
<H1>Virat Kohli </H1><BR>
</CENTER>
<CENTER><BUTTON onClick="clickmy()">Carrer Statistics </BUTTON></CENTER>
<BR><BR>
<DIV id="my">
<TABLE BORDER="1" width="40%" ALIGN="CENTER">
<TR>
<TH>Competetion</TH>
<TH>Test</TH>
<TH>ODI</TH>
<TH>T20!</TH>
<TH>FC</TH>
</TR><TR><TH>Matches</TH>
<TD ALIGN="CENTER">54</TD>
<TD ALIGN="CENTER">179</TD>
<TD ALIGN="CENTER">48</TD>
<TD ALIGN="CENTER">85</TD>
</TR><TR>
<TH>Runs scored </TH>
<TD ALIGN="CENTER">4,451</TD>
<TD ALIGN="CENTER">7,755</TD>
<TD ALIGN="CENTER">1,709</TD>
<TD ALIGN="CENTER">6458</TD>
</TR><TR>
<TH>Batting average</TH>
<TD ALIGN="CENTER">51.75</TD>
<TD ALIGN="CENTER">53.10</TD>
<TD ALIGN="CENTER">53.40</TD>
<TD ALIGN="CENTER">51.66</TD>
</TR><TR>
<TH>100s/50s </TH>
<TD ALIGN="CENTER">16/14</TD>
<TD ALIGN="CENTER">27/39</TD>
<TD ALIGN="CENTER">0/16</TD>
```

```
<TD ALIGN="CENTER">22/22</TD>
</TR><TR>
<TH>Top score </TH>
<TD ALIGN="CENTER">235</TD>
<TD ALIGN="CENTER">183</TD>
<TD ALIGN="CENTER">90*</TD>
<TD ALIGN="CENTER">211</TD>
</TR><TR>
<TH>Balls bowled</TH>
<TD ALIGN="CENTER">150         </TD>
<TD ALIGN="CENTER">611</TD>
<TD ALIGN="CENTER">146</TD>
<TD ALIGN="CENTER">618 </TD></TR><TR>
<TH>Wickets </TH>
<TD ALIGN="CENTER">0  </TD>
<TD ALIGN="CENTER">4</TD>
<TD ALIGN="CENTER">4</TD>
<TD ALIGN="CENTER">3</TD>
</TR>
</TABLE>
</DIV><SCRIPT>
function clickmy(){
if(document.getElementById("my").style.visibility=='hidden'){
document.getElementById("my").style.visibility='visible';}
else{
document.getElementById("my").style.visibility='hidden';}}
</SCRIPT>
</BODY>
</HTML>
```

Procedure:

1. Type the HTML code in notepad or any other editor as Dreamweaver and visual studio using proper syntax and values of each tag.
2. Save the HTML document using .html or .htm as extension. The file will be saved at the specified locations as a web page of default web browser.
3. Go to the location of the web page and open it. The formatted web page will have the effects of tags but will not show the tags names.

Output:

Virat Kohli

Carrer Statistics

Competetion	Test	ODI	T20!	FC
Matches	54	179	48	85
Runs scored	4,451	7,755	1,709	6458
Batting average	51.75	53.10	53.40	51.66
100s/50s	16/14	27/39	0/16	22/22
Top score	235	183	90*	211
Balls bowled	150	611	146	618
Wickets	0	4	4	3

Discussion/Learning:

Create a JavaScript program to display a hidden div (e.g. showing stats of a player when user clicks on his name). We learnt how a hidden div can be made visible on a specified user action i.e clicking on button, in this case.

EXPERIMENT 14

AIM : Write a JavaScript function to check whether an `input` is a string or not and if it is a string, then check if it is blank or not?

Theory:

JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities. It is open and cross-platform.

JavaScript program structure:

```
<HTML>
<BODY>

<SCRIPT language=”javascript” type=”text/javascript”>
     <! –
       Document.write(“Hello World”)
      //-->
</SCRIPT>
</BODY>
</HTML>
```

In JavaScript the string indexes are zero-based. The first character is in position 0, the second in 1, and so on. The escape character (\) can also be used to insert other special characters in a string.

Tags Used:

TAG Name	Type	Description
<HTML>	Container	The <html> tag tells the browser that this is an HTML document.
<HEAD>	Container	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<TITLE>	Container	The <title> tag is used inside the <head> tag to mention the document title.
<BODY>	Container	This tag represents the document's body which keeps other HTML tags like <h1>, , <p> etc.
<SCRIPT>	Container	Defines a client-side script

<BUTTON ONCLICK>	Container	Defines a clickable button & with onclick event attribute it executes a java script when a button is clicked.
 	Empty	The tag inserts a single line break.

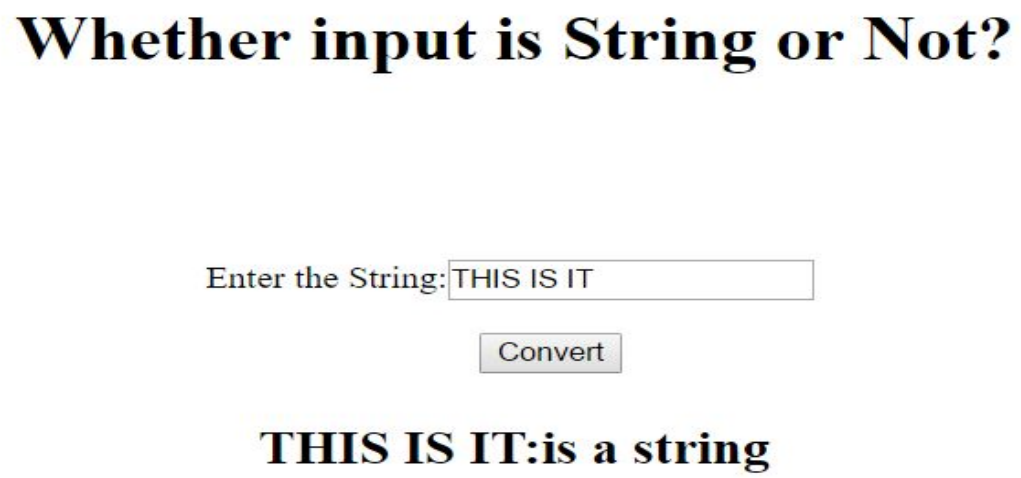
Code:

```
<HTML>
<BODY>
<H1 STYLE="TEXT-ALIGN:CENTER">Whether input is String or Not?</H1>
<BR><BR><BR><BR>
<FORM ID="myform" ALIGN="CENTER">
Enter the String:<INPUT TYPE="text" id="number"><BR></FORM>
<CENTER>         <BUTTON
onclick="myFunc()">Convert</BUTTON> </CENTER>
<CENTER><H2>
<P id="demo"></P>
</CENTER></H2><BR><SCRIPT>
function myFunc(){
var x=document.getElementById("number").value;
var res="";
var t=x;
res=res+isNaN(x);
if(res=='true'){
t=t+":is a string";}
else{
t=t+":is not a string";}
document.getElementById("demo").innerHTML=t;}
</SCRIPT></BODY></HTML>
```

Procedure:

1. Type the HTML code in notepad or any other editor as Dreamweaver and visual studio using proper syntax and values of each tag.
2. Save the HTML document using .html or .htm as extension. The file will be saved at the specified locations as a web page of default web browser.
3. Go to the location of the web page and open it. The formatted web page will have the effects of tags but will not show the tags names.

Output:



Discussion/Learning:

Write a JavaScript function to check whether an `input` is a string or not and if it is a string, then check if it is blank or not? We learnt how user input can be manipulated with the help of javaScript.

EXPERIMENT 15

AIM : Write a JavaScript program to sort the items of an array.

Theory:
Javascript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities. It is open and cross-platform.

JavaScript program structure:

```
<HTML>
<BODY>

<SCRIPT language=”javascript” type=”text/javascript”>
      <! –
       Document.write(“Hello World”)
      //-->
</SCRIPT>
</BODY>
</HTML>
```

The sort() method sorts the items of an array. The sort order can be either alphabetic or numeric, and either ascending (up) or descending (down).By default, the sort() method sorts the values as strings in alphabetical and ascending order.

Tags Used:

TAG Name	Type	Description
<HTML>	Container	The <html> tag tells the browser that this is an HTML document.
<HEAD>	Container	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<TITLE>	Container	The <title> tag is used inside the <head> tag to mention the document title.
<BODY>	Container	This tag represents the document's body which keeps other HTML tags like

		<h1>, , <p> etc.
<SCRIPT>	Container	Defines a client-side script
 	Empty	The tag inserts a single line break.

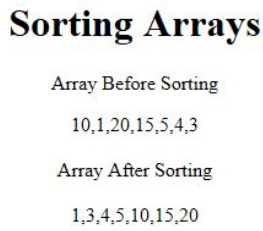
Code:

```
<HTML>
<BODY>
<CENTER><H1>Sorting Arrays</CENTER></H1>
<CENTER><P>Array Before Sorting</P>
<script>
var ar= [10,1,20,15,5,4,3];
document.write(ar);
document.write("<BR>");
document.write("<BR>");
ar.sort(function(a,b){return a-b});
document.write("Array After Sorting");
document.write("<BR>");
document.write("<BR>");
document.write(ar);
</script>
</BODY>
</HTML>
```

Procedure:

1. Type the HTML code in notepad or any other editor as Dreamweaver and visual studio using proper syntax and values of each tag.
2. Save the HTML document using .html or .htm as extension. The file will be saved at the specified locations as a web page of default web browser.
3. Go to the location of the web page and open it. The formatted web page will have the effects of tags but will not show the tags names.

Output:



Discussion/Learning:

Create a JavaScript program to sort the items of an array. Here we use sort function to sort the contents of the array.

EXPERIMENT 16

AIM : Write a JavaScript program which accept a string as input and swap the case of each character. For example if you input 'The Quick Brown Fox' the output should be 'tHE qUICK bROWN fOX'.

Theory:
JavaScript is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities. It is open and cross-platform.

JavaScript program structure:

```
<HTML>
<BODY>

<SCRIPT language=”javascript” type=”text/javascript”>
      <! –
        Document.write(“Hello World”)
       //-->
</SCRIPT>
</BODY>
</HTML>
```

Java script is case sensitive language. The split() method is used to split a string into an array of substrings, and returns the new array.

The following methods are used to accomplish the above task:

- toUpperCase() method converts a string to uppercase letters.
- toLowerCase() method converts a string to lowercase letters.

Tags Used:

TAG Name	Type	Description
<HTML>	Container	The <html> tag tells the browser that this is an HTML document.
<HEAD>	Container	This tag represents the document's header which can keep other HTML tags like <title>, <link> etc.
<TITLE>	Container	The <title> tag is used inside the <head> tag to mention the document title.
<BODY>	Container	This tag represents the document's body

		which keeps other HTML tags like <h1>, , <p> etc.
<SCRIPT>	Container	Defines a client-side script
 	Empty	The tag inserts a single line break.

Code:

```
<HTML>
<BODY>
<FORM id="myform" ALIGN="CENTER"><BR><BR>
<H1 STYLE="TEXT-ALIGN=CENTER">Swapping Case Of
Characters</H1><BR><BR>
Enter the string :    <INPUT TYPE="text" id="name1"><BR></FORM>
<CENTER>         <button
onclick="outputname()">Submit</button></CENTER><BR>
<H2><P id="demo" ALIGN="CENTER"><BR></P></H2><script>
function outputname(){
var y=document.getElementById("name1").value;
var t="";
for(var i=0;i<y.length;i++){
if(y[i]===y[i].toLowerCase()){
t=t+y[i].toUpperCase();}
else {
t=t+y[i].toLowerCase();}}
document.getElementById("demo").innerHTML=t;}
</script></BODY>
</HTML>
```

Procedure:

1. Type the HTML code in notepad or any other editor as Dreamweaver and visual studio using proper syntax and values of each tag.
2. Save the HTML document using .html or .htm as extension. The file will be saved at the specified locations as a web page of default web browser.
3. Go to the location of the web page and open it. The formatted web page will have the effects of tags but will not show the tags names.

Output:

Discussion/Learning:

Create a JavaScript program which accepts a string as input and swap the case of each character. For example if you input 'The Quick Brown Fox' the output should be 'tHE qUICK bROWN fOX'. We learnt how the case of characters in a string can be changed in javaScript by using lowercase() and uppercase() functions.