

Savitribai Phule Pune University

S.Y.B. C. A. (Science)

SEMESTER III

Lab Course

BCA - 236 Computer Networks

&

Web Programming Laboratory

From the Chairman's Desk

It gives me a great pleasure to present this workbook prepared by the Board of studies in Computer Applications.

The workbook has been prepared with the objectives of bringing uniformity in implementation of lab assignments across all affiliated colleges, act as a ready reference for both fast and slow learners and facilitate continuous assessment using clearly defined rubrics.

The workbook provides, for each of the assignments, the aims, pre-requisites, related theoretical concepts with suitable examples wherever necessary, guidelines for the faculty/lab administrator, instructions for the students to perform assignments and a set of exercises divided into three sets.

I am thankful to the Chairman of this course and the entire team of editors. I am also thankful to the reviewers and members of BOS, Mr. Rahul Patil and Mr. Arun Gangarde. I thank all members of BOS and everyone who have contributed directly or indirectly for the preparation of the workbook.

Constructive criticism is welcome and to be communicated to the Chairman of the Course and overall coordinator Mr. Rahul Patil. Affiliated colleges are requested to collect feedbacks from the students for the further improvements.

I am thankful to Hon. Vice Chancellor of Savitribai Phule Pune University Prof. Dr. Nitin Karmalkar and the Dean of Faculty of Science and Technology Prof. Dr. M G Chaskar for their support and guidance.

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Assignment Completion Sheet

Lab Course BCA 236: Computer Networks & Web Programming Laboratory

Sr. No	Assignment Name	Date of Completion	Signature of Teacher
1.	Networking Commands		
2.	LAN Environment & Network Topology		
3.	Basic HTML Tags		
4.	GIT & GITHUB		
5.	List & Tables		
6.	Frames & Forms		
7.	CSS		
8.	Basics of JavaScript		
9.	Functions in JavaScript		
10.	Validation Using JavaScript & Event Handling		
11.	Designing HTML Screens		
12.	File Uploads, Field & Form Validation		
13.	Cookies		
14.	XML		

This is to certify that Mr/Ms._____

of S.Y.B.C.A (Science) has successfully completed the Laboratory work for Lab Course BCA 236: Computer Networks & Web Programming Laboratory and has scored_____marks out of 15 for Internal Evaluation.

Date:_____

Instructor

H.O.D / Coordinator

Internal Examiner

External Examiner

Assignment No 1 : Using networking commands and Study of network devices.

Author: Aparna TusharGohad

Allotted Slot: 1

Aim: To study different types of networking commands and different types of devices used in networking.

Pre-requisite: Basic knowledge of networking

The student should read following topics before starting exercise.

***** Networking Commands:

Sr No	Command	Description	Example
1	Ping	 PING (Packet INternet Groper) command is to test connectivity between two nodes. Ping use ICMP (Internet Control Message Protocol) to communicate to other devices. It checks if a remote host is up, or that network interfaces can be reached. You can ping host name of ip address. 	[root@localhost]#ping 192.168.26.100 [root@localhost]#ping www.google.com
2	hostname	A hostname is a name that is given to a computer that attached to the network that uniquely identifies over a network and thus allows it to be accessed without using its IP address. Options: i – display ip address of hostname I - establishes all configured network interfaces and shows all network addresses	[root@localhost]#hostname [root@localhost]# hostname i [root@localhost]# hostname I
3	traceroute	This command is used to get the route of a packet, i.e it is used to determine the path along which a packet travels. It also returns the number of hops taken by the packet to reach the destination.	root@localhost]#traceroute google.com
4	Netstat	Network Statistics is the command that is used to display routing table, connection information, the status of ports, etc.	root@localhost]#netstat
5	Who	 It displays following information for each user currently logged in to the system: Login name of the users Terminal line numbers Login time of the users in to system Remote host name of the user 	root@localhost]#who

6	nmap	It produce information about the given host.	root@localhost]#nmap 192.168.20.4
7	nslookup	This command queries the DNS in order to fet	root@localhost]#nslookupfacebook.com
		IP address or the domain name from DNS reco	

Types of Cables

1. **Twisted pair cable:**It is a type of ordinary wiring which connects home and many business computers to the telephone company. It is made by putting two separate insulated wires together in a twisted pattern and running them parallel to each other, which helps to reduce crosstalk or electromagnetic induction between pairs of wires. Twisted pair cable is suitable for transferring balanced differential signals. The method of transmitting signals dates back to the early days of the telegraph and radio. The advantages of improved signal-to-noise ratio, crosstalk, and ground bounce that balanced signal transmission brings are particularly valuable in wide bandwidth and high fidelity systems.

According to whether the cable has a shielding layer, there are two common types of twisted pair cables—shielded twisted pair (STP) cable and unshielded twisted pair (UTP) cable. STP cable is available for Token Ring networks, while the UTP cable is more suitable for Ethernet networks. The most common UTP cable types applied in Ethernet network are cat5e, cat6a, and cat7 cables.



a) Unshielded twisted pair (UTP):

The quality of UTP may vary from telephone-grade wire to extremely high-speed cable. The cable has four pairs of wires inside the jacket. Each pair is twisted with a different number of twists per inch to help eliminate interference from adjacent pairs and other electrical devices.



b) Shielded Twisted pair(STP):

It is a special kind of copper telephone wiring used in business installations. An external shield which functions as a ground is added to the normal twisted pair telephone wires. Shielded cables can also help in expanding the distance between the cables.

> Twisted pair Connector:

RJ-45 connector is used in twisted pair. This is a plastic connector that looks like a large telephone-style connector. A slot allows the RJ-45 to be inserted only one way. RJ stands for Registered Jack, implying that the connector follows a standard borrowed from the telephone industry. This standard designates which wire goes with each pin inside the connector.

2. **Coaxial cable**:Coaxial cable, or coax cable, is another type of copper cable which has an inner conductor surrounded by foam insulation, symmetrically wrapped by a woven braided metal shield, then covered by in a plastic jacket (as shown in the following image). This unique design allows coaxial cable runs to install next to metal objects such as gutters without the power losses that occur in other types of transmission lines. The coaxial cable acts as a high-frequency transmission cable made up of a single solid copper core and compared to twisted pair cable. It has 80 times or more transmission capability. This kind of cable is mainly adopted in feed lines connecting radio transmitters and receivers with their antennas, computer network connections, and distributing cable television signals.



Coaxial Cable Connector: The most common type of connector used with coaxial cables is the Bayone-Neill-Concelman (BNC) connector. Different types of adapters are available for BNC connectors, including a T-connector, barrel connector, and terminator. Connectors on the cable are the weakest points in any network. To help avoid problems with your network, always use the BNC connectors that crimp, rather screw, onto the cable.

3. **Fiber Optic Cable:**Fiber optic cabling consists of a center glass core surrounded by several layers of protective materials. It transmits light rather than electronic signals eliminating the problem of electrical interference. This makes it ideal for certain environments that contain a large amount of electrical interference. It has also made it the standard for connecting networks between buildings, due to its immunity to the effects of moisture and lighting.

Fiber optic cable has the ability to transmit signals over much longer distances than coaxial and twisted pair. It also has the capability to carry information at vastly greater speeds. This capacity broadens communication possibilities to include services such as video conferencing and interactive services. The cost of fiber optic cabling is comparable to copper cabling; however, it is more difficult to install and modify. 10BaseF refers to the specifications for fiber optic cable carrying Ethernet signals.



***** Types of devices:

1. Repeater – A repeater operates at the physical layer. Its job is to regenerate the signal over the same network before the signal becomes too weak or corrupted so as to extend the length to which the signal can be transmitted over the same network. An important point to be noted about repeaters is that they do not amplify the signal. When the signal becomes weak, they copy the signal bit by bit and regenerate it at the original strength. It is a 2 port device.

2. Hub – A hub is basically a multiport repeater. A hub connects multiple wires coming from different branches, for example, the connector in star topology which connects different stations. Hubs cannot filter data, so data packets are sent to all connected devices. In other words, collision domain of all hosts connected through Hub remains one. Also, they do not have intelligence to find out best path for data packets which leads to inefficiencies and wastage.

3. Bridge – A bridge operates at data link layer. A bridge is a repeater, with add on the functionality of filtering content by reading the MAC addresses of source and destination. It is also used for interconnecting two LANs working on the same protocol. It has a single input and single output port, thus making it a 2 port device.

4. Switch – A switch is a multiport bridge with a buffer and a design that can boost it efficiency (a large number of ports imply less traffic) and performance. A switch is a data link layer device. The switch can perform error checking before forwarding data, which makes it very efficient as it does not forward packets that have errors and forward good packets selectively to correct port only.

5. Routers – A router is a device like a switch that routes data packets based on their IP addresses. Router is mainly a Network Layer device. Routers normally connect LANs and WANs together and have a dynamically updating routing table based on which they make decisions on routing the data packets. Router divide broadcast domains of hosts connected through it.

6. Gateways- A gateway, as the name suggests, is a passage to connect two networks together that may work upon different networking models. They basically work as the messenger agents that take data from one system, interpret it, and transfer it to another system. Gateways are also called protocol converters and can operate at any network layer. Gateways are generally more complex than switch or router.



LAB Exercise:

SET A

- 1. Use ping command to check connectivity of any website.
- 2. Use ping command to check connectivity of your departmental server by using ip address.
- 3. Write a command to get name of your computer.
- 4. Use traceroute command to trace the route of ant packet.
- 5. See the output of netstat command.
- 6. Write a command to display information of user.
- 7. Use nmap command to display information of any website using website name or ip address of site.
- 8. Use nslookup command to display ipaddress or DNS of website.

SET B

1. Check your computer lab setup. Check the types of cables and devices used.

Note: Instructors are expected to show types of cables and devices that are available in college lab.

Assignment Evaluation

0: Not Done []

1: Incomplete [] 2: Late Complete []

3: Needs Improvement [] 4: Complete [] 5: Well done []

Signature of the Instructor: ----- Date: -----

Assignment No 2: Study of LAN Environment and Network topology

Author: Aparna Tushar Gohad

Allotted Slot: 1

Aim: To study commands to get information of IP address and MAC address and study of Network topologies.

Pre-requisite: Basic knowledge of networking

The student should read following topics before starting exercise.

MAC Address(Physical address):

This address is included in the frame used by the data link layer. It is the lowest-level address. The size and format of these addresses vary depending on the network.

For example, Ethernet usesa 6-byte (48-bit) physical address that is imprinted on the network interface card (NIC).Most local area networks use a 48-bit (6-byte) physical address written as 12 hexadecimaldigits; every byte (2 hexadecimal digits) is separated by a colon.

e.g.

07:05:2A:01:2C:4b

IP Address(Logical address):

Logical addresses are necessary for universal communications that are independent of underlying physical networks. Physical addresses are not adequate in an internetwork environmentwhere different networks can have different address formats. A universal addressing system isneeded in which each host can be identified uniquely, regardless of the underlying physical network. The logical addresses are designed for this purpose. A logical address in the Internet is currently a 32-bit address that can uniquely define a host connected to the Internet. No two publicly addressed and visible hosts on the Internet can have the same IP address. e.g.: 192.168.20.100

Command to get MAC address and IP address:

root@localhost]#ifconfig

Here is the output of ifconfig command.

himanshu	@ansh:~\$ ifconfig
enp3s0	Link encap:Ethernet HWaddr 70:4d:7b:70:d2:3e
	UP BROADCAST MULTICAST MTU:1500 Metric:1
	RX packets:0 errors:0 dropped:0 overruns:0 frame:0
	TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
	collisions:0 txqueuelen:1000
	RX bytes:0 (0.0 B) TX bytes:0 (0.0 B)
lo	Link encap:Local Loopback
1997) - A	inet addr:127.0.0.1 Mask:255.0.0.0
	inet6 addr: ::1/128 Scope:Host
	UP LOOPBACK RUNNING MTU:65536 Metric:1
	RX packets:73925 errors:0 dropped:0 overruns:0 frame:0
	TX packets:73925 errors:0 dropped:0 overruns:0 carrier:0
	collisions:0 txqueuelen:1000
	RX bytes:7911049 (7.9 MB) TX bytes:7911049 (7.9 MB)
wlx18a6f	713679b Link encap:Ethernet HWaddr 18:a6:f7:13:67:9b
	inet addr:192.168.2.6 Bcast:192.168.2.255 Mask:255.255.255.0
	inet6 addr: fe80::733f:7699:a8de:78ac/64
	UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
	RX packets:598724 errors:0 dropped:5949 overruns:0 frame:0
	TX packets:481412 errors:0 dropped:20 overruns:0 carrier:0
	collisions:0 txqueuelen:1000
	RX bytes: 390451501 (390.4 MB) TX bytes: 102506204 (102.5 MB)

Hereenp3s0, lo and wlx18a6f713679b are the names of the active network interfaces on the system.

enp3s0is the first Ethernet interface. (Additional Ethernet interfaces would be named eth1, eth2, etc.) This type of interface is usually a NIC connected to the network by a category 5 cable.

lo is the loopback interface. This is a special network interface that the system uses to communicate with itself.

wlx18a6f713679bis the name of the first wireless network interface on the system. Additional wireless interfaces would be named wlan1, wlan2, etc

Note: ifconfig can only assign a static IP address to a network interface. If you want to assign a dynamic IP address using DHCP, you should use the dhclient command.

Options of ifconfig:

Option	Description	Example
-a	Display information for all network inter even if they are down.	root@localhost]#ifconfig -a
-s	Display a short list in a format identical t command "netstat -i".	root@localhost]#ifconfig -s
-v	Verbose mode; display additional inform for certain error conditions.	root@localhost]#ifconfig -v

Types of different network topologies:



- 1. **Mesh**: Every link is dedicated Dedicated **point-to-point** to a central controller (Hub)
- 2. **Star**: No direct traffic between devices. The control acts as an exchangepoint-to-point link. The term dedicated means that the link carries traffic only between the two devices it connects.
- 3. **Bus:** It is multipoint. One long cable acts as a backboneused in the design of earlyLANS, and Ethernet LANs.
- 4. **Ring**:Each device has dedicated point-to-point connection with only the two devices on either side of it. A signal is passed along the ring in one direction from device to device until it reaches its destination.

LAB Exercise:

SET A

- 1. Type a command to get MAC and IP address of your machine.
- 2. Try all options of the same command.

SET B

1. Identify the topology used in your computer lab with the help of instructor. Draw that topology in your notebook.

Assignment Evaluation

0: Not Done []	1: Incomplete []	2: Late Complete []
3: Needs Improvement []	4: Complete []	5: Well done []
Signature of the Instructor	:	Date:

Assignment No 3: Basic HTML Tags

Author: Priyamveda U. Patil

Allotted Slot :2

Topic: Basic HTML Tags - headings, paragraphs, line break, colors, fonts, links, Images, etc

Introduction :

I. What is HTML :

- HTML stands for Hyper Text Markup Language
- An HTML file is a text file containing small markup tags
- The markup tags tell the Web browser how to display the page
- An HTML file must have an htm or html file extension
- An HTML file can be created using a simple text editor

If you are running Windows, start Notepad.

Sample code : Step 1. Type in the following text: <html> <head> <title>Title of page</title> </head> <body> This is my first homepage. This text is bold </body> </html>

</ntml>

Step 2. Save the file as "first.htm".

Step 3. Start your Internet browser. Select "Open" (or "Open Page") in the File menu of

your browser. A dialog box will appear. Select "Browse" (or "Choose File") and

locate the HTML file you just created - "first.htm" - select it and click "Open".

Step 4 .you will see an address in the dialog box, for example

"C:\MyDocuments\first.htm". Click OK, and the browser will display the page.

HTML Editors : Few Editors that can be used

Sublime Text 3

Pros

- Easily customizable
- Beginner-friendly
- Pleasant color schemes to choose from.

Cons

- Can't print documents or code
- No toolbar or dashboard available.

Notepad ++

Pros

- Distraction-free interface
- Auto-completion feature
- Plug-in options for extended functionalities.

Cons

- Can be difficult to get used to for beginners
- No support for Mac.

II. Basic Construction of an HTML Page :

These tags should be placed underneath each other **at the top of every HTML page** that you create.

<!DOCTYPE html> — This tag **specifies the language** you will write on the page. In this case, the language is HTML 5.

<html> — This tag signals that from here on we are going to write in HTML code.

<head> — This is where all the **metadata for the page** goes — stuff mostly meant for search engines and other computer programs.

<body> — This is where the **content of the page** goes.

Inside the <head> tag, there is one tag that is always included: <title>,

<title>This is where we insert the page name as it will appear at the top of the browser window or tab.

<head></head>		
	<title>This Is Your Title </title>	
<body></body>		
	<h1>This is Your Header </h1>	
	This is your paragraph.	
>		

III. HTML documents :

- HTML documents are text files made up of HTML elements.
- HTML elements are defined using HTML tags.
- HTML Tags :
 - HTML tags are used to mark-up HTML elements
 - \circ HTML tags are surrounded by the two characters < and >
 - The surrounding characters are called angle brackets
 - HTML tags normally come in pairs like and
 - The first tag in a pair is the start tag, the second tag is the end tag
 - \circ \quad The text between the start and end tags is the element content
 - \circ HTML tags are not case sensitive, means the same as

Example of HTML element :

1) This text is bold

The HTML element starts with a start tag:

The content of the HTML element is: This text is bold

The HTML element ends with an end tag:

The purpose of the tag is to define an HTML element that should be displayed as bold.

2. <body> This is my first homepage. This text is bold </body>

This HTML element starts with the start tag <body>, and ends with the end tag </body>.

The purpose of the <body> tag is to define the HTML element that contains the body of the HTML document.

IV. HTML tags and attributes :

Basic HTML Tags :

- All HTML tags must enclosed within <> these brackets.
- Every tag in HTML perform different tasks.
- If you have used an open tag <tag>, then you must use a close tag </tag> (except some tags)
- Syntax : <tag> content </tag>

Tag Attributes :

- Tags can have attributes. Attributes can provide additional information about the HTML elements on your page.
- This tag defines the body element of your HTML page: <body>. With an added bgcolor attribute, you can tell the browser that the background color of your page

should be red, like this: <body bgcolor="red">.

• Attribute values should always be enclosed in quotes. Double style quotes are the most common, but single style quotes are also allowed.

• In some rare situations, like when the attribute value itself contains quotes, it is necessary to use single quotes: For example name='John "Master" Perera'

Basic HTML Tags

The most important tags in HTML are tags that define headings, paragraphs and line breaks.

Headings:

- Headings are defined with the <h1> to <h6> tags.
- <h1> defines the largest heading And <h6> defines the smallest heading.
- <h1>This is a heading</h1>
- <h2>This is a heading</h2>
- <h3>This is a heading</h3>
- <h4>This is a heading</h4>
- <h5>This is a heading</h5>
- <h6>This is a heading</h6>
- HTML automatically adds an extra blank line before and after a heading.

Paragraphs :

- Paragraphs are defined with the tag.
- This is a paragraph
- This is another paragraph
- HTML automatically adds an extra blank line before and after a paragraph.
- Preformatting Text in HTML Paragraphs.
- You can keep the formatting with the element. It preserves spaces and text precisely as you typed them. The preformatted HTML paragraphs are displayed in a fixed-width font
- Example:

Pre formatting use :

This is useful for preserving the format, It displays text the way you type them.

Line Breaks :

• The
> tag is used when you want to end a line, but don't want to start a new paragraph.

- The
 tag forces a line break wherever you place it.
- For example : This
 is a para
 graph with line breaks

- The
 tag is an empty tag. It has no closing tag.
- We can use the
> element whenever you need to add an HTML new line
- to separate your paragraphs with a horizontal line instead of a simple HTML paragraph break,
- use the <hr> element

```
    For example:
    <h1>S.Y.B.C.A</h1>
    <h2>Web Technology </h2>
    It is a course designed for S.Y.B.C.A 
    <h2>CN</h2>
    Study the basic concepts of computer networks.
```

Comments :

- The comment tag is used to insert a comment in the HTML source code.
- Acomment will be ignored by the browser.
- You can use comments to explain yourcode, which can help you when you edit the source code at a later date.
- <!-- This is a comment -->
- Note that you need an exclamation point after the opening bracket, but not before the closing bracket.

Summarize above tags :

Tag Description	Tag Description
<html></html>	Defines an HTML document
<body></body>	Defines the document's body
<h1> to <h6></h6></h1>	Defines header 1 to header 6
	Defines a paragraph
	Inserts a single line break
<hr/>	Defines a horizontal rule
	Defines a comment

Tag	Description	Attributes	Example
	Used to represent		This text will appear
	text in bold		bold
<u></u>	To make text appear underlined		This is <u> underlined tag</u>
<i></i>	To make text appear italic		This is <i> italized </i>
<center><td>Centers enclosed</td><td></td><td><pre><center> Text is centered</center></pre></td></center>	Centers enclosed		<pre><center> Text is centered</center></pre>
	text		
<big></big>	Sets the type one font		 big> This will appear one
	larger than the surrou		big
	text		
<small><td>Sets the type one font</td><td></td><td><small> This will appear o</small></td></small>	Sets the type one font		<small> This will appear o</small>
	smaller than the		size small
	surrounding text		

	Formats enclosed text superscript.	X ^{<small> 2 </small>}
	Formats enclosed text	H _{<small>2</small>} </td

	subscript		>0
<marquee><td>Creates a scrolling tex marquee area.</td><td> 1.align=top middl om Aligns the marq with the top, midd bottom of the neighboring text l 2.behavior=scroll alternate Specifies how th should behave. Scroll is the defa setting and means text should start completely off on scroll all the way across and completely off, th start over again. Slide stops the sc when the text tou the other margin. Alternate means bounce back and twithin the marque 3.bgcolor="#rrgg </td><td><pre>>0 <marquee align="top" behaviour="slide" bgcolor="pink" direction="right" height="20" hspace="5"> scrolling all t way from one end to other </marquee></pre></td></marquee>	Creates a scrolling tex marquee area.	 1.align=top middl om Aligns the marq with the top, midd bottom of the neighboring text l 2.behavior=scroll alternate Specifies how th should behave. Scroll is the defa setting and means text should start completely off on scroll all the way across and completely off, th start over again. Slide stops the sc when the text tou the other margin. Alternate means bounce back and twithin the marque 3.bgcolor="#rrgg 	<pre>>0 <marquee align="top" behaviour="slide" bgcolor="pink" direction="right" height="20" hspace="5"> scrolling all t way from one end to other </marquee></pre>

HTML Text Formatting :

HTML defines a lot of elements for formatting output, like bold or italictext.

Color :

HTML colors can be defined in a name, RGB, RGBA, HEX, HSL or HSLA value and applied to either the background or the text.

Defining Color:

There is no special HTML color tag, as design is not the main function of HTML. you need to use the style attribute in the opening tag you wish to add HTML color to.

You may use the color property to change the color of your text, or background-color to change the color of the background. Both of these properties take color names, RGB, RGBA, HEX, HSL or HSLA values.

Color: Text or Background :

The background-color property provides a color for the background of the text, but not for the whole document.

If you wish to change the HTML color for the whole page, you should use the bgcolor attribute in the opening tag of the
body> section:

Example :

<body bgcolor="blue">

<h2 style="color: "red">

I am using colors to this text and to the whole document

</h2>

Ways to Define Color :

Name

The color name depicts the specific name for the HTML color. There are 140 color names supported in CSS

Example :

```
1 . <h2 style="color: pink;">
Illustration of using color name to color text
```

</h2>

```
2. <h2 style="background-color: steelblue;">
Illustration of using color name to color background
</h2>
```

```
3. <h2 style="background-color: brown; color: bisque;">
```

Illustration of using a color name to assign a color to background and text also

</h2>

RGB and RGBA Values

The RGB value defines HTML color by mixing red, green, and blue values. The first number describes

the red color input, the second – the green color input, and the third one – the blue color input.

The value of each color can vary from 0 to 255. For example, to get the same HTML red you saw in

previous section, we would have to use RGB(255,0,171)

Example :

1. <h2 style="color: rgb(212, 136, 229);"> Use of RGB codes to color text </h2>

2. <h2 style="background-color: rgb(235, 255, 138);"> Use of RGB codes to color background </h2>

```
3. <h2 style="color: rgb(255, 236, 139); background-color: rgb(143, 188, 143);">
Use of RGB codes to color background and text
</h2>
```

RGBA values are very similar, they have one more value. The additional fourth value A stands for alpha and represents the opacity. It can be defined in a number from 0 (not transparent) to 1 (completely transparent):

Example:

```
    <h2 style="color: rgba(212, 166, 239, 0.35);">
Use of RGBA</h2>
    <h2 style="color: rgba(222, 106, 248, 0.75);">
```

Use of RGBA

</h2>

HEX Value

HEX color value works pretty similarly to RGB .

To describe the intensity of the color Using HEX, the code contains both numbers from 0 to 9 and letters from A to F. The first two symbols determine red intensity, the two in the middle - green intensity, and the last two - blue intensity.

For example, to get a simple HTML blue, we would use the code #0000fe:

```
1. <h2 style="color: #FC9CF9;">
```

Use of Hex code to color text

</h2>

2. <h2 style="background-color: #FFEC8B;">

Use of Hex code to color background

</h2>

3. <h2 style="color: #B0E0E6; background-color: #ACAFFF;"> Use of Hex code to color and text

</h2>

HSL and HSLA Values:

In HTML, colors can also be defined in HSL values. HSL stands for hue, saturation and lightness:

Hue is defined in degrees from 0 to 360. On a color wheel, red is around 0/360, green is at 120 and blue is at 240.

Saturation is defined in percentages from 0 (black and white) to 100 (full color).

Lightness is defined in percentages from 0 (black) to 100 (white).

For example, to color the background in HTML blue, you could use hsl(240, 100%, 50%):

Example:

- 1 . <h2 style="color: hsl(217, 97%, 57%);">
- Use of HSL codes to color text

</h2>

2. <h2 style="background-color: hsl(218, 77%, 88%);">

Use of HSL codes to color background

</h2>

3. <h2 style="color: hsl(38, 95%, 25%); background-color: hsl(38, 77%, 88%);">

Use of HSL codes to color background and text

</h2>

V. HTML Attributes

- All HTML elements can have attributes
- Attributes provide additional information about elements
- Attributes are always specified in the start tag
- Attributes usually come in name/value pairs like: name="value"

href Attribute

The <a> tag defines a hyperlink. The href attribute specifies the URL of the page the link goes to: Example Search Engine

The src Attribute

The tag is used to embed an image in an HTML page. The src attribute specifies the path to the image to be displayed: Example

The width and height Attributes

The tag should also contain the width and height attributes, which specifies the width and height of the image (in pixels):

Example

The alt Attribute

The required alt attribute for the tag specifies an alternate text for an image, if the image for some reason cannot be displayed. This can be due to slow connection, or an error in the src attribute, or if the user uses a screen reader.

Example </br/></br/>img src="imag1.jpg" alt="My Image">

The style Attribute

The style attribute is used to add styles to an element, such as color, font, size, and more. Example This is a blue paragraph.

The lang Attribute

You should always include the lang attribute inside the <html> tag, to declare the language of the Web page. This is meant to assist search engines and browsers.

The following example specifies English as the language:

```
<!DOCTYPE html>
<html lang="en">
<body>
```

```
•••
```

</body> </html>

The title Attribute

The title attribute defines some extra information about an element.

The value of the title attribute will be displayed as a tooltip when you mouse over the element:

ExampleThis is a paragraph.

•Summarization of Tags used to add Hyperlinks in html document are given in the foll. table.

Sr	Tag	Description	Attributes	Example
1	<a>	Adds an anchor or	href= "url"	<html><body></body></html>
		hyperlink	specifies the url of the ta	<a href="<u>http://www.google.com</u>">
			page.	Click here to search

Solved Assignments.

I. Check the output of the following :

1. <Html>

<Head> <Title>The First Page</title> </head> <Body> Hello World </body> </html>

2. <!DOCTYPE html>

<html> <body> <h1>This is heading 1</h1> <h2>This is heading 2</h2> <h3>This is heading 3</h3> <h4>This is heading 4</h4> <h5>This is heading 5</h5> <h6>This is heading 6</h6> </body> </html>

Explanation of example:

- The <!DOCTYPE html> declaration defines this document to be HTML5.
- The <html> element is the root element of an HTML page.
- The <head> element contains meta information about the document.
- The <title> element specifies a title for the document.
- The <body> element contains the visible page content.

```
3.
<!DOCTYPE html>
<html>
<head>
<meta charset="utf-8">
<title>coffee restaurant </title>
</head>
<body>
Coffee Restautant
The Restaurant
The Coffee Restaurant offers casual lunch and dinner fare in a hip atmosphere. The menu changes regularly
to highlight the freshest ingredients.
Catering
You have fun... we'll do the cooking. Coffee Restautant can handle events from snacks for club to elegant
corporates..
Location and Hours New Highway, Mumbai; Monday through Thursday 11am to 9pm, Friday and
Saturday, 11am to midnight
</body>
</html>
Explanation:
Create the document head that contains the title for the page. Insert <head> and </head> tags before the
content. Within the head element, add information about the character encoding <meta charset="utf-8">, and
the title, "Black Goose Bistro", surrounded by opening and closing <title> tags
4.<!DOCTYPE html>
<html>
<head>
     <title>Display_Paragraph</title>
</head>
<body>
     This paragraph has multiple
     lines. But it is displayed
     as it is unlike the paragraph
     tag.
     This
             paragraph has multiple
     spaces. But
                    it is displayed
     as it is unlike the paragraph
            tag.
```

</body> </html>

```
5.
<!-- Write HTML code here -->
<head>
<title>Wel-Come All</title>
<style type="text/css">
    h1{
      color:#0FFFF0;
      background-color: hsl(200, 50%, 20%);
      color: hsl(200, 20%, 90%);
    }
    h4{
      color:rgb(0, 255, 0);
      background-color: hsl(150, 20%, 40%);
      color: hsl(360, 30%, 90%);
    }
    li{
      color:rgba(11, 99, 150, 1);
      background-color: hsl(250, 45%, 60%);
      color: hsl(175, 35%, 87%);
    }
</style>
</head>
<body>
<h1>Wel-Come All</h1>
<h4>Subjects for SY</h4>
<11>
Data Structure
Computer Networks
Web Tecnology
</body>
</html>
3. Create an html page with following specifications
      a. Title should be about myCity
      b. Place your City name at the top of the page in large text and in blue color
      c. Add names of landmarks in your city each in a different color, style and typeface
      d One of the landmark, your college name should be blinking
      e. Add scrolling text with a message of your choice.
      f. Add some image at the bottom
Solution :
<HTML>
<HEAD><TITLE><CENTER>My CITY</CENTER></TITLE></HEAD>
                                                    33
```

<BODY BGCOLOR="PINK"> <CENTER>PUNE,

LAB Exercise:

Set A

1. Create an html page with all the different text styles (bold, italic and underlined) and its combinations on separate lines. State style of each line in its text.

2.Create an html page containing the polynomial expression as follows:

 $A_0 + A_1 X + A_2 X^2 + A_3 X^3$

3. Write a HTML script to display following screen in figure 1.

Set B

1. Create an html page with red background with a message "warning" in large size blinking.

Add scrolling text "read the message" below it.

2. Create a HTML 5 page with following specifications

The Background colour should be green.

The text colour should be red.

The heading should be large in size as ' My Assignment'.

Display a horizontal line after the heading.

Display your name in Bold, address in Italics and year as S.Y

This is an alternate Marquee text
This is <i>italized</i>
This is <u>underlined</u>
This is bold
This is emphasized
This is Strong Text
This is striked text
This is computer code
This is ^{superscript} code
This is _{subscript} code
This is big text
This is small text

Figure 1

Set C :

1. Write a HTML script to display following screen

To illustrate link Tags			
Text as a link/hyperlink to another page : Cl	ick here!!!		
Image as a link/hyperlink :			
See also Chapter 8 (link within a page)			
Chapter 1			
This chapter explains Pointers			
Chapter 2			
This chapter explains variables			
Chapter 3			
This chapter explains operator			
Chapter 4			
This chapter evolution structure			

- 2. Create a Web Site with following specifications
 - a) Title should be about MY CITY
 - b) Put image of your city map in the background
 - c) Place popular college name of your city at the bottom in smaller size
 - d) Add names of historical places in a different color, style and typeface
 - e) Add scrolling text with a message of your choice
 - f) Add photo of historical place at the top
LAB Exercise Assignment on Hyper-Link.

Use an image as hyperlink. We just need to use an image inside hyperlink at the place of text as shown below -

```
<!DOCTYPE html>
<html>
```

```
<head>
<title>Image Hyperlink Example</title>
</head>
```

```
<body><body><body><body><body><body><body><body><body><body><br/><ahref="google.com"target="_self"><br/><imgsrc=Myimg.png"alt="Search"border="0"/></a><body></body></body>
```

</html>

The target attribute specifies where to open the linked document:

Atrribute	Description
_blank	Opens the linked document in a new window or tab
_self	Opens the linked document in the same frame as it was clicked (this is default)
_parent	Opens the linked document in the parent frame
_top	Opens the linked document in the full body of the window
_blank	Opens the linked document in a new window or tab

Set A:

1. Create an HTML page giving information about celebrating Dussehra in your country.

Use various tags in HTML to give it a pleasant look. It should be having following links:

- a. clip of Dussehra celebration
- b. Information why it is celebrated
- c. When it is celebrated
- d. What you do on this day

2. Create an html5 page with following specifications

- a. Title should be about MYCOLLEGE
- b. Put the windows logo image in the background
- c. Place your college name at the top of the page in large text followed by address in smaller size
- d. Add names of courses offered each in a different color, style, and typeface
- e. Add scrolling text with message of your choice
- f. Add college image at the bottom

Set B:

1. From Set A Example 1.

- a. Insert an Image of Dushera festival
- b. Create a hyperlink on that image .
- c. on clicking the image the information of the festival should be shown

2.From Set A Example 2.

- a. Insert the college logo
- b. Create a hyperlink on that image.
- c. on clicking the image the information of the college should be shown .

Set C:

1.From Assignment 1, Set C, Program 2

- a. Insert the image for each historical place
- b. Create a hyperlink on all images.
- c. on clicking the image the information of those places.

Assignment Evaluation

3: Needs Improvement []	4: Complete []	5: Well done []

Signature of the Instructor: ----- Date: -----

Assignment No.4: Introduction to Git & GitHub

Author : Sneha Ganesh Chavan

Allotted Slot: 1

Perquisites:

- a) Terminal commands of Linux like: ls, mkdir, rm etc.
- b) Version Control System.

This assignment will be divided into two parts Part I will be about Git and Part II about GitHub.

PART-I

Before we get started with what is git and GitHub we need to understand the sheer importance of it and why is it widely used in the IT industry extremely.

To begin with, I would like to introduce you to the **Version Control System** (**VCS**). It tracks the history of changes as people and teams collaborate on projects together. As the project evolves, teams can run tests, fixbugs, and contribute new code with the confidence that any version can be recovered at any time. Developers can review project history to find out:

- Which changes were made?
- Who made the changes?
- When were the changes made?
- Why were the changes needed?

Why GitHub?

Apart from definition, I would like to take you through real-world scenarios to understand this in a very Crispway. In a company, you aren't the only person who works on a project but the entire team does. Thework is divided between all the team members. Now if you and one of your colleagues are working on thesame web page and didn't communicate with each other about it there will be clashes. To avoid that git helpsyou to know who is working on which part of the code as well as when you make numerous changes to yourcode. You submit the changes once to git and next time you think I need to make more changes to it.

Then you change it and again submit it. You end up doing this 6 times more. So, there will be a total of 8 files which you have submitted serving the same purpose but some modification done to the file. Each file has a different modification. Then you end up thinking what I did the 3rd time was the perfect code. The best partis you can get the 3rd modified file and restore it. That is about Version Control System.

Developers work in every time zone. With a Distributed VCS like Git, collaboration can happen any time while maintaining source code integrity. Using branches, developers can safely propose changes to production code.

GitHub has your various versions of your files that are stored on the cloud. There are many VCS but why we choose just GitHub? Because it is open source as well as the above benefits listed above.

Git is a remote repository which is only limited to your personal computer or laptop.

GitHub hosts your remote repository online on web page so others can see your work.

Both of them are collaborated. Git commands are used to upload the project on the GitHub

"BY THE WAY GIT AND GITHUB ARE NOT SAME"

Installation of Git:

Lets go ahead and see how the installation is supposed to be done, it would be based on windows10 64bit, but there would be youtube videos for unix, macbook and windows7.

1) Pen Browser and then type this url: <u>https://git-scm.com/downloads</u> This below page would open.



According to your system Configuration select any one.
 Once it gets downloaded double click on it and it will give a pop like:



Click on next.

3) Path in which git will be stored. Keep it default if you don't want to change it.

Click on next after that.

Git 2.27.0 Setup		-		\times
Select Destina	ion Location			
Where should	Git be installed?			Ö
Set	will install Git into the following folder.			
To continue,	ick Next. If you would like to select a di	ifferent folder, did	k Browse.	
C:\Program	es\Git		Browse	
At least 258.	MB of free disk space is required.			
:ps://gitforwindow	org/			
	< Ba		Conc	- ol

4) Select the required fields and then click on next.

5)

Git 2.27.0 Setup	_		\times
Select Components Which components should be installed?			8
Select the components you want to install; dear the components you install. Click Next when you are ready to continue.	do not v	want to	
Additional icons Additional i			
<pre>https://gitrorwindows.org/ < Back Next</pre>	>	Can	cel
Program shortcuts just click on next. Select Start Menu Folder Where should Setup place the program's shortcuts?	_	-	×

Select Start Menu Folder Where should Setup place the program's shortcuts?	
Setup will create the program's shortcuts in the following Star	rt Menu folder.
To continue, click Next. If you would like to select a different folder, cl	ick Browse.
Git	Browse
Don't create a Start Menu folder https://gitforwindows.org/	
< Back Next 2	> Cancel

6) There will be multiple options given to you on for your preference if not vim editor you can

Choose any other editor from the drop down and then click on next.

🚸 Git 2.27.0 Setup	_		\times
Choosing the default editor used by Git Which editor would you like Git to use?			<u>>></u>
Use Vim (the ubiquitous text editor) as Git's default editor		~	
The <u>Vim editor</u> , while powerful, <u>can be hard to use</u> . Its user int unintuitive and its key bindings are awkward.	erface is		
Note: Vim is the default editor of Git for Windows only for histo it is highly recommended to switch to a modern GUI editor inste	rical reas ad.	sons, and	
Note: This will leave the 'core.editor' option unset, which will ma to the 'EDITOR' environment variable. The default editor is Vim may set it to some other editor of your choice.	ake Git fa - but yo	all back u	
https://gitforwindows.org/		Cap	cel
C DUCK HCAT		Carr	

7) Instead of manually going and setting the path git gives you an option to set the path in the installation itself so select second option and click on next.

🚸 Git 2.27.0 Setup		_		\times
Adjusting your PATH environment How would you like to use Git from the comm	and line?			>>
○ Use Git from Git Bash only				
This is the most cautious choice as you only be able to use the Git command lin	r PATH will not b ne tools from Git	e modified at all Bash.	. You will	
Git from the command line and als	o from 3rd-pa	arty software		
(Recommended) This option adds only PATH to avoid cluttering your environm You will be able to use Git from Git Bas PowerShell as well as any third-party s	some minimal Git nent with option h, the Command oftware looking	t wrappers to yo al Unix tools. I Prompt and the for Git in PATH.	ur Windows	
O Use Git and optional Unix tools fro	m the Comma	nd Prompt		
Both Git and the optional Unix tools wil Warning: This will override Windows to use this option if you understand the in https://gitforwindows.gov/	l be added to yo ols like "find" an mplications.	ur PATH. d "sort". Only		
hepsifygeror minoritatorg/	< Back	Next >	Cane	cel

8) Click on the first option of OpenSSL Library and then click on next.

🚸 Git 2.27.0 Setup	_		\times
Choosing HTTPS transport backend Which SSL/TLS library would you like Git to use for HTTPS connect	ions?		>
Use the OpenSSL library			
Server certificates will be validated using the ca-bundle.crt	file.		
○ Use the native Windows Secure Channel library			
Server certificates will be validated using Windows Certifica This option also allows you to use your company's internal R distributed e.g. via Active Directory Domain Services.	te Stores. loot CA cer	tificates	
https://gitforwindows.org/			
< Back N	lext >	Can	cel

9) For the next all pictures you just have to select whatever given and click on next.

🚸 Git 2.27.0 Setup		_	□ ×
Configuring the line ending conversions How should Git treat line endings in text files?			
Checkout Windows-style, commit Union Git will convert LF to CRLF when checking of text files, CRLF will be converted to LF. For this is the recommended setting on Window	- style line ending ut text files. When co cross-platform proje s ("core.autocrlf" is s	s ommitting cts, et to "tru	e").
Checkout as-is, commit Unix-style line Git will not perform any conversion when d committing text files, CRLF will be converte this is the recommended setting on Unix ("c	e endings necking out text files. d to LF. For cross-pla ore.autocrlf" is set to	When tform pro	jects,
Checkout as-is, commit as-is Git will not perform any conversions when a	hecking out or commi	tting	
projects ("core.autocrlf" is set to "false"). https://gitforwindows.org/	< Back Next :	>	Cancel
Git 2.27.0 Setup		_	
Configuring the terminal emulator to use with Which terminal emulator do you want to use with	h Git Bash your Git Bash?		
Use MinTTY (the default terminal of M Git Bash will use MinTTY as terminal emulate non-rectangular selections and a Unicode fi as interactive Python) must be launched via	r, which sports a resignt. Windows console winpty` to work in	izable win program MinTTY.	dow, s (such
Use Windows' default console window Git will use the default console window of W with Win32 console programs such as intera- very limited default scroll-back, needs to be order to display non-ASCII characters corre window was not freely resizable and it only	Vindows ("cmd.exe"), active Python or node configured to use a cctly, and prior to Wir allowed rectangular to	which wo .js, but h Unicode f ndows 10 text selec	orks well las a iont in its tions.
https://gitforwindows.org/	< Back Next :	>	Cancel
🚸 Git 2.27.0 Setup		_	
Choose the default behavior of `git pull` What should `git pull` do by default?			
Default (fast-forward or merge) This is the standard behavior of `git pull`: the fetched branch when possible, otherwise	ast-forward the curr ac create a merge co	ent branc mmit.	h to
 Rebase Rebase the current branch onto the fetche commits to rebase, this is equivalent to a fetche 	d branch. If there are st-forward.	e no local	
Only ever fast-forard Fast-forward to the fetched branch. Fail if	that is not possible.		
https://gitforwindows.org/	< Back Next :	>	Cancel
🚸 Git 2.27.0 Setup		_	- ×
Configuring extra options Which features would you like to enable?			
✓ Enable file system caching			
File system data will be read in bulk and cac operations ("core.fscache" is set to "true"). performance boost.	hed in memory for cer This provides a signif	rtain ìcant	
🗹 Enable Git Credential Manager			
The <u>Git Credential Manager for Windows</u> pr for Windows, most notably multi-factor auti Team Services and GitHub. (requires .NET f	ovides secure Git crea nentication support for ramework v4.5.1 or la	lential sto or Visual S ater).	rage tudio
Enable symbolic links			
Enable <u>symbolic links</u> (requires the SeCreate Please note that existing repositories are u	SymbolicLink permissi naffected by this sett	on). ing.	
https://gitforwindows.org/	< Back Next >	•	Cancel

🧼 Git 2.27.0 S	Setup			_		\times
Configurin Which bl	ig experiment a leeding-edge feat	I options ures would you like	to enable?			>
🗹 Ena	ble experimen	tal support for ps	eudo conso	les.		
(N	EW!) This allows	unning native conso	ole programs li	ke Node or Py	thon in a	
Git	t Bash window wit	hout using winpty, l	out it still has l	known bugs.		
Git	t Bash window wit	hout using winpty, l	out it still has l	known bugs.		
Git	t Bash window wit	hout using winpty, l	out it still has l	mown bugs.		
Git	t Bash window wit	hout üsing winpty, l	out it still has l	mown bugs. ´		

11) Once you click on install it will start installing on your pc/ laptop.

诊 Git 2.27.0 Setup	_		\times
Installing Please wait while Setup installs Git on your computer.			>>
Extracting files C:\Program Files\Git\mingw64\share\doc\git-doc\technical\pack-heur	istics.htm	al.	
https://gitforwindows.org/			
		Car	ncel

12) When done installing this pop will appear. Select both options and click on next.

🪸 Git 2.27.0 Setup	×
	Completing the Git Setup Wizard
	Setup has finished installing Git on your computer. The application may be launched by selecting the installed shortcuts.
	Click Finish to exit Setup.
	Next >
	48

13) It will open Release Notes related to Git and you can go through the details of git.

Gi flee///c/regranms.20r/leg/01/flee/astribute.html Git for Windows v2.27.0 Release Notes	☆ & & &
Introduction	
These release notes describe issues specific to the Git for Windows release. The release notes covering the history of the core git commands can be found in the Git project.	
See http://git.scm.com/ for further details about Git including ports to other operating systems. Git for Windows is hosted at https://gitlowindows.org/ .	
⊳Known issues	
Should you encounter other problems, please first search the bug tracker (also look at the closed issues) and the mailing list, chances are that the problem was reported aiready. Also make sure that you use an up to date Git for Windows version (or a current snapshot build). If it has not been reported, please follow our bug reporting guidelines and report the bug.	
▶ Licenses	

14) It will parallelly open Git Bash Terminal as well. It is a command prompt like shell Which acts completely like linux terminal accepting commands like ls.



15) Create a folder on the desktop to make it remote repository. Which makes it will be only used

For programs or projects.



16) Get into the folder you made. Right click and you'd see options like given below. Select GitBash and it will open the GitBash terminal in there or you can use the cd command to go

The files location as well.

* to Quick access Copy Paste Cipboard	n Move Copy to - to - Organize	New New New	Properties	Select all Select none Select Select		
→ → 🔜 > This PC > Deskto	p ⊳ Git				ン む Search Git	Q.
Quick access Desktop Downloads Documenta Dictares	^ (C	Nate modified Type	Size	This folder is empty.		
Music networking report Videos						
OneDrive						
This PC				View >		
Network				Group by > Refresh		
				Customize this folder		
				Pate Pate shortcut Undo Rename Ctrl+Z ♣ Gir GUI Here ♣ Gir Bash Here		
				Give access to > Shared Folder Synchronization >		
				New >		

17) The Git Bash Terminal would open will path as git folder as shown below.

MINGW64:/c/Users/admin/Desktop/Git	_	\times
admin@DESKTOP-RIHNNAU MINGW64 ~/Desktop/Git \$		^

18) Later on, type these commands to set user name and email id which you will register on Github account. Given one wrong command the second one to show you how errors appear.

Even if one thing is missing in the command.



Git commands and their usage:

SETUP configuring user information used across all local repositories

- gitconfig --global user.name "[firstnamelastname]" Set a name that is identifiable for credit when review version history.
- gitconfig --global user.email "[valid-email]" Set an email address that will be associated with each history marker.

3) gitconfig --global color.ui

Auto set automatic command line coloring for Git for easy reviewing.

STAGE & SNAPSHOT working with snapshots and the Git staging area

- git status Show modified files in working directory, staged for your next commit.
- git add [file]
 Add a file as it looks now to your next commit (stage).
- git reset [file]
 Unstage a file while retaining the changes in working directory.
- git diff diff of what is changed but not staged.
- git diff --staged diff of what is staged but not yet commited.
- 6) git commit -m "[descriptive message]" Commit your staged content as a new commit snapshot.

SETUP & INIT configuring user information, initializing and cloning repositories

- gitinit Initialize an existing directory as a Git repository.
- git clone [url] Retrieve an entire repository from a hosted location via URL.

BRANCH & MERGE Isolating work in branches, changing context, and integrating changes

- git branch List your branches. a * will appear next to the currently active branch.
- git branch [branch-name]
 Create a new branch at the current commit.
- git checkout Switch to another branch and check it out into your working directory.

4) git merge [branch]

Merge the specified branch's history into the current one git log show all commits in the current branch's history.

PART-II

GitHub is platform which hosts repositories which people can see on public. Let's see how it is supposed to be installed.

1. Go to the download page by opening web browser: <u>https://desktop.github.com/</u> download it



a. Double click on the downloaded file.

	Changes	History	Add event handler to dropdown component		
	Appease linter	committed a day ago	🕌 AmWillShepherd and Markus Olsson committed o CI9e71c 🚯 1 changed file		v
GitHubDesktopSetexe				Show all	Х

b. Once you double click the image will appear on your screen.



c. A pop will appear on your screen like the image given below. Click on Sign in to GitHub.com



d. Then registration/signup link will be showcased by the website. If you don't have an account. Click on Create an account.



e. Start giving the required details which are mentioned.

E - O 🙆 https://github.com/jointreturn_to=%2Flogin%2Floauth%2Fauthorize%3Fclient_jd%3Dde0e3c7e9973e104dd77%26scope%3Drep0%2D	Buser%2Bworkflow%26state%3Db4675	t \$ L B
Why GitHub? Y Team Enterprise Explore Y Marketplace Pricing Y	Search GitHub	Sign in
Join GitHub		
Create your account		
,		
Username *		
[
Email address *		
Password *		
Make sure it's at least 15 characters OR at least 8 characters including a number and a lowercase lett Learn more.	er.	
Email preferences		
Send me occasional product updates, announcements, and offers.		
Verify your account		

f. It will prompt if you have filled anything wrong just like the below image.



g.	Once you fill all the details it will ask you to verify your account:
	Join GitHub
	Create your account
	Username *
	snehachavan22
	Email address *
	snehachavan 2216@gmail.com
	Password *
	······
	Make sure it's at least 15 characters OR at least 8 characters including a number and a lowercase lette Learn more.
	Email preferences
	Send me occasional product updates, announcements, and offers.
	Verify your account

h. Verification will be sent to your email id which you have given while registration. Go to your email and check once and verify it from there. Click on verify button.



i. Login later with the your credentials:

	0		
	Sign in to CitHub		
	sign in to old ido		
U	ername or email address		
	snehachavan22		
Pa	ssword Forgot password?		
	Sign in		
	New to GitHub? Create an account.		
	Terms Privacy Security Contact GitHub		

j. You will land up to this page. There are options which you can explore. Click on Repository.

Your email v	10 A				
	/as venned.			×	
	What Every developer needs to config	do you want to do	first?		
	Start a new project Start a new repository or bring over an existing repository to keep contributing to it.	Collaborate with your team Improve the way your team works together and get access to more features with an organization.	Learn how to use GitHub Get started with an "Introduction to GitHub" course in our Learning Lab.		
	Create a repository	Create an organization	Start Learning		
		Skip this for now >			

k. When you click on Create a repository.

githiducom	
Search or jump to	Pull requests Issues Marketplace Explore Q + - (
Create your first project Ready to start building? Create a repository for a new idea or bring over an existing repository to keep contributing to it.	×
Create repository Import repository	Learn Git and GitHub without any code!
	Using the Hello World guide, you'll create a repository, start a branch, write comments, and open a pull request.
Working with a team? GitHub is built for collaboration. Set up an organization to improve the way your team works together, and get access to more features.	Read the guide Start a project
Create an organization	
	Discover interesting projects and people to populate your personal news feed. Your news feed helps you keep up with recent activity on repositories you watch and people you follow. Explore GitHub
	Discover interesting projects and people to populate your personal news feed. Vour news feed helps you keep up with recent activity on repositories you watch and people you follow. Explore GitHub Portput the feed shows you events from people you follow and repositories you watch. Subscribe to your news feed
	Discover interesting projects and people to populate your personal news feed. Vour news feed helps you keep up with recent activity on repositories you watch and people you follow. Explore CitHub Profig: The feed shows you events from people you follow and repositories you watch. Subscribe to your news feed Or constraints inc. Bing An Imming Imming
Type here to search	

C @ github.com/new		* * * * *
Search or jump to	2 Pull requests Issues Marketplace Explore	¢ +
	Create a new repository A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository.	
	Owner * Repository name *	
	Great repository names are short and memorable, Need inspiration? How about solid-palm-tree? Description (optional)	
	CpenCV project Public Argone an the internat can see this reposition; You choose who can common. O O Privat Public O Privat Public O O Privat Public O O Privat O Privat O O Priva	
	Skip this step if you're importing an existing repository. Initialize this repository with a README This will let you immediately clone the repository to your computer. Add "stignore. None Add stignore. None O	

m. Click on Create Repository. And you'd this.

→ C A githu	b.com/snehachavan22/dataAnalytics	A 🖌 🗐	* 6
Search or jump	to [7] Pull requests Issues Marketplace Explore	ф +	+ - (
			G
	Learn Git and GitHub without any code!		
	Using the Hello World guide, you'll start a branch, write comments, and open a pull request.		
	Read the guide		
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ا snehachavan Code ن iss Quick Get star	22 / dataAnalytics ② Actions ♡ Projects ① Wiki ③ Security ≥ Insights ③ Settings k setup — if you've done this kind of thing before tup in Deaktep or INTRE SHI Interst//github.com/sentenceeva02/data/nsiytics.git ted by creating a new file or uploading an existing file. We recommend every repository include a READML LICENSE, and .gitignore.	itar 0 ¥ For	he O
snehachavan2 <> Code ① Iss Quicl @Se Get star	22 / dataAnalytics	itar 0 V For	nic O
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How to collaborate local repository with GitHub to host it:

 When I create a new repository it will take me to this particular page inside which there is a code section. You have to select that command and then paste it on the Git Bash from git folder which we made it earlier. Command: git remote add origin "<your githuburl, not mine>".

				ΎБ
de 🕕 Issues	រ៉ៃ Pull requests 🕞 /	Actions 🛄 Projects 🖽 Wiki 🕐 Security 🗠 Insights 🛞 Settings		
Quick setup —	if you've done thi	s kind of thing before		
Set up in Desktop	or HTTPS SSH	git@github.com:snehachavan22/AttendenceRepo.git		۵
Get started by creating	g a new file or uploading a	n existing file. We recommend every repository include a README, LICENSE, and .gitignol	re.	
or create a ne	ew repository on t	he command line		•
echo "# Attenden git init git add README.mu git commit -m "f:	i irst commit"			

2) In this you remote repository is added. Next, step would be to go settings at top right corner and click on settings.



3) Once you go on settings you have to go at and select SSH and GPG keys section on left middle section of web page.



4) Then in this you will have to select generate ssh keys which is highlighted for you. Click on it.



Check out our guide to generating SSH keys or troubleshoot common SSH Problems.

5) Then go on to the link which is highlighted below it would open in new tab.

Using the SSH protocol, you can connect and authenticate to remote servers and services. With SSH keys, you can connect to GitHub without supplying your username or password at each visit.

Checking for existing SSH keys

Before you generate an SSH key, you can check to see if you have any existing SSH keys.

Generating a new SSH key and adding it to the ssh-agent

After you've checked for existing SSH keys, you can generate a new SSH key to use for authentication, then add it to the ssh-agent.

6) Then copy this link and then paste it on your GitBash Terminal. <u>Generating a new SSH key</u>

- 1 Open Git Bash.
- 2 Paste the text below, substituting in your GitHub email address.

\$ ssh-keygen -t rsa -b 4096 -C "your_email@example.com"

This creates a new ssh key, using the provided email as a label.

> Generating public/private rsa key pair.

Copy the above command and instead of you email type your email id which you have registered it with github

And used it as user.email during git.

7) I have overidded it but in your case it wont have any option. When it asks for enter passphrase just keep on hitting



Key gets generated in here. Now, we want to deploy this ssh key.



10) Then go back to the GitHub web page. Click on adding yourssh key to ssh-agent which is highlighted.

Adding your SSH key to the ssh-agent

Before adding a new SSH key to the ssh-agent to manage your keys, you should have checked for existing SSH keys and generated a new SSH key.

If you have GitHub Desktop installed, you can use it to clone repositories and not deal with SSH keys.

1 Ensure the ssh-agent is running. You can use the "Auto-launching the ssh-agent" instructions in "Working with SSH key passphrases", or start it manually:

start the ssh-agent in the background
\$ eval \$(ssh-agent -s)

- > Agent pid 59566
- 11) Which will take you to the section link which you'd have to link.

3 Add the SSH key to your GitHub account.

12) The public key has to be copied.

After adding a new SSH key to your GitHub account, you can reconfigure any local repositories to use SSH. For more information, see "Switching remote URLs from HTTPS to SSH."

Note: DSA keys (SSH-DSS) are no longer supported. Existing keys will continue to function, but you cannot add new DSA keys to your GitHub account.

1 Copy the SSH key to your clipboard.

If your SSH key file has a different name than the example code, modify the filename to match your current setup. When copying your key, don't add any newlines or whitespace.

\$ clip < ~/.ssh/id_rsa.pub # Copies the contents of the id_rsa.pub file to your clipboard

Tip: If clip isn't working, you can locate the hidden .ssh folder, open the file in your favorite text editor, and copy it to your clipboard.

13) When you copy paste this command with cat. It will give you the following output.



14) Then you have to select the entire output copy it and then paste it at new ssh key. Which is marked in red

+ → C 🎧 🖡	github.com/settings/keys	*	
Search or jump	to 🕧 Pull r	equests Issues Marketplace Explore	
	snehachavan22 Personal settings	SSH keys	New SSH ke

15) Then add the copied ssh-key and give it appropriate name to it. And then click on the green button named add ssh key.

Search or ju	mp to 7 Pull I	requests Issues Marketplace Explore
	snehachavan22 Personal settings	SSH keys / Add new
	Profile	Title
	Account	sneha's computer
	Account security	Key
	Security log	8iaRJI9ynjnXd9EYcYVbfcCT8M2fFidRQgxP5UXKWzyX8J7f+L2GECcuYR6XRWrSgj0xj6JdlkxnWFDYDuQ3ZZ88/8Tio
	Security & analysis	oXdD3wSZJNkinSe3kyS3A8Hj4Y0lcFJBAgOIP5rN2MVtPEI1JIzdsPyWDX5exAEvPJBjWnddmFjlcZuazkpPC242gjg9IV F8eVZ9h9MfJN0bAQzNp/SKNvfw1tsD4tAfLUDC8BNp5T+9QX7QchThiMP6Lz8IW/PbMtYpWA8VRSvtawaRcCvnc1
	Emails	Je2/Fa28qA4jVG3rUZIVdIJAP7f11KSr65ZhyxDu6GPJI4aSziWyDY9Q3Qbqueh1cYDbtD5PNHUYCKDbLVwDT04NXw
	Notifications	PgKALRWOO + 1jqzhLwDrP9/g0A7eGvWjeB5044ZidtA8mJdEPxB0M5fYAKmpP6CwOJHiOTVua+gEHtDQBDqRbjM
	Billing	Yukg/6Tpj9nGS851KosodMzKs85af/pd27NlUJsrmmy27O7cqq/TwCSC7Pj5EzREAE0u6/QPx8YsLFWeqw== snehachavan2216@gmail.com
	SSH and GPG keys	
	Blocked users	Add SSH key
	Repositories	
	Organizations	
	a construction of the second	

16) Go to your repository and then you'd be able to see this. Then click on ssh which is highlighted.

Pash terminal.
Pash terminal.
Pash terminal.
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If you check website you'll see all your files using git add, git commit command and in the end git push.

snehachavan22 / dataAnalyt	ics		⊙ Unwatch → 1 🛱 Star 0 0 Fork 0
<> Code ① Issues ♣ Pull requi	ests 🕞 Actions 🖽 Projects	🗇 Wiki 🕕 Security 🗠 Insights 🕼 Settings	
^{9.9} master → ^{9.9} 2 branches 0	🔉 0 tags	Go to file Add file • 💆 Code •	About 🔯
snehabca07 "First module"		8889353 4 hours ago 🕚 1 commits	OpenCV project
🗋 sneha.html	"First module"	4 hours ago	
🗋 varshitha.html	"First module"	4 hours ago	Releases
🗅 yashraj.html	"First module"	4 hours ago	No releases published Create a new release
	"First module"	4 hours ago	
	"First module"	4 hours ago	Packages
Help people interested in this reposi	tory understand your project by adding a	README. Add a README	No packages published Publish your first package

AND WE'RE DONE! For more understanding of such concepts you can refer to the YouTube channel: <u>https://www.youtube.com/c/DecodegetItSimplified</u>

LAB Exercise

Set A:

- a) Create a GitHub account.
- b) Download and install git on computer or laptop.
- c) Create your own repository for each subject.
- d) Collaborate Remote Repository with GitHub using GitBash Terminal.
- e) Upload html programs on your repository and share the link with your professor to see.

Assignment Evaluation

0: Not Done []	1: Incomplete []	2: Late Complete []
3: Needs Improvement []	4: Complete []	5: WellDone []

Signature of the Instructor: ----- Date: -----

Assignment No 5: Creating List and Tables using HTML Tags

Author: Aparna Tushar Gohad

Allotted Slots: 2

Aim: To study different types of List, creating tables using HTML tags.

Pre-requisite: Basic HTML tags

The student should read following topics before starting exercise.

***** List:

A List is a record of short piece of information usually written with a single thing on each line and ordered in the way that makes a particular thing easy to find.

Eg:

- To-do list
- Shopping list

HTML offers two types of List:

1. Numbered List (Ordered List ie ol): An ordered list is used when sequence of list items is important.

2. Bulleted List (Unordered List ie ul): An unordered list is a collection of related items that have no

special order or sequence. Tags used to create lists are given in the following table.

Sr. No.	Tag	Description	Attribute	Example
		Used to specify list		
		under ol or ul		

	The tag is used to	type = a/A/i/I	<01>
	specify the ordered		Pen
	list. By default it	Sets the numbering style to:	Pencil
	starts at 1 and	<ol type="1"> - Defaul	Scale
	always incremented	Numerals.	
	by 1.	 <ol type="I"> - Uppe 	
		Numerals.	<ol type="a">
		 <ol type="i"> - Lowe 	Pen
		Numerals.	Pencil
		 type = "A"> - Uppe 	Scale
		Letters.	
		 type = "a"> - Lowe 	
		Letters.	<ol start="4" type="a">
			Pen
		start = "4"Specifies the start v	Pencil
		the first list item in an ordered l	Scale
		This value is always an integer	
		when the numbering type is let	
		romans. E.g., to start counti	
		items from the letter "c" or the	
		number "iii", use start="3".	
	This tag defines uno	type = disc/square/circle Sp	
	list of items. Each it	the bullet type.	Pune

the list is marked		Mumbai
bullet.	 <ul type="disc"> <ul type="circle"> <ul type="square"> 	Nagpur
	square >	 type="so Pune Mumbai Nagpur
	bullet.	bullet. <ul type="disc"> <ul type="circle"> <ul type="square">

***** Table:

A table is a two dimensional matrix, consisting of rows and columns. HTML tables are intended for displaying data in columns on a web page. Tables contains information such as text, images, forms, hyperlinks etc. Tags used to create table are given in the following table.

Sr. N	Tag	Description	Attribute
		It is used to cre	border=number
	<th>table.</th> <th>Draws an outline around the table rows and cells of width equal number. By default table have no borders number =0.</th>	table.	Draws an outline around the table rows and cells of width equal number. By default table have no borders number =0.
			width=number
			Defines width of the table.
			cellspacing=number
			Sets the amount of cell space between table cells. Default value
			cellpadding=number
			Sets the amount of cell space, in number of pixels between the cellborder and its contents. Default is 2
			bgcolor="#rrggbb"
			Sets background color of the table
			bordercolor="#rrggbb"
			Sets border color of the table
			align=left right center
			Aligns the table. The default alignment is
			left.frame=void above below hsides lhs rhs vsides box border
			Tells the browser where to draw borders around the table
		Creates a table	align=left right center
			Aligns the data in cell. The default alignment is left.
	>	Creates a table	
		heading.	
	>	Data cells are	rowspan=number
		inserted in a ro	Specifies number of rows a cell should span.
		table.	colspan=number
			Specifies number of columns a cell should span
			align=left right center
			Aligns the data in cell. The default alignment is left.
			Dgcolor ="#rrggbb" Sets he showed ealer of the table
			Sets background color of the table.

Sample program for HTML table.

DOCT</th <th>YPE html></th> <th></th> <th></th> <th></th> <th></th>	YPE html>					
<html></html>						
<body></body>						
<h2>Basi <table bordercol Item Item Item Item Price 1111111</table </h2>	c HTML Ta border=1 or=black> No Name //th> //td> //td> //td> //td> //td>	ble width=80%	cellpadding=3	cellspacing=3	bgcolor="gray"	
	<td colspa<="" td=""><td>n=2></td><td></td><td></td><td></td></td>	<td>n=2></td> <td></td> <td></td> <td></td>	n=2>			
	<b< td=""><td>>Total: 140</td></b<> <td>)></td> <td></td> <td></td>	>Total: 140)>			
			70			

LAB Exercise

SET A

1. Write the HTML code to display the rainbow color names using Ordered List. Modify the code to display eachcolor name with the same color of rainbow using font tag. Apply page background color as black.

[Hint: Red]

2. Write the HTML code which generates the following output.

SYBCA (Science) Course Objectives I. **Data Structures** To understand algorithms and analysis of algorithms 0 To learn static and dynamic data structures \cap II. Database Management Systems II To understand advanced SQL features and procedural SQL To study concurrency control and crash recovery techniques **Computer Networks** To learn role of protocols at various layers in the protocol stacks To study different techniques for framing, error control, flow control and routing

3. Write the HTML code to display list of any three car companies. For each company display list car models. Display car model as hyperlink. On click of car model it should display an image of that car in another window. Use ordered or unordered list of your choice.

[*Hint*: Create separate HTML page for each car model which will display an image. Use Swift]

SET B

1. Write the HTML code to display day wise SYBCA time table in tabular format.

2. Write the HTML code which generates the following output. Add more colors in following table.

Color	Name	hexadecimal	RGB value
	Salmon	FA8072	250-128-114

HTML Colors

1			
Gold	FFD700	250-215-0	
3. Write the HTML code which generates the following output.

Company wise Profit

Company Name	Year	Profit (In Crore)
Infosys	2018	6520
	2019	7250
	2020	7962
Wipro	2018	1803
	2019	1953
	2020	2529
Cognizant	2018	5420
	2019	5863
	2020	6293

SET C

1. Write the HTML code to display names of html text formatting tags and output in tabular format. Add more html text formatting tags in following table.

Tag name	Output
b	Bold
Ι	Italic
U	Underline

2. Write the HTML code to display Product and its subtypes in tabular format. Add more products of your choice in following table.

Sr. No	Product Name	Product subtypes
		• Toor daal
1	Pulses	Moong daal
		Udad daal
		Sambhar masala
2	Everest Masala	 Pavbhaji masala
		• Kichen king masala

Assignment Evaluation

0: Not Done []	1: Incomplete []	2: Late Complete []
3: Needs Improvement []	4: Complete []	5: Well done []

Assignment No 6: Creating Frames and Forms using HTML Tags

Author: Aparna Tushar Gohad

Allotted Slots: 2

Aim: To study frames for diving html page and designing input form using HTML tags.

Pre-requisite: Basic HTML tags

The student should read following topics before starting exercise.

• **Frames:** Using frames, one can divide the screen into multiple scrolling sections, each of which can display a different web page into it. It allows multiple HTML documents to be seen concurrently.

Tag	Description	Attributes	Example
<frameset></frameset>	Splits browser screen	rows=number	<frameset rows="20%,</th></tr><tr><td></frameset></td><td>frames.</td><td>Helps in dividing the browser screen into</td><td>30%"></frameset>
		horizontal sections or frames.	
		cols =number	
		Divides the screen into vertical sections or	
		frames.	
		The number written in the rows and cols	
		attribute can be given as absolute numbers	
		percentage value or an asterisk can be used	
		indicate the remaining space.	
		border = number	
		This attribute specifies the width of the bor	
		each frame in pixels. For example, border	
		A value of zero means no border.	
		frameborder = number	
		This attribute specifies whether a three-	
		dimensional border should be displayed be	
		frames. This attribute takes value either 1 (
		or 0 (no). For example frameborder = $"0"$	
		specifies no border.	
		framespacing = number	
		This attribute specifies the amount of space	
		between frames in a frameset. This can tak	
		integer value. For example framespacing =	
		means there should be 10 pixels spacing be	
		each frames.	

<frame/>	Used to define a sing	name=text	<html></html>
<th>frame in a < frameset</th> <th>Assigns a name to the frame src=url</th> <th><frameset 50%,<="" rows="50</th></tr><tr><th></th><th></th><th>Specifies the location of the initial HTML</th><th>border=10></th></tr><tr><th></th><th></th><th>be displayed by the frame.</th><th><</math>frameset cols = " th=""></frameset></th>	frame in a < frameset	Assigns a name to the frame src =url	<frameset 50%,<="" rows="50</th></tr><tr><th></th><th></th><th>Specifies the location of the initial HTML</th><th>border=10></th></tr><tr><th></th><th></th><th>be displayed by the frame.</th><th><</math>frameset cols = " th=""></frameset>
		noresize	<frame frm1"noresize="nores</th></tr><tr><th></th><th></th><th>attribute prevents a user from being able to</th><th><frame src =</th></tr><tr><th></th><th></th><th>resize the frame. For example noresize =</th><th>" src="success.t</th></tr><tr><th></th><th></th><th>By default, frame can be resize by clicking</th><th>name =</th></tr><tr><th></th><th></th><th>dragging on the borders of a frame. The no</th><th>" welcome.html"=""/>
		"noresize".	
		scrolling	<frame "failure.ht<="" src="" th=""/>
		This attribute controls the appearance of th	
		scrollbars that appear on the frame. This ta	

		values either "yes", "no" or "auto". For exa	
		scrolling = "no" means it should not have s	Note: Don't specify bo
		bars.	while using frameset ta
<iframe></iframe>	This is used to define	src=url	<html></html>
	inline frame with HT	This attribute is used to give the file name	<body></body>
	tag <iframe></iframe> . The	should be loaded in the frame.	<iframesrc="demo.htm"< th=""></iframesrc="demo.htm"<>
	<iframe> tag is not</iframe>	name=text	height=300 width=300
	somehow related to	Assigns a name to the iframe	
	<frameset> tag, inste</frameset>	height=number	
	can appear anywhere	Specifies the height of iframe	
	your document. The	width=number	
	<iframe> tag defines</iframe>	Specifies the width of iframe	
	rectangular region wi		
	the document in whic		
	browser can display a		
	separate document,		
	including scrollbars a		
	borders. An inline fra		
	used to embed anothe		
	document within the		
	current HTML docum		

Frame's Name and target attributes

The main use of frame is to place navigation bars in one frame and then load main pages into a separate frame.

See the following code:

test.html

<!DOCTYPE html> <html> <head> <title>HTML Target Frames</title> </head> <frameset cols = "20%, *"> <frame src = "menu.html" name = "menu_page" /> <frame src = "main.html" name = "main_page" /> </frameset> </html>

menu.html	
	html
	<html></html>
	<body></body>
	Google
main.html	
	html
	<html></html>
	<body></body>
	<h3>This is main page and content from link will be displayed here.</h3>

To see the result open **test.html** in browser. It will display output as follows.

Google	This is main page and content from link will be displayed here.

The target attribute can take one of following values:

Sr No	target value	Description
1	_self	Loads the page into the current frame.
2	_blank	Loads a page into a new browser window. Opening a new window.
3	_parent	Loads the page into the parent window, which in the case of a single frameset is the main browser window.
4	_top	Loads the page into the browser window, replacing any current frames.
5	_targetframe	Loads the page into a named targetframe.

• Forms: HTML provides better & more extensive support for collecting user inputs through forms. A form can be placed anywhere inside the body of an HTML document. You can have more than one form in the document.

Sr	Tag	Description	Attributes	Example
1	<form> </form>	Creates a forn	action=URL Givesthe URL theapplication that is tor & processthe forms data method=post/get Specif which method form tra data to server	<pre><!DOCTYPE html> <html> <body> <form action="next.html" method="post"> > <input type="submit" value="Submit"/> </form> </body> </html></pre>
2	<input/> 	This is usedto inputcontrol o html form	name=text Used to name the maxlength=number Us specify number of character allowed in filed size=number The width of the input of in pixel. type="(checkbox/ h radio/reset /submit /image) " value to be sul with the form (for a ch or radio button) or lal Reset or Submit buttons src="source file for an in checked It indicates that checkt radio button is checked. align=("texttop/ abs /baseline/bottom")	<input <br="" type="text"/> name="nm"width=20> <input <br="" type="radio"/> name="gender" value="male" checked>Male <input <br="" type="radio"/> name="gender" value="Female">Female <input <br="" type="checkbox"/> name="chess"value="chess"> Chess <input <br="" type="checkbox"/> name="Poker" value="Poker" Poker
3	<select> </select>	Defines and displays a set optional list it from which th can select one more items.	name=text assigns a name to the control size=number Defines the number of items in the drop-down li multiple=multiple When set, it specifie multiple items can be se at a time	<select name="item" size="1"> </select>

4	<option></option>	Indicates a p	selected =default selectio	<select <="" name="item" th=""></select>
		widget	submitted the data,	<pre><option chair<="" pre="" selecte="" value="Chair"></option></pre>
			If this option is selected	<option value="Table"></option>
				Table <option value="Blackboard"></option>

> New input types in HTML5

HTML5 introduces 15 new input types. When viewed in a browser that doesn't support them, these input types fall back to text input.

Sr	Input types	Description	Attributes	Example
1	label	Define a Label for <input/> element		<form> <label for=""> enter your name</label> <input type="text"/> </form>
2	legend	Define a c for field element		<form> <legend>create new account </legend> </form>
3	number	Used representing numerical in	 value: number The initial value. If o the field is initially blan the internal value i consistent across browse step: number How much to change the when you click on the down arrows of the c The default is 1 min, max: number The smallest and largest that can be selected theup/down arrows 	<input <br="" type="number"/> min="0" max="20" step="2" value="10" name="weight"/>

	4	rang	e	For		value: number		<input <="" th="" type="range"/> <th></th>	
				numer	ical	The initial value.	TheBle	ickbeame=/"paisn">	
				input,	but	halfway between	the the the	elect>	
5	<te< th=""><th>extarea</th><th>It</th><th>deffikes</th><th>nan</th><th>ne=textmax.</th><th><te< th=""><th>xtarea name="comment"</th><th></th></te<></th></te<>	extarea	It	deffikes	nan	ne=textmax.	<te< th=""><th>xtarea name="comment"</th><th></th></te<>	xtarea name="comment"	
	1</th <th>extare</th> <th>mult</th> <th>ilineutext</th> <th>er, thesi</th> <th>ignstep:namebers the</th> <th>e rov</th> <th>vs=10 cols=40></th> <th></th>	extare	mult	ilineutext	er, thesi	ignstep:namebers the	e rov	vs=10 cols=40>	
			It is	usectual	is n@n	trolHow much to cha	inge the		
			useri	inputspor	tant <mark>rov</mark>	ws=number ou click of	n the		
			com	ments	Spe	cifies the arts one att	the c		
			revie	ws.	line	es in a fext area is 1.			
					col	s=nminermax: The	smalle		
					Spe	ecifies the visible wid	1		
					text	t area			

			largest values that c selected. The default for 0, and the default for 100	
5	date	For entering a date with no time zone	 value: date The initial value. The format is "yyyy-mm step: number The step size in days. The default is 1. min, max:numner The smallest and largest dates that can be selected, formatted as date strings of the form "yyyy-mm-d 	<input <br="" type="date"/> name="bdate"/>
6	time	For entering a time value with hour, minute, seconds, and fractional seconds, but no time zone		<input type="time"/>
7	datetime-lo	For entering a date and time with no time zone.		<input color"="" type="datetime-local</td></tr><tr><td>8</td><td>color</td><td>For choosing
color throug
a color well
control</td><td>value: number (in RGB,
The initial value.
The intention is that if a
browser pops up a color
chooser, the initial
selection will match the
current value.</td><td><input type="/>

9	email	Define a fie an e-mail a (validates automaticall when submit	 value: emailid The initial value, as an absolute URL. Multiple Allows multiple addresses 	Only one email address <input <br="" type="email"/> name="email"> Allows multiple email addre Separate each email address comma <input emails"="" id="em
name=" multiple="" type="email"/>
10	URL	For entering	value : url The initial value	<input <="" th="" type="url"/>
		UKL.	as an absolute UKL	

		Г	1	
11	tel	For entering a telephone number.	value: The initial value asa number	<input <br="" type="tel"/> name="mobno">
12	placeholder	Gives the user a hint about what sort of data they should enter.	 placeholder: A small hint. This differ the "value" attribute i ways. First, it will usua rendered differently (e.g gray). Second, it automatically disappear you click in the textfield. Value: The initial value. If you both placeholder and va value is considered, placeholder is ignored. 	<input <br="" type="text"/> placeholder="Firstname" name="fname"/>
13	autofocus	Focusesthe input on the element when the page is loaded	value: The initial value TRUE/FALSE	<input <br="" id=" last name"/> type="text" autofocus="true">
14	autocomple	For specifying that a field should not autocomplete or be pre-filled by the browser based on a user's past entries	value: The initial value ON/OFF	<input <br="" type="password"/> name="Password confirmation" autocomplete="off">

15	List/datalis	Represents a	list: The id of a separate	<input datalist"="" element="" th="" that<="" type="text (or</th></tr><tr><th></th><th></th><th>set of option</th><th>"/> <th>other)" list="some-id"</th>	other)" list="some-id"
		elements that	defines a list of choices	name="some-name"/>	
		can be used	for the user to choose	<datalist <="" id="email-choices" th=""></datalist>	
		incombinatio	among.	<option 1"="" insert="" label="Display Val</th></tr><tr><th></th><th></th><th>with the new</th><th>The option element</th><th>value=" val=""></option>	
		list attribute	(inside "datalist")	<option 2"="" insert="" label="Display Val</th></tr><tr><th></th><th></th><th>for input</th><th>label: Extra infor</th><th>value=" val=""></option>	
		to make	thatmay be displaye	<option 3"="" insert="" label="Display Val</th></tr><tr><th></th><th></th><th>dropdown</th><th>theautocomplete list.</th><th>value=" val=""></option>	
		menus.	value: The value that sh		
			inserted into the textfield		
			the entry is selected		

Type the sample Form code and view the content through a browser.

Sample Program:

<!DOCTYPE html>

<html>

<body>

<form action="" method="post">

<h3>Quick Contact</h3>

<h4>Contact us today, and get reply within 24 hours!</h4>

Name : <input type="text"></input>

Email id : <input type="text"></input>

Type your message : <textarea></textarea>

<input type="submit">Submit</input>

</form>

</body>

</html>

LAB Exercise:

SET A

1. Write the HTML code which generates the following output.

This is a header.				
Look in the box at the right for some information.	Here is some information.			
This is a f	ooter.			

2. Write the HTML code to divide the frame into different sections as shown below and add appropriate html files toeach frame.

First Frame : Name and Address				
Second Frame		Third Frame		
Bulleted list of qualification	ns	Links to	Favourite sites	
Fourth Frame	Fourth Frame Fifth Frame		Sixth Frame	
Scrolling Message Blinking ren		minders	image	

3. Write the HTML code to divide page vertically in two sections. On left side display list of any three car companies. For each company display list car models. Use ordered or unordered list of your choice. Display car model as hyperlink. On click of car model it should display an image of that car in right sidewindow.

[*Hint*: Use target attribute of anchor tag]

SET B

1. Write the HTML code which generates the following output.

		6929507	_	
Student Name	S. Nageswara	Rao		
Student E-Mail	sure@yahoo.c	com		
ow do vou rate the faculty 🔍 P	oor 🔍 Good	Very	Good ®	Exceller
0				
Suggestions for the be N more days for tra	iterment of fa	aculty and ere. If s good.	institute given	

2. Write the HTML code which generates the following output.

Enter Your Name	
Enter Your Password	
Which of the following Operating Sys	stem have you used?
LINUX 🗗 Windows XP	Macintosh 8.0
Which Operating System do you like	the best?
O LINUX 🔘 Windows XP	Macintosh 8.0
You have Completed the Form .	Submit

SET C

1. Create the HTML page which gives details of your college, containing College Heading. Add nested list of courses offered by college for various streams. Add your college photograph and message. Save this page as"College.html".

2. Design the HTML form to take the information of a student registering for the course such as name, address, gender, date of birth, birthplace(to be selected from a list of city/country), telephone number, email, course (to be selected from a list of courses) etc. One should provide button to submit as well as Reset the form contents.Save this page as "Register.html" and embed the above page "COLLEGE.HTML" in this page. (HINT: Use inline frame.)

Assignment Evaluation

0: Not Done []

1: Incomplete [] 2: Late Complete []

3: Needs Improvement [] 4: Complete [] 5: Well done []

Signature of the Instructor: ----- Date: -----

Assignment No7 : Styling HTML pages using CSS

Author: Aparna Tushar Gohad

Allotted Slots: 3

Aim: To study designing of HTML in different ways using CSS.

Pre-requisite: Basic HTML tags

The student should read following topics before starting exercise.

CSS stands for Cascading Style Sheets. CSS is a language that describes style of an HTMLdocument. It describes how the elements of HTML should display.CSS offers more options to provide layout to the HTML.

Advantages of CSS:

- 1. Control layout of many documents from one single style sheet.
- 2. More precise control of layout.
- 3. Apply different layout to different media-types (screen, print, etc.).
- 4. Numerous advanced and sophisticated techniques.

There are three ways one can apply CSS to an HTML document.

- 1. In-Line Method By writing text next to it. (The attribute style).
- 2. Internal Method– By specifying tag at the top of the page. (The tag style).
- 3. External Method– By writing a separate CSS file. (Link to a style sheet).

Method 1:

In-Line Method – By writing text next to it. (The attribute style).

To apply CSS to HTML is by using the HTML attribute style. Here is the example of applying red background to HTML page and applying CSS to h1 tag:

Test.html

<html>

<head>
 <title>Example</title>
 </head>
 <body style=''background-color: #FF0000;''>
 <h1 style=''color:blue;margin-left:30px;''>This is a heading</h1>
 This is a red page
 </body>
</html>

Method 2:

Internal Method – By specifying tag at the top of the page. (The tag style).

Another way is to include the CSS codes using the HTML tag <style>. For example:



Method 3:

External Method – By writing a separate CSS file. (Link to a style sheet).

Style sheets are separate files full of CSS instructions (with the file extension .css). When any web pageincludes an external style sheet, its look and feel will be controlled by this CSS file (unless you decide to overridea style using one of these above two types). This is how you change a whole website at once. And that's perfect ifyou want to keep up with the latest fashion in web pages without rewriting every page!

In external CSS <link> tag defines therelationshipbetween adocument and an external resource.

For Example:

Test.html	mystyle.css
html	body
<html></html>	
<head></head>	background-color: #FF0000;
<link <="" rel="stylesheet" td="" type="text/css"/> <td>}</td>	}
href=''mystyle.css''>	h1
	{
<body></body>	color: blue;
<h1></h1>	margin-left: 30px;
ExternalCSS example!	}

Following table shows the list of properties used in CSS stylesheet:

Sr. No	Tag/Property	Property with Values		
	Colors and Background	1) color: colorName		
		2) background-color: colorName		
		3) background-image: url(path/image)		
		4) background-repeat: repeat, repeat-x, repeat-y		
	Font	1) font-family: fontName		
		2) font-style: italic,oblique		
		3) font-size: pixels/percentage		
		4) font-weight: bold,bolder,lighter(100-900)		
	Text	1) text-decoration: underline, overline, line-through, blink		
		2) text-align: left,right,center,justify		
		3) text-transform: capitalize,uppercase,lowercase		
		4) text-indent: number		
		5) vertical-align: sub,super,top,middle,bottom		
	Margin	1) margin-top: 100px		
		2) margin-bottom: 100px		
		3) margin-left: 100px		
		4) margin-right: 100px		
		5) margin: 100px 40px 10px 70px		
	Border	1) border-style: solid,double,groove,inset,outset,ridge		
		2) border-color: colorName		
		3) border-width: number		
		4) border-top-width: number		
		5) border-bottom-width: number		
		6) border-left-width: number		
		7) border-right-width: number		
		8) border-top: width style color		
		9) border-bottom: width style color		
		10) border-left: width style color		
		11) border-right: width style color		
		12) border: width style color		

List	1) list-style: disc, circle, square, decimal, lower-roman,
	upper-roman, lower-alpha, upper-alpha

Applying CSS using id or class

Using id: The id attribute specifies a unique id for an HTML element. The value of the id attribute must be unique within the HTML document. The id attribute is used to point to a specific style declaration in a style sheet. To define CSS use # character followed by id name and then write CSS properties in {} curly braces.

```
<!DOCTYPE html>
<html>
      <head>
      <style>
      #myHeader
      {
             background-color: lightblue;
             color: black;
             padding: 40px;
             text-align: center;
      }
      </style>
      </head>
      <body>
             <h1 id="myHeader">My Header</h1>
      </body>
</html>
```

Using class: A class name can be used by multiple HTML elements, while an id name must only be used by one HTML element within the page. To define CSS use dot (.) character followed by css class name and then write CSS properties in {} curly braces. The css class can be used multiple times.

```
<!DOCTYPE html>
<html>
      <head>
      <style>
      /* Style all elements with the class name "city" */
      .city
      {
              background-color: red;
              color: white;
             padding: 10px;
      }
      </style>
      </head>
      <body>
              <!-- Multiple elements with same class -->
             <h2 class="city">Maharashtra</h2>
             <h2 class="city">Nagpur</h2>
             <h2 class="city">Bangalore</h2>
      </body>
</html>
```

CSS float property

The CSS float property can make HTML elements float to the left or right inside their parent element. Content inside the same parent element will move up and wrap around the floating element. For example:

Code:	Output:
html	
<html></html>	This is the first text
<body></body>	This is how 1
<div style="border:1px solid #cccccc;"></div>	This is box 1
This is the first text	I his is box 2
<pre><div style="float: left; border: 2px</pre></td><td>This is the last text</td></tr><tr><td>red;"></div></pre>	
This is box 1	
<pre><div style="border: 2px solid green;"></div></pre>	
This is box 2	
This is the last text	

In above example the HTML code contains a div element which has a text, two div elements and another text inside its body.

Now, let us make the first nested and second nesteddiv element float left using the float CSS property.

_	
Code:	Output:
html	
<html></html>	This is box 1 This is box 2 This is the first text This is the last text
<body></body>	
<pre><div style="border:1px solid #cccccc;"></div></pre>	
This is the first text	
<div style="float: left; border: 2px</td><td></td></tr><tr><td>red;"></div>	
This is box 1	
<div style=" float: left; border: 2px</td><td></td></tr><tr><td>green;"></div>	
This is box 2	
This is the last text	

Here both the first and second nested div element is floating to the left inside their parent element. The text wraps nicely around the two floating elements.

Possible values of float

value. left : floats the element to the left of its conta		beader	
right: floats the element to the right of its container.inherit: the element inherits the float directi its parent.	side bar	main content	Float Rig
		footer	

LAB Exercise

SET A

1. Write the HTML code for generating the following layout as shown below.

<!DOCTYPE html> <html> <body> <div id="container" style="width:500px;"> <div id="header" style="background-color:#FFA500;"> <h1 style="margin-bottom:0;">Main Title of Web Page</h1></div> <div id="menu" style="background-color:#FFD700;height:200px;width:90px;float:left;</pre> border-right: 1px solid black "> Menu
 HTML
 CSS
 JavaScript</div> <div id="content" style="backgroundcolor:#EEEEE;height:200px;width:390px;float:left; margin-left:10px"> Content goes here</div> <div id="footer" style="background-color:#FFA500;clear:both;text-align:center;"> This is footer part </div> </div> </body> </html>

2. Write the HTML code to generate same output as above by using External CSS.

SET B

1. Write the HTML code which generates the following output.



2. Write the HTML code which generates the following output.

O Pay with Net Banking		
PayPal PayPal		
O Pay by Mobile Using Local Methods		
Name on Card		
Card Number		
MM VYYYY V MM VYYYY V Security Code		
By completing your purchase you agree to these Terms of Service.		
Complete Payment		

SET C

Write the HTML code which generates the following output 1.

Google			
Create your G	oogle Account		
First name	Last name		
Username			
You can use letters, numbers & periods			
Use my current email add	dress instead		
Password	Confirm	B	
Use 8 or more characters with symbols	h a mix of letters, numbers &		
Sign in instead		Next	
A • • • • •			
Assignment I	Evaluation		
0: Not Done [] 1: Incom	nplete []	2: Late Complete []
3: Needs Improvement []	4: Complete [] 5	5: Well done	e []
Signature of	the Instructor:		Date:
		99	

Assignment No. 8: Introduction to JavaScript

Author: Sneha Ganesh Chavan

Allotted Slots:2

Prerequisite:

- 1) You must know HTML well with CSS.
- 2) Need to know how web pages work.

What is Scripting Language?

Scripting language doesn't need compiler but uses interpreter which means each line of the code is interpreted one by one at run time. It is cross platform but no privacy. Slow speed during execution. Mostly they are used to automate the Task.

JavaScript is scripting language and not any programming language. Before we deep dive into learning JavaScript we need to understand why we are learning JavaScript and its role in website making. JavaScript makes the

Web page response which means if you created a web page and you want your client to fill whatever is in the web page.

Once the Client is done with filling the form on web page he/she would click on submit button and they would expect some action occurs and it redirects them to different page or give them a message. JavaScript is used for making the Web pages interactive with end user, moving images and for validation purpose as well.

Other Scripting languages can be: VBScript, Python, JavaScript, PHP, Ruby, Lua and many more.

Structure of a JavaScript program:

- 1) The <script> ending with </script> tag is used inside the html code to include JavaScript code in it.
- 2) It is inside the <head> ending with </head> tag and can be used inside the <body> ending with </body> tag as well.
- 3) The file containing JavaScript must be saved with html or.htm extension.

S	yntax: -		
	<html></html>		<html></html>
	<head></head>		<body></body>
	<script language=" JavaScript "></td><td>OR</td><td><script lang</td></tr><tr><td></td><td>//JavaScript code</td><td></td><td>//Java</td></tr><tr><td></td><td></script>		

<html></html>
<body></body>
<script language=" JavaScript "></td></tr><tr><td>//JavaScript code</td></tr><tr><td></script>

Points to keep in mind:

- 1) JavaScript is a Case sensitivelanguage.
- 2) The JavaScript program code ends withsemicolon.
- 3) Comments are defined using // or /**/.

Variables: A variable is container which stores the value and can be changed over period of time.

Declaration: var<nameOfTheVariable> = <value>;

Example: varaccountBalance = 1500;

Pro-tip: Give your variable name a meaningful name related to the program. It is good practice.

Identifier: As the name suggest it is used to identify. Identifiers are names like variable names, keywords,

Functions and labels. There are some rules for naming as well like:

First character must be a letter or underscore (_) or a dollar sign (\$), which means numbers aren't allowed

as first character while naming.

Operators: An operator is a symbol that tells to perform a certain mathematical, logical manipulation.

Operators in JavaScript are:

- Assignment Operators: which are used to assign (=), (+=), (-=), (*=), (/=), (%=).
 Eg: var balance = 300; (this shows balance variable is assigned 300 value).
- 2) Arithmetic Operators: In this you'd see Addition (+), Subtraction (-), Multiplication (*) and many more.
- 3) Comparison Operators: Used for comparing two values.
- 4) Logical Operators: Boolean conditions like &&, || and !
- Conditional/ Ternary Operators: Condition? expression 1 : expression 2 It takes three operands and returns the value of expression1 if the condition is true or else it will return Value of expression 2.

• Special Operators used in JavaScript:

- 1. The equal(= =) and not equal(!=) operators perform type conversions before testing for equality. Fore.g. -5|= = 5 evaluate to true.
- 2 The strictly equal (===) and strictly not equal (!==) operators do not perform type conversions before testing for equality. For e.g. -5|= = = 5 evaluate to false.
- StringOperator: InJavaScriptstringconcatenation(+)operatorisusedtojointwostrings. Fore.g.-Hello+ -Worldproducesoutputas-HelloWorld.
- **Control Structures:** They are just the loops which we have learned in earlier classes. Let us see the loops one by one.
- 1) if ... else
- 2) switch case
- 3) do while loop
- 4) while loop
- 5) for loop

1) If ... else

The if statement is the fundamental control statement that allows JavaScript to make decisions and execute statements conditionally.

Syntax:

if(expression){

Statement(s) to be executed if expression istrue

}

Example:

```
<scripttype="text/javascript">
<!--
var age =20;
if( age >18)
{
document.write("<b>Qualifies for driving</b>");
}
```

//-->

</script>

2) Switch case

The basic syntax of the switch statement is to give an expression to evaluate and several different statements to

execute based on the value of the expression. The interpreter checks each case against the value of the expression until a match is found. If nothing matches, a default condition will be used.

Syntax:

switch(expression){

case condition 1: statement(s)

break;

case condition 2: statement(s)

break;

```
case condition n: statement(s)
```

break;

```
default: statement(s)
```

}

Example:

```
<scripttype="text/javascript">
```

<!--

```
var grade='A';
```

```
document.write("Entering switch block<br/>br/>");
```

```
switch(grade){
```

case'A':document.write("Good job
br/>");

break;

```
case'B':document.write("Pretty good<\!br/\!\!>");
```

break;

case'C':document.write("Passed
>");

break;

case'D':document.write("Not so good
>");

break;

```
case'F':document.write("Failed<br/>);
```

break;

default:document.write("Unknown grade

}

```
document.write("Exiting switch block");
```

//-->

</script>

3) Do while Loop

The do...while loop is similar to the while loop except that the condition check happens at the end of the loop. This

means that the loop will always be executed at least once, even if the condition is false.

Syntax:

do{

Statement(s) to be executed;

}while(expression);

Example:

```
<scripttype="text/javascript">
```

<!--

```
var count =0;
```

```
document.write("Starting Loop"+"<br/>br/>");
```

do{

//-->

```
d nt.write("Current Count : "+ count +"<br/>br/>");
```

```
o count++;
```

```
c }while(count <0)
```

u document.write("Loop stopped!");

m

e

</script>

This will produce following result:

Starting Loop

Current Count: 0

Loop stopped!

4) While Loop

The purpose of a while loop is to execute a statement or code block repeatedly as long as expression is true. Once expression becomes false, the loop will be exited.

Syntax:

while(expression){

Statement(s) to be executed if expression istrue

}

Example:

```
<scripttype="text/javascript">
```

<!--

```
var count =0;
document.write("Starting Loop"+"<br/>");
while(count <5){
      document.write("Current Count : "+ count +"<br/>");
```

count++;

}

document.write("Loop stopped!");

//-->

</script>

This will produce following result:

Starting Loop

Current Count: 0

Current Count : 1

Current Count : 2

Current Count: 3

Current Count : 4

Current Count : 5

Loop stopped!
5) For Loop

The for loop is the most compact form of looping and includes the following three important parts -

The loop initialization where we initialize our counter to a starting value. The initialization statement is executed before the loop begins. The test statement which will test if the given condition is true or not. If condition is true then codegiven inside the loop will be executed otherwise loop will come out. The iteration statement where you can increase or decrease your counter.

Syntax:

for(initialization; test condition; iteration statement){

Statement(s) to be executed if test condition istrue

}

Example:

```
<scripttype="text/javascript">
```

<!--

var count;

```
document.write("Starting Loop"+"<br/>br/>");
```

```
for(count =0; count <4; count++){</pre>
```

```
document.write("Current Count : "+ count );
```

```
document.write("<br/>>");
```

}

document.write("Loop stopped!");

//-->

</script>

This will produce following result which is similar to while loop -

Starting Loop

Current Count : 0

Current Count: 1

Current Count : 2

Current Count: 3

Current Count: 4

Loop stopped!

Dialog Boxes:-

There are three types of dialog boxes.

Sr.No.	Types and Syntax	Description
1	alert() dialogbox	The alert() dialog box displays the string passed to it as well as
		OK button. It can be used to display message.
	Syntax:-	
	alert(-messagel);	
2	confirm() dialog box	The confirm dialog box used to confirm user action. It displays a
		predefined message and OK and Cancel button.
	Syntax :-	a) Clicking on OK button returns True to theprogram.
	confirm(-messagel);	b) Clicking on Cancel button returns False to theprogram.
3	prompt dialog box	The prompt dialog box is used to accept input from the user. It
		displays predefined message, a text box with default valueand
	Syntax:-	OK and Cancelbutton.
	prompt(-messagel,	
	-defaultValuel);	

1. Sample Program for Confirm Dialogbox:-

<html>

<head>

<script>

var fn=prompt("Enter your First Name"); var In=prompt("Enter your Surname");

document.write("My name is" + fn + " "+ In);

</script>

LAB Exercise

Set A:

- 1. Write a JavaScript program to print factorial of a givennumber.
- 2 Write a JavaScript program to check whether given number is perfect ornot.
- 3 Write a JavaScript program to check whether given number is Armstrong number ornot.
- 4 WriteaJavaScriptprogramtoacceptanumber from useranddisplaythat numberinword (e.g.226 □Two Two Six)

Set B:

- 1. Write a JavaScript program to print prime numbers between 1 to89.
- 2. Write a JavaScript program to print number of even and odd numbers occur between 50 to100.
- 3. Write a JavaScript program to print the reverse of anumber.
- 4. WriteaJavaScriptprogramtostoreakeyword inavariable.Acceptanewkeywordfromusertillit matches with the value of variable. Allow three chancesonly.

Set C:

- 1. Write a JavaScript program to print sum of a digit of anumber.
- 2. Write a JavaScript program to print the sum of first and last digit of anumber.
- 3. Write a JavaScript program to print Fibonacciseries.
- 4. Write a JavaScript to check given year value is leap year ornot.

Assignment Evaluation

0: Not Done []	1: Incomplete []	2: Late Complete []
3: Needs Improvement []	4: Complete []	5: WellDone []

Signature of the Instructor: ----- Date: -----

Assignment No. 9: Functions in JavaScript

Author: Sneha Ganesh Chavan

Allotted Slots: 2

A Function is a block of code that performs a specific task and often returns a value. A JavaScript function takes zero or more parameters. For example: Imagine you have to design a calculator in which you need functionalities like add, subtract, multiply and divide. All of them are different operations. So, according to these you'll have to design 4 functions in the class named calculator. 4 functions would be add, subtract, multiply and divide.

Structure of Function:

```
function add(number1, number2){
    return number1+number2
```

}

Small Program:

```
varaddingTwoNum = add(3,4); // add() invokes the function with arguments given.
```

function add(number1, number2){ // here number1 and number2 are 3, 4 which are parameters. return number1+number2

```
}
```

There are two types of functions namely:

A. Predefined Functions :- JavaScript provides several predefined functions which means JavaScript has functions Made already which you just need to use it. Few functions are listed below:

Sr. No.	Name	Types	Description
1	Conversion Function	eval()	eval() function can be used to convert a string expression to a numeric value.
		parseInt()	This function used to convert a string value to an integer. parseInt() returns the first integer contained in a string or NaN(Not a number) if the string does not begin with an integer.
		parseFloat()	This function returns the first floating number contained in a string or NaN if string does not begin with a valid floating point number.
2	String	bold()	Returns string in bold face.
	Function	italics()	Returns string in italic.
		Length	Returns number of characters in string.
		toLowerCase()	Returns string with its entire uppercase letters converted to lowercase letters.
		toUpperCase()	Returns string with its entire lowercase letters converted to uppercase letters.
		charAt(index)	Returns the character at the specified index.
		charCodeAt(index)	Returns the Unicode of the character at the specified index.

		concat(string)	Joins two or more strings, and returns a copy of the joined strings	
		indexOf(string,	Returns the position of the first found occurrence of a specified	
		startValue)	value in a string.	
		substr(startIndex, length)Extracts the characters from a string, beginning at a specified star position, and through the specified number of character.		
		replace(find,	Searches for a match between a substring (or regular expression)	
		replaceWith)	and a string, and replaces the matched substring with a new	
			Substring	
		search(stringToFind)	Searches for a match between a regular expression and a string,	
		_	and returns the position of the match	
3	Date	getDate()	Returns the day of the month (from 1-31)	
	Functions	getDay()	Returns the day of the week (from 0-6)	
		getMonth()	Returns the month (from 0-11)	
		getFullYear()	Returns the year.	
		getHours()	Returns the hour	
		getMinutes()	Returns the minutes	
		getSeconds()	Returns the seconds.	
		getMilliseconds()	Returns the milliseconds	
4	Math	Math.pow(x,y)	returns the value of x to the power of y	
	Function	Math.round(x)	returns the value of x rounded to its nearest integer	
		Math.sqrt(x)	returns the square root of x	
		Math.abs(x)	returns the absolute (positive) value of x	
		Math.ceil(x)	returns the value of x rounded up to its nearest integer	
		Math.floor(x)	returns the value of x rounded down to its nearest integer	

1) Sample JavaScript function Program for String to Integer Conversion:-

<html></html>	
<body></body>	
<script< th=""><th>></th></script<>	>
	functionconvertStol() {
	varr = parseInt("1011", 2);
	vark = parseInt("234", 8);
do	cument.write('Integer value is '+ r);
	document.write(" ");
	document.write("integer value is "+ k);
	document.write(" ");
	document.write(parseInt("226 Successful"));
	}
	convertStol();
<td>t></td>	t>

3) Sample Program for String and Date Function:-

html
<html></html>
<body></body>
<head></head>
<title>Show good morning good night wish as per time Javascript</title>
<script type="text/javascript"></td></tr><tr><td>document.write("<center>");</td></tr><tr><td>var day = new Date();</td></tr><tr><td>var hr = day.getHours();</td></tr><tr><td>if (hr >= 0 && hr < 12) {</td></tr><tr><td>document.write("Good Morning!");</td></tr><tr><td>} else if (hr == 12) {</td></tr><tr><td>document.write("Good Noon!");</td></tr><tr><td>} else if (hr >= 12 && hr <= 17) {</td></tr><tr><td>document.write("Good Afternoon!");</td></tr><tr><td>} else {</td></tr><tr><td>document.write("Good Evening!");</td></tr><tr><td>}</td></tr><tr><td>document.write("</center>");</td></tr><tr><td></script>

B. User defined Functions:-

Functions are declared and created using the function keyword and we can customize it according to our needs.

A function has,

- 1. A name for thefunction.
- 2 A list of parameters / arguments that will be accepting values passed to the function whencalled.
- 3. A block of JavaScript code that defines what the functiondoes.

Syntax :-

}

```
function functionName(parameter1,parameter2,-----)
{
    //JavaScript Code
```

Place of Declaration:

Functions can be declared anywhere within an HTML file, but if the function is called before it is declared and parsed, it will lead to an error condition. Therefore declaring functions within the <head>---</head> tags of the HTML file, ensures that all functions will be parsed before they are invoked or called.

Function Call:-To call a function, use function's name and its parameters as a statement. **Returningavalue**:-User define

functionscanreturnvaluesusingreturnstatement. Thereturnstatement can be used to return any valid expression that evaluates to a singlevalue.

1. Sample program for user defined function

```
<html>
<body>
<script>
function cubeOfNumber(num)
{
return (num*num*num);
}
var cube=cubeOfNumber(4);
document.write(Cube of a Number=+ cube);
</script>
```

<body>

</html>

Array:- An array is a collection of similar data type variables.

• **Declaration Syntax:**vararrName=new Array(arr_length);

Example:-

varplayerName=new Array(); player_Name[50]=Sachin Tendulkar; player_Name[100]=Rahul Dravid;

TYPES OF ARRAYS:

• Dense Array:-

A dense array is an array that has been created with each of its elements being assigned a specific value. They are declared and initialized at the same time. Listing the values of the array elements in the array declaration creates dense arrays.

Syntax :-

vararrName=new Array(val0,val1,val2,------,valn);

Example :-

- 1. var n=new Array(10,20,30,40,50);
- 2. vararr=new Array(abc,10,20,pqr);

Since array is a **JavaScript object**, arrays have several methods associated with them via which the array and its elements content can be manipulated. These methods are,

Sr. No.	Method Name and Syntax	Description
1	concat()	The concat() method is used to join two or more arrays.
	Syntax :-	This method does not change the existing arrays, it
	array1.concat(array2,arry3,);	only returns a copy of the joined arrays.
2	slice()	The slice() method selects a part of an array, and returns
	Syntax :-	the new array
	array.slice(start, end)	
3	join()	returns all elements of the array joined together as a single
	Syntax :-	string. This takes one argument, a string to be used as a
	array.join(separator);	separator between each element of the array
4	sort() :-	The sort() method sorts the elements of an array.
	Syntax :-	
	array.sort();	
5	reverse() :-	reverses the order of the element in the array.
	Syntax :-	
	array.reverse();	
6	push()	adds a new element to an array (at the end)
	Syntax :-	
	array.push(newEle);	
7	pop()	removes the last element from an array
	Syntax :-	
	array.pop();	
8	shift()	removes the first array element and "shifts" all other
	Syntax :-	elements to a lower index
	array.shift();	

9	unshift()	adds a new element to an array (at the beginning), and
	Syntax :-	"unshifts" older elements
	array.unshift(newEle);	

1. Sample program for an Array

<html>

<body>

<script>

```
vararr=new Array(10,20,30,40);
document.write("Join="+arr.join()+"<br>");
document.write("Join="+arr.join("x")+"<br>");
document.write("Reverse"+arr.reverse()+"<br>");
; document.write("Length="+arr.le<sup>3</sup>ngth+"<br>");
```

</script>

</body>

</html>

LAB Exercise

Set A

- 1. Write a JavaScript code to greet the user according to the currenttiming.
- 2. Write a JavaScript Program to read a number from user, store its factors into the array and display that array.
- 3. Write a menu driven program using JavaScript to perform the following operations on anarray
 - a. Display anArray
 - b. Sort elements of anarray
 - c. Reverse elements of anarray
 - d. Search a given element from anarray

Set B

- 1. WriteamenudrivenprogramusingJavaScripttofindsquareroot,powerandabsolutevalue of a given number.
- 2. Write a JavaScript code to accept date from the user. If date entered by the user is

 $1^{st}January\ then print-HappyNewYear|, if 25^{th}December then print-MerryChristmas,\ if 14^{th}January then-happyMakarsankranti, otherwise print-HaveaGoodDaymessage;$

3. Write a menu driven program using JavaScript to perform the following operations.

- 1. Insert an element instack
- 2 Delete an element fromstack
- 3. Display the contents of stack
- 4. Insert an element inqueue
- 5. Delete an element fromqueue
- 6 Display the contents of queue

Set C

- 1. Write a JavaScript program to display a Multiplication table in tabular format using function.
- 2. Write a JavaScript code to calculate maximum, minimum, sum and average of numbers in anarray.
- 3. Write a JavaScript code to accept birth-date and print the age of auser.

Assignment Evaluation

0: Not Done []	1: Incomplete []	2: Late Complete []
3: Needs Improvement []	4: Complete []	5: WellDone []

Signature of the Instructor: ----- Date: -----

Assignment No. 10(a) : Validation using JavaScript

Author: Sneha Ganesh Chavan

Allotted Slots:2

Validation is the process of checking whether the specification captures the customer's needs. It includes testing and validating the actual product.

Verification is the process of checking that the software meets the specification. It includes checking documents, design, codes and programs. A website can before getting live it goes under validation stage.

JavaScript provides a way to validate form's data on the client's computer before sending it to the web server. Form validation generally performs two functions.

Basic Validation – First of all, the form must be checked to make sure all the mandatory fields are filled in. It would require just a loop through each field in the form and check for data.

Data Format Validation – Secondly, the data that is entered must be checked for correct form and value. Your code must include appropriate logic to test correctness of data.

For example: If a form field (firstName) is empty, this function alerts a message, and returns false, to prevent the form from being submitted. **Sample example:**

```
<!DOCTYPE html>
<html>
<head>
<script>
       function validateForm() {
               var x = document.forms["myForm"]["firstName"].value;
               if (x == "") {
                     alert("Name must be filled out");
                     return false;
              }
</script>
</head>
<body>
<form name="myForm" action="/action_page.php" onsubmit="return validateForm()"
method="post">
 Name: <input type="text" name="firstName">
<input type="submit" value="Submit">
</form>
</body>
</html>
                                             123
```

For example this will be your registration form:



So, there are:

- Textbox
- Checkbox
- Drop down
- Radio button
- Textarea (it is optional to fill)
- Button

You have to make sure the textbox is not empty as well as you have to make user input correct values in the textbox's. Drop down must be selected same goes with radio button. The checkbox must be checked otherwise it would accept Register Now button getting clicked. If everything is filled perfectly only then it should go on to next page.

Let's see how it is supposed to be coded. From HTML, CSS to JavaScript.

CODE:

```
• (HTML using BootStrap)
```

```
<!DOCTYPE html>
```

<html lang="en"><head>

<meta charset="utf-8">

<title>JavaScript Form Validation using a sample registration form</title>

<meta name="keywords" content="example, JavaScript Form Validation, Sample registration form" />

<meta name="description" content="This document is an example of JavaScript Form Validation using a sample registration form. " />

```
k rel='stylesheet' href='js-form-validation.css' type='text/css' />
```

<script src="sample-registration-form-validation.js"></script>

</head>

```
<body onload="document.registration.userid.focus();">
```

<h1>Registration Form</h1>

```
Use tab keys to move from one input field to the next.
```

```
<form name='registration' onSubmit="return formValidation();">
```

```
<label for="userid">User id:</label>
```

```
<input type="text" name="userid" size="12" />
```

```
<label for="passid">Password:</label>
```

```
<input type="password" name="passid" size="12" />
```

```
<label for="username">Name:</label>
```

<input type="text" name="username" size="50" />

<label for="address">Address:</label>

```
<input type="text" name="address" size="50" />
```

<label for="country">Country:</label>

```
<select name="country">
```

<option selected="" value="Default">(Please select a country)</option>

```
<option value="AF">Australia</option>
<option value="AL">Canada</option>
<option value="DZ">India</option>
<option value="AS">Russia</option>
<option value="AS">Russia</option>
</select>
<label for="zip">ZIP Code:</label>
<label for="zip">ZIP Code:</label>
<label for="email">Email:</label>
<label for="email">Email:</label>
<label for="email">Email:</label>
<label id="gender">Sex:</label>
<label id="gender">Sex:</label>
<label id="radio" name="msex" value="Male" /><span>Male</span>
<label>Language:</label>
```

```
<input type="checkbox" name="en" value="en" checked /><span>English</span>
```

<input type="checkbox" name="nonen" value="noen" />Non English

<label for="desc">About:</label>

<textarea name="desc" id="desc"></textarea>

<input type="submit" name="submit" value="Submit" />

</form>

</body>

</html>

• Now let's see the Cascading Style Sheet, make sure you save it as .css file or you can embed it as well in html but it is mostly advised to keep css apart from html code.

```
h1 {
margin-left: 70px;
}
form li {
list-style: none;
margin-bottom: 5px;
}
form ul li label{
float: left;
clear: left;
width: 100px;
text-align: right;
margin-right: 10px;
font-family: Verdana, Arial, Helvetica, sans-serif;
font-size:14px;
}
form ul li input, select, span {
float: left;
margin-bottom: 10px;
}
form textarea {
float: left;
width: 350px;
height: 150px;
}
[type="submit"] {
clear: left;
margin: 20px 0 0 230px;
font-size:18px
}
```

p {
margin-left: 70px;
font-weight: bold;
}

Now it is time to see JavaScript validation: using the function formValidation.

```
function formValidation()
{
var uid = document.registration.userid;
var passid = document.registration.passid;
var uname = document.registration.username;
var uadd = document.registration.address;
var ucountry = document.registration.country;
var uzip = document.registration.zip;
var uemail = document.registration.email;
var umsex = document.registration.msex;
var ufsex = document.registration.fsex; if(userid_validation(uid,5,12))
if(passid_validation(passid,7,12))
if(allLetter(uname))
{
if(alphanumeric(uadd))
if(countryselect(ucountry))
if(allnumeric(uzip))
if(ValidateEmail(uemail))
if(validsex(umsex,ufsex))
return false;
```

}

LAB Exercise

Set A

- 1. Write a JavaScript code to design registration form.
- 2. Draw a flowchart for one entire module and show its working.
- 3. Write JavaScript code for formValidation.

Set B

- 1. Write a menu driven program using JavaScript to find square root, power and absolute value of a given number and validate them.
- 2. Write a JavaScript code using Bootstrap for sign-up form.
- 3. Write a JavaScript function for Calculator and verify them.

Assignment Evaluation

0: Not Done []	1: Incomplete []	2: Late Complete []
3: Needs Improvement []	4: Complete []	5: WellDone []

Signature of the Instructor: ----- Date: -----

Assignment No. 10(b): Functions for Validation using JavaScript& Event Handling.

Author: Sneha Ganesh Chavan

Allotted Slots: 2

In the last assignment we have seen that how registration form is created and what is the importance of the validation with difference between validation and verification. Continuing from the last assignment we will check how each function for each field which is your textbox can be validated.

□ Function for validating uid:

```
function userid validation(uid,mx,my)
{
var uid_len = uid.value.length;
if (uid_len == 0 \parallel uid_len \ge my \parallel uid_len < mx)
{
alert("User Id should not be empty / length be between "+mx+" to "+my);
uid.focus();
return false;
}
return true;
}
□ Function for password validation:
function passid_validation(passid,mx,my)
{
var passid_len = passid.value.length;
if (passid\_len == 0 || passid\_len >= my || passid\_len < mx)
{
alert("Password should not be empty / length be between "+mx+" to "+my);
passid.focus();
return false;
}
return true;
}
```

```
□ Function for validating username:
function allLetter(uname)
{
var letters = /^[A-Za-z]+$/;
if(uname.value.match(letters))
{
return true;
}
else
{
alert('Username must have alphabet characters only');
uname.focus();
return false;
}
}
□ Function for emailValidation:
function ValidateEmail(uemail)
{
var mailformat = /^{w+([.-]?w+)*@w+([.-]?w+)*(..w{2,3})+$/;
if(uemail.value.match(mailformat))
{
return true;
}
else
{
```

alert("You have entered an invalid email address!"); uemail.focus(); return false;

```
}
}
Here is the entire JavaScript used for validation of the form.
function formValidation()
{
var uid = document.registration.userid;
var passid = document.registration.passid;
var uname = document.registration.username;
var uadd = document.registration.address;
var ucountry = document.registration.country;
var uzip = document.registration.zip;
var uemail = document.registration.email;
var umsex = document.registration.msex;
var ufsex = document.registration.fsex; if(userid_validation(uid,5,12))
{
if(passid_validation(passid,7,12))
{
if(allLetter(uname))
{
if(alphanumeric(uadd))
{
if(countryselect(ucountry))
{
if(allnumeric(uzip))
{
if(ValidateEmail(uemail))
{
if(validsex(umsex,ufsex))
{
J
```

}

```
ł
return false;
} function userid_validation(uid,mx,my)
{
var uid_len = uid.value.length;
if (uid_len == 0 \parallel uid_len >= my \parallel uid_len < mx)
{
alert("User Id should not be empty / length be between "+mx+" to "+my);
uid.focus();
eturn false;
}
return true;
}
function passid_validation(passid,mx,my)
{
var passid_len = passid.value.length;
if (passid_len == 0 ||passid_len >= my || passid_len < mx)
{
alert("Password should not be empty / length be between "+mx+" to "+my);
passid.focus();
return false;
}
return true;
}
```

}

}

function allLetter(uname)

```
{
var letters = /^[A-Za-z]+$/;
if(uname.value.match(letters))
{
return true;
}
else
{
alert('Username must have alphabet characters only');
uname.focus();
return false;
}
}
function alphanumeric(uadd)
{
var letters = /^{[0-9a-zA-Z]+}/;
if(uadd.value.match(letters))
{
return true;
}
else
{
alert('User address must have alphanumeric characters only');
uadd.focus();
return false;
}
}
function countryselect(ucountry)
{
if(ucountry.value == "Default")
```

```
{
alert('Select your country from the list');
ucountry.focus();
return false;
}
else
{
return true;
}
}
function allnumeric(uzip)
{
var numbers = /^{0-9}+$/;
if(uzip.value.match(numbers))
{
return true;
}
else
{
alert('ZIP code must have numeric characters only');
uzip.focus();
return false;
}
}
function ValidateEmail(uemail)
{
var mailformat = /^{w+([.-]?w+)*@w+([.-]?w+)*(.w{2,3})+$/;
if(uemail.value.match(mailformat))
{
return true;
```

```
}
else
{
alert("You have entered an invalid email address!");
uemail.focus();
return false;
}
} function validsex(umsex,ufsex)
{
x=0;
if(umsex.checked)
{
x++;
} if(ufsex.checked)
{x++;
}
if(x==0)
{
alert('Select Male/Female');
umsex.focus();
return false;
}
else
{
alert('Form Succesfully Submitted');
window.location.reload()
return true;
}
}
```

A. EventHandling

An event occurs when something happens in a browser window.

The kinds of events that might occur are due to:

- a) A documentloading
- b) The user clicking a mousebutton
- c) The browser screen changingsize

When a function is assigned to an event handler, that function will run when that event occurs. **Syntax**:-

eventHandler="clickHandler()"

This handler will cause the function clickHandler() to be executed whenever the event is triggered.

Standard event handlers

EventHandler	Description
onabort	Occurs when loading of image was interrupted
onblur	Occurs when element loses focus
onchange	Occurs when element gets modified
onclick	Occurs when element gets clicked
ondblclick	Occurs when element gets double clicked
onfocus	Occurs when an element received focus
onkeydown	Occurs when a key was pressed when an element has focus
onkeypress	Occurs when a keystroke was received by the element
onkeyup	Occurs when a key was released when the element has focus
onload	Occurs when an element was loaded
onmousedown	Occurs when the mouse button was pressed on the element
onmousemove	Occurs when the mouse pointer moves while inside the element
onmouseout	Occurs when the mouse pointer was moved outside the element
onmouseover	Occurs when the mouse pointer was moved onto the element
onmouseup	Occurs when the mouse button was released on the element.
onreset	Occurs when the form's reset button was clicked

Onresize	Occurs when the containing window or frame was resized
Onselect	Occurs when text within the element was selected
Onsubmit	Occurs when a form is being submitted
Onunload	Occurs when the content is being unloaded (e.g. window being closed)
Onscroll	Occurs when the user scrolls (in any direction and with any means).

1 Sample program to display message using double click event of bodytag.

<html>

```
<body ondblclick="alert('Hello world!');">
```

</body>

</script>

2 Sample program to display message using double click event of body tag(usingFunction)

<html></html>	
<head></head>	
<script language="JavaScript"></script>	

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LAB Exercise

Set A

- a. Write a JavaScript function to validate email-id using regular expression.
- b. Write a JavaScript program for accepting name and mobile number from user and perform following validation:
 - i. Check all fields should not contain a nullvalue
 - ii. Check name field contains onlyalphabets
 - iii. Mobile No. field should be of 10 digitslong.
- c. WriteaJavaScriptprogramtocomparethevaluesofpasswordandconfirmedp asswordfieldanddisplay message accordingly. Also perform the validation to check any of the field should not beempty.



Set B

1. WriteaJavaScriptprogramtoreademployeedetailsandgeneratepayslipwhichwillcalculatenetsalary of an employee.

Payslip

Name of Employee:	
Department	
Designation:	
Basic Salary	
HRA	
DA	
Submit	

- 2. Write a Java Script program to design Customer Account Details Form and perform validation on pan number field. (pan number is of only 10 characters long, out of which first 5 characters are alphabets, next 4 characters are digits and last character is alphabet)
- 3. Design a form to accept product name, quantity, rate and discount for the product purchased by the user. Write a JavaScript code to calculate total bill. If quantity is less than 5 then there is any discount, Ifquantity is greater than 5 and less than 25 then discount is 5%, If quantity is greater than 25 and less than 50 then discount is 15%, If quantity is greater than 50 discount is20%.

Set C

- 1. Write a JavaScript code to change the background color of the webpage.
- 2 Write a menu driven program using JavaScript code to perform following operations,
 - a. Jump to the previous webpage
 - b. Jump to the next webpage
 - c. Jump to the two page before from currentpage
 - d. Jump to the two page after from current page.

Assignment Evaluation

0: Not Done []

1: Incomplete []

2: Late Complete []

3: Needs Improvement []

4: Complete []

5: WellDone []

Signature of the Instructor: ----- Date: -----

Assignment No 11: To study designing of HTML in different way using CSS Author: Priyamvada U. Patil.

Allotted Slots: 3

Aim: Pre-requisite: Basic HTML tags and CSS

SET A: Write the appropriate code to display the output below :

1	
T	•

SEND FEE	DBACK
Email	
Message	
	SEND

2.

Subscribe to our	mailing list
Email Address	* indicates required
First Name	
Last Name	
Subscribe	

3. Write the HTML code to display Top 5 resorts in Goa. Make use of HTML tags and CSS that you have studied till now.



SET B:

1. Write the appropriate code to display the output below :





2.

Sign into your account
Login
Fotdol password?
Don't have an account? Register here
Terms of use. Privacy policy



1. Write the appropriate code to display available Vegetable Baskets.



	ation								
First Name:									
Last Name:									
Date of Birth:	Month	•	Day	•	Year	•	0		
Gender:	Choose	e a ge	nder			•	0		
Account Informa	tion								
Email:									
Re-type Email:	(Your en	nail ad	ldress v	vill be y	our usen	name)			
Password:									
	(Min. 8 c	harac	ters, 1 n	lumber	case-se	nsitive)		
Re-type Password:									
Security Question:	Choose	a sec	urity qu	estion			1	• 0	
Security Answer:	(Not case	-sens	itive)						
			eres de						
Contact Informa	ation								
Address:									
City:									
State:	Choose	a stat	æ			1	•		
Zip Code:			ptional						
Phone:				0	Mobile	l	•		
	No space	es or o	lashes						
Assignme 0: Not Do	ent Ev	alu	atior	1	1: Ir	ncor	npl	ete [] 2: Late	Comp

Assignment No 12: File uploads , Field & Form Validation

Authors: Mrs. Veena K. Gandhi

& Preeti Gawade

Allotted Slots: 2

A PHP script can be used with a HTML form to allow users to upload files to the server. Initially files are uploaded into a temporary directory and then relocated to a target destination by a PHP script.

In your "php.ini" file, search for the file_uploads directive, and set it to On:

file_uploads = On

There is one global PHP variable called **\$_FILES**. This variable is an associate double dimension array and keeps all the information related to uploaded file.

The keys are:

name

The name of the file, as supplied by the browser. It's difficult to make meaningful use of this, as the client machine may have different filename conventions than the web server (e.g., if the client is a Windows machine that tells you the file is*D*:*PHOTOS**ME.JPG*, while the web server runs Unix, to which that path is meaningless).

type

The MIME type of the uploaded file, as guessed at by the client.

size

The size of the uploaded file (in bytes). If the user attempted to upload a file that was too large, the size is reported as 0.

tmp_name

The name of the temporary file on the server that holds the uploaded file. If the user attempted to

upload a file that was too large, the name is reported as "none".

For example :

- **\$_FILES['filename']['tmp_name']** the uploaded file in the temporary directory on the webserver.
- **\$_FILES['filename']['name']** –the actual name of the uploaded file.
- **\$_FILES['filename']['size']** the size in bytes of the uploaded file.
- **\$_FILES['filename']['type']** the MIME type of the uploaded file.
- **\$_FILES['filename']['error']** the error code associated with this file upload.

The correct way to test whether a file was successfully uploaded is to use the function is_uploaded_file(), as follows:

if (is_uploaded_file(\$_FILES['toProcess']['tmp_name'])

{

// successfully uploaded

}

To move a file, use the move_uploaded_file()

function:move_uploaded_file(\$_FILES['toProcess']['tmp_name'], "path/to/put/file/\$file);

The call to move_uploaded_file() automatically checks whether it was an uploaded file. When a script finishes, any files uploaded to that script are deleted from the temporary directory.

Consider sample program to upload file

<html>

<body>

<form action="upload.php" method="post" enctype="multipart/form-data">

Select File to upload:

<input type="file" name="uploadedfile" id="fileToUpload">

<input type="submit" value="Upload File/Image" name="submit">

</form>

</body>

</html>

```
<?php
```

\$target_path = "D:/uploads/";

\$target_path = \$target_path . basename(\$_FILES['uploadedfile']['name']);

```
if(move_uploaded_file($_FILES['uploadedfile']['tmp_name'], $target_path))
{
    echo "The file ". basename( $_FILES['uploadedfile']['name']). " has been uploaded";
    }
else {
    echo "There was an error uploading the file, please try again!";
}
```

Form Validation:

When you allow users to input data, you typically need to validate that data before using it or storing it for later use. There are several strategies available for validating data like Form Fields should not be empty. Check type of data entered by user or length of data entered by user. (e.g check age of person is integer or cannot be negative etc.) Check specific conditions for form fields(e.g. email validation).

PHP provides empty() function to check a variable is empty. We can use this function to check if all the text fields are empty or not. isset() function can be used to check the gender radio button is checked or not. We can validate email format by using PHP filter_var() function.

- **empty(var_name) :** The empty() function is used to check whether a variable is empty or not.
- isset(var_name) : this function determines if a variable is set and is not NULL
- **filter_var**(*var*, *filtername*, *options*) : The filter_var() function filters a variable with thespecified filter.

Consider the following script to validate email.

<?php

\$email = "john.doe@example.com";

if (!filter_var(\$email, FILTER_VALIDATE_EMAIL) === false) {
 echo("\$email is a valid email address");

} else {

echo("\$email is not a valid email address");

} ?>

Example : Design form which accepts name and gender . If fields are blank display error message "All fields are required" otherwise display information

```
<html>
```

<head>

<style>

span.error {color: red;}

</style>

</head>

<body>

<?php

\$nameErr = \$genderErr = "";

\$name = \$gender = "";

```
if ($_SERVER["REQUEST_METHOD"] == "POST")
```

```
{
```

if (empty(\$_POST["name"]))

\$nameErr = "Name is required";

else

\$name = \$_POST["name"];

```
if (!isset($_POST["gender"]))
```

```
$genderErr = "Gender is required";
```

else

```
$gender =$_POST["gender"];
```

}

```
?>
```

<h2>PHP Form Validation Example</h2>

```
<span class="error">* Required field.</span>
```

```
<form method="POST" action="<?php echo $_SERVER['PHP_SELF']?>">
```

Name: <input type="text" name="name" value="<?php if (\$name) echo "\$name";?>" >* <?php echo \$nameErr;?>

>

<input type="radio" name="gender" value="female" <?php if(\$gender=="female") { echo "checked";
}?>>Female

```
<input type="radio" name="gender" value="male" <?php if($gender=="male") { echo "checked"; }?>>Male <<pre>span class="error">* <?php echo $genderErr;?></span>
```


>

```
<input type="submit" name="submit" value="Submit"></form>
```

<?php

if(\$name && \$gender)

{

```
echo "<h2>Your Input:</h2>";
```

echo \$name;

echo "
";

echo \$gender;

}

?>

</body>

</html>

Lab Assignments:

SET A:

- 1. Write a PHP Program to Upload the file and display its information like name, size, type, etc.
- 2. Write a PHP program to accept student information like name, address, class and Upload student photo and display same on form.

SET B:

- 1. Write a PHP program to accept Name , address , Pincode ,Gender information. If any field isblank , it display error message "all fields are required". If pincode is more than 6 digits , it should give error.
- 2. Write a PHP program to accept empno, name, pan card information, email . If any field is blank , form should display error message "all fields are required". Pan card number should be 10 digits and First 5 characters should be letter , next 4 characters should be digit and last character should be letter.
- **3.** Write a PHP script to create a form that accept theusers full name and their email addresses. Use case conversion function to capitalize the first letter of each name, user submits and print result back to browser. Check that the user's email address contains the @ symbol.

SET C:

1) Write a PHP script for creating a self-processing page for a form. The form should allow the user to enter the following attributes: Username, user city preference(pune/Mumbai/Chennai/kolkata),user birth date, occupation, sex. If any of the values is not entered by the user, the page is presented again with a message specifying the attributes that are empty. Any form attributes that the user already entered, are set to the values the user entered. The text of submit button changes from "create" to "continue", when the user is correcting the form. Display the details entered by the user on the next form

Assignment Evaluation

0: Not Done []	1: Incomplete []	2: Late Complete []
3: Needs Improvement []	4: Complete []	5: Well Done []

Signature of the Instructor:----- Date:-----

Assignment No 13: Cookies and Sessions

Authors: Mrs. Veena K. Gandhi & Preeti Gawade

Allotted Slots: 2

Cookies :

• A cookie is basically a string that contains several fields. A server can send one or more

cookies to a browser in the headers of a response. Some of the cookie's fields indicate the

pages for which the browser should send the cookie as part of the request.

- The setcookie() function is used to send a cookie to the browser:
- setcookie(name[,value[,expire[,path[,domain[,secure]]]]]); where parameters are as
- **name :** A unique name for a particular cookie. You can have multiple cookies with differentnames and attributes. The name must not contain whitespace or semicolons.
- **value :** The arbitrary string value attached to this cookie. The original Netscape specification limited the total size of a cookie (including name, expiration date, and other information) to 4

KB, so while there's no specific limit on the size of a cookie value, it probably can't be much larger than 3.5 KB.

- **expire** : The expiration date for this cookie. If no expiration date is specified, the browsersaves the cookie in memory and not on disk. When the browser exits, the cookie disappears. The expiration date is specified as the number of seconds.
- **path**: The browser will return the cookie only for URLs below this path. The default is the directory in which the current page resides.
- **domain** : The browser will return the cookie only for URLs within this domain. The default is the server hostname.
- **secure** :The browser will transmit the cookie only over https connections. The default is false, meaning that it's okay to send the cookie over insecure connections

This function creates the cookie string from the given arguments and creates a Cookie header with that string as its value. Because cookies are sent as headers in the response, setcookie() must be called before any of the body of the document is sent.

When a browser sends a cookie back to the server, you can access that cookie through the \$_COOKIE

array. The key is the cookie name, and the value is the cookie's value field.

Consider a sample program to keep track of number of times the web page has been accessed

<?php

```
if(isset($_COOKIE['accesses']))
```

\$cnt = \$_COOKIE['accesses'];

else

scnt = 0;

```
setcookie('accesses', ++$cnt);
```

```
echo "You have visited this page $cnt times ";
```

?>

Deleting Cookies

You can delete a cookie by calling the same setcookie() function with the cookie name and any value (such as an empty string) however this time you need the set the expiration date in the past.

Consider the sample example for deleting cookie
<?php
// Deleting a cookie
setcookie("username", "", time()-3600);
?>

Sessions :

Session allow us to easily create multi page forms, save user authentication information from page topage, and store persistent user preferences on a site. A session can be defined as a series pf related interactions between a single client and the Web server. The session may consist of multiple requests to the same script or a variety of different resources on the same web site.

To enable sessions for a page, call session_start()before any of the document has been generated:

<?php session_start() ?>

<html>

</html>

•••

This assigns a new session ID if it has to, possibly creating a cookie to be sent to the browser, and loads any persistent variables from the store. into the associative array \$HTTP_SESSION_VARS. The keys are the variables' names (e.g., \$HTTP_SESSION_VARS['hits'])

Functions :

- bool session_start ([array \$options = []]) :to enable session for a page. This function assigns a new session ID to the new session.
- bool **session_register** (mixed \$name [, mixed \$...]): to register a variable with the session by passing the name of the variable. When a session is started, you can store any number of variables in the \$_SESSION superglobal array and then access them on any session enabled page.
- string **session_id** ([string \$id]) : **session_id**() is used to get or set the session id for the current session.
- bool **session_destroy** (void): **session_destroy**() destroys all of the data associated with the current session. It does not unset any of the global variables associated with the session, or unset the session cookie. To use the session variables again, session_start() has to be called.
- **bool session_unregister(string \$name) :** session_unregister() unregisters the global variablenamed name from the current session.

Consider example which prints visitor count of web page <?php

session_start(); //start the PHP_session function
if(isset(\$_SESSION['page_count']))

```
$_SESSION['page_count'] += 1;
```

else

\$_SESSION['page_count'] = 1;

echo 'You are visitor number ' . \$_SESSION['page_count']; ?>

Lab Exercise

SET A

- 1. A web application that lists all cookies stored in the browser on clicking "list cookies" button, add cookies if necessary.
- 2. Write a PHP program to store current date-time in a COOKIE and display the 'Last visited on' date-time on the web page upon reopening of the same page.
- 3. Write a script to keep track of number of times the web page has been accessed using session.
- 4. Create a login form with a username and password. Once the user logs in, the second form should be displayed to accept user details (name, city, phoneno). If the user doesn't enter information within a specified time limit, expire his session and give a warning otherwise Display Details using sessions.
- 5. Write PHP program to store Customer information like customer no, name, address, mobile no. On second page, accept product code, product name, Qty, Rate. Display Bill on third page including customer and product details.

SET B

- 1. Write a PHP script to accept username and password. If in the first three chances, username and password entered is correct, then display second form, otherwise display error message.
- 2. Create a form to accept student information (name, class, address). Once the student information is accepted, accept marks in next form (Java, PHP, SE, OS, Pract1, and Pract2). Display the mark sheet for the student in the next form containing name, class, marks of the subject, total and percentage using cookies.
- Change the preferences of your web page like font style, font size, font color, background color using cookie. Display selected settings on next web page and actual implementation (with new settings) on third web page.
- 4. Create a form to accept employee details like name, address and mobile number. Once the employee information is accepted, then accept LIC information like policy_no, name, premium. Display employee details and LIC details on next form.
- 5. Write a PHP script to accept Employee details (Eno, Ename, Add.) on first page. On second page accept earning (Basic, DA, HRA). On third page Print Employee Information (Eno, Ename, Add, Basic, DA, HRA, Gross)

SET C

1. Write a program to create a shopping mall. User must be allowed to do purchase from three pages. Each page should have a page total. The fourth page should display a bill, which consists of a page total of whatever the purchase has been done and print the total. (Use \$_SESSION).

Assignment Evaluation

0: Not Done[]

1: Incomplete[]

2: Late Complete []

3: Needs Improvement[]

4: Complete []

5: Well Done []

Assignment No 14: XML

Authors: Mohsin Tamboli &Preeti Gawade

Allotted Slots: 2

Introduction to XML :

XML stands for EXtensible Markup Language. It is a text-based markup language derived from Standard Generalized Markup Language (SGML). XML was designed to store and transport data. XML was designed to be both human- and machine-readable. XML is a markup language much like HTML. XML was designed to describe data. XML tags are not predefined . You must define your own tags.XML is self describing.

XML document are well – formed and valid. A well - formed XML document follows the basic XML syntax rules. A valid document also follows the rules imposed by a DTD or an XSD.

A simple document is shown in the following example -

```
<?xml version = "1.0"?>
```

<contact-info>

<name>TanmayPatil</name>

```
<company>TutorialsPoint</company>
```

```
one>(011) 123-4567
```

```
</contact-info>
```

The following image depicts the parts of XML document.



Document Prolog Section :

Document Prolog comes at the top of the document, before the root element. This section contains -

- 1. XMLdeclaration
- 2. Document typedeclaration

Document Elements Section:

Document Elements are the building blocks of XML. These divide the document into a hierarchy of sections, each serving a specific purpose.

XML declaration :

It contains details that prepare an XML processor to parse the XML document. It is optional, but

when used, it must appear in the first line of the XMLdocument.

<?xml version="version_number" encoding="encoding_declaration" standalone="standalone_status" ?>

An XML declaration should abide with the following rules:

- The XML declaration is case sensitive and must begin with "<?xml>" where "xml"is written in lower-case. If the XML declaration is included, it must contain version numberattribute.
- The Parameter names and values are case-sensitive. The names are always in lowercase.
- The order of placing the parameters is important. The correct order is:*version, encoding and standalone*. Either single or double quotes may beused.
- The XML declaration has no closing tag i.e.</?xml>

Example of XML declaration:

- <?xml>
- <?xmlversion="1.0">
- <?xml version="1.0" encoding="UTF-8" standalone="no"?>
- <?xml version='1.0' encoding='iso-8859-1' standalone='no'?>

DTD : Document Type Declaration :

- The XML <u>Document Type Declaration</u>, commonly known as DTD, is a way to describe XML languageprecisely.
- DTDs check vocabulary and validity of the structure of XML documents against grammatical rules of appropriate XMLlanguage.
- An XML DTD can be either specified inside the document, or it can be kept in a separate document and then likedseparately.
- Basic syntax of a DTD is asfollows:

.....

- <!DOCTYPE element DTD identifier [
- declaration1 declaration2

1>

XML Tags :

XML tags are case sensitive. The tag <Letter> is different from the tag <letter>. Opening and closing tags must be written with the same case.

For example,

<Message>This is incorrect</message> <message>This is correct</message>

XML Elements :

- An XML file is structured by several XML-elements, also called XML-nodes or XML-tags. XML-elements' names are enclosed by triangular brackets <>.
- EachXML-elementneedstobeclosedeitherwithstartorwithendelementsasshownbelow:
- <element>.....</element>.
- An XML document can have only one rootelement
- An XML-element can contain multiple XML-elements as its children, but the children elements must notoverlap.
- In XML, all elements must be properly nested within eachother.

XML attributes:

- An XML-element can have one or moreattributes.
- Attribute names in XML (unlike HTML) are case sensitive. That is, *HREF* and*href* are considered two different XML attributes.
- Same attribute cannot have two values in asyntax

So XML follows tree structure <root> <child> <subchild>.....</subchild> </child> </root> <?xml version = "1.0" ?> <BookStore> <Books> <PHP> </PHP> <PHP> </PHP> </Books> </BookStore> <title>Programming PHP</title>

<publication>O'RELLY</publication>

<title>Beginners PHP</title>

<publication>WROX</publication>

SimpleXML :

- SimpleXML is an extension that allows us to easily manipulate and get XML data.
- The SimpleXML extension is the tool of choice for parsing an XML document.
- SimpleXML turns an XML document into a data structure you can iterate through like a collection of arrays andobjects.
- The SimpleXML extension includes interoperability with the DOM for writing XML filesand built-in XPathsupport.
- SimpleXMLis easier to code than the DOM, as its name implies.

SimpleXMLElement class represents an element in an XML document.

- To create root element of xml document, first create object of SimpleXMLElement class and initialize with rootelement.
- For example:
- \$bk=new SimpleXMLElement("<bookstore/>");

Methods or functions of simpleXMLElement class

Function name	Description	syntax	Example
addChild()	The addChild() fur adds a child elemen SimpleXMLelemen	addChild(name,val	<pre>\$book = \$bk->addchild("book");</pre>
addAttribute()	adds an attribute to SimpleXML eleme	addAttribute(name,	<pre>\$book->addAttribute("Category", "Technical");</pre>
getName()	Returns the name o XML tag reference the SimpleXML ele	getName();	\$bk->getName();
asXML()	Returns a well- for XML string (XML 1.0) from a Simple object	asXML([filename]) ;	echo \$bk->asXML();
children()	Returns the childre specified node as ar	children()	<pre>foreach (\$book->children() as \$child) { echo"Child node: " . \$child ." ; }</pre>
attributes();	Returns the attributes/values of element	attributes();	foreach (\$book->attributes () as \$k=>\$v) { echo \$k : \$v . " "; }
count();	The count() functio counts the children specified node.	count();	<pre>\$cnt=\$book->count();</pre>
simplexml_load _file()	Converts an XML f a SimpleXMLElem object	simplexml_load_fil	<pre>\$xml=simplexml_load_file("note.xm);</pre>
simplexml_load _string()	The simplexml_load_str function converts a formed XML string SimpleXMLEleme object.		php<br \$note=<< <xml <note> <to>Tove</to> </note> XML; \$xml=simplexml_load_string(\$note);</xml

Reading XML document

<?php \$bk = simplexml_load_file("book.xml"); echo htmlspecialchars(\$bk->asXML()); ?>

- With SimpleXML, all the elements in XML document are represented as tree of SimpleXMLElement objects. Any given element's children are available as properties of elements SimpleXMLElementobject.
- For example ,We can access element name as properties \$book->title , \$book->publisheretc.

Consider an application that reads "Book.xml" file into simple XML object. Display attributes and elements.

```
//book .xml
<?xml version='1.0' encoding='UTF-8'?>
<bookstore>
<book category="Technical">
<title> LET US C </title>
<author> YASHWANT KANETKAR </author>
<year> 1980 </year>
</book>
<book category="Cooking">
<title> COOKING EVERYDAY </title>
<author> TARALA DALAL</author>
<year> 2000 </year>
</book>
<book category="YOGA">
<title> LIGHT ON YOGA </title>
<author> B.K.IYENGAR </author>
<year> 1990 </year>
</book>
</bookstore>
// book.php
<?php
$xml = simplexml_load_file("book.xml");
echo $xml->getName() . "<br/>"; foreach($xml->children() as $child)
echo $child->getName() . "<br>"; foreach($child->attributes() as $k=>$v)
echo $k . "=". $v ."<br>"; foreach($child->children() as $i=>$j)
ł
echo $i .":". $j."<br>";
}
}
}
?>
```

XSLT Introduction

- XSL (eXtensibleStylesheet Language) is a styling language for XML.
- XSLT stands for XSL Transformations.
- This tutorial will teach you how to use XSLT to transform XML documents into other formats (like transforming XML into HTML).
- XSLT is the most important part of XSL.
- XSLT is used to transform an XML document into another XML document, or another type of document that is recognized by a browser, like HTML and XHTML. Normally XSLT does this by transforming each XML element into an (X)HTML element.
- With XSLT you can add/remove elements and attributes to or from the output file. You can also rearrange and sort elements, perform tests and make decisions about which elements to hide and display, and a lot more.
- A common way to describe the transformation process is to say that **XSLT transforms an XML source**tree into an XML result-tree.

```
?xml version="1.0"?>
<xsl:stylesheet version="1.0"
xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
<xsl:template match="/">
<html>
<body>
 <h2>My CD Collection</h2>
 <trbgcolor="#9acd32">
   Title
   Artist
  <xsl:for-each select="catalog/cd">
   </xsl:for-each>
 </body>
</html>
</xsl:template>
</xsl:stylesheet>
```

LAB Exercise:

SETA:

1) Create a XML file which gives details of movies available in "Mayanagari CD Store" from following categories a) Classical b) Action c) Horror

Elements in each category are in the following format <Category>

<Movie Name> --- </Movie Name>

<Release Year>--- </Release Year>

</Category>

Save the file with name "movies.xml".

2) Create a XML file which gives details of books available in "ABC Bookstore" from following categories.

1) Technical

2) Cooking

3) Yoga

and elements in each category are in the following format <Book>

<Book_PubYear>------</Book_PubYear>

<Book_Title>----- </Book_Title>

<Book_Author>-----</Book_Author>

</Book>

Save the file as "Book.xml"

3) Write a PHP script to create XML file named "Course.xml"

<Course><Computer Science>

<Student name>.</Student name><Class name>.</Class name><percentage>. ...</percentage></ Computer Science>

</Course>

Store the details of 5 students who are in TYBSc.

SET B:

1) Write PHP script to generate an XML code in the following format <?xml version="1.0" encoding="ISO-8859-1" ?>

<CD

Store><Movie>

<Title>Mr. India</Title>

<Release Year>1987</ Release Year ></Movie>

<Movie>

<Title>Holiday</Title>

<Release Year>2014</ Release Year ></Movie>

<Movie>

<Title>LOC</Title>

<Release Year>2003</ Release Year ></Movie>

</CD Store>

2) Write a script to create "cricket.xml" file with multiple elements as shown below:

<CricketTeam>

<Team country="India">

<player>____</player>

<runs>____</runs>

<wicket>____</wicket>

</Team>

</CricketTeam>

Write a script to add multiple elements in "cricket.xml" file of category, country="Australia".

3) Write a PHP script to accept an XML file which should comprise the following:

<cricket>

<player>abc</player>

<runs>1000</runs>

<wickets>50</wickets>

<noofnotout>10</noofnotout>

</cricket>

For at least 5 players. Display the details of players who have scored more than 1000 runs and at least 50 wickets.

SET C:

1) Write a PHP script to accept an XML file which should comprise the following :

<languages><lang name="C"><appeared>1972</appeared ><creator>Dennis Ritchie</creator></lang>

</languages>

For at least 5 records. Display the details of C language.

Assignment Evaluation

0: Not Done[]	1: Incomplete[]	2: Late Complete []		
3: Needs Improvement[]	4: Complete []	5: Well Done []		

Signature of the Instructor:-----Date:-----Date:------