IT8211 INFORMATION TECHNOLOGY ESSENTIALS LABORATORY L T P C
0 0 2 1

OBJECTIVES:

- To write simple scripts for the creation of web sites
- To create various information technology enabled applications

1. Creation of interactive web sites - Design using HTML and authoring tools
2. Creation of simple PHP scripts - Dynamism in web sites
3. Handling multimedia content in web sites
4. Database applications using PHP and MySQL
5. Study of computer networking components
6. Creation of information retrieval system using web, PHP and MySQL
7. Study of Technologies associated with mobile devices
8. Creation of Personal Information System

TOTAL: 30 PERIODS

OUTCOMES:

On Completion of the course, the students should be able to:

- Design interactive websites using basic HTML tags, different styles,links and with all
- Basic control elements.
- Create client side and server side programs using scripts using PHP.
- Design dynamic web sites and handle multimedia components
- Create applications with PHP connected to database.
- Create Personal Information System
- Implement the technologies behind computer networks and mobile communication.

Table of Contents

Creation of interactive web sites - Design using HTML and authoring tools

Ex.No:01
Date:

Aim:

To develop Home, Login and Catalogue static web pages for an Online Book Store

Web Authoring / HTML Editors / XHTML Editors

Web authoring is the practice of creating web documents using modern web authoring software and tools. Web authoring software is a type of desktop publishing tool that allows users to navigate the tricky environment of HTML and web coding by offering a different kind of graphical user interface.

Examples of authoring tools

"Authoring tools" covers *any* software is used to write the web, from enterprise content management systems (CMSs) through to microblogging mobile apps, whether web-based, non-web-based or a combination.

Examples include:

- web page authoring tools (e.g., WYSIWYG HTML editors)
- software for directly editing source code or markup
- software for converting to web content technologies (e.g., "Save as HTML" features in office suites)
- integrated development environments (e.g., for web application development)
- software that generates web content on the basis of templates, scripts, command-line input or "wizard"-type processes
- software for rapidly updating portions of web pages (e.g., blogging, wikis, online forums)
- software for live collaboration over the web
- software for updating social media profiles, microblogging, and photo and video sharing
- software for generating/managing entire web sites (e.g., content management systems, courseware tools, content aggregators)
- email clients that send messages in web content technologies
- multimedia authoring tools
- debugging tools for web content
- software for creating mobile web applications
- scripting libraries
- web application frameworks, IDEs and SDKs

Used Softwares:

- Dreamweaver, by Adobe (formerly by Macromedia)
- Arachnophilia, by P. Lutus
- BBEdit, by Bare Bones Software
- CoffeeCup HTML Editor, by CoffeeCup Software, Inc.
- EditPlus, by ES-Computing
- Expression Web Designer, by Microsoft
- First Page, by Evrsoft
- GoLive, by Adobe
- FrontPage, by Microsoft
- HomeSite, by Macromedia (formerly by Allaire)
- TextPad, by Helios Software Solutions
- TopStyle CSS, HTML, XHTML Editor, by NewsGator Technologies, Inc. (formerly by Bradsoft)
- HotDog, by Sausage Software
- HTML-Kit Tools (Formerly HTML-Kit), by Chami

HTML REFERENCE

ADDING HEADINGS

There are six levels of heading in HTML. These are -

<h1> </h1> -- the biggest

<h2> </h2>

<h3> </h3>

<h4> </h4>

<h5> </h5>

<h6> </h6> -- the smallest

This is how you will use the heading tags in your web page -

<h1> example of heading </h1>

<h2> example of heading </h2>

<h3> example of heading </h3>

<h4> example of heading </h4>

Output

Steps:

CUSTOMIZING YOUR WEB PAGE

Customizing your web page means enhancing the look of your page. You can do this by adding pictures, videos and other media files too such as audio clips (.mp3, .wmv, etc)

ADD BACKGROUND IMAGE

By using background attribute you can easily add image as a background. This is how you will be using it-

<body background="image source">

This method gives you more flexibility and command over your background images. Use the following code:-

<body style="backgound: url(E:\image\eye candy wallpapers 2 by deadpxl.jpg) fixed;background-position:centre;border:10;">

See image for more details

Output:

ADDING IMAGE to YOUR WEB PAGE

For adding images to your web pages you will be using <img> tag. Some of the attributes of <img> tag are:

alt: every text assigned with this attribute will be displayed by the web browser when the image will be being loaded or if its unable to display the images.

src: you will use this attribute to assign the path of the image you want to display on your web page

height/width: these attributes are used to assign height and width of the image. You can set the height and width of you image by either percentage value or by pixel value.

align: using this attribute you can position your images either on right or left side of your web page.

See image for more instructions:

Output

Applying border could give this type of images:-

ADDING VIDEO to YOUR WEB PAGE

You can simply use <embed> tag to add videos.

<embed src="E:\image\video1.mp4" height = "350" width="500" autostart="false"></embed>

If you change the "autostart" value to "true" then your video will start playing as soon as you open your web page.

ADDING AUDIO to YOUR WEBPAGE

You can add music to your web page in the same way to added video. Just instead of video file path use the path to your music file.

<embed src="E:\image\song.mp3" height="100" width="100" autostart="false"></embed>

You can also run any audio file in the background by using this tag:

<bgsound src="E:\image\ck.mp3" loop="infinite">

<body><bgsound src="files/ck.MP3" loop="infinite">XXXXXXXXXXXXXXXXXXXXXXXXXXXXX</body>

Using <bgsound> tag will not add any music player to your web page but still you will be hearing it.

Step

ADD LINKS, TABLES, LISTS and COMMENTS to YOUR WEB PAGE

Here you will learn how to link pages, add tables, lists and even comments to your Web page.

ADD LINKS

If you want to link a different site or any other web page, then you have to use <a> tag also known as anchor tag. If your web page is named "something.html" and is stored in the folder named "webpages" and you wanna link it to your web pages, then you will use the following code:-

Something

GIVE NAME to ANY SECTION of YOUR WEB PAGE

My section

Now you can create direct links to the section named "My section" withing the same web page using this code format -

Link to My section of this web page

If you want to link this section from another web page, then use this code format:-

Link to the My section of ck web page

See image below for more reference:-

Output

ADDING CLICKABLE IMAGE

To make any image clickable, you just need to use <a> tag before the <img> tag.

Here is an example:

<img src="path of the image">

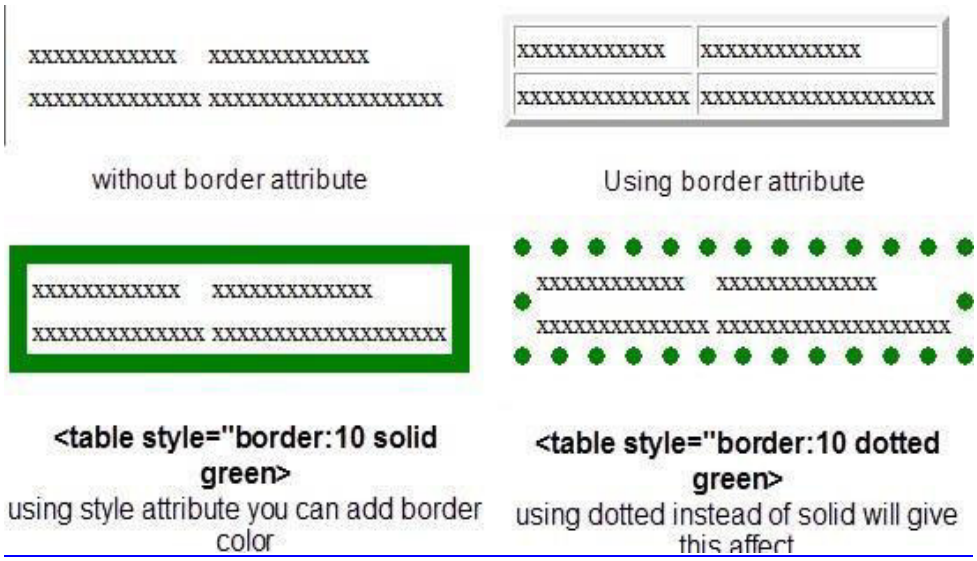
ADDING TABLES to YOUR WEB PAGE

You add tables in you web page using <table> tag. For rows you have to use <tr> tag and each column is divided into cells using <td> tag. The syntax of <table> tag:-

<table><tr><td>xxxxxxxxxxxx</td><td>xxxxxxxxxxxxx</td></tr>

<tr><td>xxxxxxxxxxxxxx</td><td>xxxxxxxxxxxxxxxxxxx</td></tr>

</table>



Cellpadding and Cellspacing:

Cellpadding:

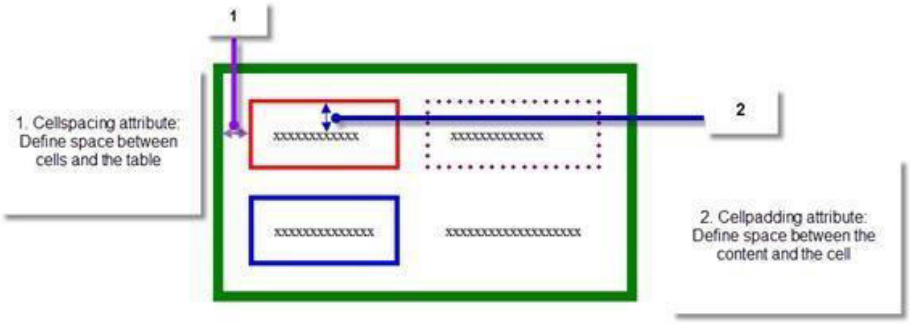
Cellpadding is an attribute of <table> tag. By using cellpadding attribute you can set the amount of space between the contents of the cell and the cell wall.

Ex:- <table cellpadding="4">

Cellspacing:

Cellspacing is also an attribute of <table> tag. By using cellspacing attribute you can set the amount of space between the table cells.

Ex:- <table cellspacing="4">



HTML code for this table:

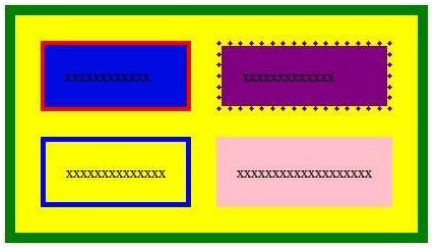
```
<table cellpadding="20" cellspacing="25" style="border:10 solid green"><tr><td style="border:4 solid red">
xxxxxxxxxxxx</td><td style="border:5 dotted purple">xxxxxxxxxxxxx</td></tr>
<tr><td style="border:5 solid blue">xxxxxxxxxxxxxx</td><td>xxxxxxxxxxxxxxxxxxx</td></tr></table>
```

ADDING BACKGROUND COLOR and IMAGE to TABLE

BACKGROUND COLOR:

You can background color to your table and cells simply by using "bgcolor" attribute.

```
<center><table bgcolor="yellow" cellpadding="20" cellspacing="25" style="border:10 solid green">
<tr><td bgcolor="light blue" style="border:4 solid red">xxxxxxxxxxxx</td>
<td bgcolor="purple" style="border:5 dotted purple">xxxxxxxxxxxxx</td></tr>
<tr><td style="border:5 solid blue">xxxxxxxxxxxxxx</td>
<td bgcolor="pink">xxxxxxxxxxxxxxxxxxx</td></tr>
</table>
```



BACKGROUND IMAGE:

If you think that adding colors as a background in you table is not so appealing, then no problem. You can use background attribute to add any images as background of your table or to each cell separately.

See image for more reference.

Output:-

ADDING LISTS to YOUR WEB PAGE

There are three types of lists in HTML:-

- Unordered Lists
- Ordered Lists
- Definition Lists

UNORDERED LISTS

An unordered list starts with the <ul> tag and each list item starts with the <li> tag.

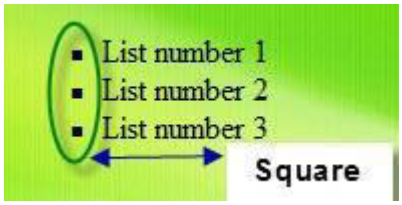
Example:-

```
<ul>
<li>List number 1</li>
<li>List number 2</li>
<li>List number 3</li>
</ul>
```

Output:-

Example:-

```
<ul type="square">
<li>List number 1</li>
<li>List number 2</li>
<li>List number 3</li>
</ul>
```



Output:- Try using "disc" value in "type" attribute!

ORDERED LIST

An ordered list starts with the <ol> tag and each list start with <li> tag.

Example:-

Try this tag yourself and see the effect:- <ol type="I">

Suppose you wan

Example:-t to start your list with number 5 or any alphabet C instead of 1 or A, then try using "start" attribute.

```
<ol>
<li value="5">List number 1</li>
<li value="10">List number 2</li>
```

<li value="20">List number 3

See image below for more reference/Idea:-

DEFINITION LIST

Definition list contains list of items with a description or definition of each item.

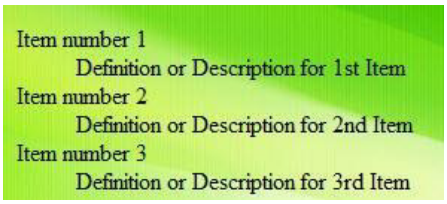
Every definition list start with <dl> tag and ends with </dl> tag.

<dt> tag which is used within the <dl> tag defines a definition list. <dd> tag which is used within <dt> tag defines the description for each list.

Example:-

```
<dl>
<dt>Item number 1</dt>
<dd>Definition or Description for 1st Item</dd>
<dt>Item number 2</dt>
<dd>Definition or Description for 2nd Item</dd>
<dt>Item number 3</dt>
<dd>Definition or Description for 3rd Item</dd>
</dl>
```

Output:-

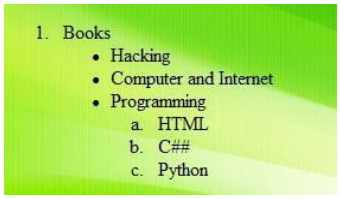


NESTED LIST

Nested list is not any new type of list but a combined use to unordered list and ordered list.

Here is an example of Nested list:-

Output:-



ADDING COMMENTS to YOU HTML CODE

The comment tag is used to add comments to your HTML code or source code. Contents within these tags are not displayed by the browser. Example of Comment tag:-

<!--Text within these tags are not displayed by the Web Browser-->

Step ADD MORE EFFECTS to TEXT and YOUR WEB PAGE

ADD HORIZONTAL LINE

If you want to add a horizontal line in your web page, then you have to use <hr> tag. Its a non-container tag, so you don't need to close it.

Attributes of <hr> tag:

Width:- Assign value in pixel or percentage.

Size:- Assign value in pixel or percentage.

Align:- Assign value (left, center, right) to specify the alignment of horizontal line.

Color:- Give color to Horizontal line

noshade:- This attribute specifies that horizontal line should be displayed without shaded.

Style:- You can use this attribute to give dotted or solid border of any color to it.

Different types of horizontal line with their codes

ADD MARQUEE EFFECT

By using <marquee> tag you can make text, photos, horizontal line and many more things scroll horizontally or vertically automatically.

Attributes of <marquee> tag:-

Scrollamount:- Scrollamount attribute defines the value by which the content withing <marquee> tag should move.

Direction:- Direction attribute defines the direction in which the content should move. (right, left, up and down)

There are many more.

Try using these examples and modify it according to your needs:

<marquee scrollamount="12" direction="right">You are learning Web Designing</marquee>

<marquee scrollamount="2" direction="left">You are learning Web designing</marquee>

<marquee behavior="alternate" width="600" height="100"><b>You are learning Web designing<b></marquee>

ADD SUBSCRIPT, SUPERSCRIPT and STRIKE

SUBSCRIPT and SUPERSCRIPT:

Use <sub> and <sup> tags to give subscript and superscript affect to any text or number. Generally, these tags are helpful while creating Science subject (mathematics, physics, chemistry, etc) related web pages.

STRIKE:

This tag (<strike>) will display a line through the middle of the text.

In this program all the web paged are created by using basic HTML tags. Home page is divided into 3 frames by using <frameset> and <frame> tags.

A frame is used to display a web page within a web page.

CASCADED STYLE SHEET(CSS)

Style sheets represent a major breakthrough for Web page designers, expanding their ability to improve the appearance of their pages.

CSS **saves a lot of work**. It can control the layout of multiple web pages all at once.External stylesheets are stored in **CSS files**

CSS Syntax:

A CSS rule-set consists of a selector and a declaration block:

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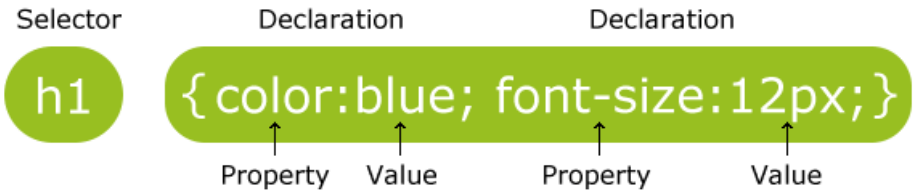
A CSS rule set consists of a selector and a declaration block:



- The selector points to the HTML element you want to style.
- The declaration block contains one or more declarations separated by semicolons.
- Each declaration includes a CSS property name and a value, separated by a colon.
- A CSS declaration always ends with a semicolon, and declaration blocks are surrounded by curly braces.

Three Ways to Insert CSS:

There are three ways of inserting a style sheet:

- External style sheet
- Internal style sheet
- Inline style

HTML PROGRAM FOR INTERNAL STYLE SHEET:

```
<html>
<head>
<title>Embedded style sheet</title>
<style type="text/css">
body {font-weight:bold}
#p1{font-style:italics}
li{font-style:normal}
span{font-family:"Verdanan"}
#p2{font-size:larger}
h2,h3{background-color:pink}
</style>
</head>
<body bgcolor="aqua"><h1><center>WIDELY USED PROTOCOLS</center></h1>
<br/><br/><br/>
2>TCP/IP</h2>
<p id="p1">TCP/IP (Transmission Control Protocol/Internet Protocol) is the basic communication language
or protocol of the Internet. It can also be used as a communications protocol in a private network (either an
intranet or an extranet). When you are set up with direct access to the Internet, your computer is provided
with a copy of the TCP/IP program just as every other computer that you may send messages to or get
information from also has a copy of TCP/IP.
</p>
<h3>UDP </h3>
<p =id"p2">UDP (User Datagram Protocol) was introduced in 1980 and is one of the oldest network protocols in
existence. It's a simple OSI transport layer protocol for client/server network applications, is based on Internet
Protocol (IP), and is the main alternative to TCP.
<span>It does not provide two way connection or guarenteed delivery of TCP.</span> Its
advantages over TCP is speed for simple tasks. <ul>

<li>
DNS is Domain Name Service<p> Its a mechanism of mapping the domain name to corresponding Ip
```

address</p>

</p>
</body>
</html>

PROGRAM FOR EXTERNAL STYLE SHEET:

Sample.css:

```
h1,h2,h3,h4,h5,h6{background-color:purple}
*{font-weight:bold}
#p1,#p3{background-color:aqua}
#p4,.takenote{font-style:italic}
span.special{font-size:x-large}
a:link{color:black}
a.visited{color:yellow}
a.hover{color:green}
a.active{color:red}
ul span{font-variant:small-caps}
ul ol li{letter-spacing:1em}
```

selector.html:

```
<!DOCTYPE html PUBLIC"-//W\w3c//DTD XHTML 1.0 Strict//EN"
"http://www.w3.org/1999/xhtml1-strict.dtd">
<html xmlns="http://www.w3.org/1999/xhtml">
<head>
<title>selectors.html</title>
<link rel="stylesheet"type="text/css" href="Z:\sample.css"/>
</head>
<body>
<h1>selectors list</h1>
<p id="p1" class="takenote">
paragraph with id="p1" nad class=”takenote".</p>
<p id="p2"class=”special">
second paragraph<span class="takenote special cool"> this span belongs to classes takenote,special and
coll</span>
<ul>
<li>span's within list are in <span> small-cap </span> style </li> <ol>
<li> this item spaces letters</li>
</ol>
</ul>
</p>
<p id="p3">
third para(id="p3")contains a
<a href="http://www.example.net">hyperlink</a>
<ol>
<li> this item contains a span but does not display it in
<span> small caps </span> nor does it spaces letters</li>
</ol>
</p>
</body>
</html>
```

HTML PROGRAM FOR INLINE STYLE SHEET:

```
<!DOCTYPE html>
<html>
<body>
<h1 style="color:blye;margin-left:30px;">this is a heading.</h1>
<p>this is a paragraph</p>
</body>
</html>
```

JAVA SCRIPT

JavaScript is a lightweight, interpreted programming language. It is designed for creating network-centric applications. It is complimentary to and integrated with Java. JavaScript is very easy to implement because it is integrated with HTML. It is open and cross-platform.

JavaScript was first known as **LiveScript,** but Netscape changed its name to JavaScript, possibly because of the excitement being generated by Java. JavaScript made its first appearance in Netscape 2.0 in 1995 with the name **LiveScript**.

Syntax:

```
<html>
  <body>

    <script language="javascript" type="text/javascript">
      <!--
        document.write("Hello World!")
      //-->
    </script>

  </body>
</html>
```

Client-side JavaScript:

Client-side JavaScript is the most common form of the language. The script should be included in or referenced by an HTML document for the code to be interpreted by the browser.

It means that a web page need not be a static HTML, but can include programs that interact with the user, control the browser, and dynamically create HTML content.

The JavaScript client-side mechanism provides many advantages over traditional CGI server-side scripts. For example, you might use JavaScript to check if the user has entered a valid e-mail address in a form field.

Advantages of JavaScript:

- Less server interaction
- Less server interaction
- Increased interactivity
- Richer interfaces

PROGRAM:

1) HOME PAGE:

home.html:

```
<frameset rows="40%,*">
        <frame src="top.html" noresize scrolling="NO" name="topframe"> <frameset
        cols="15%,*">
                <frame src="left.html" noresize scrolling="NO" name="leftframe"> <frame
                src="right.html" noresize name="rightframe" scrolling="auto">
        </frameset>
</frameset>
```

top.html:

```
<html><head>
<title>Top Frame</title>
</head>
<body>
<img src="images\logo.jpeg" width="85" height="75" align="left"> <center>
<marquee bgcolor="yellow" width="650" behavior="alternate">
<font face="Brush Script MT" size="6" color="Blue"><b><i>Online Book Store</i></b>
</font></marquee>
<br><font face="Brush Script MT" size="4" color="red"><b>Created & Maintained By G. E.
C</b></font>
</center><br>
<table width="100%" height="50%" cellspacing=10> <tr align="center">
<td> <a href="Home.html" target="_parent"> <img src="images\home.png" height="38">
</a></td>
<td> <a href="login.html" target="rightframe"> <img src="images\login.gif" height="38"> </a></td>
<td> <a href="registration.html" target="rightframe"> <img src="images\register.jpg" height="38">
</a></td>
<td> <a href="catalogue.jsp" target="rightframe"> <img src="images\catalogue.jpg" height="38">
</a></td>
<td> <a href="cart.html" target="rightframe"> <img src="images\cart.jpg" height="40">
</a></td></tr></table>
</body>
</html>
```

left.html:

```
<html>
<body align="center"><br>
<a href="" target="rightframe"> <img src="E:\WebTechnologiesLab\images\cse.jpg" height="35">
</a><br><br>
<a href="" target="rightframe"> <img src="E:\WebTechnologiesLab\images\ece.jpg" height="35">
</a><br><br>
<a href="" target="rightframe"> <img src="E:\WebTechnologiesLab\images\eee.jpg" height="25">
</a><br><br>
<a href="" target="rightframe"> <img src="E:\WebTechnologiesLab\images\civil.jpg"
height="35"> </a><br>
</body>
</html>
```

right.html:

```
<html>
<body>
<img src="E:\WebTechnologiesLab\images\Books1.jpg" height="170"><br> <center>
<font face="Brush Script MT" size="5" color="blue"><b>Welcome to the Online Book
Store!!!</b></font><br><br>
<font face="Brush Script MT" size="5" color="red"><b>"A Huge Collection Of Engineering E-
Books"</b></font>
</center>
</body>
</html>
```

2) LOGIN PAGE:

login.html:

```
<html>
<body>
<basefont face="Cambria" size="4">
<br>
<img src="E:\WebTechnologiesLab\images\loginpage.jpg" align="right"> <center>
<font face="Brush Script MT" size="5" color="purple"><b>Enter Login
Details:</b></font>
</center>
<form name="f1" method="post">
<table align="center" width="100" height="150" cellspacing=”15”>
<tr><td><b>Login ID:</b></td>
<td><input type="text" name="t1"></td></tr>
<tr><td><b>Password:</b></td>
<td><input type="password" name="t2"></td></tr> <tr
align="center">
<td><input type="submit" name="b1" value="Submit"></td> <td><input
type="reset" name="b2" value="Reset"></td></tr> </table>
</form>
</basefont>
</body>

</html>
```

3) CATALOGUE PAGE:

Catalogue.html:

```
<html>
<body>
<br><br>
<basefont face="cambria" size="3">
<table align="center" width="100%" height="100%" cellspacing="0" cellpadding="10" border="1">
<tr align="center">
<td><img src="E:\WebTechnologiesLab\images\cseimage1.jpg" height="150"></td>
<td><b>Book: WebTechnologies<br>Author: R.K Somani<br> Publication: R.T.U
Edition</b></td>
<td><b>$43.5</b></td>
<td><input type="Submit" value="Add To Cart" name="b1"></td> </tr>
<tr align="center">
<td><img src="E:\WebTechnologiesLab\images\cseimage2.jpg" height="150"></td> <td><b>Book:
XML Bible<br>Author: E.R Harold<br> Publication: Wiely</b></td> <td><b>$60</b></td>
```

```
<td><input type="Submit" value="Add To Cart" name="b2"></td> </tr>
<tr align="center">
<td><img src="E:\WebTechnologiesLab\images\cseimage3.jpg" height="150"></td> <td><b>Book:
HTML 4 Bible<br>Author: Bill Karow<br> Publication: Bill Publications</b></td>
<td><b>$35.5</b></td>
<td><input type="Submit" value="Add To Cart" name="b3"></td></tr>
<tr align="center">
<td><img src="E:\WebTechnologiesLab\images\cseimage4.jpg" height="150"></td> <td><b>Book: Java
2 Core Language<br>Author: Al Williams<br> Publication: TMH Publications</b></td>
<td><b>$50</b></td>
<td><input type="Submit" value="Add To Cart" name="b4"></td> </tr>
</table>
</basefont>
</body>
</html>
```

4) CART PAGE:

cart.html:

```
<html>
<head>
<basefont color="blue" face="cambria" size="5"/> </head>
<body>
<form name="f2">
<table bgcolor="yellow" align="center" border="2" bordercolor="purple" cellpadding="0" cellspacing="0"
width="100%" height="100%">
<tr>
<th>Book Name</th>
<th>Price</th>
<th>Quantity</th>
<th>Amount</th>
</tr>
<tr align="center">
<td>Java 2</td>
<td>$35.5</td>
<td>2</td>
<td>$70</td>
</tr>
<tr align="center">
<td>XML Bible</td>
<td>$40.5</td>
<td>1</td>
<td>$40.5</td>
</tr>

<tr align="right">
<td colspan="3">Total Amount--</td>
<td>$110.5</td>

</tr>
</table>
</form>
</body>
</html>
```

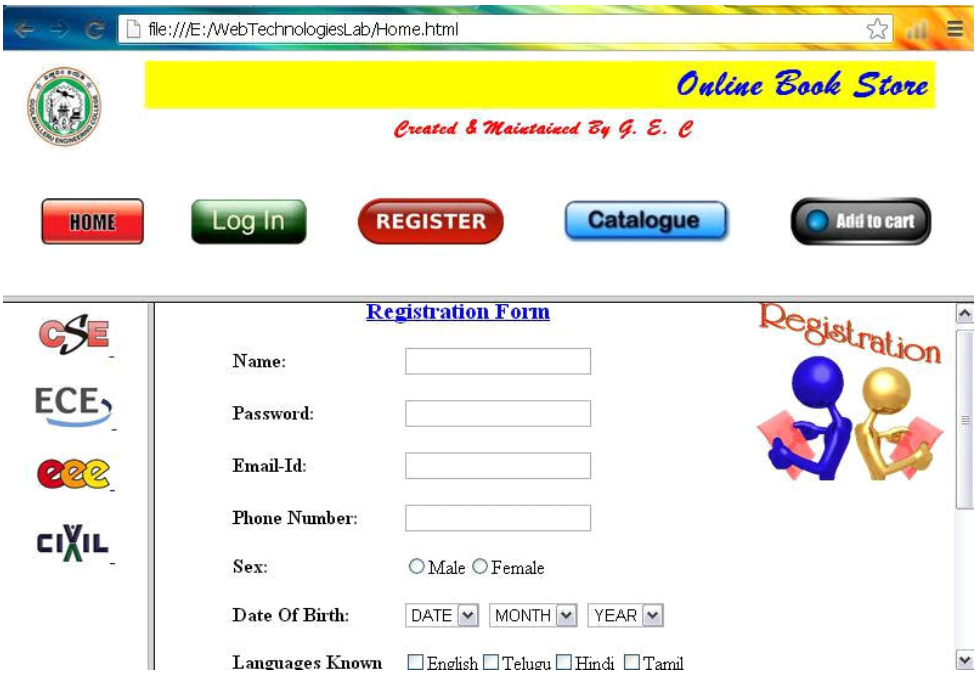
5) REGISTRATION PAGE

registration.html:

```
<html>
<body>
<basefont face="cambria">
<img src="E:\WebTechnologiesLab\images\registrationpage.gif" height="150" align="right">
<form name="f1" method="post">
<table align="center" cellspacing=15>
<caption align="center"><font color="blue"><h3><u>Registration
Form</u></h3></font></caption>
<tr>
<td><b><font color="red">*</font>Name:</b></td> <td><input
type="text" name="t1"></td>
</tr>
<tr>
<td><b><font color="red">*</font>Password:</b></td> <td><input
type="password" name="t2"></td> </tr>
<tr>
<td><b><font color="red">*</font>Email-Id:</b></td> <td><input
type="text" name="t3"></td>
</tr>
<tr>
<td><b><font color="red">*</font>Phone Number:</b></td> <td><input
type="text" name="t4"></td> </tr>
<tr>
<td><b><font color="red">*</font>Sex:</b></td>
<td><input type="radio" name="r1">Male<input type="radio" name="r1">Female</td> </tr>
<tr>
<td><b><font color="red">*</font>Date Of Birth:</b></td>
<td><select name="s1">
<option>DATE</option><option>1</option><option>2</option><option>3</option><op
tion>4</option><option>5</option><option>6</option><option>7</option><option>8<
/option><option>9</option><option>10</option><option>11</option><option>12</opti
on><option>13</option><option>14</option><option>15</option><option>16</option
><option>17</option><option>18</option><option>19</option><option>20</option><
option>21</option><option>22</option><option>23</option><option>24</option><opt
ion>25</option><option>26</option><option>27</option><option>28</option><option
>29</option><option>30</option><option>31</option>
</select>
<select name="s2">
<option>MONTH</option><option>Jan</option><option>Feb</option><option>Mar</opt
ion><option>Apr</option><option>May</option><option>Jun</option><option>Jul</opt
ion><option>Aug</option><option>Sep</option><option>Oct</option><option>Nov</o
ption><option>Dec</option>
</select>
<select name="s3">
<option>YEAR</option><option>1985</option><option>1986</option><option>1987</o
ption><option>1988</option><option>1989</option><option>1990</option><option>1
991</option><option>1992</option><option>1993</option><option>1994</option><op
tion>1995</option><option>1996</option><option>1997</option><option>1998</optio
```

```
n><option>1999</option><option>2000</option>
</select>
<tr>
<td><b><font color="red">*</font>Languages Known</b></td> <td><input
type="checkbox" name="c1">English<input type="checkbox" name="c2">Telugu<input
type="checkbox" name="c3">Hindi
<input type="checkbox" name="c4">Tamil
</td>
</tr>

<tr>
<td><b><font color="red">*</font>Address:</b></td>
<td><textarea name="txt1" rows="5" cols=25></textarea></td>
</tr>
</td>
</tr>
<tr align="center">
<td><input type="submit" name="b1" value="Submit"></td>
<td><input type="reset" name="b2" value="Reset"></td>
</tr>
</table>
</form>
<h4 align="center"><font color="red">* Fields are Mandatory</font></h4> </body>
</html>
```

OUTPUT:



HTML Tags

Basic HTML

Tag	Description
<!DOCTYPE>	Defines the document type

<html>	Defines an HTML document
<head>	Defines information about the document
<title>	Defines a title for the document
<body>	Defines the document's body
<h1> to <h6>	Defines HTML headings
<p>	Defines a paragraph
 	Inserts a single line break
<hr>	Defines a thematic change in the content
<!--...-->	Defines a comment

Formatting

Tag	Description
<acronym>	Not supported in HTML5. Use <abbr> instead. Defines an acronym
<abbr>	Defines an abbreviation or an acronym
<address>	Defines contact information for the author/owner of a document/article
<b>	Defines bold text
<bdi>	Isolates a part of text that might be formatted in a different direction from other text outside it
<bdo>	Overrides the current text direction
<big>	Not supported in HTML5. Use CSS instead. Defines big text
<blockquote>	Defines a section that is quoted from another source
	Not supported in HTML5. Use CSS instead. Defines centered text
<cite>	Defines the title of a work
<code>	Defines a piece of computer code
<del>	Defines text that has been deleted from a document
<dfn>	Represents the defining instance of a term
	Defines emphasized text
<font>	Not supported in HTML5. Use CSS instead. Defines font, color, and size for text
<i>	Defines a part of text in an alternate voice or mood
<ins>	Defines a text that has been inserted into a document
<kbd>	Defines keyboard input
<mark>	Defines marked/highlighted text
<meter>	Defines a scalar measurement within a known range (a gauge)
<pre>	Defines preformatted text
<progress>	Represents the progress of a task
<q>	Defines a short quotation
<rp>	Defines what to show in browsers that do not support ruby annotations
<rt>	Defines an explanation/pronunciation of characters (for East Asian typography)
<ruby>	Defines a ruby annotation (for East Asian typography)
<s>	Defines text that is no longer correct

<samp>	Defines sample output from a computer program
<small>	Defines smaller text
<strike>	Not supported in HTML5. Use <del> or <s> instead. Defines strikethrough text
	Defines important text
<sub>	Defines subscripted text
<sup>	Defines superscripted text
<template>	Defines a template
<time>	Defines a date/time
<tt>	Not supported in HTML5. Use CSS instead. Defines teletype text
<u>	Defines text that should be stylistically different from normal text
<var>	Defines a variable
<wbr>	Defines a possible line-break

Forms and Input

Tag	Description
<form>	Defines an HTML form for user input
<input>	Defines an input control
<textarea>	Defines a multiline input control (text area)
<button>	Defines a clickable button
<select>	Defines a drop-down list
<optgroup>	Defines a group of related options in a drop-down list
<option>	Defines an option in a drop-down list
<label>	Defines a label for an <input> element
<fieldset>	Groups related elements in a form
<legend>	Defines a caption for a <fieldset> element
<datalist>	Specifies a list of pre-defined options for input controls
<output>	Defines the result of a calculation

Frames

Tag	Description
<frame>	Not supported in HTML5. Defines a window (a frame) in a frameset
<frameset>	Not supported in HTML5. Defines a set of frames
<noframes>	Not supported in HTML5. Defines an alternate content for users that do not support frames
<iframe>	Defines an inline frame

Images

Tag	Description
<img>	Defines an image

<map>	Defines a client-side image-map
<area>	Defines an area inside an image-map
<canvas>	Used to draw graphics, on the fly, via scripting (usually JavaScript)
<figcaption>	Defines a caption for a <figure> element
<figure>	Specifies self-contained content
<picture>	Defines a container for multiple image resources

Audio / Video

Tag	Description
<audio>	Defines sound content
<source>	Defines multiple media resources for media elements (<video>, <audio> and <picture>)
<track>	Defines text tracks for media elements (<video> and <audio>)
<video>	Defines a video or movie

Links

Tag	Description
<a>	Defines a hyperlink
<link>	Defines the relationship between a document and an external resource (most used to link to style sheets)
<nav>	Defines navigation links

Lists

Tag	Description
	Defines an unordered list
	Defines an ordered list
	Defines a list item
<dir>	Not supported in HTML5. Use instead. Defines a directory list
<dl>	Defines a description list
<dt>	Defines a term/name in a description list
<dd>	Defines a description of a term/name in a description list
<menu>	Defines a list/menu of commands
<menuitem>	Defines a command/menu item that the user can invoke from a popup menu

Tables

Tag	Description
<table>	Defines a table
<caption>	Defines a table caption
<th>	Defines a header cell in a table
<tr>	Defines a row in a table
<td>	Defines a cell in a table
<thead>	Groups the header content in a table
<tbody>	Groups the body content in a table
<tfoot>	Groups the footer content in a table
<col>	Specifies column properties for each column within a <colgroup> element

<colgroup>	Specifies a group of one or more columns in a table for formatting

Styles and Semantics

Tag	Description
<style>	Defines style information for a document
	Defines a section in a document
	Defines a section in a document
<header>	Defines a header for a document or section
<footer>	Defines a footer for a document or section
<main>	Specifies the main content of a document
<section>	Defines a section in a document
<article>	Defines an article
<aside>	Defines content aside from the page content
<details>	Defines additional details that the user can view or hide
<dialog>	Defines a dialog box or window
<summary>	Defines a visible heading for a <details> element
<data>	Links the given content with a machine-readable translation

Meta Info

Tag	Description
<head>	Defines information about the document
<meta>	Defines metadata about an HTML document
<base>	Specifies the base URL/target for all relative URLs in a document
<basefont>	Not supported in HTML5. Use CSS instead. Specifies a default color, size, and font for all text in a document

Programming

Tag	Description
<script>	Defines a client-side script
<noscript>	Defines an alternate content for users that do not support client-side scripts
<applet>	Not supported in HTML5. Use <embed> or <object> instead. Defines an embedded applet
<embed>	Defines a container for an external (non-HTML) application
<object>	Defines an embedded object
<param>	Defines a parameter for an object

Creation of Simple PHP scripts - Dynamism in web sites

Ex. No:02
Date:

Aim:

To implement the program for Creation of simple PHP scripts - Dynamism in web sites

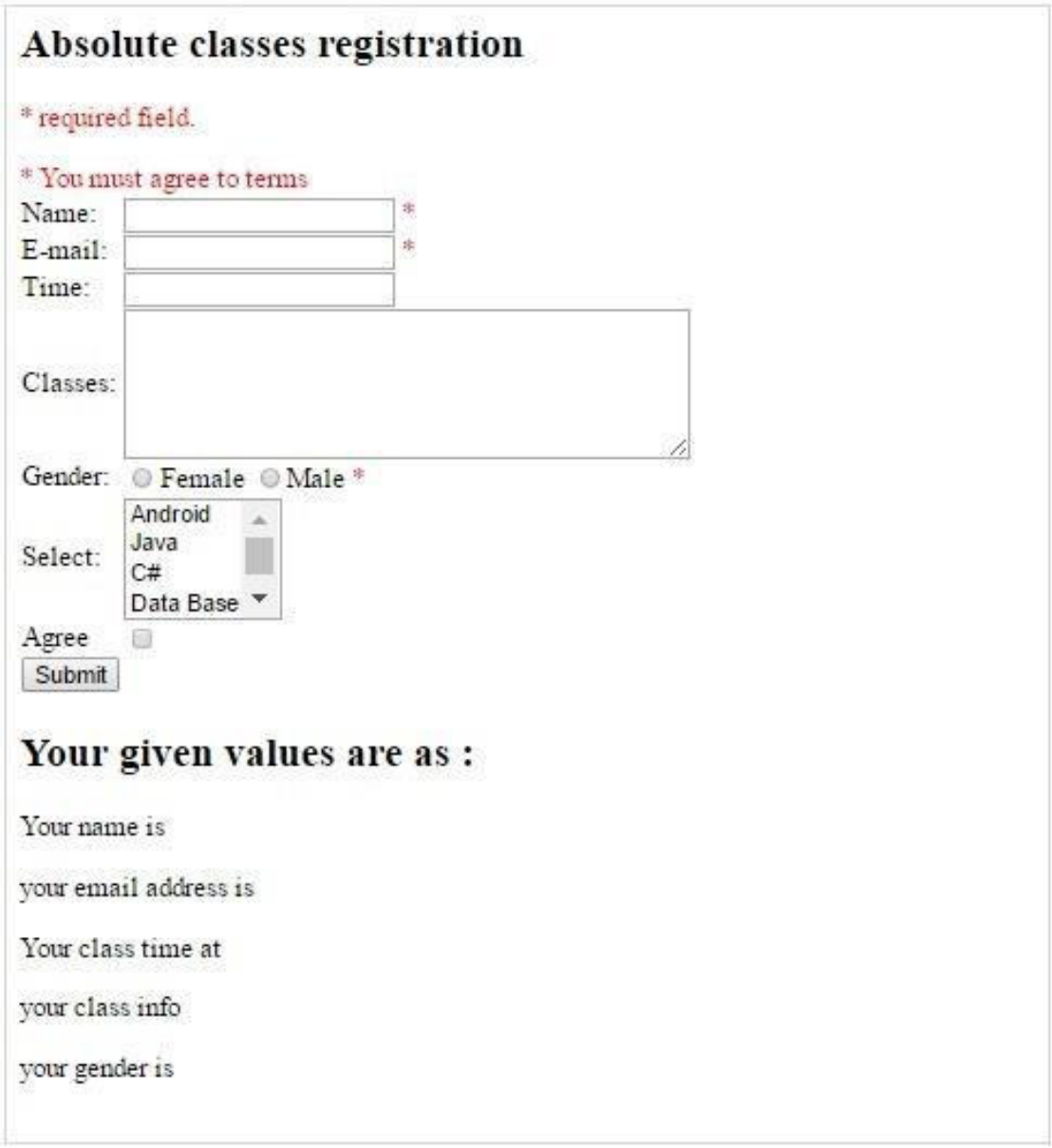
Program:

```
<html>
<head>
<style>
        .error {color: #FF0000;}
</style>
</head>
<body>
<?php
        // define variables and set to empty values
$nameErr = $emailErr = $genderErr = $websiteErr = "";
$name = $email = $gender = $class = $course = $subject = "";
if ($_SERVER["REQUEST_METHOD"] == "POST") {
if (empty($_POST["name"]))
{
          $nameErr = "Name is required";
}
else
{
            $name = test_input($_POST["name"]);
}

          if (empty($_POST["email"])) {
            $emailErr = "Email is required";
          }else {
            $email = test_input($_POST["email"]);

            // check if e-mail address is well-formed
            if (!filter_var($email, FILTER_VALIDATE_EMAIL)) {
              $emailErr = "Invalid email format";
            }
          }

          if (empty($_POST["course"])) {
            $course = "";
          }else {
            $course = test_input($_POST["course"]);
          }

          if (empty($_POST["class"])) {
            $class = "";
          }else {
            $class = test_input($_POST["class"]);
          }
```

```
    if (empty($_POST["gender"])) {
      $genderErr = "Gender is required";
    }else {
      $gender = test_input($_POST["gender"]);
    }

    if (empty($_POST["subject"])) {
      $subjectErr = "You must select 1 or more";
    }else {
      $subject = $_POST["subject"];
    }
  }

  function test_input($data) {
    $data = trim($data);
    $data = stripslashes($data);
    $data = htmlspecialchars($data);
    return $data;
  }
?>

<h2>Absolute classes registration</h2>

<p><span class = "error">* required field.</span></p>

<form method = "POST" action = "<?php echo htmlspecialchars($_SERVER["PHP_SELF"]);?>">
  <table>
    <tr>
      <td>Name:</td>
      <td><input type = "text" name = "name">
        <span class = "error">* <?php echo $nameErr;?></span>
      </td>
    </tr>

    <tr>
      <td>E-mail: </td>
      <td><input type = "text" name = "email">
        <span class = "error">* <?php echo $emailErr;?></span>
      </td>
    </tr>

    <tr>
      <td>Time:</td>
      <td> <input type = "text" name = "course">
        <span class = "error"><?php echo $websiteErr;?></span>
      </td>
    </tr>

    <tr>
      <td>Classes:</td>
      <td> <textarea name = "class" rows = "5" cols = "40"></textarea></td>
    </tr>
```

```
        <tr>
          <td>Gender:</td>
          <td>
            <input type = "radio" name = "gender" value = "female">Female
            <input type = "radio" name = "gender" value = "male">Male
            <span class = "error">* <?php echo $genderErr;?></span>
          </td>
        </tr>

        <tr>
          <td>Select:</td>
          <td>
            <select name = "subject[]" size = "4" multiple>
              <option value = "Android">Android</option>
              <option value = "Java">Java</option>
              <option value = "C#">C#</option>
              <option value = "Data Base">Data Base</option>
              <option value = "Hadoop">Hadoop</option>
              <option value = "VB script">VB script</option>
            </select>
          </td>
        </tr>
         <tr>
          <td>Agree</td>
          <td><input type = "checkbox" name = "checked" value = "1"></td>
          <?php if(!isset($_POST['checked'])){ ?>
          <span class = "error">* <?php echo "You must agree to terms";?></span>
          <?php } ?>
        </tr>
       <tr>
          <td>
            <input type = "submit" name = "submit" value = "Submit">
          </td>
        </tr>

      </table>
    </form>

    <?php
      echo "<h2>Your given values are as :</h2>";
      echo ("<p>Your name is $name</p>");
      echo ("<p> your email address is $email</p>");
      echo ("<p>Your class time at $course</p>");
      echo ("<p>your class info $class </p>");
      echo ("<p>your gender is $gender</p>");

      for($i = 0; $i < count($subject); $i++) {
        echo($subject[$i] . " ");
      }
    ?>

  </body>
</html>
```

Output:


Absolute classes registration
* required field.
* You must agree to terms
Name: *
E-mail: *
Time:
Classes:
Gender: Female Male *
Select: Android Java C# Data Base
Agree
Submit
Your given values are as :
Your name is
your email address is
Your class time at
your class info
your gender is

Handling multimedia content in web sites

Ex. No:03
Date:

Aim:

To implement the program to create an web site for Handling multimedia content in web sites

Description:

<AUDIO>

The <AUDIO> tag is used to include an audio file in a Web page. It provides various attributes to help you play an audio. The attributes of the tag are described in the following table.

Attribute	Value	Description
Autoplay	Autoplay	Specifies that the audio starts playing as soon as it is ready to play.
Controls	Controls	Specifies that the controls, such as play, pause, and stop, should be displayed.
Src	url	Specifies the URL of an audio file. It can be absolute URL or relative URL.
Loop	Loop	Specifies that the audio will start playing again, every time it has finished playing.

Listing 1: Consider the following code snippet for defining the tag:

```
<AUDIO controls="controls" src="Audio1.mp3">
 Your browser support this audio format.
</AUDIO>
```

In the preceding code snippet, the tag is used to display the audio file, Audio1.mp3, on the Web page. The content inside the <AUDIO> and </AUDIO> tags is displayed when the browser does not support the audio format.

<VIDEO>
The <VIDEO> tag is used to display a video file on a Web page. It provides various attributes to help you play a video. The attributes of the <VIDEO> tag are described in the following table.

Attribute	Value	Description
Autoplay	Autoplay	Specifies that the video starts playing as soon as it is ready to play.
Controls	Controls	Specifies that the controls, such as play, pause, and stop, should be displayed.
Src	url	Specifies the URL or location of a video file.
Loop	Loop	Specifies that the video will start playing again, every time it is finished playing.
Height	Pixels	Specifies the height of a video player in pixels.
Width	Pixels	Specifies the width of a video player in pixels.
Muted	Muted	Specifies that the audio of the video file should be muted.
Poster	URL	Specifies an image to be displayed while the video is downloading.

Consider the following code snippet for defining the tag:

```
<VIDEO width="320" height="240" controls="controls" autoplay="autoplay" src="D:\HTML \Video1.mp4"> Your browser support this audio format. </VIDEO>
```

Measuring Data and Displaying a Progress Bar

Consider a scenario where you need to enable a user to download files, such as images, from a website. In addition, you want that while saving the file, the user is able to view the disk space that is left. Moreover, you require that while saving the file, the user is able to know the level of the task that has been completed. In other words, the progress of the task should be displayed to the user. These tasks can be done by using the following tags:

<METER>

<PROGRESS>

<METER>

The <METER> tag specifies a scalar measurement within a known range. It is also known as gauge. It can be used to display disk usage. It provides various attributes to help you measure data. The attributes of the <METER> tag are described in the following table.

<METER> tag are described in the following table.

Attribute	Value	Description
High	Number	Specifies the range considered to be the highest range.
Low	Number	Specifies the range considered to be the lowest range.
Max	Number	Specifies the maximum value of the range.
Min	Number	Specifies the minimum value of the range.
Value	Number	Specifies the current value.
Form	form_id	Specifies the ID of the form to which the tag belongs.

Consider the following code snippet for defining the <METER> tag:

```
<p>Display a meter:</p> <METER value="4" min="0" max="10"></ METER>
```

The preceding code snippet displays a meter specifying that 4 out of 10 tasks have been done as the current value has been specified as 4 and the maximum value as 10. The output of the preceding code snippet is displayed, as shown in the following figure.

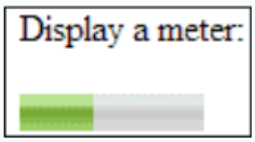


Figure 1: A Meter Being Displayed

<PROGRESS>

The <PROGRESS> tag is used to display the progress of a task. It provides the following attributes to display the progress bar:

- **max**: Specifies the amount of work a task requires.
- **value**: Specifies the amount of task that has been completed.

Consider the following code snippet for defining the <PROGRESS> tag:

```
Progress of a task:
<PROGRESS value="12" max="100"> </PROGRESS>
```

Let's have a look at the demo:

HTML Plug-ins

HTML Helpers (Plug-ins)

Helper applications (plug-ins) are computer programs that extend the standard functionality of a web browser.
Examples of well-known plug-ins are Java applets.
Plug-ins can be added to web pages with the <object> tag or the <embed> tag.
Plug-ins can be used for many purposes: display maps, scan for viruses, verify your bank id, etc.

To display video and audio: Use the <video> and <audio> tags.

The <object> Element

The <object> element is supported by all browsers.
The <object> element defines an embedded object within an HTML document.
It is used to embed plug-ins (like Java applets, PDF readers, Flash Players) in web pages.

```
<!DOCTYPE html>
<html>
<body>
<object width="400" height="50" data="bookmark.swf"></object>
</body>
</html>
```

The <embed> Element

The <embed> element is supported in all major browsers.
The <embed> element also defines an embedded object within an HTML document.
Web browsers have supported the <embed> element for a long time. However, it has not been a part of the HTML specification before HTML5.

```
<!DOCTYPE html>
<html>
<body>
<embed width="400" height="50" src="bookmark.swf">
</body>
</html>
```

Playing a YouTube Video in HTML

To play your video on a web page, do the following:

- Upload the video to YouTube
- Take a note of the video id
- Define an <iframe> element in your web page
- Let the src attribute point to the video URL
- Use the width and height attributes to specify the dimension of the player
- Add any other parameters to the URL (see below)

```
<!DOCTYPE html>
<html>
<body>
<iframe width="420" height="345" src="https://www.youtube.com/embed/tgbNymZ7vqY">
</iframe>
</body>
</html>
```

Program:

Code For the CSS file :

```
H3 {
        color: darkgreen;
        font-family: algerian;
        position: absolute;
        right: 130px;
        top: 320px;
    }
    Aside P {
        text-align: center;
        background-color: darkgreen;
        color: white;
        font-size: 15px;
```

```
}

body {

    background-color: #D51165;
    background-image: url('background.gif');
    background-repeat: repeat-x;
}

details {
    color: darkgreen;
    font-family: algerian;
    font-size: 15px;
}
H1 {
    font-family: algerian;
    color: darkgreen;
    font-size: 20px;
    position: absolute;
    top: 0px;
    right: 50px;
}
Article P {
    color: black;
    font-size: 15px;
    font-family: arial;
    width: 550px;
}

H5 {
   font-family: arial;
   color: white;
   font-size: 16px;
   float:right;       }
H2 {
    color: darkgreen;
    font-family: algerian;
    position: relative;
    top: 0px;
    right: 0px;
    left: 500px;
}
details UL {
    color: #D51165;
    font-size: 15px;
}
H4 {
    color: darkgreen;
    font-family: algerian;       }
video {
    position: absolute;
    right: 50px;
    top: 380px;
}
```

```
        #mainDivContainer H4 {
            color: darkgreen;
            font-size: 24px;
        }
        .auto-style1 {
            color: #FFFFFF;
            font-style: italic;
        }
        #callus {
            height: 80px;
            width: 50px;
            float:right;
        }
NAV a:hover{
color: pink;
}
NAV A{
display: inline;
text-decoration: none;
color:white;}
```

Code for the HTML file

```
<html>
<head>
   <title>Home Page of ShowOnWheels</title>
   <link type="text/css" rel="stylesheet" href="ExternalStylesheet/homestylesheet.css" />
</head>
<body>
   <div id="mainDivContainer" style="position: relative; width: 100%; margin-top: 0px; margin-bottom: 0px;">
      <div style="width: 960px;  margin-top: 5px; margin-left: auto; margin-right:auto">
               <div style="width: 960px; height:80px;">
                           <img id="logo" src="images\Logo.png" width="500" height="100">

               <h5>For Enquiry<br>
                  Call Us 9225648543
               </h5>
                     <img id="callus" src="images\callus.png">
                           </div>
               <div style="width:500px; height:20px; float:left; text-align:center;">
               <span class="auto-style1"><B>The Ultimate Way For Booking Movie Tickets</B></span>
                              </div>
                     <div id="topnav" style="float:left;width: 960px; height: 20px; word-spacing: 5px; font-size: 90%;
padding-left:60px; padding-top: 6px; white-space: nowrap; text-align:left; background-color: black;">
               <nav>
                                          <a href="home.html">Home</a> |
               </nav>
            </div>
           <div style="width: 960px; height: auto; position: relative; margin:0px; padding: 29px; overflow: hidden;
background-color: white;">
              <h4>Currently, showing...</h4>
              <img src="images\movieimage1_bee.png" width="185" height="200">
              <img src="images\movieimage2_alvin.jpg" width="185" height="200">
              <img src="images\movieimage3_amy.jpg" width="185" height="200">
              <img src="images\movieimage4_bolt.jpg" width="185" height="200">
```

```
            <img src="images\movieimage5_wolf.jpg" width="185" height="200">
                    <article>
<p>ShowOnWheels is an emerging entertainment company in the field of booking online movie tickets in US. We pioneered cinema halls in US by establishing the first multiplex cinema in 2001 and the largest 9-screen multiplex cinema in 2007. With its head office in Los Angeles, ShowOnWheels is now serving the viewers of major US cities.</p>
                        <p> Waiting in queues to book tickets for your favorite movie is now a matter of past. ShowOnWheels empowers you by offering a platform to book movie tickets anywhere, anytime. Whether shopping in a mall, enjoying a vacation at a Miami Beach, partying in a discotheque, attending a conference, or taking your pet for a walk, ShowOnWheels is there to reserve your hot seat in your favorite cinema.</p>
            </article><br><br><br><br>
            <details>
              <summary><b>Currently, operating in:</b></summary>
               <ul>
                 <li>
                   Los Angeles
                  <li>
                  Chicago
                 <li>Houston </li>
               </ul>
<p>With an annual turnover of US $12 million, ShowOnWheels is expanding its wings. We are launching three new screens in South Africa, shortly. </p>
         </details>
            <h1>
              <br>
               Hurry Up! Heavy Discounts on weekends....</h1>
            <aside>
               <p>
<i><b>ShowOnWheels values its customers. We keep you updated with our new discounts and offers.
                    <br>
                       We appreciate your association!</b></i>
               </p>
            </aside>
            <h3>Latest Hot Offers!!</h3>
          <!-- Writer : priyampaul@gmail.com-->
            <video width="380" height="268" controls autoplay="autoplay" loop>
<source src="video\latestOffers.webm" type="video/mp4" />
               Your browser does not support this audio format.
            </video>
         </div>
       </div>
   </div>
</body>
</html>
```

Database applications using PHP and MySQL

Ex. No:04
Date:

Aim

Write an program for the implementation of Database applications using PHP and MySQL

Program:

Login .html

```
<html>
<head>
<title>Login</title>
</head>
<body>
<form method="POST" action="login.php">
<center>
<h1>LOGIN</h1>
User name :<input type=text length=10 name=uname> <br>
Password  :<input type=password length=10 name=pwd> <br>
<input type=submit name=submit value=submit>
<input type=reset name=reset value=reset>
</center>
</form>
</body>
</html>
```

Login.php

```
<?php
$conn = mysqli_connect('localhost', 'root','') or die("cannot connect"); //connection establishment host-local host
user name-tamil
mysqli_select_db($conn,'tamil') or die("cannot select DB");              //selecting the database
if (isset($_POST['uname']) and isset($_POST['pwd']))   //receiving username, password form html file
{
$uname = $_POST['uname'];                              //assigning the received username in variable uname
$pwd = $_POST['pwd'];                                  //assigning the received password in variable pwd
  //selecting username, password from table log
$result = mysqli_query($conn,"SELECT * FROM `log` WHERE uname='$uname' and pwd='$pwd'") or
die(mysqli_error());       //searching whether username, password exists in the database
$count = mysqli_num_rows($result);                 // if query succeeds then count=1
          if ($count == 1)                         //if count=1 then username,password exists in db
          {
                    echo "login successful";
          }
          else
          {
                    echo "Invalid Username or Password.";
          }
}
```

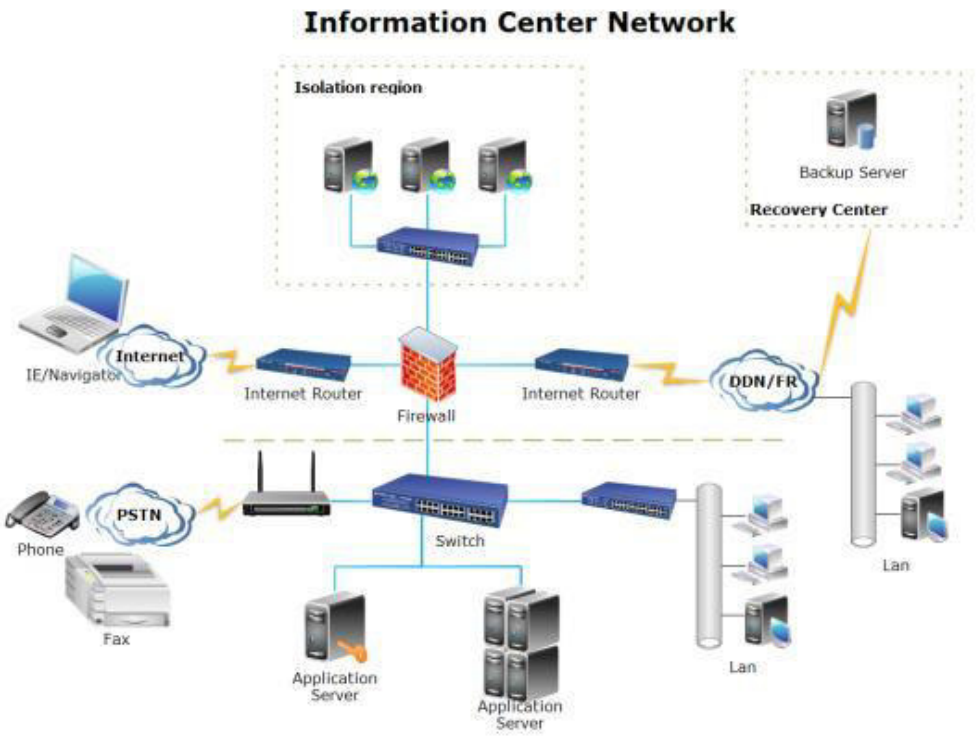
```
?>

<html>
<head>
<title>Login</title>
</head>
<body>
<form method="POST" action="logininsert.php">
<center>
<h1>LOGIN</h1>

Reg no :<input type=text length=10 name=regno>

<input type=submit name=submit value=submit>
<input type=reset name=reset value=reset>
</center>
</form>
</body>
</html>

<?php
//$regno=$_POST['regno'];
$regno = isset($_POST['regno']) ? $_POST['regno'] : '';
$conn = mysqli_connect('localhost', 'root','') or die("cannot connect");
mysqli_select_db($conn,'tamilinsert') or die("cannot select DB");
$res = mysqli_query($conn,"insert into log values('$regno')") or die(mysqli_error());
if($res>0)
{
echo "Record created";
echo "<br/><b>";NAME : echo $regno;echo"</b>";
}
?>
```

Study of Computer Networking Components

Ex. No:05
Date:

Aim:
To Study of computer networking components and its applications.

BASIC NETWORKING COMPONENT



Network Devices:

HUB

Hub is one of the basic icons of networking devices which works at physical layer and hence connect networking devices physically together. Hubs are fundamentally used in networks that use **twisted pair cabling** to connect devices. They are designed to transmit the packets to the other appended devices without altering any of the transmitted packets received. They act as pathways to direct electrical signals to travel along. They transmit the information regardless of the fact if data packet is destined for the device connected or not.

Hub falls in two categories:

Active Hub: They are smarter than the passive hubs. They not only provide the path for the data signals infact they regenerate, concentrate and strengthen the signals before sending them to their destinations. Active hubs are also termed as **'repeaters'**.

Passive Hub: They are more like point contact for the wires to built in the physical network. They have nothing to do with modifying the signals.

Ethernet Hubs

It is a device connecting multiple Ethernet devices together and makes them perform the functions as a single unit. They vary in speed in terms of data transfer rate. Ether utilizes **Carrier Sense Multiple Access with Collision Detect (CSMA/CD)** to control Media access. Ethernet hub communicates in **half-duplex** mode where the chances of data collision are inevitable at most of the times.

Switches

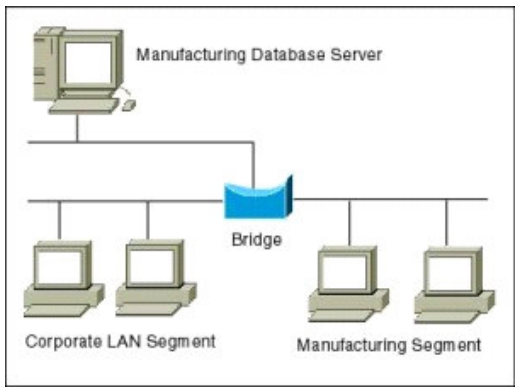
Switches are the linkage points of an Ethernet network. Just as in hub, devices in switches are connected to them through twisted pair cabling. But the difference shows up in the manner both the devices; hub and a switch treat the data they receive. **Hub** works by sending the data to all the ports on the device whereas a **switch** transfers it only to that port which is connected to the destination device. A switch does so by having an in-built learning of the MAC address of the devices connected to it. Since the transmission of data signals are well defined in a **switch** hence the network performance is consequently enhanced. Switches operate in **full-duplex** mode where devices can send and receive data from the switch at the simultaneously unlike in half-duplex mode. The transmission speed in switches is double than in Ethernet hub transferring a 20Mbps connection into 30Mbps and a 200Mbps connection to become 300Mbps. Performance improvements are observed in networking with the extensive usage of switches in the modern days.

The following method will elucidate further how data transmission takes place via switches:

- **Cut-through transmission**: It allows the packets to be forwarded as soon as they are received. The method is prompt and quick but the possibility of error checking gets overlooked in such kind of packet data transmission.
- **Store and forward**: In this switching environment the entire packet are received and 'checked' before being forwarded ahead. The errors are thus eliminated before being propagated further. The downside of this process is that error checking takes relatively longer time consequently making it a bit slower in processing and delivering.
- **Fragment Free**: In a fragment free switching environment, a greater part of the packet is examined so that the switch can determine whether the packet has been caught up in a collision. After the collision status is determined, the packet is forwarded.

Bridges

A bridge is a computer networking device that builds the connection with the other bridge networks which use the same protocol. It works at the Data Link layer of the OSI Model and connects the different networks together and develops communication between them. It connects two local-area networks; two physical LANs into larger logical LAN or two *segments* of the same LAN that use the same protocol.



Apart from building up larger networks, bridges are also used to segment larger networks into *smaller* portions. The bridge does so by placing itself between the two portions of two physical networks and controlling the flow of the data between them. Bridges nominate to forward the data after inspecting into the MAC address of the devices connected to every segment. The forwarding of the data is dependent on the acknowledgement of the fact that the destination address resides on some other interface. It has the capacity to block the incoming flow of data as well. Today **Learning bridges** have been introduced that build a list of the MAC addresses on the interface by observing the traffic on the network. This is a leap in the development field of manually recording of MAC addresses.

Types of Bridges:

There are mainly three types in which bridges can be characterized:

- **Transparent Bridge:** As the name signifies, it appears to be transparent for the other devices on the network. The other devices are ignorant of its existence. It only blocks or forwards the data as per the MAC address.
- **Source Route Bridge:** It derives its name from the fact that the path which packet takes through the network is implanted within the packet. It is mainly used in Token ring networks.
- **Translational Bridge:** The process of conversion takes place via Translational Bridge. It converts the data format of one networking to another. For instance Token ring to Ethernet and vice versa.

Switches superseding Bridges:

Ethernet switches are seen to be gaining trend as compared to bridges. They are succeeding on the account of provision of logical divisions and segments in the networking field. Infact switches are being referred to as **multi-port bridges** because of their advanced functionality

Routers

Routers are network layer devices and are particularly identified as Layer- 3 devices of the OSI Model. They process *logical* addressing information in the Network header of a packet such as IP Addresses. Router is used to create larger complex networks by complex traffic routing. It has the ability to connect dissimilar LANs on the same protocol. It also has the ability to limit the flow of broadcasts. A router primarily comprises of a hardware device or a system of the computer which has more than one network interface and routing software.

Functionality:

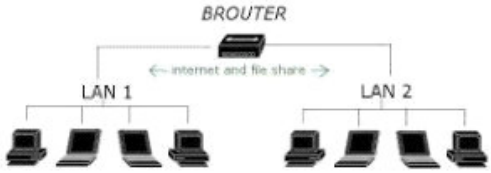
When a router receives the data, it determines the destination address by reading the header of the packet. Once the address is determined, it searches in its **routing table** to get know how to reach the destination and then forwards the packet to the higher hop on the route. The hop could be the final destination or another router.

Routing tables play a very pivotal role in letting the router makes a decision. Thus a routing table is ought to be *updated* and *complete*. The two ways through which a router can receive information are:

- **Static Routing**: In static routing, the routing information is fed into the routing tables manually. It does not only become a time-taking task but gets prone to errors as well. The manual updating is also required in case of statically configured routers when change in the topology of the network or in the layout takes place. Thus static routing is feasible for tinniest environments with minimum of one or two routers.
- **Dynamic Routing**: For larger environment dynamic routing proves to be the practical solution. The process involves use of peculiar routing protocols to hold communication. The purpose of these protocols is to enable the other routers to transfer information about to other routers, so that the other routers can build their own routing tables.

Brouters

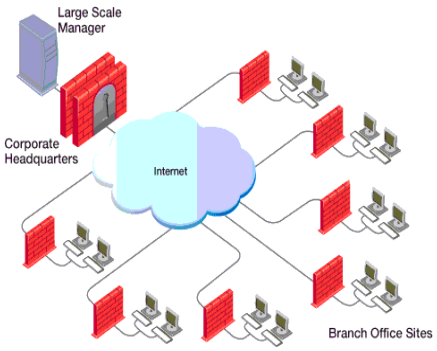
Brouters are the combination of both the bridge and routers. They take up the functionality of the both networking devices serving as a *bridge* when forwarding data between networks, and serving as a *router* when routing data to individual systems. Brouter functions as a filter that allows some data into the local network and redirects unknown data to the other network.



Brouters are rare and their functionality is embedded into the routers functioned to act as bridge as well.

Gateways

Gateway is a device which is used to connect multiple networks and passes packets from one packet to the other network. Acting as the ‘gateway’ between different networking systems or computer programs, a gateway is a device which forms a link between them. It allows the computer programs, either on the same computer or on different computers to share information across the network through protocols. A router is also a gateway, since it interprets data from one network protocol to another.



Others such as bridge converts the data into different forms between two networking systems. Then a software application converts the data from one format into another. Gateway is a viable tool to translate the data format, although the data itself remains unchanged. Gateway might be installed in some other device to add its functionality into another.

Network card

Network cards also known as Network Interface Cards (NICs) are hardware devices that connect a computer with the network. They are installed on the mother board. They are responsible for developing a physical connection between the network and the computer. Computer data is translated into electrical signals send to the network via Network Interface Cards.

They can also manage some important data-conversion function. These days network cards are software configured unlike in olden days when drivers were needed to configure them. Even if the NIC doesn't come up with the software then the latest drivers or the associated software can be downloaded from the internet as well.

Network protocols

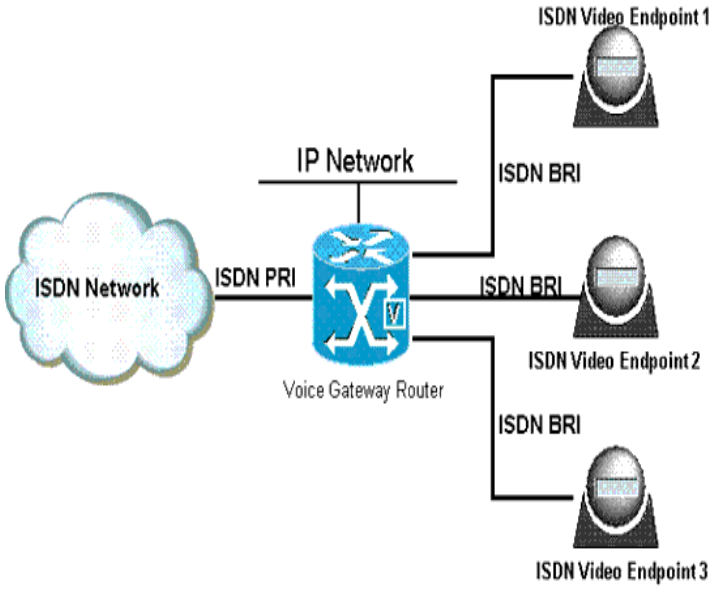
Network protocols define a language of instructions and conventions for communication between the network devices. It is essential that a networked computer must have one or more protocol drivers. Usually, for two computers to interconnect on a network, they must use identical protocols. At times, a computer is designed to use multiple protocols. Network protocols like HTTP, TCP/IP offer a basis on which much of the Internet stands.

System requirement:

- The **bus compatibility** should be verified on installing an NIC into the system. The commonly used bus system is Peripheral Component Interconnect (PCI)
- Memory I/O addresses and IRQ are needed.
- Need of drivers if not already installed.

ISDN (Integrated Services Digital Network)

ISDN are used to send over graphic or audio data files. It is a WAN technology that can be used in place of a dial up link. The accessibility of ISDN depends upon the provision of the service by the service provider, the quality of the line set up to your area. It surely provides higher speed than a modem and has the capability to pick up the line and drop it considerably at a faster rate.



ISDN can create numerous communication routes on a single line. Nowadays, even faster and cheaper technologies that ISDN have found their way in the realm of technology.

Modems

Modem is a device which converts the computer-generated digital signals of a computer into analog signals to enable their travelling via phone lines. The 'modulator-demodulator' or modem can be used as a dial up for LAN or to connect to an ISP. Modems can be both external, as in the device which connects to the USB or the serial port of a computer, or proprietary devices for handheld gadgets and other devices, as well as internal; in the form of add-in expansion cards for computers and PCMCIA cards for laptops.

Configuration of a modem differs for both the external and internal modem. For internal modems, IRQ – Interrupt request is used to configure the modem along with I/O, which is a memory address. Typically before the installation of built-in modem, integrated serial interfaces are disabled, simultaneously assigning them the COM2 resources.

Network Card Speed

Network Interface card, one of the main computer network components, comes with different speeds, 10Mbps, 100Mbps, and 1000Mbps, so on. Recent standard **network cards built with Gigabit** (1000Mbps) connection speed. It also supports to connect slower speeds such as 10Mbps and 100Mbps. However, the speed of the card depends on your LAN speed.

For example, if you have a switch that supports up to 100Mbps, your NIC will also transfer a data with this same speed even though your computer NIC has still the capability to transfer data at 1000Mbps (1Gbps). In modern computers, network adapter is integrated with a computer motherboard. However if you want advanced and fast Ethernet card, you may buy and install on your computer using the **PCI slot** found on the motherboard (desktop) and **ExpressCard slots** on laptop .

Cables and connectors

Ultimate Chart of Computer Connectors and Ports

Updated for 2016

USB, Keyboard and Mouse

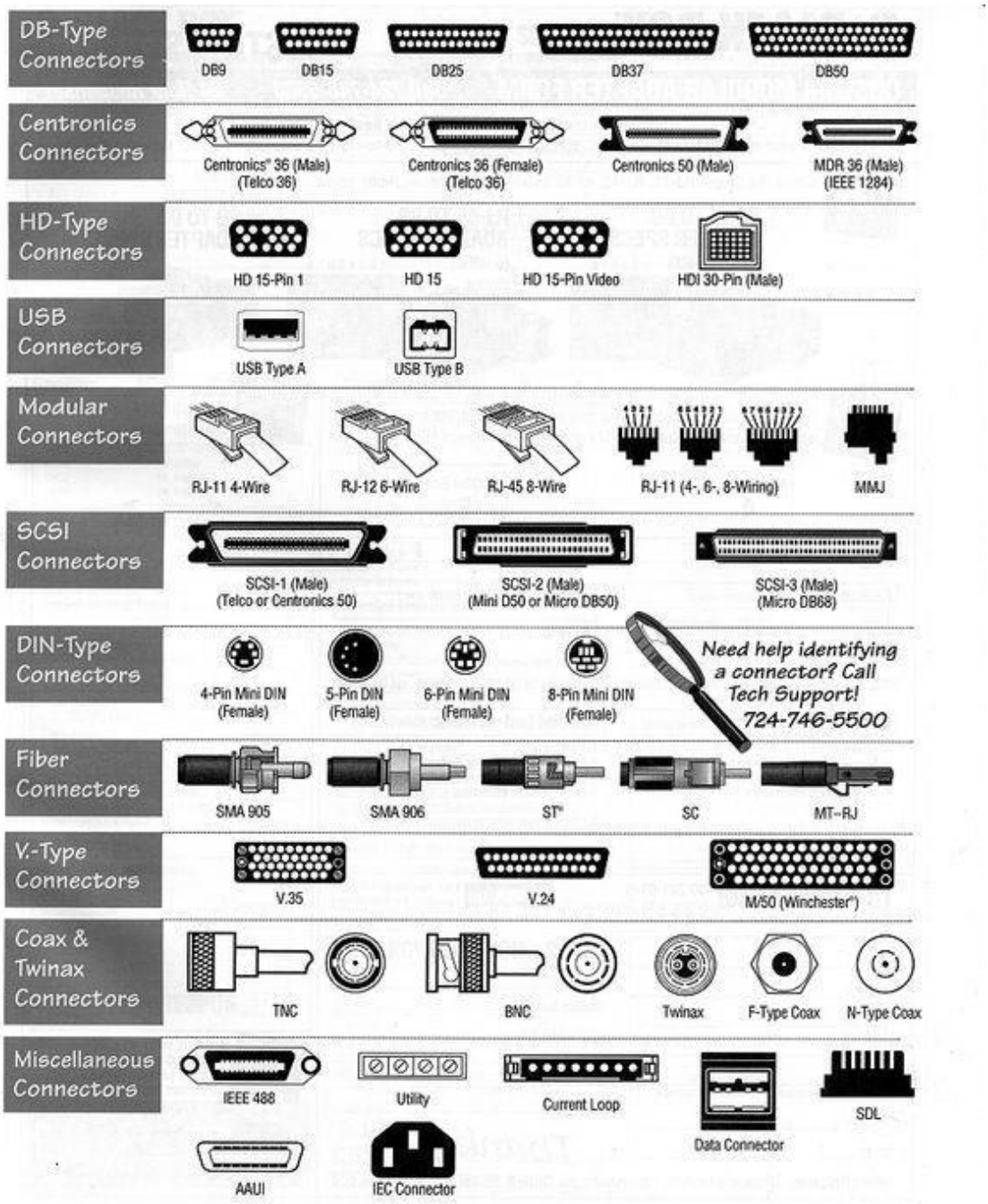
Storage / Disk

Network / Communications

Audio

Video

Power



Cable is one way of transmission media which can transmit communication signals. The wired network typology uses special type of cable to connect computers on a network.

There are a number of solid transmission Media types, which are listed below. - **Twisted pair wire**

It is classified as Category 1, 2, 3, 4, 5, 5E, 6 and 7. Category 5E, 6 and 7 are high-speed cables that can transmit 1Gbps or more. -

Coaxial cable

Coaxial cable more resembles like TV installation cable. It is more expensive than twisted-pair cable but provide high data transmission speed.

Fiber-optic cable

It is a high-speed cable which transmits data using light beams through a glass bound fibers. Fiber-optic cable is high data transmission cable comparing to the other cable types. But the cost of fiber optics is very expensive which can only be purchased and installed on governmental level.

Conclusion

Whether you want to install a network at your office or home, these are the required computer network components you need. Though, depends on your situation some of the devices can be disregarded. For home network using a Router is suitable since it also bundles a switch.

Creation of information retrieval system using web, PHP and MySQL

Ex. No:06
Date:

Aim:

The user may add some items to cart from the catalogue page. He can check the cart page for the selected items. He may visit the catalogue again and select some more items. Here our interest is the selected items should be added to the old cart rather than a new cart. Multiple users can do the same thing at a time (i.e., from different systems in the LAN using the IP-address instead of local host). This can be achieved through the use of sessions. Every user will have his own session which will be created after his successful login to the website. When the user logs out his session should get invalidated, modify your catalogue and cart PHP pages to achieve the above mentioned functionality using sessions.

Program:

SOURCE CODE:-
cart.php

```
<?php
session_start();
$_SESSION['a1']=$_POST['bname'];
$_SESSION['b1']=$_POST['price'];
$_SESSION['c1']=$_POST['quantity'];
$_SESSION['d1']=$_POST['amount'];
?>
<html>
<title>cart page</title>
<body>
<center>
<table width="100%" border="2">
<tr><th>book name</th>
 <th>price</th>
 <th>quantity</th>
 <th>amount</th>
</tr>
<tr>
<td align="center">xml bible</td>
<td align="center">$40.5</td>
<td align="center">01</td>
<td align="center">$40.5</td>
</tr>
<tr>
<td align="center">java</td>
<td align="center">$100</td>
<td align="center">03</td>
<td align="center">$300</td>
</tr>
<tr>
<td align="center">wt</td>
<td align="center">$500</td>
<td align="center">05</td>
<td align="center">$2500</td>
```

```
</tr>
<tr>
<td align="center"><?php echo $_SESSION['a1']; ?></td>
<td align="center"><?php echo $_SESSION['b1']; ?></td>
<td align="center"><?php echo $_SESSION['c1']; ?></td>
<td align="center"><?php echo $_SESSION['d1']; ?></td>
</tr>
</table>
</center>
<form action="db.php">
 <input type="submit" value="insert into db"/>
</form>
<form action="logout.php">
 <input type="submit" value="logout"/>
</form>
</body>
</html>
```

database.php

```
<?php
$c=mysql_connect("localhost","root","");
$d=mysql_select_db("hari",$c);
if($c)
 echo"connected to database <br>";
else
 echo"not connected";
?>
```

db.php

```
<?php
session_start();
include("database.php");
$a2=$_SESSION['a1'];
$b2=$_SESSION['b1'];
$c2=$_SESSION['c1'];
$d2=$_SESSION['d1'];
//echo $a2;
/*
$x="create table cart1(bname varchar(10) notnull,price varchar(10) notnull,quantity varchar(10)notnull,amount
varchar(10) notnull)";
$y=mysql_query($x);
if($x)
 echo"<br> created";
else
 echo"<br>not created";
*/
$query="insert into cart values($a2,$b2,$c2,$d2)";
$q=mysql_query($query);
if($q)
 echo"<br> inserted successfully";
else
 echo"<br><br> not inserted";
session_unset();
?>
```

goto_catalogue.php

```
<?php
echo"<br><br><br>";
?>
<html>
<body allign="centre">
<form action="cart.php" method="post">
 <fieldset>
 <legend>to catalog page</legend>
 book_name::<input type="text" name="bname"/><br><br>
 price ::<input type="text" name="price"/><br><br>
 quantity::<input type="text" name="quantity"/><br><br>
 amount::<input type="text" name="amount"/><br><br>
 <input type="submit" value="submit"/>
 <input type="reset" value="reset"/>
 </fieldset>
 </form>
</body>
</html>
```

login.php

```
<?php
echo"hai this is login page";
?>
<html>
<form action="usercheck.php" method="post">
 <fieldset>
 <legend>LOG IN PAGE</legend>
 username::<input type="text" name="uname"/><br><br>
 password::<input type="password" name="pwd"/><br><br>
 <input type="submit" value="login"/>
 <input type="reset" value="reset"/><br><br>
 </fieldset>
</form>
</html>
```

loginout.php

```
<?php
echo "logout successfully";
session_unset();
?>
usercheck.php
<?php
include("database.php");
$r="select * from users";
$t=mysql_query($r);
while($u=mysql_fetch_array($t))
 {
 extract($u);
 $x=$uname;
 $y=$password;
```

```
 if($_POST['uname']==$x && $_POST['pwd']==$y)
 {
 echo"valid user";
 include("uservalid.php");
 }
 else
 echo"not a valid user";
}
?>
```

uservalid.php

```
<?php
?>
<form action="goto_catalogue.php">
 <input type="submit" value="GOTOCATA"/>
</form>
```

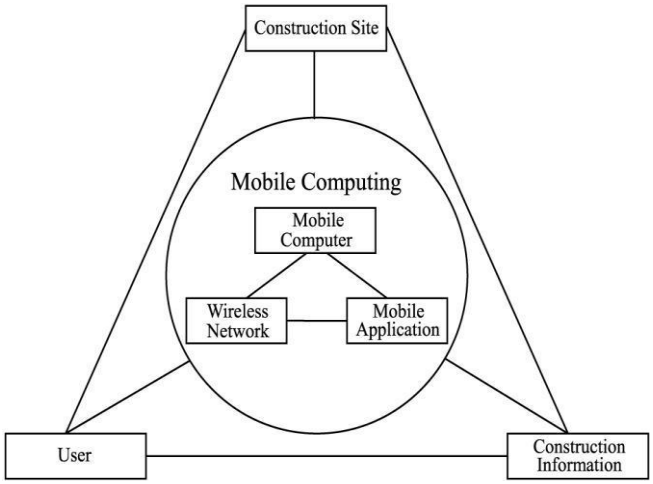
Study of Technologies associated with mobile devices

Ex. No:07
Date:

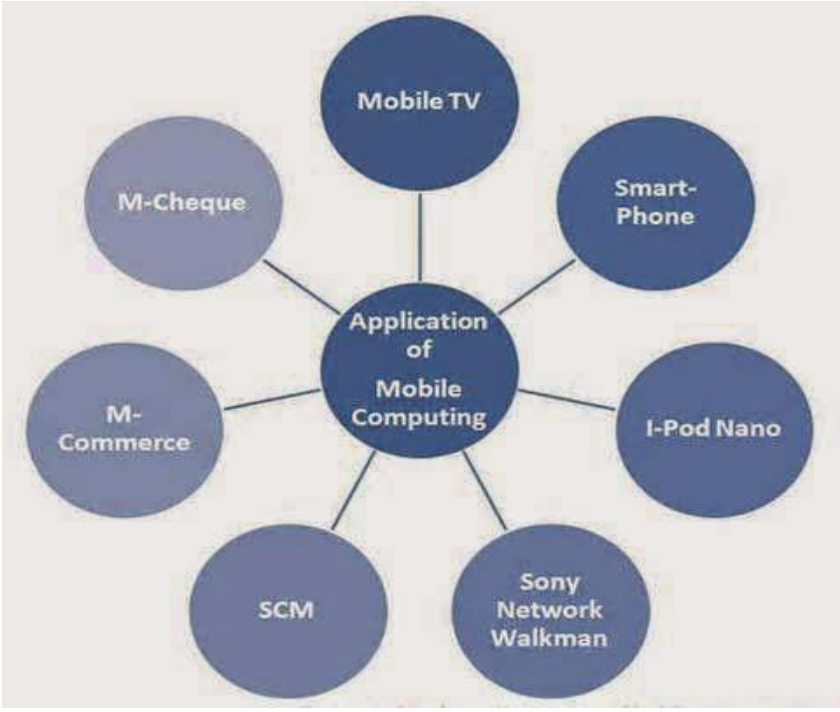
Aim:

To Study of Technologies associated with mobile devices and its applications

Mobile computing



Application of mobile computing



Features of smartphone

1. A long-lasting battery

Your smartphone could have a shrink-ray or turn lead into gold and it would still be useless without juice. There are ways to boost the battery life of your gadget, but at the end of the day a larger battery is going to last you longer.

The Droid Maxx is the undisputed king of batteries. It will get you close to 48 hours of use. The Galaxy Note 3 has a respectable battery life at 12-16 hours of use, but it's still well behind the Maxx. The iPhone 5S is around 10 hours and the Samsung Galaxy S4 brings up the rear at 9 hours.

2. Warp-speed processing

Speed is still the ultimate prize in the smartphone arms race. You notice when apps lag or when swiping takes an eternity.

The iPhone 5s is the fastest smartphone on the market. Its A7 chip is even light years ahead of blazing fast phones like the Samsung Galaxy S4 or the surprisingly quick Motorola Moto X. But don't despair if your phone feels a little sluggish — there are ways to speed it up.

3. Crystal-clear display

Smartphones are as much about enjoying media as they are about communicating. You watch movies, play games and view photos on your mobile screen and you want the crispest display around.

In this case that award goes to the Samsung Galaxy S4. It has the best resolution and most pixels per inch. The LG G2 and Nokia Lumia 1020 are close behind, but it's Samsung's super AMOLED display technology that sets it ahead.

While the screen on the iPhone 5s and 5c can't match the size or pixel density of their competitors, it's still a solid high-resolution display and many people prefer it for its color accuracy.

4. A great camera

You don't have to be a pro photographer to see the difference between modern phone cameras and the ones on your old flip-phone. A great camera is important for more than just great photos. You can use your camera for some surprising other things, like visual search.

Nokia's Lumia 1020 includes an elite ZEISS lens, image stabilization and a whopping 41 megapixels. It's clearly the best camera phone because it's more camera than phone!

The iPhone 5s and the HTC One are also very respectable shooters. Their image sensors have larger pixels, which gives you better color range and excellent low-light images.

5. NFC

Near Field Communications allows your smartphone to transmit data to other phones and tablets in the vicinity. It's really handy for sharing pictures and music. You can even use it to pay at stores and restaurants. Plenty of great Android and Windows phones offer NFC, but not Apple.

6. Multiple windows

You'd never settle for seeing just one window on your computer, why would you on your phone? Samsung Galaxy phones, as well as LG's G2, Optimus and Enact are superb at letting you see multiple apps at once. Other Android phones and the iPhone stick to displaying a single app at a time.

7. Plenty of storage space

Most smartphones come with anywhere between 16 and 32 gigabytes of storage. Extra space is a nice luxury, but these days you'll be saving most of your media in the cloud.

8. Infrared remote control

How cool would it be to control your TV with your smartphone? You'll never search for the remote again. Phones like the HTC One and Samsung Galaxy S4 include Infrared transmitters as well as apps to help you control your TV. Of course, there are third-party infrared add-ons for the iPhone and other Android phones.

9. Fingerprint sensor

Apple's most gabbed-about feature on the new 5s was definitely the fingerprint sensor. It's not really any more secure than traditional lockscreen passcodes, but it does save you time. The HTC One Max Android phone also has one, but few other phones do at this time.

10. Wireless charging

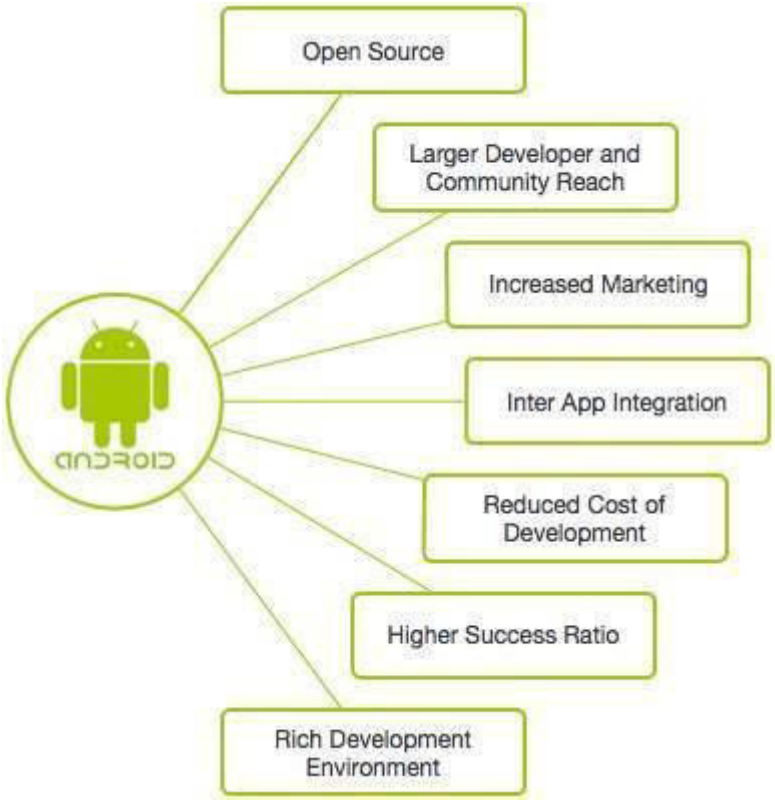
This is a handy feature for those of you who don't want to plug in your phone. Just set it down and it's charging. And don't worry; wireless charging is perfectly safe.

What is Android

Android is an open source and Linux-based Operating System for mobile devices such as smartphones and tablet computers. Android was developed by the Open Handset Alliance, led by Google, and other companies.

Android offers a unified approach to application development for mobile devices which means developers need only develop for Android, and their applications should be able to run on different devices powered by Android.

Features of Android



Android is a powerful operating system competing with Apple 4GS and supports great features. Few of them are listed below −

Sr.No.	Feature & Description
1	Beautiful UI Android OS basic screen provides a beautiful and intuitive user interface.
2	Connectivity GSM/EDGE, IDEN, CDMA, EV-DO, UMTS, Bluetooth, Wi-Fi, LTE, NFC and WiMAX.
3	Storage SQLite, a lightweight relational database, is used for data storage purposes.
4	Media support H.263, H.264, MPEG-4 SP, AMR, AMR-WB, AAC, HE-AAC, AAC 5.1, MP3, MIDI, Ogg Vorbis, WAV, JPEG, PNG, GIF, and BMP.
5	Messaging SMS and MMS
6	Web browser Based on the open-source WebKit layout engine, coupled with Chrome's V8 JavaScript engine supporting HTML5 and CSS3.
7	Multi-touch Android has native support for multi-touch which was initially made available in handsets such as the HTC Hero.
8	Multi-tasking User can jump from one task to another and same time various application can run simultaneously.
9	Resizable widgets Widgets are resizable, so users can expand them to show more content or shrink them to save space.
10	Multi-Language Supports single direction and bi-directional text.
11	GCM Google Cloud Messaging (GCM) is a service that lets developers send short message data to their users on Android devices, without needing a proprietary sync solution.
12	Wi-Fi Direct A technology that lets apps discover and pair directly, over a high-bandwidth peer-to-peer connection.
13	Android Beam A popular NFC-based technology that lets users instantly share, just by touching two NFC-enabled phones together.

Android Applications

Android applications are usually developed in the Java language using the Android Software Development Kit.

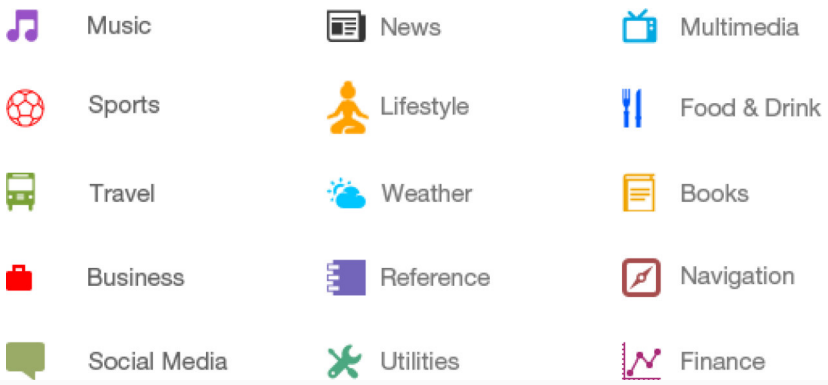
Once developed, Android applications can be packaged easily and sold out either through a store such as Google Play, SlideME, Opera Mobile Store, Mobango, F-droid and the Amazon Appstore.

Android powers hundreds of millions of mobile devices in more than 190 countries around the world. It's the largest installed base of any mobile platform and growing fast. Every day more than 1 million new Android devices are activated worldwide.

This tutorial has been written with an aim to teach you how to develop and package Android application. We will start from environment setup for Android application programming and then drill down to look into various aspects of Android applications.

Categories of Android applications

There are many android applications in the market. The top categories are −



History of Android

The code names of android ranges from A to N currently, such as Aestro, Blender, Cupcake, Donut, Eclair, Froyo, Gingerbread, Honeycomb, Ice Cream Sandwitch, Jelly Bean, KitKat, Lollipop and Marshmallow. Let's understand the android history in a sequence.

Program:

Develop an application that uses GUI components, Font and Colours

GUI COMPONENTS:

File Name : MainActivity.java

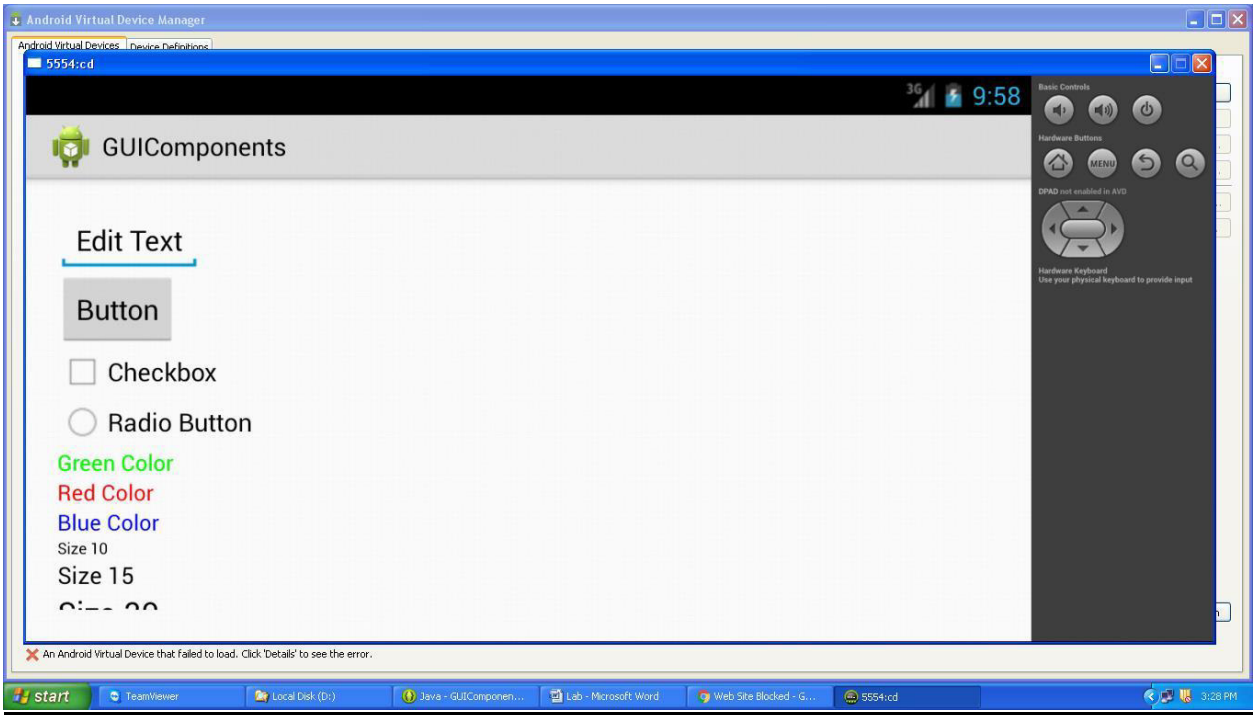
```
package com.lab.guicomponents;

import android.os.Bundle;
```

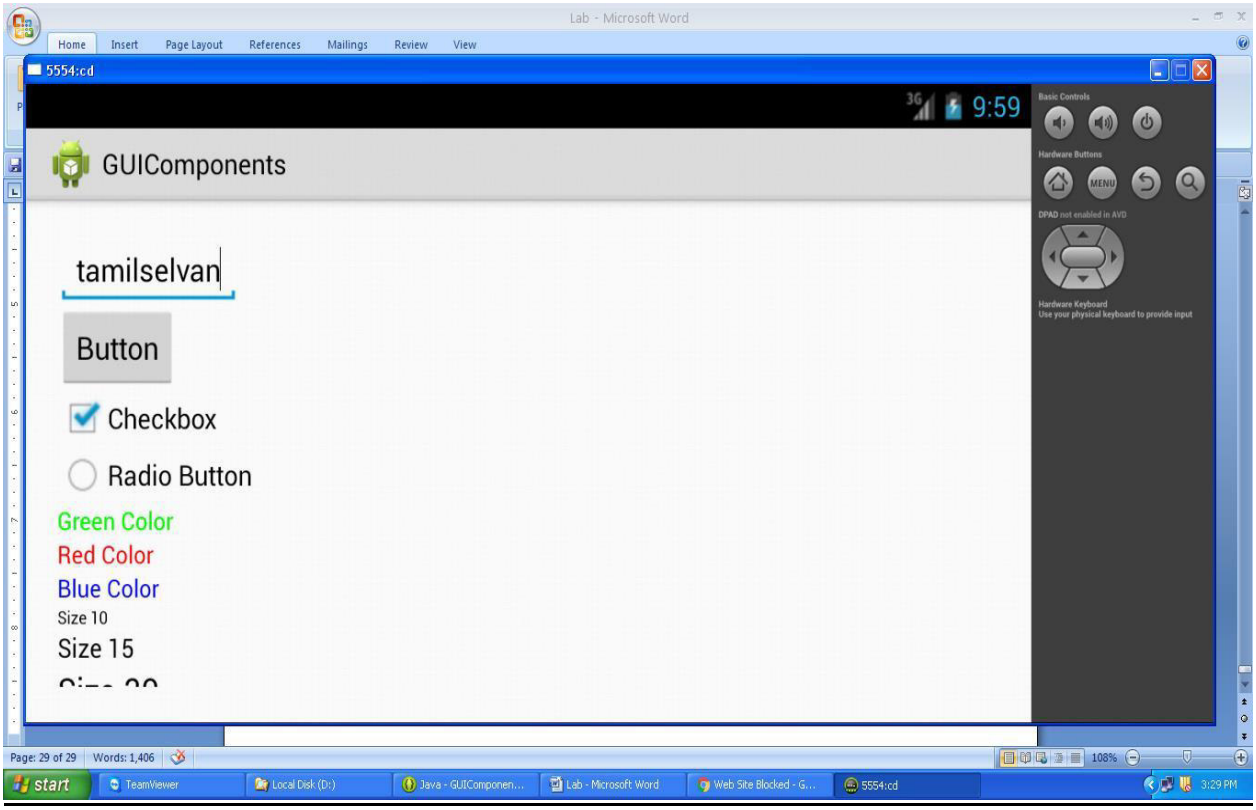
```
import android.app.Activity;
import android.view.Menu;

public class MainActivity extends Activity {

   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
   }
   @Override
   public boolean onCreateOptionsMenu(Menu menu) {
      // Inflate the menu; this adds items to the action bar if it is present.
      getMenuInflater().inflate(R.menu.main, menu);
      return true;
   }

}
```

File Name: AndroidMainfest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
   package="com.lab.guicomponents"
   android:versionCode="1"
   android:versionName="1.0" >

   <uses-sdk
      android:minSdkVersion="8"
      android:targetSdkVersion="18" />

   <application
      android:allowBackup="true"
      android:icon="@drawable/ic_launcher"
      android:label="@string/app_name"
      android:theme="@style/AppTheme" >
      <activity
         android:name="com.lab.guicomponents.MainActivity"
         android:label="@string/app_name" >
         <intent-filter>
            <action android:name="android.intent.action.MAIN" />

            <category android:name="android.intent.category.LAUNCHER" />
         </intent-filter>
      </activity>
   </application>

</manifest>
```

Output:


Android Virtual Device Manager
5554:cd
9:58
GUIComponents
Edit Text
Button
Checkbox
Radio Button
Green Color
Red Color
Blue Color
Size 10
Size 15
An Android Virtual Device that failed to load. Click 'Details' to see the error.


Lab - Microsoft Word
5554:cd
9:59
GUIComponents
tamilselvan
Button
Checkbox
Radio Button
Green Color
Red Color
Blue Color
Size 10
Size 15

Creation of Personal Information System

Ex. No:08
Date:

Aim:

To implement PL/SQL program in the concept of Personal Information System with front end as MySQL and back end as PHP.

ABSTRACT:

In this project , we are going to implement the application of personal information system. In our project ,we are focusing the personal information ,marks and banking details. Mainly we include the banking system for bank accounting. The scope of the is to maintain the student details for future reference about their personal information,marks and banking details.

REQUIREMENTS:

SOFTWARE REQUIREMENT:

Operating system - Ubuntu 16.01

Front end - PHP

Back end- MySql

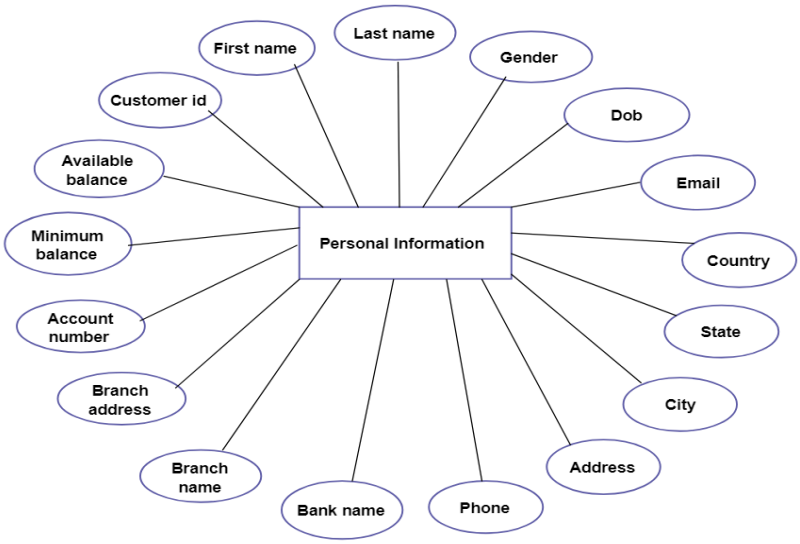
HARDWARE REQUIREMENT:

Processor - Intel Pentium Core i3

Hard disk drive - 500 GB

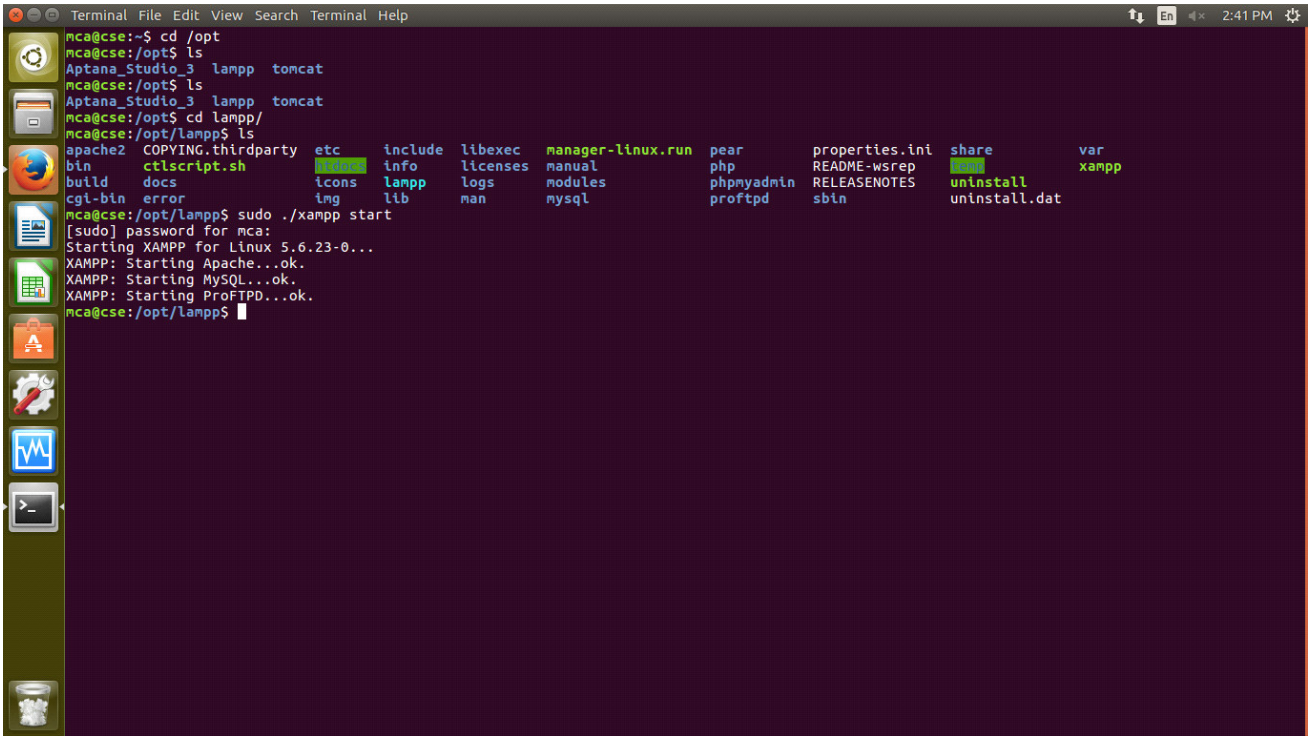
RAM - 4 GB

ER Model

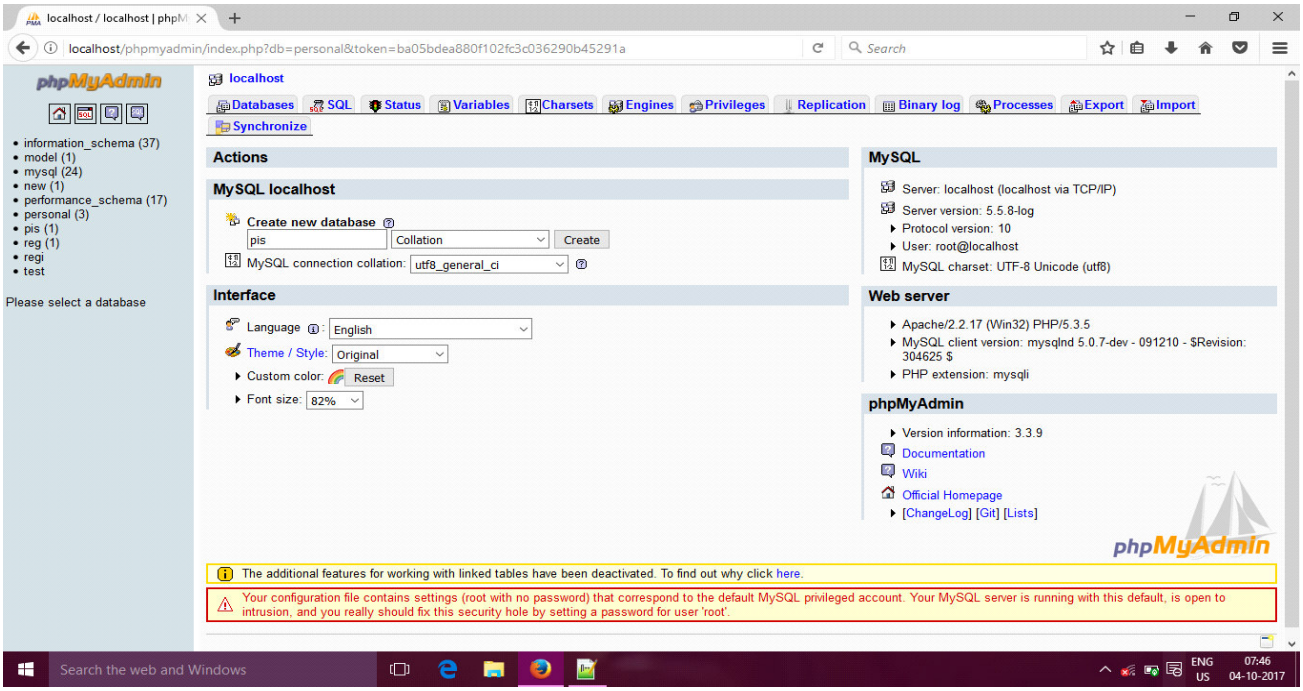


Program:

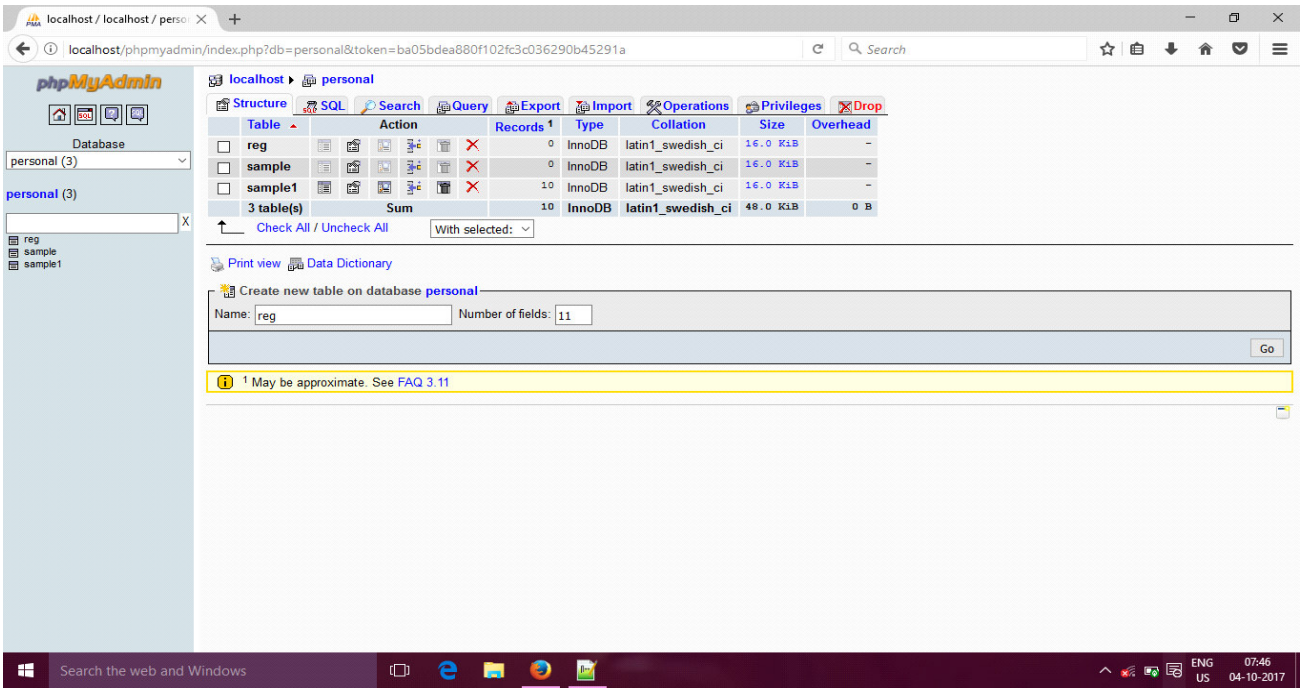
To start a xampp web server:



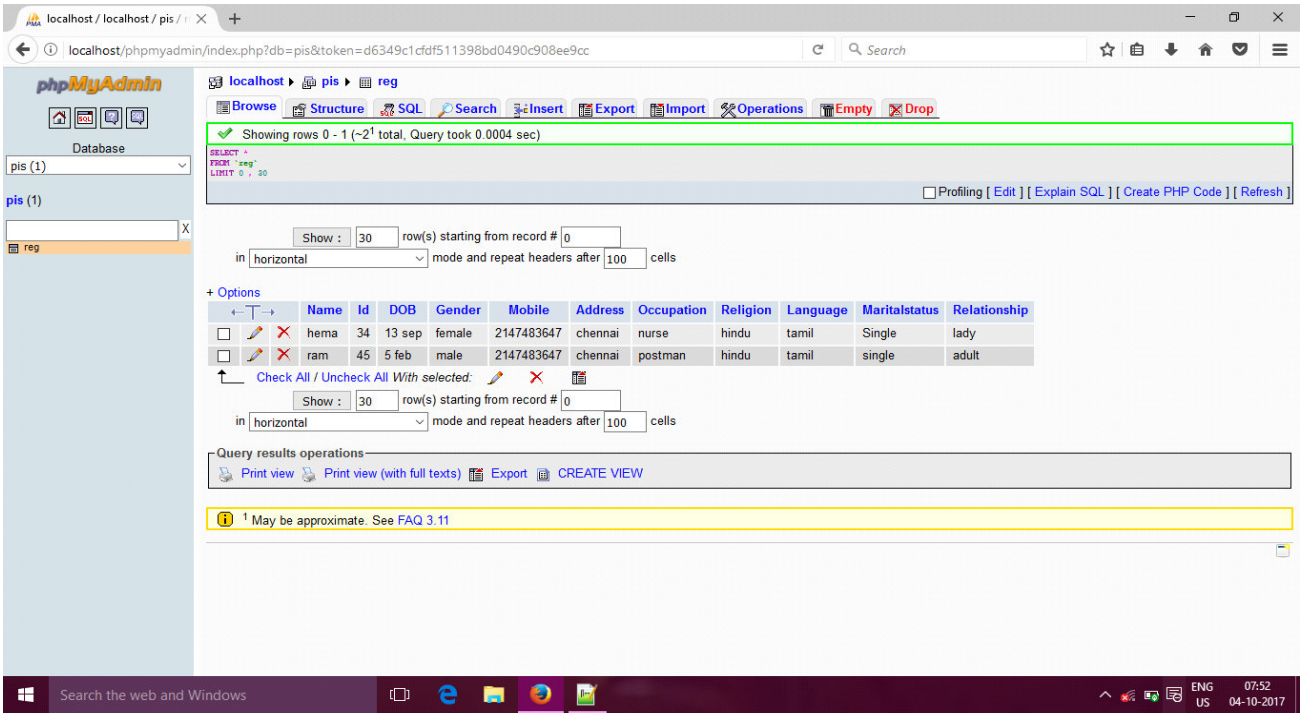
To create database in wamp server:

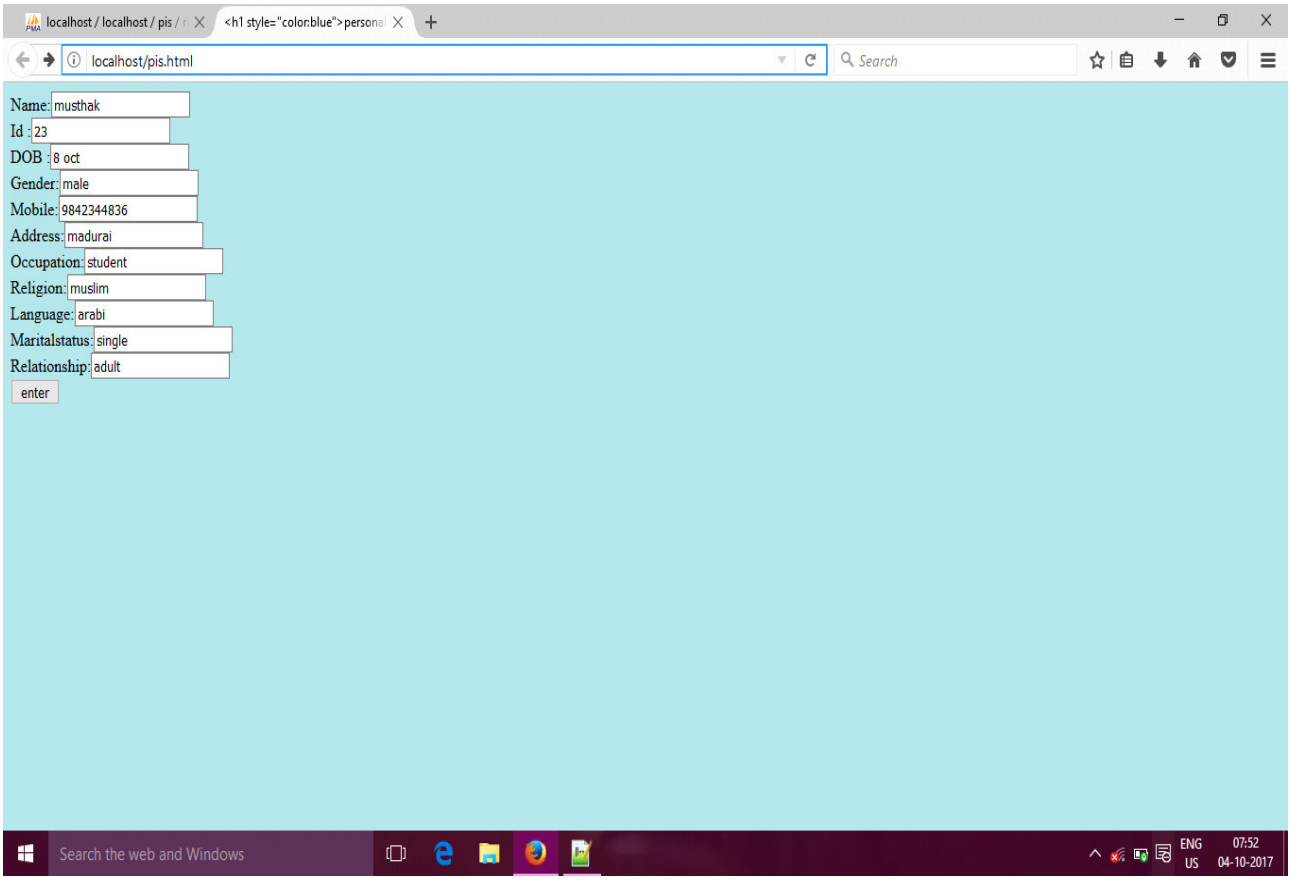


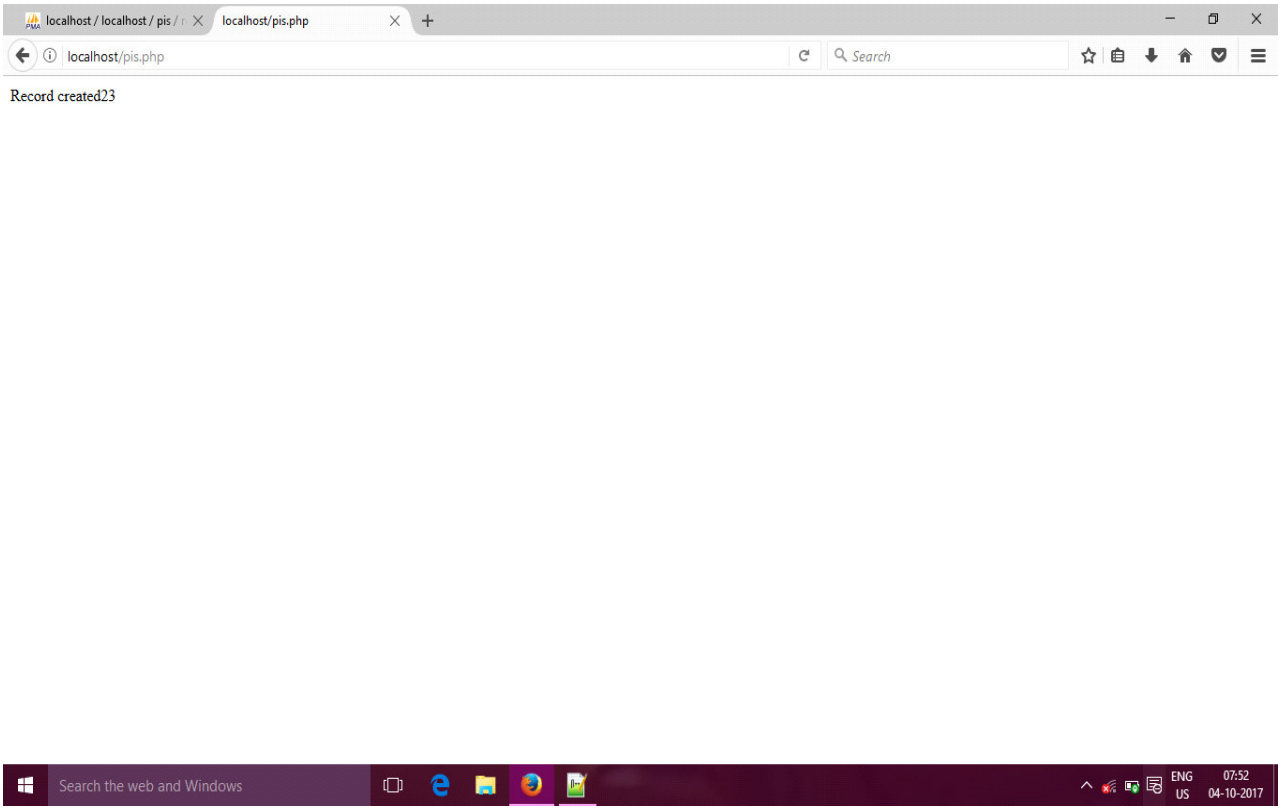
To create table in database:



Output :




localhost / localhost / pis /
<h1 style="color:blue">persona
localhost/pis.html
Search
Name: musthak
Id : 23
DOB : 8 oct
Gender: male
Mobile: 9842344836
Address: madurai
Occupation: student
Religion: muslim
Language: arabi
Maritalstatus: single
Relationship: adult
enter
Search the web and Windows
ENG
US
07:52
04-10-2017


localhost / localhost / pis /
localhost/pis.php
localhost/pis.php
Search
Record created23
Search the web and Windows
ENG
US
07:52
04-10-2017

Coding:

pis.html

```
<html>
<head>
<title>
<h1 style="color:blue">personal information system</h1>
</title>
<style>
body{background-color:powderblue;}
</style>
</head>
<body>
<form method="post" action="pis.php">
Name:<input type="text" name="t1"><br/>
Id :<input type="text" name="t2"><br/>
DOB :<input type="text" name="t3"><br/>
Gender:<input type="text" name="t4"><br/>
Mobile:<input type="text" name="t5"><br/>
Address:<input type="text" name="t6"><br/>
Occupation:<input type="text" name="t7"><br/>
Religion:<input type="text" name="t8"><br/>
Language:<input type="text" name="t9"><br/>
Maritalstatus:<input type="text" name="t10"><br/>
Relationship:<input type="text" name="t11"><br/>
<input type="submit" value="enter">
</form>
</body>
</html>
```

pis.php

```
<?php
$Name=$_POST['t1'];
$Id=$_POST['t2'];
$DOB=$_POST['t3'];
$Gender=$_POST['t4'];
$Mobile=$_POST['t5'];
$Address=$_POST['t6'];
$Occupation=$_POST['t7'];
$Religion=$_POST['t8'];
$Language=$_POST['t9'];
$Maritalstatus=$_POST['t10'];
$Relationship=$_POST['t11'];
//$regno = isset($_POST['regno']) ? $_POST['regno'] : '';
$conn = mysqli_connect('localhost', 'root','') or die("cannot connect");
mysqli_select_db($conn,'personal') or die("cannot select DB");
$res = mysqli_query($conn,"insert into sample1
values('$Name','$Id','$DOB','$Mobile','$Gender','$Address','$Occupation','Religion','$Language','$Maritalstatus','$R
elationship')") or die(mysqli_error());
if($res>0)
{
echo "Record created";
echo "$Id";
}   ?>
```

Annexure I - Additional Program for exercise

Creation of Simple PHP- MySQL Login Page

Aim:

To implement the program for Creation of a login page with PHP and MySQL.

Program:

Config.php

Config.php file is having information about MySQL Data base configuration.

```
<?php
define('DB_SERVER', 'localhost:3036');
define('DB_USERNAME', 'root');
define('DB_PASSWORD', 'rootpassword');
define('DB_DATABASE', 'database')
$db = mysqli_connect(DB_SERVER,DB_USERNAME,DB_PASSWORD,DB_DATABASE);
?>
```

Login.php

Login PHP is having information about php script and HTML script to do login.

```
<?php
  include("config.php");
  session_start();

  if($_SERVER["REQUEST_METHOD"] == "POST") {
    // username and password sent from form

    $myusername = mysqli_real_escape_string($db,$_POST['username']);
    $mypassword = mysqli_real_escape_string($db,$_POST['password']);

    $sql = "SELECT id FROM admin WHERE username = '$myusername' and passcode = '$mypassword'";
    $result = mysqli_query($db,$sql);
    $row = mysqli_fetch_array($result,MYSQLI_ASSOC);
    $active = $row['active'];

    $count = mysqli_num_rows($result);

    // If result matched $myusername and $mypassword, table row must be 1 row

    if($count == 1) {
      session_register("myusername");
      $_SESSION['login_user'] = $myusername;

      header("location: welcome.php");
    }else {
      $error = "Your Login Name or Password is invalid";
    }
  }
?>
<html>

  <head>
    <title>Login Page</title>
```

```
    <style type = "text/css">
      body {
        font-family:Arial, Helvetica, sans-serif;
        font-size:14px;
      }
      label {
        font-weight:bold;
        width:100px;
        font-size:14px;
      }
      .box {
        border:#666666 solid 1px;
      }
    </style>

  </head>

  <body bgcolor = "#FFFFFF">

    <div align = "center">
      <div style = "width:300px; border: solid 1px #333333; " align = "left">
        <div style = "background-color:#333333; color:#FFFFFF; padding:3px;"><b>Login</b></div>

        <div style = "margin:30px">

          <form action = "" method = "post">
            <label>UserName  :</label><input type = "text" name = "username" class = "box"/><br /><br />
            <label>Password  :</label><input type = "password" name = "password" class = "box" /><br/><br />
            <input type = "submit" value = " Submit "/><br />
          </form>

          <div style = "font-size:11px; color:#cc0000; margin-top:10px"><?php echo $error; ?></div>

        </div>

      </div>

    </div>

  </body>
</html>
```

welcome.php

After successful login, it will display welcome page.

```
<?php
  include('session.php');
?>
<html">

  <head>
    <title>Welcome </title>
  </head>

  <body>
```

```
    <h1>Welcome <?php echo $login_session; ?></h1>
    <h2><a href = "logout.php">Sign Out</a></h2>
  </body>

</html>
```

Logout page

Logout page is having information about how to logout from login session.

```
<?php
  session_start();

  if(session_destroy()) {
    header("Location: login.php");
  }
?>
```

session.php

Session.php will verify the session, if there is no session it will redirect to login page.

```
<?php
  include('config.php');
  session_start();

  $user_check = $_SESSION['login_user'];

  $ses_sql = mysqli_query($db,"select username from admin where username = '$user_check' ");

  $row = mysqli_fetch_array($ses_sql,MYSQLI_ASSOC);

  $login_session = $row['username'];

  if(!isset($_SESSION['login_user'])){
    header("location:login.php");
  }
?>
```

Annexure II - Viva-voce Questions and Answers

1.What are the leading platforms or languages used for web design?

The main language or platform used for web design are:

HTML – Base template, CSS – Styling, JavaScript – Functionality,PHP – Server-side scripts

2.What is the Responsive design on a web page?

Responsive design is an approach to creating sites to provide an optimal viewing and interaction experience. The view of the website should get adjusted. It focuses on easy navigation of site with a minimum of scrolling, panning and resizing across all devices such as desktop, mobiles or tablets.

Bootstrap is the most popular CSS, HTML and JS framework used for developing responsive web design.

3. When will you use CSS float in CSS?

In CSS, we use CSS float as an element which is placed along the left or right side of the page, allowing text and made other factors to wrap around it

4. Is CSS case sensitive?

No, CSS is not a case-sensitive. It is case insensitive under most of its control except for document markup language which is beyond its control.

5.How to Reduce a Page's Loading Time?

Some of the best ways to Reduce a Page's Loading Times are removing unnecessary widgets, HTTP compression, reducing image size, etc.

6.What is PHP?

PHP is a widely-used, open-source server-side scripting language. PHP is an acronym for "PHP: Hypertext Preprocessor." It allows the developers to develop dynamic web applications. PHP has various frameworks and CMS for developing dynamic and interactive websites.

7. What types of loops exist in PHP?

for, while, do while and foreach.

8. How do you display the output directly to the browser?

To display the output directly to the browser, I will use the special tags <?= and ?>.

9. Describe which programming language does PHP parallel to?

The PHP syntax relates Perl and C.

10. How to create a MySQL connection?

mysql_connect(servername,username,password);

11. What Is Multimedia?

Multimedia is simply multiple forms of media integrated together. Media can be text, graphics, audio, animation, video, data, etc.

12. What Are Multimedia Software's?

The software used to create multimedia experiences can be placed into 3 distinct categories:

Audio Software

Graphics Software

Video Software

13. What Are Multimedia Hardware's?

Multimedia hardware basically consists of video and sound cards, and cd-rom drives. To make it a little easier multimedia kits are available that include all the necessary hardware and software to upgrade your present computer(s).

14. **What Is Video-on-demand?**

Video-on-demand is existing video or an archived webcast available for people to watch on the web any time. The original video can be digitized as a Real Media, Windows Media, QuickTime, or Flash Video file and can he viewed with the appropriate player.

15.Explain What Is Graphics?

The combination of picture, images, text & colors that gives us any type of information is called graphics. It is printable. Exp. Hording, banner, logo.

16.What is SQL?

SQL **stands for** Structured Query Language**. SQL is is a special-purpose programming language designed for data held in a relational database management system. It's originally based upon relational algebra and tuple relational calculus, It's consists of a data definition language**(DDL) **and a data manipulation language**(DML)**.**

17. How to get current date in MySql?

SELECT CURRENT_DATE();

18.How to find unique records in MYSQL

SELECT DISTINCT columnname FROM tablename;

19. What is the difference between primary key and candidate key

Every row of a table is identified uniquely by primary key. There is only one primary key for a table. Primary Key is also a candidate key. By common convention, candidate key can be designated as primary and which can be used for any foreign key references.

20. Which MySQL Datatype should be used for storing boolean values

For MySQL 5.0.3 and higher, you can use BIT. For versions lower than 5.0.3 you can use bool and boolean which are at the moment aliases of tinyint(1).

21. What is difference between TRUNCATE and DELETE in mysql

1: DELETE is a DML(data manipulation lnguage) command whereas truncate is a DDL(data definition language) command.

2: Truncate is much faster than Delete.

3 : We can not roll back in truncate but in delete we can rollback.

4 : We can not use where clause in truncate but in delete we can use conditions using where clause

22. Which MySQL Datatype should be used for storing boolean values

For MySQL 5.0.3 and higher, you can use BIT.

For versions lower than 5.0.3 you can use bool and boolean which are at the moment aliases of tinyint(1).

23.What is heap table in MySQL

Tables that are present in memory is known as HEAP tables. When you create a heap table in MySQL,you should need to specify the TYPE as HEAP. These tables are commonly known as memory tables. They are used for high speed storage on temporary basis. They don't allow BLOB or TEXT fields.

24.What is MySQL?

MySQL is an open-source DBMS that is built, supported and distributed by MySQL AB. It is now owned by Oracle.

25.Why do we use MySQL?

MySQL database server is dependable, fast and user-friendly. One can download the software from the internet and as freeware.

26.What is the default port for MySQL Server?

The default port for MySQL server is 3306

27. What is a Network?

A network is a set of devices connected to each other using a physical transmission medium.

28. What is a Node?

Two or more computers are connected directly by an optical fiber or any other cable. A node is a point where a connection established. It is a network component which is used to send, receive and forward the electronic information.

29. What is Network Topology?

Network Topology is a physical layout of the computer network and it defines how the computers, devices, cables etc are connected to each other.

30. What are Routers?

The router is a network device which connects two or more network segments. The router is used to transfer information from the source to destination.Routers send the information in terms of data packets and when these data packets are forwarded from one router to another router then the router reads the network address in the packets and identifies the destination network.

31. What is OSI reference model?

Open System Interconnection, the name itself suggest that it is a reference model which defines how applications can communicate with each other over a networking system.It also helps to understand the relationship between networks and defines the process of communication in a network.

32.What is DNS?

Domain Name Server (DNS), in a non-professional language and we can call it as Internet's phone book. All the public IP addresses and their hostnames are stored in the DNS and later it translates into a corresponding IP address.

33.What is meant by 127.0.0.1 and local host?

IP address 127.0.0.1, is reserved for loopback or local host connections. These networks are usually reserved for the biggest customers or some of the original members of the Internet. To identify any connection issue, the initial step is to ping the server and check if it is responding.

34.What is NIC?

NIC stands for Network Interface Card. It is also known as Network Adapter or Ethernet Card. It is in the form of add-in card and is installed in a computer so that the computer can be connected to a network.
Each NIC has a MAC address which helps in identifying the computer on a network.

35.What is Data Encapsulation?

In a computer network, to enable data transmission from one computer to another, the network devices send messages in the form of packets. These packets are then added with the IP header by OSI reference model layer.The Data Link Layer encapsulates each packet in a frame which contains the hardware address of the source and the destination computer. If a destination computer is on the remote network then the frames are routed through a gateway or router to the destination computer.

36.What is a VPN?

VPN is the Virtual Private Network and is built on the Internet as a private wide area network. Internet-based VPNs are less expensive and can be connected from anywhere in the world.

37.Explain DHCP briefly?

DHCP stands for Dynamic Host Configuration Protocol and it automatically assigns IP addresses to the network devices. It completely removes the process of manual allocation of IP addresses and reduces the errors caused due to this.

38.What is SNMP?

SNMP stands for Simple Network Management Protocol. It is a network protocol used for collecting organizing and exchanging information between network devices. SNMP is widely used in network management for configuring network devices like switches, hubs, routers, printers, servers.

39. What is the full form of IDEA?

IDEA stands for International Data Encryption Algorithm.

40.Define Static IP and Dynamic IP?

When a device or computer is assigned a specified IP address then it is named as Static IP. It is assigned by the Internet Service Provider as a permanent address.

Dynamic IP is the temporary IP address assigned by the network to a computing device. Dynamic IP is automatically assigned by the server to the network device.

41. Explain the characteristics of networking?

The main characteristics of networking are mentioned below,

Topology: This deals with how the computers or nodes are arranged in the network. The computers are arranged physically or logically.

Protocols: Deals with the process how the computers communicate with one another.

Medium: This is nothing but the medium used by the computers for communication

42. What is the latest version of Android?

Lollipop 5.0–5.0.2 (also changes often). See all here.

43. What is the extension of Android files?

.apk (Android application package)

44. What is the extension of iOS files?

.ipa

45. What is the full form of MMS?

Multimedia Messaging Services

46. What are MT and MO in SMS?

Sending message is known as MO (Message originate) and receiving the message is known as MT(Message Terminate)

47. What is WAP?

WAP is Wireless Application Protocol used in network apps.

48. What is GPRS and how it works?

GPRS is General Packet Radio Service which works on a mobile network with the help of IP transmissions. GPRS provides the transmission of IP packets over existing cellular networks. It provides you internet services on mobile.

49. What do you mean by Streaming media?

Streaming is a process of downloading the data from the server. Streaming media is the multimedia that is transferred from server or provider to the receiver.

50. What are the automation tools available for mobile application testing?

There are many automation tools available in the market for mobile application testing but iPhone Tester is one of the best tools to test the application on iPhones and screenfly for android devices.