INDIAN INSTITUTE OF INFORMATION TECHNOLOGY SONEPAT

APPLICATION PROGRAMMING

LAB FILE

COMPUTER SCIENCE AND ENGINEERING

Submitted By-

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1.Creating an HTML web page forms

Procedure:-

1.Make an html file and create a <form> tag.

2.Specify action attribute where the data has to be sent.

3.Use <input> tag to take form data from user. Such as name ,parent's name etc.

4.Use <textarea> tag for address input.

5.Make radio button for Gender input. And chechbox for selecing the courses.

6.Use <select> tag to give options for the cities.

7.Take input type file for uploading photo.

8.Take <input> type date for date of birth.

9.Make Submit and Reset buttons.

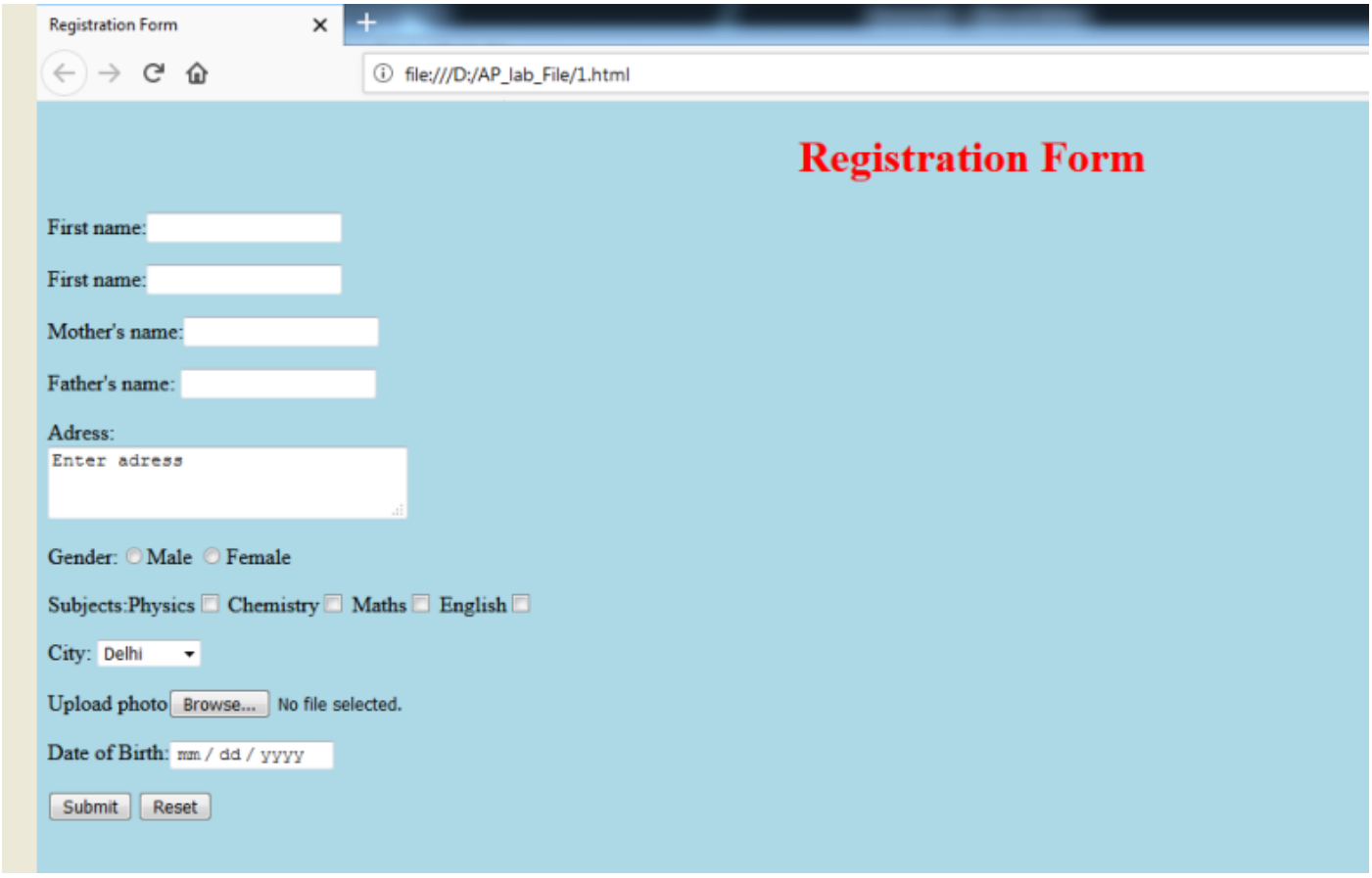
Code-

```
<html>
<head>
<title>Registration Form</title>
<center bgcolor=blue><h1><font color="red">Registration Form</font></h1></center>
</head>
<body bgcolor=lightblue>
```

```
<form action="some.php" method="post">

<p>First name:<input type="text" name="first_name"/></p>

<p>First name:<input type="text"
name="father_name"/></p>

<p>Mother's name:<input type="text"
name="mother_name"/></p>

<p>Father's name: <input type="text"
name="last_name"/></p>

Adress:<br/><textarea rows="2" cols="30"
name="adress">Enter adress</textarea>

<p>Gender:<input type="radio" name="gender"
value="male"/>Male

<input type="radio" name="gender"
value="male"/>Female</p>

<p>Subjects:Physics<input type="checkbox" name="physics">

Chemistry<input type="checkbox" name="Chemistry">

Maths<input type="checkbox" name="Maths">

English<input type="checkbox" name="English"></p>

<p>City: <select name="dropdown">

   <option value="Delhi">Delhi</option>

      <option value="Lucknow">Lucknow</option>

      <option value="Agra">Agra</option>
```

```
    <option value="Mumbai">Mumbai</option>
  </select>
  </p>
  <p>Upload photo<input type="file" name="image"
accept="image/*"></p>
  <p>Date of Birth:<input type="date"></p>
 <p><input type="submit" value="Submit"> <input
type="reset"></p>
</form>
</body>
</html>
```

Output-



2. Creating Home Page using HTML.

Procedure:-

1. Creating a home page for a website of E-Learning.

2. Create a Heading for a website.

3. Make few tab buttons like home, about, downloads. Etc .

4. Write few contents in a paragraph tab <p>.

5. Create anchor <a> tab for hyperlinks to other websites.

Code-

```
<html>
<head>
<title>Home Page</title>
</head>
<body bgcolor="lightgreen">
<div style=background-color:red;>
<p><center><marquee><h1><font color=yellow>E-Learning</font></h1></marquee></center></p>
</div>
<div style=background-color:black;>
<button type="button">Home</button>
<button type="button">About</button>
```

<button type="button">Contacts</button>

<button type="button">Downloads</button>

<h1>Basics of Web</h1>

What is Internet

The Internet is essentially a global network of computing resources. You can think of the Internet as a physical collection of routers and circuits as a set of shared resources.

Some common definitions given in the past include –

A network of networks based on the TCP/IP communications protocol.

A community of people who use and develop those networks.

A community of people who use and develop those networks.

Internet-Based Services

Some of the basic services available to Internet users are –

**Email − A fast, easy, and inexpensive way to communicate with other Internet users around the world.
**

**Telnet − Allows a user to log into a remote computer as though it were a local system.
**

**FTP − Allows a user to transfer virtually every kind of file that can be stored on a computer from one Internet-connected computer to another.
**

**UseNet news − A distributed bulletin board that offers a combination news and discussion service on thousands of topics.
**

World Wide Web (WWW) − A hypertext interface to Internet information resource

</p>

** **

**Go to Url:
**

**Wikepedia
**

**Google
**

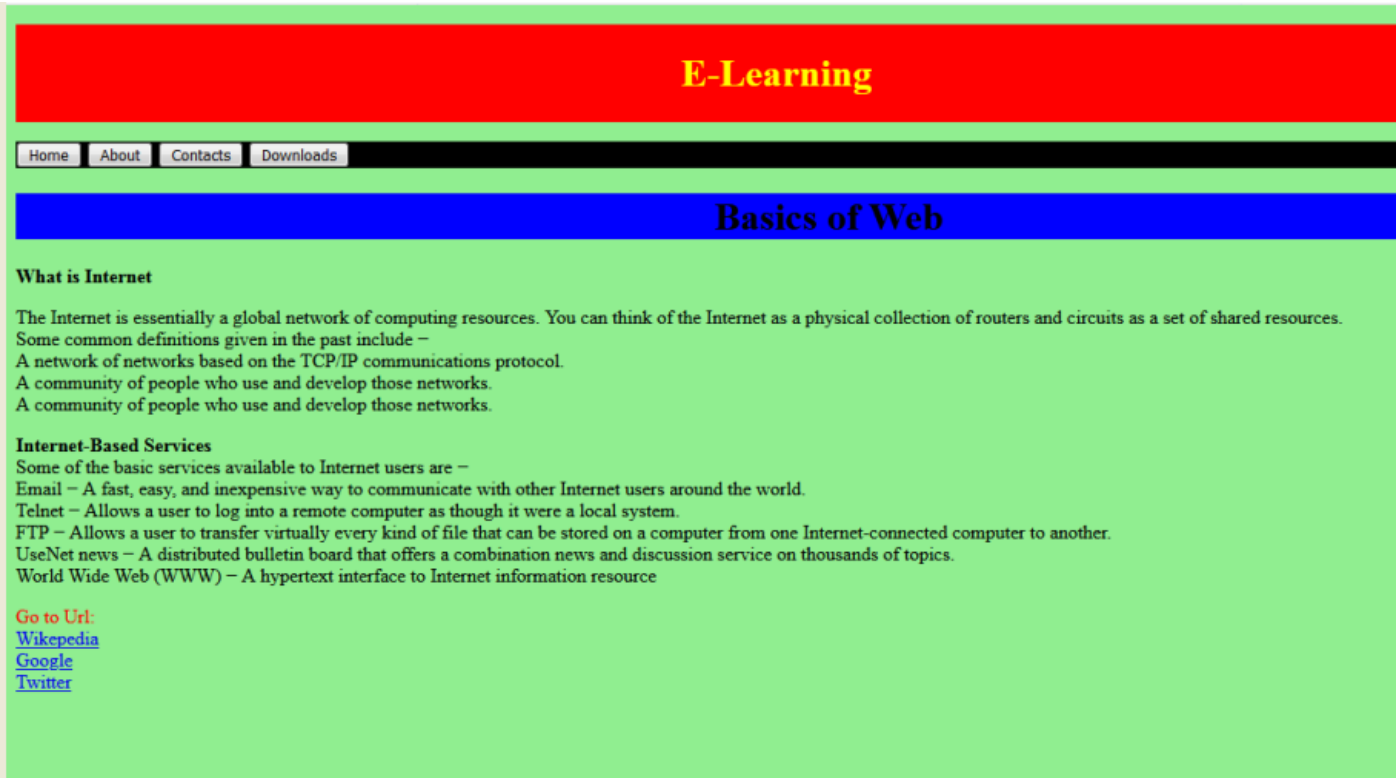
**Twitter
**

** **

</body>

</html>

Output-


E-Learning
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Go to Url:
Wikepedia
Google
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3 .Creating XHTML and CSS and understanding its use in creating web pages.

Procedure:-

1. We can make our website look more stylish and good using CSS.

2. Create a simple website about Ancient India write its contents in a different div tag and a photo.

3. Create and internal CSS code using <style> tag in the <head> Tag of HTML file.

4. Use and **float** and **display** properties on div tags to make a three column view for our website.

5. Use **hover** property to change the style of paragraph when mouse is hovered.

6 . Use CSS properties to set font size, color, background image.

7. Use position property to set the image to the right bottom.

Code-

```
<html>
<head>
<style>
.id{
}
.main{
```

```
float: left;
width: 33%;
background-color: lightblue;
}
.main:hover{
position: relative;
background-color: pink;
width: 300px;
height: 700px;
border: 2px solid red;
}
span {
font-weight: bold;
color: blue;
font-size:36px;
}
h1 {
background-color: yellow;
font-weight: 100;
color: red;
```

```
font-size: 60px;
text-align: center;
}
body{
background-color:lightgreen;
bottom: 0px;
}
img{
position:  absolute;
top:430px;
right:50px;
}
</style>
<title>Web page</title>
</head>
<body>
<img src="06.png">
<h1>India's History</h1>
<div class="id">
<div class="main">
```

Ancient History

India's history and culture is dynamic, spanning back to the beginning of human civilization.

It begins with a mysterious culture along the Indus River and in farming communities in the southern lands of India.

The history of India is punctuated by constant integration of migrating people with the diverse cultures that surround India.

Available evidence suggests that the use of iron, copper and other metals was widely prevalent in the Indian sub-continent at a fairly early period,

which is indicative of the progress that this part of the world had made.

By the end of the fourth millennium BC, India had emerged as a region of highly developed civilization.

Indus Valley Civilization

The History of India begins with the birth of the Indus Valley Civilization,

more precisely known as Harappan Civilization. It flourished around 2,500 BC,in the western part of South Asia, what today is Pakistan and Western India.

The Indus Valley was home to the largest of the four ancient urban civilizations of Egypt, Mesopotamia, India and China.

Nothing was known about this civilization till 1920s when the Archaeological Department of India carried out excavations in the Indus valley

wherein the ruins of the two old cities, viz. Mohenjodaro and Harappa were unearthed. The ruins of buildings and other things like household articles,

weapons of war, gold and silver ornaments, seals, toys, pottery wares, etc., show that some four to five thousand years ago a highly developed Civilization

flourished in this region.The Indus valley civilization was basically an urban civilization and the people lived in well-planned and well-built towns,

which were also the centers for trade. The ruins of Mohenjodaro and Harappa show that these were magnificent merchant cities-well planned,

scientifically laid, and well looked after.They had wide roads and a well-developed drainage system.

The houses were made of baked bricks and had two or more storeys.

** **

** **

**Vedic Civilization
**

The Vedic civilization is the earliest civilization in the history of ancient India.

It is named after the Vedas, the early literature of the Hindu people. The Vedic Civilization flourished along the river Saraswati,

in a region that now consists of the modern Indian states of Haryana and Punjab. Vedic is synonymous with Hinduism, which is another name for religious

and spiritual thought that has evolved from the Vedas.

The Ramayana and Mahabharata were the two great epics of this period.

** **

** **

</body>

</html>

Output-

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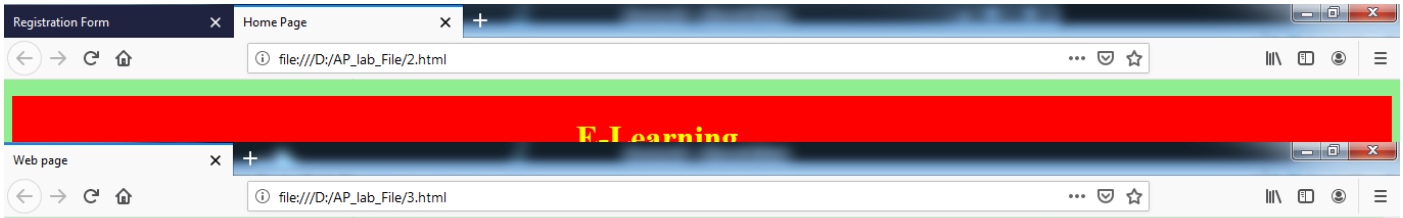

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4. Setting up and understanding of Apache Tomcat server.

Procedure:-

Step 1

Download and Install Tomcat

1. Go to http://tomcat.apache.org/download-70.cgi then go to the Binary Distribution/Core/
and download the "zip" package (for example "apache-tomcat-7.0.40.zip")
2. Now **unzip** the downloaded file into a directory of our choice.

Step 2

Check the installed directory to ensure it contains the following sub-directories:
a.bin folder
b. logs folder
c. webapps folder
d. work folder
e. temp folder
f. conf folder
g. lib folder

Step 3

Create Environment variable JAVA_HOME.

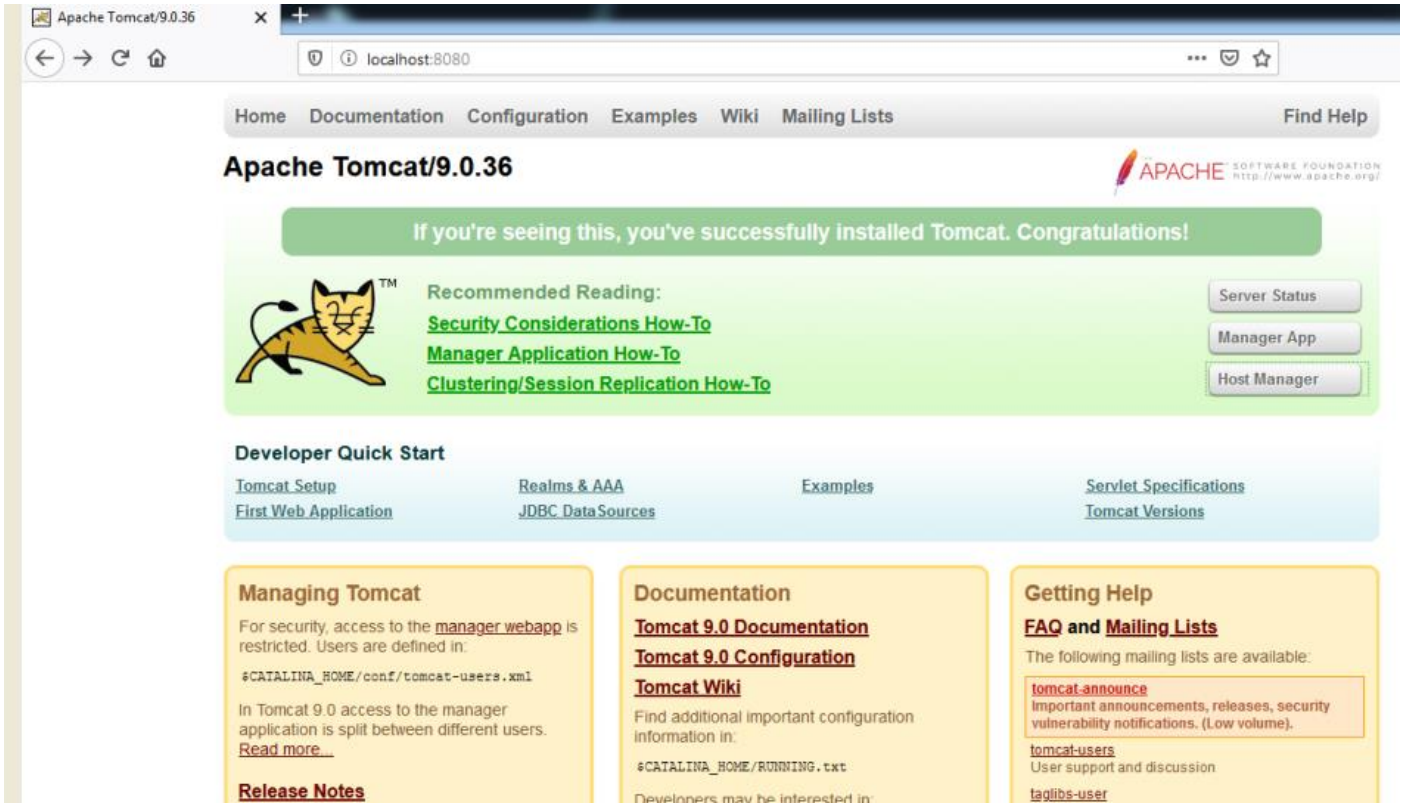
Configure Tomcat Server
The configuration files of the Apache Tomcat Server are located in the "conf" sub-directory of our
Tomcat installed directory, for example "E:\myserver\tomcat7.0.40\conf". There are 4 configuration
XML files:
1. context.xml file
2. tomcat-users.xml file

3. server.xml file

4. web.xml file
Before proceeding, make a BACKUP of the configuration files.
Step 4(a) "conf\web.xml"; Enabling a Directory Listing
Open the configuration file "web.xml". We shall enable the directory listing by changing "listings" from
"false" to "true" for the "default" servlet.
<param-value>**true**</param-value> like:
Step 4(b) "conf\server.xml file"; set the TCP Port Number
Open the file "server.xml" in a text editor.
The default port number of Tomcat is 8080. We can change it according to our need.

Step 4(**c**) "**conf\context.xml**"; **Enabling Automatic Reload**
In that we set reloadable="true" to the <Context> element to enable automatic reload after code
Step 4(**d**) (**Optional**) "**conf\tomcat-users.xml**"
It is used to manage Tomcat by adding the highlighted lines, inside the <tomcat-users> elements.
In that we can add a password and username as an optional step.
Step 5
Now, start the tomcat server
Executable programs and scripts are kept in the "bin" sub-directory of the Tomcat installed directory
Step 5(**a**) **Start Server**
Step 5(**b**) **Access the Server**
Open a browser then enter the URL "http://localhost:8080" to access the Tomcat server's welcome
page.

Output-



5. Understanding modifications of Web.XML.

Java web applications use a deployment descriptor file to determine how URLs map to servlets, which URLs require authentication, and other information. This file is named web.xml, and resides in the app's WAR under the WEB-INF/ directory. web.xml is part of the servlet standard for web applications.

A web application's deployment descriptor describes the classes, resources and configuration of the application and how the web server uses them to serve web requests.

web.xml defines mappings between URL paths and the servlets that handle requests with those paths. The web server uses this configuration to identify the servlet to handle a given request and call the class method that corresponds to the request method. To map a URL to a servlet, you declare the servlet with the <servlet> element, then define a mapping from a URL path to a servlet declaration with the <servlet-mapping> element.

Example:

```
1.<web-app>
2.          <servlet>
3 <servlet-name>HelloWorld</servlet-name>
4 <servlet-class>servletexample.createHelloWorlExample</servlet-class>
5 </servlet>
6 <servlet-mapping>
7 <servlet-name>HelloWorld</servlet-name>
8 <url-pattern>/HelloworldExample/*</url-pattern>
9  </servlet-mapping>
10 </web-app>
```

Elements in Web.xml

Description of elements Used in web.xml file:

1. **<web-aap>: This element represents whole application of web.xml file**
2. **<servlet>: This is the sub element of and represents the servlet**
3. **<servlet-name>: This is the sub element of servlet and used to represents the name of servlet**
4. **<servlet-class>: This is the sub element of servlet and used to represents the class of servlet**
5. **<servlet-mapping>: This is the sub element of and used to map the servlet**
6. **<url-pattern>: This is the sub element of servlet-mapping and used to client side to invoke the servlet**

Web.xml Tags

Tags used in *web.xml* file are:

1. **Welcome-file-list tag;** This tag is used to specify the default page of web application if none is specified.
   Example:

```
1 <welcome-file-list>
2 <welcome-file>index.jsp</welcome-file>
3 </welcome-file-list>
```

   In the above example index.jsp used as web page for web application

2.**Session config tag:** This tag is used to specify the session configuration parameter

Example:

```
1 <session-config>
2 <session-timeout>
3     15
4  </session-timeout>
5 </session-config>
```

In the above example session-config tag contains another tag session-timeout which specifies the http session timeout. The time specify in minutes.

3. **Error page tag:** This tag is used to specify the error occurred in the while weblogic server is responding ti a HTTP request, returns an HTML page that displays either the HTTP error code.

```
1 <error-page>
2 <error-code>105</error-code>
3 <location>/jsp/error/PageNotFound.jsp</location>
4 </error page>
```

In the above example error-page tag specify the error code as 105 and location describes the location of the jsp page.

Advantages of web.xml file

- The first benefit of the xml is we can write it in our won markup language. There is a no restricted to limited sets of tags. By defining our own tag we can create a markup language in terms of specific problem.
- Searching the data is easy and efficient.
- Completely compatible with Java™ and 100% portable.

Example- A part of web.xml for apache tomcat server.

```
<!-- only valid for GET requests. [true] -->
- <servlet>
    <servlet-name>default</servlet-name>
    <servlet-class>org.apache.catalina.servlets.DefaultServlet</servlet-class>
  - <init-param>
      <param-name>debug</param-name>
      <param-value>0</param-value>
    </init-param>
  - <init-param>
      <param-name>listings</param-name>
      <param-value>true</param-value>
    </init-param>
    <load-on-startup>1</load-on-startup>
  </servlet>
```

6.Creating Websites using PHP.

Procedure:-

1.Creating a website for **Visitor Counter** on a website.

2.Craete a a new PHP website.

3.Apply simple CSS effects and a box which counts every time a visitor visits the website.

4.We use **Session Tracking** to keep record of previous count of visitors.

5.We check if **counter file** exists if not then create a one.

6.We read from a counter if **hasvisited** has been set to **yes** the in increment the count.

7.Update the counter value on the website.

Code-

```
<!DOCTYPE html>
<html>
<head>
 <title>Visitor Counter</title>
 <link href="css/bootstrap.min.css" rel="stylesheet">
 <style type="text/css">
```

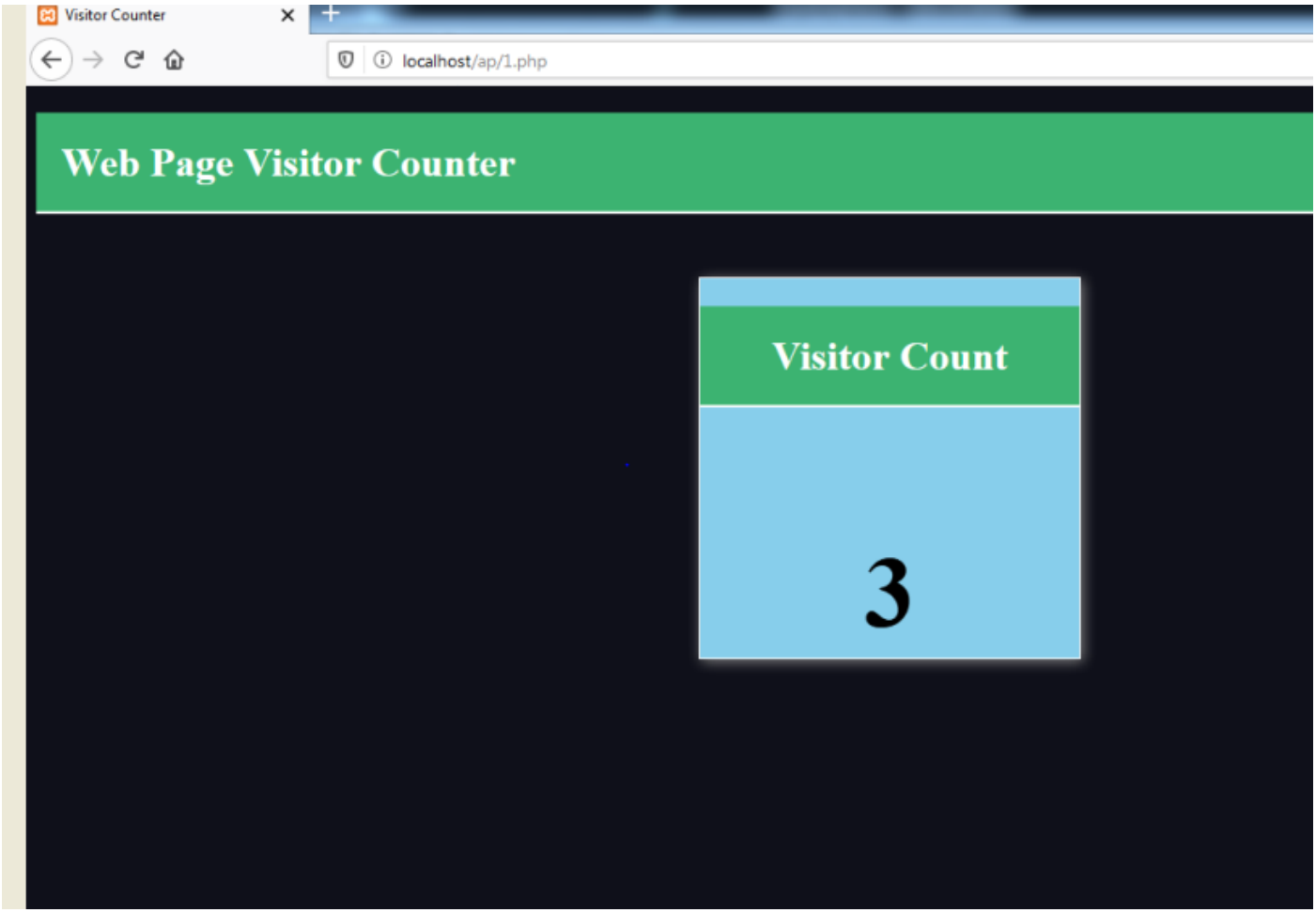
```
.wrapper{
  height:300px;
  width: 300px;
  background-color: skyblue;
  margin: auto;
  text-align: center;
  border: 1px solid white;
  box-shadow: 2px 2px 10px gray;
  margin-top: 50px;
}
h1
{
  background-color: mediumseagreen;
  color: white;
  border-bottom: 2px solid white;
  }
h1,h3
{
  padding: 20px;
                                                    font-size: 5em;
```

```
  }
    body
  {
    background-color: #0f101a;
  }
 </style>
</head>
<body>
<div class="heading">
  <h1>Web Page Visitor Counter</h1>
 </div>
 <div class="wrapper">
 <h1 >
  Visitor Count
 </h1>
 <h3>
 <?php
    session_start();
    $counter_name = "counter.txt";
   // Check if a text file exists.
```

```
    //If not create one and initialize it to zero.
    if (!file_exists($counter_name)) {
      $f = fopen($counter_name, "w");
      fwrite($f,"0");
      fclose($f);
    }
    $f = fopen($counter_name,"r");
    $counterVal = fread($f, filesize($counter_name));
    fclose($f);
    if(!isset($_SESSION['hasVisited'])){
      $_SESSION['hasVisited']="yes";
      $counterVal++;
      $f = fopen($counter_name, "w");
      fwrite($f, $counterVal);
      fclose($f);
      echo $counterVal;
    }
   echo $counterVal;
 ?>
</h3>
```

```
</div>

</body>

</html>
```

Output-



7. Understanding JavaScript.

Procedure:-

1.Create a web page for **Browser Detection** Using JavaScript.

2.Write a JavaScript code for browser detection in a **<script>** tag inside the **<head>** tag.

3.Create a button which on being clicked call the **browserdetection()** function .

4.Use the search() function of navigator.username class by

Navigator.username.search("browser name"). If the particular browser is found it returns a value greater than 0.

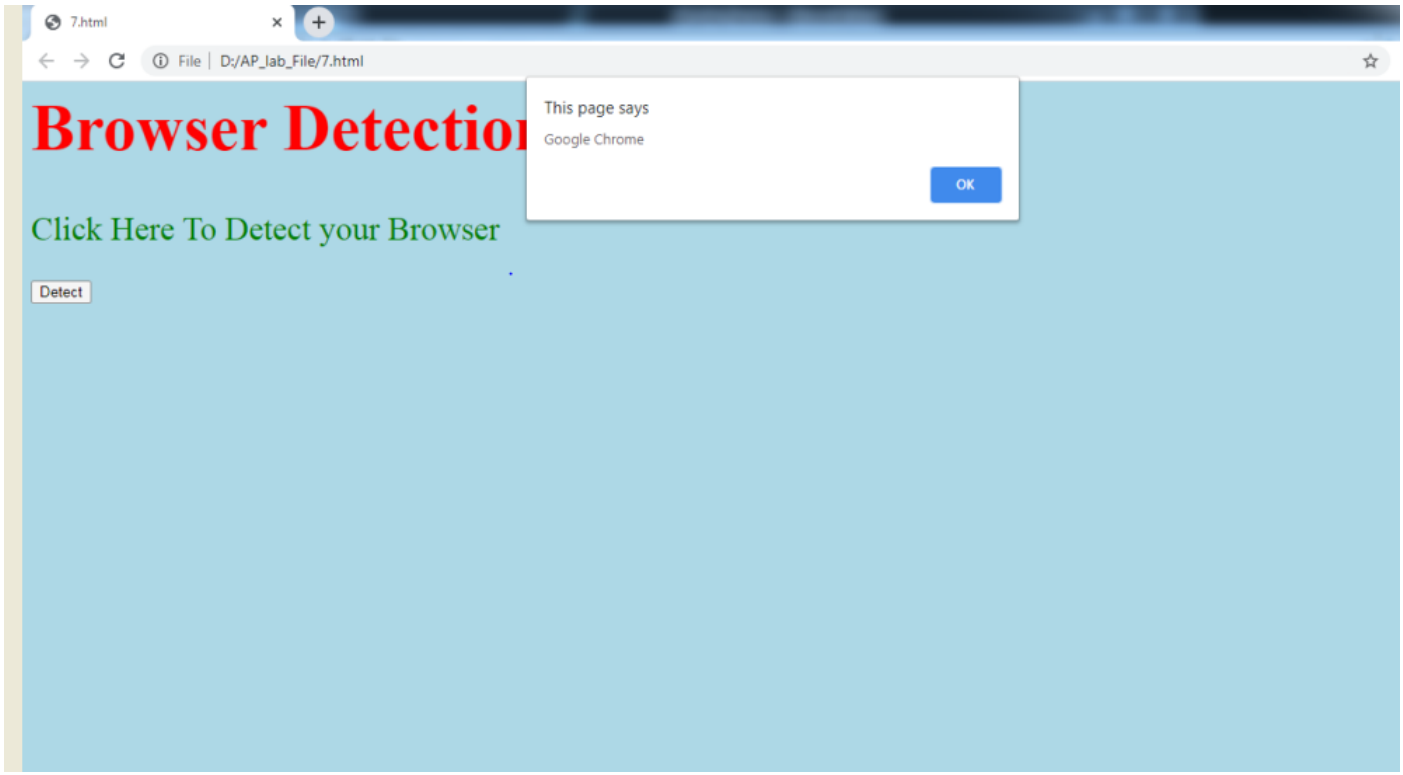
Code-

```
<html>
<head>
<script>
function BrowserDetection() {
        var allGood = false;
        //Check if browser is IE
        console.log(navigator.userAgent);
        console.log((navigator.userAgent.search("Opera") >= 0
|| navigator.userAgent.search("OPR") >= 0))
```

```
        //Check if browser is Chrome
        if (navigator.userAgent.search("Chrome") >= 0) {

                                                    alert("Google
Chrome");
        }
        //Check if browser is Firefox
        if (navigator.userAgent.search("Firefox") >= 0) {

                                                    alert("Mozilla
Firefox");
        }
        //Check if browser is Safari
        if (navigator.userAgent.search("Safari") >= 0 &&
navigator.userAgent.search("Chrome") < 0) {

                                                    alert("Safari");
        }
        //Check if browser is Opera
        if ((navigator.userAgent.search("Opera") >= 0) ||
(navigator.userAgent.search("OPR") >= 0)) {
```

```
                                                    alert("Opera");
        }
        if (navigator.userAgent.search("MSIE") >= 0) {
          alert("MSIE");

        }
        if (navigator.userAgent.search("Edge") >= 0) {
alert("Microsoft Edge");
        }

      }
</script>
</head>
<body bgcolor="lightblue">
<h1 style="color:red;font-size:60px">Browser Detection</h1>
<p style="font-size:30px;color:green">Click Here To Detect your Browser</p>
<button onclick="BrowserDetection()">Detect</button>
</body>
</html>
```

Output-


7.html
File | D:/AP_lab_File/7.html
Browser Detectio
This page says
Google Chrome
OK
Click Here To Detect your Browser
Detect

8. Create a Web page with back end in PHP and in front end in JavaScript and hosting it on Apache Tomcat Server.

Procedure-

1. Create a web page for user login, which checks the validity of user at front end using JavaScript and at back end through PHP and mysql.

2. Create a web page for user login and apply CSS affects to make it look good.

3. Apply JavaScript to check if user enters correct data .

4. Apply PHP code to check if user is valid or not , if valid then give the home page otherwise redirect it to the login page.

Code-

LOGIN PAGE(home.php)-

```
<!-- username should be in the form="user@gmail.com"

  you can create a database with two field username and password and check if the user is valid

  i have created database userdb and table="user" and used it in my code.

  you can create the database with same name or can do changes in code and test it -->

<html>

<head>
```

```
<link rel="stylesheet" href="style.css">

<script src="script.js"></script>

</head>

<body>

<form class="box" method="post" action="login.php"
onsubmit="return validation()">

<h1>Login</h1>

<input type="text" name="username"
placeholder="username" class="in" required>

<input type="password" name="password"
placeholder="password" class="in" required>

<input type="submit" value="Login" class="lg">

</form>

</body>

</html>
```

CSS-

```
body{

                                        margin:0;

                                        font-family: sans-
serif;
```

```
        background:url(images.jpg) no-repeat;
        background-size:1400px 900px;
}
.box{
                                                width:400px;
        height:240px;
                                                position: absolute;
                                                top:40%;
                                                left:32%;
                                                background: black;
                                                text-align:center;
}
.in{
                                                border:0px;
                                                background:none;
                                                display:block;
                                                text-align:center;
                                                margin:20px auto;
                                                width:200px;
                                                outline:none;
```

```
        border:2px solid blue;
        padding:10px 10px;
        color:white;
        border-radius: 24px;
}
.box h1{
color:white;
text-transform:uppercase;
font-weight:500px;
}
.in:hover{
    width:300px;
    border:2px solid blue;
}
.lg{
      border:0px;
background:none;
display:block;
text-align:center;
margin:20px auto;
```

```
                                                    width:100px;
                                                    outline:none;
        border:2px solid green;
        padding:10px 10px;
        color:white;
        border-radius: 24px;
        cursor:pointer;
}
.lg:hover{
   background:green;
}
```

JavaScript-

```
function validation()
{
                                                    var result=true;
                                                    var
i=document.getElementsByName("username")[0].value;
                                                    var
atindex=i.indexOf('@');
                                                    var
dotindex=i.lastIndexOf('.');
```

```
if(atindex<1||dotindex>=i.length-2||dotindex-atindex<3)
                                                    result=false
                                                    alert("incorrect
entry");
        return(false);
                                                    }
                                                    return(result);
}
```

PHP(for user validation)-

```
<?php
session_start();
$username=$_POST['username'];
$password=$_POST['password'];
$con=mysqli_connect('localhost','root');
mysqli_select_db($con,'userdb');
$q="Select * from userid where username='$username' &&
password='$password'";
$result=mysqli_query($con,$q);
$num=mysqli_num_rows($result);
if($num==0)
{
```

```
        $_SESSION['username']=$username;
header('location:http://localhost/login/page.php');
}
else
{
header('location:http://localhost/login/home.html');
}
?>
```

Output-