Advanced Java and Web Technology

LABORATORY MANUAL
PCC IT693

B.TECH
(3RD YEAR – II SEM)
(2022-2023)

DEPARTMENT OF INFORMATION TECHNOLOGY

HALDIA INSTITUTE OF TECHNOLOGY

(An Autonomous Institute)

DEPARTMENT OF INFORMATION TECHNOLOGY

VISION

- **To become a front-runner in preparing graduates to be efficient problem solver, researchers, innovators and entrepreneurs and making them competent professionalsieve high quality in technical education that provides the skills and attitude to adapt to the global needs of the Information Technology sector, through academic and research excellence.**

MISSION

- **To equip the students with the cognizance for problem solving and to improve the teaching pedagogy by using innovative techniques.**
- **To strengthen the knowledge base of the faculty and students with motivation towards possession of effective academic skills and relevant research experience**
- **To promote the necessary moral and ethical values among the engineers, for the betterment of the society**

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PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO1 – PROFESSIONALISM & CITIZENSHIP

To create and sustain a community of learning in which students acquire knowledge and learn to apply it professionally with due consideration for ethical, ecological and economic issues

PEO2 – TECHNICAL ACCOMPLISHMENTS

To provide knowledge based services to satisfy the needs of society and the industry by providing hands on experience in various technologies in core field

PEO3 – INVENTION, INNOVATION AND CREATIVITY

To make the students to design, experiment, analyze, interpret in the core field with the help of other multi disciplinary concepts wherever applicable.

PEO4 – PROFESSIONAL DEVELOPMENT

To educate the students to disseminate research findings with good softskills and become a successful entrepreneur

PEO5-HUMAN RESOURCE DEVELOPMENT

To graduate the students in building national capabilities in technology, education and research

PROGRAM SPECIFIC OUTCOMES (PSOs)

After the completion of the course, B. Tech Information Technology, the graduates will have the following Program Specific Outcomes:

1. **Fundamentals and critical knowledge of the Computer System:-** Able to Understand the working principles of the computer System and its components , Apply the knowledge to build, asses, and analyze the software and hardware aspects of it .

2. **The comprehensive and Applicative knowledge of Software Development:** Comprehensive skills of Programming Languages, Software process models, methodologies, and able to plan, develop, test, analyze, and manage the software and hardware intensive systems in heterogeneous platforms individually or working in teams.

3. **Applications of Computing Domain & Research:** Able to use the professional, managerial, interdisciplinary skill set, and domain specific tools in development processes, identify the research gaps, and provide innovative solutions to them.

PROGRAM OUTCOMES (POs)

Engineering Graduates should possess the following:

1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design / development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one’s own work, as a member and leader in a team, to manage projects and in multi disciplinary environments.
12. **Life- long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

HALDIA INSTITUTE OF TECHNOLOGY

DEPARTMENT OF INFORMATION TECHNOLOGY

GENERAL LABORATORY INSTRUCTIONS

1. Students are advised to come to the laboratory at least 5 minutes before (to the starting time), those who come after 5 minutes will not be allowed into the lab.
2. Plan your task properly much before to the commencement, come prepared to the lab with the synopsis / program / experiment details.
3. Student should enter into the laboratory with:

a. Laboratory observation notes with all the details (Problem statement, Aim, Algorithm, Procedure, Program, Expected Output, etc.,) filled in for the lab session.

b. Laboratory Record updated up to the last session experiments and other utensils (if any) needed in the lab.

c. Proper Dress code and Identity card.

4. Sign in the laboratory login register, write the TIME-IN, and occupy the computer system allotted to you by the faculty.
5. Execute your task in the laboratory, and record the results / output in the lab observation note book, and get certified by the concerned faculty.
6. All the students should be polite and cooperative with the laboratory staff, must maintain the discipline and decency in the laboratory.
7. Computer labs are established with sophisticated and high end branded systems, which should be utilized properly.
8. Students / Faculty must keep their mobile phones in SWITCHED OFF mode during the lab sessions. Misuse of the equipment, misbehaviors with the staff and systems etc., will attract severe punishment.
9. Students must take the permission of the faculty in case of any urgency to go out; if anybody found loitering outside the lab / class without permission during working hours will be treated seriously and punished appropriately.
10. Students should LOG OFF/ SHUT DOWN the computer system before he/she leaves the lab after completing the task (experiment) in all aspects. He/she must ensure the system / seat is kept properly.

HEAD OF THE DEPARTMENT **PRINCIPAL**

INDEX

	font of the capital (color, bold and font size). [CO1,CO3]	
7	**Write an XML file which will display the Book information which includes the following: [CO4]** 1) Title of the book 2) Author Name 3) ISBN number 4) Publisher name 5) Edition 6) Price	**29-42**
8	**Create an XML document that contains 10 users information. Write a Java Program, which takes User Id as input and returns the user details by taking the user information from XML document using DOM parser or SAX parser. [CO4]**	**46-56**
9	**Implement the following web applications using (a) Servlets** **(b) JSP [CO2]**	**57-62**
10	**Implement the web applications with Database using** **(a) JSP, (b) Servlets and (c) JSP. [CO2, CO5]**	**63-72**
	(i)Write a JSP Program to display current Date, Time and Day. [CO2]	
	(ii) A web application that takes name and age from an HTML page. If the age is less than 18, it should send a page with "Hello <name>, you are not authorized to visit the site" message, where <name> should be replaced with the entered name. Otherwise it should send "Welcome <name> to this site" message. [CO2]	
	(iii) Write a program for deploying Java Beans in a jsp page [CO6]	
11	**Write a program to design a simple calculator using (a) JavaScript (b) Servlet and (c) JSP. [CO6]]**	**73-81**

WEEK 1:

Design the following static web pages required for an online book store web site.
1) HOME PAGE: The static home page must contain three **frames**.
2) LOGIN PAGE
3) CATOLOGUE PAGE: The catalogue page should contain the details of all the books available in the web site in a table.
4) REGISTRATION PAGE

Aim: Design the following static web pages required for online book store.
1. Home page:- the static home page must contains three pages
2. Top frame:- logo and college name and links to homepage, login page, registration page and catalogue page
3. Left frame:- at least four links for navigation which will display the catalogue of Respective links
4. Right frame:- the pages to links in the left frame must be loaded here initially it Contains the description of the website.

DESCRIPTION: In this program the entire 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.

<frameset>:

- The <frameset> tag defines a frameset.
- The <frameset> element holds one or more <frame> elements.
- Each <frame> element can hold a separate document.
- The <frameset> element specifies HOW MANY columns or rows there will be in the frameset, and HOW MUCH percentage/pixels of space will occupy each of them.

<frame>:

- The <frame> tag defines one particular window (frame) within a <frameset>.
- Each <frame> in a <frameset> can have different attributes, such as border, scrolling, the ability to resize, etc.

PROGRAM:

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 bgcolor="YellowGreen ">
      <img src="images/logo1.png" width="125" height="115" align="left">
      <img src="images/cse.png" width="125" height="115" align="right">
  <center>
     <marquee bgcolor="yellow" width="650" behavior="alternate">
    <font face="Brush Script MT" size="8" color="green"><b><i>Online Book Store</i></b>
         </font>
     </marquee> <br>
<font face="Brush Script" size="6" color="white"><b>Created & Maintained By
MRCET</b></font>
   </center>
<br>
<table width="100%" height="50%" cellspacing=10>
<tr align="center">
            <td> <a href="Home.html" target="_parent"><font face="Brush Script" size="6"
color="navy">HOME </a> </td>
            <td> <a href="login.html" target="rightframe"><font face="Brush Script" size="6"
color="navy">LOGIN</a> </td>
            <td> <a href="registration.html" target="rightframe"> <font face="Brush Script" size="6"
color="navy">REGISTER </a> </td>
            <td> <a href="catalogue.html" target="rightframe"> <font face="Brush Script" size="6"
color="navy">CATALOGUE</a> </td>
    </tr>
   </table>
  </body>
 </html>
```

left.html:

```
<html>
   <body align="center" bgcolor="bisque"> <br>
      <a href="cse.html" target="rightframe"><font size="6">CSE</font></a><br><br>
      <a href="ece.html" target="rightframe"><font size="6">ECE</font></a><br><br>
      <a href="eee.html" target="rightframe"><font size="6">EEE</font></a><br><br>
      <a href="mech.html" target="rightframe"><font size="6">MECH</font></a><br>
    </body>
</html>
```

right.html:

```
<html>
   <body bgcolor="orange">
     <center>
       <img src="images/Books.jpg" height="170"><br>
        <font face="Brush Script MT" size="5" color="blue">
          <h1><b>Welcome to the Online Book Store!!!</b></font><br />
        <font face="Brush Script MT" size="5" color="red">
```

```
<h2><b> "A Huge Collection Of Engineering E-Books"</b></h2></font>
     </center>
   </body>
</html>
```

cse.html:

```
<html>
<body bgcolor="Plum">
<h1><font color="blue">COMPUTER SCIENCE ENGINEERING </font></h1>
<h2>
<ul type="square">
<li>Data Structures using Python </li>
<li>Web Technologies</li>
<li>Linux Programming</li>
<li>Artificial Intelligence</li>
</ul>
</h2>
</body>
</html>
```

ece.html:

```
<html>
      <body bgcolor="Plum">
            <h1><font color="blue">Electronics and Communication Engineering</font></h1>
```

```
<h2>
            <ul>
      <li>Digital Circuits</li> <li>Signals and Systems</li>  <li>Digital Communication</li>
            </ul>
            </h2>
      </body>
</html>
```

it.html:

```
<html>
      <head><title></title></head>
 <bodybgcolor="cyan">
 <center><fontcolor="blue"><h1>INFORMATION TECHNOLOGY</h1></font></center>
<br>
     <tablealign="center">
      <tr>
            <td>Text Books</td>
            <td>
            <select>
                 <option value="select thebook"selected>Selectthebook
                 <optionvalue="C&Ds">C&Ds
                 <optionvalue="Ads">Ads
                 <optionvalue="Java">Java
                 <optionvalue="Oracle">Oracle
                 <optionvalue="MsSQLServer">MsSQLServer
                 <optionvalue="MySql">MySql
            </select>
             </td></tr>
      <tr>
           <td>Quantity</td>
           <td><inputtype="text" id="q"></td>
      </tr>
      <tr>
           <td></td>
           <td>
                  <formmethod=postaction="order.html">
                        <inputtype="submit" value=ok/>
                 </form>
           </td>
       </tr>
     </table>
     <center>
        <pre>Cost ofone bookis"500"+shipping "100"</pre>
     </center>
  </body>
</html>
```

mech.html:

```
<html>
     <body bgcolor="Plum">
```

```
         <h1><font color="blue">Electronics and Communication Engineering</font></h1>
         <h2>
           <ol type="I">
                    <li>Theory of Machines</li>
                    <li>Automation and Robotics</li>
                    <li>Engineering Fluid Mechanics</li>
           </ol>
         </h2>
      </body>
</html>
```

catalogue.html:

```
<html>
  <head>
      <title> Catalogue </title>
    </head>
<body bgcolor="pink">
   <form action="order.html">
     <table border="1" width="100%">
       <tr>
          <td>
            <img src="images/wt.jpg" width=100 height=100/>
          </td>
          <td> Book: Web Technologies <br> Author: Uttam K. Roy <br> Publication:Oxford
  University Press</td> <td>531  &nbsp;&nbsp;&nbsp;</td>
          <td> <input type="submit" value="Add to cart"/></td> </tr>
       <tr>
          <td> <img src="images/php.jpg" width=100 height=100/></td>
          <td> Book: PHP & MySQL Web Development <br> Author:Luke Welling & Laura
              Thompson <br> Publication:PEARSON</td> <td> 898 &nbsp;&nbsp;&nbsp; </td>
          <td> <input type="submit" value="Add to cart"/></td> </tr>
</table> </form>
</body> </html>
```

login.html:

```
<html>
  <body bg color="pink">
    <basefont face="Cambria" size="4"> <br>
    <center>
     <img src="images/login.jpg" width="385" height="135" /><br />
      <font face="Brush Script MT" size="7" color="purple">
        <b>Enter Login Details:</b>
      </font>
    </center>
   <form name="f1" method="post" action="right.html">
    <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>
```

registration.html:

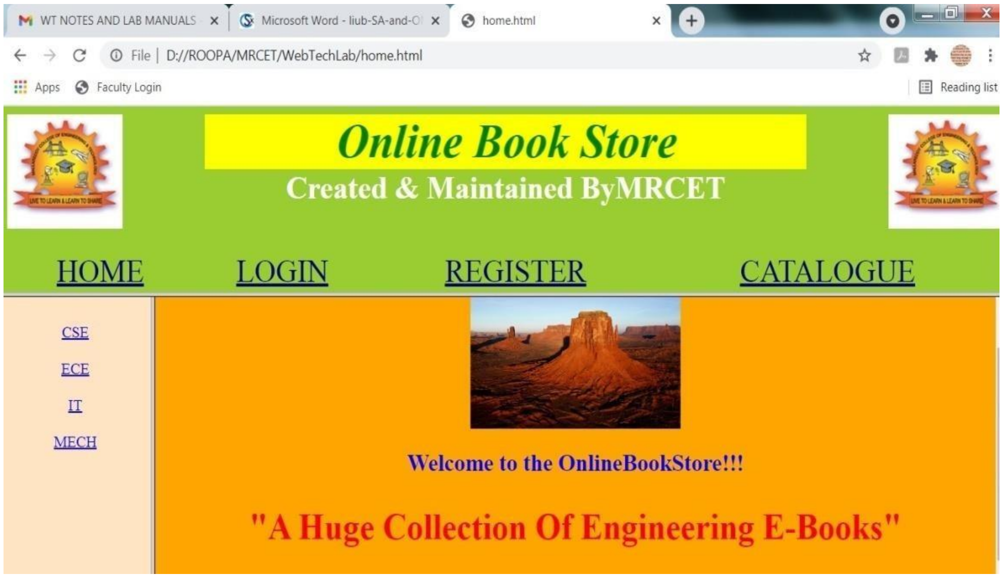
```
<html>
<head><title>Registration Form</title></head>
<body bgcolor="#E4F0F8">
<center><font color="blue" size="6" face="arial">Registration Form</font></center><br />
<form action="right.html">
     First Name(Minimum 6 characters)<font color="red">* </font>
       <input type='text'  id='firstname' /><br /><br />
     Last Name<font color="red"><font color="red">* </font> </font> &nbsp;&nbsp;&nbsp;
       <input type='text' id='lastname' /><br /><br />
     EmailAddress<font color="red">* </font> &nbsp;&nbsp;&nbsp;
       <input type='text' id='email' /><br />
  <font color="red">(one e-mail id only):</font> &nbsp;&nbsp;&nbsp;
  <font color="redblue">e.g. smith@hotmail.com</font><br /><br/>
```

```
Password(minimum 6 characters)<font color="red">* </font> &nbsp;&nbsp;&nbsp;
      <input type='password' id='pass'><br /><br/>
    Address<font color="red">* </font> &nbsp;&nbsp;&nbsp;
      <textarea rows="2" cols="20" id='addr' /></textarea> <br /> <br/>
    Mobile No<font color="red">* </font> &nbsp;&nbsp;&nbsp;
      <input type='text' id='mobileno' /><br />
    Gender: <input type='radio' name="gender">male
              <input type='radio' name="gender">female<br/><br />
      <input type='Submit' value='submit' />
      <input type='Reset' value='reset' />
</form>     </body>        </html>
```

order.html:

```
<html>
  <head><title>order conformation</title></head>
    <body bgcolor="cyan">
      <center>
         <pre><strong>
         <b>Your order Is Conformed
         </strong></pre>
         <h2><b>THANK YOU...Visit  Again</h2>
      </center>
    </body>
</html>
```

OUTPUT:


WT NOTES AND LAB MANUALS
Microsoft Word - liub-SA-and-O
home.html
File | D://ROOPA/MRCET/WebTechLab/home.html
Apps
Faculty Login
Reading list

Online Book Store

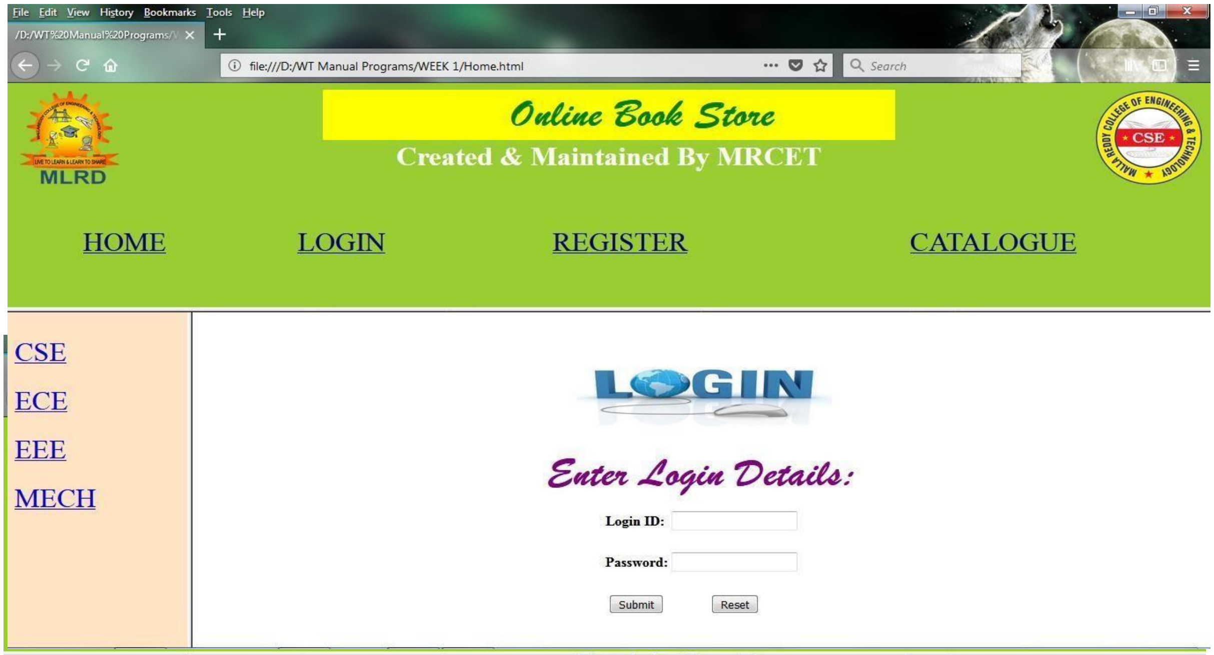
Created & Maintained ByMRCET

HOME LOGIN REGISTER CATALOGUE

CSE
ECE
IT
MECH

Welcome to the OnlineBookStore!!!

"A Huge Collection Of Engineering E-Books"


File Edit View History Bookmarks Tools Help
/D:/WT%20Manual%20Programs/
file:///D:/WT Manual Programs/WEEK 1/Home.html
Search
MLRD
LIVE TO LEARN & LEARN TO SHARE
MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
CSE
LOGIN

Online Book Store

Created & Maintained By MRCET

HOME LOGIN REGISTER CATALOGUE

CSE

ECE

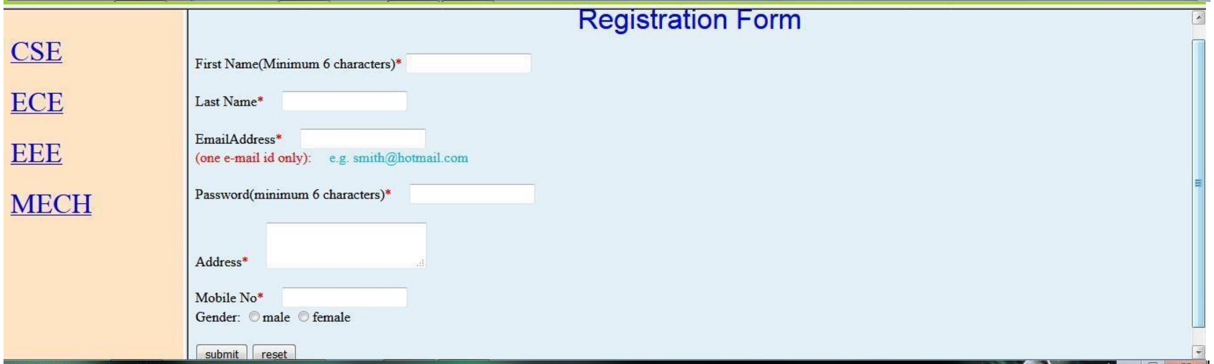
EEE

MECH

Enter Login Details:

Login ID:	
Password:	

Submit Reset



CSE

ECE

EEE

MECH

Registration Form

First Name(Minimum 6 characters)*

Last Name*

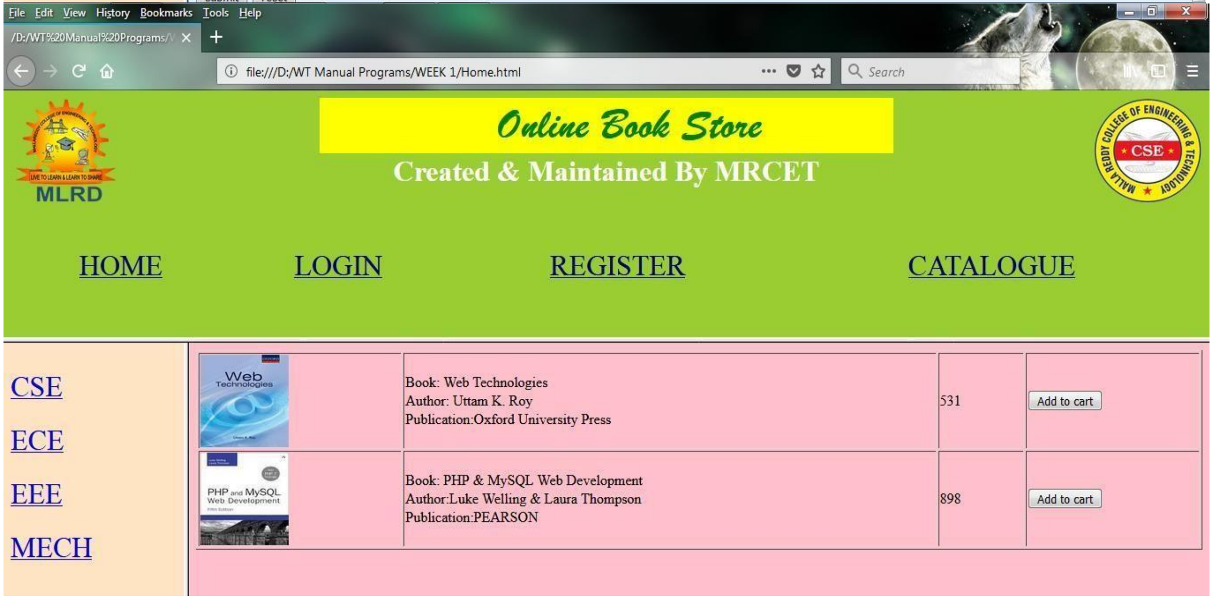
EmailAddress*
(one e-mail id only): e.g. smith@hotmail.com

Password(minimum 6 characters)*

Address*

Mobile No*
Gender: ○ male ○ female

submit reset


File Edit View History Bookmarks Tools Help
/D:/WT%20Manual%20Programs/
file:///D:/WT Manual Programs/WEEK 1/Home.html
Search
MLRD
LIVE TO LEARN & LEARN TO SHARE
MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
CSE
Web Technologies
PHP and MySQL Web Development

Online Book Store

Created & Maintained By MRCET

HOME LOGIN REGISTER CATALOGUE

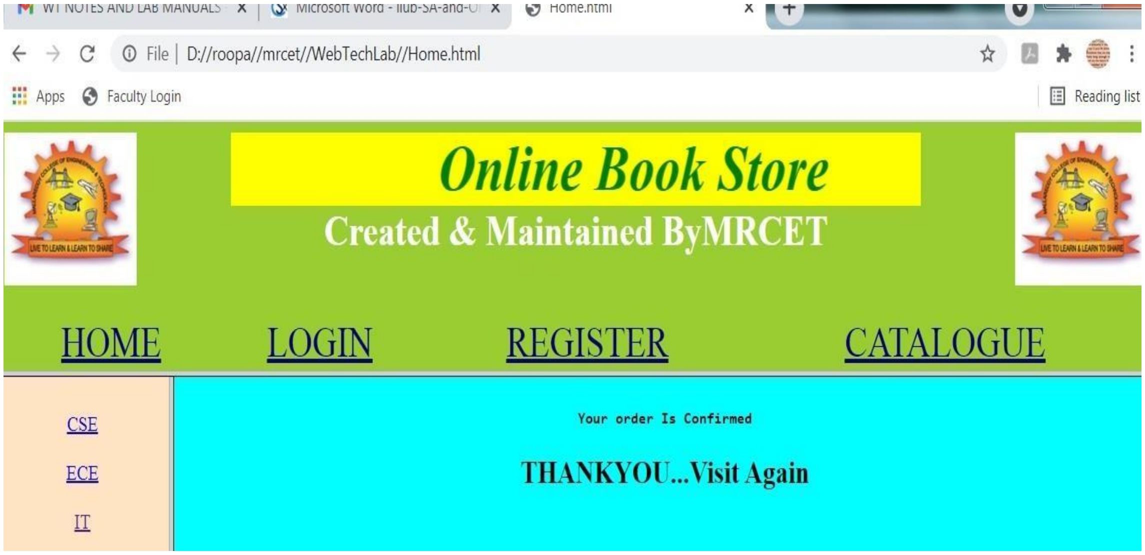
CSE

ECE

EEE

MECH

	Book: Web Technologies Author: Uttam K. Roy Publication:Oxford University Press	531	Add to cart
	Book: PHP & MySQL Web Development Author:Luke Welling & Laura Thompson Publication:PEARSON	898	Add to cart



Your order Is Confirmed

THANKYOU...Visit Again

EXERCISE:

1. **Create your class time table in a webpage.**
2. **Design the static web pages required for an online shopping cart.**

WEEK - 2: Develop and demonstrate the usage of inline, internal and external style sheet using CSS.

Aim: Design a web page using CSS which includes the following:

1) Use different font styles
2) Control the repetition of image with background-repeat and no-repeat property
3) Define style for links as a: link, a: active, a: hover, a: visited
4) Add customized cursors for links.

PROGRAM:

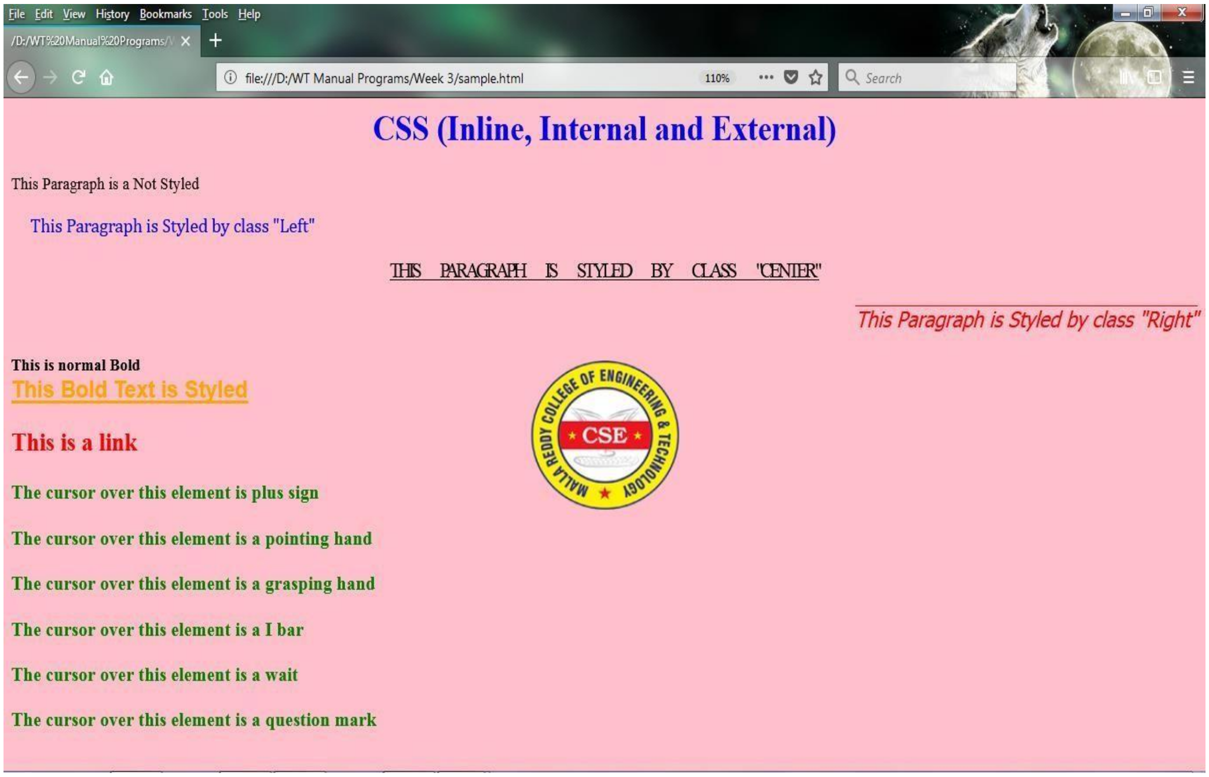
style.css

```
p.left
{
text-align:left;
color:blue;
font-family:Cambria;
font-size:large;
text-indent:20px;
}
p.center
{
 text-align:center;
 text-decoration:underline;
 text-transform:uppercase;
 letter-spacing:-3px;
 word-spacing:20px;
 font-size:larger;
}
p.right
{
 text-align:right;
 color:red;
 font-family:Tahoma;
 font-size:15pt;
 text-decoration:overline;
 font-style:italic;
}
b#headline
{
 color:orange;
 font-size:22px;
 font-family:arial;
 text-decoration:underline;
}
```

sample.html

```
<html>
   <head>
     <style type="text/css">
       body
            {
            background-image:url('images/cse.png');
            background-repeat:no-repeat;
            background-position:center center;
            background-attachment:fixed;
            background-color:pink;
            }
            a:link { text-decoration:none;color:orange; }
            a:visited { text-decoration:none;color:red; }
            a:hover { text-decoration:underline;color:blue; }
            a:active { text-decoration:underline;color:purple; }
            h3 { color:green; }
            .c1{cursor:crosshair}
            .c2{cursor:pointer}
            .c3{cursor:move}
            .c4{cursor:text}
            .c5{cursor:wait}
            .c6{cursor:help}
      </style>
    <link rel="stylesheet" type="text/css" href="style.css">
  </head>
<body bgcolor="cyan">

    <h1 style="color:blue;text-align:center;"> CSS (Inline, Internal and External) </h1>

    <p>This Paragraph is a Not Styled</p>
    <p class="left">This Paragraph is Styled by class "Left"</p>
    <p class="center">This Paragraph is Styled by class "Center"</p>
    <p class="right">This Paragraph is Styled by class "Right"</p>
      <b>This is normal Bold</b> <br>
      <b id="headline">This Bold Text is Styled </b>

   <h2><b><a href=" ">This is a link</a></b></h2>
   <h3 class="c1">The cursor over this element is plus sign</h3>
   <h3 class="c2">The cursor over this element is a pointing hand</h3>
   <h3 class="c3">The cursor over this element is a grasping hand</h3>
   <h3 class="c4">The cursor over this element is a I bar</h3>
   <h3 class="c5">The cursor over this element is a wait</h3>

  <h3 class="c6">The cursor over this element is a question mark</h3>
</html>
```

OUTPUT 1:


File Edit View History Bookmarks Tools Help
/D:/WT%20Manual%20Programs/
file:///D:/WT Manual Programs/Week 3/sample.html
110%
Search
MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
CSE

CSS (Inline, Internal and External)

This Paragraph is a Not Styled

This Paragraph is Styled by class "Left"

THIS PARAGRAPH IS STYLED BY CLASS "CENTER"

This Paragraph is Styled by class "Right"

This is normal Bold

This Bold Text is Styled

This is a link

The cursor over this element is plus sign

The cursor over this element is a pointing hand

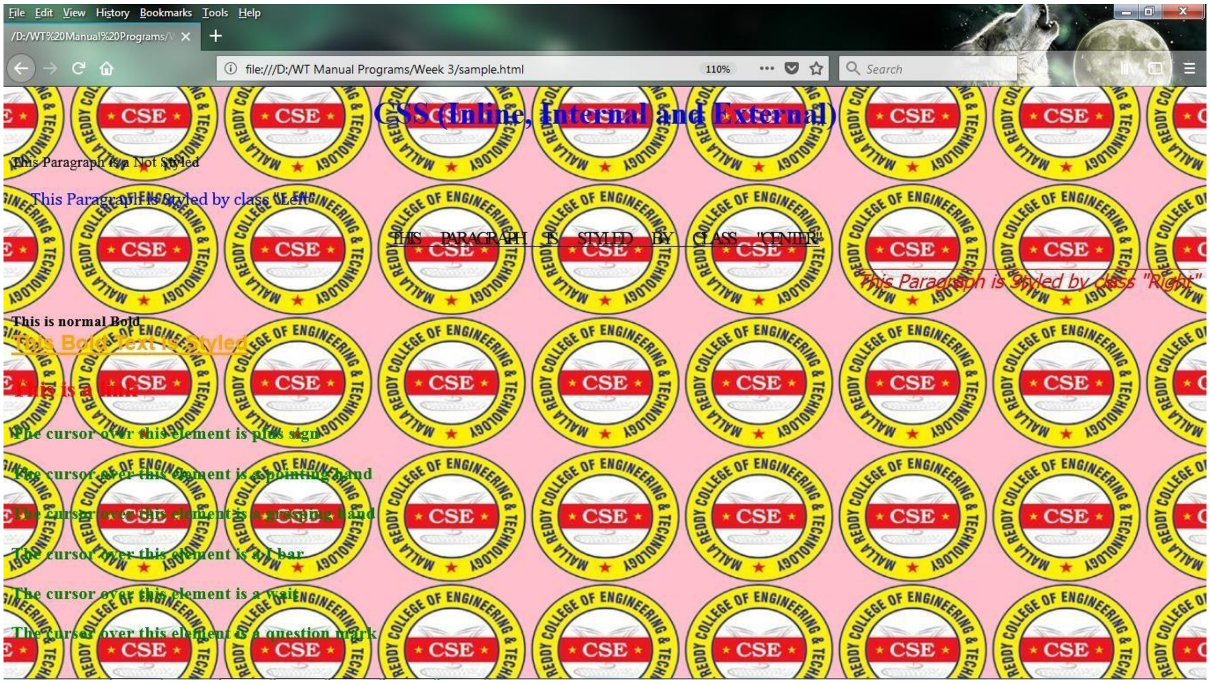
The cursor over this element is a grasping hand

The cursor over this element is a I bar

The cursor over this element is a wait

The cursor over this element is a question mark

OUTPUT 2: background-repeat : repeat;


File Edit View History Bookmarks Tools Help
/D:/WT%20Manual%20Programs/V
file:///D:/WT Manual Programs/Week 3/sample.html
110%
Search

CSS (Inline, Internal and External)

This Paragraph is a Not Styled

This Paragraph is Styled by class "Left"

THIS PARAGRAPH IS STYLED BY CLASS "CENTER"

This Paragraph is Styled by class "Right"

This is normal Bold

This Bold Text is Styled

This is a link

The cursor over this element is plus sign

The cursor over this element is a pointing hand

The cursor over this element is a grasping hand

The cursor over this element is a I bar

The cursor over this element is a wait

The cursor over this element is a question mark

EXERCISE:

1. Create a rich graphical webpage using CSS (ID selector & Class Selectors).

WEEK 3: Write *JavaScript* to validate the following fields of the Registration page.

1. **First Name** (Name should contains alphabets and the length should not be less than 6 characters).
2. **Password** (Password should not be less than 6 characters length).
3. **E-mail id** (should not contain any invalid and must follow the standard pattern name@domain.com)
4. **Mobile Number** (Phone number should contain 10 digits only).
5. **Last Name and Address** (should not be Empty).

AIM: To validate the fields of registration page using JavaScript

DESCRIPTION: In order to validate the fields of login and registration pages JavaScript is used. JavaScript is programming code that can be inserted into HTML pages. JavaScript inserted into HTML pages, can be executed by all modern web browsers. JavaScript is mainly used for validating the elements in a form submitted by the user. This JavaScript code can react to user events.

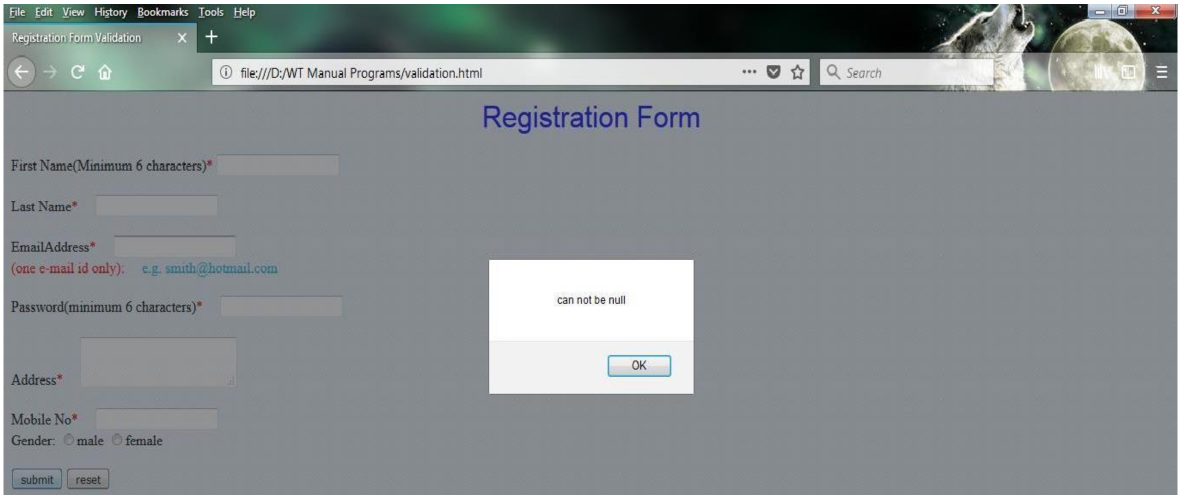
PROGRAM: After clicking OK button the page is redirected to success.html

```
<html>
  <head><title>Registration Form Validation</title></head>
    <body bgcolor="#E4F0F8">
      <script type='text/javascript'>
        function formValidator()
         {
        // Make quick references to our fields
        var firstname = document.getElementById('firstname');
        var lastname = document.getElementById('lastname');
        var email = document.getElementById('email');
        var pass = document.getElementById('pass');
        var addr = document.getElementById('addr');
        var mobileno = document.getElementById('mobileno');

        // Check each input in the order that it appears in the form!
 if(notEmpty(firstname, "can not be null")){
   if(isAlphabet(firstname, "Please enter only letters for your Firstname")){
     if(lengthRestriction(firstname, 6)){
       if(isAlphabet(lastname, "Please enter only letters for your Lastname")){
        if(emailValidator(email, "Please enter a valid email address")){
          if(lengthRestriction(pass, 6)){
            if(isAlphanumeric(pass, "please enter Numbers and Letters Only for password")){
              if(notEmpty(addr, "please enter the address")){
                if(isNumeric(mobileno, "Please enter a valid mobileno")){
                  if(lengthRestriction1(mobileno, 10 , 10)){
                        return true;
                                }      }     }     }
                        }
                      }
                   }
 }    }      }
        return false;

 }
function notEmpty(elem, helperMsg){
        if(elem.value.length == 0){
                alert(helperMsg);
                elem.focus(); // set the focus to this input
                return false;
            }
        return true;
     }

function isNumeric(elem, helperMsg){
        var numericExpression = /^[0-9]+$/;
        if(elem.value.match(numericExpression)){
        return true;
        }else{
                alert(helperMsg);
                elem.focus();
                return false;
        }
     }

function isAlphabet(elem, helperMsg){
        var alphaExp = /^[a-zA-Z]+$/;
        if(elem.value.match(alphaExp)){
                return true;
        }else{
                alert(helperMsg);
                elem.focus();
                return false;
        }
     }

function isAlphanumeric(elem, helperMsg){
        var alphaExp = /^[0-9a-zA-Z]+$/;
        if(elem.value.match(alphaExp)){
                return true;
        }else{
                alert(helperMsg);
                elem.focus();
                return false;
        }
      }

function lengthRestriction(elem, min){
        var uInput = elem.value;
        if(uInput.length >= min){
                return true;
        }else{
```

```
alert("Please enter minimum " +min+ " characters");
              elem.focus();
              return false;

}
    }
function emailValidator(elem, helperMsg)
   {
       var emailExp = /^[\w\-\.\+]+\@[a-zA-Z0-9\.\-]+\.[a-zA-z0-9]{2,4}$/;
       if(elem.value.match(emailExp))
       {
              return true;
       }
       else{
              alert(helperMsg);
              elem.focus();
              return false;
            }
    }

function lengthRestriction1(elem, min, max)
    {
       var uInput = elem.value;
       if(uInput.length >= min && uInput.length <= max)
       {
              return true;
       }
        else {
              alert("Please enter 10 numbers only");
              elem.focus();
              return false;
            }
    }
    </script>
<center><font color="blue" size="6" face="arial">Registration Form</font></center><br />
<form onsubmit='return formValidator()' action="right.html">
  First Name(Minimum 6 characters)<font color="red">* </font>
       <input type='text' id='firstname' /><br /><br />
  Last Name<font color="red"><font color="red">* </font> </font> &nbsp;&nbsp;&nbsp;
      <input type='text' id='lastname' /><br /><br />
  Email Address<font color="red">* </font> &nbsp;&nbsp;&nbsp;
      <input type='text' id='email' /><br />
      <font color="red">(one e-mail id only):</font> &nbsp;&nbsp;&nbsp;
      <font color="redblue">e.g. smith@hotmail.com</font><br /><br/>
  Password(minimum 6 characters)<font color="red">* </font> &nbsp;&nbsp;&nbsp;
      <input type='password' id='pass'><br /><br/>
  Address<font color="red">* </font> &nbsp;&nbsp;&nbsp;
      <textarea rows="2" cols="20" id='addr' /></textarea> <br /> <br/>
  Mobile No<font color="red">* </font> &nbsp;&nbsp;&nbsp;
```

```
 <input type='text' id='mobileno' /><br />
   Gender: <input type='radio' name="gender">male
                <input type='radio' name="gender">female<br/><br />
         <input type='Submit' value='submit' />



   <input type='Reset' value='reset' />
     </form>
   </body>
</html>
```

OUTPUT:


File Edit View History Bookmarks Tools Help
Registration Form Validation
file:///D:/WT Manual Programs/validation.html
Search

Registration Form

First Name(Minimum 6 characters)*

Last Name*

EmailAddress*
(one e-mail id only): e.g. smith@hotmail.com

Password(minimum 6 characters)*

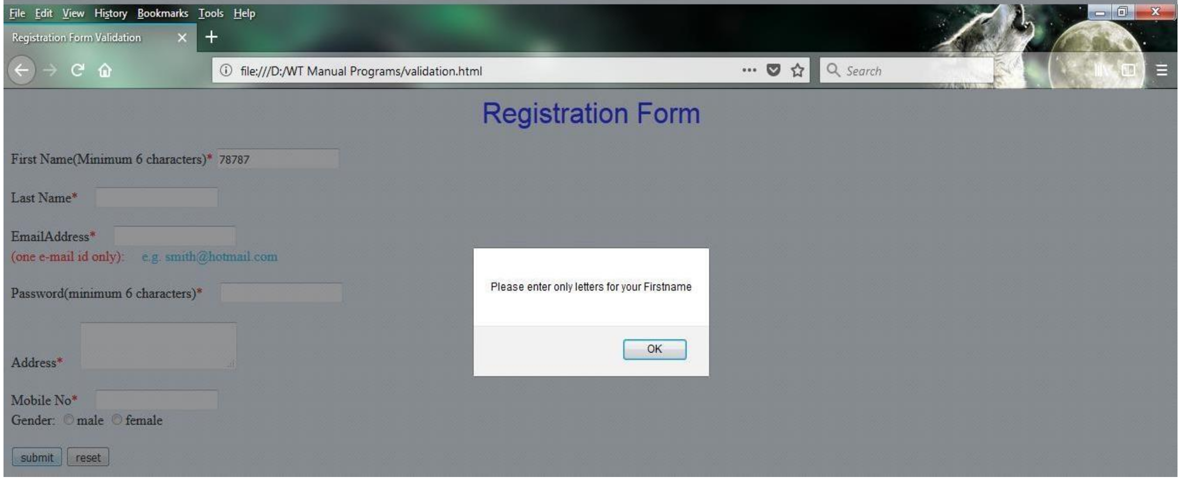
Address*

Mobile No*
Gender: ○ male ○ female

submit reset

can not be null

OK


File Edit View History Bookmarks Tools Help
Registration Form Validation
file:///D:/WT Manual Programs/validation.html
Search

Registration Form

First Name(Minimum 6 characters)* 78787

Last Name*

EmailAddress*
(one e-mail id only): e.g. smith@hotmail.com

Password(minimum 6 characters)*

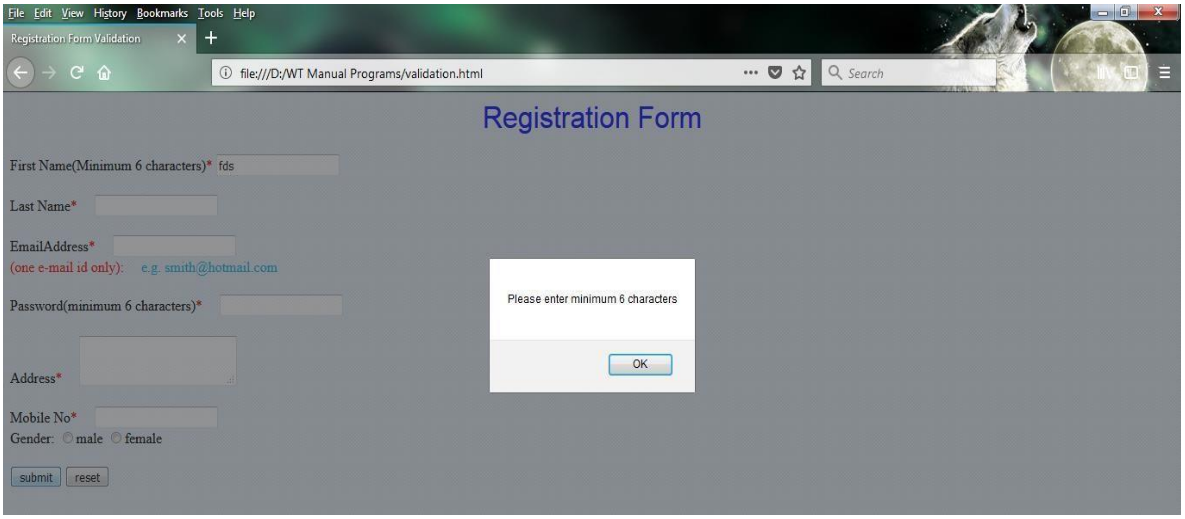
Address*

Mobile No*
Gender: ○ male ○ female

submit reset

Please enter only letters for your Firstname

OK


File Edit View History Bookmarks Tools Help
Registration Form Validation
file:///D:/WT Manual Programs/validation.html
Search
OK
submit
reset

Registration Form

First Name(Minimum 6 characters)* fds

Last Name*

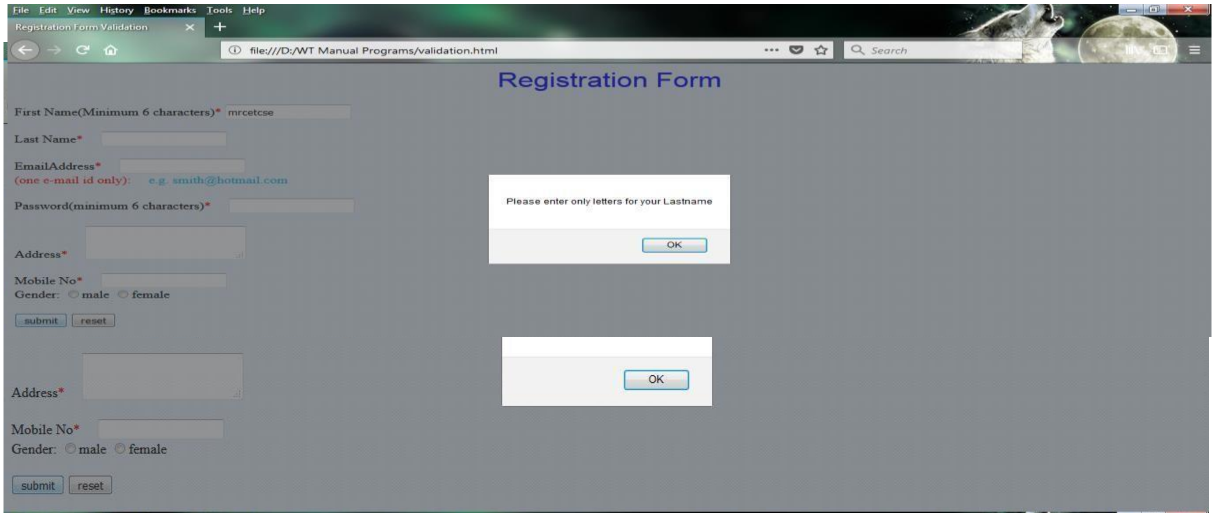
EmailAddress*
(one e-mail id only): e.g. smith@hotmail.com

Password(minimum 6 characters)*

Address*

Mobile No*
Gender: ○ male ○ female

Please enter minimum 6 characters


File Edit View History Bookmarks Tools Help
Registration Form Validation
file:///D:/WT Manual Programs/validation.html
Search
OK
submit
reset
OK
submit
reset

Registration Form

First Name(Minimum 6 characters)* mrcetcse

Last Name*

EmailAddress*
(one e-mail id only): e.g. smith@hotmail.com

Password(minimum 6 characters)*

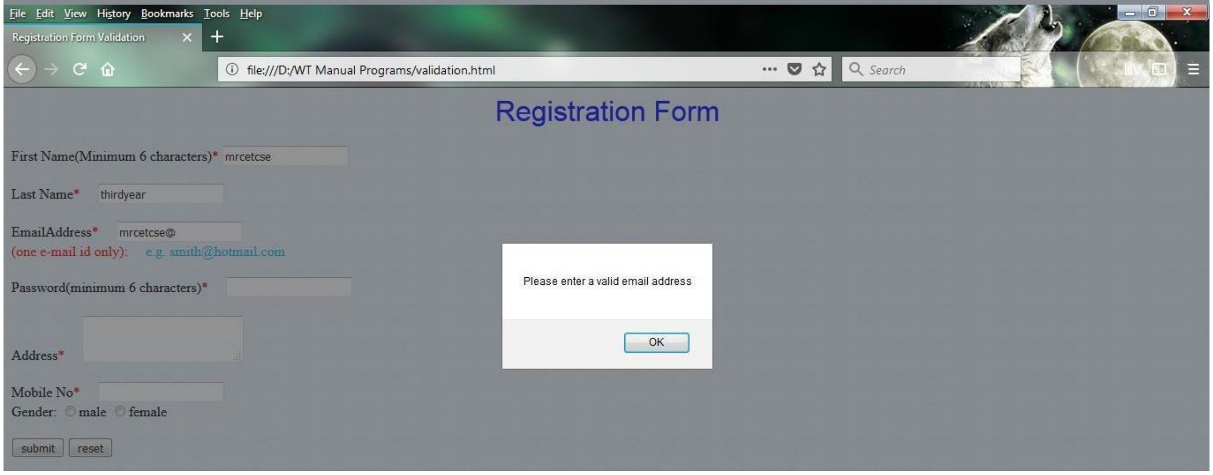
Address*

Mobile No*
Gender: ○ male ○ female

Please enter only letters for your Lastname

Address*

Mobile No*
Gender: ○ male ○ female


File Edit View History Bookmarks Tools Help
Registration Form Validation
file:///D:/WT Manual Programs/validation.html
Search
OK
submit
reset

Registration Form

First Name(Minimum 6 characters)* mrcetcse

Last Name* thirdyear

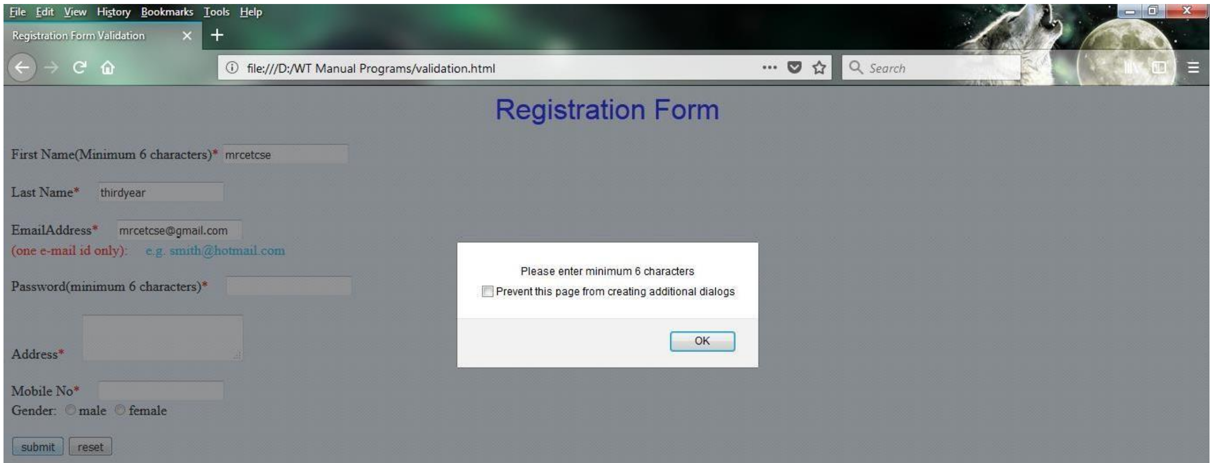
EmailAddress* mrcetcse@
(one e-mail id only): e.g. smith@hotmail.com

Password(minimum 6 characters)*

Address*

Mobile No*
Gender: ○ male ○ female

Please enter a valid email address


File Edit View History Bookmarks Tools Help
Registration Form Validation
file:///D:/WT Manual Programs/validation.html
Search

Registration Form

First Name(Minimum 6 characters)* mrcetcse

Last Name* thirdyear

EmailAddress* mrcetcse@gmail.com
(one e-mail id only): e.g. smith@hotmail.com

Password(minimum 6 characters)*

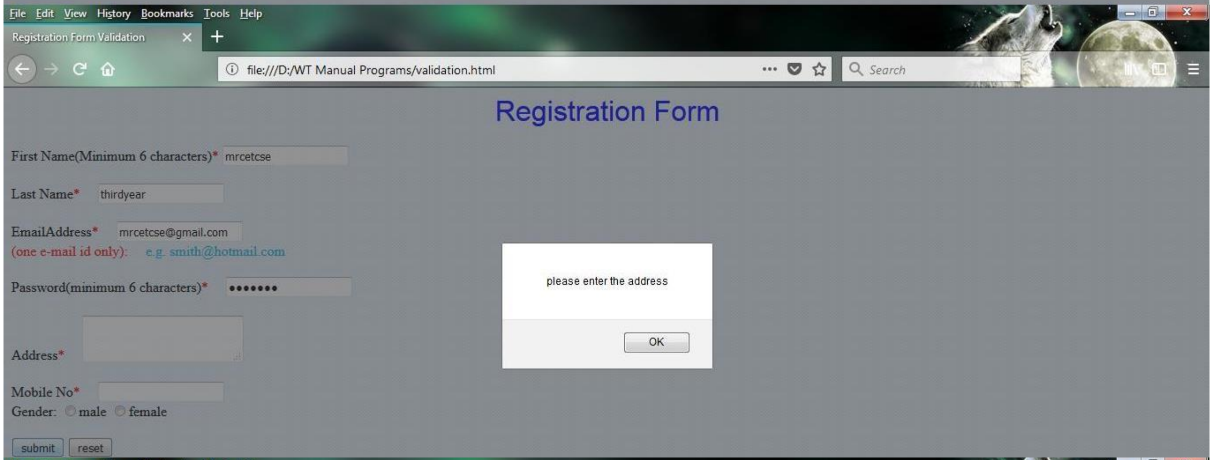
Address*

Mobile No*
Gender: ○ male ○ female

submit reset

Please enter minimum 6 characters
□ Prevent this page from creating additional dialogs

OK


File Edit View History Bookmarks Tools Help
Registration Form Validation
file:///D:/WT Manual Programs/validation.html
Search

Registration Form

First Name(Minimum 6 characters)* mrcetcse

Last Name* thirdyear

EmailAddress* mrcetcse@gmail.com
(one e-mail id only): e.g. smith@hotmail.com

Password(minimum 6 characters)* •••••••

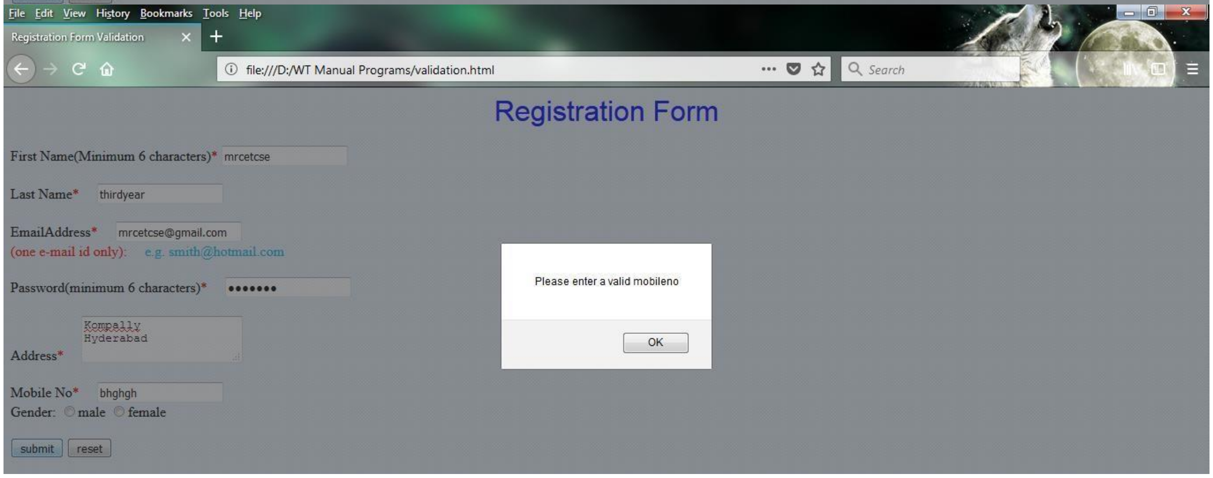
Address*

Mobile No*
Gender: ○ male ○ female

submit reset

please enter the address

OK


File Edit View History Bookmarks Tools Help
Registration Form Validation
file:///D:/WT Manual Programs/validation.html
Search

Registration Form

First Name(Minimum 6 characters)* mrcetcse

Last Name* thirdyear

EmailAddress* mrcetcse@gmail.com
(one e-mail id only): e.g. smith@hotmail.com

Password(minimum 6 characters)* •••••••

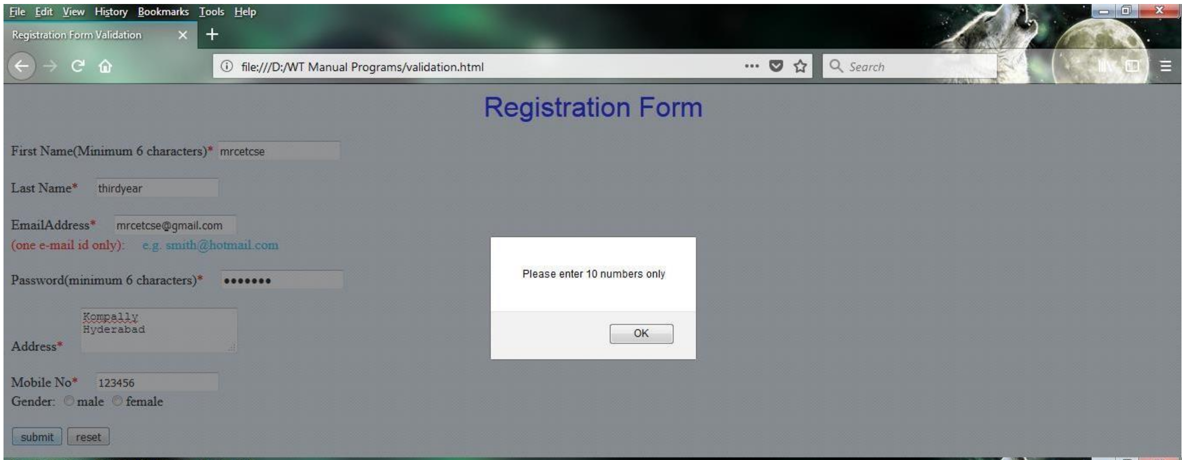
Address* Kompally
Hyderabad

Mobile No* bhghgh
Gender: ○ male ○ female

submit reset

Please enter a valid mobileno

OK


File Edit View History Bookmarks Tools Help
Registration Form Validation
file:///D:/WT Manual Programs/validation.html
Search
submit
reset
OK

Registration Form

First Name(Minimum 6 characters)* mrcetcse

Last Name* thirdyear

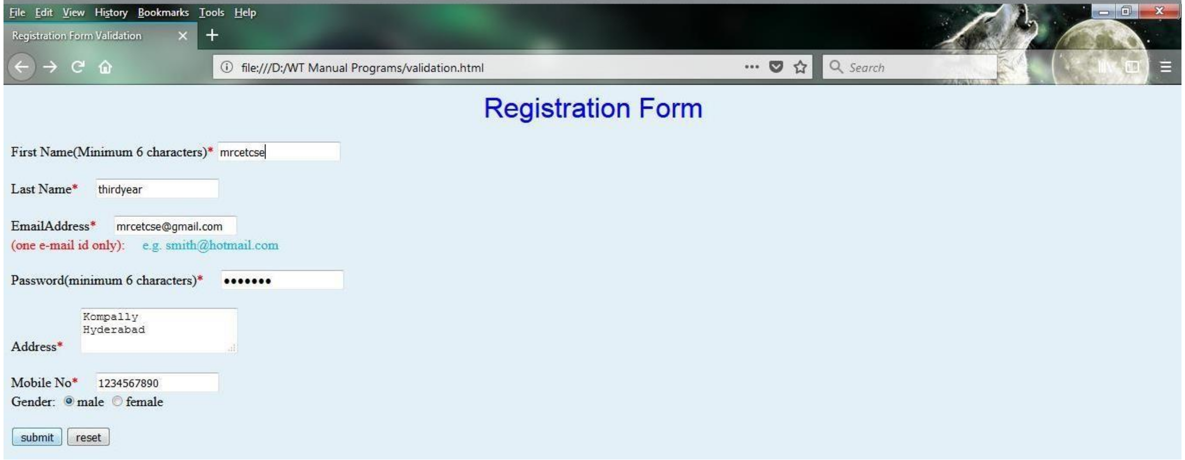
EmailAddress* mrcetcse@gmail.com
(one e-mail id only): e.g. smith@hotmail.com

Password(minimum 6 characters)* •••••••

Address* Kompally
Hyderabad

Mobile No* 123456
Gender: ○ male ○ female

Please enter 10 numbers only


File Edit View History Bookmarks Tools Help
Registration Form Validation
file:///D:/WT Manual Programs/validation.html
Search
submit
reset

Registration Form

First Name(Minimum 6 characters)* mrcetcse

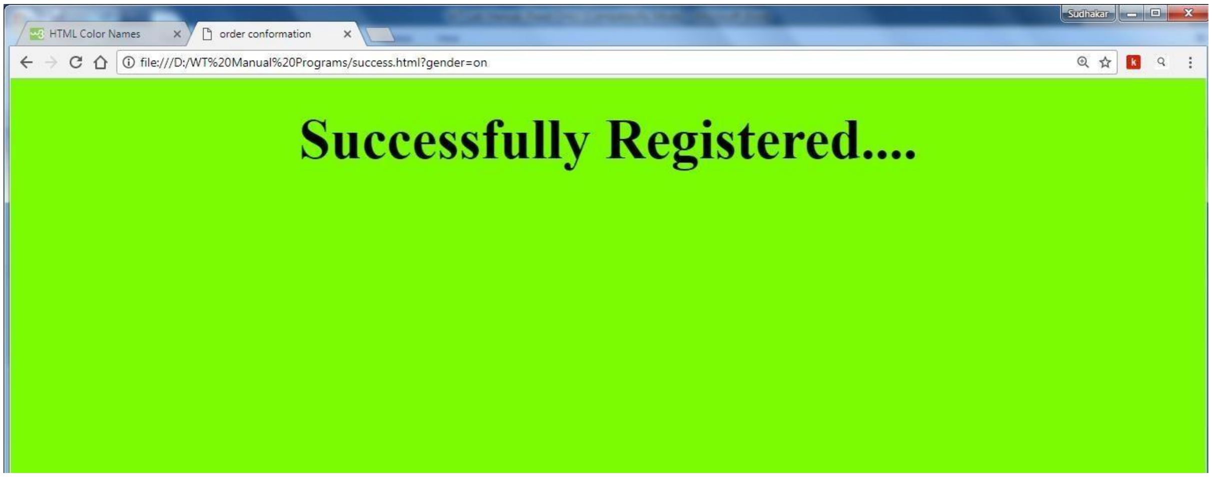
Last Name* thirdyear

EmailAddress* mrcetcse@gmail.com
(one e-mail id only): e.g. smith@hotmail.com

Password(minimum 6 characters)* •••••••

Address* Kompally
Hyderabad

Mobile No* 1234567890
Gender: ● male ○ female



Successfully Registered....

WEEK - 4: Develop and demonstrate JavaScript with POP-UP boxes and functions for the following problems:

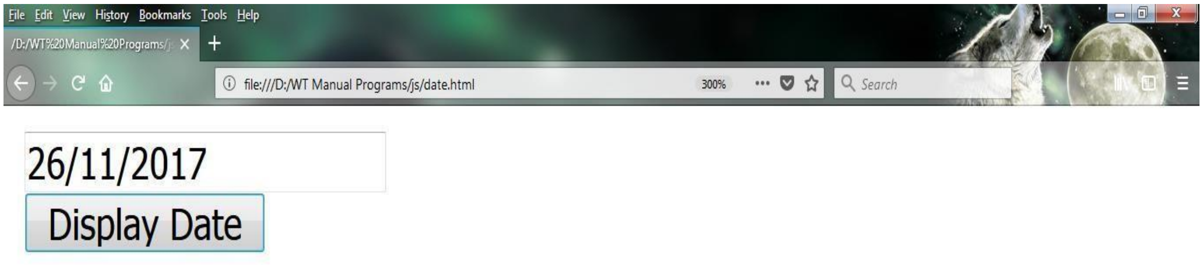
a) Input: Click on Display Date button using onclick( ) function
Output: Display **date** in the textbox
b) Input: A number n obtained using **prompt**
Output: **Factorial** of n number using **alert**

PROGRAM:

a) date.html

```
<html>
<body>
    <script>
    function display(){
    var x="You have clicked";
    var d=new Date();
    var date=d.getDate();
    var month=d.getMonth();
    month++;
    var year=d.getFullYear();
    document.getElementById("dis").value=date+"/"+month+"/"+year;
    }
    </script>
<form>
<input type="text" id="dis" /><br />
<input type="button" value="Display Date" onclick="display()" />
</form>
<body>
</html>
```

OUTPUT:


File Edit View History Bookmarks Tools Help
/D:/WT%20Manual%20Programs/j
file:///D:/WT Manual Programs/js/date.html
300%
Search
Display Date

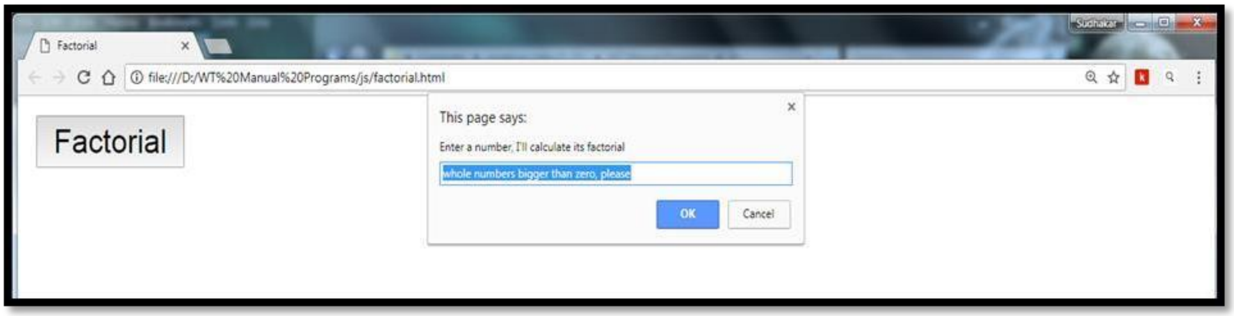
26/11/2017

b) factorial.html

```
<html>
<head>
    <title>factorial</title>
  <script language='javascript'>
```

```
 function factorialcalc()

{
            number = parseint(prompt("enter a number, i'll calculate its factorial", "whole
                        numbers bigger than zero, please"))
            factorial = 1
            for (i=1; i <= number; i++)
           {
                     factorial = factorial * i
            }
            alert("the factorial of " + number + " is " + factorial)
       }
    </script>
  </head>
<body><form name=frm>
<input type=button value='factorial' onclick="factorialcalc();">
</form>
</body>
</html>
```

OUTPUT:

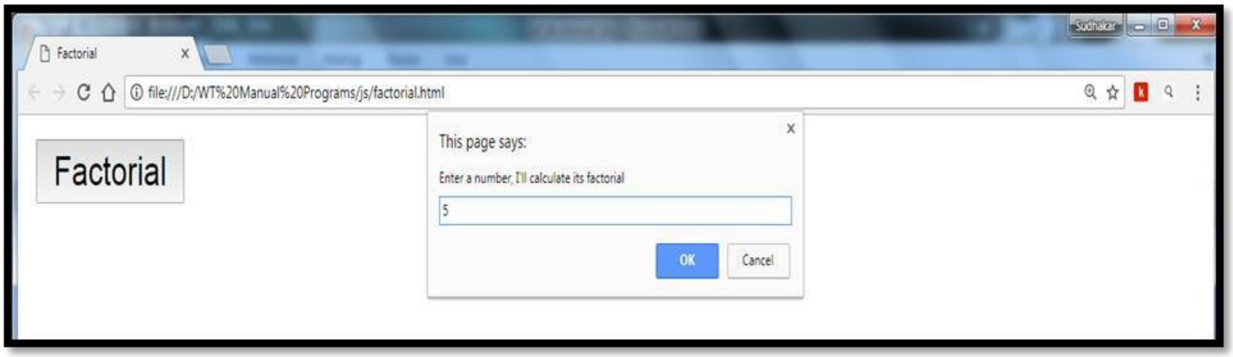


file:///D:/WT%20Manual%20Programs/js/factorial.html

This page says:

Enter a number, I'll calculate its factorial

whole numbers bigger than zero, please

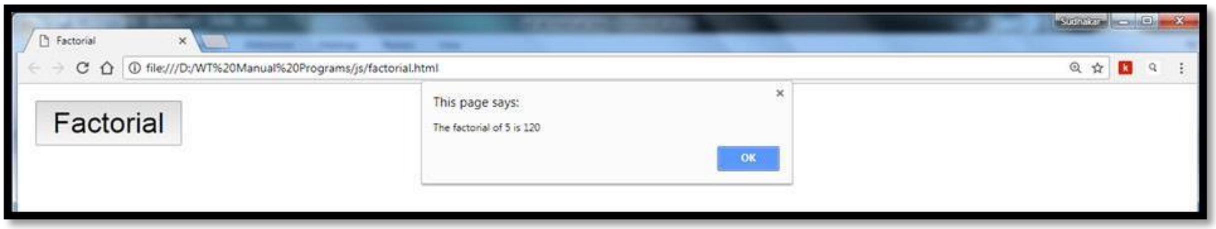


file:///D:/WT%20Manual%20Programs/js/factorial.html

This page says:

Enter a number, I'll calculate its factorial

5



file:///D:/WT%20Manual%20Programs/js/factorial.html

This page says:

The factorial of 5 is 120

Week 5:

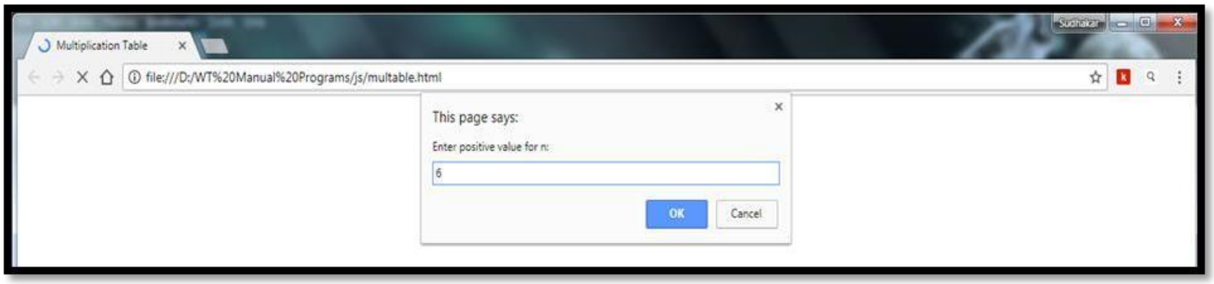
a) Input: A number n obtained using **prompt**
Output: A **multiplication table** of numbers from 1 to 10 of n using **alert**

b) Input: A number n obtained using **prompt** and add another number using **confirm**
Output: **Sum** of the entire n numbers using **alert**

a) multable.html

```
<html>
  <head><title> Multiplication Table </title></head>
 <body>
  <script type="text/javascript">
    <!--
        var n=prompt("Enter positive value for n: "," ");
        if(!isNaN(n)) {
                        var table="";
                        var number="";
                        for(i=1;i<=10;i++) {
                                number = n * i;
                                table += n + " * " + i + " = " + number + "\n";
                        }
                        alert(table);
                        }
          else {
                        alert("Enter positive value");
                         n=prompt("Enter positive value for n: "," ");
        }
        document.write(n+" table values displayed using alert ..<br />");
     // -->
</script>
</body>
</html>
```

OUTPUT:

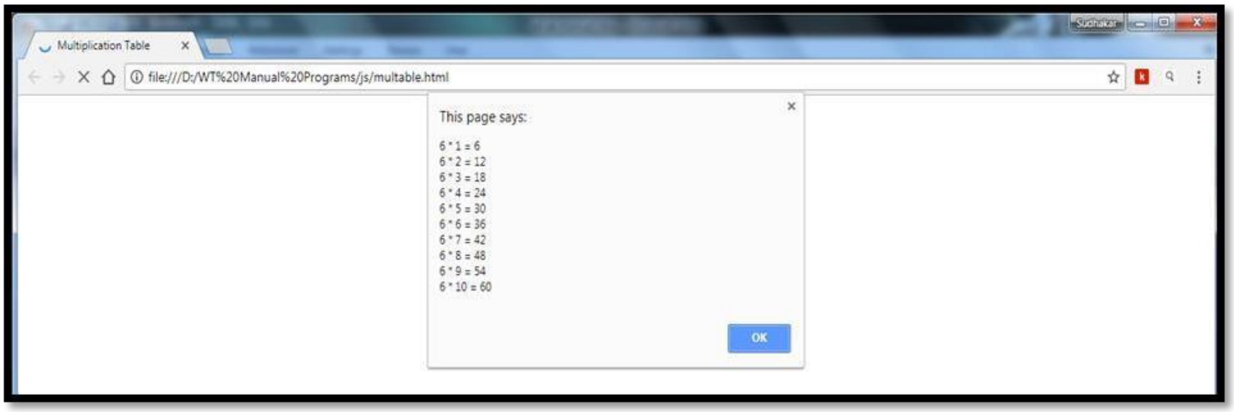


file:///D:/WT%20Manual%20Programs/js/multable.html

This page says:

Enter positive value for n:

6



This page says:

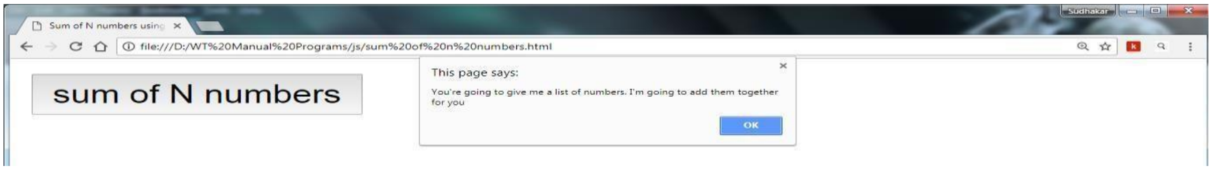
```
6 * 1 = 6
6 * 2 = 12
6 * 3 = 18
6 * 4 = 24
6 * 5 = 30
6 * 6 = 36
6 * 7 = 42
6 * 8 = 48
6 * 9 = 54
6 * 10 = 60
```

6 table values displayed using alert ..

b) sum of n numbers.html

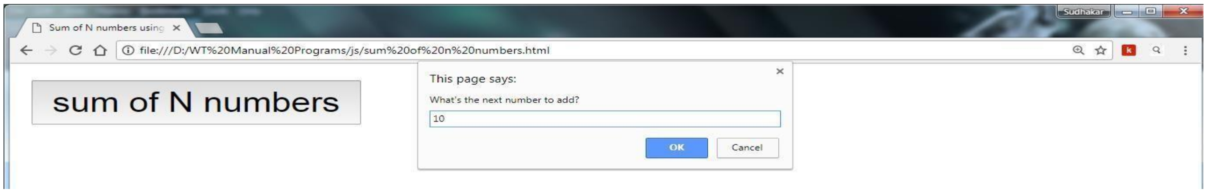
```
<html>
   <head><title>sum of n numbers using popup boxes</title>
 <script language='javascript'>
   function addsum()
     {
     alert("you're going to give me a list of numbers. i'm going to add them together for you");
            var keepgoing = true
            var sumofnums = 0
            while (keepgoing) {
            sumofnums = sumofnums + parseint(prompt("what's the next number to add?",""))
            keepgoing = confirm("add another number?")
             }
   alert("the sum of all your numbers is " + sumofnums)
     }
</script>
</head>
<body>
  <form name=frm>
    <input type=button value='sum of n numbers' onclick="addsum();">
  </form>
</body>
</html>
```

OUTPUT:


Sum of N numbers using
file:///D:/WT%20Manual%20Programs/js/sum%20of%20n%20numbers.html
sum of N numbers
OK

This page says:

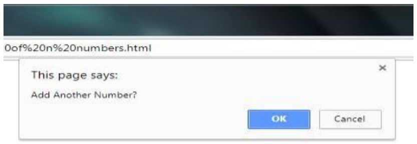
You're going to give me a list of numbers. I'm going to add them together for you


Sum of N numbers using
file:///D:/WT%20Manual%20Programs/js/sum%20of%20n%20numbers.html
sum of N numbers
OK
Cancel

This page says:

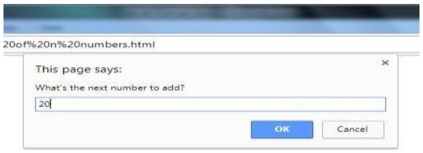
What's the next number to add?

10



This page says:

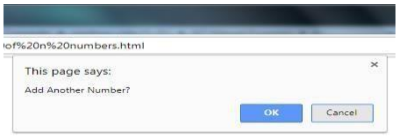
Add Another Number?



This page says:

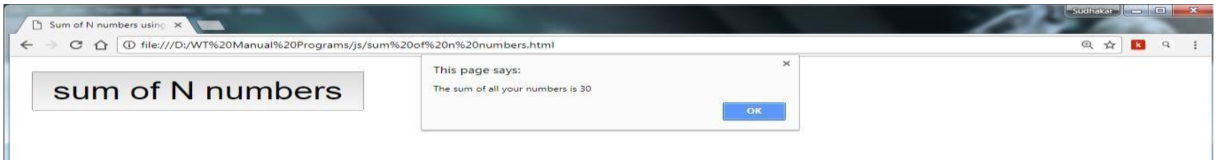
What's the next number to add?

20



This page says:

Add Another Number?


Sum of N numbers using
file:///D:/WT%20Manual%20Programs/js/sum%20of%20n%20numbers.html
sum of N numbers
OK

This page says:

The sum of all your numbers is 30

EXERCISE:

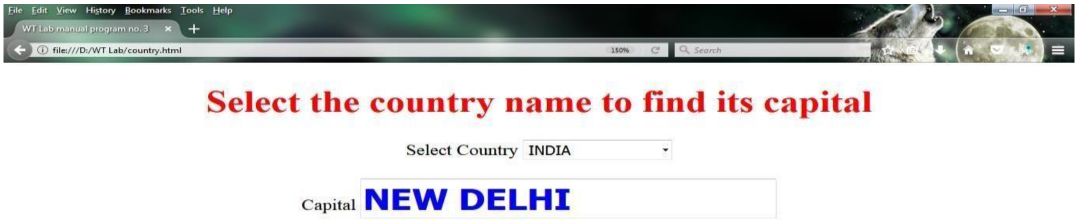
1. Write a JavaScript program to find out the Fibonacci Series.
2. Write a JavaScript program to check the given number is palindrome or not.

WEEK - 6:

Write an HTML page that contains a selection box with a list of 5 countries. When the user selects a country, its capital should be printed next in the list. Add CSS to customize the properties of the font of the capital (color, bold and font size).

```
<html>
  <head>
       <title>WT Lab manual program no. 3</title>
  </head>
 <style>
      h1
      {
      color: red;
      text-align: center;
      }
      .textbox1
      {
      color: blue;
      font-size: 30px;
      font-weight: bold;
      }
  </style>
<body>
  <center>
     <h1> Select the country name to find its capital</h1>
       <form name="myform">
         Select Country <select name="country" id="sbox1" onClick="myFunction()" required>
          <option value=""></option>
          <option value="NEW DELHI">INDIA</option>
          <option value="CANBERRA">AUSTRALIA</option>
          <option value="WASHINGTON D.C">AMERICA</option>
          <option value="LONDON">UNITEDKINGDOM</option>
          <option value="BERLIN">GERMANY</option>
         </select><br><br>
     Capital <input type="text" class="textbox1" id="sbox2">
    </form>
  </center>
<script>
function myFunction()
{       var a=document.getElementById("sbox1").value;
        document.getElementById("sbox2").value=a;           }
</script>       </body>          </html>
```

OUTPUT:



File Edit View History Bookmarks Tools Help
WT Lab manual program no.3
file:///D:/WT Lab/country.html
150%
Search

Select the country name to find its capital

Select Country INDIA

Capital NEW DELHI

WEEK-7

Write an XML file which will display the Book information which includes the following:

1) Title of the book
2) Author Name
3) ISBN number
4) Publisher name
5) Edition
6) Price

Write a Document Type Definition (DTD) to validate the above XML file.

Display the XML file as follows.

The contents should be displayed in a table. The header of the table should be in color GREY. And the Author names column should be displayed in one color and should be capitalized and in bold. Use your own colors for remaining columns.

Use XML schemas XSL and CSS for the above purpose.

Save as **catalog1.xml**

```
<?xml  version="1.0"  encoding="UTF-8"?>

<!DOCTYPE catalog SYSTEM "catalog1.dtd">

<catalog>

<book>

<title>Head First Java Script</title>

<author>Kathy Sierra and Bert Bates</author>

<isbn>1148574</isbn>

<publisher>O'Reilly   Media</publisher>

<edition>Second</edition>

<price>375</price>

</book>

<book>

<title>Head First Servlets</title>
```

```
<author>Bryan Basham, Kathy Sierra and Bert
Bates</author> <isbn>58746321</isbn>

<publisher>O'Reilly    Media</publisher>

<edition>Third</edition>

<price>475</price>

</book>

<book>

<title>Head First PHP &amp; MYSQL</title>

<author>Lynn Beighley Michael Morrison
</author> <isbn>965844712</isbn>

<publisher>O'Reilly    Media</publisher>

<edition>First</edition>

<price>365</price>

</book>

<book>

<title>Head First WebDesign</title>

<author>Ethan Watrall </author>

<isbn>764485142</isbn>

<publisher>O'Reilly    Media</publisher>

<edition>First</edition>

<price>390</price>

</book>

</catalog>
```

Save as **catalog1.dtd**

```
<?xml  version="1.0"  encoding="UTF-8"?>

<!ELEMENT catalog (book)*>
<!ELEMENT book (title,author,isbn,publisher,edition,price)>
<!ELEMENT title (#PCDATA)>
<!ELEMENT author (#PCDATA)>
<!ELEMENT isbn (#PCDATA)>

<!ELEMENT publisher (#PCDATA)>
<!ELEMENT edition (#PCDATA)>
<!ELEMENT price (#PCDATA)>
```

XMLSchema

Save as **catalog2.html**

```
<?xml  version="1.0"  encoding="UTF-8"?>
<catalog xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="catalog2.xsd">

<book>
<title>Head First Java Script</title>
<author>Kathy Sierra and Bert Bates</author>
<isbn>1148574</isbn>
<publisher>O'Reilly   Media</publisher>

<edition>Second</edition>
<price>375</price>
</book>
<book>
```

```
<title>Head First Servlets</title>

<author>Bryan Basham, Kathy Sierra and Bert
Bates</author> <isbn>58746321</isbn>

<publisher>O'Reilly    Media</publisher>

<edition>Third</edition>

<price>475</price>

</book>

<book>

<title>Head First PHP &amp; MYSQL</title>

<author>Lynn Beighley Michael Morrison
</author> <isbn>965844712</isbn>

<publisher>O'Reilly    Media</publisher>

<edition>First</edition>

<price>365</price>

</book>

<book>

<title>Head First WebDesign</title>

<author>Ethan Watrall </author>

<isbn>764485142</isbn>

<publisher>O'Reilly    Media</publisher>

<edition>First</edition>

<price>390</price>

</book>

</catalog>
```

Save as **catalog2.xsd**

```
<?xml  version="1.0"  encoding="UTF-8"?>

<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
<xs:element name="catalog"/>
<xs:complexType  name="book">
<xs:sequence>
<xs:element  name="title"  type="xs:string"/>

<xs:element name="author" type="xs:string"/>
<xs:element name="isbn" type="xs:string"/>
<xs:element  name="publisher"  type="xs:string"/>
<xs:element  name="edition"  type="xs:string"/>
<xs:element name="price" type="xs:string"/>

</xs:sequence>
</xs:complexType>

<xs:element  name="book"/>
</xs:schema>
```

eXtensible Stylesheet Language

Save as **catalog3.xml**

```
<?xml  version="1.0"  encoding="UTF-8"?>
<?xml-stylesheet type="text/xsl"  href="catalog3.xsl"?>

<!DOCTYPE catalog SYSTEM "catalog.dtd">
<catalog>
<book>
```

```
<title>Head First Java Script</title>

<author>Kathy Sierra and Bert Bates</author>

<isbn>1148574</isbn>

<publisher>O'Reilly   Media</publisher>

<edition>Second</edition>

<price>375</price>

</book>

<book>

<title>Head First Servlets</title>

<author>Bryan Basham, Kathy Sierra and Bert
Bates</author> <isbn>58746321</isbn>

<publisher>O'Reilly   Media</publisher>

<edition>Third</edition>

<price>475</price>

</book>

<book>

<title>Head First PHP &amp; MYSQL</title>

<author>Lynn Beighley Michael Morrison
</author> <isbn>965844712</isbn>

<publisher>O'Reilly   Media</publisher>

<edition>First</edition>

<price>365</price>
```

```
</book>
<book>
<title>Head First WebDesign</title>
<author>Ethan Watrall </author>
<isbn>764485142</isbn>
<publisher>O'Reilly   Media</publisher>

<edition>First</edition>
<price>390</price>
</book>
</catalog>
```

Save as **catalog3.xsl**

```
<?xml version="1.0"?>
<xsl:stylesheet   version="1.0"   xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
<xsl:template  match="catalog">
<html>
<head>
<title>converting in to xml</title>
</head>
<body>
<table border="1">
<tr>
<th>title</th><th>author</th><th>isbn</th>
```

```
<th>publisher</th><th>edition</th><th>price</th>
</tr>

<xsl:for-each  select="book">


<tr>

<td><xsl:value-of  select="title"/></td>

<td><xsl:value-of  select="author"/></td>


<td><xsl:value-of select="isbn"/></td>

<td><xsl:value-of  select="publisher"/></td>

<td><xsl:value-of  select="edition"/></td>



<td><xsl:value-of  select="price"/></td>

</tr>

</xsl:for-each>

</table>

</body>

</html>

</xsl:template>

</xsl:stylesheet>
```

Cascading Style Sheet

Save as **catalog4.xml**

```
<?xml  version="1.0"  encoding="UTF-8"?>

<?xml-stylesheet  type="text/css"  href="catalog4.css"?>

<!DOCTYPE catalog SYSTEM "catalog.dtd">


<catalog>

<book>

<title>Head First Java Script</title>
```

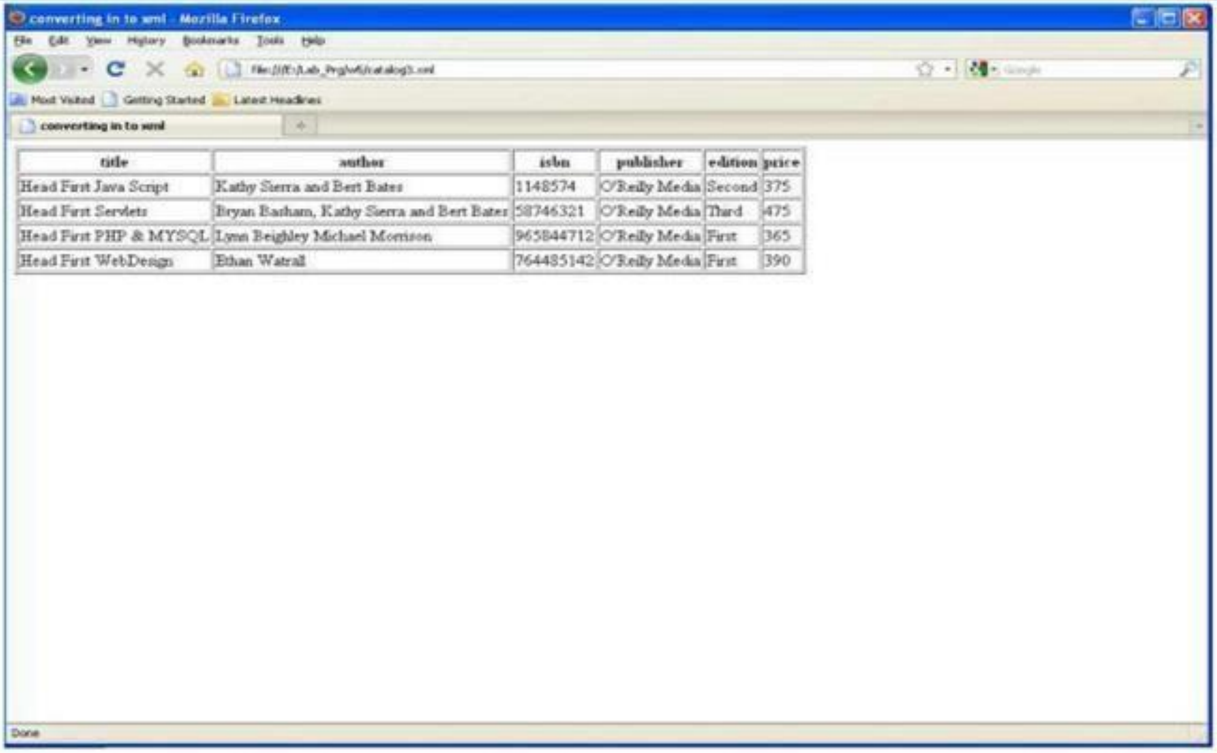
```
<author>Kathy Sierra and Bert Bates</author>

<isbn>1148574</isbn>

<publisher>O'Reilly Media</publisher>

<edition>Second</edition>

<price>375</price>

</book>

<book>

<title>Head First Servlets</title>

<author>Bryan Basham, Kathy Sierra and Bert Bates</author>

<isbn>58746321</isbn>

<publisher>O'Reilly Media</publisher>

<edition>Third</edition>

<price>475</price>

</book>

<book>

<title>Head First PHP &amp; MYSQL</title>

<author>Lynn Beighley Michael Morrison
</author> <isbn>965844712</isbn>

<publisher>O'Reilly Media</publisher>

<edition>First</edition>

<price>365</price>

</book>

<book>

<title>Head First WebDesign</title>

<author>Ethan Watrall </author>
```

```
<isbn>764485142</isbn>
<publisher>O'Reilly    Media</publisher>
<edition>First</edition>
<price>390</price>

</book>
</catalog>
```

Save as **catalog4.css**

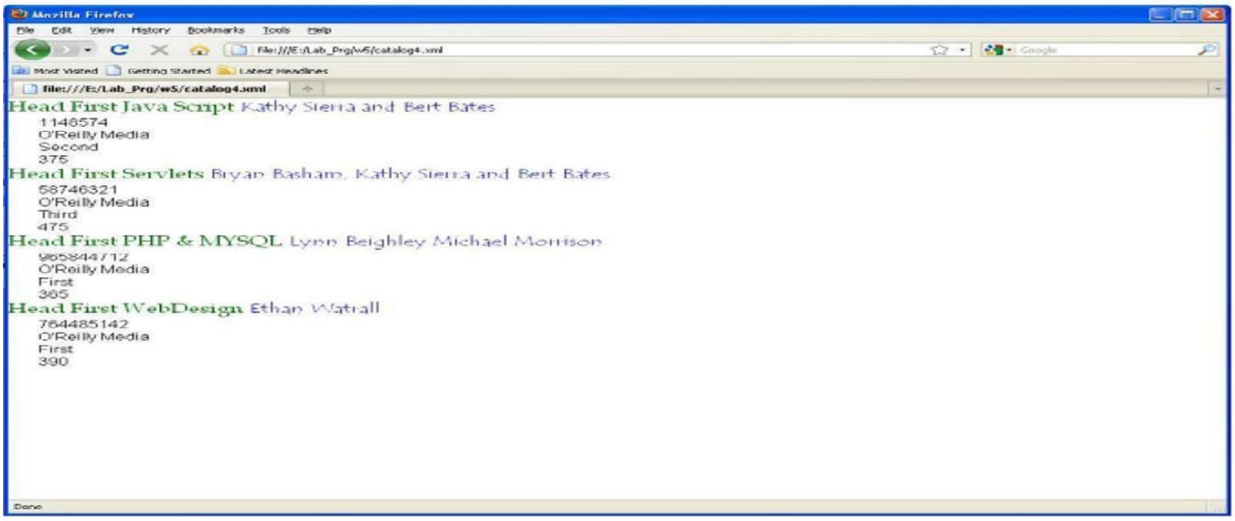
```
catalog
{
font-family:arial;
color:red;
font-size:16pt;
}
book
{
display:block;
font-family:times new roman;
color:blue;
font-size:14pt;
}
title
{
font-family:Book Antiqua;
```

```
color:green;

font-size:16pt;

}

author

{
```


converting in to xml - Mozilla Firefox
File Edit View History Bookmarks Tools Help
file:///E:/Lab_Prg/wt/catalog3.xml
Most Visited Getting Started Latest Headlines
converting in to xml
Done

title	author	isbn	publisher	edition	price
Head First Java Script	Kathy Sierra and Bert Bates	1148574	O'Reilly Media	Second	375
Head First Servlets	Bryan Basham, Kathy Sierra and Bert Bates	58746321	O'Reilly Media	Third	475
Head First PHP & MYSQL	Lynn Beighley Michael Morrison	965844712	O'Reilly Media	First	365
Head First WebDesign	Ethan Watrall	764485142	O'Reilly Media	First	390

```
font-family:Tempus Sans ITC;
color:blue;
font-size:16pt;
}
isbn,publisher,edition,price
{
display:block;
font-family:arial;
color:black;
font-size:12pt;
margin-left:20pt;
}
```


Mozilla Firefox
File Edit View History Bookmarks Tools Help
File:///E:/Lab_Prg/w5/catalog4.xml
Most Visited Getting Started Latest Headlines
file:///E:/Lab_Prg/w5/catalog4.xml
Done

```
Head First Java Script Kathy Sierra and Bert Bates
     1148574
     O'Reilly Media
     Second
     375
Head First Servlets Bryan Basham, Kathy Sierra and Bert Bates
     58746321
     O'Reilly Media
     Third
     475
Head First PHP & MYSQL Lynn Beighley Michael Morrison
     965844712
     O'Reilly Media
     First
     365
Head First WebDesign Ethan Watrall
     764485142
     O'Reilly Media
     First
     390
```

Excercise

1)Write an XML file which will display the Student information which includes the following:

1) Student name

2) College
3) Branch
4) Roll No
5) Percentage

6) Backlogs
Write a Document Type Definition (DTD) to validate the above XML file.

2) Create a DTD for a catalog of four stroke motorbikes, where each motor bike has the following child elements-make,model,year,engine,chasis number accessories.The engine element has the child elements engine number, number of cylinders,type of fuel.The accessories element has the attributes like disc brake, auto-start and radio, each of which is required and has the possible values yes andno. Entities must be declared for the names of the popular motorbike makes.

WEEK 8: Implement the following web applications using servlets

8 (i) Write a Servlet application to create session.

USING SERVLET

Session1.html

```
<html>
<head> <title> SESSION LOGIN </title> </head>
<body>
<center>
<form action="http://localhost:8080/Session1/session6vib" method="get">
Enter Name: <input type="text" name="uname"> <br>
<input type="submit" value="LOGIN" name="register">
</form>
</center>
</body>
</html>
```

Session1.java

```
import javax.servlet.*;
import javax.servlet.http.*;
import java.io.*;
import java.util.*;
public class Session1 extends HttpServlet
{
public void doGet(HttpServletRequest req, HttpServletResponse res) throws IOException,
ServletException
{
try
{
res.setContentType("text/html");
PrintWriter out=res.getWriter();
out.println("<form method=get action=session26vib>");
Date d=new Date();
out.println("<p align=right> Time:"+d.getTime()+"</p>");
String un=req.getParameter("uname");
HttpSession session=req.getSession();
session.setAttribute("user",un);
session.setAttribute("time",d.getTime());
out.println("Hello\t"+un);
out.println("<br><br> <input type=submit value=logout>");
out.println("</form");
}
catch(Exception e)
{
e.printStackTrace(); } } }
```

Session2.java

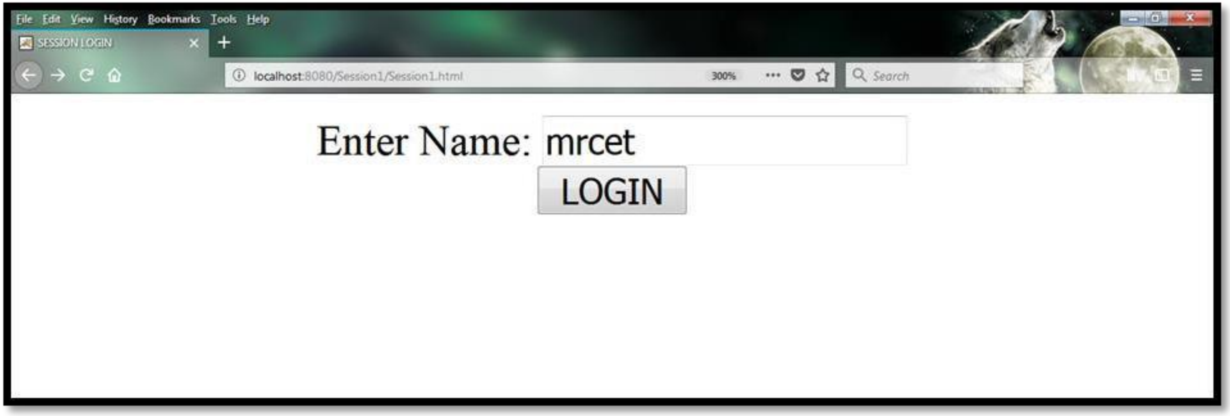
```
import javax.servlet.*;
import javax.servlet.http.*;
import java.io.*;
import java.util.*;
public class Session2 extends HttpServlet
{
public void doGet(HttpServletRequest req, HttpServletResponse res) throws IOException,
ServletException
{
try
{
res.setContentType("text/html");
PrintWriter out=res.getWriter();
HttpSession session=req.getSession();
Date d2=new Date();
String un=(String)session.getAttribute("user");
Long t1=(Long)session.getAttribute("time");
Long t2=d2.getTime();
session.invalidate();
out.println("Thank you\t"+un);
out.println("<br><br> Session duration: '"+(t2-t1)/(60*60)+"'seconds");
}
catch(Exception e)
{
e.printStackTrace();
}
}
}
```

web.xml

```
<?xml version="1.0"?>
<web-app>
<servlet>
<servlet-name>session1</servlet-name>
<servlet-class>Session1</servlet-class>
</servlet>
<servlet-mapping>
<servlet-name>session1</servlet-name>
<url-pattern>/session6vib</url-pattern>
</servlet-mapping>
<servlet>
<servlet-name>session2</servlet-name>
<servlet-class>Session2</servlet-class>
</servlet>
```

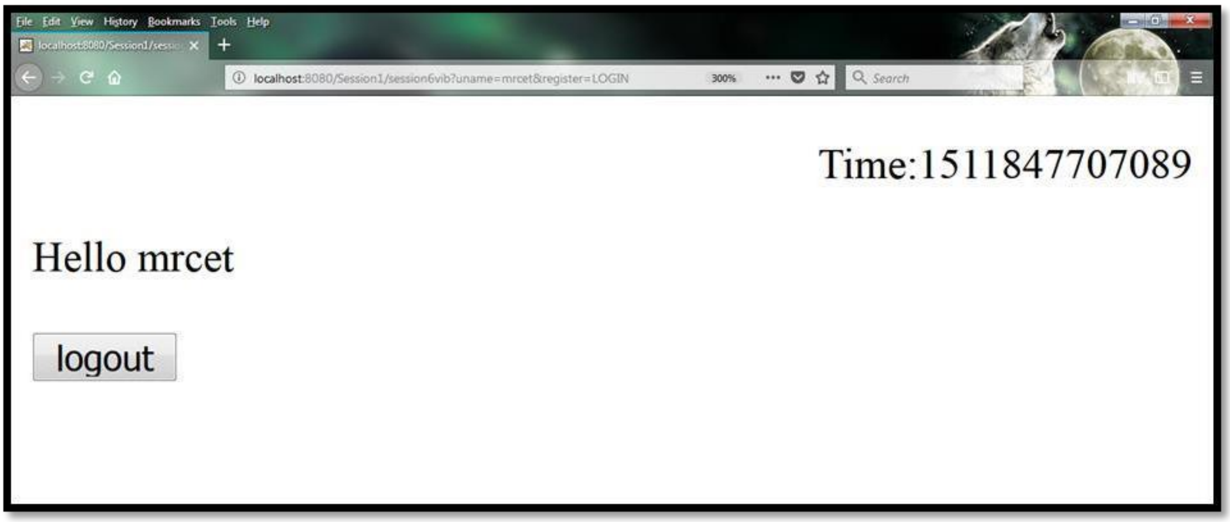
```
<servlet-mapping>
<servlet-name>session2</servlet-name>

<url-pattern>/session26vib</url-pattern>
</servlet-mapping>
</web-app>
```

Output:


File Edit View History Bookmarks Tools Help
SESSION LOGIN
localhost:8080/Session1/Session1.html
300%
Search

Enter Name: mrcet

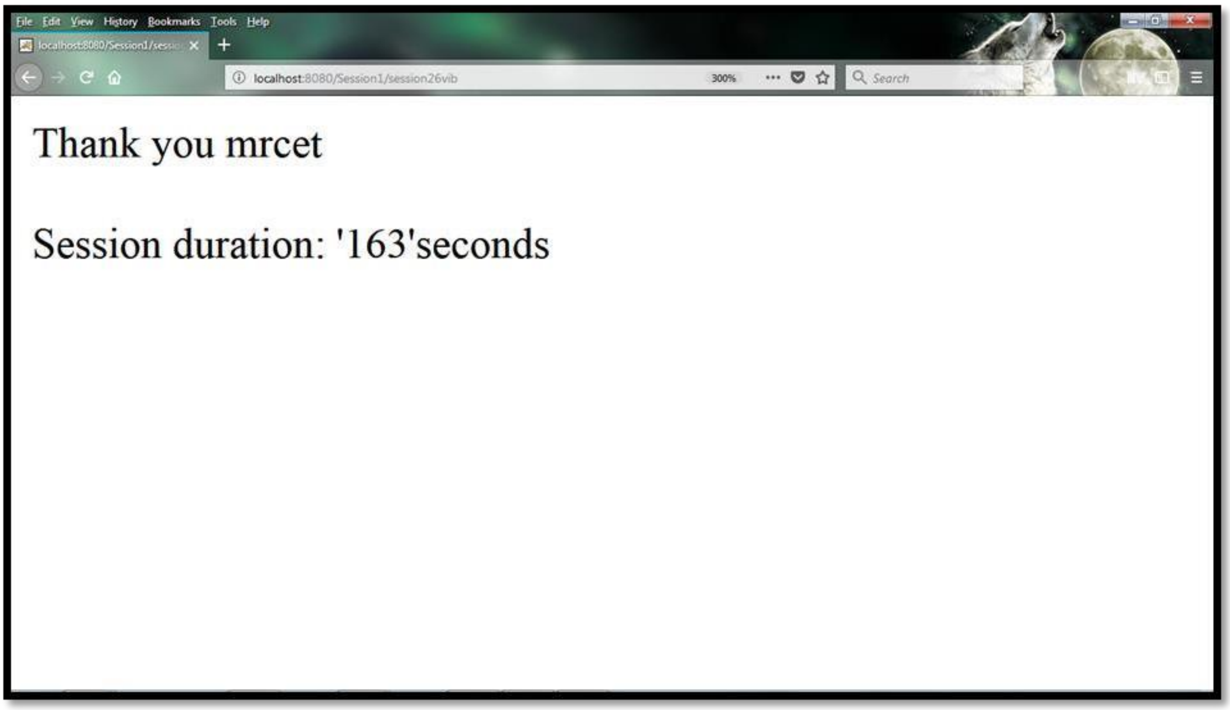
LOGIN


File Edit View History Bookmarks Tools Help
localhost:8080/Session1/sessio
localhost:8080/Session1/session6vib?uname=mrcet&register=LOGIN
300%
Search

Time:1511847707089

Hello mrcet

logout


File Edit View History Bookmarks Tools Help
localhost:8080/Session1/sessio
localhost:8080/Session1/session26vib
300%
Search

Thank you mrcet

Session duration: '163'seconds

8 (ii) Write a Servlet application to print the current date and time.

Aim: To print Current date and time using Servlet.

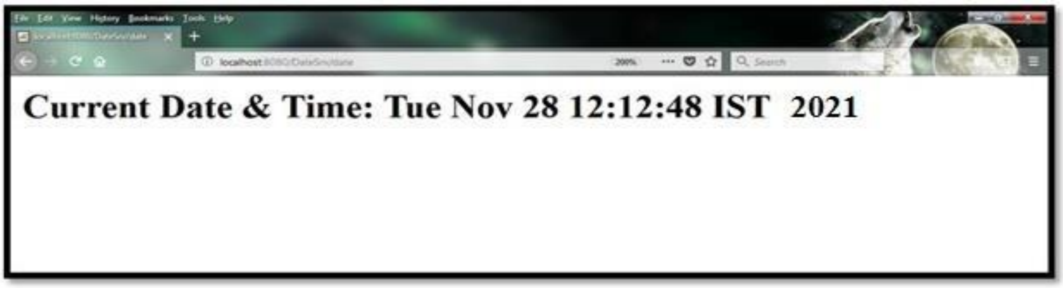
DateSrv.java

```
import java.io.*;
import javax.servlet.*;
public class DateSrv extends GenericServlet
{
    //implement service()
    public void service(ServletRequest req, ServletResponse res) throws IOException,
ServletException
    {
        //set response content type
        res.setContentType("text/html");
        //get stream obj
        PrintWriter pw = res.getWriter();
        //write req processing logic
        java.util.Date date = new java.util.Date();
        pw.println("<h2>"+"Current Date & Time: " +date.toString()+"</h2>");
//close stream object
pw.close();
     }
}
```

web.xml

```
<?xml version="1.0"?>
<web-app>

<servlet>
<servlet-name>Date</servlet-name>
<servlet-class>DateSrv</servlet-class>
</servlet>
<servlet-mapping>
<servlet-name>Date</servlet-name>
<url-pattern>/date</url-pattern>
</servlet-mapping>
</web-app>
```

Output:


File Edit View History Bookmarks Tools Help
localhost:8080/DateSrv/date
200%
Search

```
Current Date & Time: Tue Nov 28 12:12:48 IST  2021
```

8 (iii) A web application that takes name and age from an HTML page. If the age is less than 18, it should send a page with “Hello <name>, you are not authorized to visit the site” message, where <name> should be replaced with the entered name. Otherwise it should send “Welcome <name> to this site” message.

AIM: To design an application to validate age are less than 18 or more than 18 using SERVLET.

index.html:

```
<html
<head>
        <title>VoterApp</title>
     </head>
     <body>
          <form action= "http://localhost:8080/CheckAge/check" method="get">
               <fieldset style="width:20%; background-color:#80ffcc">
                    <table>

 <tr><td>Name</td><td><input type="text" name="name"></td></tr>
 <tr><td>Age</td><td><input type="text" name="age"></td></tr>
                    <tr><td></td>
                    <td><input type = "submit" value="Check Eligibility"></td></tr>
                </table>
            </fieldset>
        </form>
    </body>
</html>
```

VoterSrv.java:

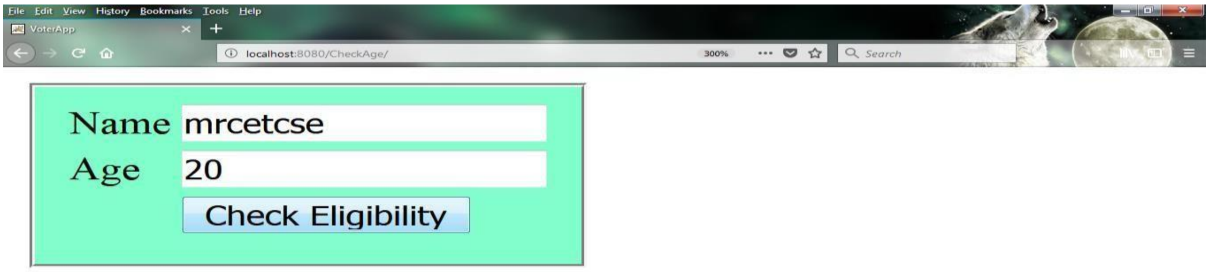
```
import java.io.*;

import java.util.*;
import javax.servlet.*;
import javax.servlet.http.*;
public class VoterSrv extends HttpServlet
{
    public void service(HttpServletRequest req, HttpServletResponse res) throws
IOException,ServletException
    {
       //set response content type
        res.setContentType("text/html");
        //get printWrite obj
        PrintWriter pw = res.getWriter();
        //read form data from page as request parameter
        String name = req.getParameter("name");
        int age = Integer.parseInt(req.getParameter("age"));
        if (age>=18)
       {
            pw.println("<font color='green' size='4'>Welcome "+name+" to this site</font>");
        }
        else
            pw.println("<font color='red' size='4'>Hello "+name+", you are not authorized to
visit the site</font>");
        //add hyperlink to dynamic page
        pw.println("<br><br><a href= 'index.html'>back</a>");
        //close the stream
        pw.close();
    }
}
```

web.xml:

```
<web-app>
    <servlet>
        <servlet-name>abc</servlet-name>
```

```
            <servlet-class>VoterSrv</servlet-class>
      </servlet>

<servlet-mapping>
            <servlet-name>abc</servlet-name>
            <url-pattern>/check</url-pattern>
      </servlet-mapping>
</web-app>
```

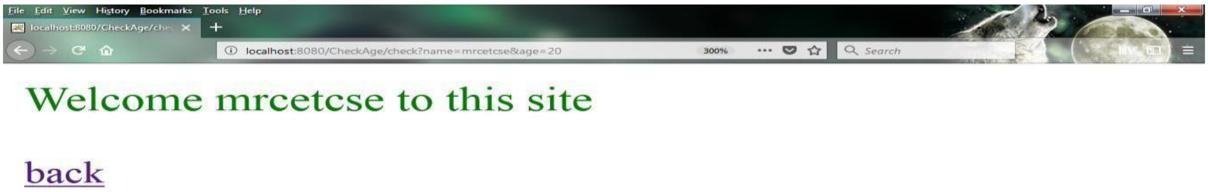
Output:



localhost:8080/CheckAge/

Name mrcetcse

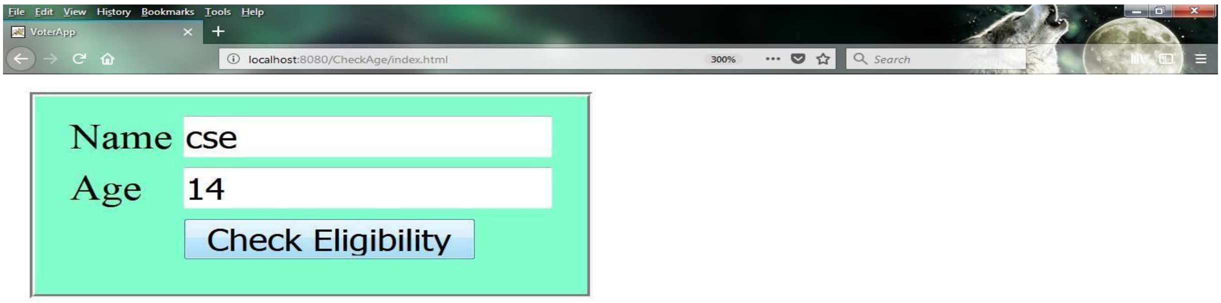
Age 20


File Edit View History Bookmarks Tools Help
localhost:8080/CheckAge/che
300%
Search

localhost:8080/CheckAge/check?name=mrcetcse&age=20

Welcome mrcetcse to this site

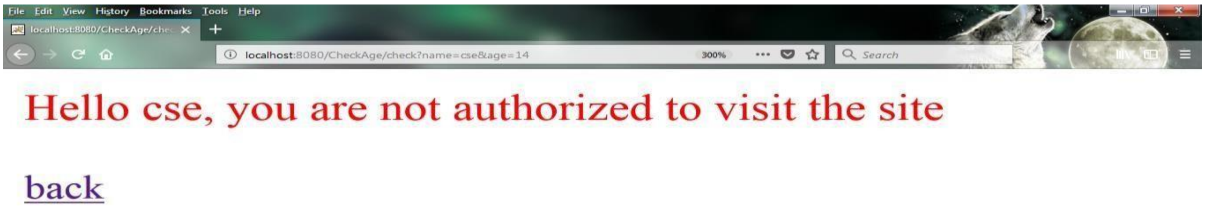
back



localhost:8080/CheckAge/index.html

Name cse

Age 14


File Edit View History Bookmarks Tools Help
localhost:8080/CheckAge/che
300%
Search

localhost:8080/CheckAge/check?name=cse&age=14

Hello cse, you are not authorized to visit the site

back

8 (iv) A web application that lists all cookies stored in the browser on clicking "List Cookies" button. Add cookies if necessary.

AIM: To design an application to develop cookies using Servlet.

index.html

```
<html>
    <head>
        <title>CookiesExample</title>

</head>
    <body>
        <form method='get' action='http://localhost:8080/MyServlet1/login'>
            <fieldset style="width:14%; background-color:#ccffcc">
                User Name:<input type="text" name="Name"/><br/>
                Password:<input type="password" name="Password"/><br/>
                 <input type="submit" value="submit"/>
        </form>
            </fieldset>
        </form>

</body>
</html>
```

MyServlet1.java

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;
public class MyServlet1 extends HttpServlet
{
  public void doGet(HttpServletRequest request, HttpServletResponse response) {
    try{
        response.setContentType("text/html");
        PrintWriter pwriter = response.getWriter();

        String uname = request.getParameter("Name");
        String upassword = request.getParameter("Password");
        pwriter.print("Cookies Set:<br>Hello "+uname);
        pwriter.print("<br>Your Password is: "+upassword);

        //Creating two cookies
        Cookie c1=new  Cookie("Name",uname);
        Cookie c2=new Cookie("Password",upassword);
        //Adding the cookies to response header
        response.addCookie(c1);
        response.addCookie(c2);
      pwriter.print("<br><a href='welcome'>LIST COOKIES</a>");
        pwriter.close();
  }catch(Exception exp){
     System.out.println(exp);
   }
  }
}
```

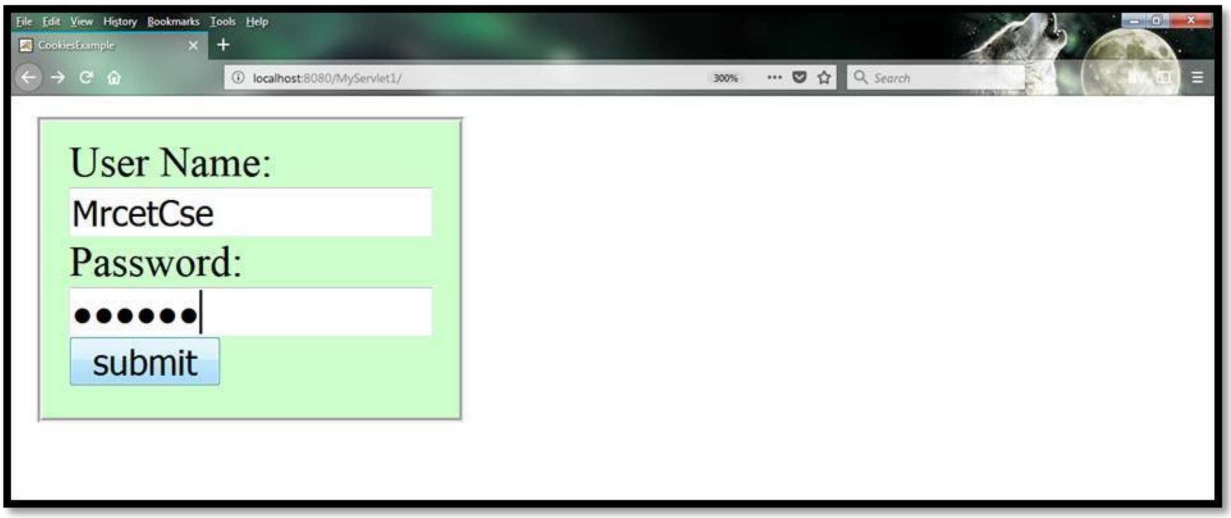
MyServlet2.java

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;

public class MyServlet2 extends HttpServlet {

 public void doGet(HttpServletRequest request,
    HttpServletResponse response){
    try{
       response.setContentType("text/html");
       PrintWriter pwriter = response.getWriter();

       //Reading cookies
       Cookie c[]=request.getCookies();
       //Displaying User name and User Password value from cookie

for(int i=0;i<c.length;i++){


pwriter.print("<br>"+c[i].getName()+": "+c[i].getValue());//printing name and value of
cookie
}
       pwriter.close();
    }catch(Exception exp){
       System.out.println(exp);
     }
  }
}
```

web.xml

```
<web-app>
<display-name>Cookies Example</display-name>
 <welcome-file-list>
 <welcome-file>index.html</welcome-file>
 </welcome-file-list>
<servlet>
 <servlet-name>Servlet1</servlet-name>
 <servlet-class>MyServlet1</servlet-class>
</servlet>
<servlet-mapping>
 <servlet-name>Servlet1</servlet-name>
 <url-pattern>/login</url-pattern>
</servlet-mapping>
<servlet>
 <servlet-name>Servlet2</servlet-name>
 <servlet-class>MyServlet2</servlet-class>
</servlet>
<servlet-mapping>
 <servlet-name>Servlet2</servlet-name>
 <url-pattern>/welcome</url-pattern>
</servlet-mapping>
</web-app>
```

Output:


File Edit View History Bookmarks Tools Help
CookiesExample
localhost:8080/MyServlet1/
300%
Search

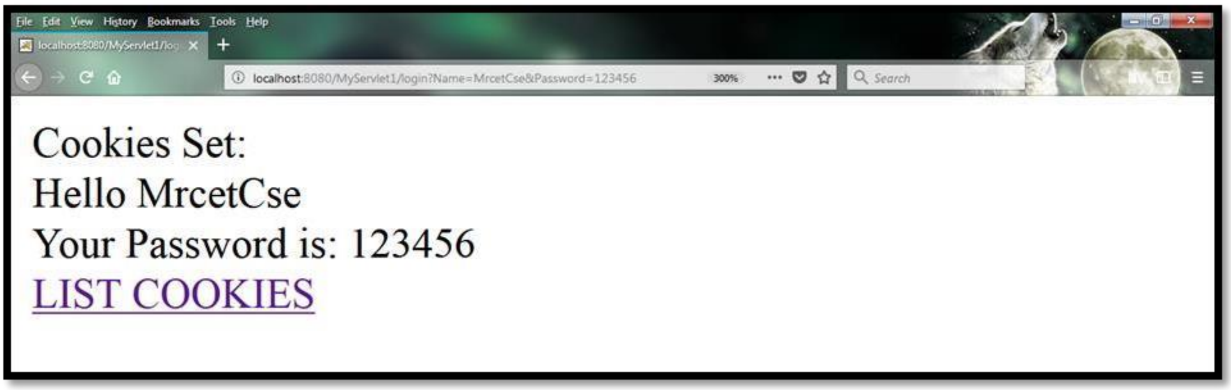
User Name:

MrcetCse

Password:

●●●●●●

submit

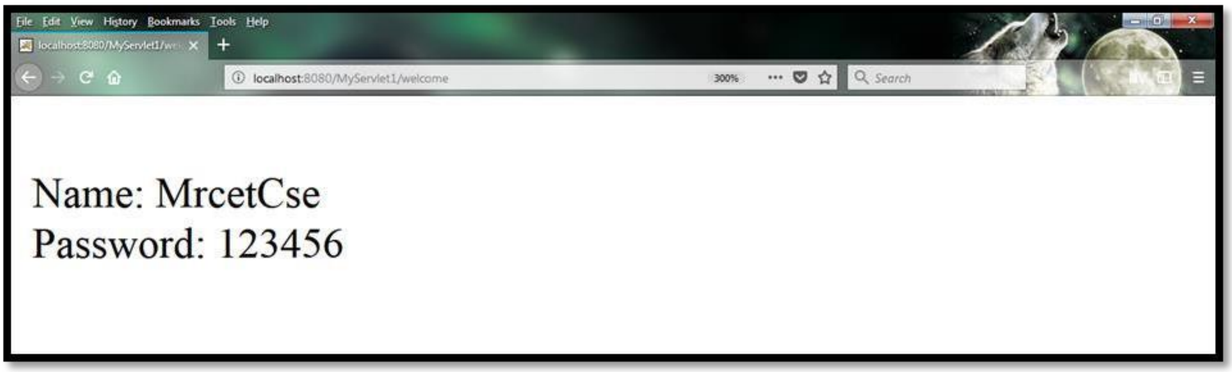

File Edit View History Bookmarks Tools Help
localhost:8080/MyServlet1/log
localhost:8080/MyServlet1/login?Name=MrcetCse&Password=123456
300%
Search

Cookies Set:

Hello MrcetCse

Your Password is: 123456

LIST COOKIES


File Edit View History Bookmarks Tools Help
localhost:8080/MyServlet1/we
localhost:8080/MyServlet1/welcome
300%
Search

Name: MrcetCse

Password: 123456

Week 9:

Implement the web applications with Database using Servlets.

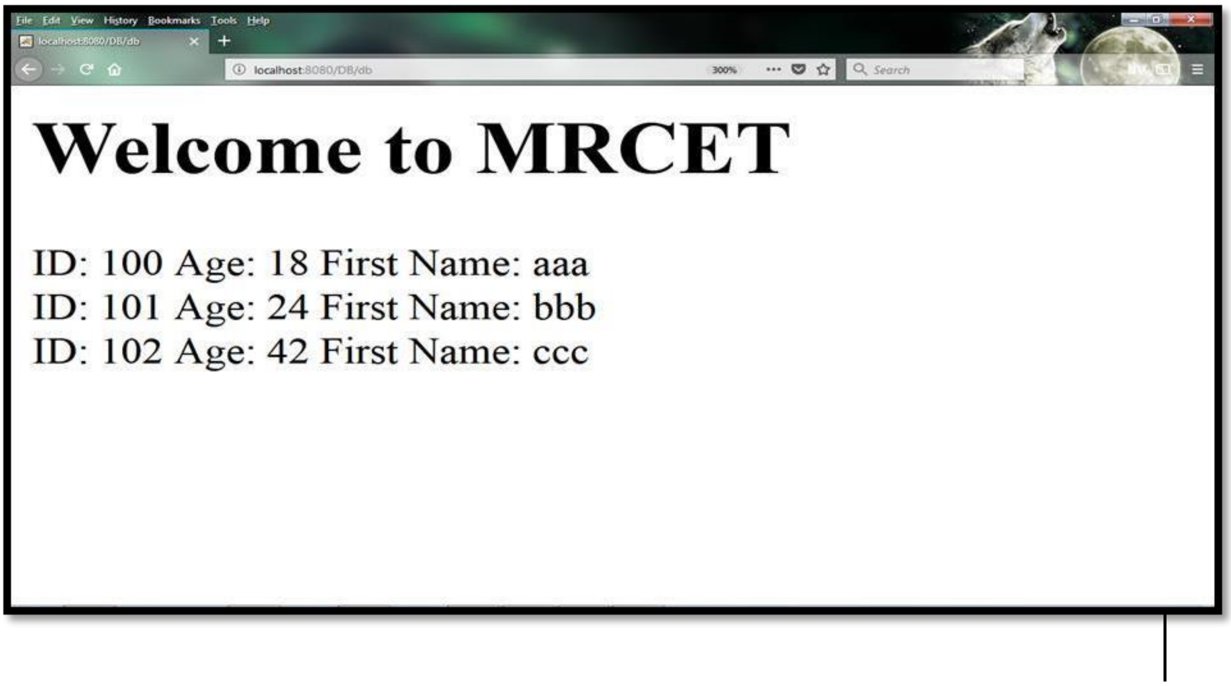
DBExample.java

```
import java.io.*;
import javax.servlet.*;
import javax.servlet.http.*;
import java.util.*;
import java.sql.*;

public class DBExample extends HttpServlet{

    public void doGet(HttpServletRequest request,
                HttpServletResponse response)
        throws ServletException, IOException
  {
    String JDBC_DRIVER="com.mysql.jdbc.Driver";
    String DB_URL="jdbc:mysql://localhost/csec";
    String USER = "root";
    String PASS = "TIGER";
    response.setContentType("text/html");

    PrintWriter out = response.getWriter();

out.println("<html><body><h1>Welcome to MRCET</h1>\n") ;
    try{
      Class.forName("com.mysql.jdbc.Driver");
Connection conn = DriverManager.getConnection(DB_URL,
USER, PASS);
         Statement stmt = conn.createStatement();
      String sql;
      sql = "SELECT * FROM Emp";
      ResultSet rs = stmt.executeQuery(sql);
      while(rs.next()){
        out.println("ID: " + rs.getString(1));
        out.println("Age: " + rs.getString(2));
        out.println("First Name: " + rs.getString(3)+"<br>");
       }
      rs.close();
      stmt.close();
      conn.close();

   }catch(SQLException se){
      out.println(se.getMessage());
    }catch(Exception e){
      out.println(e.getMessage());
    }
    out.println("</body></html>");
  }
}
```

web.xml:

```
<?xml version="1.0" encoding="UTF-8"?>
<web-app>
<servlet>
<servlet-name>DBExample</servlet-name>
<servlet-class>DBExample</servlet-class>
</servlet>
<servlet-mapping>
<servlet-name>DBExample</servlet-name>
<url-pattern>/db</url-pattern>
</servlet-mapping>
</web-app>
```

OUTPUT:



```
Welcome to MRCET

ID: 100 Age: 18 First Name: aaa
ID: 101 Age: 24 First Name: bbb
ID: 102 Age: 42 First Name: ccc
```

Week 10

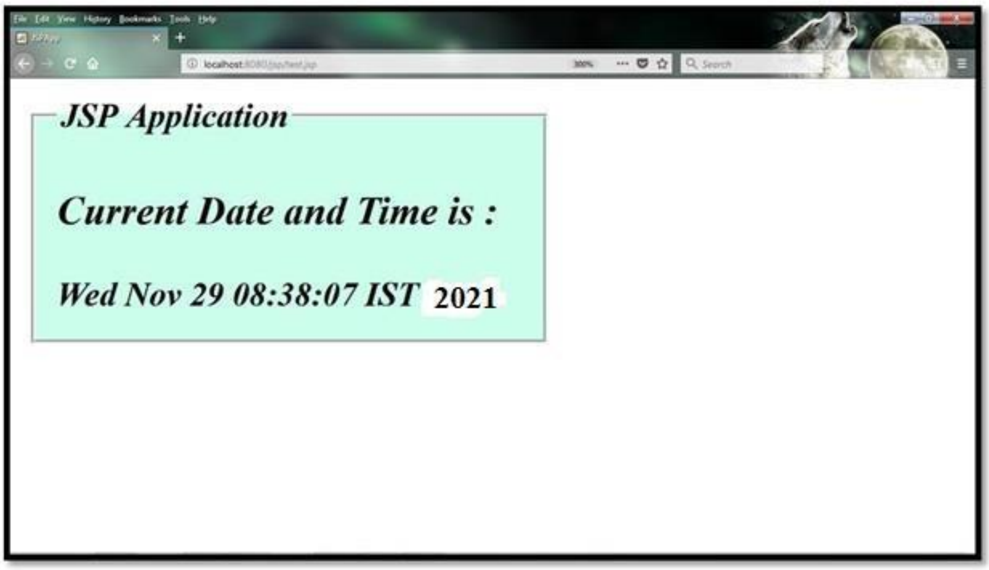
(i) Write a JSP application to print the current date and time.

Aim: To print Current date and time using JSP.

test.jsp

```
<html>
   <head><title>JSPApp</title></head>
   <body>
      <form>
         <fieldset style="width:50%; background-color: #ccffeb;">
            <legend><b><i>JSP Application<i><b></legend>
            <h3>Current Date and Time is :</h3>
            <% java.util.Date d = new java.util.Date();
            out.println(d.toString()); %>
         </fieldset>
      </form>
   </body>
</html>
```

Output:



```
JSP Application

Current Date and Time is :

Wed Nov 29 08:38:07 IST 2021
```

(ii) A web application that takes name and age from an HTML page. If the age is less than 18, it should send a page with “Hello <name>, you are not authorized to visit the site” message, where <name> should be replaced with the entered name. Otherwise it should send “Welcome <name> to this site” message.

AIM: To design an application to validate age are less than 18 or more than 18 using JSP.

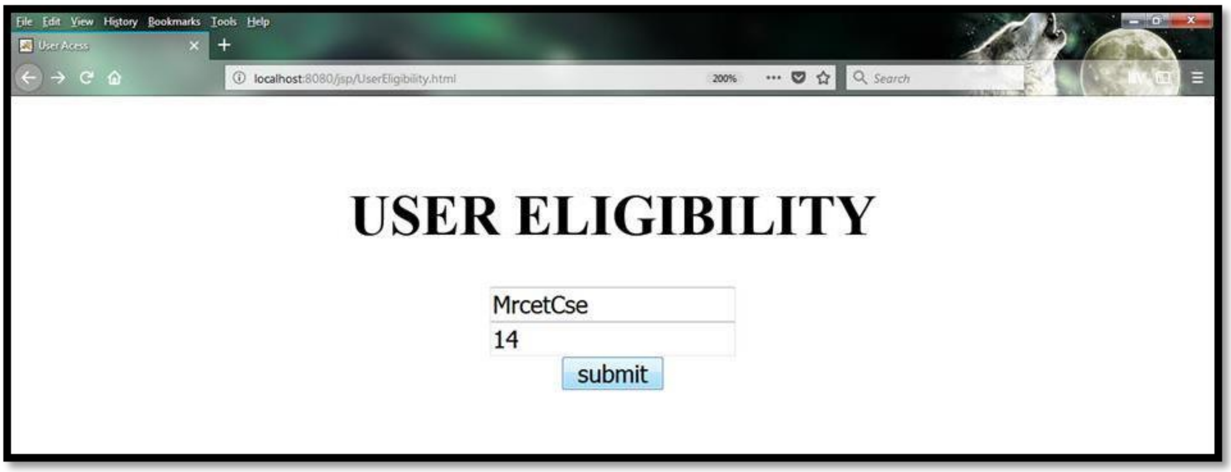
UserEligibility.html:

```
<html>
<head> <title> User Acess </title> </head>
<body> <br>
<center>
<h1> USER ELIGIBILITY </h1>
<form action="http://localhost:8080/jsp/checkage.jsp" method="get">
<input type="text" name="uname" placeholder="Enter your name"> <br>
<input type="text" name="uage" placeholder="Enter your age"> <br>
<input type="submit" value="submit" name="sub"<>
</form>
</center>
</body>
</html>
```

checkage.jsp:

```
<%@page language="java" import="java.sql.*" errorPage=""%>
<%
String name;
int age;
name=request.getParameter("uname");
age=Integer.parseInt(request.getParameter("uage"));
if(age<=18)
{
out.println("<h1> Hello\t " +name+"\t you are not eligible </h1>");
}
else
{
out.println("<h1> Welcome " +name+" to this site </h1>");
}
%>
```

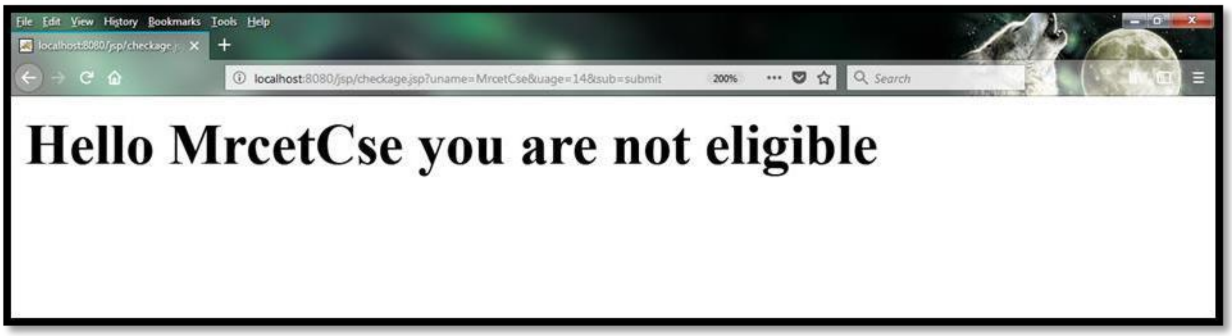
Output:


File Edit View History Bookmarks Tools Help
User Acess
localhost:8080/jsp/UserEligibility.html
200%
Search
submit

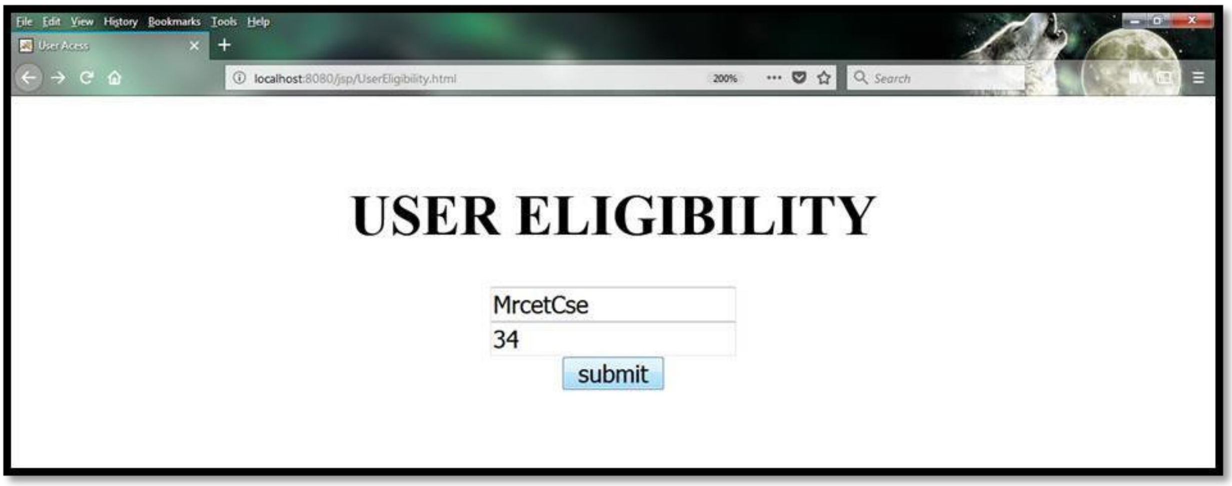
USER ELIGIBILITY

MrcetCse

14


File Edit View History Bookmarks Tools Help
localhost:8080/jsp/checkage.js
localhost:8080/jsp/checkage.jsp?uname=MrcetCse&uage=14&sub=submit
200%
Search

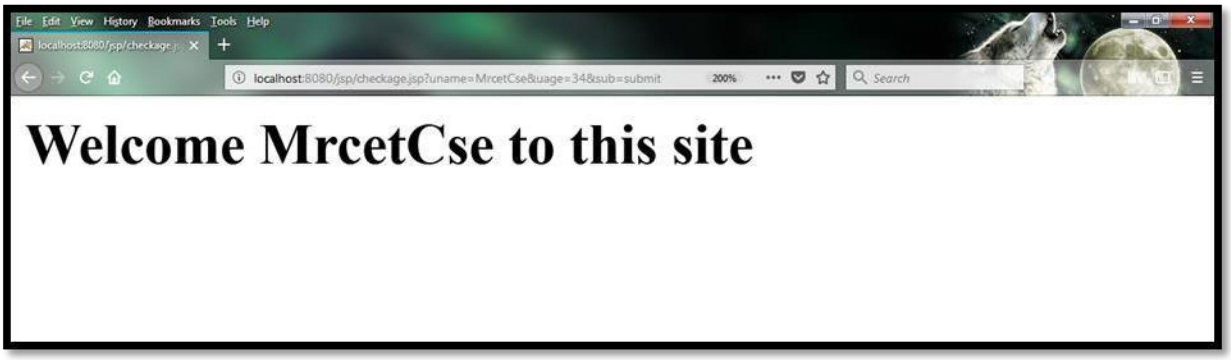
Hello MrcetCse you are not eligible


File Edit View History Bookmarks Tools Help
User Acess
localhost:8080/jsp/UserEligibility.html
200%
Search
submit

USER ELIGIBILITY

MrcetCse

34


File Edit View History Bookmarks Tools Help
localhost:8080/jsp/checkage.js
localhost:8080/jsp/checkage.jsp?uname=MrcetCse&uage=34&sub=submit
200%
Search

Welcome MrcetCse to this site

WEEK - 11:

Write a program to design a simple calculator using (a) JavaScript (b) Servlet and (c) JSP.

(a) USING JavaScript

AIM: To design a simple calculator using JAVASCRIPT.

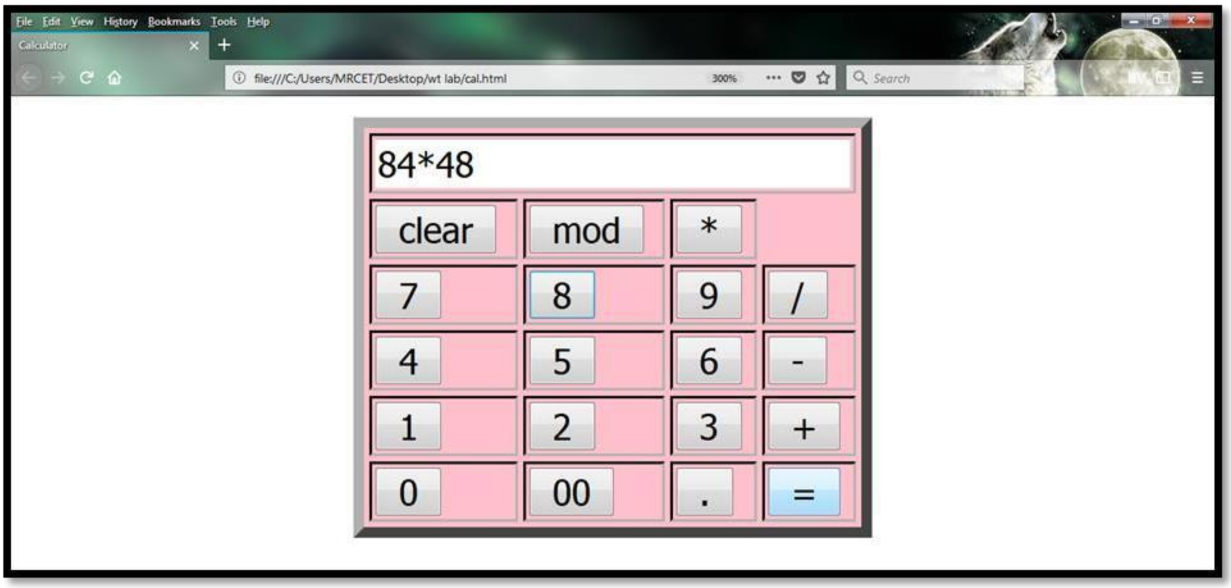
PROGRAM:

cal.html

```
<html>
<head>
 <title>Calculator</title>
<script language="javascript">
var inputstring="";
function updatestring(value)
{
inputstring=inputstring+value;
document.calculator.input.value=inputstring;
}
</script>
</head>
 <body>
<form name="calculator">
<table border="4" align="center" bgcolor="pink" bordercolor="black">
<tr>
 <td colspan="4"><input type="text" name="input" maxlength="15" size="27"></td> </tr>
<tr> <td><input type="button" value="clear" onclick="input.value=' ';inputstring=' ' "></td>
<td><input type="button" value="mod" onclick="updatestring('%')"></td>
<td><input type="button" value="*" onclick="updatestring('*')"> </td>     </tr>
<tr>
<td><input type="button" value="7" onclick="updatestring('7')"> </td>
<td><input type="button" value="8" onclick="updatestring('8')"> </td>
 <td><input type="button" value="9" onclick="updatestring('9')"> </td>
 <td><input type="button" value="/" onclick="updatestring('/')"> </td>       </tr>
<tr>
<td><input type="button" value="4" onclick="updatestring('4')"> </td>
<td><input type="button" value="5" onclick="updatestring('5')"> </td>
 <td><input type="button" value="6" onclick="updatestring('6')"> </td>
 <td><input type="button" value="-" onclick="updatestring('-')"> </td>      </tr>
<tr>
<td><input type="button" value="1" onclick="updatestring('1')"> </td>
 <td><input type="button" value="2" onclick="updatestring('2')"> </td>
<td><input type="button" value="3" onclick="updatestring('3')"> </td>
 <td><input type="button" value="+" onclick="updatestring('+')"> </td>     </tr>
<tr>
```

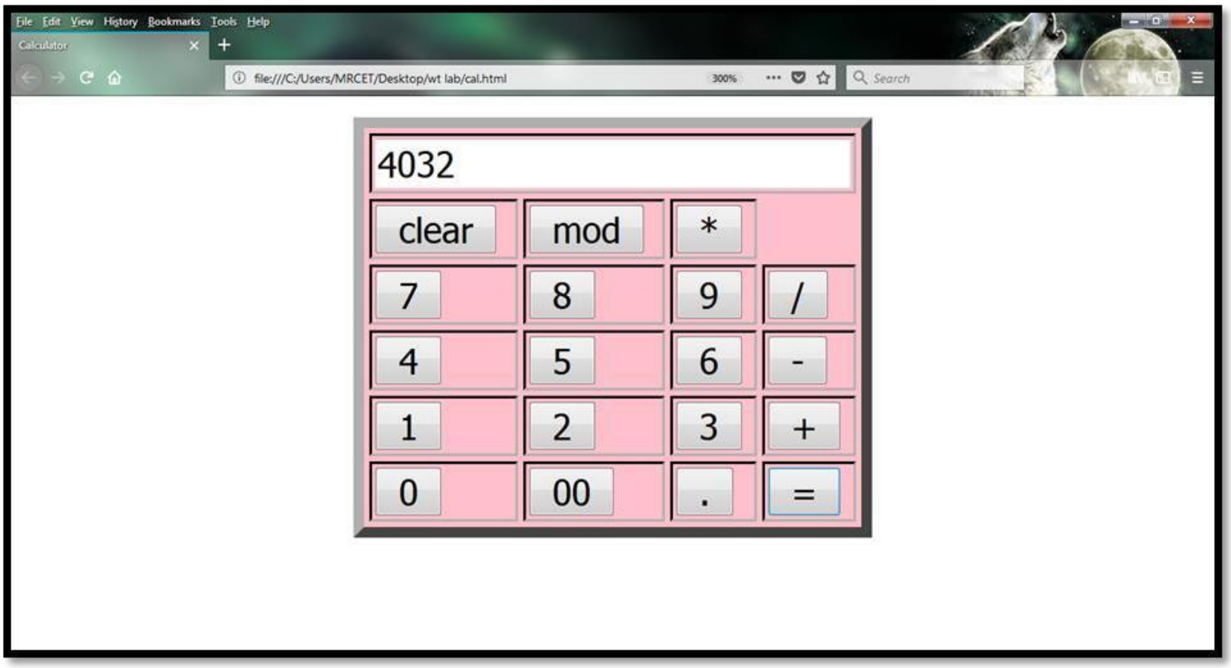
```
<td><input type="button" value="0" onclick="updatestring('0')"> </td>
<td><input type="button" value="00" onclick="updatestring('00')"> </td>
 <td><input type="button" value="." onclick="updatestring('.')"> </td>
<td><input type="button" value="=" onclick="input.value=eval(inputstring);"> </td> </tr>

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

OUTPUT:



84*48

File Edit View History Bookmarks Tools Help
Calculator
file:///C:/Users/MRCET/Desktop/wt lab/cal.html
300%
Search
clear
mod
*
7
8
9
/
4
5
6
-
1
2
3
+
0
00
.
=



4032

File Edit View History Bookmarks Tools Help
Calculator
file:///C:/Users/MRCET/Desktop/wt lab/cal.html
300%
Search
clear
mod
*
7
8
9
/
4
5
6
-
1
2
3
+
0
00
.
=

(b) USING SERVLETS

AIM: Develop Servlet Application of Basic Calculator(+,-,*,/,%) using ServletInputStream and ServletOutputStream.

DESCRIPTION:

In java with using 2 operant's and 1 operator we can calculate the basic mathematically operation such as addition, subtraction, multiplication, division Servlet is a Java class which extends the capabilities of server that provides the application accessed by means of request response model. It uses two interfaces i.e. HTTPRequest & HTTPResponse

HTTPRequest: This is an interface which provides methods for extracting HTTP parameters from the query or request body depending on the type of request i.e. get or post

HTTPResponse: This interface provides an OutputStream for retrieving information such as images or PrintWriter for retrieving text output.

PROGRAM:

index.html

```
<html>
 <head>
  <title>Simple Calculator</title>
 </head>
 <body>
 <h3>Please Enter Two Numbers :::</h3>
 <form method="GET" action="http://localhost:8080/Cal/calc">
 Number:<input type="text" id="t1" name="t1"/><br/>
 <select name="op">
 <option value="+">+</option>
 <option value="-">-</option>
 <option value="*">*</option>
 <option value="/">/</option>
 <option value="%">%</option>
 </select></br>
 Number:<input type="text" id="t2" name="t2">
 <input type="submit" value="calculate"/></br>
 </form>
 </body>
</html>
```

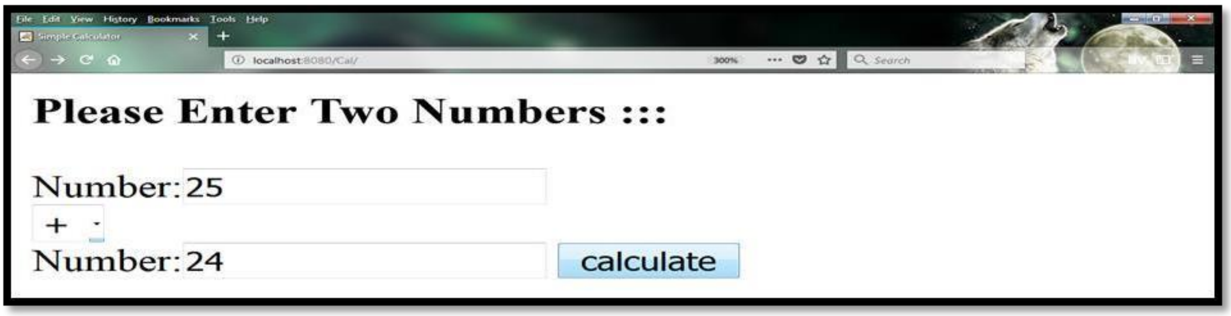
Cal.java

```
import java.io.IOException;
import java.io.PrintWriter;
import javax.servlet.ServletException;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;

import javax.servlet.http.HttpServletResponse;

public class Cal extends HttpServlet
 {
public void doGet(HttpServletRequest request, HttpServletResponse response)
 throws ServletException, IOException {
 response.setContentType("text/html;charset=UTF-8");
 PrintWriter pw= response.getWriter();
 int n1 = Integer.parseInt(request.getParameter("t1"));
int n2 = Integer.parseInt(request.getParameter("t2"));
String op=request.getParameter("op");
if(op.equals("+")){pw.println("Addition :::"+(n1+n2));}
else if(op.equals("-")){pw.println("Subtraction :::"+(n1-n2));}
else if(op.equals("*")){pw.println("Multiplication :::"+(n1*n2));}
else if(op.equals("/")){pw.println("Division :::"+(n1/n2));}
else{pw.println("Remainder :::"+(n1%n2));}
pw.close();
}
}
```

web.xml

```
<web-app>
<servlet>
 <servlet-name>Calculator</servlet-name>
 <servlet-class>Cal</servlet-class>
</servlet>
<servlet-mapping>
 <servlet-name>Calculator</servlet-name>
 <url-pattern>/calc</url-pattern>
</servlet-mapping>
</web-app>
```

Output:

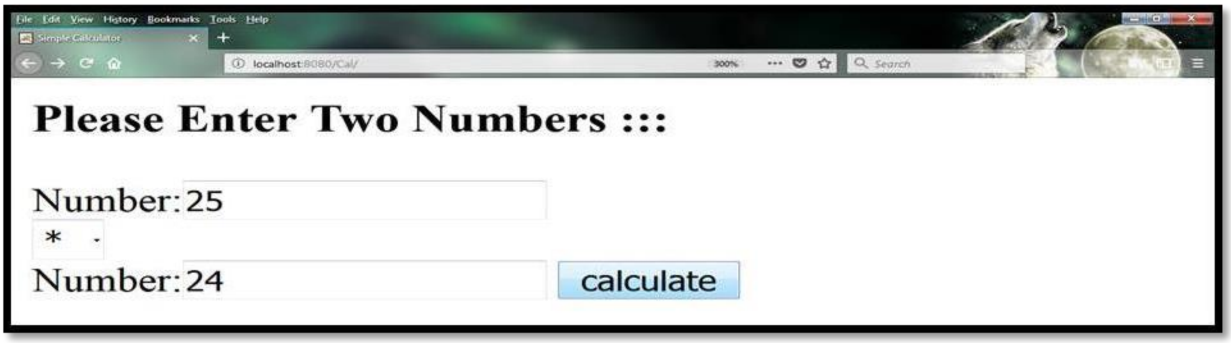


Please Enter Two Numbers :::

Number: 25

+

Number: 24 calculate

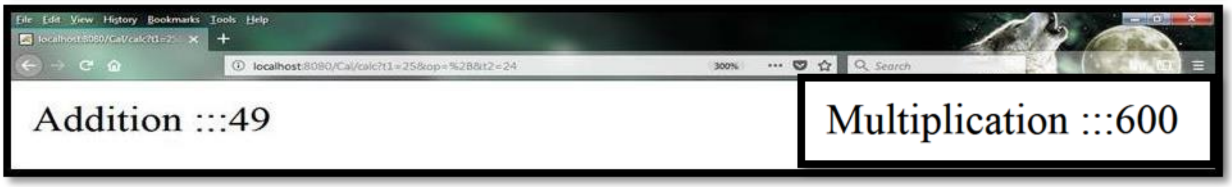


Please Enter Two Numbers :::

Number: 25

*

Number: 24 calculate


File Edit View History Bookmarks Tools Help
localhost:8080/Cal/calc?t1=25
localhost:8080/Cal/calc?t1=25&op=%2B&t2=24
300%
Search

Addition :::49

Multiplication :::600

(c) USING JSP

Aim: To design a calculator using JSP.

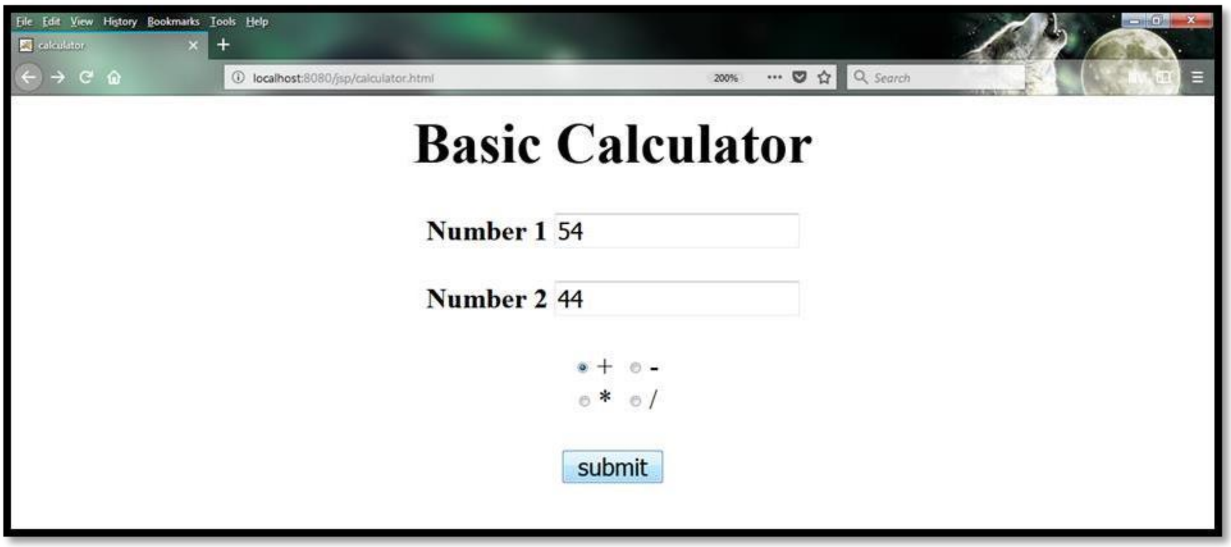
calculator.html

```
<html>
<title>calculator</title>
<head><h1><center>Basic Calculator</center></h1></head>
<body>
<center>
<form action="http://localhost:8080/jsp/calculator.jsp"  method="get">

<label for="num1"><b>Number 1</b></label>
<input type="text" name ="num1"><br><br>
<label for = "num2"><b>Number 2</b></label>
<input type="text" name="num2"><br><br>

<input type ="radio" name = "r1" value="Add">+
<input type = "radio" name = "r1" value="Sub">-<br>
<input type="radio" name="r1" value ="mul">*
<input type = "radio" name="r1" value="div">/<br><br>

<input type="submit" value="submit">
</center>
</body>
</html>
```

calculator.jsp

```
<html>
<title>calculator</title>
<head></head>

<body>
<%@page language="java"%>
<%
 int num1 = Integer.parseInt(request.getParameter("num1"));
 int num2 = Integer.parseInt(request.getParameter("num2"));
 String operation = request.getParameter("r1");
 if(operation.equals("Add")){
 int add=num1+num2;
 out.println("Addition is: "+add);
 }
 else  if(operation.equals("Sub")){
 int sub=num1-num2;
 out.println("Substraction is: "+sub);
 }
 else if(operation.equals("mul")){

 int mul=num1*num2;
 out.println("multiplication is: "+mul);
 }
 else if(operation.equals("div"))
 {
 int div = num1/num2;
 if(num1>=num2)
 out.println("division is: "+div);
 else
 out.println("The division cannot be performed");
 }
%>
</body>
</html>
```

OUTPUT:


File Edit View History Bookmarks Tools Help
calculator
localhost:8080/jsp/calculator.html
200%
Search

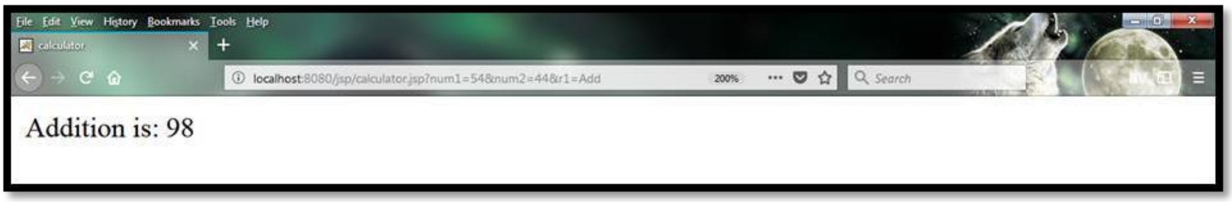
Basic Calculator

Number 1 54

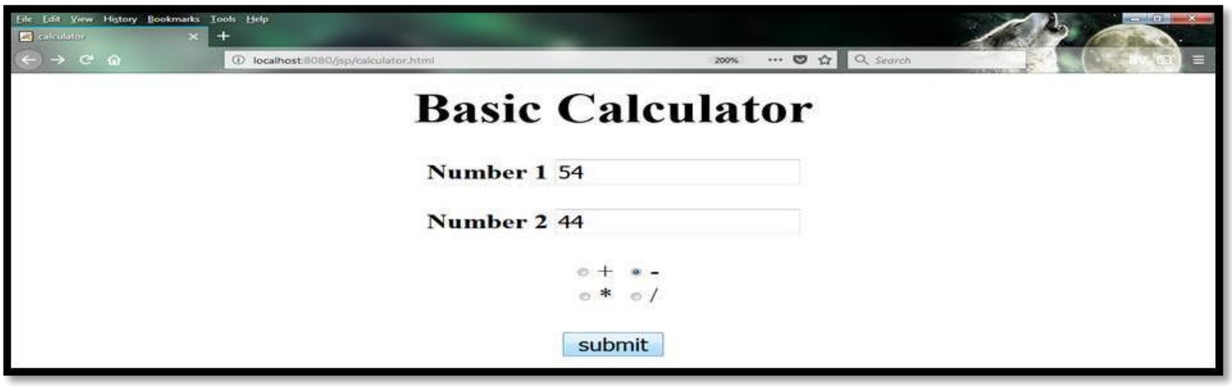
Number 2 44

● + ○ -
○ * ○ /

submit


File Edit View History Bookmarks Tools Help
calculator
localhost:8080/jsp/calculator.jsp?num1=54&num2=44&r1=Add
200%
Search

Addition is: 98


File Edit View History Bookmarks Tools Help
calculator
localhost:8080/jsp/calculator.html
200%
Search

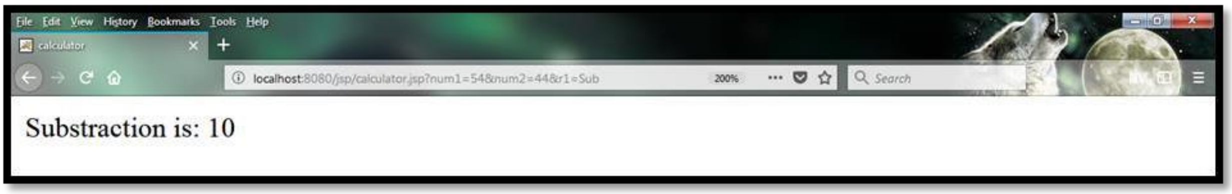
Basic Calculator

Number 1 54

Number 2 44

○ + ● -
○ * ○ /

submit


File Edit View History Bookmarks Tools Help
calculator
localhost:8080/jsp/calculator.jsp?num1=54&num2=44&r1=Sub
200%
Search

Substraction is: 10