MAHA BARATHI ENGINEERING COLLEGE

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

LAB MANUAL

for

CCS375 – WEB TECHNOLOGIES LABORATORY

(Regulation 2021 – V Semester)

ACADEMIC YEAR: 2024-2025

(Odd Semester)

PREPARED BY,
Mrs.D.Devi,
AP – CSE.

INDEX

CCS375 **WEB TECHNOLOGIES LABORATORY**

OBJECTIVES

- To understand different Internet Technologies
- To learn java-specific web services architecture
- To Develop web applications using frameworks

LIST OF EXPERIMENTS

1. Create a web page with the following using HTML.
   - To embed an image map in a web page.
   - To fix the hot spots.
   - Show all the related information when the hot spots are clicked.
2. Create a web page with all types of Cascading style sheets.
3. Client Side Scripts for Validating Web Form Controls using DHTML.
4. Installation of Apache Tomcat web server.
5. Write programs in Java using Servlets:
   - To invoke servlets from HTML forms.
   - Session Tracking.
6. Write programs in Java to create three-tier applications using JSP and Databases
   - For conducting on-line examination.
   - For displaying student mark list. Assume that student information is available in a databasewhich has been stored in a database server.
7. Programs using XML – Schema – XSLT/XSL.

TOTAL: 30 PERIODS

OUTCOMES:

At the end of the course, the student should be able to

CO1: Construct a basic website using HTML and Cascading Style Sheets

CO2: Build dynamic web page with validation using Java Script objects and by applying differentevent handling mechanisms.

CO3: Develop server side programs using Servlets and JSP.

CO4: Construct simple web pages in PHP and to represent data in XML format.

CO5: Develop interactive web applications.

EX.NO:1 CREATING A WEB PAGE USING IMAGE MAP

DATE :

AIM: To create a webpage with the following using HTML:

i) To embed an image map in a webpage.

ii) To fix the hotspots.

iii) Show all the related information when the hot spots arec licked.

ALGORITHM:

Step 1: Open notepad and type the HTML coding for homepage home. Html which has an image map using<MAP>tag and create some hotspots

Step 2: Hotspots are created by including a link at required coordinate position using <a> tag which directs to its corresponding web pages

Step 3: Write the coding for all the link web pages

Step 4: Run the home. Html in suitable web browser

Step 5: Display output.

PROGRAM:

home.html

```
<html>
<head>
<title>Home-StatesofIndia!!!</title>
</head>
<bodybgcolor="gold">
<h1><u><center>RepublicofIndia</center></u></h1>
<p>
  IndiaistheSeventhLargestcountryintheworldbygeographicalare
  a,thesecondmostPopulouscountrywithover1.3billionpeople,Ind
  iaisavastSouthAsiancountrywithdiverseterrain–
  fromHimalayanpeakstoIndianOceancoastline–
andhistoryreachingback5millennia..Indiaisafederalconstitutionalrepublicwithaparliamentaryde
mocracyconsistingof28states and7Union Territories.</p>
<center>
<imgalign="center"width="275"height="290"alt="India"src="IndiaMap.jpg"usemap="#indi
a"ismap="ismap">
```

```
<mapname="india">
<areashape="circle"coords="100,200,10"href="ANDHRAPRADESH.html"alt="Learnaboutandra">
<areashape="circle"coords="70,275,10"href="KERALA.html"alt="Learnaboutkerala">
<areashape="circle"coords="70,210,20"href="KARNATAKA.html"alt="Learnaboutkarnataka">
<areashape="circle"coords="100,250,20"href="TAMILNADU.html"alt="Learnabouttamilnadu">
</map></center>
<h2>Features</h2>
<ul>
<li><b>Population</b>-133.92crores(2019).
<li><b>Capital</b>-NewDelhi
<li><b>LargestCity</b>-Mumbai
<li><b>Currency</b>-IndianRupee
<li><b>TimeFormat</b>-IST(UTC+5:30)
<li><b>NationalSport</b>-Hockey
<li><b>CurrentPM</b>-NarendraModi
<li><b>CurrentPresident</b>-PranabMukherjee
</li>
</ul>
<h2><b>Toviewdetailsofsouthernstatespleaseclickonthespecifiedareainthemap!</b>
</h2>
</body>
</html>
```

Tamilnadu.html

```
<html>
<head><title>TamilNadu-India</title></head>
<bodybgcolor="palegreen">
<h1><center>TamilNadu</center></h1>
<h3>isoneofthe29statesofIndia.ItscapitalandlargestcityisChennai.TamilNadulies
 inthesouthernmostpartoftheIndianPeninsulaand
 ItisborderedbytheStatesofPuducherry,Kerala,Karnataka,AndhraPradesh
</h3><h3>
<ul>
```

```
<li>Districts<i>-37</i>
<li>CapitalCity<i>-Chennai</i>
<li>LargestCity<i>-Chennai</i>
<li>Governor<i>-BanwarilalPurohit</i>
<li>ChiefMinister<i>-Palanisamy</i>
<li>Population<i>-80,351,195</i>
<li>Touristspots<i>-
 Mamallapuran,Ooty,Kodaikanal,Marina,MuduraiMeenakshiAmmanTem
 ple,Thanjavuretc.,</i>
</ul>
<ahref="Home.html">back</a>
</body>
</html>
```

andhrapradesh.html

```
<html>
<head><title>AndhraPradesh-India</title></head>
<bodybgcolor="tan">
<h1><center>AndhraPradesh</center></h1>
<h3>A.P.,isastatesituatedonthesoutheasterncoastofIndia.ItisIndia'sfourthl
 argeststatebyareaandfifthlargestbypopulation.</h3>
<h3>
<ul>
<li>Districts<i>-13</i>
<li>CapitalCity<i>-Hyderabad</i>
<li>LargestCity<i>-Hyderabad</i>
<li>Governor<i>-BISWABHUSANHARICHARAN</i>
<li>ChiefMinister<i>-Y.S.JAGANMOHANREDDY</i>
<li>Population<i>-91,103,010</i>
<li>Touristspots<i>-
 TirumalaTirupati,Guntur,GolcondaFort,Chandragiri,Arakuvalley,F
 alaknumaPalaceetc.,</i>
</ul>
<ahref="Home.html">back</a>
```

```
</body> </html>
```

Karnataka.html

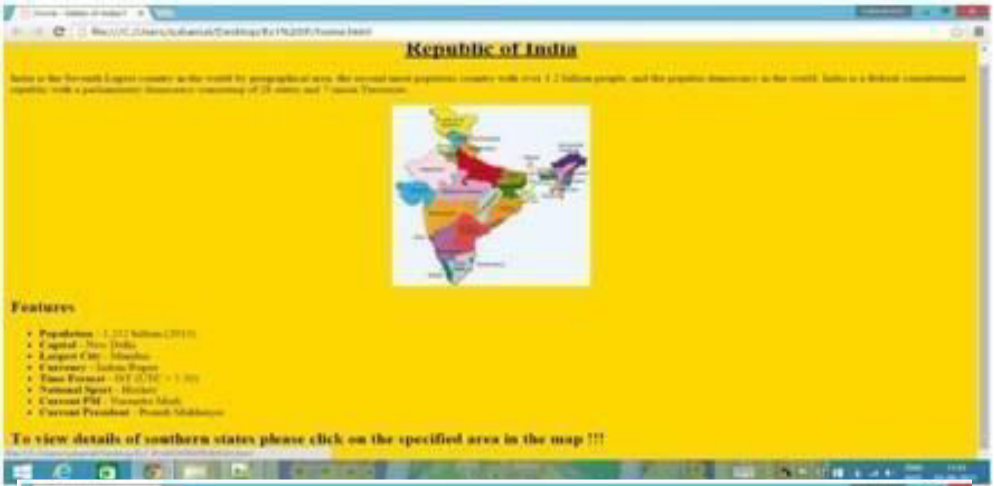
```
<html>
<head><title>Karnataka-India</title></head>
<bodybgcolor="wheat">
<h1><center>Karnataka</center></h1>
<h3> <ul>
<li>Districts<i>-30</i>
<li>CapitalCity<i>-Bangalore</i>
<li>LargestCity<i>-Bangalore</i>
<li>Governor<i>-VajubhaiVala</i>
<li>ChiefMinister<i>-B.S.YEDIYURAPPA</i>
<li>Population<i>-  68,308,304</i>
<li>Touristspots<i>-GolGumbaz,MysorePalace,KeshavaTempleetc.,</i>
</ul>
</h3>
<ahref="Home.html">back</a>
</body>
</html>
```

Kerala.html

```
<html>
<head><title>Kerala-India</title></head>
<bodybgcolor="indianred">
<h1><center>Kerala</center></h1>
<h3>
<ul>
<li>Districts<i>-14</i>
<li>CapitalCity<i>-Thiruvanandapuram</i>
<li>LargestCity<i>-Thiruvanandapuram</i>
<li>Governor<i>-ARIFMOHAMMADKHAN</i>
<li>ChiefMinister<i>-PINARAYIVIJAYAN</i>
<li>Population<i>-34,545,868</i>
<li>Touristspots<i>-
```

```
EdakkalCaves,Palayur,KovalamBeach,Munnar,Kochi,Alapuzhaetc.,</i>
</ul>
<ahref="Home.html">back</a>
</h3>
</body>
</html>
```

OUTPUT:



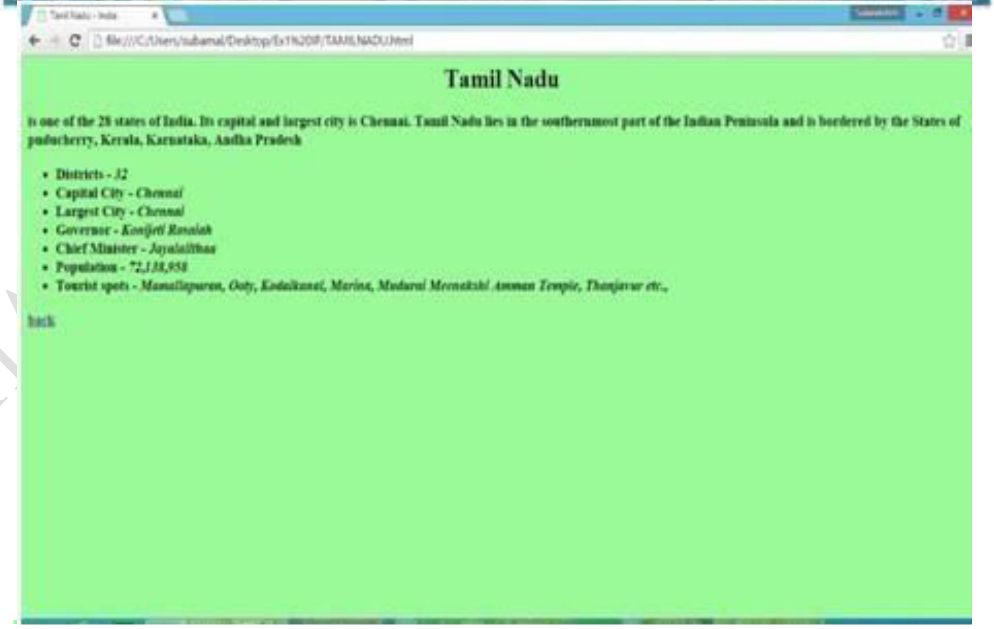
Republic of India

India is the Seventh Largest country in the world by geographical area, the second most populous country with over 1.2 billion people, and the populus democracy in the world. India is a federal constitutional republic with a parliamentary democracy consisting of 28 states and 7 Union Territories.

Features

- **Population** - 1,212 billion (2013)
- **Capital** - New Delhi
- **Largest City** - Mumbai
- **Currency** - Indian Rupee
- **Time Format** - IST (UTC + 5:30)
- **National Sport** - Hockey
- **Current PM** - Narendra Modi
- **Current President** - Pranab Mukherjee

To view details of southern states please click on the specified area in the map !!!



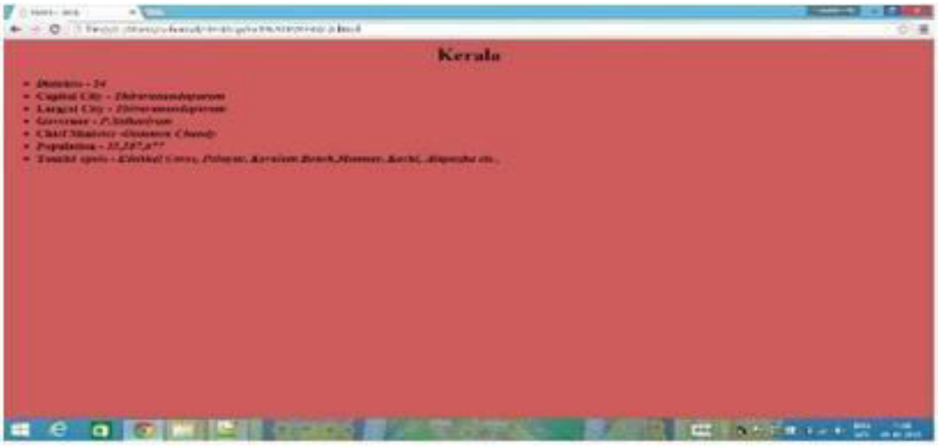
file:///C:/Users/subamal/Desktop/Ex1%20IP/TAMILNADU.html

Tamil Nadu

is one of the 28 states of India. Its capital and largest city is Chennai. Tamil Nadu lies in the southernmost part of the Indian Peninsula and is bordered by the States of puducherry, Kerala, Karnataka, Andha Pradesh

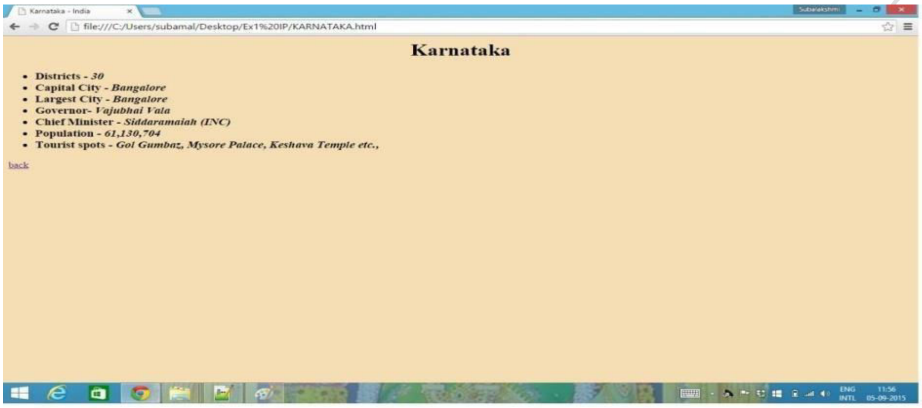
- **Districts** - ***32***
- **Capital City** - ***Chennai***
- **Largest City** - ***Chennai***
- **Governor** - ***Konijeti Rosaiah***
- **Chief Minister** - ***Jayalalithaa***
- **Population** - ***72,138,958***
- **Tourist spots** - ***Mamallapuram, Ooty, Kodaikanal, Marina, Madurai Meenakshi Amman Temple, Thanjavur etc.,***

back



Kerala

- **Districts -** ***14***
- **Capital City -** ***Thiruvananthapuram***
- **Largest City -** ***Thiruvananthapuram***
- **Governor -** ***P.Sathasivam***
- **Chief Minister -*****Oommen Chandy***
- **Population -** ***33,387,677***
- **Tourist spots -** ***Edakkal Caves, Ponmudi, Kovalam Beach,Munnar, Kochi, Alappuzha etc.,***



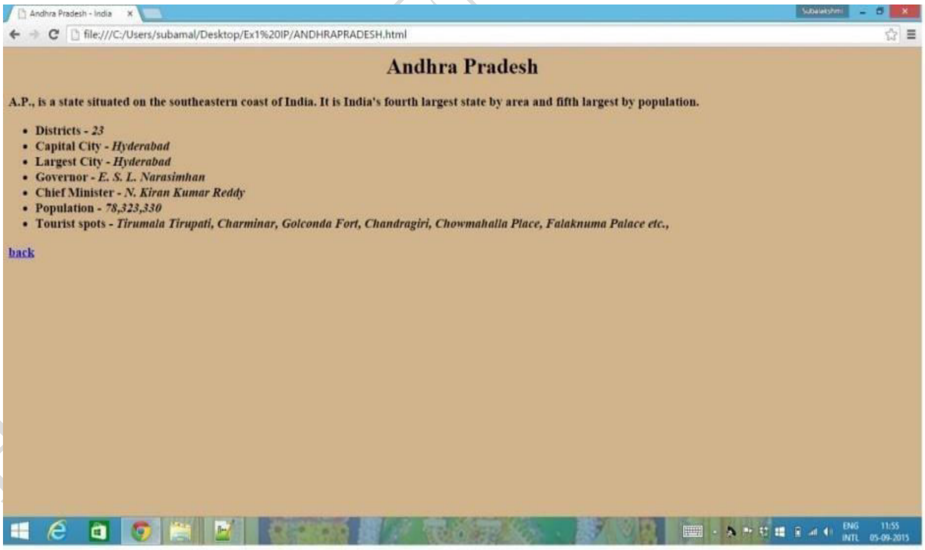
Karnataka - India

file:///C:/Users/subamal/Desktop/Ex1%20IP/KARNATAKA.html

Karnataka

- **Districts -** ***30***
- **Capital City -** ***Bangalore***
- **Largest City -** ***Bangalore***
- **Governor-** ***Vajubhai Vala***
- **Chief Minister -** ***Siddaramaiah (INC)***
- **Population -** ***61,130,704***
- **Tourist spots -** ***Gol Gumbaz, Mysore Palace, Keshava Temple etc.,***

back



Andhra Pradesh - India

file:///C:/Users/subamal/Desktop/Ex1%20IP/ANDHRAPRADESH.html

Andhra Pradesh

A.P., is a state situated on the southeastern coast of India. It is India's fourth largest state by area and fifth largest by population.

- **Districts -** ***23***
- **Capital City -** ***Hyderabad***
- **Largest City -** ***Hyderabad***
- **Governor -** ***E. S. L. Narasimhan***
- **Chief Minister -** ***N. Kiran Kumar Reddy***
- **Population -** ***78,323,330***
- **Tourist spots -** ***Tirumala Tirupati, Charminar, Golconda Fort, Chandragiri, Chowmahalla Place, Falaknuma Palace etc.,***

back

Result :

Thus a web page with given specifications was created and its output was verified

EX.NO: 2 CREATING A WEBPAGE WITH CASCADING STYLE SHEET

DATE :

AIM:

To create a webpage with the following using html to embedded the style sheet

ALGORITHM:

Step1: Create html file with the style tag, inside head tag.

Step2: Set the style such as font-family, font-size, color, left etc, for the heading

h1,h2,…h6 and respectively.

Step3: Close the head tag.

Step4: Specify the heading and information required inside the body tag.

Step5: Close the opened tag.

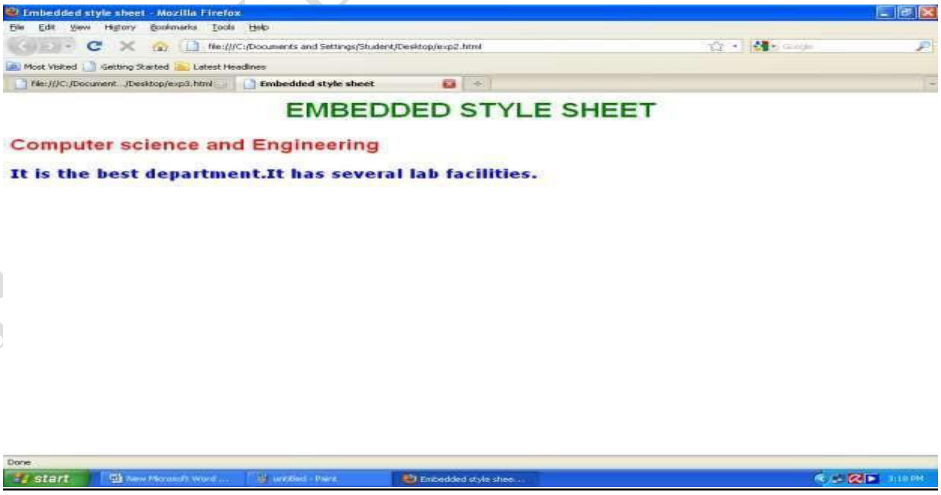
PROGRAM:

```
<! DOCTYPE html PUBLIC"-////W3C//DTD XHTML 1.0
   TRANSTION//EN"http://www.w3.org/TR/html1/DTD/html1 1.dtd>

<html xmlns="http://www.w3org/1999/xhtml">
<head>
<title>Embedded style sheet</title>
<style type="text/css">h1
{
font-family:arial;
color:green;
}
h2
{
font-family:arial;
color:red; left:20px
}
h3
{
```

```
font-family:arial;
color:blue;
    }
    p
    {
    font-sise:14pt;
    font-family:verdana
    }
    </style>
    </head>
    <body>
    <h1>
    <center>This is created using embedded style sheet
    </center>
    </h1>
    <h2>This line is allingned left and red colored;
    </h2>
    <p>
    The embedded style sheet is the most commonly used style sheet
    This paragragh is return in verdana font with font size of 14.
    </p>
    <h3>
    This is a blue <a href="colorname.html">colored</a> line
    </h3>
    </body>
    </html>
```

OUTPUT:



Embedded style sheet - Mozilla Firefox

file:///C:/Documents and Settings/Student/Desktop/exp2.html

EMBEDDED STYLE SHEET

Computer science and Engineering

It is the best department.It has several lab facilities.

File Edit View History Bookmarks Tools Help
Most Visited
Getting Started
Latest Headlines
file:///C:/Document.../Desktop/exp3.html
Embedded style sheet
Done
start

RESULT: Thus creation of an webpage using cascading style sheet has been developed successfully.

.

EX.NO :3 CLIENT SIDE SCRIPTS for validating web form control using DHTML

DATE:

AIM:

To develop a program for validating web form control using DHTML.

ALGORITHM:

Step1: Start the program.
Step2: Define the title within the tag.
Step3: Give the script type within the script tag.
Step4: Validate each and every column as the box with the if condition.
Step5: If empty value are given or the block term are next then it is verified with certain condition.
Step6: If values is empty then a message is been displayed.
Step7: Form is designed with GUI tool is description.
Step8: All buttons are processed accordingly.
Step9: Stop the program.

PROGRAM:

//Webforms.html

```
<html>
<head>
<script
type='text/javascript'>
function formValidator()
{
var
firstname=document.getElementById('firstname');
var lastname=document.getElementById('lastname');
var addr=document.getElementById('addr');
var zip=document.getElementById('zip');
var
Countries=document.getElementById('Countries');
var username=document.getElementById('username');
var email=document.getElementById('email');
var dd=document.getElementById('dd');
var
mm=document.getElementById('mm');
var yyyy=document.getElementById('yyyy');
var
comment=document.getElementById('comment');var
password=document.getElementById('password');
if(isAlphabet(firstname,"Please enter only letters for your First name"))
{
if(isAlphabet(lastname,"Please enter only letters for your Last name"))
{
if(isNumeric(dd,"Please enter a date"))
{
if(madeSelection(mm,"Please Choose"))
{
```

```
if(isNumeric(yyyy,"Please enter a year"))
{
if(isAlphanumeric(addr,"Enter Numbers and letters only for address"))
{
if(isNumeric(zip,"please enter a valid zip code"))
{
if(madeSelection(Countries,"Please Choose"))
{
if(lengthRestriction(username,6,8))
{
if(isAlphanumeric(password,"Enter Numbers and letters only for password"))
{
if(emailValidator(email,"Please enter a valid email address"))
{
if(notEmpty(comment,"Please fill the comment"))
{
document.write("<b><i>Thank's for submitting your
details</i></b>");alert("Successful Entry!!");
return true;
}}}}}}}}}}}}
return false;
}
function notEmpty(elem,helperMsg)
{
if(elem.value.length==0)
{
alert(helperMsg)
;elem.focus();
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)
)
{
```

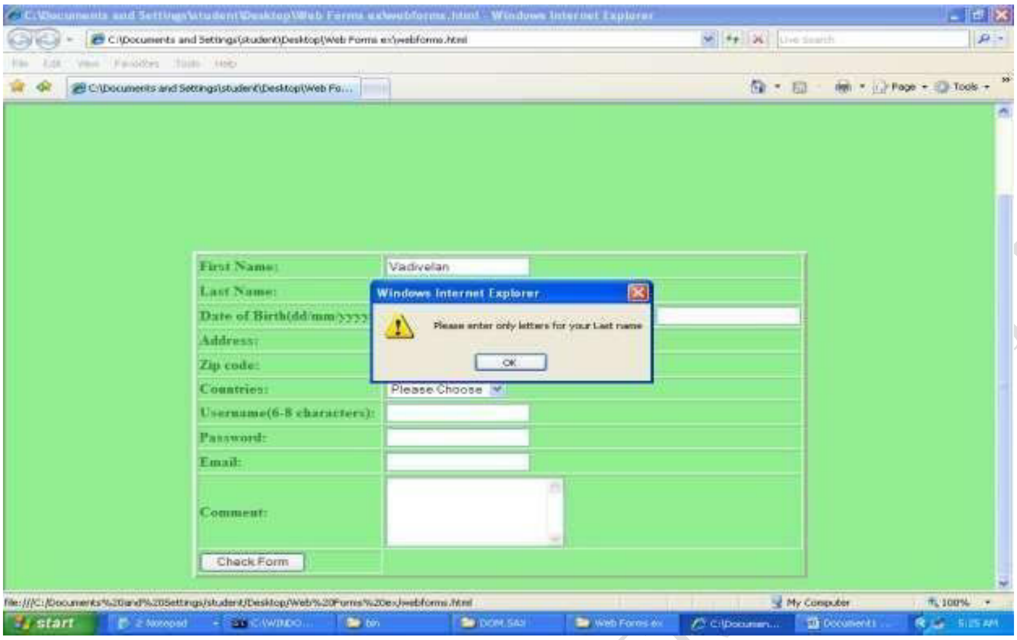
```
return true;
}
else
{
alert(helperMsg);
elem.focus()
;return false;
}
}
function isAlphanumeric(elem,helperMsg)
{
var alphaExp=/^[0-9, a-z a-z, 0-9, A-Z A-Z, - 0-9 .
]+$/;if(elem.value.match(alphaExp))
{
return true;
}
else
{
alert(helperMsg)
;elem.focus();
return false;
}
}
function lengthRestriction(elem,min,max)
{
var unput=elem.value;
if(unput.length>=min&&unput.length<=max)
{
return true;
}
else
{
alert("Please enter between "+min+" and "+max+"
charactters");elem.focus();
return false;
}
}
function madeSelection(elem,helperMsg)
{
if(elem.value=="Please Choose")
{
alert(helperMsg)
;elem.focus();
return false;
}
else
{
return true;
}
}
function emailValidator(elem,helperMsg)
{
```

```
var emailExp=/^[0-9 a-z . a-z 0-9]+\@[a-z]+\.[a-
z]{2,4}$/;if(elem.value.match(emailExp))
{
return true;
}
else
{
alert(helperMsg)
;elem.focus();
return false;
}
}
</script>
            <h1><center><b><font color="#347235">Please
   Enter YourDetails</font></b></center></h1>
</head>
<body bgcolor="LIGHTGREEN">
<hr>
<form onsubmit='return formValidator()' height="50%">
<table height="50%" border="3pt" align="center">
            <tr><td><b><font color="#347235">First
   Name:</font></b></td><td><inputtype='text'
   id='firstname'/></td></tr><br />
            <tr><td><b><font color="#347235">Last
   Name:</font></b></td><td><inputtype='text' id='lastname'/></td></tr><br
   />
            <tr><td><b><font color="347235">Date of
   Birth(dd/mm/yyyy):</font></b></td><td><input
   type='text' id='dd' />
<select id='mm'>
<option>Please Choose</option>
<option value="1">Jan</option>
<option value="2">Feb</option>
<option value="3">Mar</option>
<option value="4">Apr</option>
<option value="5">May</option>
<option value="6">Jun</option>
<option value="7">Jul</option>
<option value="8">Aug</option>
<option value="9">Sep</option>
<option value="10">Oct</option>
<option value="11">Nov</option>
<option value="12">Dec</option>
</select>
<input type='text' id='yyyy' /></td></tr><br />

            <tr><td><b><font
   color="#347235">Address:</font></b></td><td><inputtype='text'
   id='addr'/></td></tr><br />
            <tr><td><b><font color="#347235">Zip
   code:</font></b></td><td><inputtype='text' id='zip'/></td></tr><br />
            <tr><td><b><font
   color="#347235">Countries:</font></b></td><td><selectid='Countries'>
<option>Please Choose</option>
<option value="United Kingdom">United Kingdom</option>
<option value="Afghanistan">Afghanistan</option>
<option value="America">America</option>
<option value="India">India</option>
<option value="Tanzania">Tanzania</option>
<option value="Zimbabwe">Zimbabwe</option>
<option value="Switzerland">Switzerland</option>
</select></td></tr><br />
            <tr><td><b><font color="#347235">Username(6-8
   characters):</font></b></td><td><input type='text' id='username'
   /></td></tr><br />
            <tr><td><b><font
   color="#347235">Password:</font></b></td><td><inputtype='password'
   id='password' /></td></tr><br />
            <tr><td><b><font
   color="#347235">Email:</font></b></td><td><inputtype='text'
   id='email' /></td></tr><br />

            <tr><td><b><font
   color="#347235">Comment:</font></b></td><td><textarea
   id='comment'cols="20"rows="5"
   name="Address"></textarea></td></tr><br />
<tr><td><input type='submit' value='Check Form' /></td></tr>
</table>
</form>
</body></html>
```

OUTPUT:



C:\Documents and Settings\student\Desktop\Web Forms ex\webforms.html - Windows Internet Explorer

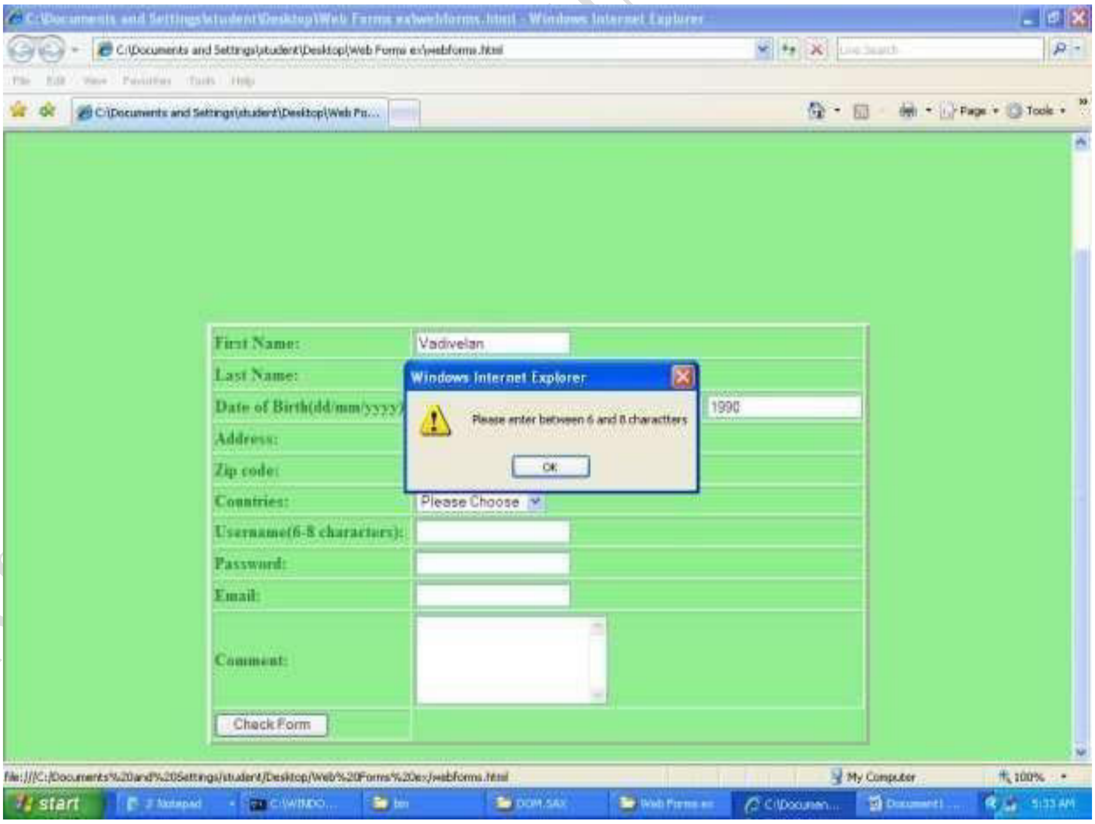
First Name:	Vadivelan
Last Name:	
Date of Birth(dd/mm/yyyy):	
Address:	
Zip code:	
Countries:	Please Choose
Username(6-8 characters):	
Password:	
Email:	
Comment:	
Check Form	

Windows Internet Explorer

Please enter only letters for your Last name

OK

file:///C:/Documents%20and%20Settings/student/Desktop/Web%20Forms%20ex/webforms.html



C:\Documents and Settings\student\Desktop\Web Forms ex\webforms.html - Windows Internet Explorer

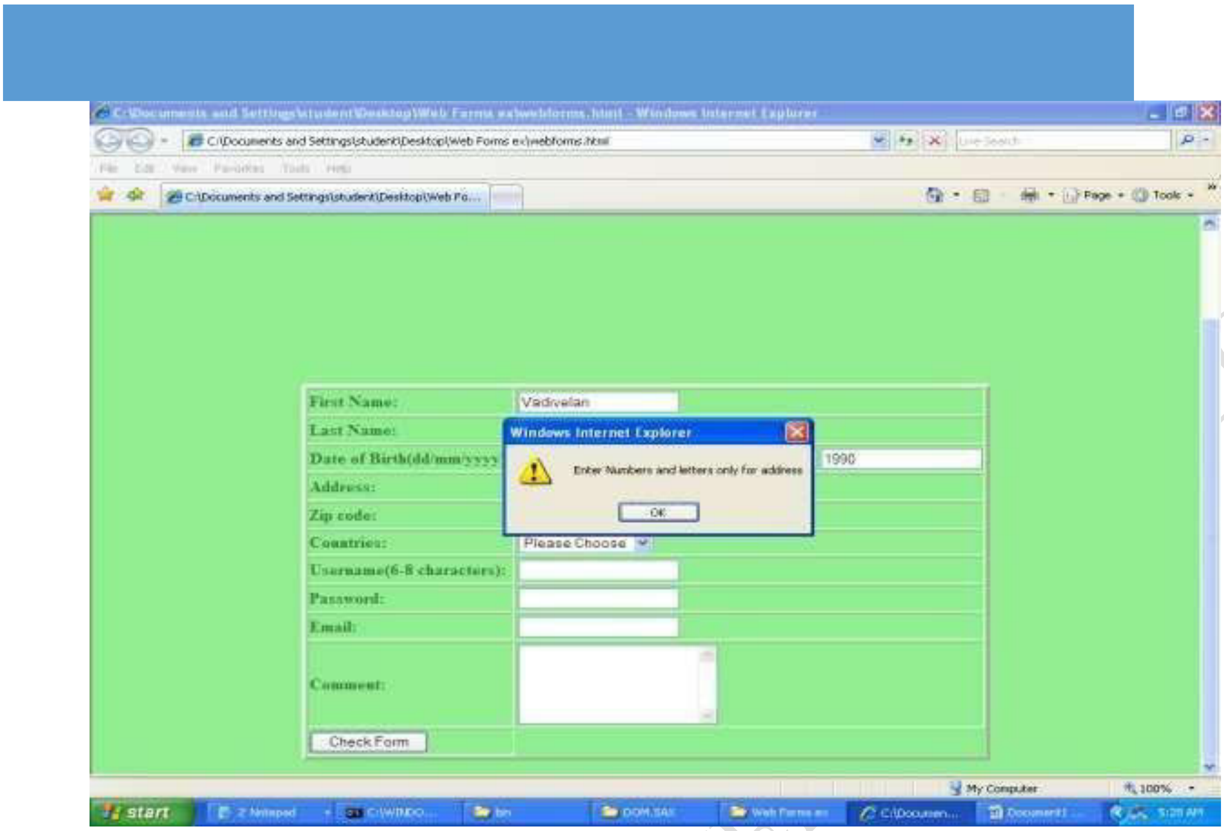
First Name:	Vadivelan
Last Name:	
Date of Birth(dd/mm/yyyy):	1990
Address:	
Zip code:	
Countries:	Please Choose
Username(6-8 characters):	
Password:	
Email:	
Comment:	
Check Form	

Windows Internet Explorer

Please enter between 6 and 8 charactters

OK

file:///C:/Documents%20and%20Settings/student/Desktop/Web%20Forms%20ex/webforms.html

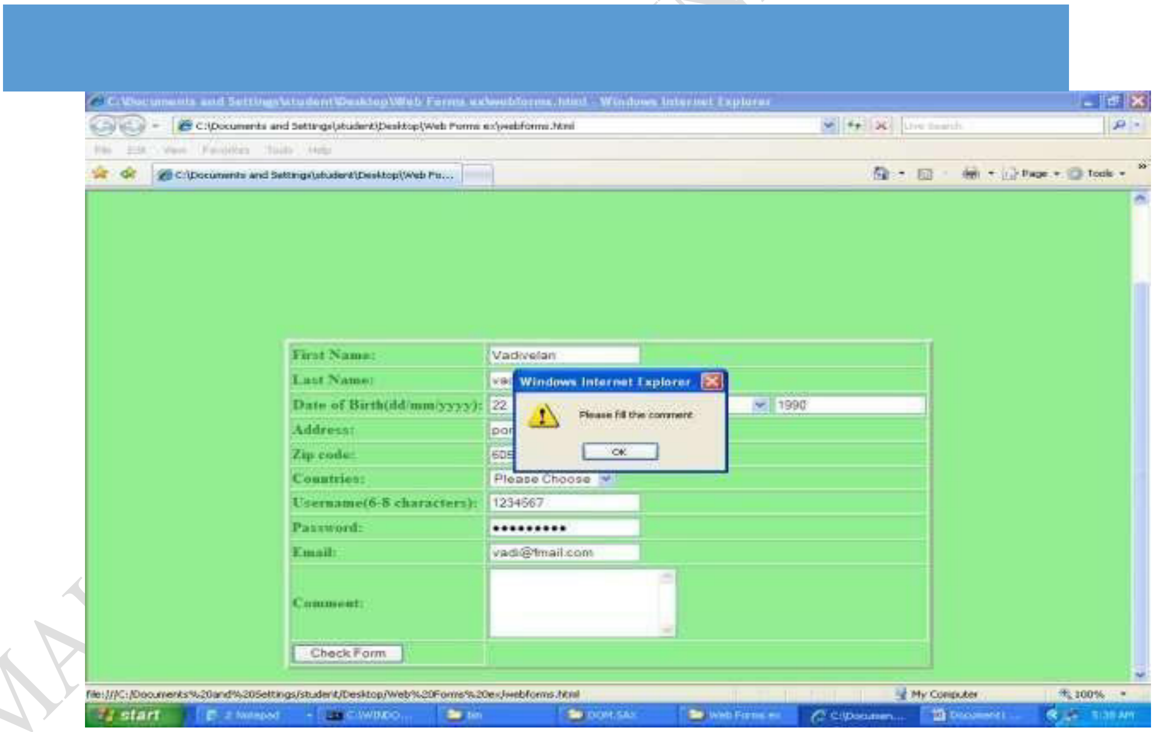

C:\Documents and Settings\student\Desktop\Web Forms ex\webforms.html - Windows Internet Explorer
start

Windows Internet Explorer

Enter Numbers and letters only for address

OK

First Name:	Vadivelan
Last Name:	
Date of Birth(dd/mm/yyyy):	1990
Address:	
Zip code:	
Countries:	Please Choose
Username(6-8 characters):	
Password:	
Email:	
Comment:	
Check Form	


C:\Documents and Settings\student\Desktop\Web Forms ex\webforms.html - Windows Internet Explorer
file:///C:/Documents%20and%20Settings/student/Desktop/Web%20Forms%20ex/webforms.html
start

Windows Internet Explorer

Please fill the comment

OK

First Name:	Vadivelan
Last Name:	va
Date of Birth(dd/mm/yyyy):	22 1990
Address:	por
Zip code:	605
Countries:	Please Choose
Username(6-8 characters):	1234567
Password:	••••••••••
Email:	vadi@fmail.com
Comment:	
Check Form	

RESULT :

Thus developing client side scripts for validating web from controls usingDHTML has been verified.

EX.NO :4 INSTALLING & CONFIGURING TOMCAT - WEBSERVER
DATE:

AIM:

INSTALLING & CONFIGURING TOMCAT WEBSERVER

PROCEDURE:

Step 1: Visit Apache Tomcat home page with a Web browser, and click the "Download" link under the "Tomcat 7.0.70 Released" section. You will see the"Tomcat 7 Downloads" page.

Step 2: Click "32-bit Windows zip" link under "Binary Distributions" section. Youwill see the download file save dialog box.(this supports jdk1.6 kit)

Step 3: Use the "Save file" option to save the download file "apache-tomcat-7.0.70-windows-x86.zip" to a temporary folder.

Step 4: Unzip "apache-tomcat-7.0.70-windows-x86.zip" to file installation folder"C:\ apache-tomcat-7.0.70".

Step 5: Try to start Tomcat server by running the "startup" command in acommand linewindow:

```
C:\ >cd apache-tomcat-7.0.70\bin

C:\ >cd apache-tomcat-7.0.70\bin>startup

The CATALINA_HOME environment variable is not defined correctlyThis
environment variable is needed to run this program
```

Step 6: To fix the missing environment variables, CATALINA_HOME,JAVA_HOME & JRE_HOME,

- Click my computer->right click properties->Select Advance SystemSetting
- In this tab, Click Environment variable
- Click new in User variables for admin
- Enter variable name & Variable value

CATALINA_HOME	C:\apache-tomcat-7.0.70
JAVA_HOME	C:\Program Files\Java\
JRE_HOME	C:\Program Files\Java\jre7

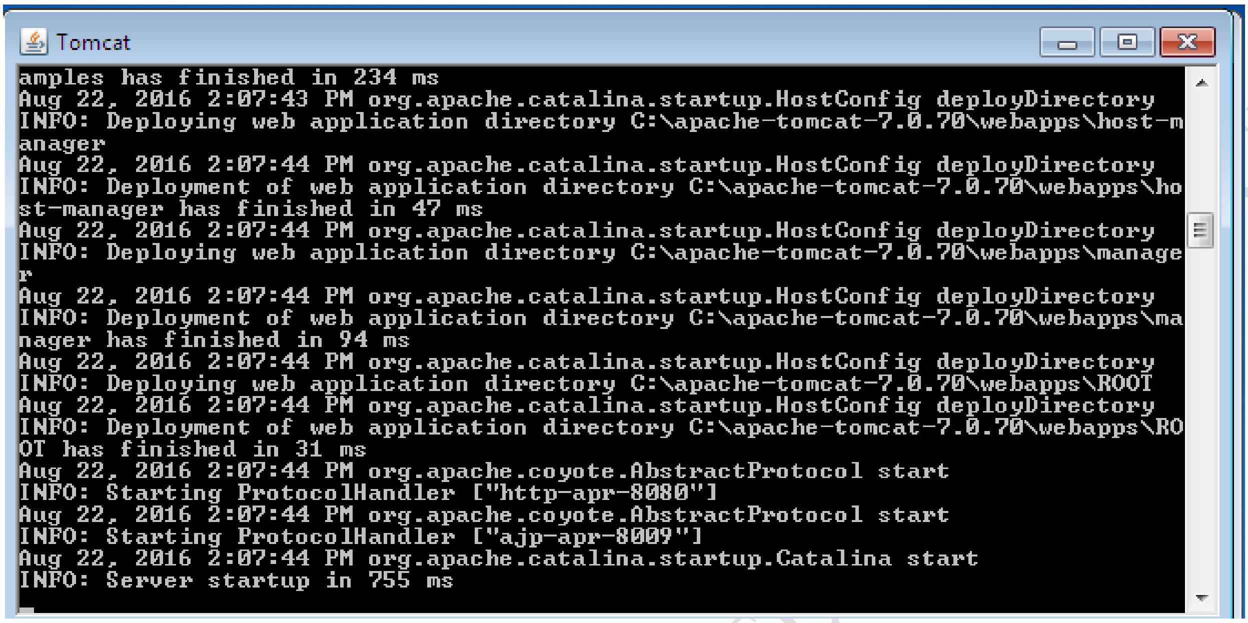
Step 7: Configuring Tomcat

Open "C:\apache-tomcat-7.0.70\conf"
Folder It consist of the following xml files
Server.xml
Web.xml
Tomcat-user.xml
Context.xml

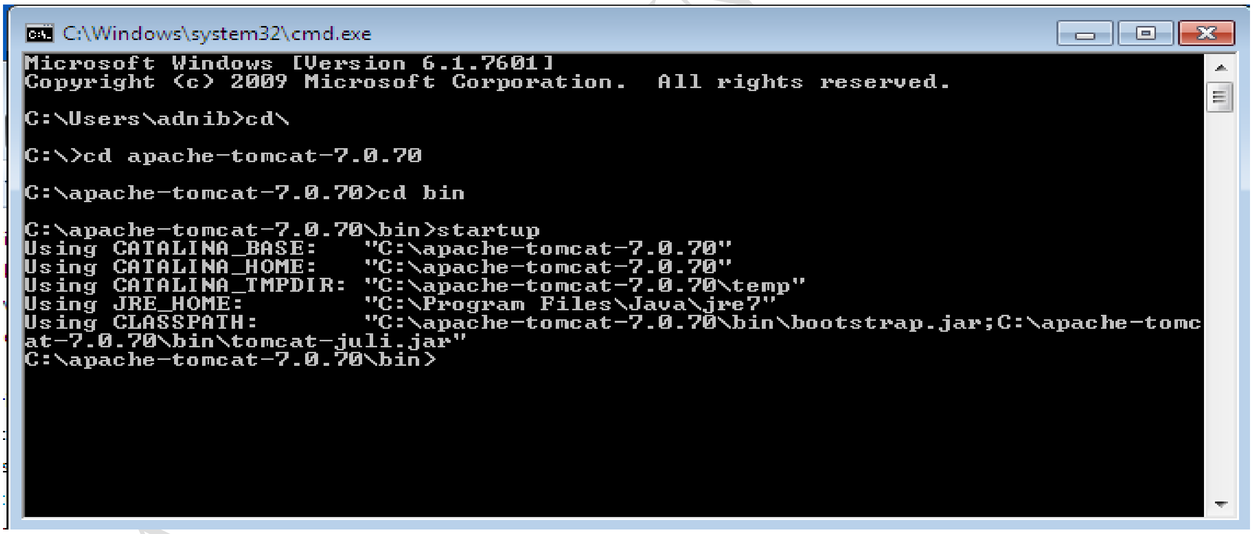
Open web.xml in notepad & modify default-listings-false to true
Open server.xml & change port number 8080 to any other (8081) if any application access thesame port Open context.xml change reloadable attribute to true on figurationprocedure varies according to the version

Step 8: Try to start Tomcat server by running the "startup" command in a command Line window:

OUTPUT:



```
amples has finished in 234 ms
Aug 22, 2016 2:07:43 PM org.apache.catalina.startup.HostConfig deployDirectory
INFO: Deploying web application directory C:\apache-tomcat-7.0.70\webapps\host-m
anager
Aug 22, 2016 2:07:44 PM org.apache.catalina.startup.HostConfig deployDirectory
INFO: Deployment of web application directory C:\apache-tomcat-7.0.70\webapps\ho
st-manager has finished in 47 ms
Aug 22, 2016 2:07:44 PM org.apache.catalina.startup.HostConfig deployDirectory
INFO: Deploying web application directory C:\apache-tomcat-7.0.70\webapps\manage
r
Aug 22, 2016 2:07:44 PM org.apache.catalina.startup.HostConfig deployDirectory
INFO: Deployment of web application directory C:\apache-tomcat-7.0.70\webapps\ma
nager has finished in 94 ms
Aug 22, 2016 2:07:44 PM org.apache.catalina.startup.HostConfig deployDirectory
INFO: Deploying web application directory C:\apache-tomcat-7.0.70\webapps\ROOT
Aug 22, 2016 2:07:44 PM org.apache.catalina.startup.HostConfig deployDirectory
INFO: Deployment of web application directory C:\apache-tomcat-7.0.70\webapps\RO
OT has finished in 31 ms
Aug 22, 2016 2:07:44 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["http-apr-8080"]
Aug 22, 2016 2:07:44 PM org.apache.coyote.AbstractProtocol start
INFO: Starting ProtocolHandler ["ajp-apr-8009"]
Aug 22, 2016 2:07:44 PM org.apache.catalina.startup.Catalina start
INFO: Server startup in 755 ms
```



```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\adnib>cd\

C:\>cd apache-tomcat-7.0.70

C:\apache-tomcat-7.0.70>cd bin

C:\apache-tomcat-7.0.70\bin>startup
Using CATALINA_BASE:   "C:\apache-tomcat-7.0.70"
Using CATALINA_HOME:   "C:\apache-tomcat-7.0.70"
Using CATALINA_TMPDIR: "C:\apache-tomcat-7.0.70\temp"
Using JRE_HOME:        "C:\Program Files\Java\jre7"
Using CLASSPATH:       "C:\apache-tomcat-7.0.70\bin\bootstrap.jar;C:\apache-tomc
at-7.0.70\bin\tomcat-juli.jar"
C:\apache-tomcat-7.0.70\bin>
```

RESULT:

Thus the Tomcat server is installed and configured successfully

EX.NO : 5 A INVOKING SERVLET FROM HTML FORMS

DATE:

AIM:

To write a html program for invoking servlet using html.

ALGORITHM:

Step1: In html program, define the html, head and title tag.

Step2: Then the title is Student Information Form and close the title and head tag.

Step3: Define the body tag inside the body tag create form and table simultaneously.

Step4: The table consists of following information Roll no, Student name, Address, Phone no and total marks.

Step5: In the servlet program, import the summary package and create a ownservlet class extends with generic servlet.

Step6: In the service method defined to request and response.

Step7: Create the object and for print writer and get writer()value.

Step8: The enumeration object get the servlet request parameter.

Step9: Create objects for string method and it is displayed another object valuereceived get parameter of name received and displayed the value received value.

PROGRAM:

//index.jsp

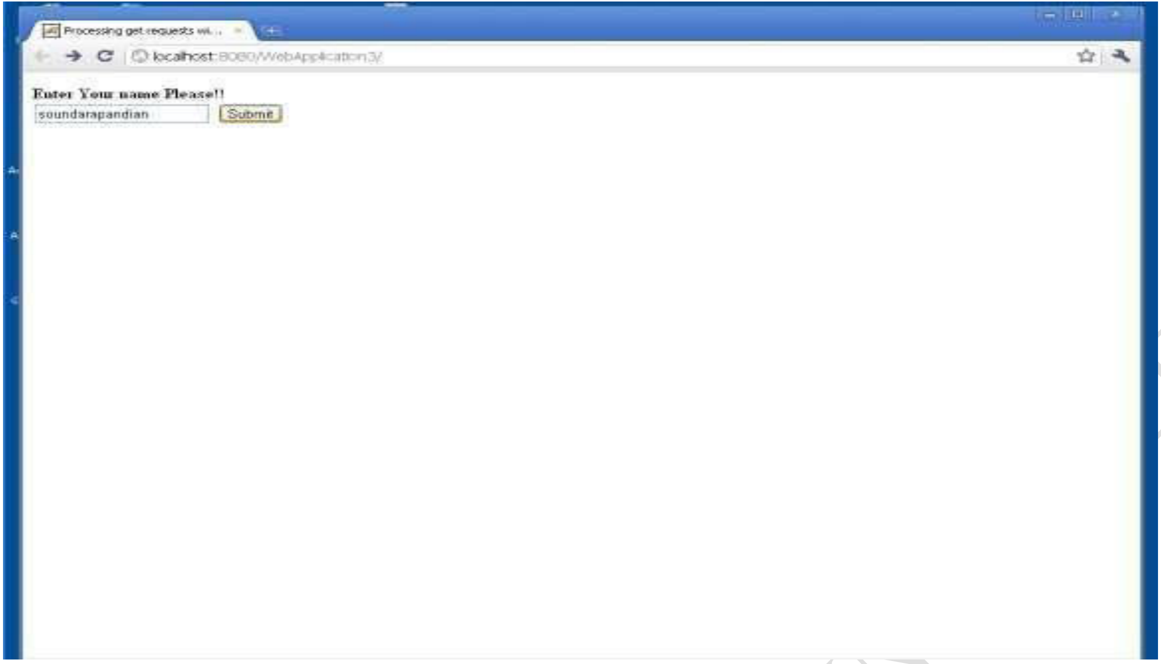
```
<html>
<head>
<title>Processing get requests with data</title>
</head>
<body>
        <form action = "Servlet3" method = "get">
        <b><p><label>Enter Your name Please!!
<br />
```

```
<input type = "text" name = "firstname" />
<input type = "submit" value = "Submit" />
</label></p></b>
</form>
</body>
</html>
```

//Servlet3.java

```
import
java.io.IOException;import
java.io.PrintWriter;
import javax.servlet.ServletException;
import
javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import
javax.servlet.http.HttpServletResponse;
public class Servlet3 extends HttpServlet {
            protected void doGet(HttpServletRequest request,
  HttpServletResponseresponse)
                throws ServletException, IOException {
String firstName = request.getParameter( "firstname"
);response.setContentType( "text/html" );
PrintWriter out = response.getWriter();
// send XHTML document to client
// start XHTML
documentout.println(
"<html>" );
// head section of
documentout.println(
"<head>" );
out.println("<title>Processing get requests with data</title>"
);out.println( "</head>" );
// body section of
documentout.println(
"<body>" );
out.println( "<h1>Hello " + firstName + ",<br />"
);out.println( "Welcome to Servlets!</h1>" );
out.println( "</body>" );
// end XHTML document
out.println( "</html>" );
out.close(); // close stream to complete the page
}
            public String
             getServletInfo() {
             return "Short
             description";
}
}
```

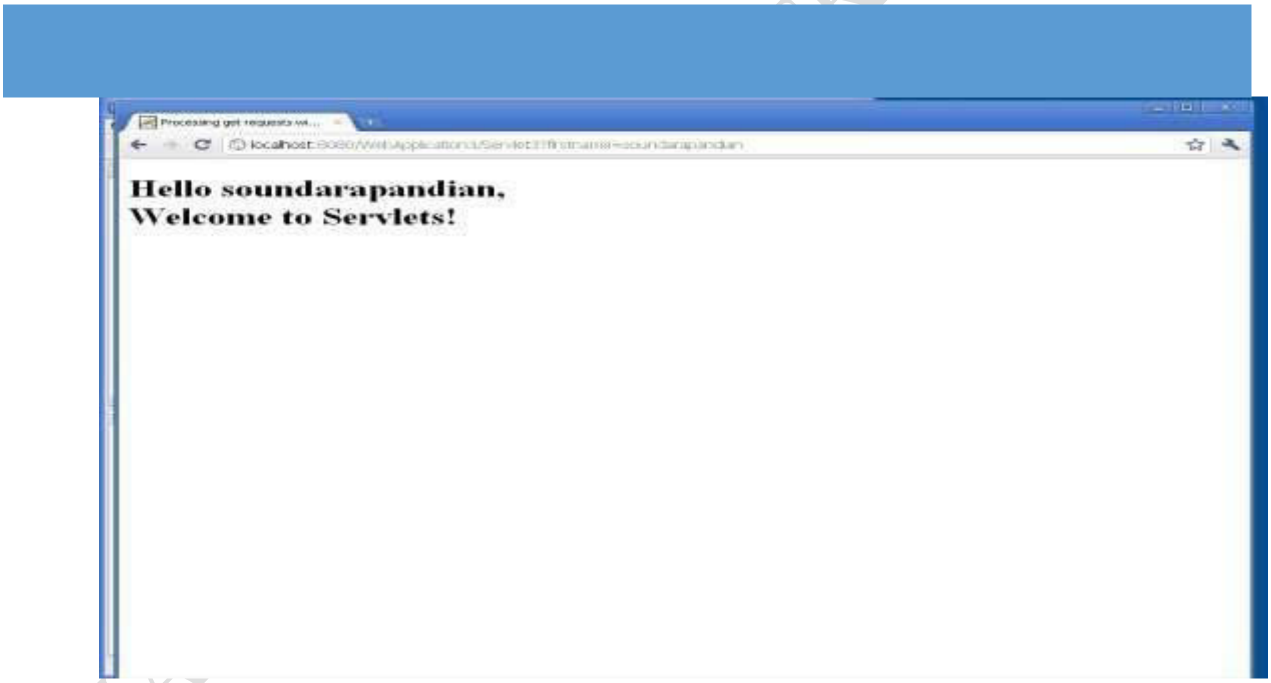
OUTPUT:



Processing get requests wi...
localhost:8080/WebApplication3/
Submit

Enter Your name Please!!

soundarapandian



Processing get requests wi...
localhost:8080/WebApplication3/Servlet3?firstname=soundarapandian

Hello soundarapandian,
Welcome to Servlets!

RESULT: Thus the invocation of servlet from HTML from has been developed successfully.

EX.NO : 5 B **SESSION TRACKING**

DATE:

AIM:

To write a html program for invoking servlet using html.

ALGORITHM:

STEP 1: Remove a specific attribute You can delete the value associated with a specific key by
calling the public void remove Attribute(String name) function.

STEP 2: Delete your whole session. To delete an entire session, use the public void invalidate() function.

STEP 3: Setting Session Timeout You may set the timeout for a session separately by calling the
public void set MaxInactiveInterval(int interval) function.

STEP 4: Log the user out On servers that support servlets 2.4, you may use the logout method to
log the client out of the Web server and invalidate all of the users' sessions.

STEP 4:web.xml Configuration If you're using Tomcat, you may set the session timeout in the web.xml file, in addition to the ways listed above.

PROGRAM:

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

// Extend HttpServlet class
public class GfgSession extends HttpServlet {

  public void doGet(HttpServletRequest request,
              HttpServletResponse response)
    throws ServletException, IOException
  {

    // Create a session object if it is already not
    // created.
    HttpSession session = request.getSession(true);

    // Get session creation time.
    Date createTime
      = new Date(session.getCreationTime());

    // Get last access time of this web page.
    Date lastAccessTime
      = new Date(session.getLastAccessedTime());

    String title = "Welcome Back to geeksforgeeks";
    Integer visitCount = new Integer(0);
    String visitCountKey = new String("visitCount");
String userIDKey = new String("userID");
String userID = new String("GFG");
// Check if this is new comer on your web page.
if (session.isNew()) {
    title = "Welcome to GeeksForGeeks";
    session.setAttribute(userIDKey,  userID);
}
else {
    visitCount = (Integer)session.getAttribute(
        visitCountKey);
    visitCount = visitCount + 1;
    userID
        =  (String)session.getAttribute(userIDKey);
}
session.setAttribute(visitCountKey,  visitCount);

// Set response content type
response.setContentType("text/html");
PrintWriter out = response.getWriter();

String docType
    = "<!doctype html public \"-//w3c//dtd html 4.0 "
      + "transitional//en\">\n";

out.println(
    docType + "<html>\n"
    + "<head><title>" + title + "</title></head>\n"
    +

    "<body bgcolor = \"#f0f0f0\">\n"
    + "<h1 align = \"center\">" + title + "</h1>\n"
    + "<h2 align = \"center\">Gfg Session Information</h2>\n"
    + "<table border = \"1\" align = \"center\">\n"
    +
    "<tr bgcolor = \"#949494\">\n"
    + "  <th>Session info</th><th>value</th>"
    + "</tr>\n"
    +

    "<tr>\n"
    + "  <td>id</td>\n"
    + "  <td>" + session.getId() + "</td>"
    + "</tr>\n"
    +

    "<tr>\n"
    + "  <td>Creation Time</td>\n"
    + "  <td>" + createTime + "   </td>"
    + "</tr>\n"
    +
        "<tr>\n"
        + "  <td>Time of Last Access</td>\n"
        + "  <td>" + lastAccessTime + "</td>"
        + "</tr>\n"
        +

        "<tr>\n"
        + "  <td>User ID</td>\n"
        + "  <td>" + userID + "</td>"
        + "</tr>\n"
        +

        "<tr>\n"
        + "  <td>Number of visits</td>\n"
        + "  <td>" + visitCount + "</td>"
        + "</tr>\n"
        + "</table>\n"
        + "</body>"
        + "</html>");
  }
}
```

File: web.xml

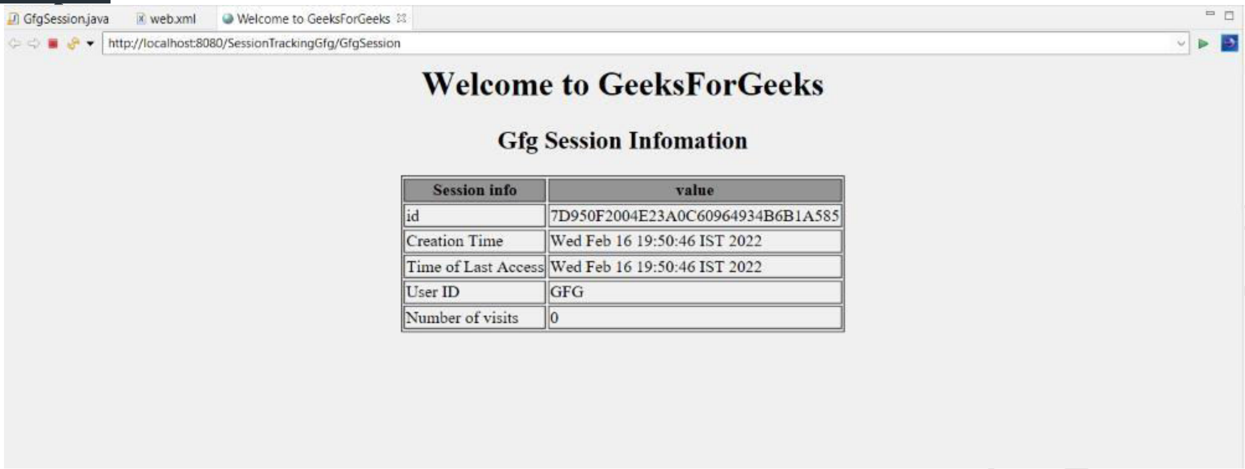
- XML

```
<web-app>
<servlet>
  <servlet-name>GfgSession</servlet-name>
  <servlet-class>GfgSession</servlet-class>
</servlet>

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

Compile the servlet SessionTrack described above and add it to the web.xml file. When you run ***http://localhost:8080/SessionTrackingGfg/GfgSession*** *for the first time, you should get the following result:*

Output:

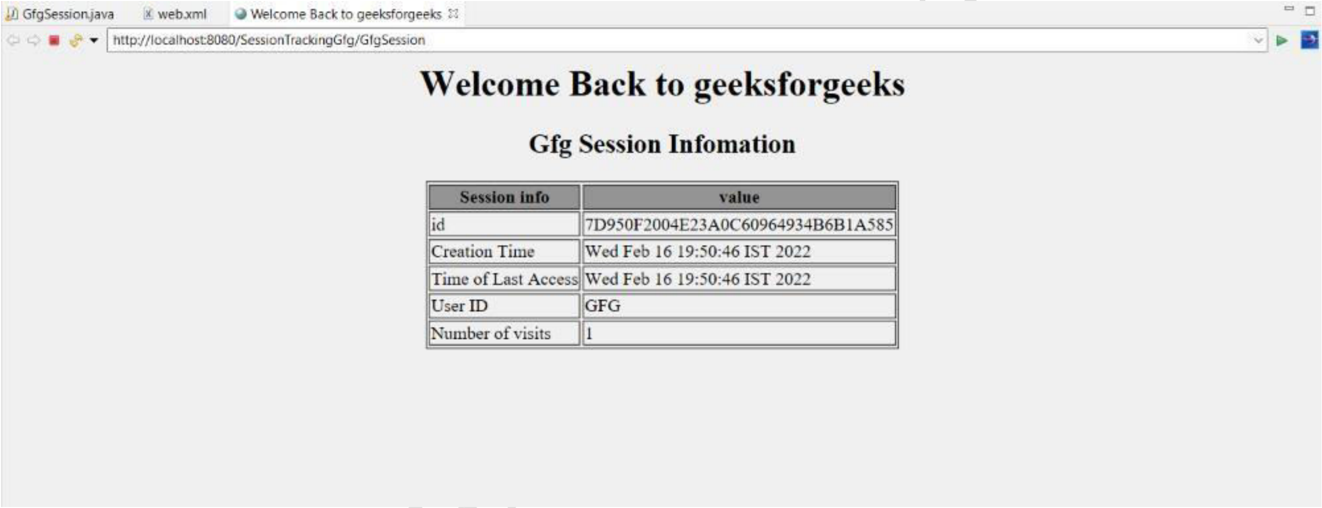


Welcome to GeeksForGeeks

Gfg Session Infomation

Session info	value
id	7D950F2004E23A0C60964934B6B1A585
Creation Time	Wed Feb 16 19:50:46 IST 2022
Time of Last Access	Wed Feb 16 19:50:46 IST 2022
User ID	GFG
Number of visits	0

If we try to run the same servlet again, we will get the following result.


GfgSession.java
web.xml
Welcome Back to geeksforgeeks
http://localhost:8080/SessionTrackingGfg/GfgSession

Welcome Back to geeksforgeeks

Gfg Session Infomation

Session info	value
id	7D950F2004E23A0C60964934B6B1A585
Creation Time	Wed Feb 16 19:50:46 IST 2022
Time of Last Access	Wed Feb 16 19:50:46 IST 2022
User ID	GFG
Number of visits	1

RESULT:

Thus the invocation of servlet in session tracking been developed successfully.

EX.NO : 6 A **ONLINE EXAMINATION**

DATE:

AIM:

To write a java servlet program to conduct online examination and to display studentmark list available in a database.

ALGORITHM:

Step1: Create a html file with form tag.

Step2: The form tag action=”http://localhost:8080/example/servlet/exam”.

Step3: Create a two textbox(name & seat number).

Step4: The 5 question are defined into true or false model and close the all tags.

Step5: Import the necessary packages and declare class, class name in exam.

Step6: Declare the connection, statement and result set object.

Step7: Use the deposit () for check the connection in JDBC:ODBC driver.

Step8: The data are inserting into corresponding table.

Step9: The execute update () are update the database.

Step10: Display the table in after html file compilation.

PROGRAM:

//index.jsp

```
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>Welcome to Online Examination!!!!</title>
</head>
<body>
Welcome to Online Examination!!!!
<form action="exam" method="get">
            <label><p> Enter Your name Please!!<br/> <input
   type="text"name="name"/>
<br/>
<input type="submit" name="SUBMIT"/>
</p></label>
</form>
</body>
</html>
```

//exam.java

```
import java.io.IOException;import
java.io.PrintWriter;
import javax.servlet.ServletException; import
javax.servlet.annotation.WebServlet;import
javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest; import
javax.servlet.http.HttpServletResponse;public class
exam extends HttpServlet {
        protected void doGet(HttpServletRequest request,
  HttpServletResponseresponse)
          throws ServletException, IOException {
         response.setContentType("text/html");
         PrintWriter out=response.getWriter();
         String
         name=request.getParameter("name");
         out.println("<html>");
              out.println("<head>");
              out.println("<title>Online Examination</title>");
              out.println("</head>");
              out.println("<body bgcolor=PINK>");
              out.println("<h2 align=center>Online Examination</h2><hr>");
              out.println("<h3 align=center> Welcome
              Mr."+name+"</h3><hr>");out.println("<h4><u>Terms and
              Conditions:</u></h4>"); out.println("<ul type=disc>");
              out.println("<li>The Paper consists a set of five questions.</li>");
              out.println("<li>Every question consists of two options.</li>");
              out.println("<li>All must be answered</li></ul><hr>");
              out.println("<center><h5><u>Your
              Questions</u></h5></center>");out.println("<hr>");
              out.println("<form method=get action=exam2>");
              out.println("<p>1.Operating System is a ................ </p>");
              out.println("<input type=radio name=q1
              value=0>Hardware");out.println("<br>");
              out.println("<input type=radio name=q1
              value=1>Software");out.println("<hr>");
              out.println("<p>2.Developer of C Language is ................ </p>");
              out.println("<br>");
              out.println("<input type=radio name=q2 value=0>Dennis
              Richee");out.println("<br>");
              out.println("<input type=radio name=q2 value=1>James
              Thompson");out.println("<hr>");
              out.println("<p>3.Which of the following is a multitasking,multi
                          user,multiprocessing);
              out.println("OS........ </p>");
              out.println("<br>");
              out.println("<input type=radio name=q3 value=0>MS
              DOS");out.println("<br>");
              out.println("<input type=radio name=q3 value=1>Windows
              NT");out.println("<hr>");
```

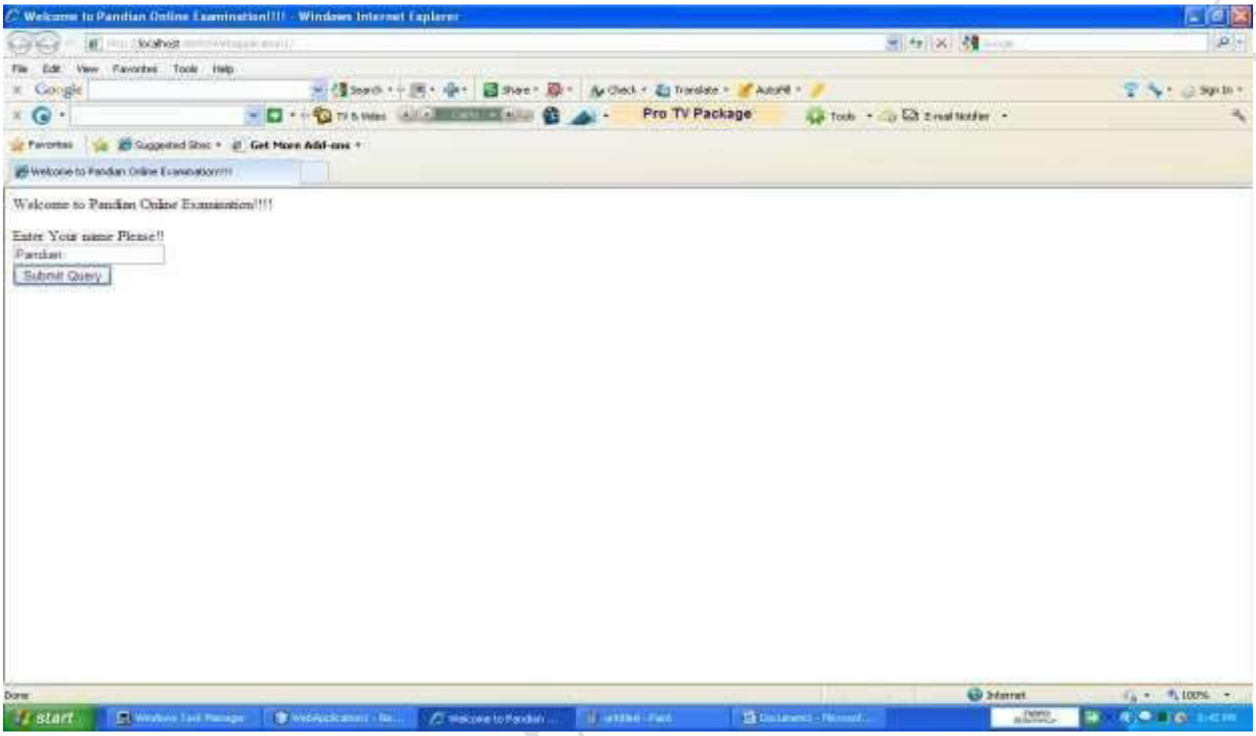
```
                out.println("<p>4.Father of Computers is................ </p>");
                out.println("<br>");
                out.println("<input type=radio name=q4 value=1>Charles
                babbage");out.println("<br>");
                out.println("<input type=radio name=q4 value=0>Charles
                Dickson");out.println("<hr>");
                out.println("<p>5.What is the current generation of computers
                ?</p>");out.println("<br>");
                out.println("<input type=radio name=q5
                value=0>Fifth");out.println("<br>");
                out.println("<input type=radio name=q5
                value=1>Sixth");out.println("<hr>");
                out.println("<input type=submit
                value=Done>");out.println("</form>");
                out.println("</body>");
                out.println("</html>");
        }
        public String getServletInfo()
            { return "A Servlet of the
            user";
        }
}
   //exam2.java
import
java.io.IOException;import
java.io.PrintWriter;
import javax.servlet.ServletException;
import
javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet;
import javax.servlet.http.HttpServletRequest;
import
javax.servlet.http.HttpServletResponse;public
class exam2 extends HttpServlet {
   protected void doGet(HttpServletRequest request,
HttpServletResponse
   response)
       throws ServletException,
          IOException {int count=0,j;
          response.setContentType("text/html
          ");PrintWriter
          out=response.getWriter(); String
          q1=request.getParameter("q1");
          String
          q2=request.getParameter("q2");
          String
        q3=request.getParameter("q3");
        String
        q4=request.getParameter("q4");
        String
        q5=request.getParameter("q5");
        if(q1.equals("1"))
        {
           count=count+1;
         }
        if(q2.equals("1"))
        {
           count=count+1;
         }
        if(q3.equals("1"))
        {
           count=count+1;
         }
        if(q4.equals("1"))
        {
           count=count+1;
         }
        if(q5.equals("1"))
        {
           count=count+1;
         }

        out.println("<html>");
        out.println("<head><title>Examination
        Results</title></head>");out.println("<body>");
        out.println("<h2 align=center<Online Examination</h2><hr>");
        out.println("<h3>Number of Questions answered
        correctly:</h3>"+count);if(count>=3)
        {
        out.println("<hr><h3>Congrats!!! You Have
        Passed!!!</h3><hr>");
        out.println("<h4><b>Try Other Tests!!</b></h4>");
         }


     else
        {
        out.println("<hr><h3>Sorry!!! You Have
        Failed!!!</h3><hr>");out.println("<h4><b>Try
        Again:</b></h4>");
         }
        out.println("</body>");
        out.println("</html>");
        }
    public String getServletInfo() {
          return "A Servlet of the
```

```
                    User";
                }
}
```

OUTPUT:



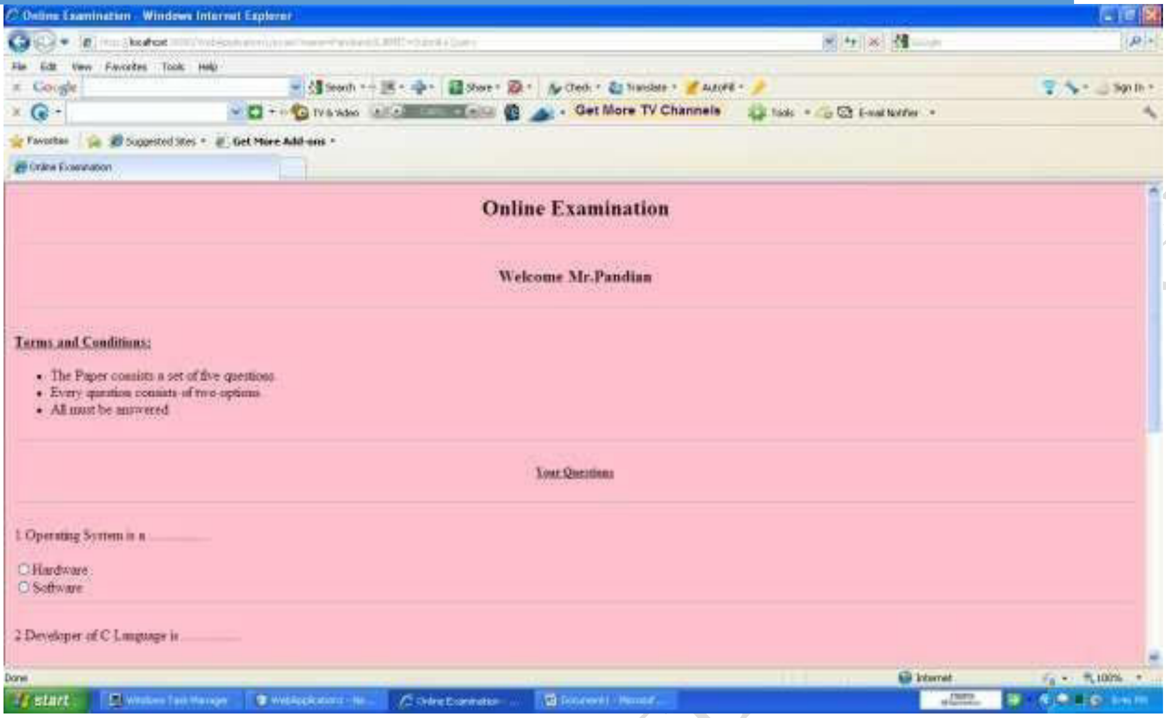
Welcome to Pandian Online Examination!!! - Windows Internet Explorer
http://localhost
File Edit View Favorites Tools Help
Pro TV Package
Welcome to Pandian Online Examination!!!
Done
Internet
100%
start

Welcome to Pandian Online Examination!!!

Enter Your name Please!!

Pandian

Submit Query



Online Examination

Welcome Mr.Pandian

Terms and Conditions:

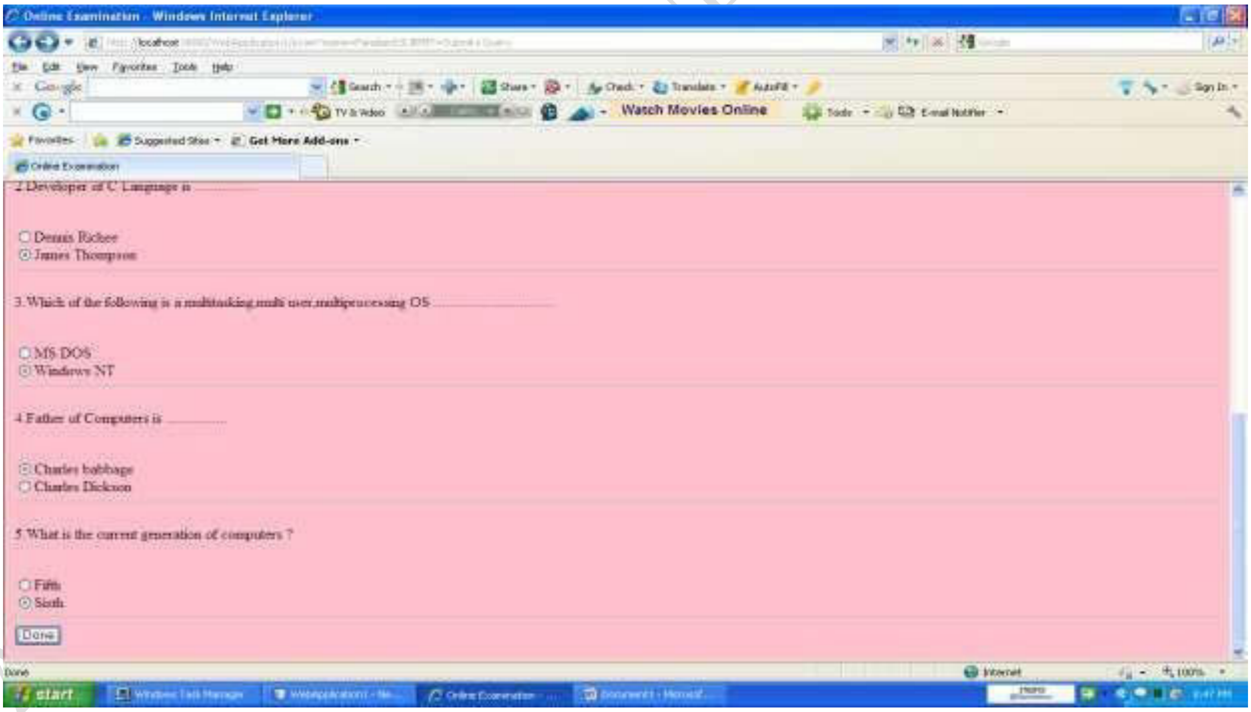
- The Paper consists a set of five questions
- Every question consists of two options
- All must be answered

Your Questions

1 Operating System is a ....

○ Hardware
○ Software

2 Developer of C Language is ....



2 Developer of C Language is ....

○ Dennis Richee
● James Thompson

3 Which of the following is a multitasking,multi user,multiprocessing OS ....

○ MS DOS
● Windows NT

4 Father of Computers is ....

● Charles babbage
○ Charles Dickson

5 What is the current generation of computers ?

○ Fifth
● Sixth

Done

RESULT: Thus the development of program in java to create three tire applicationusing servlet has been verified successfully.

EX.NO : 6 B DISPLAYING STUDENT MARKLIST USING JSP

DATE:

AIM:

To create a three tier application for displaying student mark list using JSP and database.

ALGORITHM:

1. Design the HTML page (stud.html) with the following
   a) Create a form to get the input (Register Number) from the user.
   b) Set the URL of the server (marklist.jsp) as the value of the action attribute.
   c) Use submit button to invoke the server and send the form data to the server.
2. Create the JSP file with the following
   a) Read the parameter value (Register Number) from the form by using the method getParameter().
   b) Server retrieves the details from the database table with respect to the form input.
   c) Server displays the mark list to the client as the response.

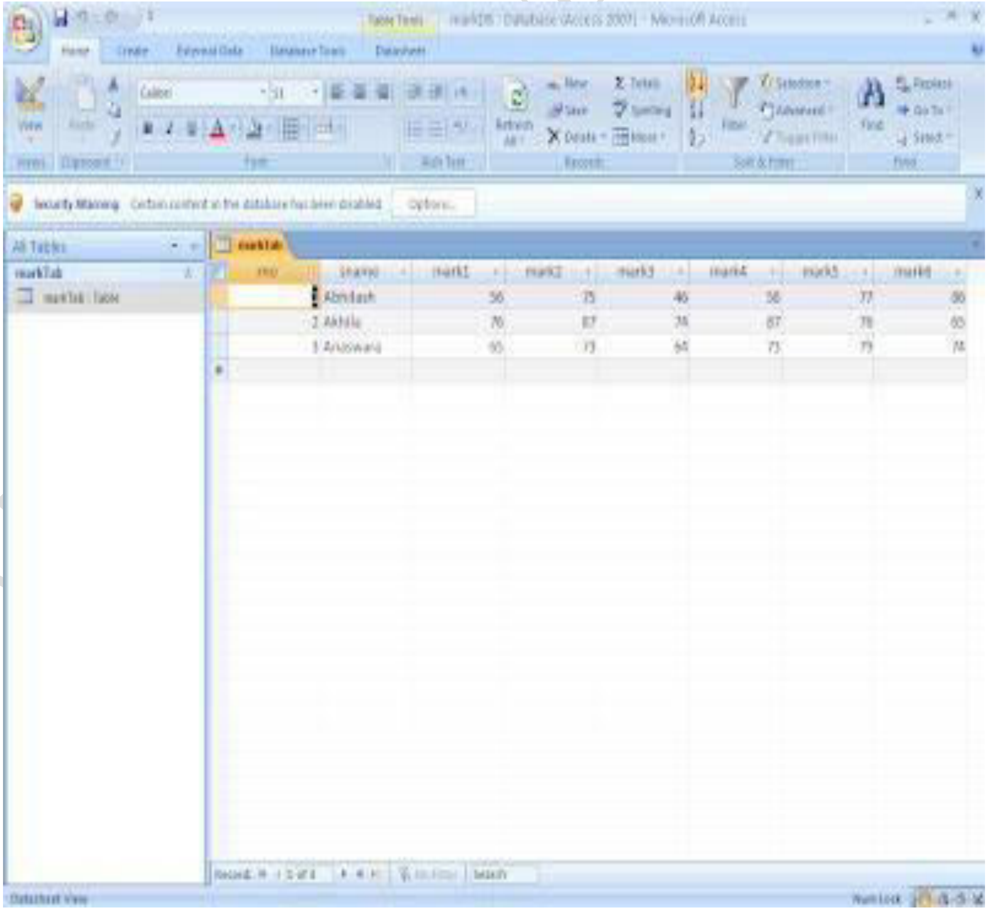
marklist.jsp:

```
<%@ page contentType="text/html" language="java" import="java.sql.*"%>
<html>
<head>
<title>Three Tier Application</title>
<style type="text/css">
 body{color:blue;font-family:courier;text-align:center}
</style></head><body>
<h2>EXAMINATION RESULT</h2><hr/>
<%
String str=request.getParameter("regno");
Class.forName("sun.jdbc.odbc.JdbcOdbcDriver");
Connection con=DriverManager.getConnection("jdbc:odbc:markDS");
Statement stmt=con.createStatement();
ResultSet rs=stmt.executeQuery("SELECT*FROM markTab WHERE rno="+str);
while(rs.next())
{
%>
Register No:<%=rs.getObject(1)%><br/>
Name:<%=rs.getObject(2)%><br/>
<table border="1">
<th>SUBJECT</th><th>Mark</th>
<tr><td>Network Programming and Management</td><td><%=rs.getObject(3)%></td></tr>
<tr><td>Object Oriented Analysis and Design</td><td><%=rs.getObject(4)%></td></tr>
<tr><td>Cryptography and Network Security</td><td><%=rs.getObject(5)%></td></tr>
<tr><td>Embedded Systems</td><td><%=rs.getObject(6)%></td></tr>
<tr><td>Web Technology</td><td><%=rs.getObject(7)%></td></tr>
<tr><td>Software Requirement and Engineering</td><td><%=rs.getObject(8)%></td></tr>
</table>
<%}
%>
<br/>
<a href="stud.html">Back</a>
</body></html>
```

stud.HTML:

```
<html>
<head>
<title>Three Tier Application</title>
<style type="text/css">
  body{color:blue;font-family:courier;text-align:center}
</style>
</head>
<body>
<h2>EXAMINATION RESULT</h2><hr/>
<form name="f1" method"GET" action="marklist.jsp">
Enter Your Reg.No:
<input type="text" name="regno"/><br/><br/>
&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;
&nbsp;&nbsp;&nbsp;&nbsp;
<input type="submit" value="SUBMIT"/>
</form>
</body>
<html>
```

DATABASE

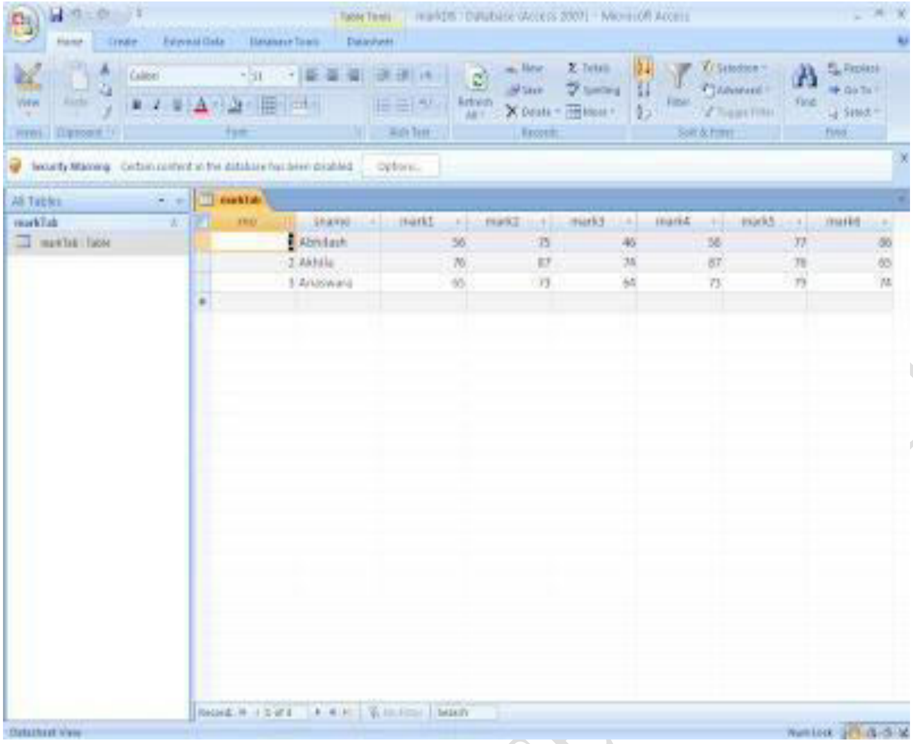


markDB : Database (Access 2007) - Microsoft Access
Home
Create
External Data
Database Tools
Datasheet
Security Warning Certain content in the database has been disabled
Options...
All Tables
markTab
markTab : Table
Datasheet View

markTab

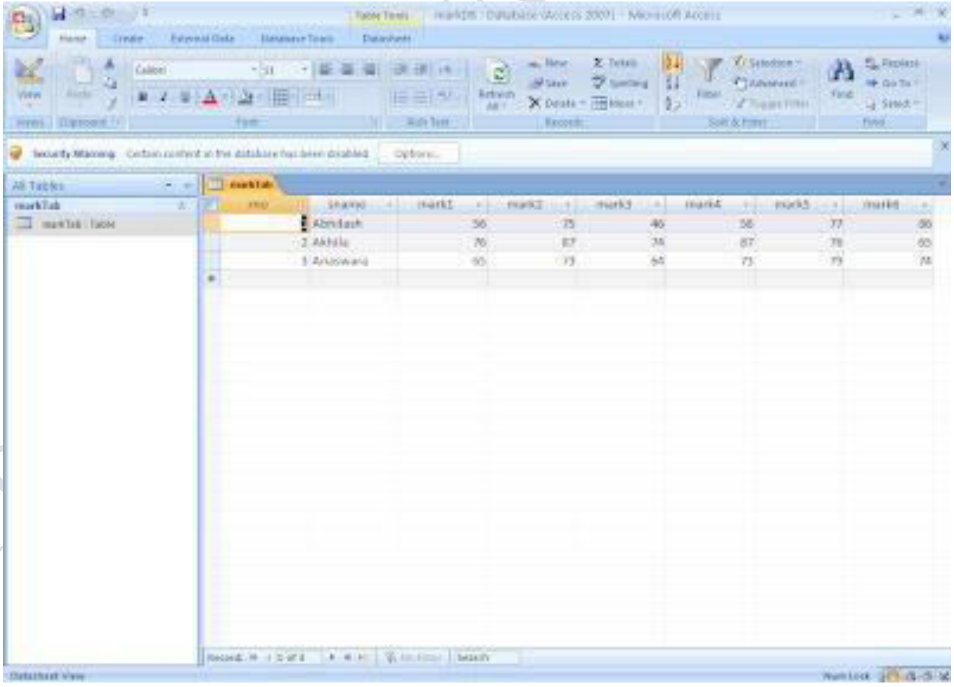
rno	sname	mark1	mark2	mark3	mark4	mark5	mark6
[illegible]	Abhilash	56	75	46	56	77	86
2	Akhila	76	87	74	87	78	65
3	Anuswara	65	73	64	73	79	74

OUTPUT SCREENSHOTS



markDB : Database (Access 2007) - Microsoft Access
Security Warning Certain content in the database has been disabled Options...
All Tables
markTab
markTab : Table
Datasheet View

rno	sname	mark1	mark2	mark3	mark4	mark5	mark6
1	Abhilash	56	75	46	56	77	86
2	Akhila	76	87	74	87	78	65
3	Anuswara	65	73	64	73	79	74



rno	sname	mark1	mark2	mark3	mark4	mark5	mark6
1	Abhilash	56	75	46	56	77	86
2	Akhila	76	87	74	87	78	65
3	Anuswara	65	73	64	73	79	74

RESULT: Thus the creation of a three tier application for displaying student mark list using JSP and database has been verifiedsuccessfully.

EX.NO : 7 **XML SCHEMA FOR STUDENT DETAILS**

DATE:

AIM:

To write a program for implementing student information using XML & XSL.

ALGORITHM:

Step1: The XML document reference to the XSL document.
Step2: The create the student information in the student tag and insert the same information about the student.
Step3: Close all opened tags.
Step4: In XSL document create a html file include the student information in table format.
Step5: Close the necessary tags.

PROGRAM:

//student.xml

```
<?xml version="1.0"?>
<?xml-stylesheet type="text/css" href="student.css"?>
<!DOCTYPE student SYSTEM "student.dtd">
<students>
<student>
<sno>801041</sno>
<sname>S.Soundarapandian</sname>
<dob>05/081991</dob>
<address>Neyveli</address>
<m1>80</m1>
<m2>90</m2>
<m3>95</m3>
</student>
<student>
<sno>801049</sno>
<sname>R.Vadivelan</sname>
<dob>22/07/1990</dob>
<address>Pondicherry</address>
<m1>90</m1>
<m2>95</m2>
<m3>80</m3>
</student>
<student>
<sno>801037</sno>
<sname>R.Satheesh</sname>
<dob>21/01/1991</dob>
<address>Kanyakumari</address>
<m1>80</m1>
<m2>90</m2>
<m3>95</m3>
</student>
</students>
```

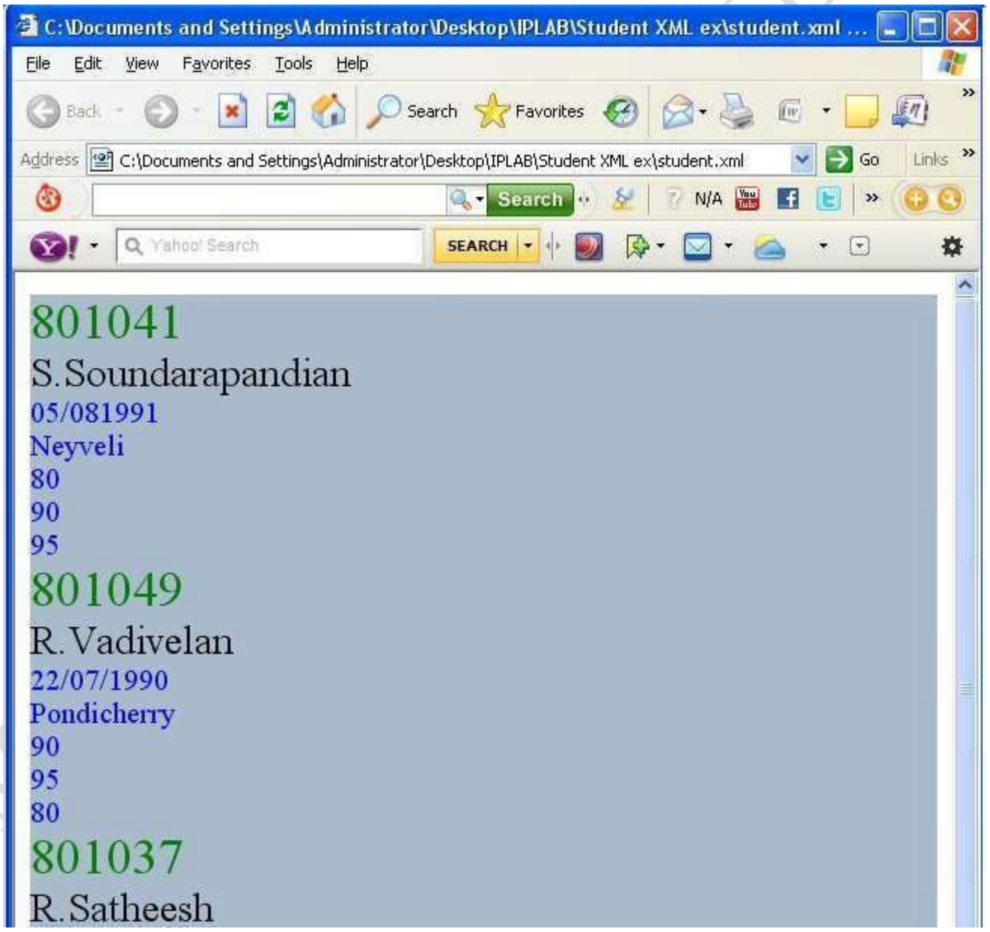
//student.css

```
Student { background.color:#aabbcc;width:100%;} Sno {
display:block; color:GREEN; font.size:25pt; } Sname {
display:block; color:BLACK; font.size:20pt; }Dob {
display:block; color:BLUE; font.size:15pt; } Address {
display:block; color:BLUE; font.size:15pt; }m1 {
display:block; color:BLUE; font.size:15pt; }
m2 { display:block; color:BLUE; font.size:15pt; }m3 {
display:block; color:BLUE; font.size:15pt;}
```

//student.dtd`

```
<?xml version="1.0"?>
<!ELEMENT students (student+)>
<!ELEMENT student (sno,sname,dob,address,m1,m2,m3)>
<!ELEMENT sno (#PCDATA)>
<!ELEMENT sname (#PCDATA)>
<!ELEMENT dob (#PCDATA)>
<!ELEMENT address (#PCDATA)>
<!ELEMENT m1 (#PCDATA)>
<!ELEMENT m2 (#PCDATA)>
<!ELEMENT m3 (#PCDATA)>
```

OUTPUT:


C:\Documents and Settings\Administrator\Desktop\IPLAB\Student XML ex\student.xml ...
File Edit View Favorites Tools Help
Back
Search
Favorites
Address
C:\Documents and Settings\Administrator\Desktop\IPLAB\Student XML ex\student.xml
Go
Links
Search
N/A
Yahoo! Search
SEARCH

```
801041
S.Soundarapandian
05/081991
Neyveli
80
90
95
801049
R.Vadivelan
22/07/1990
Pondicherry
90
95
80
801037
R.Satheesh
```

RESULT: Thus the creation of XSL document using Xml has been verified successfully