Java Web Technologies
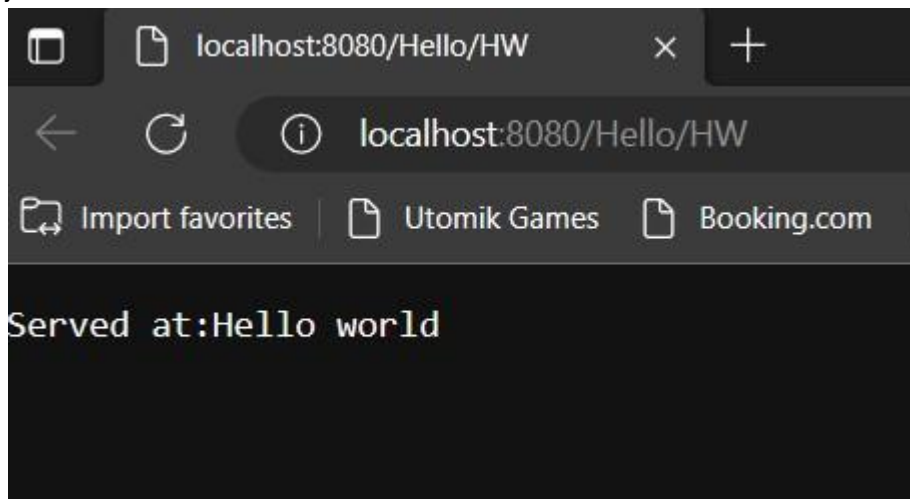
1 .Write a Servlet to display "Hello World" on browser.

```java
package edu.scet;

import java.io.IOException; import
javax.servlet.ServletException; import
javax.servlet.annotation.WebServlet; import
javax.servlet.http.HttpServlet; import
javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

@WebServlet("/HW")
public class HW extends HttpServlet {
        private static final long serialVersionUID = 1L;

   public HW() {
     super();
   }

        protected void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
                // TODO Auto-generated method stub
                response.getWriter().append("Served at:Hello world
");//.append(request.getContextPath());
        }

        protected void doPost(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
                // TODO Auto-generated method stub
                doGet(request, response);
        }
}
```

2 Write a Servlet to display all the headers, parameters and attributes available from request. package edu.scet;

```java
import java.io.IOException; import
java.io.PrintWriter;
import java.util.Enumeration;

import javax.servlet.ServletException; import
javax.servlet.annotation.WebServlet; import
javax.servlet.http.HttpServlet; import
javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
/**
 * Servlet implementation class HeaderList
 */
@WebServlet("/HeaderList")
public class HeaderList extends HttpServlet {
        private static final long serialVersionUID = 1L;
public HeaderList() {
    super();
    // TODO Auto-generated constructor stub
  }
        protected void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
                // TODO Auto-generated method stub
//              response.getWriter().append("Served at:
").append(request.getContextPath());
                PrintWriter out=response.getWriter();
response.setContentType("text/html");
                Enumeration<String> headerNames=request.getHeaderNames();
out.println("<html><head><title>Headers</title></head><body><table
border='1'>"+"<tr><th>Header Names </th><th>Header value</th></tr>");
while(headerNames.hasMoreElements()) {
                    String headerName=headerNames.nextElement();

        out.println("<tr><td>"+headerName+"</td><td>"+request.getHeader(headerName)
+"</td></tr>");                }
                out.println("</body></table></html>");
        }

        protected void doPost(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
```

```
                // TODO Auto-generated method stub
doGet(request, response);
        }


}
```

Header Names	Header value
host	localhost:8080
connection	keep-alive
sec-ch-ua	"Chromium";v="110", "Not A(Brand";v="24", "Microsoft Edge";v="110"
sec-ch-ua-mobile	?0
sec-ch-ua-platform	"Windows"
upgrade-insecure-requests	1
user-agent	Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/110.0.0.0 Safari/537.36 Edg/110.0.1587.57
accept	text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.7
sec-fetch-site	none
sec-fetch-mode	navigate
sec-fetch-user	?1
sec-fetch-dest	document
accept-encoding	gzip, deflate, br
accept-language	en-US,en;q=0.9
cookie	_xsrf=2|00f93f5b|d011b2a4da63ea2563a9f85be0e85098|1678012844; username-localhost-8888="2|1:0|10:1679278322|23:username-localhost-8888|44:M2NlM2Y2YjlkYWI3NDY3NzgzZjE0NDExZDU5ZmNlMTE=|0b24731ca21ac620c2b2f18088a444bc5877dae74694b5a7ede4e6568985e4d2"

3. Write a Servlet, Demonstrating Session Cookies and Persistent Cookies.

```
package edu.scet;

import java.io.IOException;
import java.io.PrintWriter;

import javax.servlet.ServletException; import
javax.servlet.annotation.WebServlet; import
javax.servlet.http.Cookie; import
javax.servlet.http.HttpServlet; import
javax.servlet.http.HttpServletRequest; import
javax.servlet.http.HttpServletResponse;
@WebServlet("/Program3")

public class Program3 extends HttpServlet{

        private static final long serialVersionUID = 1L;
```

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```java
        public Program3() {
                super();
        }
        public void doGet(HttpServletRequest  request,HttpServletResponse response)
throws ServletException,IOException {
                response.setContentType("text/html");

                for (int i=0;i<3;i++) {
                        Cookie cookie=new Cookie("Session_Cookie :"+i,"Cookie_values :"+i);
                response.addCookie(cookie);
                        //presistent cookies
                        cookie = new Cookie("Presistent_Cookie :"+i,"Cookie_value"+i);
                        cookie.setMaxAge(3600);
                        response.addCookie(cookie);
                }
                Cookie[] cookies=request.getCookies();

                PrintWriter out=response.getWriter();

                if(cookies==null) {
  out.println("<table border ='1'><tr><th colspan='2'>No cookies
found.</th></tr></table>");
                }
                else {
                        out.println("<table border='1'>");
                        Cookie cookie;
                        for(int i=0;i<cookies.length;i++) {
                                cookie=cookies[i];

 out.println("<tr>"+"<td>"+cookie.getName()+"</td>"+"<td>"+cookie.getValue()+"</t
d>"+"</tr>");

                }
                out.println("</table>");
                }
        }

}
```

Session_Cookie-0	Cookie_Value-0
Persistent_Cookie-0	Cookie_Value-0
Session_Cookie-1	Cookie_Value-1
Persistent_Cookie-1	Cookie_Value-1
Session_Cookie-2	Cookie_Value-2
Persistent_Cookie-2	Cookie_Value-2

4 .Write a Servlet which displays a message and also displays how many times the message has been displayed (how many times the page has been visited). Hint: Use servlet instance variable as well as ServletContext attribut.

```java
package edu.scet; 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;

@WebServlet("/Count")
public class Count extends HttpServlet {        private
static final long serialVersionUID = 1L;
        int count;

    public Count() {
super();
        count=0;
}
protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
                // TODO Auto-generated method stub
                //response.getWriter().append("Number of times visited the pade :
"+count);//.append(request.getContextPath());
                //count++;
        }

        protected void doPost(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
                // TODO Auto-generated method stub
//              doGet(request, response);
                PrintWriter out=response.getWriter();
```

```
            out.println("Number of times to visited the page :"+count);
            out.println(request.getParameter("Name"));
out.println(request.getParameter("FName"));
out.println(request.getParameter("MName"));
out.println(request.getParameter("address"));
            out.println(request.getParameter("phoneNo"));
            count++;
        }
}
```

HTML:-

```
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Form</title>
</head>
<body>
<form action="Count" method="post">


        <div>
        <h1><center>REGISTRATION FORM</center></h1>
        </div>
        <lable>Full Name :</lable>
        <input type="text" placeholder="FUll name" name="Name"><br>
        <lable> Father Name:</lable>
        <input type="text" placeholder="Father name" name="FName"><br>
        <lable>Mother Name :</lable>
        <input type="text" placeholder="Mother name" name="MName"><br>
        <lable>Addressh :</lable>
        <input type="text" placeholder="Address" name="address"><br>
        <lable>Phone Number:</lable>
        <input type="number" placeholder="Phone number" name="phoneNo"><br>
        <lable>Gender :</lable><br>
        <input type="radio" name="male" >male
        <input type="radio" name="female" >female
        <br>
        <lable>Courses :</lable>
        <select>
                <option value="course" readonly=" ">Course:</option>
                <option value="MCA" >MCA</option>
                <option value="BCA" >BCA</option>
        </select><br>
        <input type="submit" value="submit">
```

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

REGISTRATION FORM

Full Name : Bikash
Father Name: bishnu
Mother Name : Tapaswini
Addressh : Apexa nagar
Phone Number: 8136983214
Gender :
◉ male ○ female
Courses : MCA ▾
submit

```
Number of times to visited the page :4
Bikash
bishnu
Tapaswini
Apexa nagar
8136983214
```

5 .Write a Servlet which displays the number of times a user has visited that servlet page.

Hint: Use Cookies

Servlet1:- package edu.scet;

```java
import java.io.IOException;
import java.io.PrintWriter;

import javax.servlet.ServletException; import
javax.servlet.annotation.WebServlet; import
javax.servlet.http.Cookie; import
javax.servlet.http.HttpServlet; import
javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

@WebServlet("/CookiesProject")
public class CookiesProject extends HttpServlet {
private static final long serialVersionUID = 1L;    public
CookiesProject() {
    super();
    // TODO Auto-generated constructor stub
```

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```java
    }

        /**
     * @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
        */
        protected void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
                // TODO Auto-generated method stub
//response.getWriter().append("Served at:
").append(request.getContextPath());
//
  PrintWriter                out=response.getWriter();
out.println("<!DOCTYPE                    html>");
out.println("<html>");
                out.println("<head>");
                out.println("<title>Servlet servlet1</title>");
                out.println("</head>");
                out.println("<body>");

                String name=request.getParameter("name");
                out.println("<h1> Hello "+name+" welcome to our website .</h1>");
                //getting  all the cookies

                out.println("<h1><a href='Cok'> Go to servlet 2</a></h1>");
Cookie c=new Cookie("User_name",name);
                response.addCookie(c);

                out.println("</body>");
                out.println("</html>");

        }

        protected void doPost(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
                // TODO Auto-generated method stub
                doGet(request, response);
        }
}
```

Servlet2:- package
edu.scet;

```java
import java.io.IOException;
import java.io.PrintWriter;
```

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```java
import javax.servlet.ServletException; import
javax.servlet.annotation.WebServlet; import
javax.servlet.http.Cookie; import
javax.servlet.http.HttpServlet; import
javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;
/**
* Servlet implementation class Cok
 */
@WebServlet("/Cok")
public class Cok extends HttpServlet {
        private static final long serialVersionUID = 1L;

/**
* @see HttpServlet#HttpServlet()
   */    public
Cok() {
     super();
     // TODO Auto-generated constructor stub
  }
        /**
* @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
        */
        protected void doGet(HttpServletRequest request, HttpServletResponse response)
throws ServletException, IOException {
                // TODO Auto-generated method stub

 PrintWriter                 out=response.getWriter();
out.println("<!DOCTYPE                         html>");
out.println("<html>");
                out.println("<head>");
                out.println("<title>Servlet servlet1</title>");
                out.println("</head>");        out.println("<body>");

                //getting  all the cookies
                Cookie[] cookies=request.getCookies();
                boolean f=false;
String name="";
if(cookies==null) {
                        out.println("<h1>You are a new user go to home page submit your
name .</h1>");
```

```java
                            return;
            }
                    else {
      for(Cookie c:cookies) {    String tname=c.getName();
                            if(tname.equals("User_name")) {
                                    f=true;

                                    name=c.getValue();
                    }
                    }
            }

            if(f) {

                    //String name=request.getParameter("name");
                    out.println("<h1>Hello ,"+name +" Welcom to my websiter  again
....</h1>");
                    out.println("<h1>Thanks  visite .</h1>");
            }
            else {
      out.println("<h1>You are a new user go to home page submit your name .</h1>");   }


                    out.println("</body>");
                    out.println("</html>");
                    }
protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
            // TODO Auto-generated method stub
            doGet(request, response);
        }
}
```

HTML:- <!DOCTYPE
html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Servlet 1</title>
</head>
<body>
        <form action="CookiesProject" method="get">
 <input type="text" placeholder="Enter your name here" name="name" style="fontsize:
25px">

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```html
            <button type="submit" style="font-size :25px">
                    Go to servlet1
            </button>
            </form>
</body>
</html>
```


Hello Bikash welcome to our website .

Go to servlet 2

Hello ,Bikash Welcom to my websiter again ....

Thanks visite .

6. Write a Servlet which demonstrates Set Attribute, Session Attribute & Context Attribut.

```java
package edu.scet;

import java.io.IOException;

import javax.servlet.RequestDispatcher;
import javax.servlet.ServletContext; import
javax.servlet.ServletException; import
javax.servlet.annotation.WebServlet; import
javax.servlet.http.HttpServlet; import
javax.servlet.http.HttpServletRequest; import
javax.servlet.http.HttpServletResponse;
import javax.servlet.http.HttpSession;

@WebServlet("/Problem6")
public class Problem6 extends HttpServlet {
        private static final long serialVersionUID = 1L;

   public Problem6() {
super();
   }
 protected void doGet(HttpServletRequest req, HttpServletResponse res) throws
ServletException, IOException, ServletException  {
```

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```
                //response.getWriter().append("Servedat:
").append(request.getContextPath());
                req.setAttribute("att1","Request Attribute1");
req.setAttribute("att2","Request Attribute2");


                HttpSession session= req.getSession(true);
session.setAttribute("att1","Request Attribute1");
session.setAttribute("att2","Request Attribute2");


                ServletContext context =req.getServletContext();
context.setAttribute("att1","Request Attribute1");
context.setAttribute("att2","Request Attribute2");


                res.sendRedirect("http://localhost:8080/problem6/GetAttribute");


                //RequestDispatcher dis=req.getRequestDispatcher("/GetAttribute");
                //dis.forward(req,res);


        }
 protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {


                doGet(request, response);
        }
}
```

```
Request Attribute :-
Request Attribute1
Request Attribute2

Session Attributes :-
Request Attribute1
Request Attribute2

Context Attributes :-
Request Attribute1
Request Attribute2
```

```
Request Attribute :-
null
null

Session Attributes :-
Request Attribute1
Request Attribute2

Context Attributes :-
Request Attribute1
Request Attribute2
```

Request Attribute :-
null
null

Request Attribute :-
null
null

Session Attributes :-
Request Attribute1
Request Attribute2

Session Attributes :-
null
null

Context Attributes :-
null
null

Context Attributes :-
Request Attribute1
Request Attribute2

7.Assume that we have got three pdf files for the MCA-1 Syllabus, MCA-2 Syllabus and MCA-3 Syllabus respectively, now write a Servlet which displays the appropriate PDF file to the client, by looking at a request parameter for the year (1, 2 or 3).

```java
package edu.scet;

import java.io.IOException; import
java.io.InputStream;
import java.io.OutputStream;

import javax.servlet.ServletException; import
javax.servlet.annotation.WebServlet; import
javax.servlet.http.HttpServlet; import
javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

/**
 * Servlet implementation class Program5
 */
@WebServlet("/Program5")
public class Program5 extends HttpServlet {
        private static final long serialVersionUID = 1L;

    /**
 * @see HttpServlet#HttpServlet()
     */
    public Program5() {
super();
        // TODO Auto-generated constructor stub
    }

        /**
```

```
* @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
        */
 protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
                // TODO Auto-generated method stub
                //response.getWriter().append("Served                                                    at:
").append(request.getContextPath());
        }


        /**
* @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)
        */
 protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
                // TODO Auto-generated method stub
                //doGet(request, response);

                String syllabus=request.getParameter("syllabus");
                String path=null;
                switch(syllabus)
                {
                case "JWT":path="/WEB-INF/JAVA WEB TECHNOLOGIES.pdf";
                break;

                case "PPDS":path="/WEB-INF/PPDS.pdf";
                break;

                case "FON":path="/WEB-INF/Fundamentals of networking.pdf";
                break;

                case "CCDO":path="/WEB-INF/CCDO.pdf";
                break;

                case ".Net":path="/WEB-INF/C#.pdf";
                break;

                case "SP-2":path="/WEB-INF/SP-2.pdf";
                break;

                default :path="/WEB-INF/JAVA WEB TECHNOLOGIES.pdf";
                break;
                }
                InputStream is =getServletContext().getResourceAsStream(path);
```
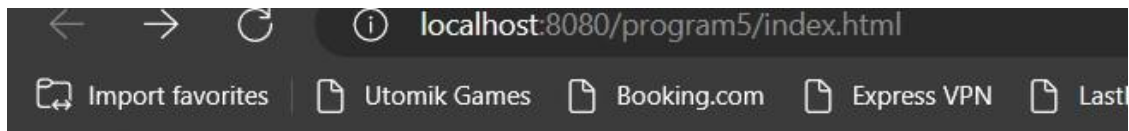
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```
                int b;
                response.setContentType("application/pdf");
OutputStream os = response.getOutputStream();              while ((b=
is.read())!=-1) {
                        os.write(b);
                }
        }
}
```

HTML FILE:-

```html
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>SCET SYLLABUS</title>
</head>
<body>
        <form action="Program5" method="post">
        <label                  style="size:300px;color:white;background-color:black">MCA
DEPARTEMNT</label>
        <br><br>
        <label for="syllabus">Choose a syllabus :</label>
        <select name="syllabus">
        <option value="JWT">Java Web Technologies</option>
        <option value="PPDS">Python Programming and Data Science</option>
        <option value="FON">Fundamentals of Networking </option>
        <option value="CCDO">Cloud computing for and DevOps</option>
        <option value=".Net">.NET Programming with C#</option>
        <option value="SP-2">Software project 2</option>
        </select>
<br><br>
        <center>
        <input type="submit" value="Submit" style="background-color:blue">
        </center>
        </form>

</body>
</html>
```

8. Write a JSP page which demonstrates different JSP tags.

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>First JSP project</title>
</head>
<body>

        <h1>This is simple jsp page</h1>
        <%--Declerative tag --%>
        <%!
 int a=10;   int b=50;
                String str="Bikash";

                public int sum(){
                        return a+b;
                }
                public String reverse(){
```

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```
                    StringBuffer br=new StringBuffer(str);
                    return br.reverse().toString();
            }
        %>
        <%--<%= str --%>
        <%--Scriplate tag --%>
        <%
                out.println(a);
out.println("<br>");            out.println(b);
        out.println("<br>");
out.println("sum ="+sum());
                out.println("<br>");
                out.println("Reverse of ' "+str+" 'the stirng ="+reverse());
        %>
        <h1>Sum is :<%=sum() %></h1>
        <%--Expression tag --%>
        <h1><%= a %></h1>


</body>
</html>
```

This is simple jsp page

```
10
50
sum =60
Reverse of ' Bikash 'the stirng =hsakiB
```

Sum is :60

10

10. Develop a Servlet to authenticate a user, where the loginid and password are available as request parameters. In case the authentication is successful, it should setup a new session and store the user's information in the session before forwarding to home.jsp using response.sendRedirect, which displays the user's information like full name, address, etc.

```
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
</head>
```

```
<body>
        <form action="Project7" method="get">
        Enter your user name<input type="text" name="name" placeholder="User
name"><br>
        Enter your password<input      type="text"   name="password"
placeholder="Password"><br>
        <button type="submit" >submit<button></button>

        </form>
</body> </html> servlet:- package edu.scet;
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; import
javax.servlet.http.HttpSession;
/**
* Servlet implementation class Project7
*/
@WebServlet("/Project7")
public class Project7 extends HttpServlet {    private
static final long serialVersionUID = 1L;
        String User_name="Bikash";
        String User_password="1234@";
/**
* @see HttpServlet#HttpServlet()
*/
public Project7() { super();
// TODO Auto-generated constructor stub
}
        /**
* @see HttpServlet#doGet(HttpServletRequest request, HttpServletResponse response)
        */
 protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
                // TODO Auto-generated method stub
                //response.getWriter().append("Served                          at:
").append(request.getContextPath());
                response.setContentType("text/html");
String name=request.getParameter("name");
                String password=request.getParameter("password");
                PrintWriter out=response.getWriter();
```

```java
                out.println("User name :"+name+"<br>"); out.println("password
                :"+password+"<br>");
                if(User_name.equals(name) && User_password.equals(password)) {
                        out.println("Login succefully");
                        HttpSession session= request.getSession();
session.setAttribute("name", name);
session.setAttribute("password",password);
                        response.sendRedirect("project7.jsp");


                }
                else {
                        out.println("Incorrect user_name and password !.");
response.sendRedirect("proj7.html");
                }
        }
        /**
  * @see HttpServlet#doPost(HttpServletRequest request, HttpServletResponse response)
        */
 protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
                // TODO Auto-generated method stub
                doGet(request, response);
        }
}



<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Login form</title>
</head>
<body>
        <% out.println("Welcome to my website ."+session.getAttribute("name"));
        %>
</body>
</html>
```

Enter your user name Bikash
Enter your password 1234@
submit

Welcome to my website .Bikash

JSP1:
```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>First JSP page </title>
</head> <body>
        <%!
                String str="Jsp 1";
public int a=10;              public
int b=20;
        %>
        Printing using the expression tag in body:
        <%= str %><br><br>
sum of 2 number :      <%= a+b
%><br><br>
        <%
                out.println("Print my first jsp page in scriptlet : "+str);
out.println("value p1 = "+request.getParameter("p1"));
                out.println("sum ="+(a+b));
        %>
        <br><br>
        Printing using the expression tag in HTML comment:
        <!-- <%= str %> -->
        <br><br>
        Printing using expression tag in JSP comment:
        <%-- <%= str %> --%>
        <br><br>
        <%
                String newStr="New string ";
out.println("Printing newString :"+newStr);
```

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```
        %><br><br>
        <%= newStr %>

</body>
</html>
```

Printing using the expression tag in body: Jsp 1

sum of 2 number : 30

Print my first jsp page in scriptlet : Jsp 1 value p1 = null sum =30

Printing using the expression tag in HTML comment:

Printing using expression tag in JSP comment:

Printing newString :New string

New string

11. Modify the above program to use the RequestDisapatcher to forward instead of response.sendRedirect package edu.scet;
Servlet :- import
java.io.IOException;
import java.io.PrintWriter;

import javax.servlet.RequestDispatcher;
import javax.servlet.ServletException; import
javax.servlet.annotation.WebServlet; import
javax.servlet.http.HttpServlet; import
javax.servlet.http.HttpServletRequest; import
javax.servlet.http.HttpServletResponse; import
javax.servlet.http.HttpSession;

```
@WebServlet("/Program11")
public class Program11 extends HttpServlet {
        private static final long serialVersionUID = 1L;
        private String UserName="Bikash";
        //private String UserPassword="123@";
         private int UserPassword=2468;


   public Program11() {
super();
```

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```java
    // TODO Auto-generated constructor stub
  }


        protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
                //response.getWriter().append("Served at: ").append(request.getContextPath());
                response.setContentType("text/html");
        String U_name=request.getParameter("name");
                String U_pass=request.getParameter("password");


                PrintWriter out=response.getWriter();


                out.println("Your Entered User_name is :"+U_name+"<br>");
        out.println("Your Entered User_Password is :"+U_pass+"<br>");


                if(U_name.equals(UserName) && Integer.valueOf(U_pass).equals(UserPassword)) {
                        out.println("Login Succesfully .");
                HttpSession session=request.getSession(true);
                session.setAttribute("name", U_name);
                session.setAttribute("password", U_pass);
                        RequestDispatcher rd=request.getRequestDispatcher("login.jsp");
                        rd.forward(request, response);


                }
                else {
                        if(U_name.equals(null) ) {
                out.println("Enter correct username.");
                        RequestDispatcher rd=request.getRequestDispatcher("Login.html");
                        rd.forward(request, response);
                }
                else if (U_pass.equals(null)) {
                        out.println("Enter correct Password.");
                        RequestDispatcher rd=request.getRequestDispatcher("Login.html");
                        rd.forward(request, response);
                }
                else {
                        out.println("Enter correct details");
                        RequestDispatcher rd=request.getRequestDispatcher("Login.html");
                        rd.forward(request, response);
                }
                }


        }

        protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
                // TODO Auto-generated method stub
```

Java Web Technologies

```
                doGet(request, response);
        }


}
```

HTML:- <!DOCTYPE
html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>SCET From</title>
</head>
<body>
        <form action="Program11" method="get">
        <h1 >Login form </h1>
        <label>Enter your name</label>
        <input type="text" name="name" placeholder="Enter name">
        <label>Enter your password</label>
        <input type="text" name="password" placeholder="Enter password">

<button type="submit" name="submit" style="background-color:lightblue">Submit</button>
        </form>
</body>
</html>

JSP page:-
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"   pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>JSP PAGE</title>
</head> <body>
        <% out.println("Welcome to our website Mr. "+request.getParameter("name")+"<br>"); %>
          <% out.println("What can I do for you ! .   "); %>

</body>
</html>

Login form

Enter your name `Enter name`
Enter your password `Enter password`

`Submit`

Welcome to our website Mr. Bikash
What can I do for you ! .ðŸ˜ðŸ˜ðŸ˜

Java Web Technologies

12 . Write a program to create a filter on a servlet to display the below information
- **Time the request was received**
- **Time the response was sent**
- **How much time it took to process the request**

```java
package edu.scet;

import java.io.IOException; import
javax.servlet.Filter;  import
javax.servlet.FilterChain;  import
javax.servlet.FilterConfig; import
javax.servlet.ServletException; import
javax.servlet.ServletRequest;  import
javax.servlet.ServletResponse;  import
javax.servlet.annotation.WebFilter; import
javax.servlet.http.HttpFilter;

import java.util.Date;

@WebFilter("/*")  public class TimeFilter extends HttpFilter
implements Filter {

  public TimeFilter() {
super();

  }

        public void init(FilterConfig fConfig) throws ServletException {

        }
        public void destroy() {

        }

        public void doFilter(ServletRequest request, ServletResponse response, FilterChain chain) throws
IOException, ServletException {

                long startTime = System.currentTimeMillis();
```

Java Web Technologies

```
    chain.doFilter(request, response);

    long endTime = System.currentTimeMillis();

    long processingTime = endTime - startTime;


    System.out.println("Time the request was received: " + new Date(startTime));
    System.out.println("Time the response was sent: " + new Date(endTime));
    System.out.println("Time taken to process the request: " + processingTime + " milliseconds");
        }
}
```

```
Time the request was received :2023-06-02
Time the response was send :2023-06-02
Processing time :3966milliseconds
Time the request was received :2023-06-02
Time the response was send :2023-06-02
Processing time :1milliseconds
Time the request was received :2023-06-02
Time the response was send :2023-06-02
Processing time :1milliseconds
```

13. Create a small project to demonstrate the MVC implementation using RequestDispatcher as explained below:

1. Create a Registration page to take Student details input.

2. On clicking Submit, insert the details in the Student table in the database and redirect the user to Home page which displays Welcome message.

3. Home page should display a link to fetch Student details. On clicking this link, the student details should be fetched from the database and be displayed on the page.

Use Model, View and Controller pattern to implement the above. Also use DAO classes to insert and fetch data from the database.

Home.html
```html
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Registration</title>
</head>
<body>
        <form action="RegisterStudent" method="POST">
        <label>Name</label>
```

Java Web Technologies

```html
        <input type="text" name="name" ><br>
        <label>Email Address</label>
        <input type="email" name="email" ><br>
        <label>Password</label>
        <input type="Password" name="Password" ><br>
        <label>Address</label>
        <input type="text" name="address" ><br>

        <input type="submit" name="btnSubmit"><br>
        </form>
</body>
</html>
```
FetchData.java

```java
package edu.scet.beans;

public class FetchStudentBean {
private String name;              private
String email;
        private String address;

        public String getName() {
return name;
        }
        public void setName(String name) {
                this.name = name;
        }
        public String getEmail() {
        return email;
        }
        public void setEmail(String email) {
this.email = email;
        }
        public String getAddress() {
                return address;
        }
        public void setAddress(String address) {
                this.address = address;
        }
}
```

StudentBean.java

```java
package edu.scet.beans;

public class StudentBean {
private String name;    private
```

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```java
String email;    private String
password;
        private String address;

        public String getName() {
                return name;
        }
        public void setName(String name) {
this.name = name;
        }
        public String getEmail() {
                return email;
        }
        public void setEmail(String email) {
                this.email = email;
        }
        public String getPassword() {
        return password;
        }
                public void setPassword(String password) {
                this.password = password;
        }
        public String getAddress() {
return address;
        }
                public void setAddress(String address) {
                this.address = address;
        }
}
```

FetchDAO.java

```java
package edu.scet.dao;

import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;  import
java.sql.Statement;
import edu.scet.beans.FetchStudentBean;

public class FetchDAO {
        public FetchStudentBean fetchStudent(String name) {
                try {
                        Class.forName("com.mysql.jdbc.Driver");
                        Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/java_db","root","");
```

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```java
                Statement stmt=con.createStatement();
    ResultSet rs=stmt.executeQuery("select * from student where name='"+name+"'");
                        rs.next();
    FetchStudentBean sb=new FetchStudentBean();
                sb.setName(rs.getString("name"));
                sb.setEmail(rs.getString("email"));
            sb.setAddress(rs.getString("address"));
                con.close();
                return sb;
            }catch(Exception e)
            {
                e.printStackTrace();
                return null;
            }
        }
}
```

RegisterDAO.java
```java
package edu.scet.dao;

import java.sql.Connection;  import
java.sql.DriverManager;  import
java.sql.PreparedStatement;
import edu.scet.beans.StudentBean;

public class RegisterDAO {

    public boolean registerStudent(StudentBean sb)
    {
        try {
            Class.forName("com.mysql.jdbc.Driver");
            Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/java_db","root","");

            String name = sb.getName();
            String email = sb.getEmail();
            String password = sb.getPassword();
            String address = sb.getAddress();

            PreparedStatement    pstmt    =        con.prepareStatement("insert
into student(name,email,password,address) values(?,?,?,?)");
```

```
                        pstmt.setString(1, name);
pstmt.setString(2, email);                              pstmt.setString(3,
password);
                        pstmt.setString(4, address);

                        pstmt.executeUpdate();

                         con.close();

                        return true;
                }catch(Exception e)
                {
                        e.printStackTrace();
                        return false;
                }
        }
}
```

Registerstudent.java

```
package edu.scet.controller;

import java.io.IOException;
import javax.servlet.ServletException;

import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet; import
javax.servlet.http.HttpServletRequest;  import
javax.servlet.http.HttpServletResponse; import
javax.servlet.http.HttpSession; import
edu.scet.beans.StudentBean;
import edu.scet.dao.RegisterDAO;

@WebServlet("/RegisterStudent")  public class
RegisterStudent extends HttpServlet {
        private static final long serialVersionUID = 1L;


   public RegisterStudent() {
super();

   }

 protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
                        response.getWriter().append("Served          at:
```

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```
").append(request.getContextPath());
        }


 protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {

            try {

                    StudentBean sb = new StudentBean();
                    sb.setName(request.getParameter("name"));
                    sb.setEmail(request.getParameter("email"));
                    sb.setPassword(request.getParameter("password"));
                    sb.setAddress(request.getParameter("address"));

                    RegisterDAO dao = new RegisterDAO();
        boolean result = dao.registerStudent(sb);

                    if(result == true)
                    {
                            HttpSession session = request.getSession(true);

                            session.setAttribute("studentName",sb.getName());

        request.getRequestDispatcher("Welcome.jsp").forward(request, response);
                    }
            else
                    {
                            request.getRequestDispatcher("Error.jsp").forward(request,
response);
                    }

            } catch (Exception e) {
                    e.printStackTrace();
            }
}
}
```

Error.html

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>  <!DOCTYPE html>

<html>

<head>
```

```
<meta charset="ISO-8859-1">

<title>Error Page</title>

</head>

<body>

        <h1>Something want wrong.Please try again.</h1>

</body>

</html>
```

StudentDetail.html

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Display Student Data</title>
</head>
<body>
        <jsp:useBean id="sb" class="edu.scet.beans.FetchStudentBean"
scope="request"></jsp:useBean>
        <table>
        <tr>
                <td>Student name: <jsp:getProperty property="name" name="sb"/>
        </tr>
        <tr>
                <td>Student Address: <jsp:getProperty property="email" name="sb"/>
        </tr>
        <tr>
                 <td>Student Email ID: <jsp:getProperty property="address" name="sb"/>
        </tr>
</table>
</body>
</html>
```

Welcome.html

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Welcome Page</title>
```

```html
</head> <body>
      <h1>Welcome UserName : </h1><%=session.getAttribute("studentName") %>
      <p><a href="FetchStudent">View Student Data</a></p>
</body>
</html>
```

FetchStudentBean.java

```java
package edu.scet.beans;

public class FetchStudentBean {
private String name;            private
String email;           private String
address;                public String
getName() {  return name;
      }
      public void setName(String name) {
this.name = name;
      }
      public String getEmail() {
            return email;
      }
      public void setEmail(String email) {
            this.email = email;
      }
      public String getAddress() {
return address;
      }
      public void setAddress(String address) {
            this.address = address;
      }
}
```

FetchDAO.java

```java
package edu.scet.dao;

import java.sql.Connection; import java.sql.DriverManager; import java.sql.ResultSet;
import java.sql.Statement;

import edu.scet.beans.FetchStudentBean;

public class FetchDAO {
      public FetchStudentBean fetchStudent(String name)
      {
            try {
                  Class.forName("com.mysql.jdbc.Driver");
```

Java Web Technologies

```java
                    Connection                     con                     =
DriverManager.getConnection("jdbc:mysql://localhost:3306/java_db","root","");

                    Statement stmt=con.createStatement();
        ResultSet rs=stmt.executeQuery("select * from student where name='"+name+"'");
                    FetchStudentBean sb = null;
                    if(rs.next())
                    {
                            sb=new FetchStudentBean();
                    sb.setName(rs.getString("name"));
            sb.setEmail(rs.getString("email"));
                            sb.setAddress(rs.getString("address"));
                    }
                    con.close();
                    return sb;
            }catch(Exception e)
            {
                    e.printStackTrace();
                    return null;
            }
        }
}
```

FetchStudent.java package
edu.scet.controller;

```java
import java.io.IOException; import
javax.servlet.ServletException; import
javax.servlet.annotation.WebServlet; import
javax.servlet.http.HttpServlet; import
javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

import edu.scet.beans.FetchStudentBean; import
edu.scet.dao.FetchDAO;


@WebServlet("/FetchStudent") public class FetchStudent extends HttpServlet {
private static final long serialVersionUID = 1L;

    public FetchStudent() {
super();

    }
```

Java Web Technologies

```java
        protected void doGet(HttpServletRequest request, HttpServletResponse response)
throws
ServletException, IOException {
                try {
                        FetchDAO dao = new FetchDAO();
                        FetchStudentBean                      sb                         =
dao.fetchStudent((String)request.getSession().getAttribute("studentName"));

                        if(sb!=null)
                        {
                                System.out.println("message");
                                request.setAttribute("sb", sb);

 request.getRequestDispatcher("ViewStudentDetails.jsp").forward(request, response);
                        }
                else    {
                                request.getRequestDispatcher("Error.jsp").forward(request,
response);
                        }

                } catch (Exception e) {
                        e.printStackTrace();
                }
        }

 protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
                doGet(request, response);
        }
 }
```

ViewStudentDetails.jsp

```jsp
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>View Student Data</title>
</head>
<body>
        <h1>View Student Page</h1>            <jsp:useBean
id="sb" scope="request"
class="edu.scet.beans.FetchStudentBean"></jsp:useBean>
```

```
        <table>
        <tr>
                <td>Name : <jsp:getProperty property="name" name="sb"/></td>
            </tr>
            <tr>
                 <td>Email : <jsp:getProperty property="email" name="sb"/></td>
            </tr>
            <tr>
                <td>Address : <jsp:getProperty property="address" name="sb"/></td>
            </tr>
</table>
</body>
</html>
```


14. Write a program to demonstrate JDBC using Normal (Create) statement.

Java Web Technologies

Employee.java

```java
package edu.scet;
import
java.util.Date;
public class
Employee {
private int empId;
 private String
empName;     private
Date doj;


        public int getEmpId() {
return empId;
        }
        public void setEmpId(int
empId) {              this.empId =
empId;
}

        public String getEmpName() {
return empName;
        }
        public void setEmpName(String empName) {
        this.empName = empName;
        }
        public Date getDoj() {
        return doj;
        }
         public void setDoj(Date doj) {
                this.doj = doj;
}
}
```

FetchData.java

```java
package edu.scet;

import java.io.IOException;
import java.io.PrintWriter;
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;  import
java.sql.Statement;  import
java.util.ArrayList;
```

```java
import java.util.List;   import
javax.servlet.ServletException;
import javax.servlet.annotation.WebS ervlet;
import javax.servlet.http.HttpServlet;  import
javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

 @WebServlet("/FetchData")  public
class FetchData extends HttpServlet {
private static final long
serialVersionUID = 1L;

  public FetchData() {
     super();
  }



  protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
                PrintWriter out = response.getWriter();
                try {
                        Class.forName("com.mysql.jdbc.Driver");
                        Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/java_db","root","");

                        Employee e;
                          List<Employee> al = new ArrayList<Employee>();

                         ResultSet rs = null;
                      Statement st = con.createStatement();

                     rs = st.executeQuery("select * from emp");

                     while(rs.next())
            {
                            e = new Employee();
                            e.setEmpId(rs.getInt(1));
                            e.setEmpName(rs.getString(2));



e.setDoj(rs.getDate(3));
```

Java Web Technologies

```
al.add(e);
}
                    request.setAttribute("emps", al);
                    request.getRequestDispatcher("Result.jsp").forward(request, response);


            }catch(Exception e) {
out.print(e.getMessage());
                }
}


 protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
                doGet(request, response);
        }
}
```

Result.jsp

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1" import="java.util.List, edu.scet.Employee"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Employee Data</title>
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0alpha3/dist/css/bootstrap.min.css"
rel="stylesheet" />
<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0alpha3/dist/js/bootstrap.bundle.min.js">
</script>
</head>
<body>
        <div class="container mt-5">
                <div class="row justify-content-center">
                        <div class="col-md-6">
                                <table class="table">

                                        <tr>
                                                <td><strong>Employee Id</strong></td>
                                                <td><strong>Employee Name</strong></td>
                                                <td><strong>Employee DOJ</strong></td>
                                        </tr>
                                        <%
                                                List<Employee> al =
```

Java Web Technologies

<u>(List<Employee>)request.getAttribute("emps");</u>

```
                                        for(Employee e : al)
                            {
                                            out.print("<tr><td>"+ e.getEmpId()
+"</td><td>"+
e.getEmpName() +"</td><td>"+ e.getDoj() +"</td></tr>");
                                    }
                        %>
            </table>
                    </div>
            </div>
        </div>  </body>
</html>
```

Employee Id	Employee Name	Employee DOJ
1	Meet	2023-05-10
2	Sagar	2023-05-09
3	Vasu	2023-05-02
4	Nikhil	2023-05-07

15 . Write a program to demonstrate JDBC using prepared statement.

Employee.java

```
package edu.scet;
import
java.util.Date;
public class
Employee {
private int empId;
 private String
empName;
        private Date doj;

        public int getEmpId() {
return empId;
        }
        public void setEmpId(int
empId) {              this.empId =
empId;
        }
```

```java
        public String getEmpName() {
return empName;
        }
        public void setEmpName(String empName) {
        this.empName = empName;
        }
        public Date getDoj() {
        return doj;
        }
         public void setDoj(Date doj) {
                this.doj = doj;
        }
}
```

EmpPrepareStat.java

```java
package edu.scet;

import java.io.IOException; import
java.io.PrintWriter;  import
java.sql.Connection;  import
java.sql.DriverManager;  import
java.sql.PreparedStatement;
import java.sql.ResultSet;  import
java.util.ArrayList;
import java.util.List;

import javax.servlet.ServletException;  import
javax.servlet.annotation.WebServlet; import
javax.servlet.http.HttpServlet;  import
javax.servlet.http.HttpServletRequest;  import
javax.servlet.http.HttpServletResponse;
@WebServlet("/EmpPrepareStat")
public class EmpPrepareStat extends
HttpServlet {
        private static final long serialVersionUID = 1L;



    public
EmpPrepareStat() {      super();
    }

 protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
                PrintWriter out = response.getWriter();
```

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Java Web Technologies

```java
        try {
                Class.forName("com.mysql.jdbc.Driver");
                Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/java_db","root","");


                Employee e;
                 List<Employee> al = new ArrayList<Employee>();


                ResultSet rs = null;
    PreparedStatement pstmt = con.prepareStatement("select * from emp where id=?");
                pstmt.setInt(1, 1);


                rs = pstmt.executeQuery();


                while(rs.next())
        {

                        e = new Employee();
                        e.setEmpId(rs.getInt(1));
                        e.setEmpName(rs.getString(2));
                        e.setDoj(rs.getDate(3));
                        al.add(e);
                }
                request.setAttribute("emps", al);
                request.getRequestDispatcher("Result.jsp").forward(request, response);


        }catch(Exception e) {
out.print(e.getMessage());
                }
}

 protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
                                doGet(request, response);
        }

}
```

Result.jsp

```jsp
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1" import="java.util.List, edu.scet.Employee"%>
<!DOCTYPE html>
<html>
<head>
```

Java Web Technologies

```html
<meta charset="ISO-8859-1">
<title>Employee Data</title>
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0alpha3/dist/css/bootstrap.min.css"
rel="stylesheet" />
<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0alpha3/dist/js/bootstrap.bundle.min.js">
</script>
</head>
<body>
        <div class="container mt-5">
                <div class="row justify-content-center">
                        <div class="col-md-6">
                                <table class="table">


                                        <tr>
                                                <td><strong>Employee Id</strong></td>
                                                <td><strong>Employee Name</strong></td>
                                                 <td><strong>Employee DOJ</strong></td>
                                        </tr>
                                        <%
                                         List<Employee> al =
(List<Employee>)request.getAttribute("emps");
                                                for(Employee e : al)
                                                {
                                                        out.print("<tr><td>"+ e.getEmpId()
+"</td><td>"+
e.getEmpName() +"</td><td>"+ e.getDoj() +"</td></tr>");
                                                }
                                        %>
                </table>
                        </div>
                </div>
        </div> </body>
</html>
```

Employee Id	Employee Name	Employee DOJ
1	Admin	2023-06-04

16. Write a program to demonstrate JDBC using callable statement.

Employee.java package
edu.scet;
import java.util.Date;

Java Web Technologies

```java
public class Employee {
private int empId;
        private String empName;
}
private Date doj;
public int getEmpId() { return
empId;
} public void setEmpId(int empId)
{    this.empId = empId;
}
public String getEmpName() {
return empName;
}
public void setEmpName(String empName) {
this.empName = empName;
}
public Date getDoj() {
return doj;
}
public void setDoj(Date doj) {
this.doj = doj;
}
}
```

Emp.html
```html
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Insert title here</title>
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0alpha3/dist/css/bootstrap.min.css"
rel="stylesheet" />
<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0alpha3/dist/js/bootstrap.bundle.min.js">
</script>
</head>
<body>
<div class="container mt-5">
<div class="row justify-content-center">
<div class="col-md-6">
<form action="EmpCallableStat" method="GET">
<table class="table">
<tr>
<td colspan="2"><h1 class="text-center">Search Data</h1></td>
</tr>
```

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```html
<tr>
<td>Enter Employee No</td>
<td><input type="search" name="txtEmpno" class="formcontrol" required
placeholder="Enter Employee No" /></td>
</tr>
<tr>
<td colspan="2"><input type="submit" name="btnSubmit" class="btn btn-outlinesuccess"
value="Save" /></td>
</tr>
</table>
</form>
</div>
</div>
</div>
</body>
</html>
```

EmpCallableStat.java
```java
package edu.scet;

import java.io.IOException;
import java.io.PrintWriter;  import
java.sql.CallableStatement;  import
java.sql.Connection;  import
java.sql.DriverManager;  import
java.sql.PreparedStatement;
import java.sql.ResultSet;  import
java.util.ArrayList;
import java.util.List;

import javax.servlet.ServletException;
import javax.servlet.annotation.WebServlet;
import javax.servlet.http.HttpServlet; import
javax.servlet.http.HttpServletRequest;
import javax.servlet.http.HttpServletResponse;

@WebServlet("/EmpCallableStat") public class
EmpCallableStat extends HttpServlet { private
static final long serialVersionUID = 1L;
public
EmpCallableStat() {
super(); }
protected void doGet(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
```

```java
PrintWriter out = response.getWriter(); int empId =
Integer.parseInt(request.getParameter("txtEmpno"));

try {
Class.forName("com.mysql.jdbc.Driver");
Connection con =
DriverManager.getConnection("jdbc:mysql://localhost:3306/java_db","root",""); Employee
e;
List<Employee> al = new ArrayList<Employee>();

ResultSet rs = null;
CallableStatement stmt = con.prepareCall("{call get_record(?)}");

stmt.setInt(1, empId);

rs = stmt.executeQuery();

while(rs.next())
{
e = new Employee();
e.setEmpId(rs.getInt(1));
e.setEmpName(rs.getString(2));
e.setDoj(rs.getDate(3)); al.add(e);
}

request.setAttribute("emps", al);
request.getRequestDispatcher("Result.jsp").forward(request, response);


}catch(Exception e) {
out.print(e.getMessage());
}
}

protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {

}
}
```

Result.jsp
```jsp
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1" import="java.util.List, edu.scet.Employee"%>
<!DOCTYPE html>
```

Java Web Technologies

```html
<html>
<head>
<meta charset="ISO-8859-1">
<title>Employee Data</title>
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0alpha3/dist/css/bootstrap.min.css"
rel="stylesheet" /> <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0alpha3/dist/js/bootstrap.bundle.min.js">
</script>
</head>
<body>
<div class="container mt-5">
<div class="row justify-content-center">
<div class="col-md-6">
<table class="table">

<tr>
<td><strong>Employee Id</strong></td>
<td><strong>Employee Name</strong></td>
<td><strong>Employee DOJ</strong></td>
</tr>
<%
List<Employee> al =
(List<Employee>)request.getAttribute("emps");
for(Employee e : al)
{
out.print("<tr><td>"+ e.getEmpId() +"</td><td>"+
e.getEmpName() +"</td><td>"+ e.getDoj() +"</td></tr>"); }
%>
</table>
</div>
</div>
</div>
</body>
</html>
```

Search Data

Enter Employee No	Enter Employee No

Save

Employee Id	Employee Name	Employee DOJ
2	User	2023-05-15

Java Web Technologies

17.Write a program to demonstrate JSP Beans. Register.html

```html
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Register Page</title>
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0alpha3/dist/css/bootstrap.min.css"
rel="stylesheet" />
<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0alpha3/dist/js/bootstrap.bundle.min.js">
</script>
</head>
<body>
        <div class="container mt-5">
                <div class="row justify-content-center">
                        <div class="col-md-6">
                                <form action="setBean.jsp" method="POST">
                                <table class="table">
                                        <tr>
                                                <td>Enter Enrollment No</td>
    <td><input type="text" name="txtEno" class="formcontrol" placeholder="Enter
Enrollment No" /></td>
                                        </tr>
                                        <tr>
                                                <td>Enter Name</td>
    <td><input type="text" name="txtName" class="formcontrol" placeholder="Enter Name"
/></td>
                                        </tr>
                                        <tr>
                                                <td>Enter Gender</td>
                                                <td>
                                                        <input type="radio"
name="rbGender" value="male" />Male
                                                        <input type="radio"
name="rbGender" value="female" />Female
                                                </td>
                                        </tr>
                                        <tr>
    <td colspan="2"><input type="submit" name="btnSubmit" class="btn btn-outline-
success" /></td>
                                        </tr>
```

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

SetBean.jsp

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">
<title>Set Bean</title>
</head>
<body>
        <jsp:useBean id="student" class="edu.scet.Name" scope="request"></jsp:useBean>

        <jsp:setProperty property="nm" param="txtName" name="student"/>
        <jsp:setProperty property="eno" param="txtEno" name="student"/>
        <jsp:setProperty property="gender" param="rbGender" name="student"/>

        <jsp:forward page="DisplayBean.jsp"></jsp:forward>
</body>
</html>
```

DisplayBean.jsp

```
<%@ page language="java" contentType="text/html; charset=ISO-8859-1"
pageEncoding="ISO-8859-1"%>
<!DOCTYPE html>
<html>
<head>
<meta charset="ISO-8859-1">  <title>Display
Beans Data</title>
</head>
<body>
        <h1>Display Beans Data</h1>
        <jsp:useBean id="student" class="edu.scet.Name" scope="request"></jsp:useBean>
        <h3>Enrollment No : <jsp:getProperty property="eno" name="student"/></h3>
        <h3>Name : <jsp:getProperty property="nm" name="student"/></h3>
```

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```html
  <h3>Gender : <jsp:getProperty property="gender" name="student"/></h3>
</body>
</html>
```

Enter Enrollment No	109
Enter Name	Meet
Enter Gender	⦿Male ○Female
Submit	

Display Beans Data

Enrollment No : 109

Name : Meet

Gender : male

18. Write a program to demonstrate JSP Expression Language using operators.

Home.html

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta http-equiv="X-UA-Compatible" content="IE=edge">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">    <title>EL Operator</title>
</head>
<body>
  <table border=1 align="center">
    <tr>
      <th class="colored" colspan="2">Arithmetic Operators</th>
      <th class="colored" colspan="2">Relational Operators</th>
    </tr>
    <tr>
      <td>Expression</td>
<td>Result</td>
      <td>Expression</td>
      <td>Result</td>
    </tr>
```

Java Web Technologies

```html
    <tr>
      <td>\${3+2-1}</td>
      <td>${3+2-1}</td>
      <td>\${1&lt;2}</td>
      <td>${1<2}</td>
    </tr>
    <tr>
      <td>\${"1"+2}</td>
      <td>${"1"+2}</td>
      <td>\${"a"&lt;"b"}</td>
      <td>${"a"<"b"}</td>
    </tr>
    <tr>
      <td>\${1 + 2*3 + 3/4}</td>
      <td>${1 + 2*3 + 3/4}</td>
      <td>\${2/3 &gt;= 3/2}</td>
      <td>${2/3 >= 3/2}</td>
    </tr>
    <tr>
      <td>\${3%2}</td>
      <td>${3%2}</td>
      <td>\${3/4 == 0.75}</td>
      <td>${3/4 == 0.75}</td>
    </tr>
    <tr>
      <td>\${(8 div 2) mod 3}</td>
      <td>${(8 div 2) mod 3}</td>
      <td>\${null == "test"}</td>
      <td>${null == "test"}</td>
    </tr>
<tr>
      <th class="colored" colspan="2">Logical Operators</th>
      <th class="colored" colspan="2"><code>empty</code> Operator</th>        </tr>
    <tr>
      <td>Expression</td>
<td>Result</td>
      <td>Expression</td>
      <td>Result</td>
    </tr>
    <tr>
      <td>\${(1&lt;2) && (4&lt;3)}</td>
      <td>${(1<2) && (4<3)}</td>
      <td>\${empty ""}</td>
      <td>${empty ""}</td>
    </tr>
    <tr>
      <td>\${(1&lt;2) || (4&lt;3)}</td>
      <td>${(1<2) || (4<3)}</td>
```

```
      <td>\${empty null}</td>
      <td>${empty null}</td>
    </tr>
    <tr>
      <td>\${!(1&lt;2)}</td>
      <td>${!(1<2)}</td>
      <td>\${empty param.blah}</td>
      <td>${empty param.blah}</td>
    </tr>
  </table>
</body>   </html>
```

.

Arithmetic Operators		Relational Operators	
Expression	**Result**	**Expression**	**Result**
${3+2-1}	4	${1<2}	true
${"1"+2}	3	${"a"<"b"}	true
${1 + 2*3 + 3/4}	7.75	${2/3 >= 3/2}	false
${3%2}	1	${3/4 == 0.75}	true
${(8 div 2) mod 3}	1.0	${null == "test"}	false
Logical Operators		**empty Operator**	
Expression	**Result**	**Expression**	**Result**
${(1<2) && (4<3)}	false	${empty ""}	true
${(1<2) || (4<3)}	true	${empty null}	true
${!(1<2)}	false	${empty param.blah}	true