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**FACULTY OF SCIENCE COMPUTER AND MATHEMATICS**

**CSM3023 (K1)**

**WEB BASED APPLICATION DEVELOPMENT**

**LAB 5**

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(S67775)

## TASK 1

### Source Code

```
7  <%@page contentType="text/html" pageEncoding="UTF-8"%>
8  <%@page language="java"%>
9  <%@page import="java.sql.*"%>
10
11 <!DOCTYPE html>
12 <html>
13 <head>
14 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
15 </head>
16 <body>
17 <h1>Lab 6 - Task 1 - Sample Insertion records into MySQL through JSP's page </h1>
18 <%
19 int result;
20 //Step 1:Load JDBC driver...
21 Class.forName("com.mysql.jdbc.Driver");
22 out.println("Step 1:MySQL driver loaded..!");
23 %>
24 <br>
25 <%
26 //Step 2: Establish the connection..
27 String myURL = "jdbc:mysql://localhost/cs3023";
28 String username = "root";
29 String password = "admin123";
30 Connection myConnection = DriverManager.getConnection(myURL, username , password);
31 out.println("Step 2: Database is connected.....!");
32 %>
33 <br>
34 <%
35 //Step 3:Create a PreparedStatement object....
36 out.println("Step 3: Prepared Statements created...!");
37
38 //prepared SQL Query as a string...
39 String sInsertQry = "INSERT INTO firsttable (name) VALUES(?)";
40
41 //Call method preparedStatement
42 PreparedStatement myPS = myConnection.prepareStatement(sInsertQry);
43 %>
44 <br>
45 <%
46 //Assign each value to respective columns for Book's table...(C-create)
47 out.println("Step 4: Perform insertion of record...!");
48 String name = "Welcome to access MySQL database with JSP.....!";
49 myPS.setString(1,name);
50
51 result = myPS.executeUpdate();
52
53 if(result > 0){
54 %>
55 <br>
56 <%
57 out.println("Step 5: Close database connection...!");
58 out.println(" ");
59 out.println("Database connection is closed...!");
60 out.println("<p>" + "The record : (" + name + ") is successfully created..!" + "</p>");
61 }
62 //Step 5: Close database connection...!
63 myConnection.close();
64 %>
65 </body>
66 </html>
```

## Output

### Lab 6 - Task 1 - Sample Insertion records into MySQL through JSP's page

Step 1:MySQL driver loaded...!  
Step 2: Database is connected.....!  
Step 3: Prepared Statements created...!  
Step 4: Perform insertion of record...!  
Step 5: Close database connection...! Database connection is closed...!

The record : (Welcome to access MySQL database with JSP.....!) is successfully created...!

## Task 2

### Source Code

#### insertAuthor.jsp

```
6
7 <%@page contentType="text/html" pageEncoding="UTF-8"%>
8 <!DOCTYPE html>
9 <html>
10 <head>
11 <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
12 <title>Task 2</title>
13 </head>
14 <body>
15 <h1>Lab 6 - Task 2 - Perform creating and retrieving records via JSP Page</h1>
16 <form action="processAuthor.jsp" method="post">
17 <fieldset>
18 <legend>Author Registration</legend>
19 <table>
20 <tr>
21 <td style="padding-bottom: 10px;"><label for="authorNo">Author No: </label></td>
22 <td style="padding-bottom: 10px;"><input type="text" id="authorNo" name="authorNo" placeholder="E.g.: URXXXXX" style="width: 100%;"></td>
23 </tr>
24 <tr>
25 <td style="padding-bottom: 10px;"><label for="name">Name: </label></td>
26 <td style="padding-bottom: 10px;"><input type="text" id="name" name="name" placeholder="Enter your name" style="width: 100%;"></td>
27 </tr>
28 <tr>
29 <td style="padding-bottom: 10px;"><label for="address">Address: </label></td>
30 <td style="padding-bottom: 10px;"><input type="text" id="address" name="address" placeholder="Enter your address" style="width: 100%;"></td>
31 </tr>
32 <tr>
33 <td style="padding-bottom: 10px;"><label for="city">City: </label></td>
34 <td style="padding-bottom: 10px;"><input type="text" id="city" name="city" placeholder="Enter your city" style="width: 100%;"></td>
35 </tr>
36 <tr>
37 <td style="padding-bottom: 10px;"><label for="state">State: </label></td>
38 <td style="padding-bottom: 10px;"><input type="text" id="state" name="state" placeholder="Enter your state" style="width: 100%;"></td>
39 </tr>
40 <tr>
41 <td style="padding-bottom: 10px;"><label for="zip">Zip: </label></td>
42 <td style="padding-bottom: 10px;"><input type="text" id="zip" name="zip" placeholder="Enter your zip" style="width: 100%;"></td>
43 </tr>
44 <tr>
45 <td colspan="2" style="padding-top: 10px;">
46 <input type="submit" value="Submit">
47 <input type="button" value="Cancel" onclick="history.back();">
48 </td>
49 </tr>
50 </table>
51 </fieldset>
52 </form>
53 </body>
54 <footer>&copy; 2024-Nur Afiqah</footer>
55 </html>
```

## Output

## Lab 6 - Task 2 - Perform creating and retrieving records via JSP Page

Author Registration

Author No:

Name:

Address:

City:

State:

Zip:

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## Task 3

### Insertstudent.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>Lab 6 - Task 3</title>
  </head>
  <body>
    <h1>Task 3 - Create Records Constrained by Regular Expression in JSP</h1>
    <form id="StudentRegistration" action="processStudent.jsp" method="POST">
      <fieldset>
        <legend>Student Registration</legend>
        <br>
        <table>
          <tr>
            <td><label>Student No</label></td>
            <td><input name="studno" type="text" size="30" placeholder="E.g. URXXXXXX"></td>
          </tr>
          <tr>
            <td><label>Name</label></td>
            <td><input name="studname" type="text" size="50" placeholder="Enter your name"></td>
          </tr>
          <tr>
            <td><label>Program</label></td>
            <td>
              <select name="stuprogram">
                <option value="Bsc.Soft. Eng">BSc. Soft. Eng.</option>
                <option value="BSc. with IM">BSc. with IM</option>
                <option value="BSc. in Networking">BSc. in Networking</option>
                <option value="BSc. Soft. Robotics">BSc. Soft. Robotics</option>
              </select>
            </td>
          </tr>
          <tr>
            <td><input type="submit" id="btnSubmit" value="Submit">
              <input type="reset" id="btnCancel" value="Cancel">
            </td>
          </tr>
        </table>
      </fieldset>
    </form>
  </body>
  <footer><br> &copy; 2024-Nur Afiqah</footer>
</html>
```

## Student.java

```
package Lab6.com;

public class Student {
    private String studno;
    private String studname;
    private String stuprogram;

    public String getStudno() {
        return studno;
    }

    public void setStudno(String studno) { // Corrected method name
        this.studno = studno;
    }

    public String getStudname() {
        return studname;
    }

    public void setStudname(String studname) {
        this.studname = studname;
    }

    public String getStuprogram() {
        return stuprogram;
    }

    public void setStuprogram(String stuprogram) {
        this.stuprogram = stuprogram;
    }
}
```

## processStudent.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@page language="java"%>
<%@page import="java.sql.*"%>
<%@page errorPage="errorStudent.jsp"%>

<!DOCTYPE html>
<html>
<head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>Lab 6 - Task 3 - Processor</title>
    <style>
        p {
            color: blue;
        }
    </style>
</head>
<body>
    <jsp:useBean id="myStudent" class="Lab6.com.Student" scope="request"/>
    <jsp:setProperty name="myStudent" property="*" />
    <h1>Task 3 - Create Records Constrained by Regular Expression in JSP</h1>
    <%
        try {
            int result;

            Class.forName("com.mysql.cj.jdbc.Driver"); // Updated driver class for newer MySQL versions
            System.out.println("S1: MySQL driver loaded..!");

            String myURL = "jdbc:mysql://localhost:3306/csf3023";
            Connection myConnection = DriverManager.getConnection(myURL, "root", "admin123");
            System.out.println("S2: Database is connected..!");
            System.out.println("S3: Prepared Statement created...!");
            String sInsertQry = "INSERT INTO Student(studno, studname, stuprogram) VALUES(?, ?, ?)";
            System.out.println("\t SQL Query: " + sInsertQry);

            PreparedStatement myPS = myConnection.prepareStatement(sInsertQry);

            System.out.println("S4: Perform insertion of record...!");
            myPS.setString(1, myStudent.getStudno());
```

```

        myPS.setString(2, myStudent.getStudname());
        myPS.setString(3, myStudent.getStuprogram());

        result = myPS.executeUpdate();

        if (result > 0) {
            out.println("\tRecord successfully added into Student's table...!");
            out.println("<p>Record with student no " + myStudent.getStudno() + " successfully created..!</p>");
            out.println("<p>Details of record are;</p>");
            out.println("<p>Student ID : " + myStudent.getStudno() + "</p>");
            out.println("<p>Name : " + myStudent.getStudname() + "</p>");
            out.println("<p>Program : " + myStudent.getStuprogram() + "</p>");
        }

        System.out.println("5: Close Database Connection...!");
        myConnection.close();
        System.out.println("Database connection is closed...!");
    } catch (Exception e) {
        request.setAttribute("javax.servlet.error.exception", e);
        request.setAttribute("studno", myStudent.getStudno());
        request.setAttribute("studname", myStudent.getStudname());
        request.setAttribute("stuprogram", myStudent.getStuprogram());
        request.getRequestDispatcher("errorStudent.jsp").forward(request, response);
    }
}
%>
</body>
</html>

```

## errorStudent.jsp

```

<%@ page contentType="text/html; charset=UTF-8" %>
<!DOCTYPE html>
<html>
<head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>Lab 6 - Task 3 - Error Student</title>
</head>
<body>
    <form id="errorFrm" action="insertStudent.jsp" method="POST">
        <h1>Lab 6 - Task 3 - Perform creating and retrieving records via JSP Page</h1>
        <p>When inserting record..!</p>
        <%
            // Retrieve the exception object passed from processStudent.jsp
            Exception exception = (Exception) request.getAttribute("javax.servlet.error.exception");
            if (exception != null) {
                out.println("<p>Error message: " + exception.getMessage() + "</p>");
            } else {
                out.println("<p>No exception message available</p>");
            }
        %>
    </form>
</body>
</html>

```

## Output

### Task 3 - Create Records Constrained by Regular Expression in JSP

Student Registration

Student No	<input type="text" value="UK8888"/>
Name	<input type="text" value="AFIQAHA"/>
Program	<input type="text" value="BSc. in Networking"/>
<input type="button" value="Submit"/> <input type="button" value="Cancel"/>	

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### Task 3 - Create Records Constrained by Regular Expression in JSP

Record successfully added into Student's table...!

Record with student no UK8888 successfully created...!

Details of record are;

Student ID : UK8888

Name : AFIQAHA

Program : BSc. in Networking

## Task 4

### Source code

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@page import="java.sql.*" %>
<!DOCTYPE html>
<html>
<head>
<meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
<title>Lab 6 - Task 4</title>
<style>
table
{
border-collapse: collapse;
}
td, th
{
border: 1px solid #999;
padding: 0.5rem;
text-align: left;
}
th
{
background: gold;
}
</style>
</head>
<body>
<h1>Lab 6 - Task 4 : Retrieving record via JSP page</h1>
<%
out.print("<table>");
out.print("<thead>");
out.print("<tr>");
out.print("<th>" + "Student No" + "</th>");
out.print("<th>" + "Student Name" + "</th>");
out.print("<th>" + "Program" + "</th>");
out.print("</tr>");
out.print("</thead>");
out.print("<tbody>");
%>
<%
try {
Class.forName("com.mysql.cj.jdbc.Driver");
System.out.println("S1: MySQL driver loaded...!");
String myURL = "jdbc:mysql://localhost:3306/csf3023";
Connection myConnection = DriverManager.getConnection(myURL, "root", "admin123");
System.out.println("S2: Database is connected...!");
Statement myStatement = myConnection.createStatement();
String myQuery = "SELECT * FROM Student";
ResultSet myResultSet = myStatement.executeQuery(myQuery);
while (myResultSet.next()) {
out.print("<tr>");
out.print("<td width=\"20%\">" + myResultSet.getString(1) + "</td>");
out.print("<td width=\"40%\">" + myResultSet.getString(2) + "</td>");
out.print("<td width=\"40%\">" + myResultSet.getString(3) + "</td>");
out.print("</tr>");
}
System.out.println("S5: Close database connection...!");
myConnection.close();
System.out.println(" ");
System.out.println("Database connection is closed...!");
} catch (Exception e) {
e.printStackTrace();
out.print("<p>Error: " + e.getMessage() + "</p>");
}
%>
<%
out.print("</tbody>");
out.print("</table>");
%>
</body>
</html>
```



## Output

# Lab 6 - Task 4 : Retrieving record via JSP page

Student No	Student Name	Program
UK12489	Ahmad Salam	BSc. with IM
UK56789	Rosnah Azman	Bsc.Soft. Eng
UK67342	Liew Cheng Huat	BSc. Soft. Robotics
UK8888	AFIQAH	BSc. in Networking

## Reflection

### 1. What have you learnt from this exercise?

Based on this exercise, I have learnt on how to use Java Scriptlet to query a list of records.

### 2. Explain the differences when using Statement() and PreparedStatement().

Statement()	Key of Differences	PreparedStatement()
It is used when SQL query is to be executed only once.	Execution	It is used when SQL query is to be executed multiple times.
You cannot pass parameters at runtime.	Parameter Passing	You can pass parameters at runtime.
Used for CREATE, ALTER, DROP statements.	Queries	Used for the queries which are to be executed multiple times.

## Task 5

### Source code

#### Registermarathon.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>Marathon Registration</title>
  </head>
  <body>
    <h1>Graphical User Interfaces of Register Marathon</h1>
    <form action="processMarathon.jsp" method="POST">
      <fieldset>
        <legend>Marathon Registration</legend>
        <br>
        <table>
          <tr>
            <td><label>IC No</label></td>
            <td><input name="icNo" type="text" size="30" placeholder="E.g.:921110-10-2514"></td>
          </tr>
          <tr>
            <td><label>Name</label></td>
            <td><input name="name" type="text" size="50" placeholder="Enter your name"></td>
          </tr>
          <tr>
            <td><label>Category</label></td>
            <td>
              <select name="category">
                <option value="5">5 KM</option>
                <option value="7">7 KM</option>
                <option value="10">10 KM</option>
              </select>
            </td>
          </tr>
          <tr>
            <td>
              <input type="submit" id="btnSubmit" value="Submit">
              <input type="reset" id="btnCancel" value="Cancel">
            </td>
          </tr>
        </table>
      </fieldset>
    </form>
  </body>
  <br>
  <footer>&copy; 2024-Nur Afiqah</footer>
</html>
```

## Marathon.java

```
package Lab6.com;

/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
 */

public class Marathon {

    private String icNo;
    private String name;
    private String category;

    public String getIcNo() {
        return icNo;
    }

    public void setIcNo(String icNo) {
        this.icNo = icNo;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public String getCategory() {
        return category;
    }

    public void setCategory(String category) {
        this.category = category;
    }
}
```

## Database.java

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
 */

package Lab6.com;

import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;

public class Database {

    private static Connection myConnection = null;
    private static String myURL = "jdbc:mysql://localhost:3306/csf3023";
    private int result = 0;

    public static Connection getConnection() throws ClassNotFoundException {
        try {
            Class.forName("com.mysql.jdbc.Driver");
            myConnection = DriverManager.getConnection(myURL, "root", "admin123");
        } catch (SQLException e) {
            e.printStackTrace();
        }
        return myConnection;
    }

    public void closeConnection() throws ClassNotFoundException {
        try {
            myConnection.close();
        } catch (SQLException e) {
            e.printStackTrace();
        }
    }
}
```

## MarathonDAO.java

```
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to edit this template
 */
package Lab6.com;

import java.sql.PreparedStatement;
import java.sql.SQLException;

public class MarathonDAO {

    public static int addDetail(Marathon marathon) throws ClassNotFoundException,
        SQLException {
        int result;
        Database.getConnection();
        String sInsertQry = "INSERT INTO marathon(icno, name, category) VALUES (?, ?, ?)";
        PreparedStatement preparedStatement
            = Database.getConnection().prepareStatement(sInsertQry);
        preparedStatement.setString(1, marathon.getIcNo());
        preparedStatement.setString(2, marathon.getName());
        preparedStatement.setString(3, marathon.getCategory());
        result = preparedStatement.executeUpdate();
        return result;
    }
}
```

## ProcessMarathon.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@page language="java"%>
<%@page import="java.sql.*"%>
<%@page import="Lab6.com.Database"%>
<%@page import="Lab6.com.Marathon"%>
<%@page import="Lab6.com.MarathonDAO"%>

<!DOCTYPE html>
<html>
    <head>
        <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
        <title>JSP Page</title>
        <style>
            p{
                color: red;
            }
        </style>
    </head>
    <body>
        <jsp:useBean id="myMarathon" class="Lab6.com.Marathon" scope="request"/>
        <jsp:setProperty name="myMarathon" property="*" />

        <%
            int result;
            result = MarathonDAO.addDetail(myMarathon);
            Database myDB = new Database();
            if (result > 0){
                out.println("\tRecord succesfully added into Marathon's table...!");
                out.println("<p>" + "Record with IC No " + myMarathon.getIcNo()
                    + " succesfully created..!" + "</p>");
                out.println("<p>" + "Details of record are; " + "</p>");
                out.println("<p>Ic No : " + myMarathon.getIcNo() + "</p>");
                out.println("<p>Name : " + myMarathon.getName() + "</p>");
                out.println("<p>Category : " + myMarathon.getCategory() + " RM </p>");
            } else {
                out.println("insert data failed");
            }

            System.out.println("S5: Close database connection...!");
        %>
```

```
myDB.closeConnection();  
System.out.println(" ");  
System.out.println("Database connection is closed...!");  
%>  
</body>  
</html>
```

## Output

# Graphical User Interfaces of Register Marathon

### Marathon Registration

IC No	<input type="text" value="022607-11-2346"/>
Name	<input type="text" value="Rosnah Azman"/>
Category	<input type="text" value="5 KM"/>
<input type="button" value="Submit"/> <input type="button" value="Cancel"/>	

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Record succesfully added into Marathon's table...!

Record with IC No 022607-11-2346 succesfully created..!

Details of record are;

Ic No : 022607-11-2346

Name : Rosnah Azman

Category : 5 KM

## Reflection

### 1. What have you learnt from this exercise?

Based on this exercise, I have learnt on how to use JavaBeans to perform SQL Transaction.

### 2. Describe the benefits of using JavaBeans.

**Encapsulation:** Private fields with public getters/setters ensure controlled access, enhancing data security and integrity.

**Easy Integration:** JavaBeans seamlessly integrate with tools, frameworks like Servlets/JSPs, and support serialization.

## Exercise

### insertUser.html

```
<!DOCTYPE html>
<html>
<head>
  <meta charset="UTF-8">
  <title>Register User</title>
</head>
<body>
  <h2>Register User</h2>
  <form action="processUser.jsp" method="POST">
    <label>Username:</label>
    <input type="text" name="username" required><br><br>

    <label>Password:</label>
    <input type="password" name="password" required><br><br>

    <label>First Name:</label>
    <input type="text" name="firstname" required><br><br>

    <label>Last Name:</label>
    <input type="text" name="lastname" required><br><br>

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

## processUser.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@page import="java.io.*,java.util.*,java.sql.*"%>
<%
    String username = request.getParameter("username");
    String password = request.getParameter("password");
    String firstname = request.getParameter("firstname");
    String lastname = request.getParameter("lastname");
    Connection con = null;
    PreparedStatement pstmt = null;

    try {
        Class.forName("com.mysql.jdbc.Driver");
        String myURL = "jdbc:mysql://localhost:3306/csf3023";
        con = DriverManager.getConnection(myURL, "root", "admin123");

        String query = "INSERT INTO userprofile (username, password, firstname, lastname) VALUES (?, ?, ?, ?)";
        pstmt = con.prepareStatement(query);
        pstmt.setString(1, username);
        pstmt.setString(2, password);
        pstmt.setString(3, firstname);
        pstmt.setString(4, lastname);

    } catch (ClassNotFoundException | SQLException e) {
        out.println("Exception occurred: " + e.getMessage());
    } finally {
        try {
            if (pstmt != null) pstmt.close();
            if (con != null) con.close();
        } catch (SQLException e) {
            out.println("Exception in closing resources: " + e.getMessage());
        }
    }
%>
```

## login.jsp

```
<!DOCTYPE html>
<html>
<head>
    <meta charset="UTF-8">
    <title>Login</title>
</head>
<body>
    <h2>Login</h2>
    <form action="doLogin.jsp" method="POST">
        <label>Username:</label>
        <input type="text" name="username" required><br><br>

        <label>Password:</label>
        <input type="password" name="password" required><br><br>

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

## doLogin.jsp

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@page import="java.io.*,java.util.*,java.sql.*"%>
<%
    String username = request.getParameter("username");
    String password = request.getParameter("password");
    Connection con = null;
    PreparedStatement pstmt = null;
    ResultSet rs = null;

    try {
        Class.forName("com.mysql.jdbc.Driver");
        String myURL = "jdbc:mysql://localhost:3306/csf3023";
        con = DriverManager.getConnection(myURL, "root", "admin123");

        String query = "SELECT * FROM userprofile WHERE username=? AND password=?";
        pstmt = con.prepareStatement(query);
        pstmt.setString(1, username);
        pstmt.setString(2, password);

        rs = pstmt.executeQuery();

        if (rs.next()) {
            String firstname = rs.getString("firstname");
            String lastname = rs.getString("lastname");
            session.setAttribute("username", username);
            session.setAttribute("firstname", firstname);
            session.setAttribute("lastname", lastname);
            response.sendRedirect("main.jsp");
        } else {
            response.sendRedirect("login.jsp?message=Invalid username or password..!");
        }
    } catch (ClassNotFoundException | SQLException e) {
        out.println("Exception occurred: " + e.getMessage());
    } finally {
        try {
            if (rs != null) rs.close();
            if (pstmt != null) pstmt.close();
            if (con != null) con.close();

        } catch (SQLException e) {
            out.println("Exception in closing resources: " + e.getMessage());
        }
    }
}%>
```



## Main.jsp

```
<!DOCTYPE html>
<html>
<head>
  <meta charset="UTF-8">
  <title>Main Page</title>
</head>
<body>
  <h2>Welcome, <%= session.getAttribute("firstname") %> <%= session.getAttribute("lastname") %>!</h2>
  <p>Username: <%= session.getAttribute("username") %></p>
  <a href="login.jsp">Logout</a>
</body>
</html>
```