Ex.no:8

Date:23/4/25

8. Consider a Library Management System. Develop a JavaScript program that will validate the controls in the forms you have created for the application. State the assumptions you make (business logic you are taking into consideration). Note: Your application must access a database using Servlet/JSP.

Aim:

To develop a JavaScript-based client-side validation system for a Library Management System that ensures all user inputs in forms (such as registration, book entry, and issue/return transactions) are valid before submission. The application will integrate with a backend implemented using Servlet/JSP to perform server-side operations and database access, ensuring data consistency and integrity across the system.

Display_books.jsp:

```
<%@ page import="java.sql.*" %>
<%@ page contentType="text/html;charset=UTF-8" language="java" %>
<html>
<head>
  <title>Library Books List</title>
  <style>
    table {
      border-collapse: collapse;
      width: 90%;
      margin: 20px auto;
    th, td {
      border: 1px solid #333;
      padding: 10px;
      text-align: center;
    th {
      background-color: #f2f2f2;
    h2 {
     text-align: center;
    }
  </style>
</head>
<body>
  <h2>All Books in Library</h2>
```

```
try {
     Class.forName("com.mysql.cj.jdbc.Driver");
     Connection conn = DriverManager.getConnection(
       "jdbc:mysql://localhost:3306/library_management_ramya", "root", "");
     Statement stmt = conn.createStatement();
     ResultSet rs = stmt.executeQuery("SELECT * FROM aswin");
     out.println("");
     out.println("IDnamedept");
     while (rs.next()) {
      out.println("");
out.println("" + rs.getString("id") + "");
      out.println("" + rs.getString("name") + "");
      out.println("" + rs.getString("dept") + "");
      out.println("");
     out.println("");
     rs.close();
     stmt.close();
     conn.close();
   } catch (Exception e) {
     out.println("Error: " + e.getMessage()
+ "");
 %>
</body>
</html>
```

```
31 - Ramya231801135/src/main/webapp/display_books.jsp - Eclipse IDE
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    border-collapse: collapse;
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• № Ramya231801135
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</style>
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Class.forName("com.mysql.cj.jdbc.Driver");
Connection conn = DriverNanager.getConnection(
    "jdbc:mysql://localhost:3306/library_management_ramya", "root", "");
Statement stmt = conn.createStatement();
ResultSet rs = stmt.executeQuery("SELECT * FROM books");
out.println("<talp?");
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out.println("<talp?");
out.println("<talp?");</pre>

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    Src

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    out.println("ctr>");
    out.println("ctd" + rs.getString("book_id") + "");
    out.println("ctd" + rs.getString("book_id") + "");
    out.println("ctd" + rs.getString("title") + "");
    out.println("ctd" + rs.getString("author") + "</td");
    out.println("ctd" + rs.getInt("year") + "</td");
    out.println("ctd" + rs.getInt("copies") + "</td");
    out.println("ctd" + rs.getInt("copies") + "</td");
    out.println("</tr>
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loginform.html
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rs.close();
stmt.close();
conn.close();
} catch (Exception e) {
out.println("Error: " + e.getMessage() + "");
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                               Signup.html
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Library_management_system.jsp:

```
<%@ page import="java.sql.*" %>
<%@ page contentType="text/html;charset=UTF-8" language="java" %>
<html>
<head>
  <title>Library Management - Add Book</title>
  <style>
 body {
    font-family: Arial, sans-serif;
    background-color: #f3f3f3;
    margin: 20px;
    padding: 20px;
  }
 h2 {
    color: #333;
  form {
    background-color: #fff;
    padding: 20px;
    border-radius: 8px;
```

```
box-shadow: 0 \ 2px \ 5px \ rqba(0,0,0,0.1);
    width: 400px;
  input[type="text"],
  input[type="number"],
  select {
    width: 100%;
    padding: 8px;
    margin: 6px 0 12px 0;
    border: 1px solid #ccc;
    border-radius: 4px;
  input[type="submit"] {
    background-color: #4CAF50;
    color: white;
    border: none;
    padding: 10px 16px;
    cursor: pointer;
    border-radius: 4px;
  input[type="submit"]:hover {
    background-color: #45a049;
  }
 p {
    font-size: 16px;
  }
 a {
    color: #007BFF;
    text-decoration: none;
  a:hover {
    text-decoration: underline;
  }
</style>
 <script>
    function validateForm() {
      const bookId = document.getElementById("id").value.trim();
      const title = document.getElementById("name").value.trim();
      const author = document.getElementById("dept").value.trim();
      if (!/^[a-zA-Z0-9]+$/.test(bookId)) {
        alert("Book ID must be alphanumeric.");
        return false;
      if (!/^[A-Za-z ]+$/.test(title)) {
        alert("Name must contain only letters.");
        return false;
      if (!/^[A-Za-z ]+$/.test(author)) {
        alert("Dept name must contain only letters.");
        return false;
      }
      return true;
    }
  </script>
</head>
```

```
<body>
  <h2>Add Book to Aswin</h2>
  <form method="post" onsubmit="return validateForm()">
    ID: <input type="text" name="id" id="id"/><br/>
    Name: <input type="text" name="name" id="name"/><br/>
    Dept: <input type="text" name="dept" id="dept"/><br/>
    >
    <input type="submit" value="Add Book"/>
    <label>Book Details:-</label>
    <a href="./display_books.jsp">Click Here</a>
    </form>
  <%
    // JSP Database logic
// TODO: Change password before run the code
// TODO: CREATE THE TABLE IN MYSQL
/**
CREATE TABLE books (
  book_id VARCHAR(20) PRIMARY KEY,
  title VARCHAR(100),
  author VARCHAR(100),
  year INT,
  category VARCHAR(50),
  copies INT
);
**/
    String bookId = request.getParameter("id");
    if (bookId != null) {
      String title = request.getParameter("name");
      String author = request.getParameter("dept");
        Class.forName("com.mysql.cj.jdbc.Driver");
        Connection conn = DriverManager.getConnection(
          "jdbc:mysql://localhost:3306/library_management_dhanush", "root", "");
        PreparedStatement ps = conn.prepareStatement(
          "INSERT INTO aswin (id, name, dept) VALUES (?, ?, ?)");
        ps.setString(1, bookId);
        ps.setString(2, title);
        ps.setString(3, author);
        int result = ps.executeUpdate();
        if (result > 0) {
         <script>alert("Book Added Successfully!!")</script>
        <%
        } else {
             <script>alert("Failed to add book!!")</script>
          out.println("Failed to add book.");
        }
```

```
ps.close();
           conn.close();
        } catch (Exception e) {
           out.println("Error: " + e.getMessage() + "");
        }
     }
  %>
</body>
</html>
31 - Ramya231801135/src/main/webapp/library_management_system.jsp - Eclipse IDE
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                                          <title>Library Management - Add Book</title>
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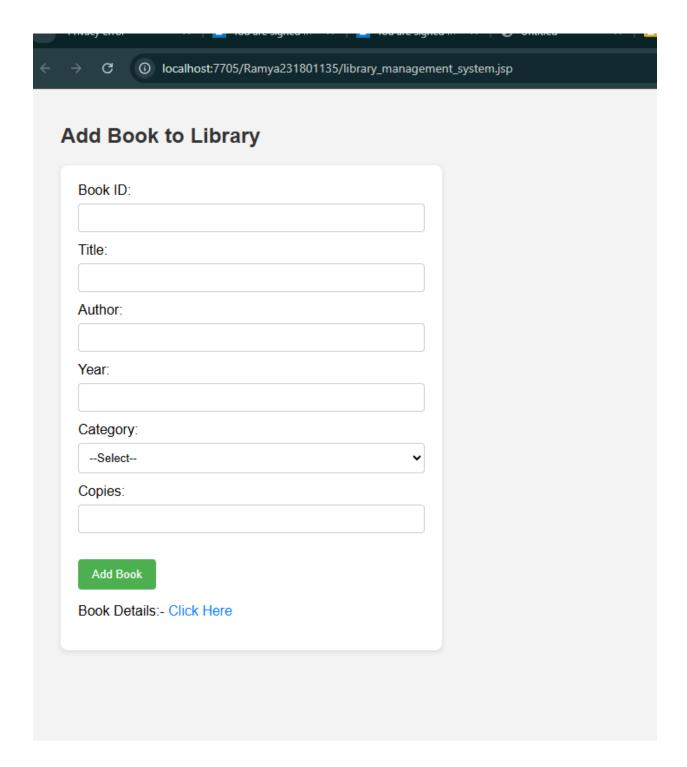
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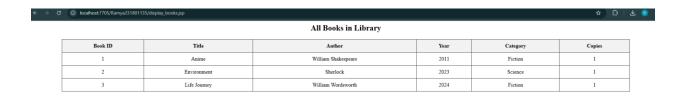
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          display_books.jsp
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                                           padding: 8px;
          Form.html
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          formValidate.html
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Result:

A JavaScript program was developed to validate the Library Management System forms before submission.

The application uses Servlet/JSP to interact with the database for storing and retrieving valid data.