EXP NO: 8

Client-Side Form Validation for a Library Management System Using JavaScript with Database Integration via Servlet/JSP

AIM:

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.

CODE:

library managemet 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 \text{ 2px 5px rgba}(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;
```

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```
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("bookId").value.trim();
   const title = document.getElementById("title").value.trim();
   const author = document.getElementById("author").value.trim();
   const year = document.getElementById("year").value.trim();
   const category = document.getElementById("category").value;
   const copies = document.getElementById("copies").value.trim();
   const currentYear = new Date().getFullYear();
   if (!/^[a-zA-Z0-9]+\$/.test(bookId)) {
     alert("Book ID must be alphanumeric.");
     return false;
   if (!/^[A-Za-z]+\$/.test(title)) {
     alert("Title must contain only letters.");
     return false:
   if (!/^[A-Za-z]+\$/.test(author)) {
     alert("Author name must contain only letters.");
     return false;
   if (!/^d{4}).test(year) || parseInt(year) > currentYear) {
     alert("Year must be a valid 4-digit year.");
     return false;
   if (category === "") {
     alert("Please select a category.");
     return false;
```

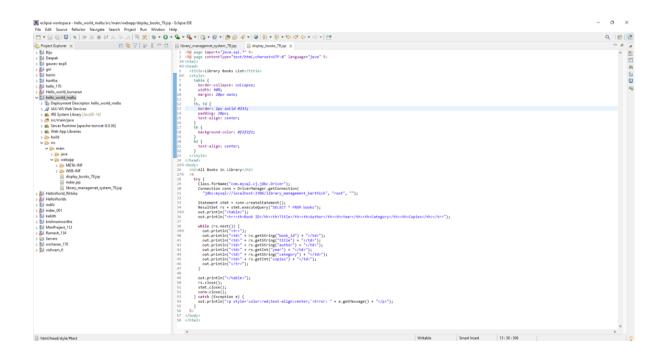
```
if (isNaN(copies) || parseInt(copies) <= 0) {
     alert("Copies must be a positive number.");
     return false;
   return true;
 </script>
</head>
<body>
 <h2>Add Book to Library</h2>
 <form method="post" onsubmit="return validateForm()">
  Book ID: <input type="text" name="bookId" id="bookId"/><br/>
  Title: <input type="text" name="title" id="title"/><br/>
  Author: <input type="text" name="author" id="author"/><br/>
  Year: <input type="text" name="year" id="year"/><br/>
  Category:
  <select name="category" id="category">
   <option value="">--Select--</option>
   <option value="Science">Science</option>
   <option value="Fiction">Fiction</option>
   <option value="History">History</option>
  </select><br/>
  Copies: <input type="number" name="copies" id="copies"/><br/>
  <input type="submit" value="Add Book"/>
  <label>Book Details:-</label>
  <a href="./display books 79.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("bookId");
  if (bookId != null) {
   String title = request.getParameter("title");
   String author = request.getParameter("author");
   String year = request.getParameter("year");
```

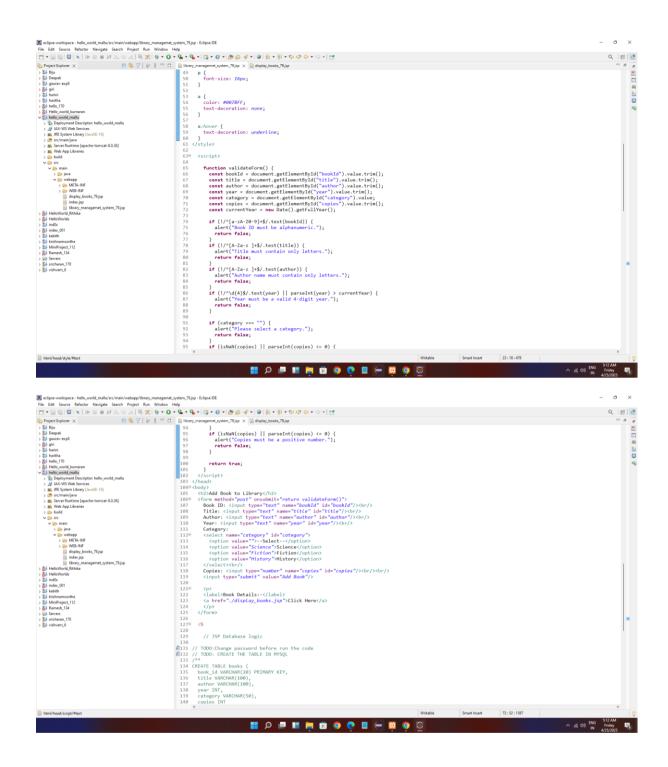
```
String isbn = request.getParameter("isbn");
   String category = request.getParameter("category");
   String copies = request.getParameter("copies");
   try {
     Class.forName("com.mysql.cj.jdbc.Driver");
     Connection conn = DriverManager.getConnection(
      "jdbc:mysql://localhost:3306/library management karthick", "root", "");
     PreparedStatement ps = conn.prepareStatement(
      "INSERT INTO books (book id, title, author, year, category, copies) VALUES (?, ?, ?, ?,
?)");
     ps.setString(1, bookId);
     ps.setString(2, title);
     ps.setString(3, author);
     ps.setInt(4, Integer.parseInt(year));
     ps.setString(5, category);
     ps.setInt(6, Integer.parseInt(copies));
     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>
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 {
```

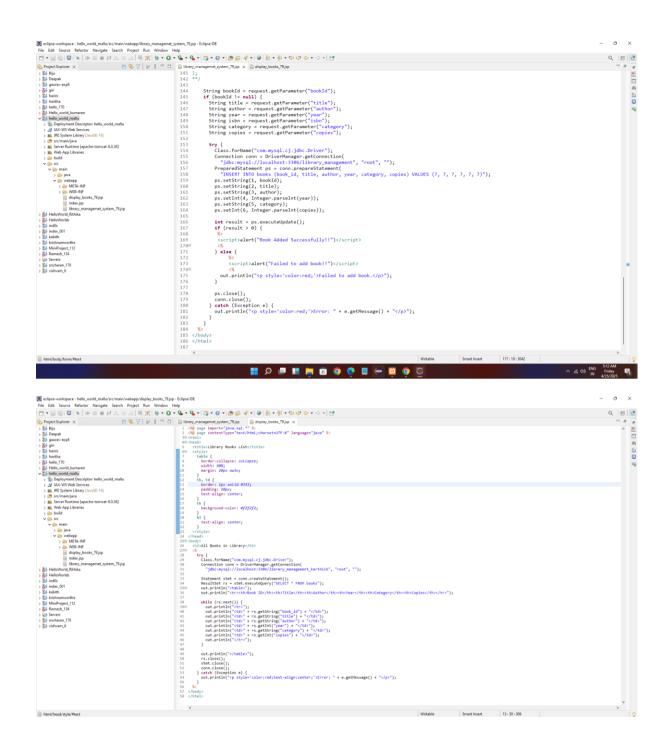
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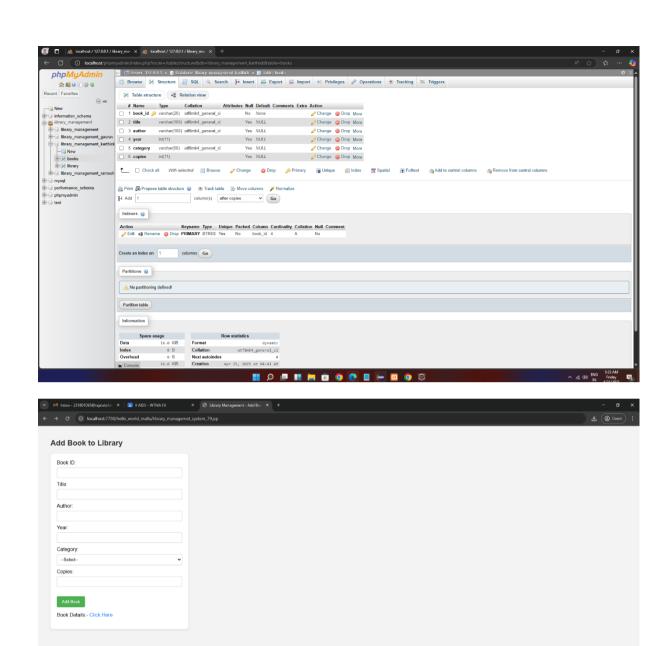
```
border: 1px solid #333;
   padding: 10px;
   text-align: center;
  th {
   background-color: #f2f2f2;
  h2 {
   text-align: center;
 </style>
</head>
<body>
 <h2>All Books in Library</h2>
 <%
  try {
   Class.forName("com.mysql.cj.jdbc.Driver");
   Connection conn = DriverManager.getConnection(
    "jdbc:mysql://localhost:3306/library management karthick", "root", "");
   Statement stmt = conn.createStatement();
   ResultSet rs = stmt.executeQuery("SELECT * FROM books");
   out.println("");
   out.println("Book
IDTitleCategoryCopies");
   while (rs.next()) {
    out.println("");
    out.println("" + rs.getString("book id") + "");
    out.println("" + rs.getString("title") + "");
    out.println("" + rs.getString("author") + "");
    out.println("" + rs.getInt("year") + "");
    out.println("" + rs.getString("category") + "");
    out.println("" + rs.getInt("copies") + "");
    out.println("");
   out.println("");
   rs.close();
   stmt.close();
   conn.close();
  } catch (Exception e) {
   out.println("Error: " + e.getMessage() + "");
%>
</body>
</html>
```

OUTPUT:









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^ // 40) ENG 525 AM Friday Figure 10 A/25/2025





RESULT:

Thus, form validation using JavaScript and database access through JSP/Servlet was successfully demonstrated by creating a Library Management form.