EXERCISE:6

WRITE PROGRAMS IN JAVA TO CREATE THREE-TIER APPLICATIONS USING JSP AND DATABASES

- For conducting on-line examination.
- For displaying student mark list. Assume that student information is available in a database which has been stored in a database server.

index.html:

```
<!DOCTYPE html>
<html>
<head>
  <title>Online Examination</title>
  <style>
    body {
       font-family: Arial, sans-serif;
       background-color: #f0f0f0;
       margin: 0;
       padding: 0;
       display: flex;
       justify-content: center;
       align-items: center;
       height: 100vh;
    .container {
       text-align: center;
       background-color: #fff;
       padding: 30px;
       width: 400px;
       border-radius: 10px;
       box-shadow: 0 0 15px rgba(0, 0, 0, 0.1);
    }
    h2 {
       margin-bottom: 30px;
       color: #333;
     }
    form {
       margin-bottom: 20px;
```

```
label {
       font-size: 16px;
       text-align: left;
       display: block;
       margin-bottom: 8px;
       color: #333;
     }
    input[type="text"], input[type="submit"] {
       width: 95%;
       padding: 10px;
       margin-bottom: 20px;
       border: 1px solid #ccc;
       border-radius: 5px;
       font-size: 16px;
    input[type="submit"] {
       background-color: #4CAF50;
       color: white;
       border: none;
       cursor: pointer;
       transition: background-color 0.3s;
    }
    input[type="submit"]:hover {
       background-color: #45a049;
     }
    .secondary-btn {
       background-color: #f0f0f0;
       color: #333;
       border: 1px solid #ccc;
     }
    .secondary-btn:hover {
       background-color: #ddd;
    }
  </style>
</head>
<body>
  <div class="container">
    <h2>Welcome to the Quiz!</h2>
    <form action="quiz.jsp" method="post">
```

```
<label for="name">Name:</label>
       <input type="text" id="name" name="name" required>
       <label for="regno">Registration Number:</label>
       <input type="text" id="regno" name="regno" required>
       <input type="submit" value="Start Quiz">
    </form>
    <form action="leaderboard.jsp" method="get">
       <input type="submit" class="secondary-btn" value="View Scoreboard">
    </form>
  </div>
</body>
</html>
quiz.jsp:
<%@ page import="java.sql.*" %>
<%
  String name = request.getParameter("name");
  String regno = request.getParameter("regno");
  Connection conn = null;
  PreparedStatement ps = null;
  ResultSet rs = null;
  String url =
"jdbc:mysql://localhost:3306/test?zeroDateTimeBehavior=CONVERT TO NULL";
  String user = "root";
  String password = "Bharghavi@04";
  try {
    Class.forName("com.mysql.cj.jdbc.Driver");
    conn = DriverManager.getConnection(url, user, password);
    ps = conn.prepareStatement("SELECT mark FROM stud data WHERE regno = ?");
    ps.setString(1, regno);
    rs = ps.executeQuery();
    if (rs.next()) {
       int mark = rs.getInt("mark");
       out.println("<h3>You have already attempted the quiz.</h3>");
       out.println("<h3>Your score : " + mark + "</h3>");
    } else {
```

```
String insertQuery = "INSERT INTO stud data (regno, name, mark) VALUES (?, ?,
?)";
      ps = conn.prepareStatement(insertQuery);
      ps.setString(1, regno);
      ps.setString(2, name);
      ps.setInt(3, 0);
      ps.executeUpdate();
%>
      <h3>Welcome, <%= name %>! You haven't attempted the quiz yet. Please complete
the quiz below.</h3>
      <form action="submit.jsp" method="post">
         <input type="hidden" name="name" value="<%= name %>">
         <input type="hidden" name="regno" value="<%= regno %>">
         1. Who is the highest run-scorer in international cricket?
         <input type="radio" id="tendulkar" name="q1" value="Sachin Tendulkar"
required>
         <label for="tendulkar">Sachin Tendulkar</label><bre>
         <input type="radio" id="kohli" name="q1" value="Virat Kohli">
         <label for="kohli">Virat Kohli</label><br>
         <input type="radio" id="ponting" name="q1" value="Ricky Ponting">
         <label for="ponting">Ricky Ponting</label><br><br>
         2. Which team won the ICC Cricket World Cup in 2019?
         <input type="radio" id="newzealand" name="q2" value="New Zealand">
         <label for="newzealand">New Zealand</label><br>
         <input type="radio" id="england" name="q2" value="England" required>
         <label for="england">England</label><br>
         <input type="radio" id="india" name="q2" value="India">
         <label for="india">India</label><br><br>
         3. Who holds the record for the fastest century in ODI cricket?
         <input type="radio" id="gayle" name="q3" value="Chris Gayle">
         <label for="gayle">Chris Gayle</label><br>
         <input type="radio" id="kohli" name="q3" value="Virat Kohli">
         <label for="kohli">Virat Kohli</label><br>
         <input type="radio" id="de villiers" name="q3" value="AB de Villiers" required>
         <label for="de villiers">AB de Villiers</label><br><br>
         4. Which bowler has taken the most wickets in Test cricket?
         <input type="radio" id="muralitharan" name="q4" value="Muttiah Muralitharan"</pre>
required>
         <label for="muralitharan">Muttiah Muralitharan</label><br>
         <input type="radio" id="warne" name="q4" value="Shane Warne">
```

```
<label for="warne">Shane Warne</label><br>
         <input type="radio" id="mcgrath" name="q4" value="Glenn McGrath">
         <label for="mcgrath">Glenn McGrath</label><br><br>
         5. In which year was the first T20 World Cup held?
         <input type="radio" id="2005" name="q5" value="2005">
         <label for="2005">2005</label><br>
         <input type="radio" id="2007" name="q5" value="2007" required>
         <label for="2007">2007</label><br>
         <input type="radio" id="2010" name="q5" value="2010">
         <label for="2010">2010</label><br><br>
         6. Who was the captain of the Indian cricket team when they won the 1983
World Cup?
         <input type="radio" id="gavaskar" name="q6" value="Sunil Gavaskar">
         <label for="gavaskar">Sunil Gavaskar</label><br/>br>
         <input type="radio" id="dhoni" name="q6" value="MS Dhoni">
         <label for="dhoni">MS Dhoni</label><br>
         <input type="radio" id="kapil" name="q6" value="Kapil Dev" required>
         <label for="kapil">Kapil Dev</label><br><br></label>
         <input type="submit" value="Submit your answers">
         <button type="button" onclick="window.location.href='index.html"">
           Back to Home
          </button>
       </form>
<%
  } catch (Exception e) {
    out.println("Error: " + e.getMessage());
  } finally {
    if (rs != null) rs.close();
    if (ps != null) ps.close();
    if (conn != null) conn.close();
%>
submit.jsp:
<%@ page import="java.sql.*" %>
< \%
  String name = request.getParameter("name");
  String regno = request.getParameter("regno");
  String q1 = request.getParameter("q1");
```

```
String q2 = request.getParameter("q2");
  String q3 = request.getParameter("q3");
  String q4 = request.getParameter("q4");
  String q5 = request.getParameter("q5");
  String q6 = request.getParameter("q6");
  int mark = 0;
  if ("Sachin Tendulkar".equals(q1)) {
    mark += 5;
  }
  if ("England".equals(q2)) {
    mark += 5;
  }
  if ("AB de Villiers".equals(q3)) {
    mark += 5;
  }
  if ("Muttiah Muralitharan".equals(q4)) {
    mark += 5;
  }
  if ("2007".equals(q5)) {
    mark += 5;
  }
  if ("Kapil Dev".equals(q6)) {
    mark += 5;
  }
  Connection conn = null;
  PreparedStatement ps = null;
  String url =
"jdbc:mysql://localhost:3306/test?zeroDateTimeBehavior=CONVERT TO NULL";
  String user = "root";
  String password = "Bharghavi@04";
  try {
    Class.forName("com.mysql.cj.jdbc.Driver");
    conn = DriverManager.getConnection(url, user, password);
    String updateQuery = "UPDATE stud data SET mark = ? WHERE regno = ?";
```

```
ps = conn.prepareStatement(updateQuery);
    ps.setInt(1, mark);
    ps.setString(2, regno);
    ps.executeUpdate();
%>
    <h3>Quiz submitted successfully !</h3>
    Your score : <%= mark %>
    <button onclick="history.back()">Back</button>
<%
  } catch (Exception e) {
    out.println("Error: " + e.getMessage());
  } finally {
    if (ps != null) ps.close();
    if (conn != null) conn.close();
%>
leaderboard.jsp:
<%@ page import="java.sql.*" %>
<%
  Connection conn = null;
  PreparedStatement ps = null;
  ResultSet rs = null;
  String url =
"jdbc:mysql://localhost:3306/test?zeroDateTimeBehavior=CONVERT TO NULL";
  String user = "root";
  String password = "Bharghavi@04";
  try {
    Class.forName("com.mysql.cj.jdbc.Driver");
    conn = DriverManager.getConnection(url, user, password);
    String query = "SELECT name, regno, mark FROM stud data ORDER BY mark
DESC";
    ps = conn.prepareStatement(query);
    rs = ps.executeQuery();
%>
    <style>
       table {
         width: 50%;
         margin: auto;
         border-collapse: collapse;
```

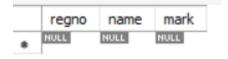
```
th, td {
        padding: 10px;
        text-align: center;
        border: 1px solid black;
      }
      th {
        background-color: #f2f2f2;
    </style>
    <h2 style="text-align: center;">SCOREBOARD</h2>
    >
        Name
        Registration Number
        Marks
      <%
    while (rs.next()) {
      String studentName = rs.getString("name");
      String studentRegno = rs.getString("regno");
      int studentMark = rs.getInt("mark");
%>
      <%= studentName %>
        <%= studentRegno %>
        <%= studentMark %>
      <%
  } catch (Exception e) {
    out.println("Error: " + e.getMessage());
  } finally {
    if (rs != null) rs.close();
    if (ps != null) ps.close();
    if (conn != null) conn.close();
%>
    <button onclick="history.back()">Back</button>
```

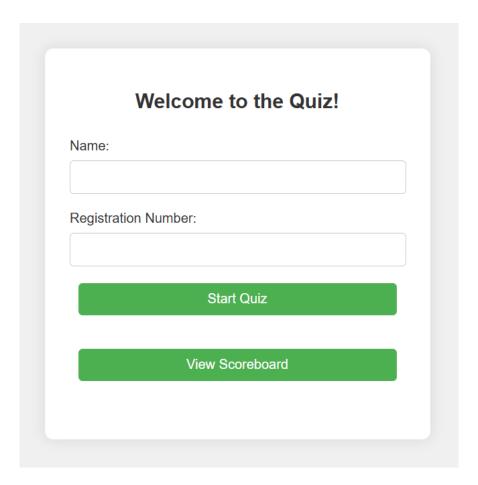
DATABASE:

Database name: test

Table name: stud_data

Fields: regno VARCHAR(30)(PRIMARY KEY), name VARCHAR(30), mark INT





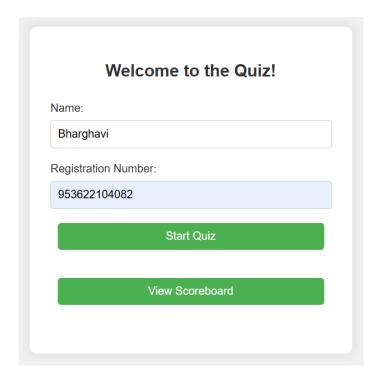
Welcome, Bharghavi! You haven't attempted the quiz yet. Please complete the quiz below.(5 marks for each correct answer)

1. Who is the highest run-scorer in international cricket?
 Sachin Tendulkar Virat Kohli Ricky Ponting
2. Which team won the ICC Cricket World Cup in 2019?
○ New Zealand● England○ India
3. Who holds the record for the fastest century in ODI cricket?
 ○ Chris Gayle ○ Virat Kohli ● AB de Villiers
4. Which bowler has taken the most wickets in Test cricket?
Muttiah Muralitharan Shane Warne Glenn McGrath
5. In which year was the first T20 World Cup held?
○ 2005 ◎ 2007 ○ 2010
6. Who was the captain of the Indian cricket team when they won the 1983 World Cup?
 Sunil Gavaskar MS Dhoni ■ Kapil Dev
Submit your answers Back to Home

Quiz submitted successfully!

Your score: 30

Back



You have already attempted the quiz.

Your score: 30

SCOREBOARD

Name	Registration Number	Marks
Bharghavi	953622104082	30
Aishwarya	953622104003	25
Viji	953622104118	20
Deepthi	953622104017	10
Asmitha	953622104013	5

Back

DATABASE:

