

2) Create and store three cookies with different attributes (such as name, value, expiration time, etc.).  
Retrieve and display the stored cookies using a second JSP program, extracting their names, values, and any additional attributes

```
<!DOCTYPE html>
<html>
<head>
  <title>Cookie Example</title>
</head>
<body>
  <h2>Cookie Management</h2>
  <a href="setCookies.jsp">Create Cookies</a><br><br>
  <a href="getCookies.jsp">Get Cookies</a>
</body>
</html>
```

```
<%@ page import="jakarta.servlet.http.Cookie" %>
<!DOCTYPE html>
<html>
<head>
  <title>Create Cookies</title>
</head>
<body>
  <%
    Cookie cookie1 = new Cookie("User", "JohnDoe");
    Cookie cookie2 = new Cookie("Role", "Admin");
    Cookie cookie3 = new Cookie("SessionID", "123456");

    // Set expiration time (e.g., 1 day)
    cookie1.setMaxAge(10);
    cookie2.setMaxAge(20);
    cookie3.setMaxAge(30);

    // Add cookies to response
    response.addCookie(cookie1);
    response.addCookie(cookie2);
    response.addCookie(cookie3);

    out.println("<h3>Cookies Created Successfully!</h3>");
    out.println("<a href='2b.html'>Back to Home</a>");
  %>
</body>
</html>
```

```
<%@ page import="jakarta.servlet.http.Cookie" %>
<!DOCTYPE html>
<html>
<head>
  <title>Get Cookies</title>
</head>
```

```

<body>
  <h3>Stored Cookies</h3>
  <%
    Cookie[] cookies = request.getCookies();
    if (cookies != null) {
      out.println("<ul>");
      for (Cookie cookie : cookies) {
        out.println("<li>" + cookie.getName() + ": " +
cookie.getValue() + "</li>");
      }
      out.println("</ul>");
    } else {
      out.println("<p>No cookies found!</p>");
    }
  %>
  <a href="2b.html">Back to Home</a>
</body>
</html>

```

3) Write a JSP program to retrieve and display Student Information. Create an index.html page to collect the USN (University Serial Number) of the student from the user. In displayData.jsp, connect to the database, and retrieve the student details based on the USN entered by the user. If the USN exists in the database, display the corresponding USN and Name. If the USN does not exist, display the message: "Invalid USN".

```

<!-- displayData.jsp -->

<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<%@ page import="java.sql.*" %>
<!DOCTYPE html>
<html>
<head>
  <meta charset="UTF-8">
  <title>Student Details</title>
</head>
<body>
  <h1>Student Details</h1>
  <%
    String URL = "jdbc:mysql://localhost:3306/dbName"; // Update
this
    String User = "root"; // Update this
    String Pass = ""; // Update this

    String usn = request.getParameter("usn");
    Connection conn = null;
    PreparedStatement pStmt = null;
    try {
      conn = DriverManager.getConnection(URL, User, Pass);

```

```

        String query = "SELECT * FROM Student WHERE USN = ?";
        pstmt = conn.prepareStatement(query);
        pstmt.setString(1, usn);
        ResultSet rs = pstmt.executeQuery();
        if (rs.next()) {
            String name = rs.getString("Name");
            out.println("<p>USN: " + usn + "</p>");
            out.println("<p>Name: " + name + "</p>");
        } else {
            out.println("<p>Invalid USN</p>");
        }
    } catch (SQLException e) {
        e.printStackTrace();
    }
%>
</body>
</html>

```

<!-- index.html -->

```

<!DOCTYPE html>
<html>
<head>
    <meta charset="UTF-8">
    <title>Student Details</title>
</head>
<body>
    <h1>Enter USN</h1>
    <form action="displayData.jsp" method="post">
        USN: <input type="text" name="usn" required><br><br>
        <input value="Submit" type="submit">
    </form>
</body>
</html>

```

5) Write a JSP program to create a form with Book\_No, Title, Author, Publication, Price and a Submit button.

Using JSP-Database connectivity, get the data from the form and insert the records into the database. Retrieve the book details for the particular title and display the details.

```

<!DOCTYPE html>
<html>
<head>
    <meta charset="UTF-8">
    <title>Book Details</title>
</head>
<body>
    <h1>Enter Book Details</h1>
    <form action="BookDetails.jsp" method="post">
        <!-- Book Number -->
        <label>Book No:</label>
        <input type="text" name="bookno" required><br><br>
    </form>

```

```

        <!-- Book Name -->
        <label>Book Name:</label>
        <input type="text" name="title" required><br><br>

        <!-- Author -->
        <label>Author:</label>
        <input type="text" name="author" required><br><br>

        <!-- Publication -->
        <label>Publication:</label>
        <input type="text" name="publication" required><br><br>

        <!-- Price -->
        <label>Price:</label>
        <input type="number" name="price" step="0.01"
required><br><br>

        <!-- Submit Button -->
        <button type="submit">Submit</button>
    </form>
</body>
</html>

<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
    <meta charset="UTF-8">
    <title>Book Details</title>
</head>
<body>
    <h1>Book Details</h1>
    <%
        // Fetching parameters from the form
        String bookno = request.getParameter("bookno");
        String title = request.getParameter("title");
        String author = request.getParameter("author");
        String publication = request.getParameter("publication");
        double price =
Double.parseDouble(request.getParameter("price"));

        // Database insertion logic
        try {
            // Establishing database connection
            Class.forName("com.mysql.cj.jdbc.Driver");
            Connection conn =
DriverManager.getConnection("jdbc:mysql://localhost:3306/
yourdatabase", "yourusername", "yourpassword");

            // SQL query
            String sql = "INSERT INTO books (book_no, title, author,
publication, price) VALUES (?, ?, ?, ?, ?)";

```

```

        // Preparing the statement
        PreparedStatement pstmt = conn.prepareStatement(sql);
        pstmt.setString(1, bookno);
        pstmt.setString(2, title);
        pstmt.setString(3, author);
        pstmt.setString(4, publication);
        pstmt.setDouble(5, price);

        // Executing the query
        int rowsInserted = pstmt.executeUpdate();

        if (rowsInserted > 0) {
            out.println("<p>Book details successfully saved!</p>");
        } else {
            out.println("<p>Error saving book details.</p>");
        }

        conn.close();
    } catch (Exception e) {
        out.println("<p>Error: " + e.getMessage() + "</p>");
    }
    %>
    <a href="index.html">Back to Home</a>
</body>
</html>

<%@ page language="java" contentType="text/html; charset=UTF-8"
    pageEncoding="UTF-8"%>
<!DOCTYPE html>
<html>
<head>
    <meta charset="UTF-8">
    <title>Display Book</title>
</head>
<body>
    <h1>Book Details</h1>
    <%
        String title = request.getParameter("title");
        String query = "SELECT * FROM books WHERE title = ?";

        try {
            Class.forName("com.mysql.cj.jdbc.Driver");
            Connection conn =
DriverManager.getConnection("jdbc:mysql://localhost:3306/
yourdatabase", "yourusername", "yourpassword");

            PreparedStatement pstmt = conn.prepareStatement(query);
            pstmt.setString(1, title);

            ResultSet rs = pstmt.executeQuery();
            if (rs.next()) {
                out.println("<p>Book No: " + rs.getString("book_no")
+ "</p>");

```

```

        out.println("<p>Title: " + rs.getString("title") +
"</p>");
        out.println("<p>Author: " + rs.getString("author") +
"</p>");
        out.println("<p>Publication: " +
rs.getString("publication") + "</p>");
        out.println("<p>Price: " + rs.getDouble("price") +
"</p>");
    } else {
        out.println("<p>No book found with the given
title.</p>");
    }

    conn.close();
} catch (Exception e) {
    out.println("<p>Error: " + e.getMessage() + "</p>");
}

%>
<a href="index.html">Back to Home</a>
</body>
</html>

```

6) Write a Java servlet program to create 4 cookies. Set 2 cookies with 1 minute of expiry date. Display all the cookies when the servlet is loaded for the first time. Refresh the page and display the remaining 2 cookies.

```

<!DOCTYPE html>
<html>
<head>
    <title>Cookie Example</title>
</head>
<body>
    <h2>Cookie Management</h2>
    <form action="CookieServlet" method="get">
        <p>Click the button below to create cookies and view their
status:</p>
        <input type="submit" value="Create and View Cookies">
    </form>
    <p>Refresh the page after 1 minute to check which cookies
remain.</p>
</body>
</html>

```

```
package cie2;
```

```

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

```

```

import jakarta.servlet.*;
import jakarta.servlet.http.*;
import java.io.*;

public class CookieServlet extends HttpServlet {
    protected void doGet(HttpServletRequest request,
        HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        // Create 4 cookies
        Cookie cookie1 = new Cookie("cookie1", "value1");
        Cookie cookie2 = new Cookie("cookie2", "value2");
        Cookie cookie3 = new Cookie("cookie3", "value3");
        Cookie cookie4 = new Cookie("cookie4", "value4");

        // Set expiry time for two cookies (1 minute)
        cookie1.setMaxAge(60); // 1 minute
        cookie2.setMaxAge(60); // 1 minute

        // Add cookies to response
        response.addCookie(cookie1);
        response.addCookie(cookie2);
        response.addCookie(cookie3);
        response.addCookie(cookie4);

        // Display cookies
        out.println("<h2>Cookies Information:</h2>");
        Cookie[] cookies = request.getCookies();
        if (cookies != null) {
            for (Cookie cookie : cookies) {
                out.println("<p>" + cookie.getName() + ": " +
                    cookie.getValue() + "</p>");
            }
        } else {
            out.println("<p>No cookies found</p>");
        }

        out.println("<br><p>Refresh the page to see which cookies
remain after 1 minute.</p>");
        out.close();
    }
}

```

8) Write a Java Servlet program to display how many times a visitor is visiting the webpage using session object. If the user is visiting for the first time, display Welcome message, else display the number of times he is visiting the page.

<!DOCTYPE html>

```

<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-
scale=1.0">
    <title>Visitor Counter</title>
</head>
<body>
    <h2>Welcome to the Visitor Counter Page</h2>
    <p>This page will display how many times you have visited it.</
p>
    <form action="Visitor" method="get">
        <p>Click the button below to see your visit count:</p>
        <input type="submit" value="Check Visit Count">
    </form>
</body>
</html>

```

```
package week6;
```

```

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

import java.io.*;

/**
 * Servlet implementation class Visitor
 */
public class Visitor extends HttpServlet {
    protected void doGet(HttpServletRequest request,
HttpServletResponse response)
        throws ServletException, IOException {
        response.setContentType("text/html");
        PrintWriter out = response.getWriter();

        // Retrieve or create a session object
        HttpSession session = request.getSession();

        // Get the visit count from session, initialize if null
        Integer visitCount = (Integer)
session.getAttribute("visitCount");
        if (visitCount == null) {
            visitCount = 1; // First visit
            session.setAttribute("visitCount", visitCount);
            out.println("<h2>Welcome! You are visiting this page for
the first time.</h2>");
        } else {
            visitCount++; // Increment visit count
            session.setAttribute("visitCount", visitCount);

```



```

        out.println("<h2>Welcome back!</h2>");
        out.println("<p>You have visited this page " +
visitCount + " times.</p>");
    }

    // Additional message
    out.println("<br><p>Refresh the page or visit again to
increase the count.</p>");
    out.close();
}
}

```

9) Write a JSP program that takes the user's name and age from a form. Echo back the name and age along with a message stating the price of movie tickets. The price is determined by the age passed to the JSP.  
 If the age is greater than 62, the movie ticket price is Rs. 50.  
 If the user is less than 10 years old, the price is Rs. 30.  
 For everyone else, the price is Rs. 80.

```

<!DOCTYPE html>
<html>
<head>
    <title>Movie Ticket Price</title>
</head>
<body>
<center>
    <h1>Enter Your Details</h1>
    <form action="moviePrice.jsp" method="post">
        <label for="name">Name:</label>
        <input type="text" id="name" name="name" required><br><br>

        <label for="age">Age:</label>
        <input type="text" id="age" name="age" required><br><br>

        <button type="submit">Check Price</button>
    </form>
</center>
</body>
</html>

```

```

<%@ page language="java" contentType="text/html; charset=UTF-8"
pageEncoding="UTF-8" %>
<!DOCTYPE html>
<html>
<head>
    <title>Movie Ticket Price</title>
</head>
<body>
    <h1>Movie Ticket Price</h1>
    <%
        try {

```

```

        // Get user inputs from the form
        String name = request.getParameter("name");
        int age = Integer.parseInt(request.getParameter("age"));

        // Determine the ticket price based on age
        int price;
        if (age > 62) {
            price = 50;
        } else if (age < 10) {
            price = 30;
        } else {
            price = 80;
        }

        // Display the result
        %>
        <p>Hello, <b><%= name %></b>!</p>
        <p>Your age is: <b><%= age %></b></p>
        <p>The movie ticket price for you is: <b>Rs. <%= price
    %></b></p>
    <%
        } catch (NumberFormatException e) {
            out.println("<p>Error: Please enter a valid age.</p>");
        }
    %>
</body>
</html>

```

10) Develop a JSP application that has the following pages. The index page register.html contains 2 text boxes for entering username and password. Provide a button "Register". Once the Register button is clicked the page should be redirected to welcome.jsp. In welcome.jsp validate username and password and display welcome message for a valid user (Use Sessions).

```

<!DOCTYPE html>
<html>
<head>
    <title>User Registration</title>
</head>
<body>
    <h2>Register</h2>
    <form action="welcome.jsp" method="post">
        <label for="username">Username:</label>
        <input type="text" id="username" name="username"
required><br><br>

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

        <button type="submit">Register</button>
    </form>

```

```

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

```

```

<%@ page language="java" contentType="text/html; charset=UTF-8"
pageEncoding="UTF-8"%>
<%@ page import="jakarta.servlet.http.*" %>
<!DOCTYPE html>
<html>
<head>
    <title>Welcome</title>
</head>
<body>
    <%
        String username = request.getParameter("username");
        String password = request.getParameter("password");

        // Basic validation (replace with actual validation if
needed)
        if (username != null && password != null && !
username.isEmpty() && !password.isEmpty()) {
            HttpSession s = request.getSession();
            s.setAttribute("username", username);

            %>
                <h2>Welcome, <%= username %>!</h2>
            <%
        } else {
            %>
                <h2>Invalid Username or Password</h2>
                <a href="register.html">Try Again</a>
            <%
        }
    %>
</body>
</html>

```

4)Write a Java Servlet program that loads area and phone no. of police station of that area from a database. It takes phone number ( do validation) as input and prints the details in a separate page. Create police\_station table with appropriate fields.

```

<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Police Station Details</title>
</head>
<body>
    <h2>Police Station Details</h2>

```

```

        <form action = "PoliceStation" method = "POST">
            <label for="phone">Phone number: </label>
            <input type = "text" name = "phone" pattern="[0-9]
{10}" required><br><br>

            <input type = "submit" value = "Submit">

        </form>

</body>
</html>

```

```

package cie2;
import jakarta.servlet.*;
import jakarta.servlet.http.*;
import java.io.*;
import java.sql.*;

public class PoliceStation extends HttpServlet{
    protected void doPost(HttpServletRequest req,
HttpServletResponse resp) throws ServletException, IOException{
        resp.setContentType("text/html");
        PrintWriter out = resp.getWriter();

        String phone = req.getParameter("phone");
        String url  ="jdbc:mysql://localhost:3306/
cie2practice";
        String user = "root";
        String pass = "";
        try {
            Class.forName("com.mysql.jdbc.Driver");
            Connection conn =
DriverManager.getConnection(url,user,pass);
            String sql = "SELECT * FROM policestation
where phone = ?";
            PreparedStatement pst =
conn.prepareStatement(sql);
            pst.setString(1, phone);
            ResultSet rs = pst.executeQuery();

            if (rs.next()) {
                out.println("<h2>Police Station
Details: ");
                out.println("<p>Phone Number:
"+rs.getString("phone")+"</p>");
                out.println("<p>Area:
"+rs.getString("area")+"</p>");
            }
            else {
                out.println("<h3>Invalid phone
number!</h3>");
            }
        }catch(Exception e) {e.getMessage();}
    }
}

```

```

    }
}

```

1) Write a Java Servlet program that reads following information -> Employee's name, number of hours worked in week, hourly pay rate, tax (20%) from the user and prints a statement of payroll with employee's details.

```

<!DOCTYPE html>
<html>
<head>
<meta charset="UTF-8">
<title>Employee payroll Form</title>
</head>
<body>
    <h2>Employee Payroll Form</h2>
    <form action = "EmployeeServlet" method ="post">
        <label for="name"> Name:</label>
        <input type="text" id="name" name =
"name"required><br><br>
        <label for="hours">Hours Worked in a Week: </label>
        <input type ="number" id ="hours" name = "hours"
required><br><br>
        <label for="rate">Hourly Rate: </label>
        <input type="number" id="rate" name="rate"
required><br><br>
        <input type="submit" value="Submit">
    </form>
</body>
</html>

```

```

package cie2;
import jakarta.servlet.*;
import jakarta.servlet.http.*;
import java.io.*;
import java.sql.*;
public class EmployeeServlet extends HttpServlet{
    protected void doPost(HttpServletRequest req,
HttpServletRequest resp) throws ServletException, IOException{
        resp.setContentType("text/html");
        String name = req.getParameter("name");
        int hours =
Integer.parseInt(req.getParameter("hours"));
        double rate =
Double.parseDouble(req.getParameter("rate"));
        double grosspay = hours*rate;
        double tax= grosspay*0.2;
        double netpay = grosspay-tax;

        PrintWriter out = resp.getWriter();
        out.println("<html><head><title>Payroll Statement</
title></head><body>");
        out.println("<h2>Payroll Statement</h2>");

```

```
        out.println("<p><strong>Employee Name:</strong> " + name +
"</p>");
        out.println("<p><strong>Hours Worked:</strong> " + hours +
"</p>");
        out.println("<p><strong>Hourly Pay Rate:</strong> $" + rate
+ "</p>");
        out.println("<p><strong>Gross Pay:</strong> $" +
String.format("%.2f", grosspay) + "</p>");
        out.println("<p><strong>Tax (20%):</strong> $" +
String.format("%.2f", tax) + "</p>");
        out.println("<p><strong>Net Pay:</strong> $" +
String.format("%.2f", netpay) + "</p>");
        out.println("<a href='employeeForm.html'>Go Back</a>");
        out.println("</body></html>");

    }

}
```