CSI THOOTHUKUDI-NAZARETH DIOCESE

DR.G.U.POPE COLLEGE OF ENGINEERING

POPE NAGAR SAWYERPURAM-628 251

Register No :

Certified that this is the bonafide record of work done by

Selvan/Selvi …… of …….

Semester …….. branch for the lab ……

During the year……

Staff In-charge **H. O.D**

Submitted for the university practical Examination held on ……..

Internal Examiner **External Examiner**

INDEX

ExNo : 1	**Design an HTML web page to mark the hotspots of TN in such a way that , by clicking the hotspots it generates info about the hotspots .**

Aim : Design an HTML web page to mark the hotspots of TN in such a way that , by clicking the hotspots it generates info about the hotspots .

Procedure:

Installation: Install VSCode of its latest versions.

Algorithm :

Step 1 Create an folder named **"WEB TECH"** in your desktop,then create an other folder inside it named "**IMAGE MAPPING**".
Step 2 Inside image mapping folder create an other folder named **'Map'**.
Step 3 Download an TN map from browser & rename it as 'TN Map' , then place the map inside the folder ('Map') you have created.
Step 4 Open VScode ,**<FILE> <OPEN FOLDER>,** open your "IMAGE MAPPIMG" from desktop.
Step 5 Place your cursor on folder 'image mapping' , then right click it , then select new file and name it as "INDEX.html" . Then pursue your HTML scripts.
Step 6 To change the aspect coordinates of the hotspot ,open an web browser and browse https://www.image-map.net/
Step 7 Place your downloaded map there and check the map coordinates then replace it in your 'index.html'file.
Step 8 Follow Step 5 to create individual hotspot files & map it with index.html.
Step 9 In VSCode open extensions panel and browse "Live Server - Ritwick Dey" , install it.
Step 10 Move your cursor to file 'index.html' select and right click it , you'll get an option 'Run using live server' Click it . then the browser opens automatically.Surf through the map to see the results.

Program :
File Name: "index.html"

```
<!DOCTYPE html>
<html lang="en">
<head>
   <title>TN Map with Four Political Districts</title>
</head>
<body>

   <center>
      <img src="img/(map name and format)" usemap="#tn" alt="TN Map">
   </center>

   <map name="TN">
      <area shape="circle" coords="395,819,9" href="chennai.html" alt="Chennai">
```

```
      <area shape="circle" coords="322,956,1" href="tuty.html" alt="tuty">
      <area shape="circle" coords="290,900,1" href="coimbatore.html" alt="coimbatore">
      <area shape="circle" coords="290,930,22" href="theni.html" alt="theni">
   </map>

</body>
```

File Name: "chennai.html"

```
<!DOCTYPE html>
<html>
<head>
   <title>Chennai</title>
</head>
<body bgcolor="white">
   <font color="black" size="5">
      <pre>
         <center>
         <b>Chennai</b> is the capital of <b>Tamil Nadu</b><br>
         It is the <i><b>"Queen Of South India"</b></i><br>
         Mother tongue is <i><b>"Tamil"</b></i><br>
         It contains many tourist spots.
         </center>
      </pre>
   </font>
</body>
</html>
```

File Name: "coimbatore.html"

```
<!DOCTYPE html>
<html>
<head>
   <title>Coimbaotre</title>
</head>
<body bgcolor="white">
   <font color="black" size="5">
      <pre>
         <center>
         <b>Coimbatore</b> is the major city of <b>Tamil Nadu</b><br>
         It is the <i><b>"MANCHESTER of south India"</b></i><br>
         It is the industrial and educatonal hubs <i><b>"Nature's Gift"</b></i><br>
         The city boasts a pleasant climate, beautiful landscapes, and is surrounded by lush greenery and hills.
         It is also renowned for its educational institutions and healthcare facilities. Coimbatore is a gateway to several popular hill stations like Ooty and Coonoor.
         </center>
      </pre>
   </font>
</body>
</html>
```

File Name: “theni.html”

```
<!DOCTYPE html>
<html>
<head>
   <title>THENI</title>
</head>
<body bgcolor="white">
   <font color="black" size="5">
      <pre>
         <center>
         <b>Theni</b> priceless beauty of <b>Tamil Nadu</b><br>
         It is my personal to mention is as <i><b>"MY LOVE"</b></i><br>
         a good explorable spot which is an <i><b>"Nature's Gift"</b></i><br>
         It is surrounded by the Western Ghats and is famous for its scenic beauty, hill stations,
         waterfalls, and agricultural produce, especially cardamom and grapes.
         Theni is also a gateway to tourist spots like Meghamalai and the Periyar Wildlife Sanctuary.
         </center>
      </pre>
   </font>
</body>
</html>
```

File Name: “tuty.html”

```
<!DOCTYPE html>
<html>
<head>
   <title>Tuticorin</title>
</head>
<body bgcolor="white">
   <font color="black" size="5">
      <pre>
         <center>
         <b>Tuticorin</b> is the salt palace of <b>Tamil Nadu</b><br>
         It is the <i><b>"Taste associator of India"</b></i><br>
         Special sweet cornerization <i><b>"Macroon"</b></i><br>
         Tuticorin always reffered as "TUTY" is an district of taste buds
         with spice,sweet etc.
         </center>
      </pre>
   </font>
</body>
</html>
```

Output :

Result : Thus designing an HTML web page to mark the hotspots of TN in such a way that , by clicking the hotspots it generates info about the hotspots has been done successfully

ExNo : 2	**Design an HTML web page with our college info in External Style Sheet, Embedded Style Sheet, Inline style Sheet.**

Aim : To Design an HTML web page with our college info in External Style Sheet, Embedded Style Sheet, Inline style Sheet.

Algorithm :

Step 1 Open VSCode , open WEB TECH folder , move your on web tech folder select, right click it <New Folder>.
Step 2 Name the new folder as "**CASCADING STYLE SHEETS**".
Step 3 Then open new files in CASCADING STYLE SHEETS and save the codings with their extensions.
Step 4 Open live server to view the resultant web pages.

Program:
File name : "external.css"

```
/* external.css */
body {
   background-color: lightyellow;
}

h1 {
   color: darkgreen;
   text-align: center;
}

p {
   font-size: 18px;
   color: navy;
}
```

File Name : "external.html"

```
<!DOCTYPE html>
<html lang="en">
<head>
   <title>External Styles Example</title>
   <link rel="stylesheet" type="text/css" href="external.css">
</head>
<body>
   <h1>Dr.G.U.Pope.College Of Engineering</h1>
   <p>Dr. G.U. Pope College of Engineering stands as the fulfillment of the earnest aspirations of Sawyerpuram's well-wishers,
      who longed for the accessibility of technical education in their vicinity. Commencing its service to the Sawyerpuram
      community in the academic year 2002-2003, the college operates under the auspices of the CSI Thoothukudi-Nazareth Diocese.
```

This institution was established by devoted and sincere missionaries committed to delivering quality and disciplined education to remote areas.

Nestled in a picturesque location amidst natural beauty, the college is situated on the Thoothukudi-Sawyerpuram ‘Theri Road, providing an ideal setting for academic pursuits</p>
</body>
</html>

File Name : “inline.html”

```
<!DOCTYPE html>
<html lang="en">
<head>
   <title>Inline Styles Example</title>
</head>
<body style="background-color: lightgray;">

   <h1 style="color: purple; text-align: center;">Dr.G.U.Pope.College Of Engineering</h1>
   <p style="color: blue; font-weight: bold;">Dr. G.U. Pope College of Engineering stands as the fulfillment of the earnest aspirations of Sawyerpuram’s well-wishers,
      who longed for the accessibility of technical education in their vicinity. Commencing its service to the Sawyerpuram
      community in the academic year 2002-2003, the college operates under the auspices of the CSI Thoothukudi-Nazareth Diocese.
      This institution was established by devoted and sincere missionaries committed to delivering quality and disciplined education to remote areas.
      Nestled in a picturesque location amidst natural beauty, the college is situated on the Thoothukudi-Sawyerpuram ‘Theri Road, providing an ideal setting for academic pursuits</p>

</body>
</html>
```

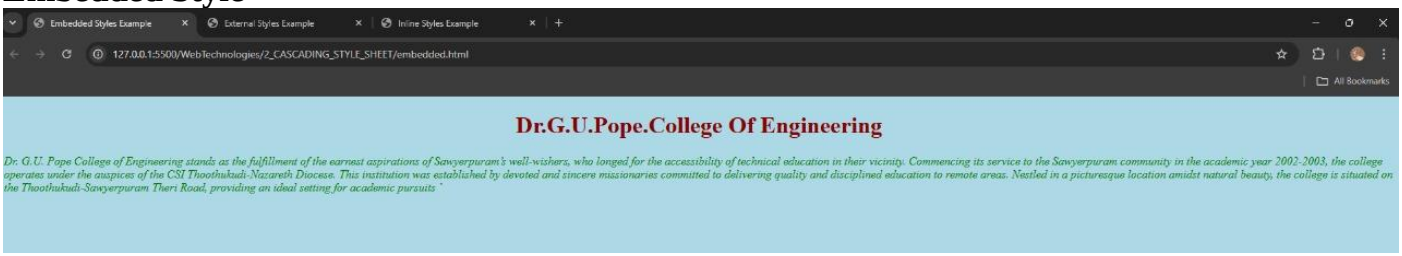
File Name : “embedded.html”

```
<!DOCTYPE html>
<html lang="en">
<head>
   <title>Embedded Styles Example</title>
   <style>
      body {
         background-color: lightblue;
      }

      h1 {
         color: darkred;
         text-align: center;
      }

      p {
         font-style: italic;
         color: green;
```

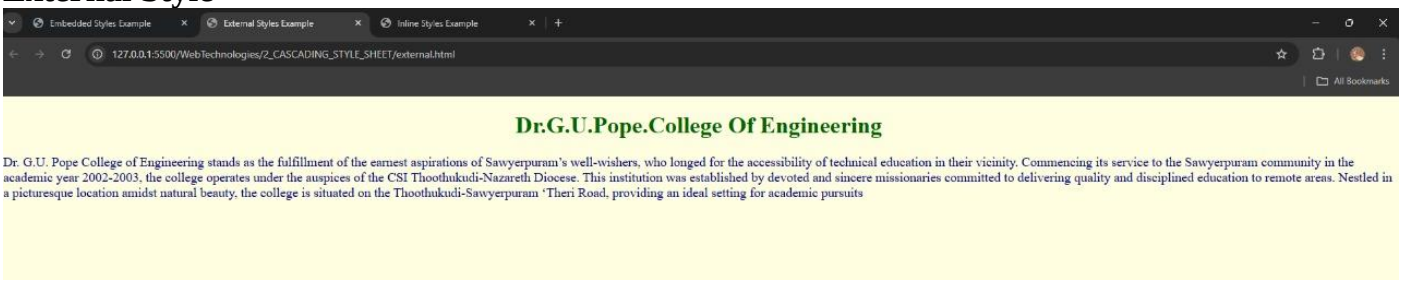
```
    }
  </style>
</head>
<body>
  <h1>Dr.G.U.Pope.College Of Engineering</h1>
  <p>Dr. G.U. Pope College of Engineering stands as the fulfillment of the earnest aspirations of Sawyerpuram's well-wishers,
    who longed for the accessibility of technical education in their vicinity. Commencing its service to the Sawyerpuram
    community in the academic year 2002-2003, the college operates under the auspices of the CSI Thoothukudi-Nazareth Diocese.
    This institution was established by devoted and sincere missionaries committed to delivering quality and disciplined education to remote areas.
    Nestled in a picturesque location amidst natural beauty, the college is situated on the Thoothukudi-Sawyerpuram 'Theri Road, providing an ideal setting for academic pursuits `<style>` tag in the head.</p>
</body>
</html>
```

Output :

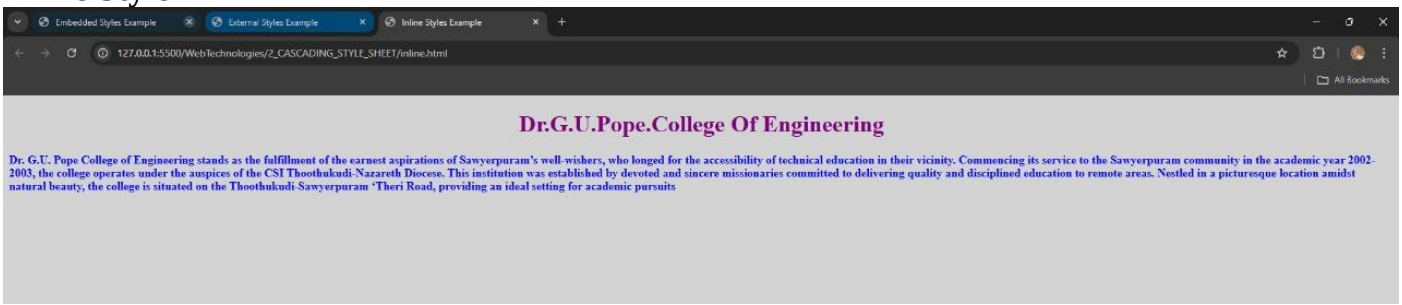
Embedded Style



External Style



Inline Style



RESULT : Thus to Design an HTML web page with our college info in External Style Sheet, Embedded Style Sheet, Inline style Sheet has been executed successfully.

ExNo : 3	**Design an HTML web page to client side scripts for Validating web form controls**

AIM : To Design an HTML web page to client side scripts for Validating web form controls .

Algorithm :

Step 1 Create your new folder for "WEB FORM VALIDATION" & new file.
Step 2 Feed your codings in it .
Run with live server.
Step 3 Each web page contains an activity box with some restrictions and an submit button in it.
Step 4 Each entry will be checked for its validity.
Step 5 Run and observe the web forms.

Program :
File Name : "email.html"

```
<!DOCTYPE html>
<html lang="en">
<head>
   <title>Time Validation</title>
   <script>
      function validateTime() {
         var time = document.getElementById("time").value;
         var regex = /^[0-9]{2}:[0-9]{2}$/;
         if (regex.test(time)) {
            alert("Time is valid.");
         } else {
            alert("Please enter a time in HH:MM format.");
         }
         return false; // Prevent form submission for demonstration
      }
   </script>
</head>
<body>
   <form onsubmit="return validateTime()">
      <label for="time">Time (HH:MM):</label>
      <input type="text" id="time" name="time" required>
      <input type="submit" value="Submit">
   </form>
</body>
</html>
```

File Name : "number.html"

```
<!DOCTYPE html>
<html lang="en">
<head>
   <title>Number Validation</title>
```

```
    <script>
        function validateNumber() {
            var number = document.getElementById("number").value;
            if (!isNaN(number) && number !== "") {
                alert("Number is valid.");
            } else {
                alert("Please enter a valid number.");
            }
            return false; // Prevent form submission for demonstration
        }
    </script>
</head>
<body>
    <form onsubmit="return validateNumber()">
        <label for="number">Number:</label>
        <input type="text" id="number" name="number" required>
        <input type="submit" value="Submit">
    </form>
</body>
</html>
```

File Name : “password.html”

```
<!DOCTYPE html>
<html lang="en">
<head>
    <title>Password Validation</title>
    <script>
        function validatePassword() {
            var password = document.getElementById("password").value;
            if (password.length >= 8) {
                alert("Password is valid.");
            } else {
                alert("Password must be at least 8 characters long.");
            }
            return false; // Prevent form submission for demonstration
        }
    </script>
</head>
<body>
    <form onsubmit="return validatePassword()">
        <label for="password">Password:</label>
        <input type="password" id="password" name="password" required>
        <input type="submit" value="Submit">
    </form>
</body>
</html>
```

File Name : “time.html”

```
<!DOCTYPE html>
<html lang="en">
<head>
   <title>Time Validation</title>
   <script>
      function validateTime() {
         var time = document.getElementById("time").value;
         var regex = /^[0-9]{2}:[0-9]{2}$/;
         if (regex.test(time)) {
            alert("Time is valid.");
         } else {
            alert("Please enter a time in HH:MM format.");
         }
         return false; // Prevent form submission for demonstration
      }
   </script>
</head>
<body>
   <form onsubmit="return validateTime()">
      <label for="time">Time (HH:MM):</label>
      <input type="text" id="time" name="time" required>
      <input type="submit" value="Submit">
   </form>
</body>
</html>
```

Output :

RESULT : Thus to Design an HTML web page to client side scripts for Validating web form controls has been executed successfully.

ExNo : 4	**Design an HTML web page & server program to client side scripts for invoking servelets.**

AIM : Design an HTML web page & server program to client side scripts for invoking servelets.

Algorithm :

Step 1 Create your new folder for "INVOKING SERVELET FROM APPLET".
Step 2 Create an other folder inside Invoking servelet…. as "public" & create a new file,save it with html extension.
Step 3 Open a terminal in VSCode & **cd** to current working folder , then install "**npm init -y**", "**npm install express**".
Step 4 Create an js file in in your invoking serve… folder to add server codings in it.
Step 5 Save all files , then navigate the path in terminal ,then type "**node server.js**" to run the file.
Step 6 That generates an http localhost, C&P it in a browser.
Step 7 Observe the result from the webpage .

Program :

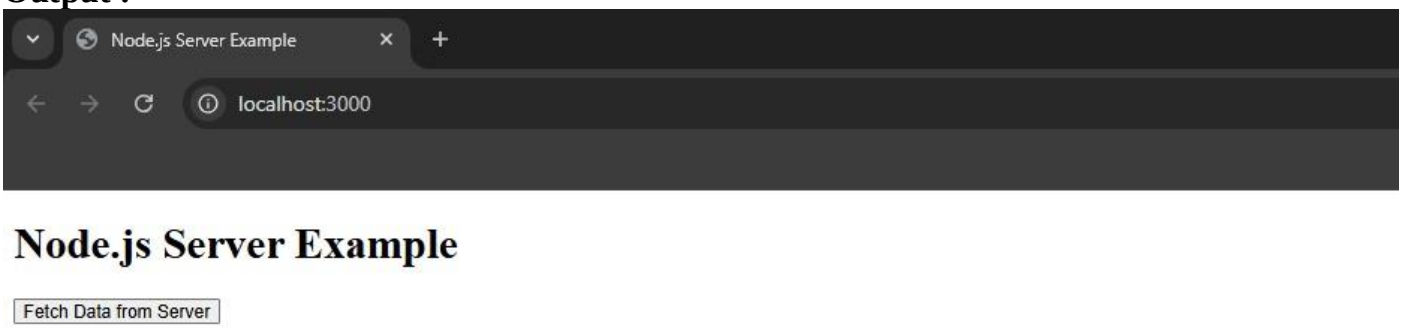
File Name : "index.html"

```
<!DOCTYPE html>
<html lang="en">
<head>

   <title>Node.js Server Example</title>
   <script>
      function fetchServerData() {
         var xhr = new XMLHttpRequest();
         xhr.open("GET", "/data", true);

         xhr.onreadystatechange = function() {
            if (xhr.readyState === 4 && xhr.status === 200) {
               document.getElementById("response").innerHTML = xhr.responseText;
            }
         };

         xhr.send();
      }
   </script>
</head>
<body>
   <h1>Node.js Server Example</h1>
   <button onclick="fetchServerData()">Fetch Data from Server</button>
   <div id="response"></div>
</body>
</html>
```

File Name : “server.js”

```
const express = require('express');
const app = express();
const port = 3000;

app.use(express.static('public'));

app.get('/data', (req, res) => {
   res.send('<html><body><h1>Hi,This is Mr.David in front of you !!!!....</h1></body></html>');
});

app.listen(port, () => {
   console.log(`Server running at http://localhost:${port}`);
});
```

Output :



RESULT : Thus to Design an HTML web page & server program to client side scripts for invoking servelets has been executed successfully.

ExNo : 5	**Design an HTML web page & server program to client side scripts for invoking servelets under HTML forms and Session tracking**.

AIM : To Design an HTML web page & server program to client side scripts for invoking servelets under HTML forms.

Algorithm :

Step 1 Create a "new folder" named "**INVOKING SERVELETS HTMLFORMS**".
Step 2 Create a new file,save it with html extension.
Step 3 Create an js file in in your invoking serve… folder to add server codings in it.
Step 4 Save all files , then navigate the path in terminal ,then type "**node server.js**" to run the file.
Step 5 That generates an http localhost, C&P it in a browser.
Step 6 Observe the result from the webpage .

Program :

File Name : "form.html"

```
<!DOCTYPE html>
<html lang="en">
<head>
   <title>Submit Form to Node.js</title>
</head>
<body>

   <h1>Enter Your Details</h1>
   <form action="http://localhost:3000/submit" method="POST">
      <label for="username">Username:</label><br>
      <input type="text" id="username" name="username"><br><br>

      <label for="email">Email:</label><br>
      <input type="email" id="email" name="email"><br><br>

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

</body>
</html>
```

Filename : server.js

```
const express = require('express');
const bodyParser = require('body-parser');
const mongoose = require('mongoose');

const app = express();
const port = 3000;
```

```
// MongoDB connection
mongoose.connect('mongodb://localhost:27017/formdata')
    .then(() => {
        console.log('Connected to MongoDB');
    })
    .catch(err => {
        console.error('MongoDB connection error:', err);
    });

// Define a schema and model for storing form data
const formDataSchema = new mongoose.Schema({
    username: String,
    email: String
});

// Specify the collection name explicitly
const FormData = mongoose.model('FormData', formDataSchema, 'recieved_info');

// Middleware to parse the body of POST requests
app.use(bodyParser.urlencoded({ extended: true }));

// Serve the HTML file
app.get('/', (req, res) => {
    res.sendFile(__dirname + '/form.html');
});

// Handle form submission
app.post('/submit', async (req, res) => {
    const username = req.body.username;
    const email = req.body.email;

    console.log('Received data:', { username, email }); // Log received data

    // Create a new document
    const formData = new FormData({
        username: username,
        email: email
    });

    try {
        // Save the document to MongoDB
        await formData.save();
        res.send(`
            <html>
                <body>
                    <h2>Form Data Received and Stored:</h2>
                    <p>Username: ${username}</p>
                    <p>Email: ${email}</p>
                </body>
            </html>
        `);
```

```
        console.error('Error saving data to MongoDB:', err); // Improved logging
        res.status(500).send('Error saving data to MongoDB');
    }
});

app.listen(port, () => {
    console.log(`Server running at http://localhost:${port}`);
});
```

Output :

RESULT : Thus to Design an HTML web page & server program to client side scripts for invoking servelets html forms and session tracking has been executed successfully.

ExNo : 6	**Design an HTML web page & server program to create three-tier application for conducting online exams, displaying student mark list.**

AIM : To Design an HTML web page & server program to create three-tier application for conducting online exams, displaying student mark-list.

Algorithm :

Step 1 Create your new folder for "3TIER APPLICATION".
Step 2 Create a folder in it "lib" and include "mysql-connector-j-9.1.0.jar" file to establish java connection to mysql in it.
Step 3 Create an other folder "src" in it and add all your java files in it. Then create a folder"webcontent" in it and add your xml , jsp , sql docs in it.
Step 4 That generates an http localhost, C&P it in a browser.
Step 5 Observe the result from the webpage .

Program :

Folder Name : "src"
File name: "DatabaseConnection.java"

```
import java.sql.*;

public class DatabaseConnection {
   public static Connection initializeDatabase() throws SQLException, ClassNotFoundException {
      String url = "jdbc:mysql://localhost:3306/ExamSystem";
      String user = "root";
      String password = "password";

      Class.forName("com.mysql.cj.jdbc.Driver");
      return DriverManager.getConnection(url, user, password);
   }
}
```

File Name : "ExamServelet.java"

```
import javax.servlet.*;
import javax.servlet.http.*;
import java.io.IOException;
import java.util.ArrayList;
import java.util.List;

public class ExamServlet extends HttpServlet {
   protected void doGet(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
      List<Question> questions = QuestionDAO.getQuestions();
```

```
        request.setAttribute("questions", questions);
        request.getRequestDispatcher("exam.jsp").forward(request, response);
    }
}
```

File Name : "LoginServelet.java"

```
import javax.servlet.*;
import javax.servlet.http.*;
import java.io.IOException;
import java.sql.*;

public class LoginServlet extends HttpServlet {
    protected void doPost(HttpServletRequest request, HttpServletResponse response) throws ServletException, IOException {
        String username = request.getParameter("username");
        String password = request.getParameter("password");

        try (Connection con = DatabaseConnection.initializeDatabase();
             PreparedStatement ps = con.prepareStatement("SELECT * FROM students WHERE username=? AND password=?")) {
            ps.setString(1, username);
            ps.setString(2, password);
            ResultSet rs = ps.executeQuery();

            if (rs.next()) {
                request.getSession().setAttribute("studentId", rs.getInt("id"));
                response.sendRedirect("ExamServlet");
            } else {
                response.getWriter().println("Invalid credentials");
            }
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
}
```

File Name : "QuestionDAO.java"

```
// QuestionDAO.java
import java.sql.*;
import java.util.ArrayList;
import java.util.List;

public class QuestionDAO {
    public static List<Question> getQuestions() {
        List<Question> questions = new ArrayList<>();

        try (Connection con = DatabaseConnection.initializeDatabase();
             Statement stmt = con.createStatement();
```

```
         ResultSet rs = stmt.executeQuery("SELECT * FROM exams")) {

        while (rs.next()) {

questions.add(newQuestion(rs.getInt("id"),rs.getString("question"),rs.getString("option1"),
rs.getString("option2"), rs.getString("option3"), rs.getString("option4"), rs.getInt("answer")));
        }
      } catch (Exception e) {
        e.printStackTrace();
      }
      return questions;
   }
}
```

File Name : "StudentDAO.java"

```
import java.sql.*;

public class StudentDAO {
   public static void updateScore(int studentId, int score) {
      try (Connection con = DatabaseConnection.initializeDatabase();
           PreparedStatement ps = con.prepareStatement("UPDATE students SET score=? WHERE
id=?")) {
        ps.setInt(1, score);
        ps.setInt(2, studentId);
        ps.executeUpdate();
      } catch (Exception e) {
        e.printStackTrace();
      }
   }
}
```

File Name : "SubmitServelet"

```
import javax.servlet.*;
import javax.servlet.http.*;
import java.io.IOException;
import java.util.List;

public class SubmitServlet extends HttpServlet {
   protected void doPost(HttpServletRequest request, HttpServletResponse response) throws
ServletException, IOException {
      int score = 0;
      List<Question> questions = QuestionDAO.getQuestions();

      for (Question q : questions) {
        String selectedOption = request.getParameter("q" + q.getId());
        if (selectedOption != null && Integer.parseInt(selectedOption) == q.getAnswer()) {
          score++;
        }
```

```
        }

        int studentId = (int) request.getSession().getAttribute("studentId");
        StudentDAO.updateScore(studentId, score);

        request.setAttribute("score", score);
        request.setAttribute("totalQuestions", questions.size());
        request.getRequestDispatcher("result.jsp").forward(request, response);
    }
}
```

Folder Name : "WebContent"

File Name : "web.xml"

```
<!-- web.xml -->
<web-app>
    <servlet>
        <servlet-name>LoginServlet</servlet-name>
        <servlet-class>LoginServlet</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>LoginServlet</servlet-name>
        <url-pattern>/LoginServlet</url-pattern>
    </servlet-mapping>

    <servlet>
        <servlet-name>ExamServlet</servlet-name>
        <servlet-class>ExamServlet</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>ExamServlet</servlet-name>
        <url-pattern>/ExamServlet</url-pattern>
    </servlet-mapping>

    <servlet>
        <servlet-name>SubmitServlet</servlet-name>
        <servlet-class>SubmitServlet</servlet-class>
    </servlet>
    <servlet-mapping>
        <servlet-name>SubmitServlet</servlet-name>
        <url-pattern>/SubmitServlet</url-pattern>
    </servlet-mapping>
</web-app>
```

File Name : "exam.jsp"

```
<!-- exam.jsp -->
```

```
<%@ page import="java.util.List" %>
<%@ page import="models.Question" %>
<%
   List<Question> questions = (List<Question>) request.getAttribute("questions");
%>
<!DOCTYPE html>
<html>
<head>
   <title>Online Exam</title>
</head>
<body>
   <form action="SubmitServlet" method="post">
      <%
         for (Question q : questions) {
      %>
         <p><%= q.getQuestion() %></p>
         <input type="radio" name="q<%= q.getId() %>" value="1"> <%= q.getOption1() %><br>
         <input type="radio" name="q<%= q.getId() %>" value="2"> <%= q.getOption2() %><br>
         <input type="radio" name="q<%= q.getId() %>" value="3"> <%= q.getOption3() %><br>
         <input type="radio" name="q<%= q.getId() %>" value="4"> <%= q.getOption4() %><br>
      <%
         }
      %>
      <input type="submit" value="Submit">
   </form>
</body>
</html>
```

File Name : “login.jsp”

```
<!-- login.jsp -->
<!DOCTYPE html>
<html>
<head>
   <title>Login</title>
</head>
<body>
   <form action="LoginServlet" method="post">
      Username: <input type="text" name="username"><br>
      Password: <input type="password" name="password"><br>
      <input type="submit" value="Login">
   </form>
</body>
</html>
```

File Name : “results.jsp”

```
<!-- result.jsp -->
<!DOCTYPE html>
```

```
<html>
<head>
   <title>Exam Result</title>
</head>
<body>
   <h2>Your Score: <%= request.getAttribute("score") %> / <%= request.getAttribute("totalQuestions") %></h2>
</body>
</html>
```

File Name : "DB.sql"

```
CREATE DATABASE ExamSystem;

USE ExamSystem;

-- Table for storing student details
CREATE TABLE students (
   id INT PRIMARY KEY AUTO_INCREMENT,
   username VARCHAR(50) NOT NULL,
   password VARCHAR(50) NOT NULL,
   score INT DEFAULT 0
);

-- Table for storing exam questions
CREATE TABLE exams (
   id INT PRIMARY KEY AUTO_INCREMENT,
   question TEXT NOT NULL,
   option1 VARCHAR(100),
   option2 VARCHAR(100),
   option3 VARCHAR(100),
   option4 VARCHAR(100),
   answer INT
);
```

Output :

RESULT : Thus to Design an HTML web page & server program to create three-tier application for conducting online exams, displaying student mark-list has been done successfully.

ExNo : 7	PROGRAMMING USING XML SCHEMA- XSLT/XSL

AIM : To program using xml schema- xslt/xsl.

Algorithm :

Step 1 Create your new folder for "XML SCHEMA".
Step 2 Create coding files,save it with xml,xsd,xslt extensions.
Step 3 Save all files , then navigate the path in terminal ,then use command "**xsltproc transform.xslt data.xml > output.html**"to run the file.
Step 4 That generates an html file as an output file , run the file to view the output.
Step 5 Observe the result from the webpage .

Program :

File Name : "data.xml"

```
<?xml version="1.0" encoding="UTF-8"?>
<library xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="library.xsd">
   <book>
      <title>1984</title>
      <author>George Orwell</author>
      <year>1949</year>
   </book>
   <book>
      <title>Brave New World</title>
      <author>Aldous Huxley</author>
      <year>1932</year>
   </book>
</library>
```

File Name : "library.xsd"

```
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema">
   <xs:element name="library">
      <xs:complexType>
         <xs:sequence>
            <xs:element name="book" maxOccurs="unbounded">
               <xs:complexType>
                  <xs:sequence>
                     <xs:element name="title" type="xs:string"/>
                     <xs:element name="author" type="xs:string"/>
                     <xs:element name="year" type="xs:int"/>
                  </xs:sequence>
               </xs:complexType>
            </xs:element>
```

```
        </xs:sequence>
      </xs:complexType>
   </xs:element>
</xs:schema>
```

File Name : “transform.xslt”

```
<?xml version="1.0" encoding="UTF-8"?>
<xsl:stylesheet version="1.0" xmlns:xsl="http://www.w3.org/1999/XSL/Transform">
   <xsl:output method="html" encoding="UTF-8" indent="yes"/>

   <xsl:template match="/library">
      <html>
         <head>
            <title>Book Library</title>
         </head>
         <body>
            <h1>My Book Collection</h1>
            <table border="1">
               <tr>
                  <th>Title</th>
                  <th>Author</th>
                  <th>Year</th>
               </tr>
               <xsl:for-each select="book">
                  <tr>
                     <td><xsl:value-of select="title"/></td>
                     <td><xsl:value-of select="author"/></td>
                     <td><xsl:value-of select="year"/></td>
                  </tr>
               </xsl:for-each>
            </table>
         </body>
      </html>
   </xsl:template>
</xsl:stylesheet>
```

Output :

RESULT : Thus to program using xml schema- xslt/xsl has been done successfully.