**REG NO. : 412422205009**

**NAME : AKASH RAJ L**

**SOURCE CODE :**

**SQL COMMANDS :**

mysql> CREATE DATABASE student\_db;

Query OK, 1 row affected (0.01 sec)

mysql> USE student\_db;

Database changed

mysql> -- Create a new table to store student marks and calculated GPA (out of 10.0)

mysql> CREATE TABLE student\_marks (

-> student\_id INT PRIMARY KEY,

-> name VARCHAR(50),

-> Mathematics INT, -- Mathematics (out of 100)

-> Computer\_Science INT, -- Computer Science (out of 100)

-> Physics INT, -- Physics (out of 100)

-> Chemistry INT, -- Chemistry (out of 100)

-> Biology INT, -- Biology (out of 100)

-> calculated\_gpa DECIMAL(4, 2) -- GPA based on the average of marks (out of 10.0)

-> );

Query OK, 0 rows affected (0.06 sec)

mysql> -- Insert data for the 10 students with random marks and calculated GPA

mysql> INSERT INTO student\_marks (student\_id, name, Mathematics, Computer\_Science, Physics, Chemistry, Biology, calculated\_gpa) VALUES

-> (1, 'Alice Johnson', 85, 90, 88, 92, 87, ((85 + 90 + 88 + 92 + 87)/500.0) \* 10.0),

-> (2, 'Bob Smith', 75, 80, 82, 78, 85, ((75 + 80 + 82 + 78 + 85)/500.0) \* 10.0),

-> (3, 'Carol White', 90, 92, 95, 91, 89, ((90 + 92 + 95 + 91 + 89)/500.0) \* 10.0),

-> (4, 'David Brown', 70, 68, 65, 72, 74, ((70 + 68 + 65 + 72 + 74)/500.0) \* 10.0),

-> (5, 'Emma Davis', 88, 85, 83, 87, 82, ((88 + 85 + 83 + 87 + 82)/500.0) \* 10.0),

-> (6, 'Frank Wilson', 78, 80, 82, 79, 81, ((78 + 80 + 82 + 79 + 81)/500.0) \* 10.0),

-> (7, 'Grace Lee', 85, 88, 90, 87, 89, ((85 + 88 + 90 + 87 + 89)/500.0) \* 10.0),

-> (8, 'Henry Miller', 76, 78, 80, 79, 77, ((76 + 78 + 80 + 79 + 77)/500.0) \* 10.0),

-> (9, 'Ivy Garcia', 85, 82, 88, 87, 90, ((85 + 82 + 88 + 87 + 90)/500.0) \* 10.0),

-> (10, 'Jack Martinez', 65, 70, 68, 72, 66, ((65 + 70 + 68 + 72 + 66)/500.0) \* 10.0);

Query OK, 10 rows affected (0.01 sec)

Records: 10 Duplicates: 0 Warnings: 0

**studentMarks.jsp**

<%@ page import="java.sql.\*" %>

<%@ page contentType="text/html;charset=UTF-8" language="java" %>

<html>

<head>

<title>Student Mark List</title>

<style>

table {

width: 80%;

border-collapse: collapse;

}

table, th, td {

border: 1px solid black;

}

th, td {

padding: 10px;

text-align: center;

}

th {

background-color: #f2f2f2;

}

</style>

</head>

<body>

<h2>Student Mark List</h2>

<table>

<tr>

<th>Student ID</th>

<th>Name</th>

<th>Mathematics</th>

<th>Computer Science</th>

<th>Physics</th>

<th>Chemistry</th>

<th>Biology</th>

<th>Calculated GPA</th>

</tr>

<%

// Database connection details

String url = "jdbc:mysql://localhost:3306/student\_db";

String username = "root";

String password = "root";

Connection conn = null;

Statement stmt = null;

ResultSet rs = null;

try {

// Load the MySQL JDBC driver

Class.forName("com.mysql.cj.jdbc.Driver");

// Connect to the database

conn = DriverManager.getConnection(url, username, password);

// Create SQL query

String query = "SELECT \* FROM student\_marks";

// Execute the query

stmt = conn.createStatement();

rs = stmt.executeQuery(query);

while (rs.next()) {

int student\_id = rs.getInt("student\_id");

String name = rs.getString("name");

int mathematics = rs.getInt("Mathematics");

int computer\_science = rs.getInt("Computer\_Science");

int physics = rs.getInt("Physics");

int chemistry = rs.getInt("Chemistry");

int biology = rs.getInt("Biology");

double gpa = rs.getDouble("calculated\_gpa");

%>

<tr>

<td><%= student\_id %></td>

<td><%= name %></td>

<td><%= mathematics %></td>

<td><%= computer\_science %></td>

<td><%= physics %></td>

<td><%= chemistry %></td>

<td><%= biology %></td>

<td><%= gpa %></td>

</tr>

<%

}

} catch (Exception e) {

e.printStackTrace();

} finally {

// Close resources

if (rs != null) try { rs.close(); } catch (SQLException ignore) {}

if (stmt != null) try { stmt.close(); } catch (SQLException ignore) {}

if (conn != null) try { conn.close(); } catch (SQLException ignore) {}

}

%>

</table>

</body>

</html>

**OUTPUT :**

