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

```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;
```

```jsp
        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 :

Student Mark List

Student ID	Name	Mathematics	Computer Science	Physics	Chemistry	Biology	Calculated GPA
1	Alice Johnson	85	90	88	92	87	8.84
2	Bob Smith	75	80	82	78	85	8.0
3	Carol White	90	92	95	91	89	9.14
4	David Brown	70	68	65	72	74	6.98
5	Emma Davis	88	85	83	87	82	8.5
6	Frank Wilson	78	80	82	79	81	8.0
7	Grace Lee	85	88	90	87	89	8.78
8	Henry Miller	76	78	80	79	77	7.8
9	Ivy Garcia	85	82	88	87	90	8.64
10	Jack Martinez	65	70	68	72	66	6.82