package jdbc;

import java.sql.\*;

public class MiniProject {

public static void main(String[] args) {

String url = "jdbc:mysql://localhost:3306/mydb"; // change if needed

String user = "root";

String password = "root";

try {

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

Connection con = DriverManager.*getConnection*(url, user, password);

Statement stmt = con.createStatement();

System.***out***.println("Connected to the database.");

// 1. Create students table

stmt.executeUpdate("DROP TABLE IF EXISTS students");

String createStudents = "CREATE TABLE students (" +

"rollno INT PRIMARY KEY, " +

"name VARCHAR(50), " +

"per INT, " +

"city VARCHAR(50), " +

"email VARCHAR(50))";

stmt.executeUpdate(createStudents);

System.***out***.println("Students table created.");

stmt.executeQuery("Select\*From students");

// 2. Insert values into students

String insertStudents = "INSERT INTO students (rollno, name, per, city, email) VALUES " +

"(101, 'Neeva', 97, 'Hyderabad', 'neeva@gmail.com')," +

"(102, 'Chinna', 79, 'Pune', 'chinna@gmail.com')," +

"(103, 'Chinny', 95, 'Mumbai', 'chinny@gmail.com')," +

"(104, 'Ravi', 75, 'Hyderabad', 'ravi@gmail.com')," +

"(105, 'Adithya', 85, 'Hyderabad', 'adithya@gmail.com')," +

"(106, 'Harsh', 87, 'Delhi', 'harsh@gmail.com')," +

"(107, 'Veera', 75, 'Hyderabad', 'veera@gmail.com')," +

"(108, 'Anil', 85, 'Hyderabad', 'anil@gmail.com')," +

"(109, 'Pandu', 87, 'Delhi', 'pandu@gmail.com')," +

"(110, 'Reena', 95, 'Chennai', 'reena@gmail.com')";

stmt.executeUpdate(insertStudents);

System.***out***.println("Students inserted.");

// 3. Update email

stmt.executeUpdate("UPDATE students SET email = 'updated\_neeva@gmail.com' WHERE rollno = 101");

System.***out***.println("Email updated for rollno 101.");

// 4. Highest percentage

ResultSet rs = stmt.executeQuery("SELECT \* FROM students WHERE per = (SELECT MAX(per) FROM students)");

System.***out***.println("\nStudent with Highest Percentage:");

while (rs.next()) {

System.***out***.println(rs.getInt("rollno") + " - " + rs.getString("name") +

" - " + rs.getInt("per") + "% - " + rs.getString("city"));

}

// 5. Arrange in ascending order

rs = stmt.executeQuery("SELECT \* FROM students ORDER BY per ASC");

System.***out***.println("\nStudents Sorted by Ascending Percentage:");

while (rs.next()) {

System.***out***.println(rs.getInt("rollno") + " - " + rs.getString("name") + ": " +

rs.getInt("per") + "%");

}

// 6. Students from same city

rs = stmt.executeQuery(

"SELECT \* FROM students WHERE city IN " +

"(SELECT city FROM students GROUP BY city HAVING COUNT(\*) > 1)");

System.***out***.println("\nStudents from Same Cities:");

while (rs.next()) {

System.***out***.println(rs.getInt("rollno") + " - " + rs.getString("name") +

" (" + rs.getString("city") + ")");

}

// 7. Add new column

try {

stmt.executeUpdate("ALTER TABLE students ADD COLUMN phone VARCHAR(15)");

System.***out***.println("\nColumn 'phone' added.");

} catch (SQLException e) {

System.***out***.println("Column 'phone' may already exist.");

}

// 8. Change datatype of 'per' to DECIMAL

stmt.executeUpdate("ALTER TABLE students MODIFY COLUMN per DECIMAL(5,2)");

System.***out***.println("Column 'per' changed to DECIMAL.");

// 9. Create courses table and insert

stmt.executeUpdate("DROP TABLE IF EXISTS courses");

String createCourses = "CREATE TABLE courses (" +

"rollno INT, " +

"course\_name VARCHAR(50))";

stmt.executeUpdate(createCourses);

String insertCourses = "INSERT INTO courses VALUES " +

"(101, 'Java')," +

"(101, 'Python')," +

"(102, 'C++')," +

"(103, 'Data Science')," +

"(104, 'HTML')";

stmt.executeUpdate(insertCourses);

System.***out***.println("Courses table created and populated.");

// 10. Inner join students and courses

rs = stmt.executeQuery(

"SELECT s.rollno, s.name, s.city, c.course\_name " +

"FROM students s INNER JOIN courses c ON s.rollno = c.rollno");

System.***out***.println("\nJoined Students and Courses:");

while (rs.next()) {

System.***out***.println(rs.getInt("rollno") + " - " +

rs.getString("name") + " - " +

rs.getString("city") + " - " +

rs.getString("course\_name"));

}

// Cleanup

stmt.close();

con.close();

} catch (Exception e) {

e.printStackTrace();

}

}

}