DAY-11 TASK

1)connect to MYSQL DB

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.SQLException;

public class DBConnection {
    public static void main(String[] args) {
        String url = "jdbc:mysql://localhost:3306/college";
        String user = "root";
        String pass = "1234";
        try {
                    Class.forName("com.mysql.cj.jdbc.Driver");

                    Connection con = DriverManager.getConnection(url, user, pass);
            System.out.println("✅ Connected to the database successfully!");

                     con.close();
        } catch (ClassNotFoundException e) {
            System.out.println("MySQL JDBC Driver not found.");
            e.printStackTrace();
        } catch (SQLException e) {
            System.out.println("❌ Failed to connect to the database.");
            e.printStackTrace();
        }
    }
}
```

OUTPUT:

✅ Connected to the database successfully!

2)insert student data

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.PreparedStatement;
import java.sql.SQLException;

public class InsertStudent {
```

```
    public static void main(String[] args) {
        String url = "jdbc:mysql://localhost:3306/college";
        String user = "root";
        String pass = "1234";

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

                Connection con = DriverManager.getConnection(url, user, pass);
            System.out.println("✅ Connected to database.");


            String query = "INSERT INTO student (id, name, email) VALUES (?, ?, ?)";

                    PreparedStatement pst = con.prepareStatement(query);


            pst.setInt(1, 1);
            pst.setString(2, "Anushika");
            pst.setString(3, "anushika@email.com");


            int rows = pst.executeUpdate();
            System.out.println("✅ " + rows + " row(s) inserted.");
            pst.close();
            con.close();

        } catch (ClassNotFoundException e) {
            System.out.println("❌ JDBC Driver not found.");
            e.printStackTrace();
        } catch (SQLException e) {
            System.out.println("❌ SQL Error.");
            e.printStackTrace();
        }
    }
}
```

Output:

✅ Connected to database.
✅ 1 row(s) inserted.

3)Display data in the console

```
import java.sql.Connection;
import java.sql.DriverManager;
import java.sql.ResultSet;
import java.sql.Statement;
```

```
import java.sql.SQLException;

public class DisplayStudentData {
    public static void main(String[] args) {
        String url = "jdbc:mysql://localhost:3306/college";
        String user = "root";
        String pass = "1234";

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

            Connection con = DriverManager.getConnection(url, user, pass);
            System.out.println("✅ Connected to database.");

             Statement stmt = con.createStatement();
            String query = "SELECT * FROM student";
            ResultSet rs = stmt.executeQuery(query);

             System.out.println("\n--- Student Data ---");
            while (rs.next()) {
                int id = rs.getInt("id");
                String name = rs.getString("name");
                String email = rs.getString("email");

                System.out.println("ID: " + id + ", Name: " + name + ", Email: " + email);
            }

            rs.close();
            stmt.close();
            con.close();

        } catch (ClassNotFoundException e) {
            System.out.println("❌ JDBC Driver not found.");
            e.printStackTrace();
        } catch (SQLException e) {
            System.out.println("❌ SQL Error.");
            e.printStackTrace();
        }
    }
}
```

Output:

✅ Connected to database.

--- Student Data ---
ID: 1, Name: Anushika, Email: anushika@email.com
ID: 2, Name: Mani, Email: mani@email.com

4)student DB manager with JDBC

```
import java.sql.*;
import java.util.Scanner;

public class StudentDBManager {

    static final String URL = "jdbc:mysql://localhost:3306/college";
    static final String USER = "root";
    static final String PASS = "1234"; // Replace with your MySQL password

    static Connection con;
    static Scanner sc = new Scanner(System.in);

    public static void main(String[] args) {
        try {
            con = DriverManager.getConnection(URL, USER, PASS);
            System.out.println("✅ Connected to Database!");

            while (true) {
                System.out.println("\n--- Student DB Manager ---");
                System.out.println("1. Add Student");
                System.out.println("2. View Students");
                System.out.println("3. Update Student Name");
                System.out.println("4. Delete Student");
                System.out.println("5. Exit");
                System.out.print("Enter your choice: ");
                int choice = sc.nextInt();

                switch (choice) {
                    case 1:
                        addStudent();
                        break;
                    case 2:
                        viewStudents();
                        break;
                    case 3:
                        updateStudentName();
                        break;
                    case 4:
                        deleteStudent();
                        break;
                    case 5:
                        con.close();
                        System.out.println("👋 Exiting... Bye!");
                        return;
                    default:
```

```
                System.out.println("❌ Invalid choice!");
            }
        }

    } catch (SQLException e) {
        e.printStackTrace();
    }
}

static void addStudent() {
    try {
        System.out.print("Enter ID: ");
        int id = sc.nextInt();
        sc.nextLine();
        System.out.print("Enter Name: ");
        String name = sc.nextLine();
        System.out.print("Enter Email: ");
        String email = sc.nextLine();

        String sql = "INSERT INTO student VALUES (?, ?, ?)";
        PreparedStatement ps = con.prepareStatement(sql);
        ps.setInt(1, id);
        ps.setString(2, name);
        ps.setString(3, email);
        int rows = ps.executeUpdate();

        if (rows > 0)
            System.out.println("✅ Student added successfully!");
        else
            System.out.println("❌ Failed to add student.");

    } catch (SQLException e) {
        System.out.println("⚠️ Error: " + e.getMessage());
    }
}

static void viewStudents() {
    try {
        String sql = "SELECT * FROM student";
        Statement stmt = con.createStatement();
        ResultSet rs = stmt.executeQuery(sql);

        System.out.println("\n--- Student List ---");
        while (rs.next()) {
            System.out.println("ID: " + rs.getInt("id") +
                    ", Name: " + rs.getString("name") +
                    ", Email: " + rs.getString("email"));
        }
```

```
    } catch (SQLException e) {
        System.out.println("⚠️ Error: " + e.getMessage());
    }
}

static void updateStudentName() {
    try {
        System.out.print("Enter Student ID to update: ");
        int id = sc.nextInt();
        sc.nextLine();
        System.out.print("Enter new name: ");
        String name = sc.nextLine();

        String sql = "UPDATE student SET name=? WHERE id=?";
        PreparedStatement ps = con.prepareStatement(sql);
        ps.setString(1, name);
        ps.setInt(2, id);
        int rows = ps.executeUpdate();

        if (rows > 0)
            System.out.println("✅ Name updated successfully!");
        else
            System.out.println("❌ Student not found.");

    } catch (SQLException e) {
        System.out.println("⚠️ Error: " + e.getMessage());
    }
}

static void deleteStudent() {
    try {
        System.out.print("Enter Student ID to delete: ");
        int id = sc.nextInt();

        String sql = "DELETE FROM student WHERE id=?";
        PreparedStatement ps = con.prepareStatement(sql);
        ps.setInt(1, id);
        int rows = ps.executeUpdate();

        if (rows > 0)
            System.out.println("✅ Student deleted successfully!");
        else
            System.out.println("❌ Student not found.");

    } catch (SQLException e) {
        System.out.println("⚠️ Error: " + e.getMessage());
    }
}
```

}

OUTPUT:

✅ Connected to Database!

--- Student DB Manager ---
1. Add Student
2. View Students
3. Update Student Name
4. Delete Student
5. Exit
Enter your choice: 1
Enter ID: 101
Enter Name: Anushika
Enter Email: anu@email.com
✅ Student added successfully!