**CRUD OPERATION(26/05/2025)**

**package** crud\_operation;

**import** java.sql.\*;

**import** java.util.Scanner;

**public** **class** **CRUD** {

**public** **static** **void** **main**(**String**[] args) {

**System**.***out***.println("=== Starting CRUD App ===");

**CRUD** **objTest** = **new** CRUD();

**Scanner** **input** = **new** Scanner(**System**.***in***);

**System**.***out***.print("No. of records to be entered: ");

**int** **n** = input.nextInt();

**for** (**int** **i** = 0; i < n; i++) {

**System**.***out***.println("\nRecord #" + (i + 1));

**System**.***out***.print("Enter S.No: ");

**int** **sno** = input.nextInt();

input.nextLine(); // consume newline

**System**.***out***.print("Enter Name: ");

**String** **name** = input.nextLine();

**System**.***out***.print("Enter Marks: ");

**int** **mark** = input.nextInt();

input.nextLine();

**System**.***out***.print("Enter City: ");

**String** **city** = input.nextLine();

**System**.***out***.print("Enter Extra (int): ");

**int** **extra** = input.nextInt();

input.nextLine();

objTest.create\_data(sno, name, mark, city, extra);

}

**System**.***out***.println("\n=== Data Insertion Completed ===");

**System**.***out***.println("\n === Reading Data ===");

objTest.read\_data();

**System**.***out***.println("\n === DONE ===");

**System**.***out***.println("\n DO YOU WANT TO UPDATE?");

**System**.***out***.print("\n Enter: ");

**int** **choice1**=input.nextInt();

**if**(choice1==1){

**System**.***out***.println("\n === UPDATING ===");

**System**.***out***.println("Updated Mark: ");

**int** **new\_mark** = input.nextInt();

**int** **sno**=input.nextInt();

objTest.update\_data(sno, new\_mark);

**System**.***out***.println("\n === DONE ===");

}

**System**.***out***.println("\n DO YOU WANT TO ALTER TABLE?");

**System**.***out***.print("\n Enter: ");

**int** **choice2**=input.nextInt();

**if**(choice2==1){

**System**.***out***.println("\n === UPDATING ===");

objTest.alter\_table();

**System**.***out***.println("\n === DONE ===");

}

**System**.***out***.println("\n DO YOU WANT DELETE DATA?");

**System**.***out***.print("\n Enter: ");

**int** **choice3**=input.nextInt();

**if**(choice3==1){

**System**.***out***.println("\n === UPDATING ===");

**int** **num**=input.nextInt();

objTest.delete\_data(num);

**System**.***out***.println("\n === DONE ===");

}

**System**.***out***.println("\n Reading Specific Data");

**int** **num1**=input.nextInt();

objTest.read\_data2(num1);

**System**.***out***.println("\n === DONE ===");

}

**public** **void** **create\_data**(**int** sno, **String** name, **int** mark, **String** city, **int** extra) {

**DB\_Connection** **obj\_DB\_Connection** = **new** DB\_Connection();

Connection **connection** = obj\_DB\_Connection.get\_connection();

PreparedStatement **ps** = **null**;

**try** {

**String** **query** = "INSERT INTO student1 (sno, name, mark, city, extra) VALUES (?, ?, ?, ?, ?)";

ps = connection.prepareStatement(query);

ps.setInt(1, sno);

ps.setString(2, name);

ps.setInt(3, mark);

ps.setString(4, city);

ps.setInt(5, extra);

**System**.***out***.println("Executing: " + ps);

**int** **result** = ps.executeUpdate();

**if** (result > 0) {

**System**.***out***.println("Record inserted successfully: " + name);

} **else** {

**System**.***out***.println("Failed to insert: " + name);

}

} **catch** (**Exception** **e**) {

**System**.***out***.println(e);

}

}

**public** **void** **read\_data**() {

**DB\_Connection** **obj\_DB\_Connection** = **new** DB\_Connection();

Connection **connection** = obj\_DB\_Connection.get\_connection();

PreparedStatement **ps** = **null**;

ResultSet **rs** = **null**;

**try** {

**String** **query** = "select \* from student1";

ps = connection.prepareStatement(query);

rs = ps.executeQuery();

**while** (rs.next()) {

**System**.***out***.println("S.No: " + rs.getInt("sno"));

**System**.***out***.println("Name: " + rs.getString("name"));

**System**.***out***.println("Marks: " + rs.getInt("mark"));

**System**.***out***.println("City: "+rs.getString("city"));

**System**.***out***.println("Extra: "+rs.getString("extra"));

**System**.***out***.println("-----------------------------");

}

}

**catch** (**Exception** **e**) {

**System**.***out***.println(e);

}

}

**public** **void** **update\_data**(**int** sno,**int** new\_mark){

**DB\_Connection** **obj\_DB\_Connection** = **new** DB\_Connection();

Connection **connection** = obj\_DB\_Connection.get\_connection();

PreparedStatement **ps** = **null**;

**try** {

**String** **query** = "UPDATE STUDENT1 SET MARK=? WHERE SNO=?";

ps = connection.prepareStatement(query);

ps.setInt(1, new\_mark);

ps.setInt(2, sno);

**System**.***out***.println("Executing: " + ps);

ps.executeUpdate();

} **catch** (**Exception** **e**) {

**System**.***out***.println(e);

}

}

**public** **void** **alter\_table**(){

**DB\_Connection** **obj\_DB\_Connection** = **new** DB\_Connection();

Connection **connection** = obj\_DB\_Connection.get\_connection();

PreparedStatement **ps** = **null**;

**try**{

**String** **query**="ALTER TABLE STUDENT1 DROP COLUMN EXTRA";

ps=connection.prepareStatement(query);

ps.executeUpdate();

**System**.***out***.println("Alter table executed, result: ");

}

**catch**(**Exception** **e**){

**System**.***out***.println(e);

}

}

**public** **void** **delete\_data**(**int** sno) {

**DB\_Connection** **obj\_DB\_Connection** = **new** DB\_Connection();

Connection **connection** = obj\_DB\_Connection.get\_connection();

PreparedStatement **ps** = **null**;

**try** {

**String** **query** = "DELETE FROM student1 WHERE sno = ?";

ps = connection.prepareStatement(query);

ps.setInt(1, sno);

**System**.***out***.println("Executing: " + ps);

ps.executeUpdate();

**System**.***out***.println("Deleted successfully");

} **catch** (**Exception** **e**) {

**System**.***out***.println(e);

}

}

**public** **void** **read\_data2**(**int** sno) {

**DB\_Connection** **obj\_DB\_Connection** = **new** DB\_Connection();

Connection **connection** = obj\_DB\_Connection.get\_connection();

PreparedStatement **ps** = **null**;

ResultSet **rs** = **null**;

**try** {

**String** **query** = "select \* from student1 where sno=?";

ps = connection.prepareStatement(query);

ps.setInt(1,sno);

rs = ps.executeQuery();

**while** (rs.next()) {

**System**.***out***.println("S.No: " + rs.getInt("sno"));

**System**.***out***.println("Name: " + rs.getString("name"));

**System**.***out***.println("Marks: " + rs.getInt("mark"));

**System**.***out***.println("City: "+rs.getString("city"));

**System**.***out***.println("Extra: "+rs.getString("extra"));

**System**.***out***.println("-----------------------------");

}

}

**catch** (**Exception** **e**) {

**System**.***out***.println(e);

}

}

}