

## Experiment - 7

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**Subject: Project Based Learning with Java**

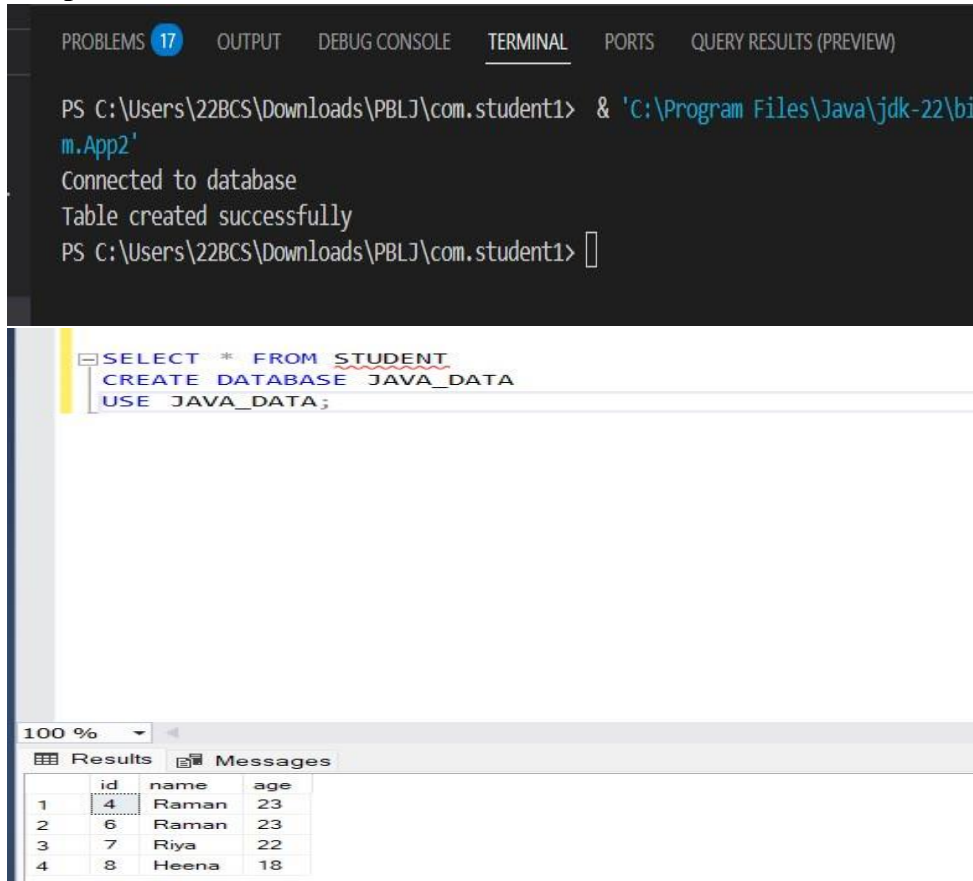
**Subject Code:22CSH-359**

1. **Aim:** Create Java applications with JDBC for database connectivity, CRUD operations, and MVC architecture.
2. **Objective:** To create Java applications with JDBC for database connectivity, CRUD operations, and MVC architecture.
3. **Code:**

```
package com;
import java.sql.*;
public class App2 {
    public static void main(String[] args) {
        String url= "jdbc:sqlserver:
//localhost:1433;
databaseName=JAVA_DATA;
encrypt=true;trustServer Certificate=true;
integratedSecurity=true";
// Establish connection
String username = "hp\\22BCS";
String password = "1122";
try {
    Connection conn=DriverManager.getConnection(url, username, password);
    System.out.println("Connected to database");
    //Create the statement
    Statement stmt=conn.createStatement();
    //create table
    String newtable="create table student("+ "id int IDENTITY(1,1) PRIMARY KEY," + "name
varchar(50)," + "age int)";
    /stmt.executeUpdate(newtable);
    System.out.println("Table created successfully");
    //insert table
    String insertquery="insert into student(name,age) VALUES ('sukh',21), ('Raman',23), ('Riya',22),
('Heena',18)";
    stmt.executeUpdate(insertquery);
    //update data
    String updatequery="update student set age=20 where name='Sukh' ";
    stmt.executeUpdate(updatequery);
    //delete data
```

```
String deletequery="delete from student where name='sukh'";
stmt.executeUpdate(deletequery);
//read data
String selectQuery="select * from student";      ResultSet
rs=stmt.executeQuery(selectQuery);      while(rs.next()){
    System.out.println("ID:"+rs.getInt("id")+"name:"+rs.getString("name")+"age:"+rs.getInt("age"));
}
} catch(SQLException e){
    System.out.println(e);
}
}
}
```

#### 4. Output:



PROBLEMS 17 OUTPUT DEBUG CONSOLE TERMINAL PORTS QUERY RESULTS (PREVIEW)

```
PS C:\Users\22BCS\Downloads\PBLJ\com.student1> & 'C:\Program Files\Java\jdk-22\bin\java.exe' -cp 'C:\Program Files\Java\jdk-22\bin\java.exe' m.App2'
Connected to database
Table created successfully
PS C:\Users\22BCS\Downloads\PBLJ\com.student1> 
```

```
SELECT * FROM STUDENT
CREATE DATABASE JAVA_DATA
USE JAVA_DATA;
```

	id	name	age
1	4	Raman	23
2	6	Raman	23
3	7	Riya	22
4	8	Heena	18

#### 5. Learning Outcomes:

- Learn how to establish a connection between a Java application and a relational database using JDBC.
- Gain proficiency in executing SQL queries, retrieving results, and handling database transactions effectively.
- Implement Create, Read, Update, and Delete (CRUD) functionalities using JDBC.
- Apply best practices for handling exceptions, managing connections, and optimizing database interactions.



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