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CRUD OPERATIONS

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CRUD OPERATIONS:

1.You need to create a table named employees in the database to store employee information. Write a Java program using JDBC to create the employees table with the following columns:

id of type INT, which is the primary key and auto-incremented.

first_name of type VARCHAR(50) to store the employee's first name.

last_name of type VARCHAR(50) to store the employee's last name.

age of type INT to store the employee's age.

CREATING EMPLOYEE TABLE:

```java
package com.satya.jdbc;
import java.sql.*;
public class CreateEmployeesTable{
    public static void main(String[] args) throws Exception {
        Class.forName("com.mysql.cj.jdbc.Driver");
        //create a new table under the JdbcCrud database

         String sql_query = "CREATE TABLE employees (" +
                 "id INT AUTO_INCREMENT PRIMARY KEY, " +
                 "first_name VARCHAR(50), " +
                 "last_name VARCHAR(50), " +
                 "age INT)";
        Connection con=DriverManager.getConnection("jdbc:mysql://localhost:3306/praticemysql","root","root");

        Statement st = con.createStatement();
        // to create a table with columns
        st.executeUpdate(sql_query);
        // to my refernace
        System.out.println("Table created successfully");
        con.close();

    }
}
```

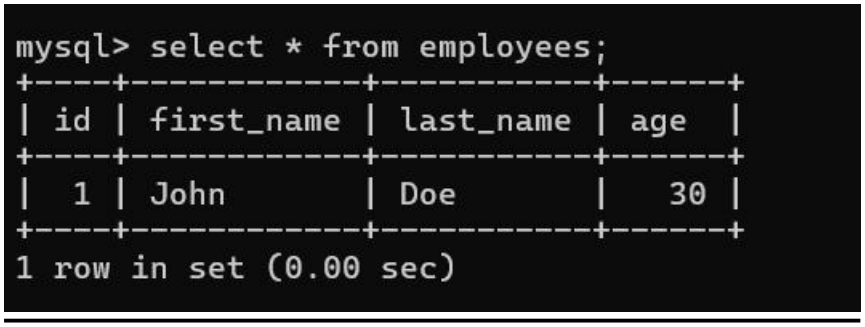
OUTPUT:

```
<terminated> CreateEmployeesTable [Java Application
Sat Jul 27 10:21:23 IST 2024 WARN
Table created successfully
```

Q.2 The employees table in the database has the following columns: id, first_name, last_name, and age. Write a Java program using JDBC to insert a new employee record into the table. The employee's first name is "John," last name is "Doe," and age is 30.

INSERTING INTO EMPLOYEE TABLE:

```
package com.satya.jdbc;
import java.sql.*;
public class InsertEmployee {
    public static void main(String[] args) throws Exception{

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

        String jdbc_url = "jdbc:mysql://localhost:3306/praticemysql";
        String user = "root";
        String pwd="root";
        Connection con=DriverManager.getConnection(jdbc_url,user,pwd);
//      Connection con=DriverManager.getConnection("jdbc:mysql://localhost:3306/jdbccruddb?autoReconnect=true&
        Statement st = con.createStatement();
        //inserting the records:
        String insert_data = "insert into employees values('John','Doe',30)";
        st.executeUpdate(insert_data);

        // optional
        int updateCount_row = st.executeUpdate(insert_data);
        System.out.println("the number rows inserted :"+updateCount_row);

        con.close();
    }
}
```



Q.3 Write a Java program that updates the age and designation of an employee with the given name. Assume that the connection to the database is established using the provided url, username, and password. The program should update the age and designation columns for the employee specified by their name.

UPDATING THE EMPLOYEE TABLE

MyDemo.java | CreateEmployeesTable.java | InsertEmployee.java | UpdateEmployee.java | FetchEmpData.java | DeleteEmp.java

```java
package com.satya.jdbc;
import java.sql.*;
public class UpdateEmployee {
    public static void main(String[] args) throws Exception{
          Class.forName("com.mysql.cj.jdbc.Driver");

          Connection con=DriverManager.getConnection("jdbc:mysql://localhost:3306/praticemysql?autoReconnect=true&useSSL=false","root","rc
            Statement st = con.createStatement();

            String update_query = "update employees set age=35 where first_name= 'John'";

            System.out.println("Updating the records done successfully");
            int updateCount_row = st.executeUpdate(update_query);
            System.out.println("the number rows updated :"+updateCount_row);

            con.close();

    }
}
```

```
mysql> select * from employees;
+----+------------+-----------+------+
| id | first_name | last_name | age  |
+----+------------+-----------+------+
|  1 | John       | Doe       |   35 |
+----+------------+-----------+------+
1 row in set (0.00 sec)
```

```
<terminated> UpdateEmployee [Java Application] C:\Program Files\Java\jdk-21\bin\ja
Updating the records done successfully
the number rows updated :1
```

Q.4 Write Java program fetching data from emp table query using jdbc with mysql.

```java
package com.satya.jdbc;

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

public class FetchEmpData {
    public static void main(String[] args) {
        try {
            // Step 1: Load the JDBC driver
            Class.forName("com.mysql.cj.jdbc.Driver");

            // Step 2: Establish the connection
            Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/praticemysql?autoReconnect=true&useSSL=false", "root

            // Step 3: Create a statement
            Statement st = con.createStatement();

            // Step 4: Execute a query
            ResultSet rs = st.executeQuery("SELECT * FROM employees");

            // Step 5: Process the result set
            while (rs.next()) {
                // Replace getInt/getString methods with appropriate ones as per your table's data types
                int id = rs.getInt("id"); // Replace with your column name
                String first_name = rs.getString("first_name"); // Replace with your column name
                String last_name = rs.getString("last_name"); // Replace with your column name
                int age = rs.getInt("age"); // Replace with your column name

                System.out.println("ID: " + id);
                System.out.println("First Name: " + first name);
```

```java
            while (rs.next()) {
                // Replace getInt/getString methods with appropriate ones as per your table's data types
                int id = rs.getInt("id"); // Replace with your column name
                String first_name = rs.getString("first_name"); // Replace with your column name
                String last_name = rs.getString("last_name"); // Replace with your column name
                int age = rs.getInt("age"); // Replace with your column name

                System.out.println("ID: " + id);
                System.out.println("First Name: " + first_name);
                System.out.println("Last Name: " + last_name);
                System.out.println("Age: " + age);
                System.out.println("---------------------------");
            }

            // Step 6: Close the resources
            rs.close();
            st.close();
            con.close();
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
```

OUTPUT:

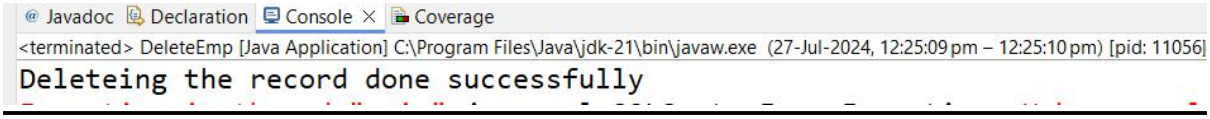
```
mysql> select * from employees;
+----+------------+-----------+------+
| id | first_name | last_name | age  |
+----+------------+-----------+------+
|  1 | John       | Doe       |   35 |
+----+------------+-----------+------+
1 row in set (0.00 sec)
```

Q.5 Write Java program for deleting data from emp table using jdbc with mysql.

MyDemo.java | CreateEmployeesTable.java | InsertEmployee.java | UpdateEmployee.java | FetchEmpData.java | DeleteEmp.java

```java
package com.satya.jdbc;
import java.sql.*;
//import java.sql.Connection;
//import java.sql.DriverManager;
//import java.sql.Statement;
public class DeleteEmp {
    public static void main(String[] args) throws Exception{
        Class.forName("com.mysql.cj.jdbc.Driver");

        Connection con=DriverManager.getConnection("jdbc:mysql://localhost:3306/praticemysql?autoReconnect=true&useSSL=false","root","rc

          Statement st = con.createStatement();

          //deleting the records

          String delete_record = "delete from employees where eno=1";

          System.out.println("Deleteing the record done successfully");
          int delete_record_row = st.executeUpdate(delete_record);
          System.out.println("the number rows deleted :"+delete_record_row);

          con.close();
    }
}
```

OUTPUT:


Javadoc
Declaration
Console
Coverage
<terminated> DeleteEmp [Java Application] C:\Program Files\Java\jdk-21\bin\javaw.exe (27-Jul-2024, 12:25:09 pm – 12:25:10 pm) [pid: 11056]
Deleteing the record done successfully