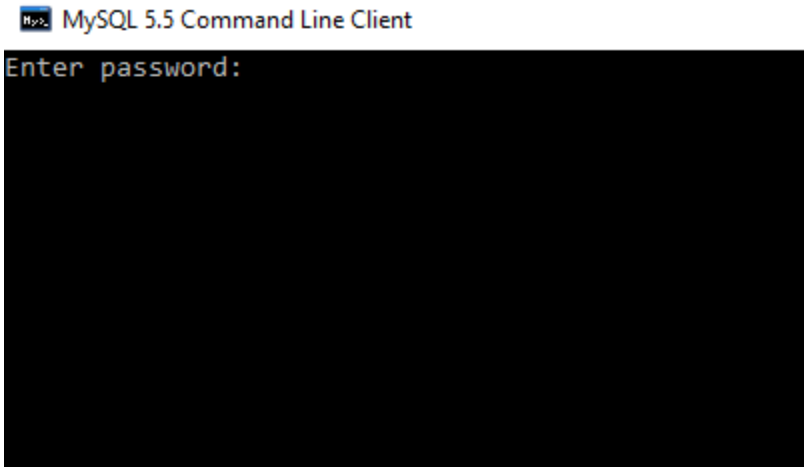
Steps to create a table in MYSQL:

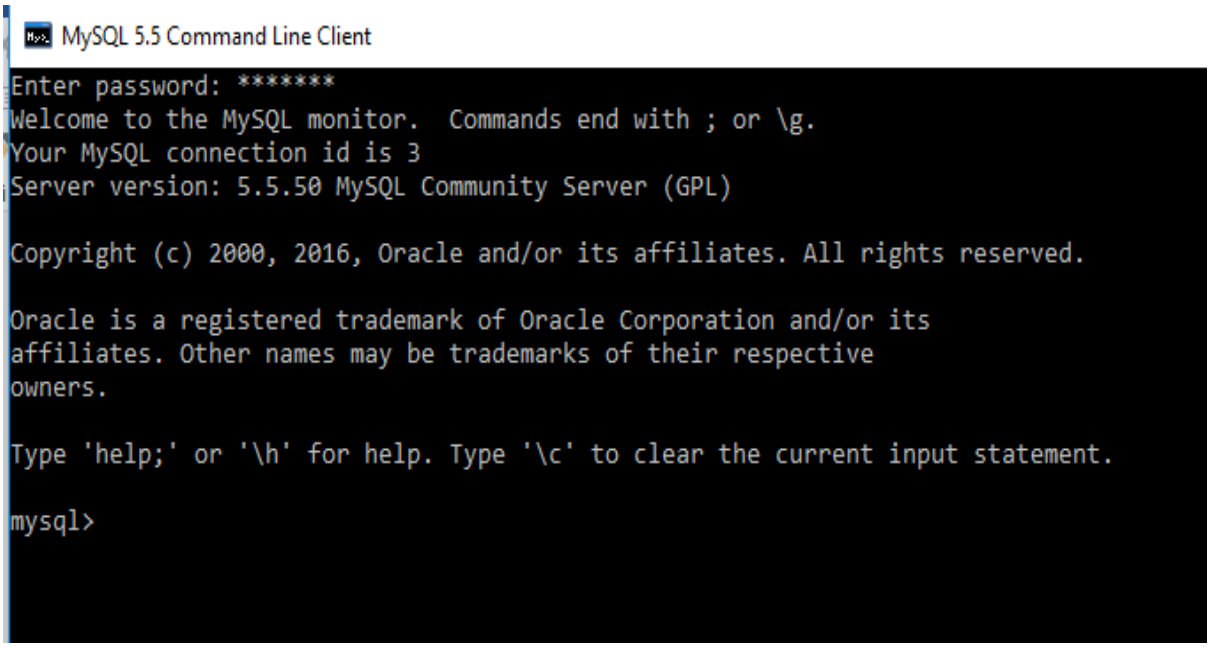
1. Start the Server (double-click on mysqld.exe).
2. Start MySQL CLI client.
3. Enter the Password.
4. Create a Database.
5. Create a Table.

Double-click on the **MySQL CLI** icon to open MYSQL Command Line Client:



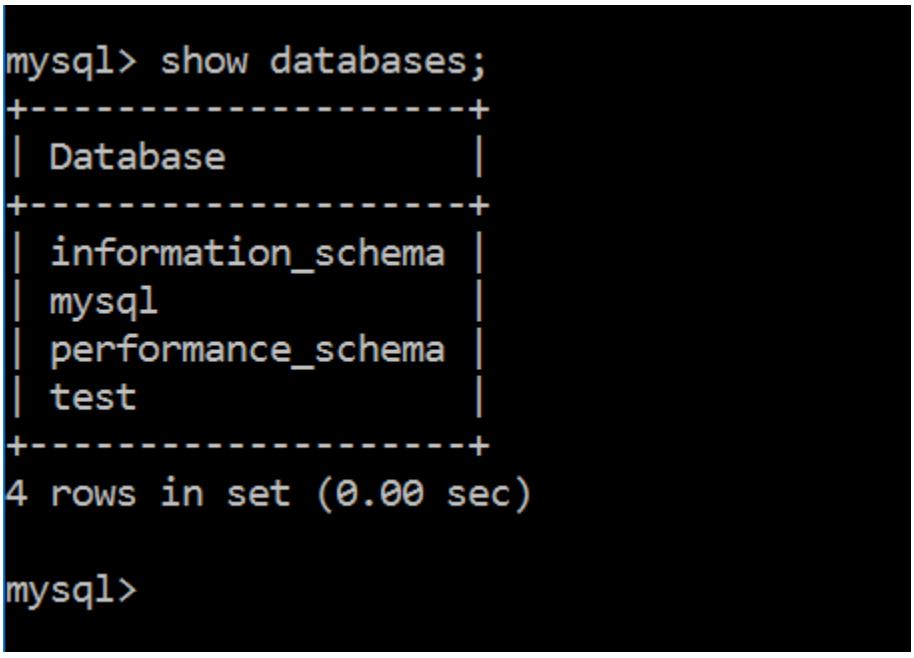
Enter password:

If you have changed your password during installation, enter your new password; otherwise, the default password is the **root.**



Run the following query on MySQL Command Line Client to show the list of databases:

mysql> show databases;



Create your own Database:

```
mysql> create database jdbc;
Query OK, 1 row affected (0.00 sec)

mysql> use jdbc;
Database changed
mysql>
```

To create a table in your Database:

create table emp1(empId int primary key auto_increment, name varchar(50), salary float(10,3));

```
mysql> create table emp1(empId int primary key auto_increment, name varchar(50),salary float(10,3));
Query OK, 0 rows affected (0.16 sec)
```

To show tables:

```
mysql> show tables;
+----------------+
| Tables_in_jdbc |
+----------------+
| emp            |
| emp1           |
+----------------+
```

To insert a row in the table:

```
mysql> insert into emp(name,salary) value('deepak',75000.25);
Query OK, 1 row affected (0.14 sec)

mysql> insert into emp(name,salary) value('rohan',65000.000);
Query OK, 1 row affected (0.08 sec)

mysql> insert into emp(name,salary) value('aditi',87000.345);
Query OK, 1 row affected (0.08 sec)
```

To display table records:

select * from emp;

```
mysql> select * from emp;
+-------+--------+-----------+
| empId | name   | salary    |
+-------+--------+-----------+
|     1 | deepak | 75000.250 |
|     2 | rohan  | 65000.000 |
|     3 | aditi  | 87000.344 |
+-------+--------+-----------+
3 rows in set (0.05 sec)
```

To display specific record/s:

```
mysql> select empId from emp;
+-------+
| empId |
+-------+
|     1 |
|     2 |
|     3 |
+-------+
3 rows in set (0.00 sec)

mysql> select empId, name from emp;
+-------+--------+
| empId | name   |
+-------+--------+
|     1 | deepak |
|     2 | rohan  |
|     3 | aditi  |
+-------+--------+
3 rows in set (0.00 sec)
```

```
mysql> select empId from emp where empId =2;
+-------+
| empId |
+-------+
|     2 |
+-------+
1 row in set (0.00 sec)

mysql> select empId,name from emp where empId=3;
+-------+-------+
| empId | name  |
+-------+-------+
|     3 | aditi |
+-------+-------+
1 row in set (0.00 sec)
```

Through the above steps, we have created our database(jdbc) and table(emp).

Now we will create our Java application (JDBC Program) to communicate (insert, delete, etc.) with the above database.

TestJDBC.java

```
import java.sql.*;
class TestJDBC{
                        public static void main(String[] args) throws Exception
                        {
                         //1. Collect Database and Driver Info
                         String driverClassName = "com.mysql.jdbc.Driver";

                         String url="jdbc:mysql://localhost/jdbc";
                         String user="root";
                         String pwd= "saurabh"; //by default it is root

                         //2. Load JDBC Driver / Register a Driver
                         Class.forName(driverClassName).newInstance();

                         //3. Open a Connection
                         Connection con = DriverManager.getConnection(url,user,pwd);
                         System.out.println("con---->"+con);

                         //4. Create Statement and execute sql
                         Statement st = con.createStatement();
                         String sql= "INSERT INTO emp(name,salary)
VALUE('Aman',256856.05)" ;
                         st.executeUpdate(sql);

                         //5. close st and con : use finally block
                         st.close();
                         con.close();
                         System.out.println("---SQL executed successfully---");
                        }
}
```

Save it: D:\Programs\TestJDBC.java

Compile it. javac TestJDBC.java

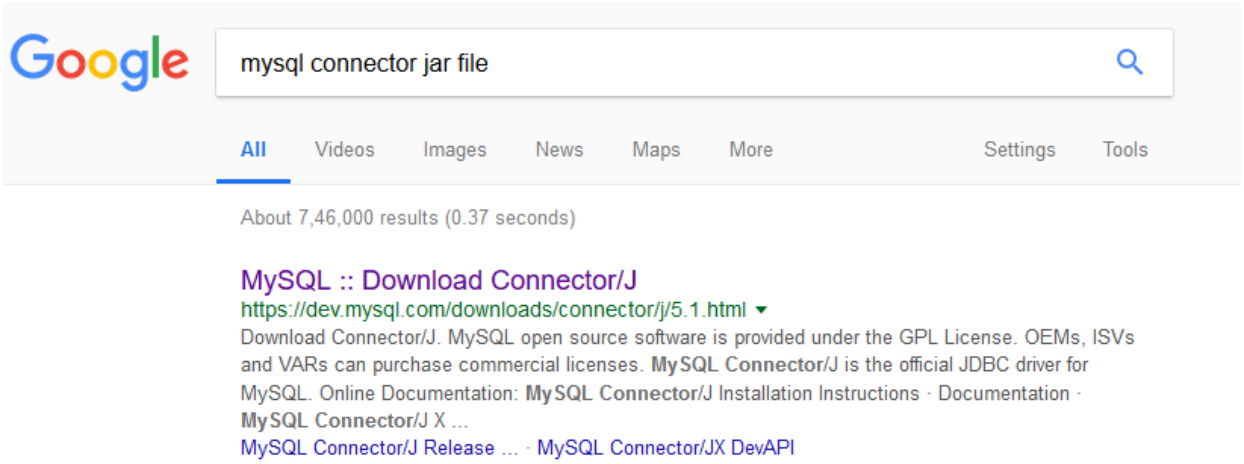
Execute it: java TestJDBC---show the following run time error.

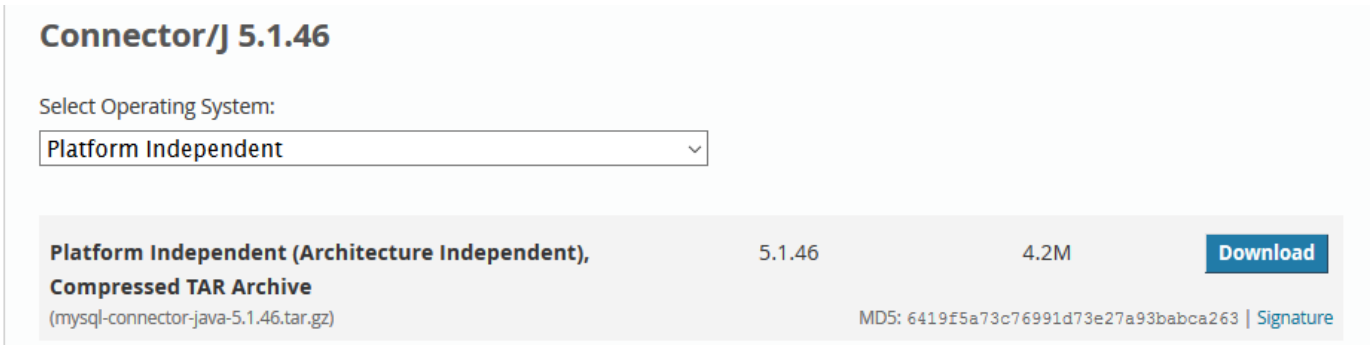
```
D:\1 Java\Programs>javac TestJDBC.java

D:\1 Java\Programs>java TestJDBC
Exception in thread "main" java.lang.ClassNotFoundException: com.mysql.jdbc.Driver
        at java.net.URLClassLoader.findClass(URLClassLoader.java:381)
        at java.lang.ClassLoader.loadClass(ClassLoader.java:424)
        at sun.misc.Launcher$AppClassLoader.loadClass(Launcher.java:335)
        at java.lang.ClassLoader.loadClass(ClassLoader.java:357)
        at java.lang.Class.forName0(Native Method)
        at java.lang.Class.forName(Class.java:264)
        at TestJDBC.main(TestJDBC.java:12)
```

Problem: This means that the JVM is not able to find the drivers, so we need to download the driver and save it to a particular location.

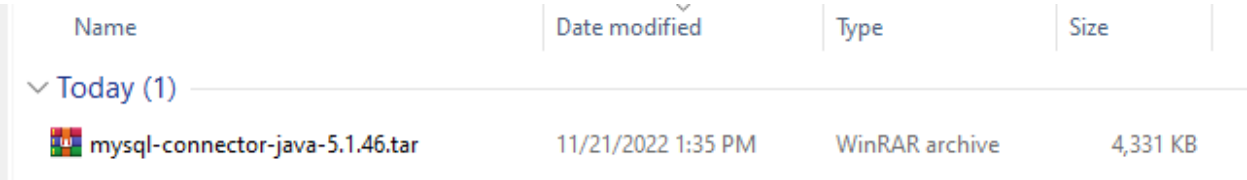
Solution:

1. Download mysql connector jar file

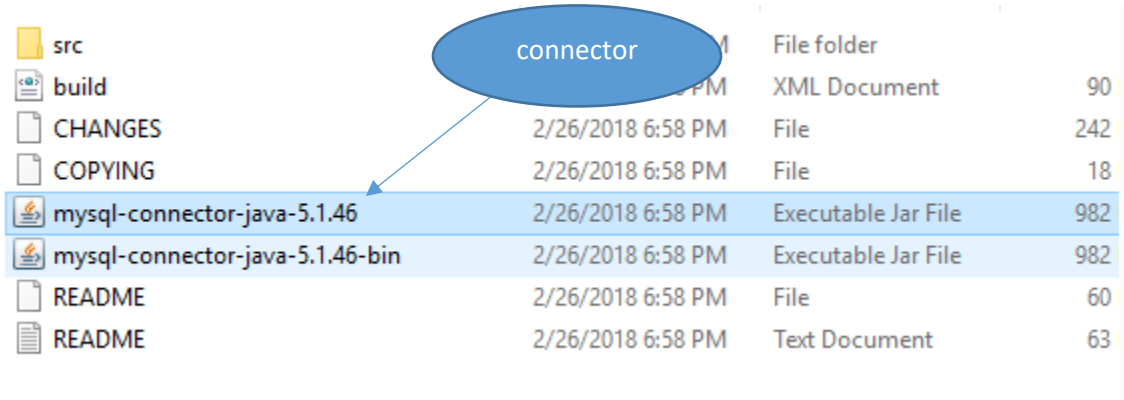




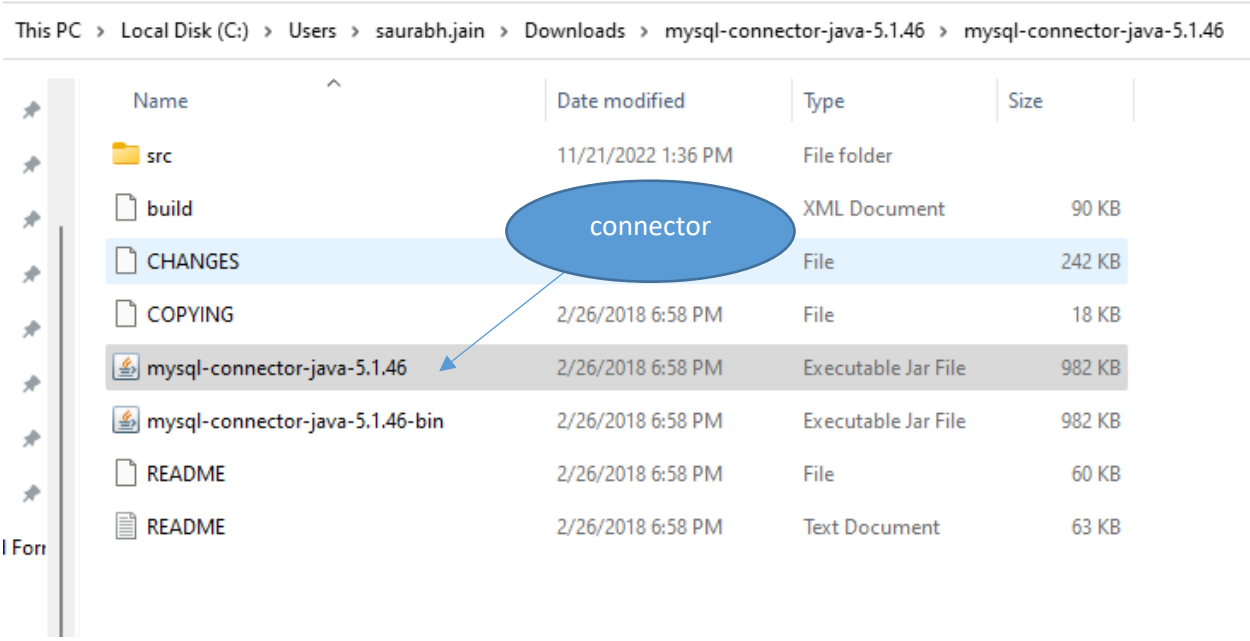
https://downloads.mysql.com/archives/c-j/



2. Extract the downloaded file:



OR



3. Copy this connector and paste it into the place where you saved the TestJDBC.java program
4. Set the classpath to the place where the connector is placed.

Temporary:

D:\Programs>SET CLASSPATH=D:\Programs\mysql-connector-java-5.1.46.jar;

Permanent:

Go to the environment variable, then click on the new tab. In variable name, write **classpath** and in variable value, paste the path to the mysqlconnector.jar file by appending mysqlconnector.jar;.; as

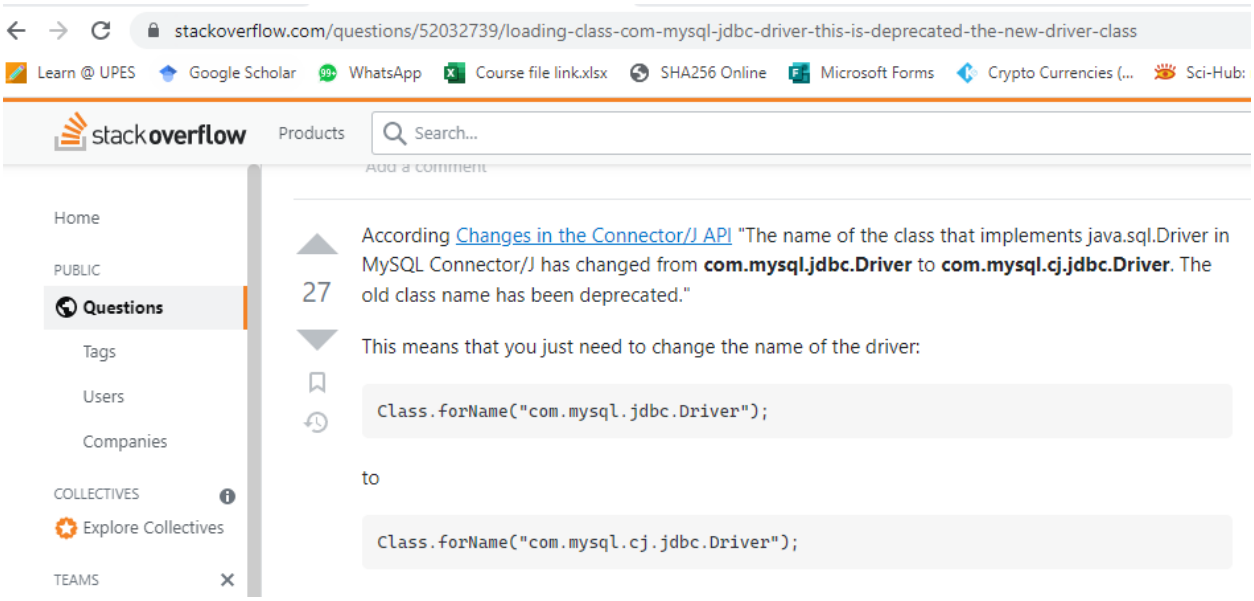
```
D:\1 Java\Programs>SET CLASSPATH=D:\1 Java\Programs\mysql-connector-java-5.1.46.jar;

D:\1 Java\Programs>javac TestJDBC.java

D:\1 Java\Programs>java TestJDBC
con---->com.mysql.jdbc.JDBC4Connection@6267c3bb
---SQL executed successfully---
```

Note:

At the time of execution, it may show the following message:

```
E:\myjava500063451>java Jdbc_Connectivity
Loading class `com.mysql.jdbc.Driver'. This is deprecated. The new driver class i
s `com.mysql.cj.jdbc.Driver'. The driver is automatically registered via the SPI
and manual loading of the driver class is generally unnecessary.
this is query is executed successfully re....
```

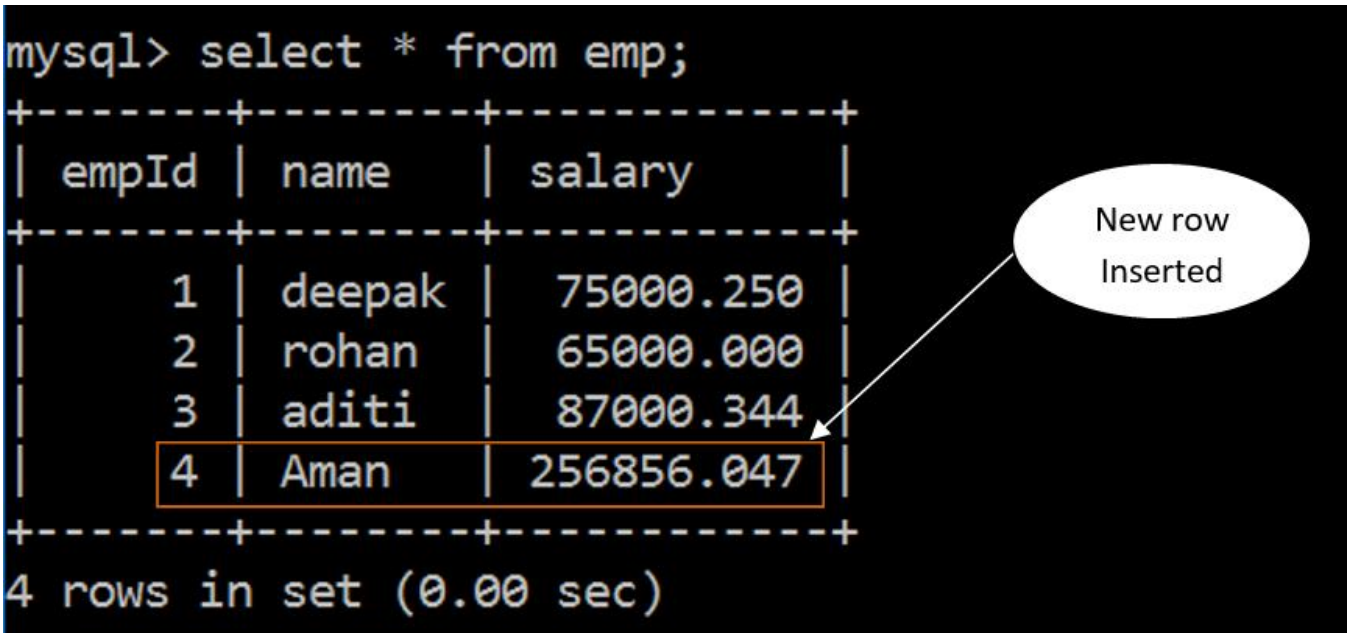
Solution:



change the name of driverClassName:

```
public static void main(String[] args) throws Exception
{
  //1. Collect Database and Driver Info
  //String driverClassName = "com.mysql.jdbc.Driver";
  String driverClassName = "com.mysql.cj.jdbc.Driver";
```

After successfully executing the TestJDBC.java program, another row will be inserted into our Emp table.


mysql> select * from emp;
+-------+--------+------------+
| empId | name | salary |
+-------+--------+------------+
1	deepak	75000.250
2	rohan	65000.000
3	aditi	87000.344
4	Aman	256856.047
+-------+--------+------------+
4 rows in set (0.00 sec)
New row
Inserted