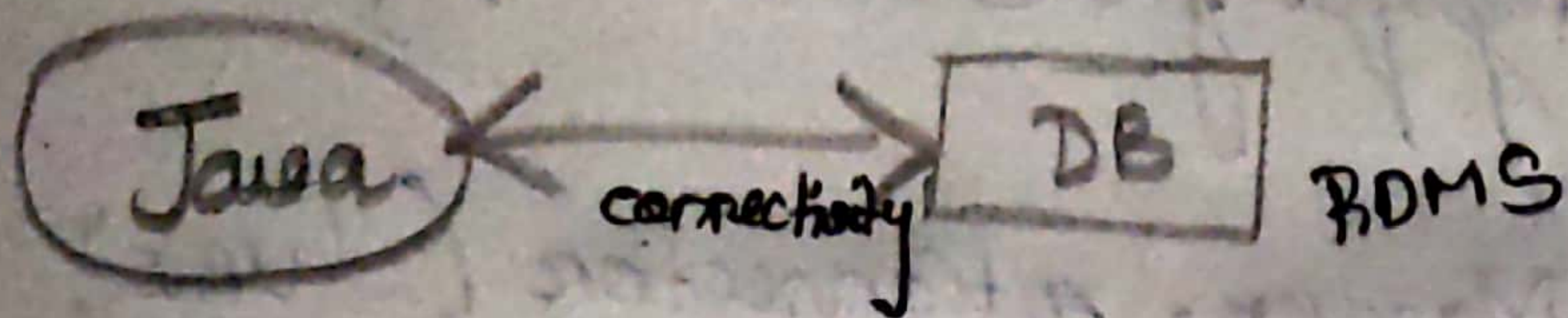


JDBC

(Java Database Connectivity)



Steps for connectivity :-

1. import the package → (java.sql.*)
2. Load & Register the Driver → a) load → the driver
b) Register the Driver
3. Establish the connection → connection
4. create the statement → `forName("com.mysql.jdbc.Driver")`
5. execute the query
6. Process the Result
7. close

⇒ `forName` is a method used to load the driver.

Three types of statements :-

i) statement

ii) Prepared statement

iii) callable statement

⇒ The driver for mysql is `com.mysql.jdbc.Driver`

⇒ `mysql.connector` is needed to download.

when we have prepared query we can use this when we need to initialize only.

⇒ `getConnection` is a method which gives the objects of a connection.

* `getConnection("URL", "UN", "PW");`

⇒ `Connection` is a interface; we can't able to create object; we have `getConnection` method which gives the `connection` interface objects.


```

① import java.sql.*;
    main()
    {

```

rollno	name
1	Vishal
2	Jagan
3	Raj

```

② class.forName("com.mysql.jdbc.Driver");

```

```

③ Connection con = DriverManager.getConnection("url", "UN", "PW");

```

```

④ Statement st = con.createStatement();

```

```

⑤ Result res = st.executeQuery("Select * from student");

```

```

⑥ while (res.next()) {
    System.out.println(res.getInt(1) + " " + res.getString(2));
}

```

Java Database Connectivity Practical :-

```

import java.sql;

```

```

public class DemoClass
{

```

```

    public static void main (String [] args) throws Exception
    {

```

```

        String url = "jdbc:mysql://localhost:3306/aliens";

```

```

        String username = "root";

```

```

        String password = "";

```

```

        String query = "Select username from student where word=3";

```

To print the particular data.


```

class.forName("com.mysql.jdbc.Driver");
Connection con = DriverManager.getConnection(url, username, pass);
Statement st = con.createStatement();
ResultSet rs = st.executeQuery(query);
rs.next();
String name = rs.getString("username");
System.out.println(name);
st.close();
con.close();
}
}

```

→ we want the data with a column name username.

```

use alias;
select * from student;
insert into student values
(3, 'rahul');

```

To print all value :-

```

String query = "Select * from Student";
ResultSet rs = st.executeQuery(query);
String userData = "";
while (rs.next()) {
    userData = rs.getString(1) + " : " + rs.getString(2);
    System.out.println(userData);
}
}

```


To insert value to the database :-

```
String query = "insert into Student values (4, 'Mahini');"
```

```
Statement st = con.createStatement();
```

```
int count = st.executeUpdate(query);
```

```
System.out.println(count + " row's affected");
```

O/P :-

another way Prepared Statement using :-

1 row's affected

If we have id & name.

```
{
```

```
int userid = 6;
```

```
String username = "Dipali";
```

```
String query = "insert into student values (?, ?)";
```

```
PreparedStatement st = con.prepareStatement(query);
```

```
st.setInt(1, userid);
```

```
st.setString(2, username);
```

```
int count = st.executeUpdate();
```

```
System.out.println(count + " row's affected");
```

we initialize query
in preparedStatement
so in update
we don't need
it.

Java Database Connectivity with DAO (Data as a Object) :-

```
public class JdbcDao {
```

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

```
        StudentDao dao = new StudentDao();  
        Student s1 = dao.getStudent(12);  
        System.out.println(s1.sname);
```

```
    }
```

```
}
```

```
class StudentDao {
```

```
    public Student getStudent (int rollno) {
```

```
        try {
```

```
            String query = "select sname from student where  
                             rollno = " + rollno;
```

```
            Student s = new Student();
```

```
            s.rollno = rollno;
```

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

```
            Connection con = DriverManager.getConnection
```

```
                ("jdbc:mysql://localhost:3306/abc",
```

```
                "root", "0");
```

```
            Statement st = con.createStatement();
```

```
            ResultSet res = st.executeQuery(query);
```

```
            res.next();
```

```
            String name = res.getString(1);
```

```
            s.sname = name;
```

```
            return s;
```

```
        } catch (Exception ex) {
```

```
            System.out.println(ex);
```

```
        }
```

```
        return null;
```

```
}
```

```
}
```

```
class Student
```

```
{
```

```
    int rollno;
```

```
    String sname;
```

```
}
```