Lab Assignment No. 3 RMI application in Database systems:

Submission Deadline: 6th Feb 2021 by 8:00 p.m. on Quanta LMS course webpage

In the previous assignment, we created a sample RMI application where a client invokes a method on the server end.

In this assignment, we will see how a client program can retrieve the records of a table in MySQL database residing on the server.

System requirements: Install MySQL in Ubuntu or you may try with online method.

Steps:

1. Create a table named **student_data** in the database **details** as shown below.

```
+----+--------+--------+------------+---------------------+
| ID | NAME   | BRANCH | PERCENTAGE | EMAIL               |
+----+--------+--------+------------+---------------------+
|  1 | Ram    | IT     |         85 | ram123@gmail.com    |
|  2 | Rahim  | EEE    |         95 | rahim123@gmail.com  |
|  3 | Robert | ECE    |         90 | robert123@gmail.com |
+----+--------+--------+------------+---------------------+
```

2. Create a Student class with setter and getter methods as shown below.

```
public int getId() {
      return id;
   }
public void setID(int id) {
      this.id = id;
   }
```

3. Define a remote interface named **Hello** with a method named **getStudents ()** in it. This method returns a list that contains the object of the class **Student**.

4. Create a class and implement the above created **interface.** Basically, implement the **getStudents()** method of the **Remote interface**. When you invoke this method, it retrieves the records of a table named **student_data**. Sets these values to the Student class using its setter methods, adds it to a list object, and returns that list.

5. Server Program

An RMI server program should implement the remote interface or extend the implementation class. Here, we should create a remote object and bind it to the **RMI registry**.

Here, extend the above-created class, create a remote object and register it to the RMI registry with the bind name ***hello***.

6. Client Program

Here, fetching the remote object and invoke the method named **getStudents()**. It retrieves the records of the table from the list object and displays them.

Steps to Run the Example

Following are the steps to run our RMI Example.

Step 1 − Open the folder where you have stored all the programs and compile all the Java files as shown below.

```
Javac *.java
```

Step 2 − Start the **rmi** registry using the following command.

```
start rmiregistry
```

Step 3 − Run the server class file as shown below.

```
Java Server
```

Step 4 − Run the client class file as shown below.

```
java Client
```

Submission method: submit the zip file of all the programming files. Rename with <IDNO_Assignment3> and then upload on the link provided in course webpage on Quanta LMS. **Please note the deadline is 6th Feb 2021 by 8 p.m.**