Assignment 2: Part 1.2 - Horizontal Fragmentation Programs

Server-Side Program for Horizontal Fragmentation:

```
import java.util.*;
import java.sql.*;
import java.net.*;
import java.io.*;
public class server
{
public static void main(String args[])
{
DataInputStream dis;
DataOutputStream dos;
InputStream is;
OutputStream os;
Scanner s1=new Scanner(System.in);
try
{
Class.forName("com.mysql.jdbc.Driver");
Connection con=DriverManager.getConnection("jdbc:mysql://localhost/employee","root","root");
Statement st=con.createStatement();
ServerSocket s=new ServerSocket(1522);
Socket s2=s.accept();
is=s2.getInputStream();
os=s2.getOutputStream();
dis=new DataInputStream(is);
dos=new DataOutputStream(os);
String name;
int id;
int salary;
String city;
int count=0;
String rw=new String(dis.readUTF());
System.out.println(rw);
ResultSet rs1=st.executeQuery(rw);
while(rs1.next())
{
id=rs1.getInt(1);
name=rs1.getString(2);
salary=rs1.getInt(3);
city=rs1.getString(4);
System.out.println(id+"\t"+name+"\t"+salary+"\t"+city);
count++;
}
dos.writeInt(count);
ResultSet rs2=st.executeQuery(rw);
while(rs2.next())
{
id=rs2.getInt(1);
```

```
name=rs2.getString(2);
salary=rs2.getInt(3);
city=rs2.getString(4);
dos.writeInt(id);
dos.writeUTF(name);
dos.writeInt(salary);
dos.writeUTF(city);
}
}
catch(Exception e)
{
System.out.println(e);
}
}
}
```

Output:

```
select * from emp_server where emp_city="Mumbai";
100     Sohail  65000  Mumbai
102     Rahul   35000  Mumbai
104     Anuj    10000  Mumbai
```

Client-Side Program for Horizontal Fragmentation:

```
import java.util.*;
import java.sql.*;
import java.net.*;
import java.io.*;
public class client
{
public static void main(String args[])
{
DataInputStream dis;DataOutputStream dos;
InputStream is;OutputStream os;
Statement st,st1,st2,st3;
Scanner s1=new Scanner(System.in);
try
{
Class.forName("com.mysql.jdbc.Driver");
Connection
con=DriverManager.getConnection("jdbc:mysql://localhost/employee","root","root");
st=con.createStatement();
Socket s=new Socket("127.0.0.1",1522);
```

```
is=s.getInputStream();
os=s.getOutputStream();
dis=new DataInputStream(is);
dos=new DataOutputStream(os);
System.out.println("Enter the query");
String rw=s1.nextLine();
dos.writeUTF(rw);
System.out.println("Horizontal fragmentation");
int id;
String name;
int salary;
String city;
int count=dis.readInt();
for(int i=0;i<count;i++)
{
id= dis.readInt();
name=dis.readUTF();
salary= dis.readInt();
city=dis.readUTF();
st.executeUpdate("insert into emp_client values("+id+",'"+name+"',"+salary+",'"+city+"')");
}
ResultSet rs1=st.executeQuery("select * from emp_client");
while(rs1.next())
{
int id1=rs1.getInt(1);
name=rs1.getString(2);
salary=rs1.getInt(3);
city=rs1.getString(4);
System.out.println(id1+"\t"+name+"\t"+salary+"\t"+city);
}
}
catch(Exception e)
{
System.out.println(e);
}
}
}
```

Output:

```
Enter the query
select * from emp_server where emp_city="Mumbai";
Horizontal fragmentation
100     Sohail  65000  Mumbai
102     Rahul   35000  Mumbai
104     Anuj    10000  Mumbai
```