Q.I. Write a program to show JDBC connection with MYSQL and perform the following operations:
Create table Customer with following fields:
Custno
Custame
Custaddress
Phoneno
City
Pincode
Country
a. Insert values
b. Delete values
c. update city name Shimla to Shilong.
d. Show table in the console

Program:

```
package in.jdbccon;



import java.sql.Connection;

import java.sql.DriverManager;

import java.sql.PreparedStatement;

import java.sql.ResultSet;

import java.sql.SQLException;

import java.util.Scanner;



/*Q.1. Write a program to show  JDBC connection with MYSQL and perform the following operations:



Create table Customer with following fields:

Custno

Custame

Custaddress

Phoneno

City

Pincode

Country*/



public class JdbcLabQuiz {




    static int Custno;
```

```
    static String Custname;

    static String Custaddress;

    static String Phoneno;

    static String City;

    static int Pincode;

    static String Country;


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


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


    Scanner sc=new Scanner(System.in);


      try {

       //Registered the Driver class

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


       //Created obj for Connection

       Connection con = DriverManager.getConnection("jdbc:mysql://localhost:3306/my_shop","root","1234");


       System.out.println("Choose what operation want to perform : \n a. Insert values \n b. Delete values \n
c. update city name Shimla to Shilong.e \n d. Show table in the console");

    String choice = sc.next();

    // use Switch case for performing any task

    switch (choice) {

    case "insert":

    insertFunction(sc, con);  // Insert method call

    break;

    case "update":

    updateFunction(sc, con); // Update method call

    break;
```

```
case "delete":
deleteFunction(sc, con); // delete method call
break;
case "display":
displayFunction(con); // Display method call
break;

default:
break;
}
}
  catch (Exception e) {
   e.printStackTrace();
   //

  }
}

// static insert method for insert the data in database table
static void insertFunction(Scanner sc, Connection con) {

// taking inputs
  System.out.print("Enter Customer no.: ");
  Custno=sc.nextInt();
  System.out.print("Enter Customer Name: ");
  Custname=sc.next();
  System.out.print("Enter Customer's Address: ");
  Custaddress=sc.next();
  System.out.print("Enter Customer's Phone Number: ");
  Phoneno=sc.next();
  System.out.print("Enter Customer's City: ");
  City=sc.next();
```

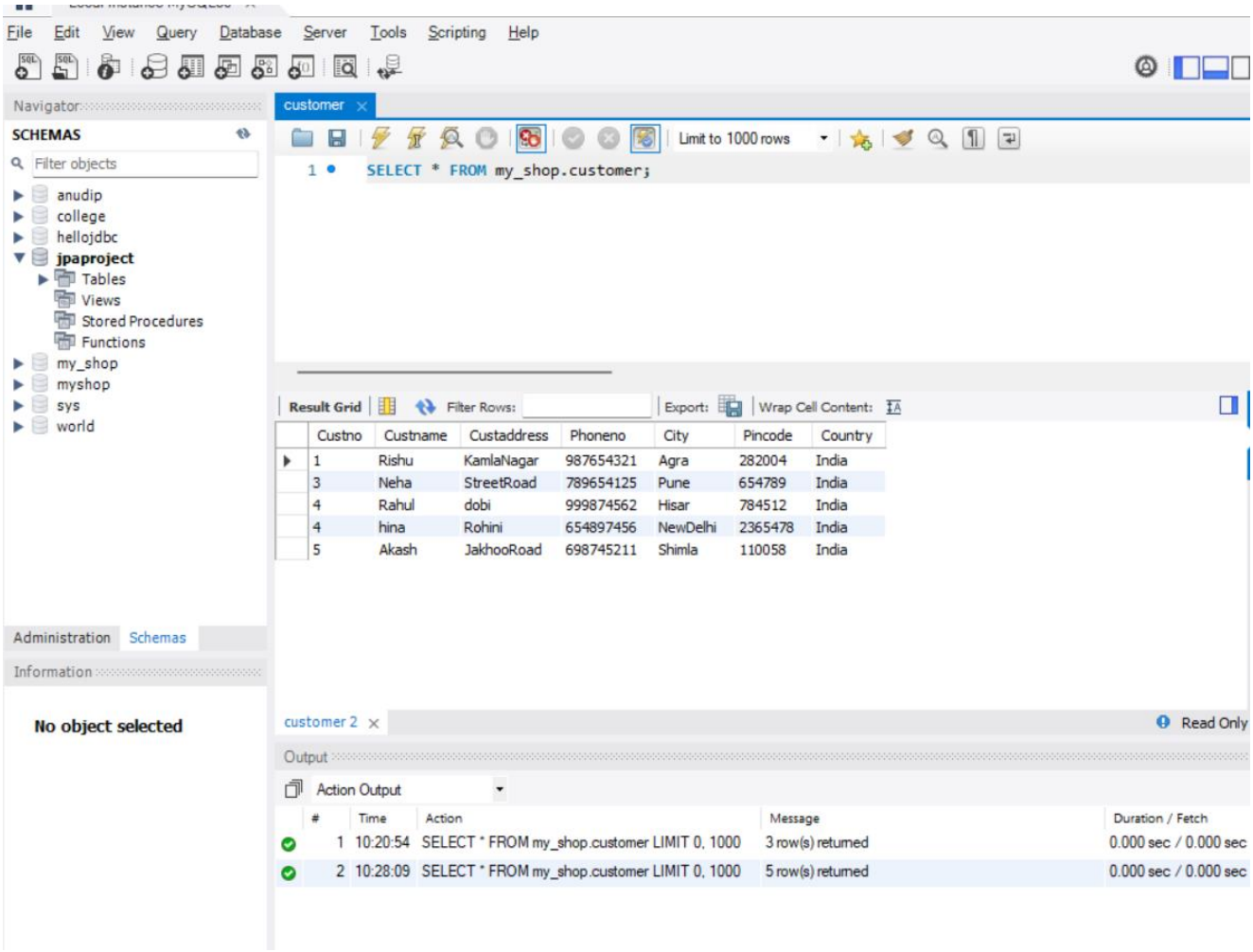
```
  System.out.print("Enter Customer's Pincode: ");
  Pincode=sc.nextInt();
  System.out.print("Enter Customer's country name: ");
  Country=sc.next();

// making string query
String str = "insert into Customer values('" + Custno + "','" + Custname + "','" + Custaddress
+ "','" + Phoneno + "','" + City + "','" + Pincode + "','" + Country + "')";

PreparedStatement ps;
try {
// pass the string into prepare statement for query preparation
ps = con.prepareStatement(str);
//execute the query
ps.executeUpdate();
System.out.println("Insert Successful");
}
catch (SQLException e) {
// TODO Auto-generated catch block
e.printStackTrace();
}
}
// static update method for update the specific data in database table
static void updateFunction(Scanner sc, Connection con) {
//we update the data through old city to new city
System.out.print("enter the New City name : ");
String NewCity = sc.next();
System.out.print("enter the Old City name : ");
City = sc.next();

// making string query
String str = "UPDATE customer SET city ='" + NewCity + "' WHERE city='" + City + "'";
```

```
PreparedStatement ps;
try {
ps = con.prepareStatement(str);
//execute the query
ps.executeUpdate();
System.out.println("Update Successful");
} catch (SQLException e) {
// TODO Auto-generated catch block
e.printStackTrace();
}

}

// static delete method for delete the specific data in database table
static void deleteFunction(Scanner sc, Connection con) {
System.out.print("enter the Customer id : ");
Custno = sc.nextInt();
        // we delete the data through Customer Number
String str = "delete from Customer where Custno = " + Custno + "";

PreparedStatement ps;
try {
ps = con.prepareStatement(str);
//execute the query
ps.executeUpdate();
System.out.println("Delete Successful");
} catch (SQLException e) {
// TODO Auto-generated catch block
e.printStackTrace();
}
}
```

```
// static Display method for showing data
static void displayFunction(Connection c) {

// making string query
String str = "Select * from customer";

PreparedStatement ps;
try {
ps = c.prepareStatement(str);
        // Result set save the all result
ResultSet rs = ps.executeQuery();
        // loop for display one by one
while (rs.next()) {

System.out.println();
Custno = rs.getInt("Custno ");
Custname = rs.getString("Custname ");
Custaddress = rs.getString("Custaddress");
Phoneno = rs.getString("Phoneno");
City = rs.getString("City");
Pincode = rs.getInt("Pincode");
Country = rs.getString("Country");
//print all the data
System.out.println(Custno + "\t" + Custname + "\t" + Custaddress + "\t" + Phoneno + "\t"
+ City + "\t" + Pincode + "\t" + Country);
}
System.out.println(" Display Successful");
} catch (SQLException e) {
e.printStackTrace();
}
}
```

}

Output:


File Edit View Query Database Server Tools Scripting Help
Navigator
SCHEMAS
Filter objects
anudip
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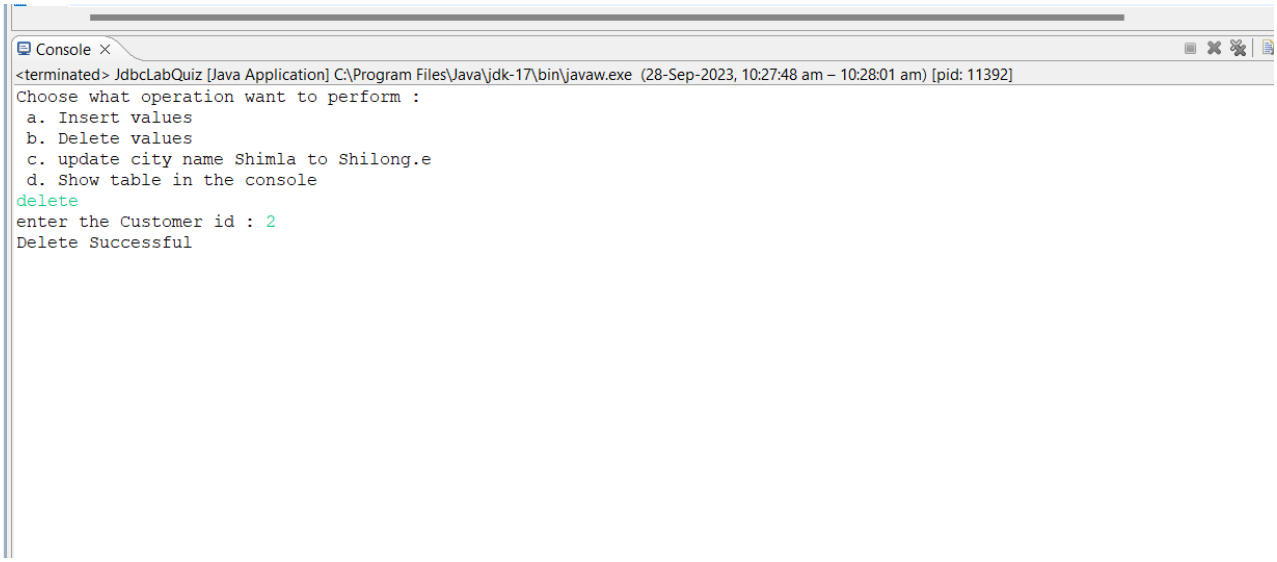
jpaproject
Tables
Views
Stored Procedures
Functions
my_shop
myshop
sys
world
Administration Schemas
Information
No object selected
customer
Limit to 1000 rows
1 SELECT * FROM my_shop.customer;
Result Grid
Filter Rows:
Export:
Wrap Cell Content:
Custno Custname Custaddress Phoneno City Pincode Country
1 Rishu KamlaNagar 987654321 Agra 282004 India
3 Neha StreetRoad 789654125 Pune 654789 India
4 Rahul dobi 999874562 Hisar 784512 India
4 hina Rohini 654897456 NewDelhi 2365478 India
5 Akash JakhooRoad 698745211 Shimla 110058 India
customer 2
Read Only
Output
Action Output
Time Action Message Duration / Fetch
1 10:20:54 SELECT * FROM my_shop.customer LIMIT 0, 1000 3 row(s) returned 0.000 sec / 0.000 sec
2 10:28:09 SELECT * FROM my_shop.customer LIMIT 0, 1000 5 row(s) returned 0.000 sec / 0.000 sec


Console
<terminated> JdbcLabQuiz [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe (28-Sep-2023, 10:27:48 am – 10:28:01 am) [pid: 11392]
Choose what operation want to perform :
a. Insert values
b. Delete values
c. update city name Shimla to Shilong.e
d. Show table in the console
delete
enter the Customer id : 2
Delete Successful

```
1 • SELECT * FROM my_shop.customer;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

Custno	Custname	Custaddress	Phoneno	City	Pincode	Country
1	Rishu	KamlaNagar	987654321	Agra	282004	India
3	Neha	StreetRoad	789654125	Pune	654789	India
4	Rahul	dobi	999874562	Hisar	784512	India
4	hina	Rohini	654897456	NewDelhi	2365478	India
5	Akash	JakhooRoad	698745211	Shimla	110058	India

customer 3 ×

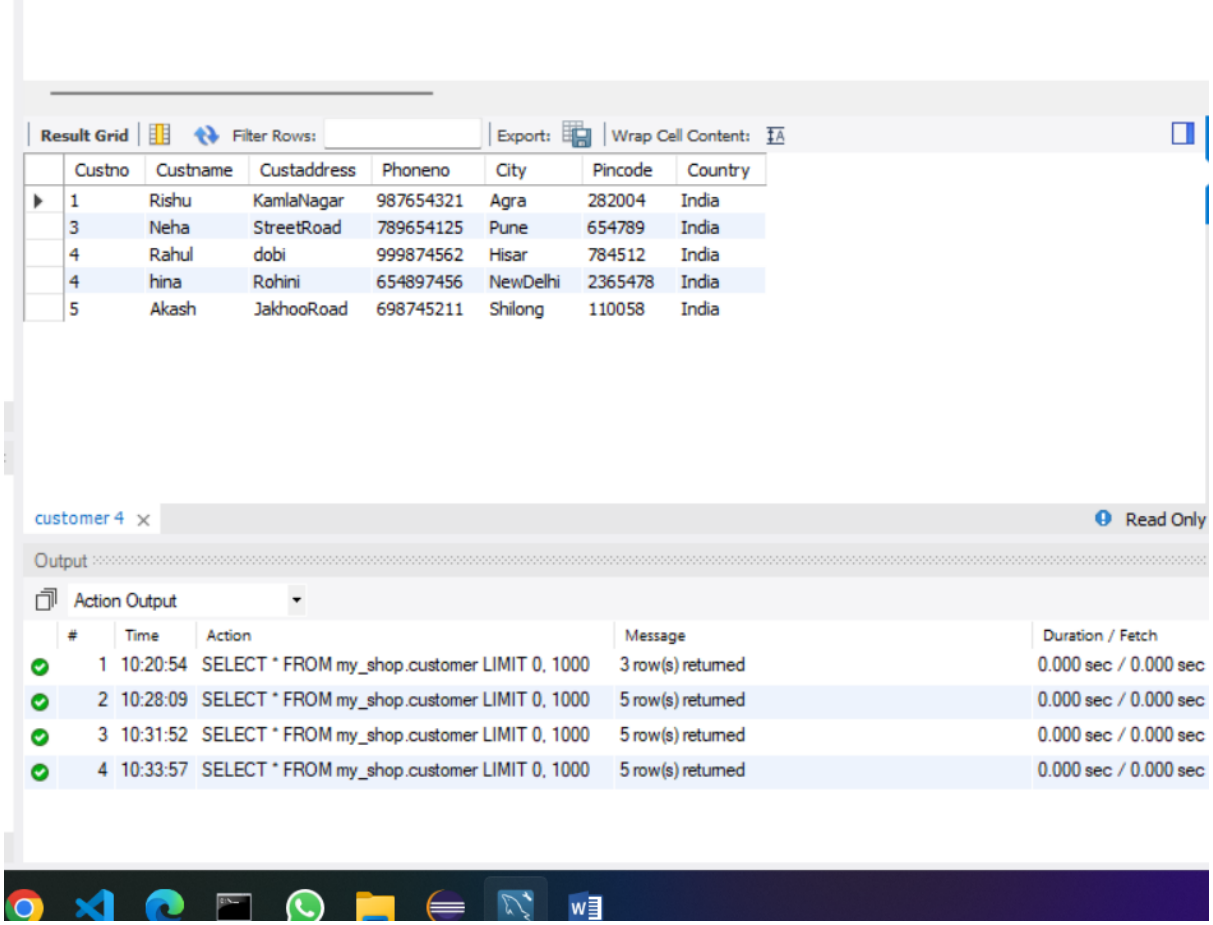
Output

Action Output

#	Time	Action	Message	Duration / Fetch
1	10:20:54	SELECT * FROM my_shop.customer LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 se
2	10:28:09	SELECT * FROM my_shop.customer LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 se
3	10:31:52	SELECT * FROM my_shop.customer LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 se

Console ×

```
<terminated> JdbcLabQuiz [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe  (28-Sep-2023, 10:32:37 am – 10:33:14 am) [pid: 15096]
Choose what operation want to perform :
 a. Insert values
 b. Delete values
 c. update city name Shimla to Shilong.e
 d. Show table in the console
update
enter the New City name : Shilong
enter the Old City name : Shimla
Update Successful
```



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

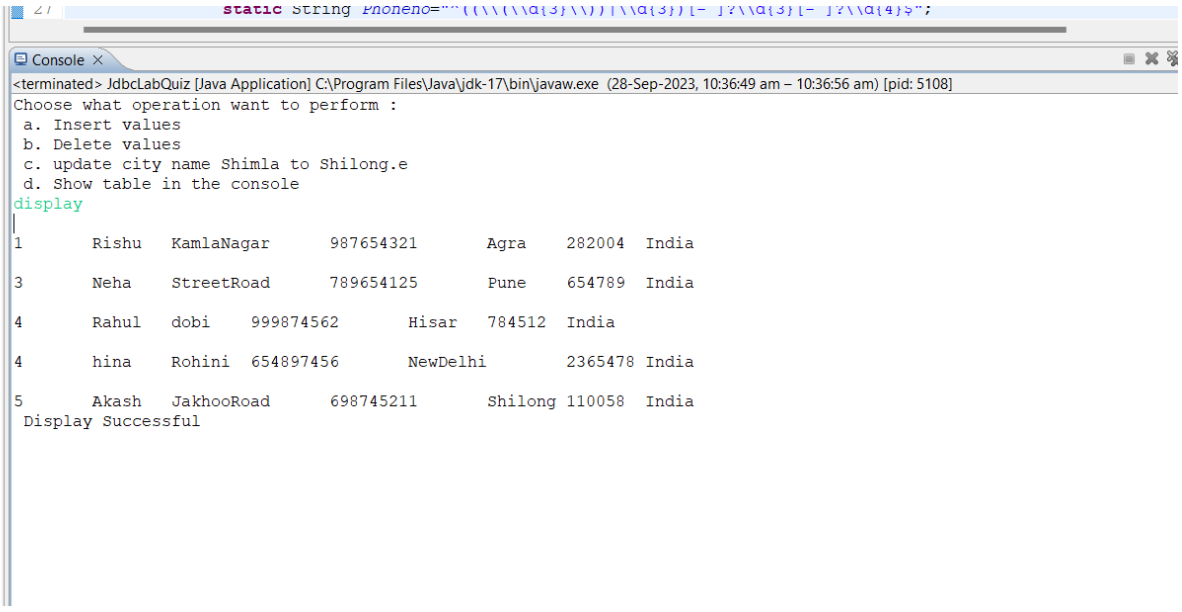
Custno	Custname	Custaddress	Phoneno	City	Pincode	Country
1	Rishu	KamlaNagar	987654321	Agra	282004	India
3	Neha	StreetRoad	789654125	Pune	654789	India
4	Rahul	dobi	999874562	Hisar	784512	India
4	hina	Rohini	654897456	NewDelhi	2365478	India
5	Akash	JakhooRoad	698745211	Shilong	110058	India

customer 4 | Read Only

Output

Action Output

#	Time	Action	Message	Duration / Fetch
1	10:20:54	SELECT * FROM my_shop.customer LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec
2	10:28:09	SELECT * FROM my_shop.customer LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
3	10:31:52	SELECT * FROM my_shop.customer LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec
4	10:33:57	SELECT * FROM my_shop.customer LIMIT 0, 1000	5 row(s) returned	0.000 sec / 0.000 sec



```
Console
<terminated> JdbcLabQuiz [Java Application] C:\Program Files\Java\jdk-17\bin\javaw.exe  (28-Sep-2023, 10:36:49 am – 10:36:56 am) [pid: 5108]
Choose what operation want to perform :
 a. Insert values
 b. Delete values
 c. update city name Shimla to Shilong.e
 d. Show table in the console
display
1       Rishu   KamlaNagar      987654321       Agra    282004  India

3       Neha    StreetRoad      789654125       Pune    654789  India

4       Rahul   dobi    999874562       Hisar   784512  India

4       hina    Rohini  654897456       NewDelhi        2365478 India

5       Akash   JakhooRoad      698745211       Shilong 110058  India
 Display Successful
```

Q. 2) Create below 3 tables with specified column names, datatypes and rules.

1)List the No.of students based on course wise.

List the student details which student origin Is foreign and no.of values exceeds 10?

2)List the Student,Course,Admissions details which student taken some course ?

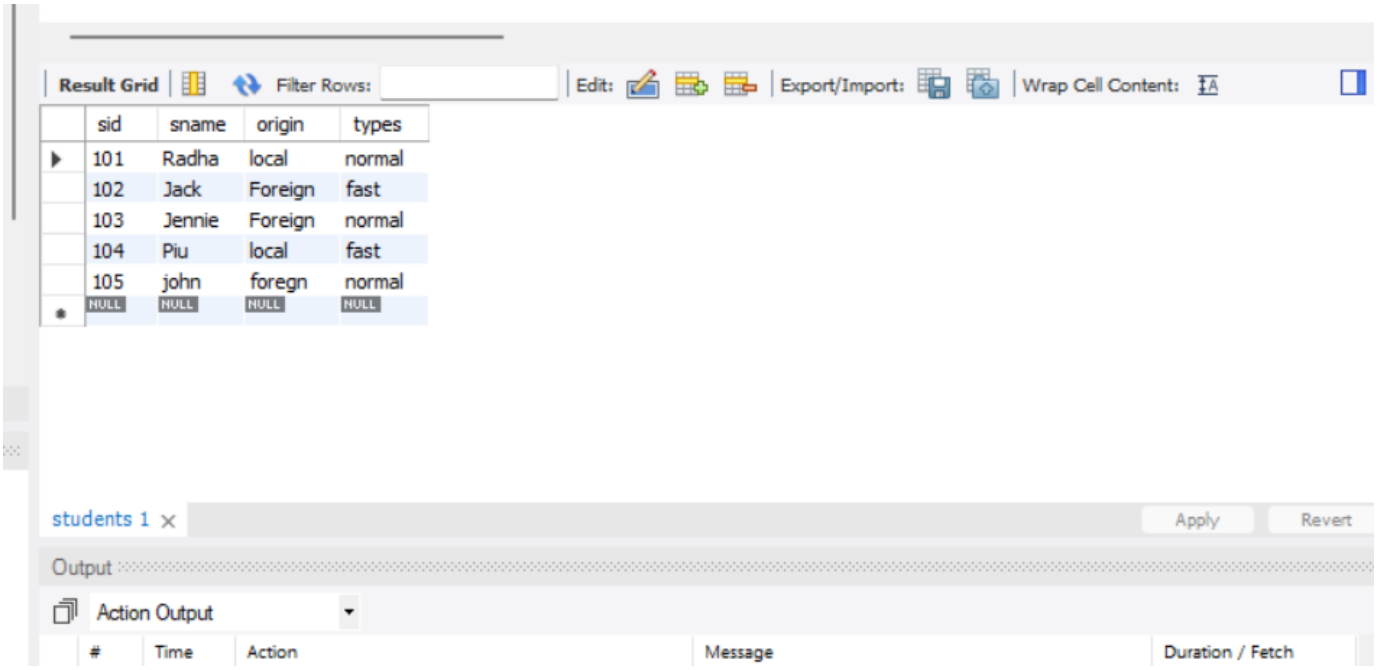
3)List the all Student name which students grade is ‘A’ and “B”?

4)List the Course details which course does not have any students?

5)List the Fees details based on Student id which is more than 4000?

Program :

```
create database LabQuiz;
use LabQuiz;
create table courses(cid int primary key,cname varchar(40),shift varchar(40),fees int);
create table students(sid int primary key, sname varchar(40),origin varchar(40),type varchar(40));
create table admission(sid int, cid int,DOJ datetime,grade char);
insert into students
values (101,'Radha','local','normal');
insert into students
values (102,'Jack','Foreign','fast');
insert into students
values (103,'Jennie','Foreign','normal');
insert into students
values (104,'Piu','local','fast');
insert into students
values (105,'john','foregn','normal');
```



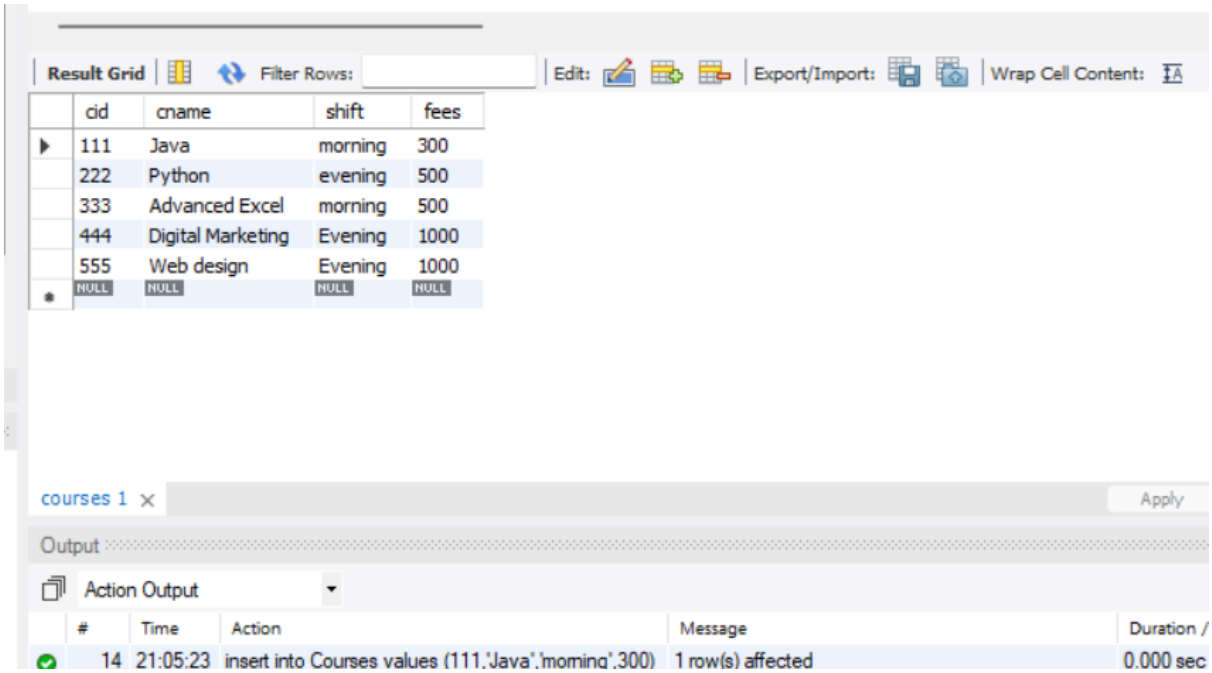

```
insert into Courses
values (111,'Java','morning',300);
insert into Courses
values (222,'Python','evening',500);
insert into Courses
values (333,'Advanced Excel','morning',500);
```

insert into Courses

values (444,'Digital Marketing','Evening',1000);

insert into Courses

values (555,'Web design','Evening',1000);



insert into admission

values (101,111,'2020-01-01','A');

insert into admission

values (102,222,'2020-05-20','B');

insert into admission

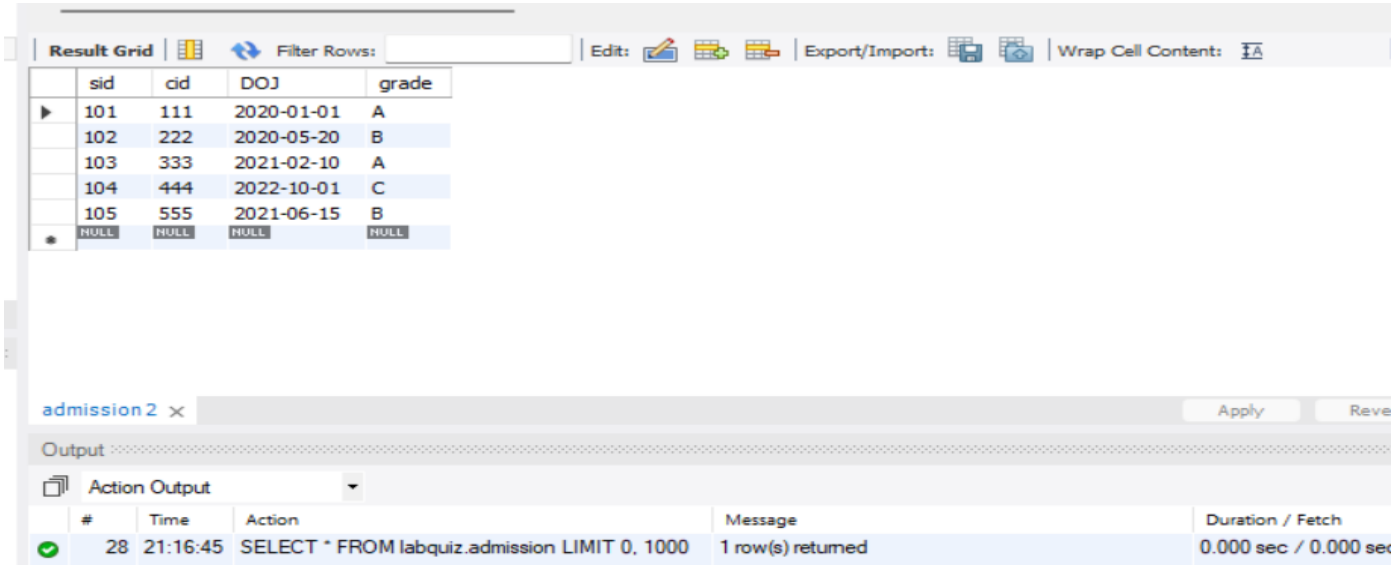
values (103,333,'2021-02-10','A');

insert into admission

values (104,444,'2022-10-01','C');

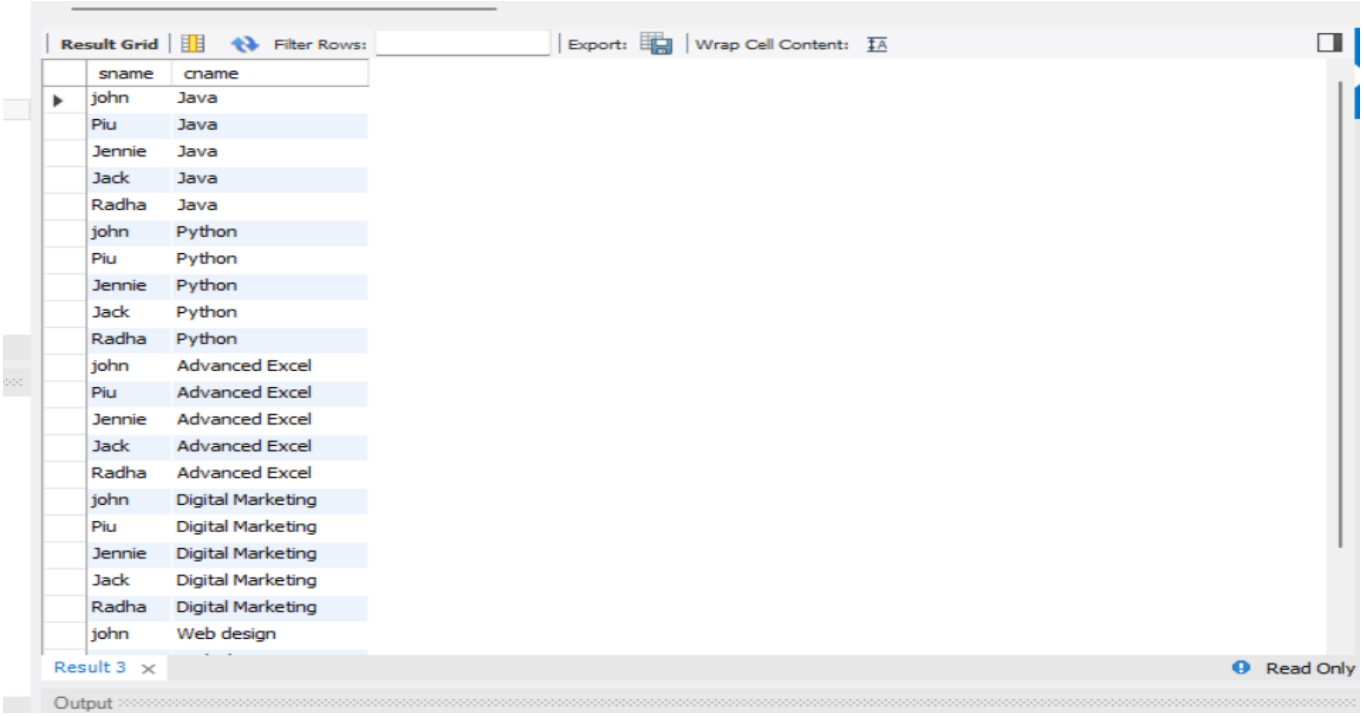
insert into admission

values (105,555,'2021-06-15','B');

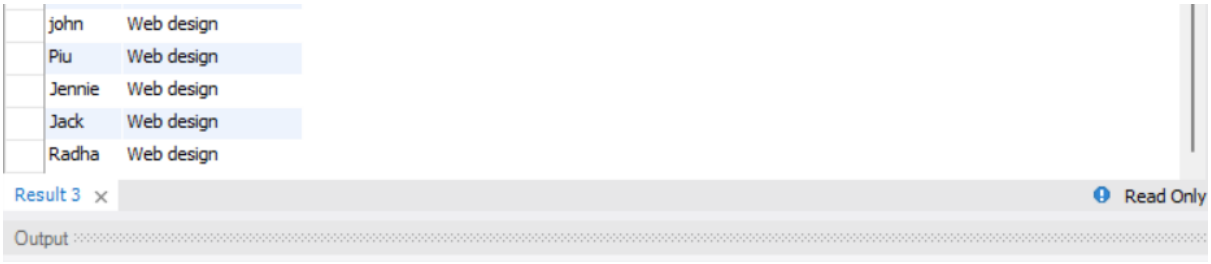


1)List the No.of students based on course wise.

select students.sname,courses.cname from students cross join courses;



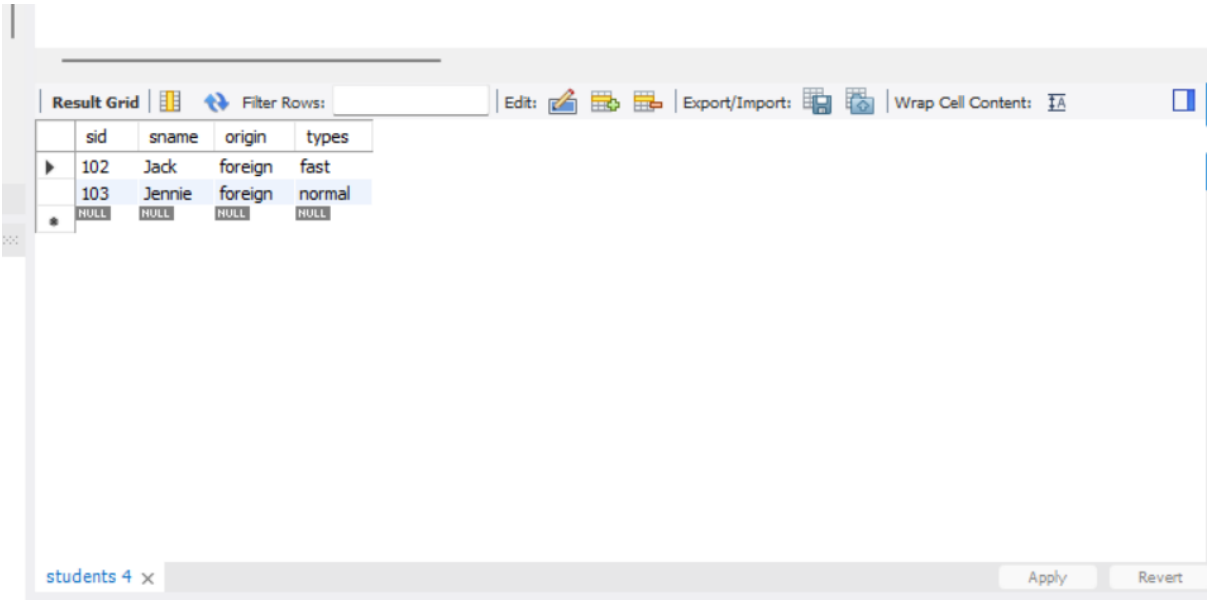
sname	cname
john	Java
Piu	Java
Jennie	Java
Jack	Java
Radha	Java
john	Python
Piu	Python
Jennie	Python
Jack	Python
Radha	Python
john	Advanced Excel
Piu	Advanced Excel
Jennie	Advanced Excel
Jack	Advanced Excel
Radha	Advanced Excel
john	Digital Marketing
Piu	Digital Marketing
Jennie	Digital Marketing
Jack	Digital Marketing
Radha	Digital Marketing
john	Web design



john	Web design
Piu	Web design
Jennie	Web design
Jack	Web design
Radha	Web design

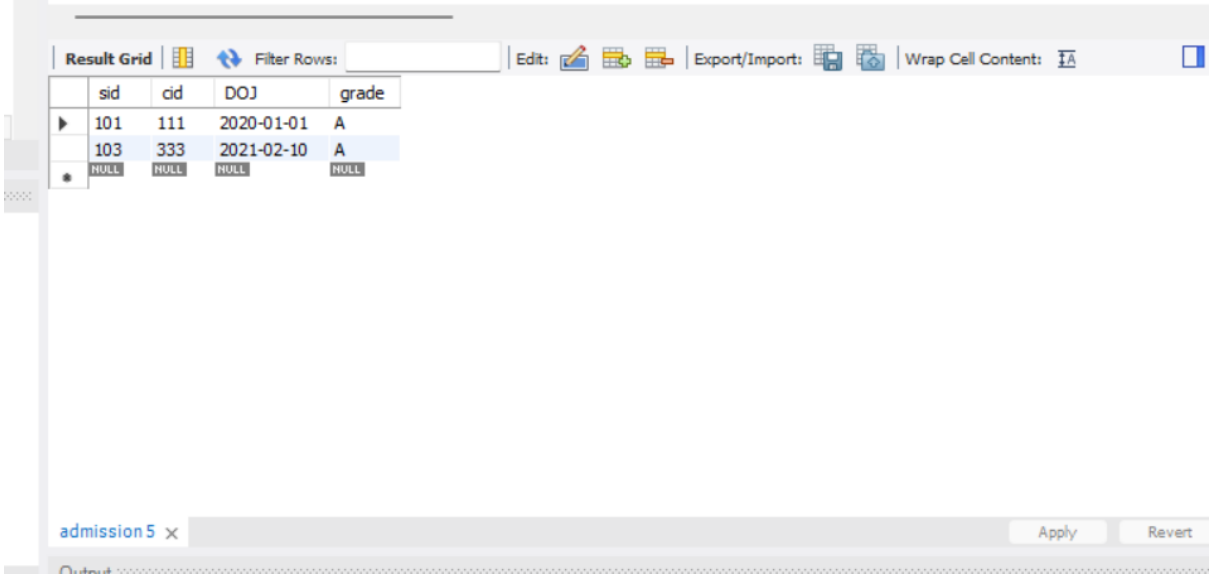
List the student details which student origin Is foreign and no.of values exceeds 10?

select * from students where origin="foreign";



sid	sname	origin	types
102	Jack	foreign	fast
103	Jennie	foreign	normal
NULL	NULL	NULL	NULL

select * from admission where grade="A" or "B";


Result Grid
Filter Rows:
Edit:
Export/Import:
Wrap Cell Content:
sid
cid
DOJ
grade
101
111
2020-01-01
A
103
333
2021-02-10
A
NULL
NULL
NULL
NULL
admission 5
Apply
Revert