**CO226 – Database Systems**

**Lab 07 – Answers**

**Lab Task:**

1.

mysql> create database eXXXXXFacultyLab07;

Query OK, 1 row affected (0.00 sec)

mysql> use eXXXXXfacultylab07;

Database changed

mysql> create table Student(

-> Name varchar(20),

-> RegistrationNumber int(5) primary key,

-> GPA float,

-> ConvocationRegistrationNumber int(10)

-> );

Query OK, 0 rows affected (0.14 sec)

mysql> insert into Student(Name,RegistrationNumber,GPA)

-> values('Sameera',425,3.25)

-> ;

Query OK, 1 row affected (0.20 sec)

mysql> insert into Student(Name,RegistrationNumber,GPA)

-> values('Kasun',210,3.40)

-> ;

Query OK, 1 row affected (0.24 sec)

mysql> insert into Student(Name,RegistrationNumber,GPA)

-> values('Kalpa',201,3.10)

-> ;

Query OK, 1 row affected (0.26 sec)

mysql> insert into Student(Name,RegistrationNumber,GPA)

-> values('Chathura',312,3.85)

-> ;

Query OK, 1 row affected (0.23 sec)

mysql> insert into Student(Name,RegistrationNumber,GPA)

-> values('Lakmali',473,3.75)

-> ;

Query OK, 1 row affected (0.19 sec)

mysql> insert into Student(Name,RegistrationNumber,GPA)

-> values('Sidath',352,3.30)

-> ;

Query OK, 1 row affected (0.23 sec)

mysql> insert into Student(Name,RegistrationNumber,GPA)

-> values('Kumudu',111,3.70)

-> ;

Query OK, 1 row affected (0.31 sec)

mysql> insert into Student(Name,RegistrationNumber,GPA)

-> values('Nalin',456,3.05)

-> ;

Query OK, 1 row affected (0.20 sec)

mysql> insert into Student(Name,RegistrationNumber,GPA)

-> values('Rohani',324,3.70)

-> ;

Query OK, 1 row affected (0.24 sec)

mysql> insert into Student(Name,RegistrationNumber,GPA)

-> values('Chithra',231,3.30)

-> ;

Query OK, 1 row affected (0.23 sec)

2.

mysql> create table Convocation(

-> LastName varchar(20),

-> Address varchar(50),

-> Age int(5),

-> RegistrationNumber int(5),

-> ConvocationRegistrationNumber int(10),

-> primary key(RegistrationNumber,ConvocationRegistrationNumber)

-> );

Query OK, 0 rows affected (0.16 sec)

mysql> alter table Convocation add foreign key (RegistrationNumber) references Student(RegistrationNumber)

-> on update cascade on delete restrict;

Query OK, 0 rows affected (0.48 sec)

Records: 0 Duplicates: 0 Warnings: 0

mysql> alter table Convocation add foreign key (ConvocationRegistrationNumber) references Student(ConvocationRegistrationNumber)

-> on update cascade on delete set null;

Query OK, 0 rows affected (0.48 sec)

Records: 0 Duplicates: 0 Warnings: 0

3.

mysql> delimiter //

mysql> create procedure storeDetails(IN Regno int,IN convRegno int ,IN age int,IN address varchar(50),IN lname varchar(20))

-> begin

-> insert into Convocation(LastName,Address,Age,RegistrationNumber,ConvocationRegistrationNumber) values(lname,address,age,Regno,convRegno);

-> end //

Query OK, 0 rows affected (0.01 sec)

mysql> delimiter ;

4.

mysql> call storeDetails(425,1,24,'Colombo','Sameera');

Query OK, 1 row affected (0.21 sec)

mysql> call storeDetails(312,2,25,'Kandy','Chathura');

Query OK, 1 row affected (0.20 sec)

mysql> call storeDetails(473,3,25,'Galle','Lakmali');

Query OK, 1 row affected (0.26 sec)

mysql> call storeDetails(352,4,24,'Gampaga','Sidath');

Query OK, 1 row affected (0.28 sec)

mysql> call storeDetails(456,5,24,'Gampaga','Nalin');

Query OK, 1 row affected (0.23 sec)

mysql> select \* from Student;

+----------+--------------------+------+-------------------------------+----------------------+

| Name | RegistrationNumber | GPA | ConvocationRegistrationNumber | Class |

+----------+--------------------+------+-------------------------------+----------------------+

| Kumudu | 111 | 3.7 | NULL | First class honors |

| Kalpa | 201 | 3.1 | NULL | Second class honors- |

| Kasun | 210 | 3.4 | NULL | Second class honors- |

| Chithra | 231 | 3.3 | NULL | Second class honors- |

| Chathura | 312 | 3.85 | 2 | First class honors |

| Rohani | 324 | 3.7 | NULL | First class honors |

| Sidath | 352 | 3.3 | 4 | Second class honors- |

| Sameera | 425 | 3.25 | 1 | Second class honors- |

| Nalin | 456 | 3.05 | 5 | Second class honors- |

| Lakmali | 473 | 3.75 | 3 | First class honors |

+----------+--------------------+------+-------------------------------+----------------------+

10 rows in set (0.00 sec)

5.

mysql> create view Registered as

-> select Student.Name,Student.RegistrationNumber,GPA,

Convocation.ConvocationRegistrationNumber,Address,Age

-> from Student,Convocation

-> where Student.RegistrationNumber=Convocation.RegistrationNumber and Convocation.ConvocationRegistrationNumber is not null group by Student.RegistrationNumber;

Query OK, 0 rows affected (0.08 sec)

mysql> select \* from Registered;

+----------+--------------------+------+-------------------------------+---------+------+

| Name | RegistrationNumber | GPA | ConvocationRegistrationNumber | Address | Age |

+----------+--------------------+------+-------------------------------+---------+------+

| Chathura | 312 | 3.85 | 2 | Kandy | 25 |

| Sidath | 352 | 3.3 | 4 | Gampaga | 24 |

| Sameera | 425 | 3.25 | 1 | Colombo | 24 |

| Nalin | 456 | 3.05 | 5 | Gampaga | 24 |

| Lakmali | 473 | 3.75 | 3 | Galle | 25 |

+----------+--------------------+------+-------------------------------+---------+------+

5 rows in set (0.00 sec)

6.

mysql> create view NotRegistered as

-> select Student.Name,Student.RegistrationNumber,GPA,Convocation.ConvocationRegistrationNumber,Address,Age

-> from Student,Convocation

-> where Student.RegistrationNumber=Convocation.RegistrationNumber

and Student.ConvocationRegistrationNumber is null

group by Student.RegistrationNumber;

Query OK, 0 rows affected (0.03 sec)

mysql> select \* from NotRegistered;

+----------+--------------------+------+-------------------------------+---------+------+

| Name | RegistrationNumber | GPA | ConvocationRegistrationNumber | Address | Age |

+----------+--------------------+------+-------------------------------+---------+------+

| Chithra | 231 | 3.30 | NULL | NULL | NULL |

| Kalpa | 201 | 3.10 | NULL | NULL | NULL |

| Kumudu | 111 | 3.70 | NULL | NULL | NULL |

| Kasun | 210 | 3.40 | NULL | NULL | NULL |

| Rohani | 224 | 3.70 | NULL | NULL | NULL |

+----------+--------------------+------+-------------------------------+---------+------+

5 rows in set (0.00 sec)

7.

mysql> create table LateRegistration(

-> LastName varchar(20),

-> Address varchar(50),

-> Age int(5),

-> RegistrationNumber int(10),

-> ConvocationRegistrationNumber int(10),

-> primary key(RegistrationNumber,ConvocationRegistrationNumber)

-> );

Query OK, 0 rows affected (0.19 sec)

mysql> select \* from LateRegistration;

+---------------+--------------+-----+-------+------------+

| LastName | Address | Age | RegNo | ConvoRegNo |

+---------------+--------------+-----+-------+------------+

| Wikramasignhe | Galle | 24 | 111 | 8 |

| Balasooriya | Anuradhapura | 24 | 201 | 7 |

| Bandara | Muruthalawa | 24 | 210 | 6 |

| Herath | Kadugannawa | 24 | 231 | 10 |

| Bandara | Kandy | 24 | 324 | 9 |

+---------------+--------------+-----+-------+------------+

5 rows in set (0.00 sec)

8.

mysql>delimiter //

mysql> create trigger Late\_Registration before insert on Convocation

-> for each row

-> begin

-> insert into LateRegistration

-> (LastName,Address,Age,RegistrationNumber,ConvocationRegistrationNumber)

-> values(NEW.LastName,NEW.Address,NEW.Age,NEW.RegistrationNumber,NEW.ConvocationRegistrationNumber);

-> end //

Query OK, 0 rows affected (0.11 sec)

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mysql> #QUESTION9

mysql> SELECT RegNo INTO @RegNoVar FROM Student WHERE Name='Kasun';

Query OK, 1 row affected (0.01 sec)

mysql> INSERT INTO LateRegistration (RegNo,ConvoRegNo,LastName,Address,Age) VALUES (@RegNoVar,6,'Bandara','Muruthalawa',24);

Query OK, 1 row affected (0.00 sec)

mysql>

mysql> SELECT RegNo INTO @RegNoVar FROM Student WHERE Name='Kalpa';

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO LateRegistration (RegNo,ConvoRegNo,LastName,Address,Age) VALUES (@RegNoVar,7,'Balasooriya','Anuradhapura',24);

Query OK, 1 row affected (0.01 sec)

mysql>

mysql> SELECT RegNo INTO @RegNoVar FROM Student WHERE Name='Kumudu';

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO LateRegistration (RegNo,ConvoRegNo,LastName,Address,Age) VALUES (@RegNoVar,8,'Wikramasignhe','Galle',24);

Query OK, 1 row affected (0.01 sec)

mysql>

mysql> SELECT RegNo INTO @RegNoVar FROM Student WHERE Name='Rohani';

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO LateRegistration (RegNo,ConvoRegNo,LastName,Address,Age) VALUES (@RegNoVar,9,'Bandara','Kandy',24);

Query OK, 1 row affected (0.00 sec)

mysql>

mysql> SELECT RegNo INTO @RegNoVar FROM Student WHERE Name='Chithra';

Query OK, 1 row affected (0.00 sec)

mysql> INSERT INTO LateRegistration (RegNo,ConvoRegNo,LastName,Address,Age) VALUES (@RegNoVar,10,'Herath','Kadugannawa',24);

Query OK, 1 row affected (0.01 sec)

mysql>

mysql> SELECT \* FROM Student;

+-----------+-------+------+------------+-------+

| Name | RegNo | GPA | ConvoRegNo | Class |

+-----------+-------+------+------------+-------+

| Kumudu | 111 | 3.7 | 8 | NULL |

| Kalpa | 201 | 3.1 | 7 | NULL |

| Kasun | 210 | 3.4 | 6 | NULL |

| Chithra | 231 | 3.3 | 10 | NULL |

| Chathura | 312 | 3.85 | 2 | NULL |

| Rohani | 324 | 3.7 | 9 | NULL |

| Sidath | 352 | 3.3 | 4 | NULL |

| Sameera | 425 | 3.25 | 1 | NULL |

| Nalin | 456 | 3.05 | 5 | NULL |

| Lakmali | 473 | 3.75 | 3 | NULL |

+-----------+-------+------+------------+-------+

10 rows in set (0.00 sec)

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9.

mysql> insert into Convocation(LastName,Address,Age,RegistrationNumber,ConvocationRegistrationNumber)

-> values

-> ('Kasun','Colombo',26,210,6);

-> //

Query OK, 1 row affected (0.22 sec)

mysql> insert into Convocation(LastName,Address,Age,RegistrationNumber,ConvocationRegistrationNumber)

-> values

-> ('Kalpa','Kandy',25,201,7);

-> //

Query OK, 1 row affected (0.27 sec)

mysql> insert into Convocation(LastName,Address,Age,RegistrationNumber,ConvocationRegistrationNumber)

-> values

-> ('Kumudu','Galle',26,111,8);

-> //

Query OK, 1 row affected (0.23 sec)

mysql> insert into Convocation(LastName,Address,Age,RegistrationNumber,ConvocationRegistrationNumber)

-> values

-> ('Rohani','Colombo',26,324,9);

-> //

Query OK, 1 row affected (0.25 sec)

mysql> insert into Convocation(LastName,Address,Age,RegistrationNumber,ConvocationRegistrationNumber)

-> values

-> ('Chithra','Colombo',24,231,10);

-> //

Query OK, 1 row affected (0.27 sec)

mysql> select \* from Student;

+----------+--------------------+------+-------------------------------+----------------------+

| Name | RegistrationNumber | GPA | ConvocationRegistrationNumber | Class |

+----------+--------------------+------+-------------------------------+----------------------+

| Kumudu | 111 | 3.7 | 8 | First class honors |

| Kalpa | 201 | 3.1 | 7 | Second class honors- |

| Kasun | 210 | 3.4 | 6 | Second class honors- |

| Chithra | 231 | 3.3 | 10 | Second class honors- |

| Chathura | 312 | 3.85 | 2 | First class honors |

| Rohani | 324 | 3.7 | 9 | First class honors |

| Sidath | 352 | 3.3 | 4 | Second class honors- |

| Sameera | 425 | 3.25 | 1 | Second class honors- |

| Nalin | 456 | 3.05 | 5 | Second class honors- |

| Lakmali | 473 | 3.75 | 3 | First class honors |

+----------+--------------------+------+-------------------------------+----------------------+

10 rows in set (0.00 sec)

10.

mysql> delimiter //

mysql> create procedure findClass(IN GPA float,IN Rgnum int)

-> begin

-> if GPA>=3.7 then update Student set Class='First class honors' where RegistrationNumber=Rgnum;

-> elseif GPA<3.7 and GPA>=3.3 then update Student set Class='Second class honors-upper division' where RegistrationNumber=Rgnum;

-> elseif GPA<3.3 and GPA>=2.7 then update Student set Class='Second class honors-lower division' where RegistrationNumber=Rgnum;

-> elseif GPA<2.7 and GPA>=2.0 then update Student set Class='Third class honors' where RegistrationNumber=Rgnum;

-> end if;

-> end //

Query OK, 0 rows affected (0.00 sec)

mysql> call findClass(3.25,425);

-> //

Query OK, 0 rows affected, 1 warning (0.28 sec)

mysql> call findClass(3.05,456);

-> //

Query OK, 1 row affected, 1 warning (0.24 sec)

mysql> call findClass(3.40,210);

-> //

Query OK, 1 row affected, 1 warning (0.25 sec)

mysql> call findClass(3.10,201);

-> //

Query OK, 1 row affected, 1 warning (0.23 sec)

mysql> call findClass(3.85,312);

-> //

Query OK, 1 row affected (0.25 sec)

mysql> call findClass(3.75,473);

-> call findClass(3.30,352);

-> //

Query OK, 1 row affected (0.25 sec)

mysql> call findClass(3.70,111);

-> call findClass(3.70,324);

-> call findClass(3.30,231);

-> //

Query OK, 1 row affected (0.35 sec)

mysql> select \* from Student;

-> //

+----------+--------------------+------+-------------------------------+----------------------+

| Name | RegistrationNumber | GPA | ConvocationRegistrationNumber | Class |

+----------+--------------------+------+-------------------------------+----------------------+

| Kumudu | 111 | 3.7 | NULL | First class honors |

| Kalpa | 201 | 3.1 | NULL | Second class honors- |

| Kasun | 210 | 3.4 | NULL | Second class honors- |

| Chithra | 231 | 3.3 | NULL | Second class honors- |

| Chathura | 312 | 3.85 | NULL | First class honors |

| Rohani | 324 | 3.7 | NULL | First class honors |

| Sidath | 352 | 3.3 | NULL | Second class honors- |

| Sameera | 425 | 3.25 | NULL | Second class honors- |

| Nalin | 456 | 3.05 | NULL | Second class honors- |

| Lakmali | 473 | 3.75 | NULL | First class honors |

+----------+--------------------+------+-------------------------------+----------------------+

10 rows in set (0.00 sec)