

CS3400 Database Systems

Quiz 3 - 11th Dec 2006

A. For the questions given below, write the corresponding sql query statements. The primary keys for each of the relations are underlined.

Patient (int PatientId, varchar(20) PatientName, varchar(1) Gender, int Age, varchar(20) City)

PatientHistory (int PatientId, date JoiningDate, int DoctorId, int NurseId, date Leaving_Date, int Ward)

Dept (int DeptId, varchar(20) DeptName, int HOD, int No_of_Staff)

Employee (int EmpId, varchar(20) EmpName, int Salary, varchar(20) Designation, int DeptId)
where Designation is either "Doctor" or "Nurse".

The foreign key, primary key relationships:

PatientHistory(DoctorId) references Employee(EmpId)

PatientHistory(NurseId) references Employee(EmpId)

PatientHistory(PatientId) references Patient(PatientId)

Employee(DeptId) references Dept(DeptId)

Dept(HOD) references Employee(EmpId)

1. Select all current patients who are under doctors of department 'DeptId=3'. List the Patient Id and Joining Date of all such patients.

```
select patientId, Joining_Date from PatientHistory
where leaving_date=NULL
and DoctorId in (select EmpId from Employee
                 where DeptId=3);
```

2. Delete all nurses whose salary is less than 10000.

```
Delete from Employee where Designation= Nurse and Salary<10000;
```

3. List the departments (DeptId, DeptName) where the total salary of nurses exceeds 50,000 and total salary of doctors exceeds one lakh. Give the EmpId and department number of such employees.

```
create table tempN( primary key int DeptId , int Salary);
create table tempD( primary key int DeptId , int Salary);
select DeptId, sum(salary) into tempN
from Employee
where Designation='Nurse'
group by DeptId
having sum(salary)>50,000;
```

```

select DeptId, sum(salary) into tempD
from Employee
where Designation= 'Doctor'
group by DeptId
having sum(salaray)>100,000;
select DeptId, DeptName from Department
where DeptId IN (select DeptId from tempN)
and DeptId IN (select DeptId from tempD);

```

4. Find the doctors not treating any current patients. Give the EmpId and Doctor Name.

```

select EmpId, EmpName from Employee where Designation= Doctor and NOT
EXISTS ( select DoctorId from PatientHistory where Leaving_Date=NULL and
EmpId=DoctorId);

```

5. Increase the salary of all doctors in DeptId=3 by 20%.

```

Update Employee set salary=salary * 1.2 where DeptId=3;

```

6. Update the ward number of all Patients in ward 5 to the ward with minimum number of patients so far.

```

create table temp1 (int Ward, int Count, primary key(Ward));
select ward, count(*) into temp1 from PatientHistory group by ward;
create table temp2(int minCount);
select min(Count) into temp2 from temp1;
create table temp3(int minWard);
select ward into temp3 from temp1, temp2 where temp1.Count = minCount;
update PatientHistory SET ward= (select minWard from temp3) where ward=5;

```

7. Delete all patient records whose Age is greater than 150.

```

Delete from PatientHistory
where PatientId IN (select PatientId from Patient where Age > 150)
Delete from Patient where Age>150;

```

8. Find all current patients who have always been treated by HOD's of some department. Give the PatientId, PatientName and City. Hint: Leaving_Date of current patients is set to NULL.

```

select PatientId, PatientName from Patient
where ( (select HOD from Dept) CONTAINS
(select DoctorId from PatientHistory
where Patient.PatientId = PatientHistory.PatientId) )
and Leaving_Date=NULL;

```