**View1:**

create view top\_doctor AS

select

p.FName,

p.LName,

e.Start\_Date

from

Doctor d,

Person p,

employee e

where

d.Type = p.Type

And d.id = p.ID

AND p.Type = e.Type

and p.ID = e.ID

and (d.Type, d.id) in (

select

c1p.DOC\_TYPE,

c1p.DOC\_ID

FROm

Class\_1\_Patient c1p

group by

c1p.DOC\_TYPE,

c1p.DOC\_ID

HAVING

count(\*) > 5

)

and (d.type, d.id) in (

select

c2p.DOC\_TYPE,

c2p.DOC\_ID

FROm

Class\_2\_Patient c2p

group by

c2p.DOC\_TYPE,

c2p.DOC\_ID

HAVING

count(\*) > 10

)

**View2:**

**View3:**

CREATE VIEW ReorderMeds AS

SELECT P.expdate, P.quantity  
FROM Pharmacy P

WHERE P.quantity<1000 AND P.expdate = now() + INTERVAL 1 month

**View4:**

CREATE VIEW potential\_patient as

select p.Fname, p.MName, p.LName, concat( p.Phone, p.Type, p.ID)

FROM Record r, Person p

where r.person\_type = p.Type and

r.person\_id = p.ID and

(p.Type,p.ID) in

(

select c1p.Type,c1p.ID

from Class\_1\_Patient c1p

)AND

(p.Type,p.ID) not in

(

select c2p.EType as Type, c2p.EID as ID

from Class\_2\_Patient c2p

where c2p.EID is not null

UNION

select c1p.Type as Type, c1p.ID as ID

from Class\_1\_Patient c1p

)

group by r.person\_type, r.person\_id

HAVING count(\*) > 3

**View5:**

CREATE VIEW FrequentIssues AS

select T.Name

from Treatment T

join Treatment\_Assignment a

group by a.Id

order by count(\*) desc

limit 1

**5.3 Creation of SQL Queries**

Now we give out the SQL Queries for all questions listed in Question e as follows:

5.3.1 For each Doctor class, list the start date and specialization of the doctor.

SELECT E.Start\_Date,

D.Doctor\_specialization

FROM Employee E, Doctor D

Where E.ID = D.ID

5.3.2 Find the names of employees who have been admitted to the hospital within 3 months of joining.

有错

SELECT p.FName,p.MName,p.LName

FROM person p

where (p.Type,p.ID) in

(

SELECT e.Type,e.id

from employee e inner join Class\_2\_Patient c2p inner join Room\_assignment ra on e.Type = c2p.EType and e.ID = c2p.EID and ra.C2PID = c2p.C2PID

where e.Start\_Date + interval 3 Month > ra.Start\_date

)

5.3.3 Find the average age and class (trainee, visiting or permanent) of top 5 doctors in the hospital.

( SELECT avg(year(CURRENT\_DATE())-year(P.DOB))

from doctor d inner join employee e inner join person p on d.Type = e.Type and d.id = e.ID and

e.Type = p.Type and e.ID = p.id

order by e.Start\_Date

limit 5

)

UNION ALL

(

SELECT d.doctor\_type

from doctor d inner join employee e inner join person p on d.Type = e.Type and d.id = e.ID and

e.Type = p.Type and e.ID = p.id

order by e.Start\_Date

limit 5

)

5.3.4 Find the name of medicines associated with the most common treatment in the hospital.

select p.name

from Treatment\_Containment tc inner join Pharmacy p on tc.medicine\_id = p.medicine\_id

where tc.treatment\_id = (

select ta.tid

from treatment\_assignment ta

group by ta.tid

order by count(\*) desc

limit 1

)

5.3.5 Find all the doctors who have not had a patient in the last 5 months. (Hint: Consider the date of payment as the day the doctor has attended a patient/been consulted by a patient.)

select \*

from doctor d inner join person p on d.Type = p.Type and d.id = p.ID

where (d.Type,d.id) not in (

-- doctor have patient in last 5 month

select distinct c1p.consulted\_doc\_type,c1p.consulted\_doc\_id

from record r inner join Class\_1\_Patient c1p on r.person\_type = c1p.Type and r.person\_id = c1p.ID

where r.date\_of\_visit > (now() - interval 5 month)

)

5.3.6 Find the total number of patients who have paid completely using insurance and the name of the insurance provider.

SELECT i.insurance\_provider, count(\*)

FROM Payment p, Insurance i

WHERE p.payment\_id = i.payment\_id AND

(p.person\_id,p.person\_type) Not in (

select p2.person\_id,p2.person\_type

from payment p2, cash c

where p2.payment\_id = c.payment\_id

)

group by i.insurance\_provider

5.3.7 Find the most occupied room in the hospital and the duration of the stay.

select ra2.rid, sum(DATEDIFF(ra2.out\_date,ra2.Start\_date))

from Room\_assignment ra2

where ra2.rid = (

-- room occupied the most number of time

SELECT ra.RID

FROM Room\_assignment ra

group by ra.RID

order by count(\*) desc

limit 1

)

Group by ra2.rid

5.3.8 Find the year with the maximum number of patient visiting the hospital and the reason for their visit.

select year(r2.date\_of\_visit) visit\_year, r2.problem\_type, count(\*)

from record r2

where year(r2.date\_of\_visit) = (

-- most visited year

SELECT year(r.date\_of\_visit) vy

FROM record r

group by vy

order by count(\*) desc

limit 1

)

group by visit\_year,r2.problem\_type

5.3.9 Find the duration of the treatment that is provided the least to patients.

select t.name "Treatment Name",t.duration "Duration"

from treatment t

where t.id = (

select ta.tid

from treatment\_assignment ta

group by ta.tid

order by count(\*)

limit 1

)

5.3.10 List the total number of patients that have been admitted to the hospital after the most current employee has joined.

SELECT COUNT(\*)

FROM Room\_assignment ra

WHERE ra.Start\_date >

(

SELECT E.Start\_date

FROM EMPLOYEE E

ORDER BY E.Start\_date DESC LIMIT 1

)

5.3.11 List all the patient records of those who have been admitted to the hospital within a week of being consulted by a doctor.

select \*

from Class\_2\_Patient c2p, record r, Room\_assignment ra

where ( (r.person\_type = c2p.EType and r.person\_id = c2p.EID) or (r.person\_type = c2p.C1Type and r.person\_id = c2p.C1PID) ) and ra.C2PID = c2p.C2PID and

ra.Start\_date > r.date\_of\_visit and ra.Start\_date < (r.date\_of\_visit + interval 7 day)

5.3.12 Find the total amount paid by patients for each month in the year 2017.

Select date\_format(time,"%M") Month, sum(bill)

from (

select p.Payment\_date time , c.cash bill

from cash c inner join payment p on c.payment\_id = p.Payment\_id

where year(p.Payment\_date) = "2017"

UNION

select p.Payment\_date time, i.insurance\_coverage bill

from Insurance i inner join payment p on i.payment\_id = p.Payment\_id

where (year(p.payment\_date)) = "2017"

) bills

group by month(time),Month

ORDER BY month(time) ASC

5.3.13 Find the name of the doctors of patients who have visited the hospital only once for consultation and have not been admitted to the hospital.

select DISTINCT p.FName,p.mName,p.lname

from record r inner join Class\_1\_Patient c1p inner join person p on r.person\_type = c1p.Type and r.person\_id = c1p.ID and c1p.consulted\_doc\_type = p.Type and c1p.consulted\_doc\_id = p.ID

where (r.person\_type,r.person\_id) not in (

-- person admitted

select c2p.C1Type,c2p.C1PID

from Class\_2\_Patient c2p

where c2p.C1PID is not null

)

group by r.person\_type,r.person\_id

having count(\*) = 1

5.3.14 Find the name and age of the potential patients in the hospital.

select p.Fname, p.MName, p.LName, DATEDIFF(CURDATE(), p.DOB)/365.25 AS Age  
FROM Person p, potential\_patient PP

WHERE concat(p.type,p.id) = pp.id