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CSC 675-01
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Course Project Phase 2

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/* create database hospital system database */

CREATE DATABASE hospitalsys;

/* Use hospital system database*/

USE hospitalsys;

/* Entity */

CREATE TABLE doctor(
docID int NOT NULL,
docName varchar(100),
specialization varchar(100),
salary int,
primary key (docID)
);

CREATE TABLE hospital(hospID int NOT NULL, hosName varchar(50), hosCity varchar(100), hosAddress varchar(50), primary key (hospID));

CREATE TABLE patient(
patID int NOT NULL,
patName varchar(50),
patDiagnosis varchar(50),
patAddress varchar(50),
primary key (patID)
);

```
CREATE TABLE medicalRecord(
recordID int NOT NULL,
ExaminationDate Date,
problem varchar(50),
primary key (recordID)
);
CREATE TABLE has hos doc(
docID int NOT NULL,
hospID int NOT NULL,
primary key (docID, hospID),
foreign key (docID) references doctor(docID),
foreign key (hospID) references hospital(hospID)
);
CREATE TABLE has_patient_record (
patID int NOT NULL,
recordID int NOT NULL,
primary key (patID, recordID),
foreign key (patID) references patient(patID),
foreign key (recordID) references medicalrecord(recordID)
);
CREATE TABLE admit_relation (
patID int NOT NULL,
hospID int NOT NULL,
primary key (patID, hospID),
foreign key (patID) references patient(patID),
foreign key (hospID) references hospital(hospID)
);
```

/*insert data into doctor table*/

INSERT INTO `hospitalsys`.`doctor` (`docID`, `docName`, `specialization`, `salary`) VALUES ('12345', 'Kurt', 'Cardiology', '525311');

INSERT INTO 'hospitalsys'.'doctor' ('docID', 'docName', 'specialization', 'salary') VALUES ('12346', 'James', 'Orthopedic', '341231');

INSERT INTO `hospitalsys`.`doctor` (`docID`, `docName`, `specialization`, `salary`) VALUES ('12347', 'Bob', 'Gastroenterology', '131233");

INSERT INTO `hospitalsys`.`doctor` (`docID`, `docName`, `specialization`, `salary`) VALUES ('12348', 'Billy', 'Urology', '123122');

INSERT INTO `hospitalsys`.`doctor` (`docID`, `docName`, `specialization`, `salary`) VALUES ('12349', 'Ben', 'Podiatry', '90000');

/*insert data into hospital table*/

INSERT INTO 'hospitalsys'. 'hospital' ('hosCity', 'hospID', 'hosAddress', 'hosName') VALUES ('San Francisco', '123', '1800 Sunset Street', 'Kaiser');

INSERT INTO `hospitalsys`.`hospital` (`hosCity`, `hospID`, `hosAddress`, `hosName`) VALUES ('San Jose', '124', '1800 Dawn Street', 'Cross');

/*insert data into patient table*/

 $INSERT\ INTO\ `hospitalsys`. `patient`\ (`patID`,\ `patName`,\ `patDiagnosis`,\ `patAddress`)$

VALUES ('54321', 'James', 'Asthma', '18 Darwin Street',');

INSERT INTO 'hospitalsys'.'patient' ('patID', 'patName', 'patDiagnosis', 'patAddress')

VALUES ('54322', 'Karl', 'Asthma', '28 Darwin Street');

 $INSERT\ INTO\ `hospitalsys`. `patient`\ (`patID`,\ `patName`,\ `patDiagnosis`,\ `patAddress`)$

VALUES ('54323', 'Bob', 'Bronchitis', '12 Kame Street');

INSERT INTO `hospitalsys`.`patient` (`patID`, `patName`, `patDiagnosis`, `patAddress`) VALUES ('54324', 'Bill', 'Bronchitis', '32 Kame Street');

/*insert data into medicalrecord table*/

 $INSERT\ INTO\ `hospitalsys`.`medical record`\ (`recordID`,\ `ExaminationDate`,\ `problem`)$

VALUES ('321', '2018-01-02 12:30:11', 'Asthma');

 $INSERT\ INTO\ `hospitalsys`. `medical record'\ (`recordID`,\ `ExaminationDate`,\ `problem`)$

VALUES ('323', '2018-02-02 12:30:11', 'Fever');

INSERT INTO `hospitalsys`.`medicalrecord` (`recordID`, `ExaminationDate`, `problem`)

VALUES ('322', '2018-01-03 12:30:11', 'Asthma');

INSERT INTO `hospitalsys`.`medicalrecord` (`recordID`, `ExaminationDate`, `problem`)

VALUES ('3211', '2018-01-05 12:30:11', 'Asthma');

INSERT INTO 'hospitalsys'. 'medicalrecord' ('recordID', 'ExaminationDate', 'problem')

VALUES ('3212', '2018-01-08 5:30:11', 'Asthma');

INSERT INTO 'hospitalsys'.'medicalrecord' ('recordID', 'ExaminationDate', 'problem')

VALUES ('3213', '2018-01-11 1:30:11', 'Fever');

/*insert data into has hos doc table*/

```
INSERT INTO `hospitalsys`.`has_hos_doc` ('docID`, `hospID`) VALUES ('12345', '123'); INSERT INTO `hospitalsys`.`has_hos_doc` ('docID`, `hospID`) VALUES ('12346', '123'); INSERT INTO `hospitalsys`.`has_hos_doc` ('docID`, `hospID`) VALUES ('12347', '123'); INSERT INTO `hospitalsys`.`has_hos_doc` ('docID`, `hospID`) VALUES ('12348', '123'); INSERT INTO `hospitalsys`.`has_hos_doc` ('docID`, `hospID`) VALUES ('12349', '123');
```

/*insert data into has patient record table*/

```
INSERT INTO `hospitalsys`.`has_patient_record` (`patID`, `recordID`) VALUES ('54321', '321'); INSERT INTO `hospitalsys`.`has_patient_record` (`patID`, `recordID`) VALUES ('54323', '323'); INSERT INTO `hospitalsys`.`has_patient_record` (`patID`, `recordID`) VALUES ('54322', '322'); INSERT INTO `hospitalsys`.`has_patient_record` (`patID`, `recordID`) VALUES ('54321', '3211'); INSERT INTO `hospitalsys`.`has_patient_record` (`patID`, `recordID`) VALUES ('54321', '3212'); INSERT INTO `hospitalsys`.`has_patient_record` (`patID`, `recordID`) VALUES ('54321', '3213');
```

/*insert data into admit relation table*/

```
INSERT INTO `hospitalsys`.`admit_relation`(`patID`, `hospID`) VALUES ('54321', '123'); INSERT INTO `hospitalsys`.`admit_relation`(`patID`, `hospID`) VALUES ('54322', '123'); INSERT INTO `hospitalsys`.`admit_relation`(`patID`, `hospID`) VALUES ('54323', '123'); INSERT INTO `hospitalsys`.`admit_relation`(`patID`, `hospID`) VALUES ('54324', '123');
```

/*Create index*/

CREATE INDEX pat_id ON patient (patID);
CREATE INDEX medrec_id ON medicalrecord (recordID);

/*Create views*/

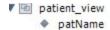
USE hospitalsys; CREATE VIEW doctor_view AS SELECT docName, salary FROM doctor

/* Create patient view*/

USE hospitalsys; CREATE VIEW patient_view AS SELECT patName, patAddress FROM patient

/* list the patients name and address on view*/

SELECT * FROM hospitalsys.patient_view;



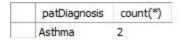
patAddress

patName	patAddress		
James	18 Darwin Stree		
Karl	28 Darwin Stree		
Bob	12 Kame Street		
Bill	32 Kame Street		

At least 2 queries involving GROUP BY, HAVING, and aggregate

/*find how many patients have diagnosis of asthma*/

SELECT P.patDiagnosis, count(*)
FROM patient P
GROUP BY P.patDiagnosis
HAVING P.patDiagnosis = 'Asthma';



/*find the doctors with over 100000 salary*/
SELECT D.docName, D.salary
FROM doctor D
GROUP BY D.docName
HAVING D.salary > 100000;

docName	salary
Billy	123122
Bob	131233
James	341231
Kurt	525311

At least 2 nested queries involving IN, EXIST, op ANY, op ALL...

/* Find the doctor whose salary is greater than that of some doctor name "Bob" */

SELECT *

FROM doctor D

WHERE D.salary > ANY (SELECT DW.salary

FROM doctor DW

WHERE DW.docName= 'Bob');

docID	docName	specialization	salary	Hospital_hospID
12345	Kurt	Cardiology	525311	123
12346	James	Orthopedic	341231	123
NULL	NULL	HULL	HULL	NULL

/* Find names of patient whose had Fever*/

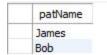
SELECT P.patName

FROM patient P

WHERE P.patID IN (SELECT M.Patient_patID

FROM medicalrecord M

WHERE M.problem = "Fever");



/* Find names of patient who have more than two medical record*/

SELECT P.patName

FROM patient P

WHERE Exists ((SELECT M.patID

FROM has_patient_record M

WHERE M.patID = P.patID

Group By patID

Having count(*) > 2);

