Lecture 5 Group practice

Part I. Consider the following relations:

Hotel (hotelNo, hotelName, city)

Room (roomNo, hotelNo, type, price)

Booking (hotelNo, guestNo, dateFrom, dateTo, roomNo)

Guest (guestNo, guestName, guestAddress)

(The underlined attributes form the primary key.)

Write SQL statements to perform the following:

1. Create the Hotel table, Guest table

CREATE TABLE Hotel(

hotelNo int NOT NULL,

hotelName VARCHAR(20) NOT NULL,

city VARCHAR(50) NOT NULL,

PRIMARY KEY (hotelNo));

CREATE TABLE Guest (

guestNo int NOT NULL,

guestName VARCHAR(20) NOT NULL,

guestAddress VARCHAR(50),

PRIMARY KEY (guestNo));

2. Create the Room table with the following conditions:

a. Room types with the following possibilities: Standard, Deluxe, Suite.

b. Hotel numbers that are present in the Hotel table.

c. Room prices between $50.00 and $500.00.

d. Room numbers between 1 and 9999

CREATE TABLE Room(

roomNo int NOT NULL check (roomNo >=1 and roomNo <=9999),

hotelNo int NOT NULL,

type varchar(10) NOT NULL check (type In ('Standard','Deluxe','Suite')),

price decimal(5,2) NOT NULL check (price >=50 and price <=500),

PRIMARY KEY (roomNo, hotelNo),

FOREIGN KEY (hotelNo) REFERENCES Hotel (hotelNo)

ON DELETE CASCADE ON UPDATE CASCADE);

3. Create the Booking table:

a. Allowing only guests that are present in the Guest table

b. The hotel room must be in the Room table

c. dateFrom must precede the dateTo.

create table booking (

hotelNo int not null,

guestNo int,

dateFrom date not null,

dateTo date,

roomNo int not null,

primary key (hotelNo, dateFrom, roomNo),

foreign key (guestNo) references Guest(guestNo),

foreign key (hotelNo, roomNo) references Room(hotelNo, roomNo),

check (datefrom<dateTo));

Part II

SQL query

1. For every project located in ‘Stafford’, list the project number, the controlling department number, and the department manager’s last name, address, and birth date.

select pnumber, dnum, lname,address,bdate from project, department, employee where dnum=dnumber and mgr\_ssn=ssn and plocation = 'Stafford';

2. List first name, last name, and address of all employees working in ‘Research’ department

Select fname, lname, address from employee, department where dname = 'Research' and dnumber = dno;

3. List location(s) of ‘Research’ department

SELECT Dlocation FROM DEPARTMENT, DEPT\_LOCATIONS where DEPARTMENT.Dnumber = DEPT\_LOCATIONS.Dnumber AND Dname = 'Research';

Or

SELECT Dlocation FROM DEPARTMENT D, DEPT\_LOCATIONS DL where D.Dnumber = DL.Dnumber AND Dname = 'Research';

4. List every employee name and his/her supervisor name

SELECT E.FNAME, E.LNAME, S.FNAME, S.LNAME

FROM EMPLOYEE AS E, EMPLOYEE AS S

WHERE E.SUPER\_SSN = S.SSN;

5. List all distinct employee salary

select distinct salary from employee;

6. Retrieval all employees’ names whose address is in Houston

select fname, lname from employee where address like '%Houston%';

7. Retrieval all employees’ names who were born during the 1970s

select fname, lname from employee where bdate like '197%';

or select fname, lname from employee where bdate like '\_\_7%';