Habib hospital database for liver transplantation department PRINCESS

NORA BINT ABDULRAHMAN UNIVERSITY

College of Computer and Information Sciences

Department of Information Systems

Habib hospital database for liver transplantation department

All Phases

| Serial#	Section #	NAME	ID
1	4C5	*Mjd Alamri*	*443007585*
2	████	████████	██
3	████	████████	██
4	████	████████	██
5	████	████████	██
6	████	████████	██

Group#: 2

Supervised By: Shahad Alshiha

Project Description:

The hospital has a patient who needs a liver transplant so they need a liver donor to do the surgery to them, and they need a doctor to examine the donor's liver to see if the liver receiver has the same blood type as the donor and if the receiver's body can accept the liver, then the doctor and the nurses will start doing the surgery.

So, our database will focus on this process and match the process with the information we have.

Entity Relationship Diagram (ERD):
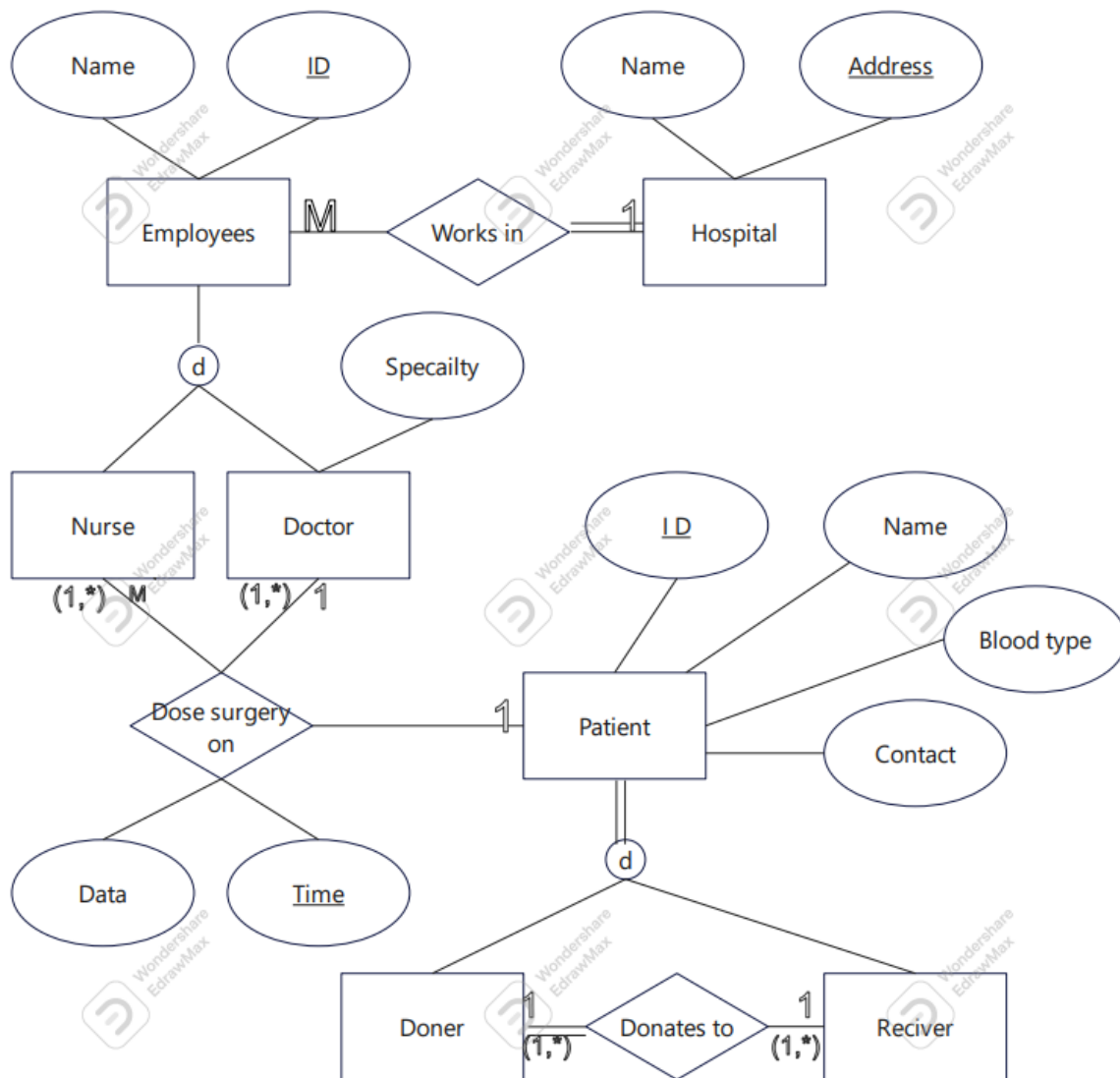
Relational Schema:

Hospital (Name, <u>Address</u>)

Employee (Name, <u>ID</u>, Address)

Fk: Address references in Hospital (Address)

Donor (<u>ID</u>, Name, Blood_type, Contact, ID2)

FK: ID2 references Receiver (ID)

Receiver (<u>ID</u>, Name, Blood_type, Contact)

Doctor (<u>ID</u>, specialty)

Nurse (<u>ID</u>)

Patient (<u>ID</u>, Name, Blood_type, contact)

Does Surgery on (Date, <u>time</u>, <u>Patient_ID</u>, <u>Doctor_ID</u>, <u>Nurse_ID</u>)

FK: Patient_ID references Patient(ID)
FK: Doctor_ID references Doctor(ID)
FK: Nurse_ID references Nurse(ID)

DLL Commands:

```
drop table Doctor cascade constraint;
create table Doctor(
Doctor_ID char(3) PRIMARY KEY,
specialty VARCHAR2(20) NOT NULL);

drop table Nurse cascade constraint;
CREATE TABLE Nurse(
Nurse_ID char(3) PRIMARY KEY);

drop table Patient cascade constraint;
CREATE TABLE patient(
Patient_ID char(3) PRIMARY KEY,
Pname VARCHAR2(10),
Blood_type char(3),
contact varchar2 (20));

drop table DoesSurgery cascade constraint;
create table DoesSurgery(
Surgery_date Date,
Surgery_time TIMESTAMP PRIMARY KEY,
Patient_ID  char(3),
Doctor_ID char(3),
Nurse_ID char(3),
constraint N_id_fk foreign key (Nurse_ID) references Nurse(Nurse_ID),
constraint D_id_fk foreign key (Doctor_ID) references Doctor(Doctor_ID),
constraint P_id_fk foreign key (Patient_ID) references Patient(Patient_ID));

DROP TABLE Hospital CASCADE CONSTRAINTS;
CREATE TABLE Hospital(
Name VARCHAR2(20),
Address VARCHAR2(15)PRIMARY key);

DROP TABLE Employee CASCADE CONSTRAINTS;
CREATE TABLE Employee(
Name VARCHAR2(20),
ID char(3)PRIMARY key,
Address VARCHAR2(15),
CONSTRAINT e_ad FOREIGN key (Address)REFERENCES Hospital(Address));

DROP TABLE Receiver CASCADE CONSTRAINTS;
CREATE TABLE Receiver (
ID char(3)PRIMARY key,
Name VARCHAR2(20),
Blood_type VARCHAR2(3),
Contact VARCHAR2(20));

DROP TABLE Donor CASCADE CONSTRAINTS;
CREATE TABLE Donor (
```

ID char(3)PRIMARY key,
Name VARCHAR2(20),
Blood_type CHAR(3),
Contact VARCHAR2(20),
ID2 char(3),
CONSTRAINT d_ID FOREIGN key(ID2)REFERENCES Receiver(ID));

```
Run SQL Command Line
SQL> drop table Doctor cascade constraint;

Table dropped.

SQL> create table Doctor(
  2  Doctor_ID char(3) PRIMARY KEY,
  3  specialty VARCHAR2(20) NOT NULL);

Table created.

SQL>
SQL> drop table Nurse cascade constraint;

Table dropped.

SQL> CREATE TABLE Nurse(
  2  Nurse_ID char(3) PRIMARY KEY);

Table created.

SQL>
SQL> drop table Patient cascade constraint;

Table dropped.

SQL> CREATE TABLE patient(
  2  Patient_ID char(3) PRIMARY KEY,
  3  Pname VARCHAR2(10),
  4  Blood_type char(3),
  5  contact varchar2 (20));

Table created.

SQL>
SQL> drop table DoesSurgery cascade constraint;

Table dropped.

SQL> create table DoesSurgery(
  2  Surgery_date Date,
  3  Surgery_time TIMESTAMP PRIMARY KEY,
  4  Patient_ID  char(3),
  5  Doctor_ID char(3),
  6  Nurse_ID char(3),
  7  constraint N_id_fk foreign key (Nurse_ID) references Nurse(Nurse_ID),
  8  constraint D_id_fk foreign key (Doctor_ID) references Doctor(Doctor_ID),
  9  constraint P_id_fk foreign key (Patient_ID) references Patient(Patient_ID));

Table created.
```

```
SQL> CREATE TABLE Hospital(
  2  Name VARCHAR2(20),
  3  Address VARCHAR2(15)PRIMARY key);

Table created.

SQL>
SQL> DROP TABLE Employee CASCADE CONSTRAINTS;

Table dropped.

SQL> CREATE TABLE Employee(
  2  Name VARCHAR2(20),
  3  ID char(3)PRIMARY key,
  4  Address VARCHAR2(15),
  5  CONSTRAINT e_ad FOREIGN key (Address)REFERENCES Hospital(Address));

Table created.

SQL>
SQL> DROP TABLE Receiver CASCADE CONSTRAINTS;

Table dropped.

SQL> CREATE TABLE Receiver (
  2  ID char(3)PRIMARY key,
  3  Name VARCHAR2(20),
  4  Blood_type VARCHAR2(3),
  5  Contact VARCHAR2(20));

Table created.

SQL>
SQL> DROP TABLE Donor CASCADE CONSTRAINTS;

Table dropped.

SQL> CREATE TABLE Donor (
  2  ID char(3)PRIMARY key,
  3  Name VARCHAR2(20),
  4  Blood_type CHAR(3),
  5  Contact VARCHAR2(20),
  6  ID2 char(3),
  7  CONSTRAINT d_ID FOREIGN key(ID2)REFERENCES Receiver(ID));

Table created.

SQL> _
```

Insertion:

```
insert into Doctor values('753','surgeon');
insert into Doctor values('901' , 'Anesthesiologist');
insert into Doctor values('414' , 'Assistant Surgeon');

insert into Nurse values('893');
insert into Nurse values('178');
insert into Nurse values('702');

insert into patient values('200' , 'Rahaf' , 'A' , '0505555555');
insert into patient values('555' , 'Amani' , 'B' , '0508888888');
insert into patient values('888' , 'Asma' , 'AB' , '0505554449');

insert into DoesSurgery values(DATE '2022-10-12' , TIMESTAMP '2022-10-12 08:00:00' , '200'
, '753' , '893');
insert into DoesSurgery values(DATE '2022-10-10' , TIMESTAMP '2022-10-12 07:00:00' , '555'
, '901' , '178');
insert into DoesSurgery values(DATE '2022-10-11' , TIMESTAMP '2022-10-12 01:45:00' , '888'
, '414' , '702');

insert into Hospital values('Alhabib' , 'Riyadh-Rayyan');
insert into Hospital values('Dallah' , 'Riyadh-nakeel');
insert into Hospital values('Mouwasat' , 'Riyadh-Garnath');

insert into Employee values('Asma' , '123' ,'Riyadh-Rayyan');
insert into Employee values('Nora' ,'111' , 'Riyadh-nakeel');
insert into Employee values('Layan' ,'219' , 'Riyadh-Garnath');

insert into Receiver values('909' , 'Mohammed' ,'A' , '0505522555');
insert into Receiver values('768' ,'Aljoharh' , 'B' , '0509508888');
insert into Receiver values('456' ,'Maher' , 'A', '0503354449');

insert into Donor values('270' , 'Rimaz' ,'A' , '0504444555' , '909');
insert into Donor values('584' ,'Mjd' , 'B' , '0509504444' , '768');
insert into Donor values('777' ,'Reema' , 'A', '0503356669' , '456');
```

```
Run SQL Command Line

SQL> insert into Doctor values('753','surgeon');

1 row created.

SQL> insert into Doctor values('901' , 'Anesthesiologist');

1 row created.

SQL> insert into Doctor values('414' , 'Assistant Surgeon');

1 row created.

SQL>
SQL> insert into Nurse values('893');

1 row created.

SQL> insert into Nurse values('178');

1 row created.

SQL> insert into Nurse values('702');

1 row created.

SQL>
SQL> insert into patient values('200' , 'Rahaf' , 'A' , '0505555555');

1 row created.

SQL> insert into patient values('555' , 'Amani' , 'B' , '0508888888');

1 row created.

SQL> insert into patient values('888' , 'Asma' , 'AB' , '0505554449');

1 row created.

SQL>
SQL> insert into DoesSurgery values(DATE '2022-10-12' , TIMESTAMP '2022-10-12 08:00:00' , '200' , '753' , '893');

1 row created.

SQL> insert into DoesSurgery values(DATE '2022-10-10' , TIMESTAMP '2022-10-12 07:00:00' , '555' , '901' , '178');

1 row created.

SQL> insert into DoesSurgery values(DATE '2022-10-11' , TIMESTAMP '2022-10-12 01:45:00' , '888' , '414' , '702');
```

```
SQL> insert into DoesSurgery values(DATE '2022-10-11' , TIMESTAMP '2022-10-12 01:45:00' , '888' , '414' , '702');

1 row created.

SQL>
SQL> insert into Hospital values('Alhabib' , 'Riyadh-Rayyan');

1 row created.

SQL> insert into Hospital values('Dallah' , 'Riyadh-nakeel');

1 row created.

SQL> insert into Hospital values('Mouwasat' , 'Riyadh-Garnath');

1 row created.

SQL>
SQL> insert into Employee values('Asma' , '123' ,'Riyadh-Rayyan');

1 row created.

SQL> insert into Employee values('Nora' ,'111' , 'Riyadh-nakeel');

1 row created.

SQL> insert into Employee values('Layan' ,'219' , 'Riyadh-Garnath');

1 row created.

SQL>
SQL> insert into Receiver values('909' , 'Mohammed' ,'A' , '0505522555');

1 row created.

SQL> insert into Receiver values('768' ,'Aljoharh' , 'B' , '0509508888');

1 row created.

SQL> insert into Receiver values('456' ,'Maher' , 'A', '0503354449');

1 row created.

SQL>
SQL> insert into Donor values('270' , 'Rimaz' ,'A' , '0504444555' , '909');

1 row created.
```

```
SQL> insert into Donor values('584' ,'Mjd' , 'B' , '0509504444' , '768');

1 row created.

SQL> insert into Donor values('777' ,'Reema' , 'A', '0503356669' , '456');

1 row created.

SQL>
```

DML Commands:

```
SELECT Doctor_ID
    FROM Doctor
        WHERE specialty ='Anesthesiologist';


SELECT *
    FROM patient
        WHERE Pname = 'Rahaf';


UPDATE Receiver
    SET  Blood_type = 'AB'
        WHERE Name ='Mohammed';


SELECT count(*)
    FROM patient
        WHERE Blood_type = 'A';


SELECT address, count(*)
 FROM EMPLOYEE
   GROUP BY address
    HAVING count(*)>0;


SELECT Blood_type,count(*)
 FROM Donor
   GROUP BY Blood_type
    ORDER BY count(*) DESC;
```

```
Run SQL Command Line
SQL> insert into Donor values('777' ,'Reema' , 'A', '0503356669' , '456');

1 row created.

SQL> SELECT Doctor_ID
  2  FROM Doctor
  3  WHERE specialty ='Anesthesiologist';

DOC
---
901

SQL>
SQL> SELECT *
  2  FROM patient
  3  WHERE Pname = 'Rahaf';

PAT PNAME       BLO CONTACT
--- ---------- --- --------------------
200 Rahaf      A   0505555555

SQL>
SQL> UPDATE Receiver
  2  SET  Blood_type = 'AB'
  3  WHERE Name ='Mohammed';

1 row updated.

SQL>
SQL> SELECT count(*)
  2  FROM patient
  3  WHERE Blood_type = 'A';

  COUNT(*)
---------
        1

SQL>
SQL> SELECT address, count(*)
  2    FROM EMPLOYEE
  3      GROUP BY address
  4        HAVING count(*)>0;

ADDRESS          COUNT(*)
--------------- ----------
Riyadh-nakeel            1
Riyadh-Garnath           1
Riyadh-Rayyan            1
```

```
SQL> SELECT Blood_type,count(*)
  2    FROM Donor
  3      GROUP BY Blood_type
  4        ORDER BY count(*) DESC;

BLO   COUNT(*)
--- ----------
A            2
B            1

SQL>
```

Work Distribution:

NAME	ID	Percentage	WORK
Mjd Alamri	*443007585*	*%16.6*	*Discuss the ERD* *Draw the ERD using draw.io,* *Fixed the ERD draw ,* *Insert values into tables*
Ahad Alqahtani	*443007629*	*%16.6*	*Discuss the ERD* *Made the final file to be ready to submit,* *Did Works in relation mapping,* *Did queries*
Reema alblihed	*443007578*	*%16.6*	*Discuss the ERD* *Helped drawing the first version of ERD,* *Checked the final file to be ready to submit,* *Helped Creating Tables*
Reema Alasiri	*443007558*	*%16.6*	*Discuss the ERD* *Helped drawing the first version of ERD,* *Did "Does surgery" on relation mapping,* *Did -Group by& Having- queries*
Maha Aljubaili	*443007479*	*%16.6*	*Discuss the ERD* *Made team logo,* *Did "Donates to" relation mapping,* *Helped Creating Tables*
Luluh Aldubayan	*443007585*	*%16.6*	*Discuss the ERD* *Wrote the description,* *Made edits in the word file ,* *Fixed errors in the SQL & Made edits in the word file*