

1. Create a database for the Hospital Management System based on your ER. Create appropriate tables & relationships.

DDL COMMANDS:

```
CREATE DATABASE HOSPITAL;
```

```
USE HOSPITAL
```

Default schema set to `HOSPITAL`.

```
CREATE TABLE patient( P_ID INT PRIMARY KEY, P_NAME VARCHAR(50), P_Address VARCHAR(200), contact CHAR(10));
```

```
CREATE TABLE department( dept_id INT PRIMARY KEY, dept_name VARCHAR(30));
```

```
CREATE TABLE doctor( doc_id INT PRIMARY KEY, doc_name VARCHAR(30), dept_id INT, FOREIGN KEY (dept_id) REFERENCES department(dept_id));
```

```
ALTER TABLE patient add admit_date DATE;
```

```
ALTER TABLE patient add discharge_date DATE;
```

```
ALTER TABLE patient add doc_id INT;
```

```
ALTER TABLE patient ADD FOREIGN KEY(doc_id) REFERENCES doctor(doc_id);
```

Inserting values:

TABLE DEPARTMENT:

```
INSERT INTO department VALUES(101, "cardiologist");
```

```
INSERT INTO department VALUES(102, "neurology");
```

```
INSERT INTO department VALUES(103, "gynaecology");
```

```
INSERT INTO department VALUES(104, "obstetric");
```

TABLE DOCTOR:

```
INSERT INTO doctor VALUES(201, "ramesh",101);
```

```
INSERT INTO doctor VALUES(202, "Kavita",101);
```

```
INSERT INTO doctor VALUES(203, "Rohan",101);
```

```
INSERT INTO doctor VALUES(204, "Kamal",102);
```

```
INSERT INTO doctor VALUES(205, "Sandra",103);
```

```
INSERT INTO doctor VALUES(206, "Jay",103);
```

```
INSERT INTO doctor VALUES(207, "Hrehal",104);
```

TABLE PATIENT:

```
INSERT INTO patient VALUES(1,"Amit", "delhi", "1234567890",'2020-07-10','2020-07-16',201);
```

```
INSERT INTO patient VALUES(2,"Paul", "delhi", "1234567890",'2020-07-10','2020-07-16',201);
```

```
INSERT INTO patient VALUES(3,"Ram", "delhi", "1234567890",'2020-07-02','2020-07-09',202);
```

```
INSERT INTO patient VALUES(4,"Franziska", "delhi", "1234567890",'2020-07-09','2020-07-14',204);
```

```
INSERT INTO patient VALUES(5,"Sheja", "delhi", "1234567890",'2020-07-01','2020-07-02',204);
```

```
INSERT INTO patient VALUES(6,"Gauri", "delhi", "1234567890",'2020-07-01','2020-07-17',205);
```

```
INSERT INTO patient VALUES(7,"Garisha", "delhi", "1234567890",'2020-07-01','2020-07-17',205);
```

```
INSERT INTO patient VALUES(8,"kedian", "delhi", "1234567890",'2020-07-01','2020-07-02',204);
```

```
INSERT INTO patient VALUES(9,"kunal", "delhi", "1234567890",'2020-07-01','2020-07-02',204);
```

```
INSERT INTO patient VALUES(10,"Komal", "delhi", "1234567890",'2020-07-09','2020-07-14',204);
```

Table Creation:

```

MySQL localhost:3306 SQL > CREATE DATABASE HOSPITAL;
Query OK, 1 row affected (0.0013 sec)
MySQL localhost:3306 SQL > USE HOSPITAL
Default schema set to `HOSPITAL`.
Fetching table and column names from `hospital` for auto-completion... Press ^C to stop.
MySQL localhost:3306 hospital SQL > CREATE TABLE patient( P_ID INT PRIMARY KEY, P_NAME VARCHAR(50), P_Address VARCHAR(200), contact CHAR(10));
Query OK, 0 rows affected (0.0112 sec)
MySQL localhost:3306 hospital SQL > CREATE TABLE department( dept_id INT PRIMARY KEY, dept_name VARCHAR(30));
Query OK, 0 rows affected (0.0092 sec)
MySQL localhost:3306 hospital SQL > CREATE TABLE doctor( doc_id INT PRIMARY KEY, doc_name VARCHAR(30), dept_id, FOREIGN KEY (dept_id) REFERENCES department(dept_id));
ERROR: 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near ' FOREIGN KEY (dept_id) REFERENCES department(dept_id)
)' at line 1
MySQL localhost:3306 hospital SQL > CREATE TABLE doctor( doc_id INT PRIMARY KEY, doc_name VARCHAR(30), dept_id INT, FOREIGN KEY (dept_id) REFERENCES department(dept_id));
Query OK, 0 rows affected (0.0561 sec)
MySQL localhost:3306 hospital SQL > ALTER TABLE patient add admit_date DATE;
Query OK, 0 rows affected (0.0636 sec)

Records: 0 Duplicates: 0 Warnings: 0
MySQL localhost:3306 hospital SQL > ALTER TABLE patient add discharge_date DATE;
Query OK, 0 rows affected (0.0591 sec)

Records: 0 Duplicates: 0 Warnings: 0
MySQL localhost:3306 hospital SQL > ALTER TABLE patient add doc_id INT;
Query OK, 0 rows affected (0.0569 sec)

Records: 0 Duplicates: 0 Warnings: 0
MySQL localhost:3306 hospital SQL > ALTER TABLE patient ADD FOREIGN KEY(doc_id) REFERENCES doctor(doc_id);
ERROR: 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MariaDB server version for the right syntax to use near 'REFERENCES doctor(doc_id)' at line 1
MySQL localhost:3306 hospital SQL > ALTER TABLE patient ADD FOREIGN KEY(doc_id) REFERENCES doctor(doc_id);
Query OK, 0 rows affected (0.0922 sec)

```

Tables after inserting data:

```

MySQL localhost:3306 hospital SQL > select * from patient;
+-----+-----+-----+-----+-----+-----+-----+
| P_ID | P_NAME | P_Address | contact | admit_date | discharge_date | doc_id |
+-----+-----+-----+-----+-----+-----+-----+
| 1 | Amit | delhi | 1234567890 | 2020-07-10 | 2020-07-16 | 201 |
| 2 | Paul | delhi | 1234567890 | 2020-07-10 | 2020-07-16 | 201 |
| 3 | Ram | delhi | 1234567890 | 2020-07-02 | 2020-07-09 | 202 |
| 4 | Franziska | delhi | 1234567890 | 2020-07-09 | 2020-07-14 | 204 |
| 5 | Sheja | delhi | 1234567890 | 2020-07-01 | 2020-07-02 | 204 |
| 6 | Gauri | delhi | 1234567890 | 2020-07-01 | 2020-07-17 | 205 |
| 7 | Garisha | delhi | 1234567890 | 2020-07-01 | 2020-07-17 | 205 |
| 8 | kedian | delhi | 1234567890 | 2020-07-01 | 2020-07-02 | 204 |
| 9 | kunal | delhi | 1234567890 | 2020-07-01 | 2020-07-02 | 204 |
| 10 | Komal | delhi | 1234567890 | 2020-07-09 | 2020-07-14 | 204 |
+-----+-----+-----+-----+-----+-----+-----+
10 rows in set (0.0004 sec)

```

```
MySQL localhost:3306 hospital SQL > select * from department;
```

dept_id	dept_name
101	cardiologist
102	neurology
103	gynaecology
104	obstetric

4 rows in set (0.0004 sec)

```
MySQL localhost:3306 hospital SQL > select * from doctor;
```

doc_id	doc_name	dept_id
201	ramesh	101
202	Kavita	101
203	Rohan	101
204	Kamal	102
205	Sandra	103
206	Jay	103
207	Hrehal	104

7 rows in set (0.0005 sec)

```
MySQL localhost:3306 hospital SQL >
```

2. Design a query to provide a list of doctors, which department they belong to and patients treated by them (if any).

Query: select t.doc_id,t.doc_name,t.dept_name,P_Name from (select doc_id,doc_name,dept_name from doctor, department where doctor.dept_id=department.dept_id) as t left join patient on t.doc_id=patient.doc_id;

```
MySQL localhost:3306 hospital SQL > select t.doc_id,t.doc_name,t.dept_name,P_Name from (select doc_id,doc_name,dept_name from doctor, department where doctor.dept_id=department.dept_id) as t left join patient on t.doc_id=patient.doc_id;
```

doc_id	doc_name	dept_name	P_Name
201	ramesh	cardiologist	Amit
201	ramesh	cardiologist	Paul
202	Kavita	cardiologist	Ram
203	Rohan	cardiologist	NULL
204	Kamal	neurology	Franziska
204	Kamal	neurology	Sheja
204	Kamal	neurology	kedian
204	Kamal	neurology	kunal
204	Kamal	neurology	Komal
205	Sandra	gynaecology	Gauri
205	Sandra	gynaecology	Garisha
206	Jay	gynaecology	NULL
207	Hrehal	obstetric	NULL

13 rows in set (0.0006 sec)

doc_id	doc_name	dept_name	P_Name
201	ramesh	cardiologist	Amit
201	ramesh	cardiologist	Paul
202	Kavita	cardiologist	Ram
203	Rohan	cardiologist	NULL
204	Kamal	neurology	Franziska
204	Kamal	neurology	Sheja
204	Kamal	neurology	kedian
204	Kamal	neurology	kunal
204	Kamal	neurology	Komal
205	Sandra	gynaecology	Gauri
205	Sandra	gynaecology	Garisha
206	Jay	gynaecology	NULL
207	Hrehal	obstetric	NULL

3. Query to provide the count of patients discharged per day in the last week.

Query: select discharge_date, COUNT(P_Name) as avg_patient_discharged from patient where DATE(discharge_date) BETWEEN '2020-07-11' AND '2020-07-18' GROUP BY discharge_date;

```
MySQL localhost:3306 hospital SQL > select discharge_date, COUNT(P_Name) as avg_patient_discharged from patient where DATE(discharge_date) BETWEEN '2020-07-11' AND '2020-07-18' GROUP BY discharge_date;
```

discharge_date	avg_patient_discharged
2020-07-14	2
2020-07-16	2
2020-07-17	2

3 rows in set (0.0501 sec)

discharge_date	avg_patient_discharged
2020-07-14	2
2020-07-16	2
2020-07-17	2