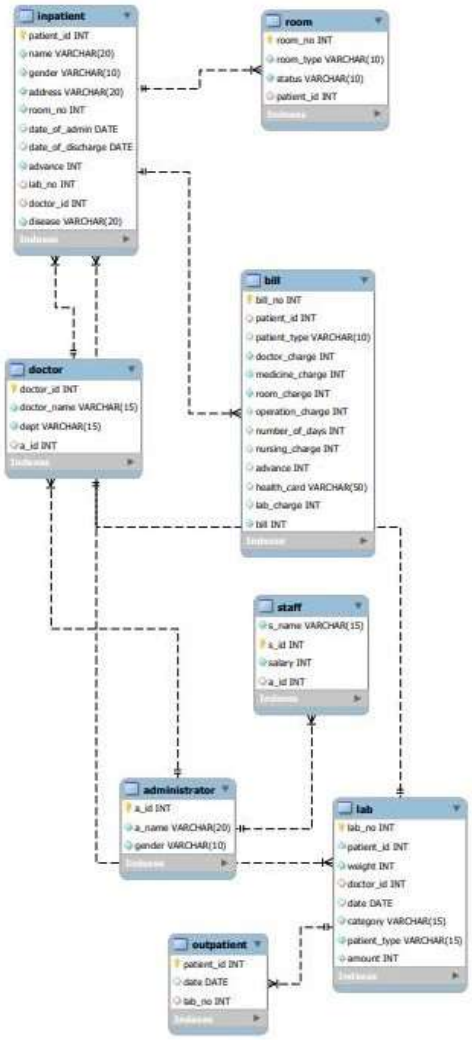
# Hospital Management System

*(using MySQL)*


inpatient
patient_id INT
name VARCHAR(20)
gender VARCHAR(10)
address VARCHAR(20)
room_no INT
date_of_admin DATE
date_of_discharge DATE
advance INT
lab_no INT
doctor_id INT
disease VARCHAR(20)
room
room_no INT
room_type VARCHAR(10)
status VARCHAR(10)
patient_id INT
bill
bill_no INT
patient_id INT
patient_type VARCHAR(10)
doctor_charge INT
medicine_charge INT
room_charge INT
operation_charge INT
number_of_days INT
nursing_charge INT
advance INT
health_card VARCHAR(50)
lab_charge INT
bill INT
doctor
doctor_id INT
doctor_name VARCHAR(15)
dept VARCHAR(15)
a_id INT
staff
s_name VARCHAR(15)
s_id INT
salary INT
a_id INT
administrator
a_id INT
a_name VARCHAR(20)
gender VARCHAR(10)
lab
lab_no INT
patient_id INT
weight INT
doctor_id INT
date DATE
category VARCHAR(15)
patient_type VARCHAR(15)
amount INT
outpatient
patient_id INT
date DATE
lab_no INT

# ER Diagram

**mysql>** CREATE DATABASE HospitalManagementSystem;

**mysql>** use HospitalManagementSystem;

```
mysql> CREATE DATABASE HospitalManagementSystem;
Query OK, 1 row affected (0.10 sec)

mysql> use HospitalManagementSystem;
Database changed
```

**mysql>** create table Administrator(

**->** a_id INT(5) PRIMARY KEY,

**->** a_name VARCHAR(20) NOT NULL,

**->** gender VARCHAR(10) NOT NULL

**->** );

```
mysql> create table Administrator(
    -> a_id INT(5) PRIMARY KEY,
    -> a_name VARCHAR(20) NOT NULL,
    -> gender VARCHAR(10) NOT NULL
    -> );
Query OK, 0 rows affected, 1 warning (0.13 sec)
```

```
mysql> DESC Administrator;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| a_id   | int         | NO   | PRI | NULL    |       |
| a_name | varchar(20) | NO   |     | NULL    |       |
| gender | varchar(10) | NO   |     | NULL    |       |
+--------+-------------+------+-----+---------+-------+
```

**mysql>** create table Doctor(

**->** doctor_id INT(5) PRIMARY KEY,

**->** doctor_name VARCHAR(15) NOT NULL,

-> dept VARCHAR(15) NOT NULL,

-> a_id INT(5),

-> FOREIGN KEY (a_id) REFERENCES Administrator (a_id)

-> );

```
mysql> create table Doctor(
    -> doctor_id INT(5) PRIMARY KEY,
    -> doctor_name VARCHAR(15) NOT NULL,
    -> dept VARCHAR(15) NOT NULL,
    -> a_id INT(5),
    -> FOREIGN KEY (a_id) REFERENCES Administrator (a_id)
    -> );
Query OK, 0 rows affected, 2 warnings (0.05 sec)
```

```
mysql> DESC Doctor;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| doctor_id   | int         | NO   | PRI | NULL    |       |
| doctor_name | varchar(15) | NO   |     | NULL    |       |
| dept        | varchar(15) | NO   |     | NULL    |       |
| a_id        | int         | YES  | MUL | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
```

**mysql>** create table Staff(

-> s_name VARCHAR(15) NOT NULL,

-> s_id INT(5) PRIMARY KEY,

-> salary INT(5) NOT NULL,

-> a_id INT(5),

-> FOREIGN KEY (a_id) REFERENCES Administrator (a_id)

-> );

```
mysql> create table Staff(
    -> s_name VARCHAR(15) NOT NULL,
    -> s_id INT(5) PRIMARY KEY,
    -> salary INT(5) NOT NULL,
    -> a_id INT(5),
    -> FOREIGN KEY (a_id) REFERENCES Administrator (a_id)
    -> );
Query OK, 0 rows affected, 3 warnings (0.03 sec)
```

```
mysql> DESC Staff;
+--------+-------------+------+-----+---------+-------+
| Field  | Type        | Null | Key | Default | Extra |
+--------+-------------+------+-----+---------+-------+
| s_name | varchar(15) | NO   |     | NULL    |       |
| s_id   | int         | NO   | PRI | NULL    |       |
| salary | int         | NO   |     | NULL    |       |
| a_id   | int         | YES  | MUL | NULL    |       |
+--------+-------------+------+-----+---------+-------+
```

**mysql>** create table Lab(

**->** lab_no INT(5) PRIMARY KEY,

**->** patient_id INT(5) NOT NULL,

**->** weight INT NOT NULL,

**->** doctor_id INT(5),

**->** FOREIGN KEY (doctor_id) REFERENCES Doctor (doctor_id),

**->** date DATETIME(6) NOT NULL,

**->** category VARCHAR(15) NOT NULL,

**->** patient_type VARCHAR(15) NOT NULL,

**->** amount INT(10) NOT NULL

**->** );

```
mysql> create table Lab(
    -> lab_no INT(5) PRIMARY KEY,
    -> patient_id INT(5) NOT NULL,
    -> weight INT NOT NULL,
    -> doctor_id INT(5),
    -> FOREIGN KEY (doctor_id) REFERENCES Doctor (doctor_id),
    -> date DATETIME(6) NOT NULL,
    -> category VARCHAR(15) NOT NULL,
    -> patient_type VARCHAR(15) NOT NULL,
    -> amount INT(10) NOT NULL
    -> );
Query OK, 0 rows affected, 4 warnings (0.04 sec)
```

```
mysql> DESC Lab;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| lab_no       | int         | NO   | PRI | NULL    |       |
| patient_id   | int         | NO   |     | NULL    |       |
| weight       | int         | NO   |     | NULL    |       |
| doctor_id    | int         | YES  | MUL | NULL    |       |
| date         | datetime(6) | NO   |     | NULL    |       |
| category     | varchar(15) | NO   |     | NULL    |       |
| patient_type | varchar(15) | NO   |     | NULL    |       |
| amount       | int         | NO   |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
```

**mysql>** ALTER TABLE Lab

**->** DROP date,

**->** ADD date DATE AFTER doctor_id;

```
mysql> DESC Lab;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| lab_no       | int         | NO   | PRI | NULL    |       |
| patient_id   | int         | NO   |     | NULL    |       |
| weight       | int         | NO   |     | NULL    |       |
| doctor_id    | int         | YES  | MUL | NULL    |       |
| date         | date        | YES  |     | NULL    |       |
| category     | varchar(15) | NO   |     | NULL    |       |
| patient_type | varchar(15) | NO   |     | NULL    |       |
| amount       | int         | NO   |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
```

```
mysql> create table Inpatient(
    -> patient_id INT(5) PRIMARY KEY,
    -> name VARCHAR(20) NOT NULL,
    -> gender VARCHAR(10) NOT NULL,
    -> address VARCHAR(20) NOT NULL,
    -> room_no INT(5) NOT NULL,
    -> date_of_admin DATETIME(6) NOT NULL,
    -> date_of_discharge DATETIME(6) NOT NULL,
    -> advance INT(10) NOT NULL,
    -> lab_no INT(5),
    -> FOREIGN KEY (lab_no) REFERENCES Lab (lab_no),
    -> doctor_id INT(5),
    -> FOREIGN KEY (doctor_id) REFERENCES Doctor
(doctor_id),
    -> disease VARCHAR(20) NOT NULL
    -> );
```

```
mysql> create table Inpatient(
    -> patient_id INT(5) PRIMARY KEY,
    -> name VARCHAR(20) NOT NULL,
    -> gender VARCHAR(10) NOT NULL,
    -> address VARCHAR(20) NOT NULL,
    -> room_no INT(5) NOT NULL,
    -> date_of_admin DATETIME(6) NOT NULL,
    -> date_of_discharge DATETIME(6) NOT NULL,
    -> advance INT(10) NOT NULL,
    -> lab_no INT(5),
    -> FOREIGN KEY (lab_no) REFERENCES Lab (lab_no),
    -> doctor_id INT(5),
    -> FOREIGN KEY (doctor_id) REFERENCES Doctor (doctor_id),
    -> disease VARCHAR(20) NOT NULL
    -> );
Query OK, 0 rows affected, 5 warnings (0.04 sec)
```

```
mysql> DESC Inpatient;
+------------------+-------------+------+-----+---------+-------+
| Field            | Type        | Null | Key | Default | Extra |
+------------------+-------------+------+-----+---------+-------+
| patient_id       | int         | NO   | PRI | NULL    |       |
| name             | varchar(20) | NO   |     | NULL    |       |
| gender           | varchar(10) | NO   |     | NULL    |       |
| address          | varchar(20) | NO   |     | NULL    |       |
| room_no          | int         | NO   |     | NULL    |       |
| date_of_admin    | datetime(6) | NO   |     | NULL    |       |
| date_of_discharge | datetime(6) | NO   |     | NULL    |       |
| advance          | int         | NO   |     | NULL    |       |
| lab_no           | int         | YES  | MUL | NULL    |       |
| doctor_id        | int         | YES  | MUL | NULL    |       |
| disease          | varchar(20) | NO   |     | NULL    |       |
+------------------+-------------+------+-----+---------+-------+
```

**mysql>** ALTER TABLE Inpatient

**->** DROP date_of_discharge,

**->** ADD date_of_discharge DATE AFTER date_of_admin;

```
mysql> DESC Inpatient;
+------------------+------------+------+-----+---------+-------+
| Field            | Type       | Null | Key | Default | Extra |
+------------------+------------+------+-----+---------+-------+
| patient_id       | int        | NO   | PRI | NULL    |       |
| name             | varchar(20)| NO   |     | NULL    |       |
| gender           | varchar(10)| NO   |     | NULL    |       |
| address          | varchar(20)| NO   |     | NULL    |       |
| room_no          | int        | NO   |     | NULL    |       |
| date_of_admin    | date       | YES  |     | NULL    |       |
| date_of_discharge| date       | YES  |     | NULL    |       |
| advance          | int        | NO   |     | NULL    |       |
| lab_no           | int        | YES  | MUL | NULL    |       |
| doctor_id        | int        | YES  | MUL | NULL    |       |
| disease          | varchar(20)| NO   |     | NULL    |       |
+------------------+------------+------+-----+---------+-------+
```

**mysql>** create table Outpatient(

**->** patient_id INT(5) PRIMARY KEY,

**->** date DATETIME NOT NULL,

**->** lab_no INT(5),

**->** FOREIGN KEY (lab_no) REFERENCES Lab (lab_no)

**->** );

```
mysql> create table Outpatient(
    -> patient_id INT(5) PRIMARY KEY,
    -> date DATETIME NOT NULL,
    -> lab_no INT(5),
    -> FOREIGN KEY (lab_no) REFERENCES Lab (lab_no)
    -> );
Query OK, 0 rows affected, 2 warnings (0.03 sec)
```

```
mysql> DESC Outpatient;
+------------+----------+------+-----+---------+-------+
| Field      | Type     | Null | Key | Default | Extra |
+------------+----------+------+-----+---------+-------+
| patient_id | int      | NO   | PRI | NULL    |       |
| date       | datetime | NO   |     | NULL    |       |
| lab_no     | int      | YES  | MUL | NULL    |       |
+------------+----------+------+-----+---------+-------+
```

**mysql>** ALTER TABLE Outpatient

**->** DROP date,

**->** ADD date DATE AFTER patient_id;

```
mysql> DESC Outpatient;
+------------+------+------+-----+---------+-------+
| Field      | Type | Null | Key | Default | Extra |
+------------+------+------+-----+---------+-------+
| patient_id | int  | NO   | PRI | NULL    |       |
| date       | date | YES  |     | NULL    |       |
| lab_no     | int  | YES  | MUL | NULL    |       |
+------------+------+------+-----+---------+-------+
```

**mysql>** create table Room(

**->** room_no INT(5) PRIMARY KEY,

**->** room_type VARCHAR(10) NOT NULL,

**->** status VARCHAR(10) NOT NULL,

**->** patient_id INT(5),

**->** FOREIGN KEY (patient_id) REFERENCES Inpatient (patient_id)

**->** );

```
mysql> create table Room(
    -> room_no INT(5) PRIMARY KEY,
    -> room_type VARCHAR(10) NOT NULL,
    -> status VARCHAR(10) NOT NULL,
    -> patient_id INT(5),
    -> FOREIGN KEY (patient_id) REFERENCES Inpatient (patient_id)
    -> );
Query OK, 0 rows affected, 2 warnings (0.02 sec)
```

```
mysql> DESC Room;
+------------+-------------+------+-----+---------+-------+
| Field      | Type        | Null | Key | Default | Extra |
+------------+-------------+------+-----+---------+-------+
| room_no    | int         | NO   | PRI | NULL    |       |
| room_type  | varchar(10) | NO   |     | NULL    |       |
| status     | varchar(10) | NO   |     | NULL    |       |
| patient_id | int         | YES  | MUL | NULL    |       |
+------------+-------------+------+-----+---------+-------+
```

**mysql>** create table Bill(

**->** bill_no INT(50) PRIMARY KEY,

**->** patient_id INT(5),

**->** FOREIGN KEY (patient_id) REFERENCES Inpatient (patient_id),

**->** patient_type VARCHAR(10),

**->** doctor_charge INT NOT NULL,

**->** medicine_charge INT NOT NULL,

**->** room_charge INT NOT NULL,

**->** operation_charge INT,

**->** number_of_days INT,

**->** nursing_charge INT,

**->** advance INT,

-> health_card VARCHAR(50),

-> lab_charge INT,

-> bill INT NOT NULL

-> );

```
mysql> create table Bill(
    -> bill_no INT(50) PRIMARY KEY,
    -> patient_id INT(5),
    -> FOREIGN KEY (patient_id) REFERENCES Inpatient (patient_id),
    -> patient_type VARCHAR(10),
    -> doctor_charge INT NOT NULL,
    -> medicine_charge INT NOT NULL,
    -> room_charge INT NOT NULL,
    -> operation_charge INT,
    -> number_of_days INT,
    -> nursing_charge INT,
    -> advance INT,
    -> health_card VARCHAR(50),
    -> lab_charge INT,
    -> bill INT NOT NULL
    -> );
Query OK, 0 rows affected, 2 warnings (0.03 sec)
```

```
mysql> DESC Bill;
+------------------+-------------+------+-----+---------+-------+
| Field            | Type        | Null | Key | Default | Extra |
+------------------+-------------+------+-----+---------+-------+
| bill_no          | int         | NO   | PRI | NULL    |       |
| patient_id       | int         | YES  | MUL | NULL    |       |
| patient_type     | varchar(10) | YES  |     | NULL    |       |
| doctor_charge    | int         | NO   |     | NULL    |       |
| medicine_charge  | int         | NO   |     | NULL    |       |
| room_charge      | int         | NO   |     | NULL    |       |
| operation_charge | int         | YES  |     | NULL    |       |
| number_of_days   | int         | YES  |     | NULL    |       |
| nursing_charge   | int         | YES  |     | NULL    |       |
| advance          | int         | YES  |     | NULL    |       |
| health_card      | varchar(50) | YES  |     | NULL    |       |
| lab_charge       | int         | YES  |     | NULL    |       |
| bill             | int         | NO   |     | NULL    |       |
+------------------+-------------+------+-----+---------+-------+
```

# SCREENSHOT OF TABLES

```
mysql> SELECT * FROM Administrator;
+-------+--------+--------+
| a_id  | a_name | gender |
+-------+--------+--------+
| 21001 | Aaryan | male   |
| 21002 | Ryan   | male   |
+-------+--------+--------+
```

```
mysql> SELECT * FROM Doctor;
+-----------+-------------+----------------+-------+
| doctor_id | doctor_name | dept           | a_id  |
+-----------+-------------+----------------+-------+
|     22001 | Anup        | OPD            | 21001 |
|     22002 | Arun        | Physio Therapy | 21002 |
+-----------+-------------+----------------+-------+
```

```
mysql> SELECT * FROM Staff;
+--------+-------+--------+-------+
| s_name | s_id  | salary | a_id  |
+--------+-------+--------+-------+
| Cecil  | 32001 |  10000 | 21001 |
| Ayush  | 32002 |  10000 | 21001 |
+--------+-------+--------+-------+
```

```
mysql> SELECT * FROM Lab;
+--------+------------+--------+-----------+------------+----------+--------------+--------+
| lab_no | patient_id | weight | doctor_id | date       | category | patient_type | amount |
+--------+------------+--------+-----------+------------+----------+--------------+--------+
|      1 |       8001 |     65 |     22001 | 2023-03-10 | X-ray    | UNKNOWN      |   2000 |
+--------+------------+--------+-----------+------------+----------+--------------+--------+
```

```
mysql> SELECT * FROM Inpatient;
+------------+------------+--------+-------------------+---------+--------------+------------------+---------+--------+-----------+-------------+
| patient_id | name       | gender | address           | room_no | date_of_admin | date_of_discharge | advance | lab_no | doctor_id | disease     |
+------------+------------+--------+-------------------+---------+--------------+------------------+---------+--------+-----------+-------------+
|        501 | Abhideepan | male   | patia Bhubneswar |     402 | 2023-02-12    | 2023-06-15       |    1000 |      1 |     22001 | Lung Cancer |
+------------+------------+--------+-------------------+---------+--------------+------------------+---------+--------+-----------+-------------+
```

```
mysql> SELECT * FROM Outpatient;
+------------+------------+--------+
| patient_id | date       | lab_no |
+------------+------------+--------+
|        501 | 2023-06-15 |      1 |
+------------+------------+--------+
```

```
mysql> SELECT * FROM Room;
+---------+-----------+---------+------------+
| room_no | room_type | status  | patient_id |
+---------+-----------+---------+------------+
|     402 | AC        | Serious |        501 |
+---------+-----------+---------+------------+
```

```
mysql> SELECT * FROM Bill;
+---------+------------+--------------+---------------+----------------+-------------+-----------------+----------------+---------------+---------+-------------+-----------+--------+
| bill_no | patient_id | patient_type | doctor_charge | medicine_charge | room_charge | operation_charge | number_of_days | nursing_charge | advance | health_card | lab_charge | bill |
+---------+------------+--------------+---------------+----------------+-------------+-----------------+----------------+---------------+---------+-------------+-----------+--------+
|     100 |        501 | Father       |          2000 |            500 |         200 |            2000 |              2 |           200 |    2000 | NO          |          0 | 4900 |
+---------+------------+--------------+---------------+----------------+-------------+-----------------+----------------+---------------+---------+-------------+-----------+--------+
```

# THANK YOU!