2. 0 SQL STATEMENTS OF ELECTRONIC HOSPITAL MANAGEMENT SYSTEM TABLES (USING MYSQL DATABASE)

2.1 Admin Table

CREATE TABLE admin(

  Admin_Id int(15) NOT NULL,

 Email varchar(255) NOT NULL,

 firstName varchar(255) NOT NULL,

lastName varchar(255) NOT NULL,

Phone int(15) NOT NULL,

 Password varchar(255) NOT NULL,

  PRIMARY KEY (Admin_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

2.2 Ambulance Table
CREATE TABLE ambulance(

 amb_Id int(15) NOT NULL,

reg_no varchar(255) NOT NULL,

PRIMARY KEY (amb_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

2.3 Bed Table

CREATE TABLE bed(

 bed_Id int(15) NOT NULL,

bed_No int(15) NOT NULL,

 bed_Location varchar(255) NOT NULL,

 PRIMARY KEY (`bed_Id`)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

2.4 Cleaner Table

```
CREATE TABLE cleaner (

 Cl_Id int(15) NOT NULL,

firstName varchar(255) NOT NULL,

 Surname varchar(255) NOT NULL,

 PRIMARY KEY (`Cl_Id`) ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
```

2.5 Department Table
```
CREATE TABLE department(

dep_Id int(15) NOT NULL,

dep_Name varchar(255) NOT NULL,

 PRIMARY KEY (dep_Id) ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
```

2.6 Doctor table:
```
CREATE TABLE doctor (

 Doctor_Id int(15) NOT NULL,

firstName varchar(255) NOT NULL,

lastName varchar(255) NOT NULL,

Phone int(15) NOT NULL,

Password varchar(255) NOT NULL,

sp_Id  int(15) NOT NULL,

sp_name  varchar(255) NOT NULL,

 PRIMARY KEY (Doctor_Id) ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
```

2.7 Driver Table
```
CREATE TABLE driver (

dr_Id  int(15) NOT NULL,

dr_fname varchar(255) NOT NULL,

dr_lname varchar(255) NOT NULL,

 PRIMARY KEY (`dr_Id`) ) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
```

2.8 Floor Table
```
CREATE TABLE floor (

floor_Id int(15) NOT NULL,

floor_Name varchar(255) NOT NULL,
```

PRIMARY KEY (floor_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb

2.9 Insurance Table
CREATE TABLE insurance (

Insurance_Id int(15) NOT NULL,

Insurance_Name varchar(255) NOT NULL,

PRIMARY KEY (Insurance_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

2.1.0 Laboratory Table
CREATE TABLE laboratory(

lab_Id int(15) NOT NULL,

lab_Name varchar(255) NOT NULL,

PRIMARY KEY (lab_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb

2.1.1 Lab Technician
CREATE TABLE lab_technician (

tech_Id int(15) NOT NULL,

fname varchar(255) NOT NULL,

lname varchar(255) NOT NULL,

PRIMARY KEY (tech_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

2.1.2 Medicine Table
CREATE TABLE medicine (

me_name text NOT NULL,

me_exp date NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=utf8mb

2.1.3 Nurse Table
CREATE TABLE nurse (

nu_Id int(15) NOT NULL,

nu_fname varchar(255) NOT NULL,

nu_lname varchar(255) NOT NULL,

 PRIMARY KEY (nu_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

2.1.4 Patient Table
CREATE TABLE patient (

Patient_Id int(15) NOT NULL,

firstName varchar(255) NOT NULL,

lastName varchar(255) NOT NULL,

Phone int(20) NOT NULL,

Password varchar(255) NOT NULL,

 PRIMARY KEY (Patient_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

2.1.5 Payment Table
CREATE TABLE payment

 (pa_Id int(11) NOT NULL,

 `pay_Name` varchar(255) NOT NULL,

 pa_amount varchar(255) NOT NULL,

  `pa_Date` date NOT NULL,

 PRIMARY KEY (`pa_Id`)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

2.1.6 Receipt Table
CREATE TABLE receipt (

receipt_Id int(15) NOT NULL,

 receipt_date date NOT NULL,

 PRIMARY KEY (receipt_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

2.1.7 In_Patient table:

CREATE TABLE In_patient (

Patient_Id int(15) NOT NULL,

room_Id int(15) NOT NULL,

room_no varchar(255) NOT NULL,

 stay_Id int(15) NOT NULL,

start_Date date NOT NULL,

discharge_Date date NOT NULL,

 PRIMARY KEY (Patient_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

2.1.8 Test Table
CREATE TABLE test (

te_Id int(15) NOT NULL,

te_result varchar(255) NOT NULL,

te_date date NOT NULL,

PRIMARY KEY (te_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

2.1.9 Time Slot Table

CREATE TABLE timeslot (

slot_Id int(15) NOT NULL,

time_Range time NOT NULL,

  PRIMARY KEY (slot_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

2.2.0 Treatment Table

CREATE TABLE treatment (

tr_Id int(15) NOT NULL,

issue varchar(255) NOT NULL,

tr_date date NOT NULL,

 PRIMARY KEY (tr_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

2.2.1 Ward Table

CREATE TABLE ward (

wa_Id int(15) NOT NULL,

wa_Name varchar(255) NOT NULL,

PRIMARY KEY (wa_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

Normalizing the tables

Doctor table:

CREATE TABLE doctor (

 Doctor_Id int(15) NOT NULL,

firstName varchar(255) NOT NULL,

lastName varchar(255) NOT NULL,

Phone int(15) NOT NULL,

Password varchar(255) NOT NULL,

sp_Id int(15) NOT NULL,

sp_name varchar(255) NOT NULL,

 PRIMARY KEY (Doctor_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

Here the Doctor Id is the candidate key sp_id,sp_name, transitively dependent on doctor_id which violates 3NF so dividing the tables as follow:-

Doctor Table
CREATE TABLE doctor (

Doctor_Id int(15) NOT NULL,

firstName varchar(255) NOT NULL,

lastName varchar(255) NOT NULL,

Phone int(15) NOT NULL,

Password varchar(255) NOT NULL,

  PRIMARY KEY (`Doctor_Id`)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

Doctor Specialty Table
CREATE TABLE doctor_speciality (

sp_Id int(15) NOT NULL,

sp_name varchar(255) NOT NULL,

PRIMARY KEY (sp_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

Payment Table

CREATE TABLE payment

 (pa_Id int(11) NOT NULL,

 pay_Name varchar(255) NOT NULL,

 pa_amount varchar(255) NOT NULL,

pa_Date date NOT NULL,

PRIMARY KEY (pa_Id)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

Payment table is further normalized into payment table and payment method table

Payment Table

CREATE TABLE payment

 (pa_Id int(11) NOT NULL,

 pa_amount varchar(255) NOT NULL,

pa_Date date NOT NULL,

 PRIMARY KEY (`pa_Id`)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

Payment Method Table

CREATE TABLE payment_method (

pay_Id int(15) NOT NULL,

pay_Name varchar(255) NOT NULL) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

In_Patient table:

CREATE TABLE `In_patient` (`Patient_Id` int(15) NOT NULL, `room_Id` int(15) NOT NULL, `room_no` varchar(255) NOT NULL, stay_Id` int(15) NOT NULL, `start_Date` date NOT NULL, `discharge_Date` date NOT NULL, PRIMARY KEY (`Patient_Id`)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

Here the whenever the data inserted for the room and details about staying, results as redundancy of data which violates 1NF.So divided the tables into room and stay table

Room Table
CREATE TABLE `room` (`room_Id` int(15) NOT NULL, `room_no` varchar(255) NOT NULL, PRIMARY KEY (`room_Id`)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

Stay Table
CREATE TABLE `stay` (`stay_Id` int(15) NOT NULL, `start_Date` date NOT NULL, `discharge_Date` date NOT NULL, PRIMARY KEY (`stay_Id`)) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4