HOSPITAL MANAGEMENT SYSTEM

Abstract:

The project hospital management system icludes registration of patients, storing their details into the system. It deals with the collection pf patient's information, diagnosis details,etc.Traditionally it was done manually. The main function of the system is register and store the patiemt's details, doctors's details and retrieve these data as and when required, and also manipulate the data as our need.

Objectives :

1) The management will be able to easily tract the details of the patients, doctors,staffs,medical equipments.

2) It will give details regarding which medical equipment are allocated to departments.

3) It will help in tracking the staff working in which department and its designation.

STRUCTURE OF TABLES

Doctors

```
MariaDB [project]> desc doctors;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| Sr_no       | int(11)     | YES  |     | NULL    |       |
| Dr_ID       | int(11)     | NO   | PRI | NULL    |       |
| Full_name   | varchar(30) | YES  |     | NULL    |       |
| Designation | varchar(20) | NO   |     | NULL    |       |
| Age         | int(11)     | YES  |     | NULL    |       |
| Ph_no       | bigint(20)  | YES  | UNI | NULL    |       |
| Experience  | int(11)     | YES  |     | NULL    |       |
| Dept_id     | int(11)     | YES  |     | NULL    |       |
| Salary      | int(11)     | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
9 rows in set (0.012 sec)
```

Staff

```
MariaDB [project]> desc staff;
+-------------+-------------+------+-----+---------+-------+
| Field       | Type        | Null | Key | Default | Extra |
+-------------+-------------+------+-----+---------+-------+
| Sr_no       | int(11)     | YES  |     | NULL    |       |
| Sf_id       | int(11)     | NO   | PRI | NULL    |       |
| Sf_name     | varchar(30) | YES  |     | NULL    |       |
| Designation | varchar(20) | YES  |     | NULL    |       |
| Age         | int(11)     | YES  |     | NULL    |       |
| Ph_no       | bigint(20)  | YES  | UNI | NULL    |       |
| Experience  | int(11)     | YES  |     | NULL    |       |
| Dept_id     | int(11)     | YES  |     | NULL    |       |
| Salary      | int(11)     | YES  |     | NULL    |       |
+-------------+-------------+------+-----+---------+-------+
9 rows in set (0.012 sec)
```

Departments

```
MariaDB [project]> desc department;
+-----------+-------------+------+-----+---------+-------+
| Field     | Type        | Null | Key | Default | Extra |
+-----------+-------------+------+-----+---------+-------+
| Sr_no     | int(11)     | YES  |     | NULL    |       |
| Dept_Id   | int(11)     | NO   | PRI | NULL    |       |
| Dept_name | varchar(20) | YES  |     | NULL    |       |
+-----------+-------------+------+-----+---------+-------+
3 rows in set (0.008 sec)
```

Patients

```
MariaDB [project]> desc patients;
+-----------------+-------------+------+-----+---------+----------------+
| Field           | Type        | Null | Key | Default | Extra          |
+-----------------+-------------+------+-----+---------+----------------+
| Sr_no           | int(11)     | YES  |     | NULL    |                |
| Pt_id           | int(11)     | NO   | PRI | NULL    | auto_increment |
| Patient_Name    | varchar(30) | YES  |     | NULL    |                |
| Diagnose        | varchar(20) | YES  |     | NULL    |                |
| Ph_no           | bigint(20)  | YES  | UNI | NULL    |                |
| Appointment_dept| varchar(30) | YES  |     | NULL    |                |
| Dept_id         | int(11)     | YES  |     | NULL    |                |
| Age             | int(11)     | YES  |     | NULL    |                |
+-----------------+-------------+------+-----+---------+----------------+
8 rows in set (0.006 sec)
```

Medical Equipments

```
MariaDB [project]> desc medical_equipments;
+--------------+-------------+------+-----+---------+-------+
| Field        | Type        | Null | Key | Default | Extra |
+--------------+-------------+------+-----+---------+-------+
| sr_no        | int(11)     | YES  |     | NULL    |       |
| M_id         | int(11)     | NO   | PRI | NULL    |       |
| Machine_name | varchar(20) | YES  |     | NULL    |       |
| Dept_name    | varchar(20) | YES  |     | NULL    |       |
| Dept_id      | int(11)     | YES  |     | NULL    |       |
+--------------+-------------+------+-----+---------+-------+
5 rows in set (0.011 sec)
```

Contents of tables

Doctors

```
MariaDB [project]> select * from Doctors;
+-------+-------+------------------+-------------------+------+-------------+------------+---------+--------+
| Sr_no | Dr_ID | Full_name        | Designation       | Age  | Ph_no       | Experience | Dept_id | Salary |
+-------+-------+------------------+-------------------+------+-------------+------------+---------+--------+
|     1 |   101 | Amit Satwidkar   | Cardiologist      |   40 | 8291571969  |          4 |    5001 | 500000 |
|     2 |   102 | Raj Shinde       | Dermatologist     |   45 | 8291951969  |          7 |    5002 | 500000 |
|     3 |   103 | Rusha Navgane    | Orthopedic        |   39 | 8291951769  |          2 |    5003 | 490000 |
|     4 |   104 | Suraj More       | Oncology          |   35 | 8291952669  |          2 |    5004 | 490000 |
|     5 |   105 | Stephen Strange  | Opthalmic         |   38 | 8291947959  |          2 |    5005 | 490000 |
|     6 |   106 | Suraj Temkar     | Neurologist       |   42 | 8291941959  |          3 |    5006 | 680000 |
|     7 |   107 | Kunal Tambe      | pediatrician      |   41 | 82919476959 |          3 |    5007 | 390000 |
|     8 |   108 | Harshada Shete   | Gynacologist      |   55 | 82499476959 |          3 |    5008 | 490000 |
|     9 |   109 | Riddhi Chaugule  | Gastroenterologist|   39 | 82499476719 |          6 |    5009 | 400000 |
|    10 |   110 | Vaishnavi Amberkar| Gastroenterologist|  48 | 90499476719 |          6 |    5010 | 600000 |
+-------+-------+------------------+-------------------+------+-------------+------------+---------+--------+
10 rows in set (0.139 sec)
```

Staff

```
MariaDB [project]> select * from staff;
+-------+-------+----------------+-------------+------+------------+------------+---------+--------+
| Sr_no | Sf_id | Sf_name        | Designation | Age  | Ph_no      | Experience | Dept_id | Salary |
+-------+-------+----------------+-------------+------+------------+------------+---------+--------+
|     1 |   201 | Rajan Shinde   | Compounder  |   25 | 9619012596 |          2 |    5001 |  20000 |
|     2 |   202 | Rahul Verma    | Compounder  |   30 | 9619012576 |          6 |    5002 |  15000 |
|     3 |   203 | Rupali Zaware  | Compounder  |   28 | 9617812576 |          4 |    5003 |  19000 |
|     4 |   204 | Somesh Vichare | Ward Boy    |   31 | 8617812576 |          5 |    5005 |  17000 |
|     5 |   205 | Somesh Vichare | Ward Boy    |   31 | 8867812576 |          5 |    5005 |  17000 |
|     6 |   206 | Umesh Gajare   | Ward Boy    |   37 | 8767812576 |          5 |    5006 |  10000 |
|     7 |   207 | Shital Chaure  | Nurse       |   37 | 8767812766 |          4 |    5007 |  15000 |
|     8 |   208 | Simran Kaur    | Nurse       |   38 | 8797812766 |          4 |    5008 |  15000 |
|     9 |   209 | Pratik Datir   | Ward Boy    |   42 | 9197812766 |          8 |    5006 |  25000 |
|    10 |   210 | Pratik Kamble  | Ward Boy    |   37 |  919785766 |          6 |    5009 |  25000 |
|    11 |   211 | Roshan Sherma  | Intern      |   27 |  919755766 |          1 |    5006 |  25000 |
+-------+-------+----------------+-------------+------+------------+------------+---------+--------+
11 rows in set (0.001 sec)
```

Department

```
MariaDB [project]> select * from department;
+--------+----------+------------------+
| Sr_no  | Dept_Id  | Dept_name        |
+--------+----------+------------------+
|      1 |     5001 | Cardiology       |
|      2 |     5002 | Dermatology      |
|      3 |     5003 | Orthopedic       |
|      4 |     5004 | Oncology         |
|      5 |     5005 | Opthalmic        |
|      6 |     5006 | Neurology        |
|      7 |     5007 | Pediatrician     |
|      8 |     5008 | Gynacology       |
|      9 |     5009 | Gastroenterology |
+--------+----------+------------------+
9 rows in set (0.001 sec)
```

Patients

```
MariaDB [project]> select * from patients;
+-------+-------+------------------+---------------+------------+-----------------+---------+------+
| Sr_no | Pt_id | Patient_Name     | Diagnose      | Ph_no      | Appointment_dept | Dept_id | Age  |
+-------+-------+------------------+---------------+------------+-----------------+---------+------+
|     1 |   301 | Yusuf Kaif       | Cataract      | 7654896312 | Opthalmic        |    5005 |   30 |
|     2 |   302 | Harshali Sawant  | Breast Cancer | 8654896312 | Oncology         |    5004 |   45 |
|     3 |   303 | Archana Pawar    | Pregnancy     |  849896312 | Gynacology       |    5008 |   25 |
|     4 |   304 | Pooja Kamble     | Pregnancy     | 7967996312 | Gynacology       |    5008 |   27 |
|     5 |   305 | Aniket Jambhale  | Diarrhoea     | 8967996312 | Gastroenterology |    5009 |   32 |
|     6 |   306 | Vinay Chinderkar | Arthritis     | 6957996312 | Orthopedic       |    5003 |   38 |
|     7 |   307 | Viraj Jadhav     | Joint Pain    | 9957996312 | Orthopedic       |    5003 |   29 |
|     8 |   308 | Karan Jadhav     | Chicken Pox   | 9859996312 | Pediatrician     |    5007 |   26 |
|     9 |   309 | Akshay Rane      | Conjunctivitis| 7659996312 | Opthalmic        |    5005 |   36 |
|    10 |   310 | Viren Ramji      | Piles         | 8759996312 | Gastroenterology |    5009 |   46 |
+-------+-------+------------------+---------------+------------+-----------------+---------+------+
10 rows in set (0.001 sec)
```

Medical Equipments

```
MariaDB [project]> select * from medical_equipments;
+--------+------+-------------------+------------------+---------+
| sr_no  | M_id | Machine_name      | Dept_name        | Dept_id |
+--------+------+-------------------+------------------+---------+
|      1 |  401 | CT scan           | Neurology        |    5006 |
|      2 |  402 | MRI               | Neurology        |    5006 |
|      3 |  403 | CT Scan           | Gastroenterology |    5009 |
|      4 |  404 | X-Ray             | Orthopedic       |    5003 |
|      5 |  405 | Dialysis          | Gynacology       |    5008 |
|      6 |  406 | Ultra Sound       | Gynacology       |    5008 |
|      7 |  407 | Phaco Machine     | Opthalmic        |    5005 |
|      8 |  408 | ECG               | Cardiology       |    5001 |
|      9 |  409 | LINAC             | Oncology         |    5004 |
|     10 |  410 | Pediatic Hebulizer| Pediatrician     |    5007 |
+--------+------+-------------------+------------------+---------+
10 rows in set (0.000 sec)
```

View

1) Create a view as staff and their department name and dept id.

```
MariaDB [project]> create view staffs_department as select staff.sf_name, department.dept_name,staff.dept_id from staff,department where staff.dept_id=department.dept_id;
Query OK, 0 rows affected (3.032 sec)

MariaDB [project]> select * from staffs_department;
+----------------+------------------+---------+
| sf_name        | dept_name        | dept_id |
+----------------+------------------+---------+
| Rajan Shinde   | Cardiology       |    5001 |
| Rahul Verma    | Dermatology      |    5002 |
| Rupali Zaware  | Orthopedic       |    5003 |
| Somesh Vichare | Opthalmic        |    5005 |
| Somesh Vichare | Opthalmic        |    5005 |
| Umesh Gajare   | Neurology        |    5006 |
| Shital Chaure  | Pediatrician     |    5007 |
| Simran Kaur    | Gynacology       |    5008 |
| Pratik Datir   | Neurology        |    5006 |
| Pratik Kamble  | Gastroenterology |    5009 |
| Roshan Sherma  | Neurology        |    5006 |
+----------------+------------------+---------+
```

2) Create view as doctors name and staff name and dept id and order by their doctor names.

MariaDB [project]> create view v1 as select doctors.full_name,staff.sf_name,staff.dept_id from staff,doctors where staff.dept_id=doctors.dept_id order by doctors.full_name;
Query OK, 0 rows affected (0.125 sec)

MariaDB [project]> select * from v1;
+-----------------+----------------+---------+
| full_name | sf_name | dept_id |
+-----------------+----------------+---------+
Amit Satwidkar	Rajan Shinde	5001
Harshada Shete	Simran Kaur	5008
Kunal Tambe	Shital Chaure	5007
Raj Shinde	Rahul Verma	5002
Riddhi Chaugule	Pratik Kamble	5009
Rusha Navgane	Rupali Zaware	5003
Stephen Strange	Somesh Vichare	5005
Stephen Strange	Somesh Vichare	5005
Suraj Temkar	Umesh Gajare	5006
Suraj Temkar	Roshan Sherma	5006
Suraj Temkar	Pratik Datir	5006
+-----------------+----------------+---------+
11 rows in set (0.262 sec)

3) Drop both the views.

MariaDB [project]> drop view staffs_department,v1;
Query OK, 0 rows affected (0.832 sec)

Sub Queries:

1) Write a subquery to show the highest salary of doctor and their name.

MariaDB [project]> select full_name,salary from doctors where salary=(select max(salary) from doctors);
```
+--------------+--------+
| full_name    | salary |
+--------------+--------+
| Suraj Temkar | 680000 |
+--------------+--------+
```

2) Write sub query to show sr no,staff name and salary>19000.

MariaDB [project]> select sr_no,sf_name,salary from staff where salary in (select salary from staff where salary>19000);
```
+-------+--------------+--------+
| sr_no | sf_name      | salary |
+-------+--------------+--------+
|     1 | Rajan Shinde |  20000 |
```

```
|    9 | Pratik Datir  |  25000 |
|   10 | Pratik Kamble |  25000 |
|   11 | Roshan Sherma |  25000 |
+-------+--------------+-------+
```

3) Write subquery to show patient id,patients name and theie age=>30.

```
MariaDB [project]> select pt_id,patient_name,age
from patients where age in (select age from patients
where age>=30);
+-------+----------------+------+
| pt_id | patient_name   | age  |
+-------+----------------+------+
|   301 | Yusuf Kaif      |   30 |
|   302 | Harshali Sawant |   45 |
|   305 | Aniket Jambhale |   32 |
|   306 | Vinay Chinderkar |   38 |
|   309 | Akshay Rane     |   36 |
|   310 | Viren Ramji     |   46 |
+-------+----------------+------+
```

Joins:

1) Create inner join for staff name and department name from staff and department.

```
MariaDB [project]> select
staff.sf_name,department.dept_name from staff
```

```
inner join department on
staff.dept_id=department.dept_id;
+----------------+-----------------+
| sf_name        | dept_name       |
+----------------+-----------------+
| Rajan Shinde   | Cardiology      |
| Rahul Verma    | Dermatology     |
| Rupali Zaware  | Orthopedic      |
| Somesh Vichare | Opthalmic       |
| Somesh Vichare | Opthalmic       |
| Umesh Gajare   | Neurology       |
| Shital Chaure  | Pediatrician    |
| Simran Kaur    | Gynacology      |
| Pratik Datir   | Neurology       |
| Pratik Kamble  | Gastroenterology |
| Roshan Sherma  | Neurology       |
+----------------+-----------------+
```

2) Create left join for staff name and department name from staff and department.

```
MariaDB [project]> select
staff.sf_name,department.dept_name from
department left join staff on
staff.dept_id=department.dept_id;
+----------------+-----------------+
| sf_name        | dept_name       |
+----------------+-----------------+
| Rajan Shinde   | Cardiology      |
| Rahul Verma    | Dermatology     |
```

```
| Rupali Zaware  | Orthopedic       |
| Somesh Vichare | Opthalmic        |
| Somesh Vichare | Opthalmic        |
| Umesh Gajare   | Neurology        |
| Shital Chaure  | Pediatrician     |
| Simran Kaur    | Gynacology       |
| Pratik Datir   | Neurology        |
| Pratik Kamble  | Gastroenterology |
| Roshan Sherma  | Neurology        |
| NULL           | Oncology         |
+----------------+------------------+
```