

**AUGMENT EXPERIMENT
REPORT
On
HOSPITAL MANAGEMENT SYSTEM**

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Section: CSE-B

DBMS Laboratory

HOSPITAL MANAGEMENT SYSTEM

Abstract:

ER diagram is related to **Hospital Management System (HMS)** where the operations of the employees, patients in the hospital are described in detail. In this ER diagram, 6 entities namely 'Hospital', 'Patient', 'Doctor', 'Medical report', 'Department' and 'Guardian' are generated. All the entities are covered with the appropriate unique or a primary key and has a valid Relationships with the other entities. This ER diagram consists of derived, multivalued attributes and an identifying relationship along with a weak entity. This HMS mainly focus on the outline of complete medical system represent in a pure data model.

Introduction:

HMS is a computer system that helps to manage the information related to health care and aids in the job completion of health providers effectively. They manage the data related to all departments of healthcare such as clinical, financial, laboratory, inpatient, outpatient, operation theater, materials, nursing, pharmaceutical, radiology, pathology etc. HMS came into the picture of hospital management as early as 1960 and have ever since been evolving and synchronizing with the technologies while modernizing healthcare facilities. In today's world, the management of healthcare starts from the hands of the patients through their mobile phones and facilitates the needs of the patient.

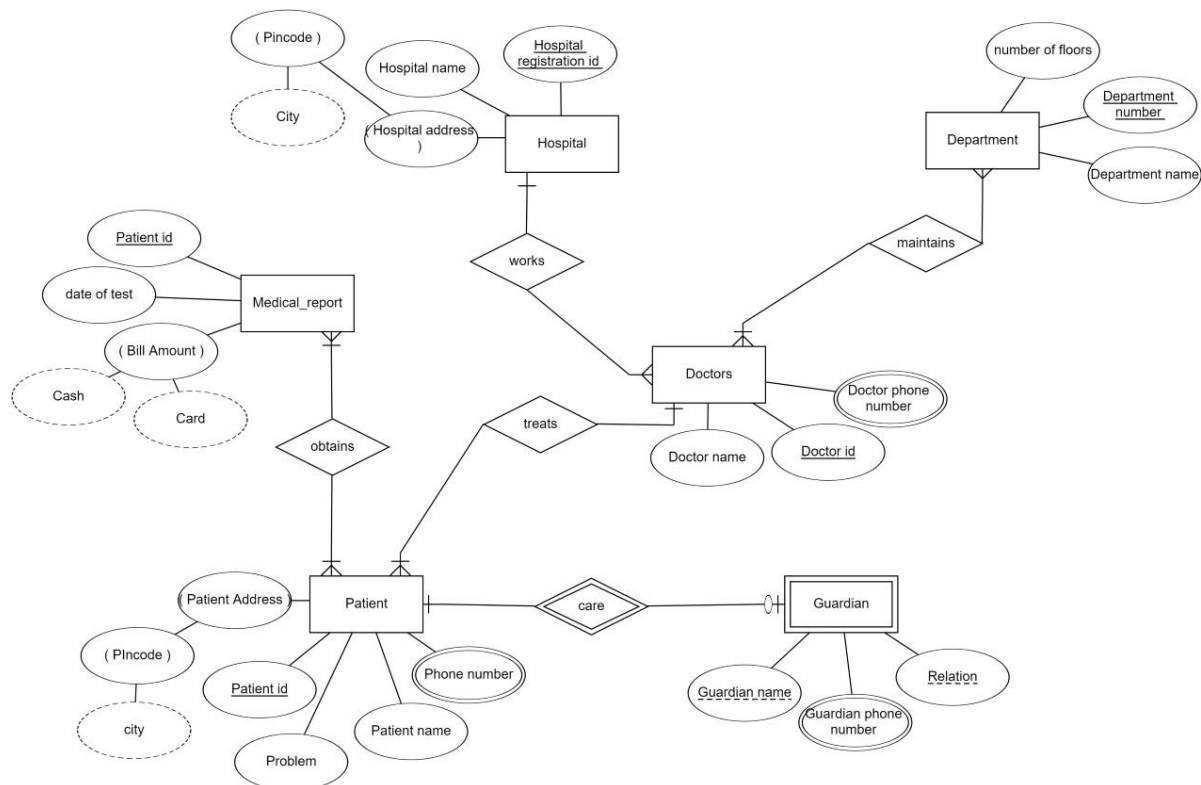
This ER diagram is related to HMS where the operations and the employees, patients in the hospital are described in detail. In this er diagram I have created 5 entities namely 'Hospital', 'Patient', 'doctor', 'Medical report', 'department', 'guardian'. All the entities are covered with the unique or a primary key and has a valid relationship with the other entities. other attributes define the entity. In this diagram derived, multivalued attributes are mentioned along with an identifying relationship and weak entity.

There are relations one to many, one or many to many, one or many to one or many, one or many to optional one relationship types mentioned in the er diagram

Doctor have relationship treats with the patient and doctor Id is the primary key, phone number as multivalued attribute to the entity doctor. Department has relationship maintains with doctor and department id as the primary key to department entity. Hospital has relationship works

with doctor and hospital registration id as the primary key and city as derived attribute to Hospital entity. Guardian has relationship care with patient which is an identifying relationship and patient id as the primary key and multivalued and derived attribute to patient entity. Medical report has relationship obtains with patient and patient id as the primary key and derived attribute to medical report entity. Doctor has relationship treats with the patient and doctor id as primary key and multivalued attribute to doctor entity

ER Diagram of HMS



Components of HMS

- **Entities** – Patient, Doctors, Medical Report, Hospital, Department
- **Relationships** – Works, Maintains, Obtains, Care, Treats
- **Weak Entities** - Guardian
- **Identifying Relationships** - Care
- **Attributes** – Hospital, Registration, Hospital Name, Hospital Address, pin code, Department name, Department Number, Number of floors, Patient id, DOB, Bill Amount, Doctor id, Doctor name, Patient name, Problem, Patient id, Patient address, Guardian name, Relation
- **Derived Attributes** – Cash, Card, Pin code, city, Pin code, city

- **Multi Valued Attributes** – Phone number, Guardian Phone number, Doctor phone number

Tables Created for Entities and Relationships are: Patient, Doctors, Medical Report, Hospital, Department, Guardian

Creating tables and inserting values:

```
Run SQL Command Line

SQL> create table department (dept_id number primary key,dept_name varchar(20),no_of_floors number);
Table created.

SQL> insert into department values(1,'Cardiology',4);
1 row created.

SQL> insert into department values(2,'ENT',3);
1 row created.

SQL> insert into department values(3,'Radiology',4);
1 row created.

SQL> insert into department values(4,'nursing',2);
1 row created.

SQL> insert into department values(5,'Paramedical',4);
1 row created.

SQL> insert into department values(6,'Operation_Theatre',4);
1 row created.

SQL> insert into department values(7,'Medical_Record',2);
1 row created.

SQL> create table hospital(hospital_reg_id number primary key,hospital_name varchar(20),hospital_addr varchar(20),pincode number,city varchar(20));
Table created.

SQL> insert into hospital values(1,'medicare','madhapur',500002,'hyderabad');
1 row created.

SQL> insert into hospital values(2,'care','rajam',532127,'srikakulam');
1 row created.
```

```
Run SQL Command Line

SQL> insert into hospital values(2,'care','rajam',532127,'srikakulam');
1 row created.

SQL> insert into hospital values(3,'apollo','gajuwaka',521541,'visakhapatnam');
1 row created.

SQL> insert into hospital values(4,'rainbow','secundrabad',500061,'Hyderabad');
1 row created.

SQL> insert into hospital values(5,'sevenhills','marikavalasa',506451,'visakhapatnam');
1 row created.

SQL> insert into hospital values(6,'medical_cure','anandanagan',500654,'anantapur');
1 row created.

SQL> create table doctor(doctor_id number,name varchar(20),doctor_ph_no number);
Table created.

SQL> insert into doctor values(1,'vishal',9845213311);
1 row created.

SQL> insert into doctor values(2,'alladin',9314684216);
1 row created.

SQL> insert into doctor values(3,'singh',9516841354);
1 row created.

SQL> insert into doctor values(4,'karthik',8743513133);
1 row created.

SQL> insert into doctor values(5,'shahrukh',8743168465);
1 row created.
```

```
SQL> create table medical_report(patient_id number primary key,date_of_test date,bill number);
Table created.
SQL> insert into medical_report values(1,to_date('21-05-2021','dd-mm-yyyy'),6332);
1 row created.
SQL> insert into medical_report values(2,to_date('12-06-2009','dd-mm-yyyy'),3255);
1 row created.
SQL> insert into medical_report values(3,to_date('16-10-2021','dd-mm-yyyy'),13232);
1 row created.
SQL> insert into medical_report values(4,to_date('28-08-2018','dd-mm-yyyy'),65032);
1 row created.
SQL> insert into medical_report values(5,to_date('14-02-2016','dd-mm-yyyy'),34513);
1 row created.
SQL> insert into medical_report values(6,to_date('24-06-2021','dd-mm-yyyy'),3165);
1 row created.
SQL> create table patient(patient_id number,patient_name varchar(20),ph_number number,problem varchar(20),patient_addr varchar(20));
Table created.
SQL> insert into patient values(1,'bhansali',6803054065,'heartbeat','madhapur');
1 row created.
SQL> insert into patient values(2,'karan',8132100,'heartbeat','madhapur');
1 row created.
SQL> insert into patient values(3,'sushant',8321354100,'leg_pains','vishakapatnam');
1 row created.
```

```
1 row created.
SQL> create table patient(patient_id number,patient_name varchar(20),ph_number number,problem varchar(20),patient_addr varchar(20));
Table created.
SQL> insert into patient values(1,'bhansali',6803054065,'heartbeat','madhapur');
1 row created.
SQL> insert into patient values(2,'karan',8132100,'heartbeat','madhapur');
1 row created.
SQL> insert into patient values(3,'sushant',8321354100,'leg_pains','vishakapatnam');
1 row created.
SQL> insert into patient values(4,'asimov',6543134005,'headache','mumbai');
1 row created.
SQL> insert into patient values(5,'hrithik',9310006541,'fractures','kolkata');
1 row created.
SQL> insert into patient values(6,'anand',9313640041,'neckpain','chennai');
1 row created.
SQL> create table guardian(guardian_name varchar(20),guardian_ph_no number,relation varchar(20));
Table created.
SQL> insert into guardian values('viransh',9053132100,'father');
1 row created.
SQL> insert into guardian values('vikas',8321340051,'brother');
1 row created.
SQL> insert into guardian values('ayyer',8320051054,'friend');
```

```
Run SQL Command Line

1 row created.

SQL> insert into patient values(4,'asimov',6543134005,'headache','mumbai');
1 row created.

SQL> insert into patient values(5,'hrithik',9310006541,'fractures','kolkata');
1 row created.

SQL> insert into patient values(6,'anand',9313640041,'neckpain','chennai');
1 row created.

SQL> create table guardian(guardian_name varchar(20),guardian_ph_no number,relation varchar(20));
Table created.

SQL> insert into guardian values('viransh',9053132100,'father');
1 row created.

SQL> insert into guardian values('vikas',8321340051,'brother');
1 row created.

SQL> insert into guardian values('ayyer',8320051054,'friend');
1 row created.

SQL> insert into guardian values('gopal',8335540054,'uncle');
1 row created.

SQL> insert into guardian values('hassan',9005423324,'brother');
1 row created.

SQL> insert into guardian values('kamla',6005561541,'mother');
1 row created.

SQL>
```

Queries and Outputs

Question: Display table doctor

Query: select * from doctor;

Output:

```
Run SQL Command Line

ERROR at line 1:
ORA-00904: : invalid identifier

SQL> create table obtain (foreign key (pid) references patient (patient_id) on delete cascade number primary key,floor number);
create table obtain (foreign key (pid) references patient (patient_id) on delete cascade number primary key,floor number)
*
ERROR at line 1:
ORA-00904: : invalid identifier

SQL> select * from doctor;

DOCTOR_ID NAME                DOCTOR_PH_NO
-----
1 vishal                      9845213311
2 alladin                     9314684216
3 singh                       9516841354
4 karthik                     8743513113
5 shahnukh                    8743168465
6 salman                      8681354613

6 rows selected.

SQL> select * from patient;

PATIENT_ID PATIENT_NAME      PH_NUMBER PROBLEM
-----
PATIENT_ADDR
-----
1 bhansali                6803054065 heartbeat
madhapur
2 karan                    8132100 heartbeat
madhapur
3 sushant                  8321354100 leg_pains
vishakapatnam

PATIENT_ID PATIENT_NAME      PH_NUMBER PROBLEM
-----
PATIENT_ADDR
-----
```

Question: Display table patient

Query: select * from patient;

Output:

```
Run SQL Command Line
1 vishal          9845213311
2 alladin         9314684216
3 singh           9516841354
4 karthik          8743513133
5 shahrukh         8743168465
6 salman           8681354613

6 rows selected.

SQL> select * from patient;

PATIENT_ID PATIENT_NAME      PH_NUMBER PROBLEM
-----
PATIENT_ADDR
-----
1 bhansali          6803054065 heartbeat
madhapur
2 karan             8132100 heartbeat
madhapur
3 sushant           8321354100 leg_pains
vishakapatnam

PATIENT_ID PATIENT_NAME      PH_NUMBER PROBLEM
-----
PATIENT_ADDR
-----
4 asimov            6543134005 headache
mumbai
5 hrithik           9310006541 fractures
kolkata
6 anand             9313640041 neckpain
chennai

6 rows selected.

SQL> select * from department;

DEPT_ID DEPT_NAME      NO_OF_FLOORS
-----
1 Cardiology        4
2 ENT                3
3 Radiology          4
4 nursing            2
5 Paramedical        4
6 Operation_Theatre  4
7 Medical_Record     2

7 rows selected.

SQL> select * from medical_report;
```

Question: Display table department

Query: select * from department;

Output:

```
Run SQL Command Line
PATIENT_ID PATIENT_NAME      PH_NUMBER PROBLEM
-----
PATIENT_ADDR
-----
1 bhansali          6803054065 heartbeat
madhapur
2 karan             8132100 heartbeat
madhapur
3 sushant           8321354100 leg_pains
vishakapatnam

PATIENT_ID PATIENT_NAME      PH_NUMBER PROBLEM
-----
PATIENT_ADDR
-----
4 asimov            6543134005 headache
mumbai
5 hrithik           9310006541 fractures
kolkata
6 anand             9313640041 neckpain
chennai

6 rows selected.

SQL> select * from department;

DEPT_ID DEPT_NAME      NO_OF_FLOORS
-----
1 Cardiology        4
2 ENT                3
3 Radiology          4
4 nursing            2
5 Paramedical        4
6 Operation_Theatre  4
7 Medical_Record     2

7 rows selected.

SQL> select * from medical_report;
```

Question: Display table medical report

Query: select * from medical_report;

Output:

```
Run SQL Command Line
-----
PATIENT_ADDR
-----
mumbai 4 asimov 6543134005 headache
kolkata 5 hrithik 9310006541 fractures
chennai 6 anand 9313640041 neckpain

6 rows selected.

SQL> select * from department;

DEPT_ID DEPT_NAME NO_OF_FLOORS
-----
1 Cardiology 4
2 ENT 3
3 Radiology 4
4 nursing 2
5 Paramedical 4
6 Operation Theatre 4
7 Medical_Record 2

7 rows selected.

SQL> select * from medical_report;

PATIENT_ID DATE_OF_T BILL
-----
1 21-MAY-21 6332
2 12-JUN-09 3255
3 16-OCT-21 13232
4 28-AUG-18 65032
5 14-FEB-16 34513
6 24-JUN-21 3165

6 rows selected.

SQL> select * from guardian;
```

Question: Display table guardian

Query: select * from guardian;

Output:

```
Run SQL Command Line
-----
6 rows selected.

SQL> select * from department;

DEPT_ID DEPT_NAME NO_OF_FLOORS
-----
1 Cardiology 4
2 ENT 3
3 Radiology 4
4 nursing 2
5 Paramedical 4
6 Operation Theatre 4
7 Medical_Record 2

7 rows selected.

SQL> select * from medical_report;

PATIENT_ID DATE_OF_T BILL
-----
1 21-MAY-21 6332
2 12-JUN-09 3255
3 16-OCT-21 13232
4 28-AUG-18 65032
5 14-FEB-16 34513
6 24-JUN-21 3165

6 rows selected.

SQL> select * from guardian;

GUARDIAN_NAME GUARDIAN_PH_NO RELATION
-----
viransh 9053132100 father
vikas 8321340051 brother
ayyer 8320051054 friend
gopal 8335540054 uncle
hassan 9005423324 brother
kamla 6005561541 mother

6 rows selected.

SQL> select * from hospital;
```


Question: Display table hospital

Query: select * from hospital;

Output:

```
Run SQL Command Line
6 rows selected.
SQL> select * from hospital;
HOSPITAL_REG_ID HOSPITAL_NAME      HOSPITAL_ADDR      PINCODE
-----
CITY
-----
hyderabad      1 medicare          madhapur            500002
srikakulam      2 care              rajam               532127
visakhapatnam   3 apollo            gajuwaka            521541
HOSPITAL_REG_ID HOSPITAL_NAME      HOSPITAL_ADDR      PINCODE
-----
CITY
-----
Hyderabad      4 rainbow           secundrabad         500061
visakhapatnam   5 sevenhills        marikavalasa        506451
anantapur       6 medical_cure      anandanagar         500654
6 rows selected.
SQL> _
```

Question: Display the values where pincode=500061 from table hospital

Query: select * from hospital where pincode=500061;

Output:

```
Run SQL Command Line
srikakulam      2 care              rajam               532127
visakhapatnam   3 apollo            gajuwaka            521541
HOSPITAL_REG_ID HOSPITAL_NAME      HOSPITAL_ADDR      PINCODE
-----
CITY
-----
Hyderabad      4 rainbow           secundrabad         500061
visakhapatnam   5 sevenhills        marikavalasa        506451
anantapur       6 medical_cure      anandanagar         500654
6 rows selected.
SQL> select * from hospital where pincode=500061;
HOSPITAL_REG_ID HOSPITAL_NAME      HOSPITAL_ADDR      PINCODE
-----
CITY
-----
Hyderabad      4 rainbow           secundrabad         500061
SQL> select * from department where no_of_floors=3;
DEPT_ID DEPT_NAME      NO_OF_FLOORS
-----
2 ENT      3
SQL> select * from guardian where guardian_ph_no=8335540054;
GUARDIAN_NAME      GUARDIAN_PH_NO RELATION
-----
```

Question: Display the values where no of floors =3 from table department

Query: select * from department where no_of_floors=3;

Output:

```
Run SQL Command Line

srikakulam      2 care          rajam           532127
visakhapatnam   3 apollo        gajuwaka        521541

HOSPITAL_REG_ID HOSPITAL_NAME    HOSPITAL_ADDR    PINCODE
-----
CITY
-----
Hyderabad      4 rainbow        secundrabad      500061
visakhapatnam   5 sevenhills     marikavalasa     506451
anantapur       6 medical_cure   anandanagar      500654

6 rows selected.

SQL> select * from hospital where pincode=500061;

HOSPITAL_REG_ID HOSPITAL_NAME    HOSPITAL_ADDR    PINCODE
-----
CITY
-----
Hyderabad      4 rainbow        secundrabad      500061

SQL> select * from department where no_of_floors=3;

DEPT_ID DEPT_NAME    NO_OF_FLOORS
-----
2 ENT          3

SQL> select * from guardian where guardian_ph_no=8335540054;

GUARDIAN_NAME    GUARDIAN_PH_NO RELATION
-----
gopal            8335540054     uncle

SQL> desc patient;
Name              Null?   Type
-----
PATIENT_ID        NUMBER
PATIENT_NAME      VARCHAR2(20)
PH_NUMBER         NUMBER
PROBLEM           VARCHAR2(20)
PATIENT_ADDR      VARCHAR2(20)

SQL> desc doctor;
```

Question: Display the values from guardian phone number=8335540054 from table guardian

Query: select * from guardian where guardian_ph_no=8335540054;

Output:

```
Run SQL Command Line

Hyderabad      4 rainbow        secundrabad      500061
visakhapatnam   5 sevenhills     marikavalasa     506451
anantapur       6 medical_cure   anandanagar      500654

6 rows selected.

SQL> select * from hospital where pincode=500061;

HOSPITAL_REG_ID HOSPITAL_NAME    HOSPITAL_ADDR    PINCODE
-----
CITY
-----
Hyderabad      4 rainbow        secundrabad      500061

SQL> select * from department where no_of_floors=3;

DEPT_ID DEPT_NAME    NO_OF_FLOORS
-----
2 ENT          3

SQL> select * from guardian where guardian_ph_no=8335540054;

GUARDIAN_NAME    GUARDIAN_PH_NO RELATION
-----
gopal            8335540054     uncle

SQL> desc patient;
Name              Null?   Type
-----
PATIENT_ID        NUMBER
PATIENT_NAME      VARCHAR2(20)
PH_NUMBER         NUMBER
PROBLEM           VARCHAR2(20)
PATIENT_ADDR      VARCHAR2(20)

SQL> desc doctor;
```

Question: Display the Description of patient table

Query: desc doctor;

Output:

```
Run SQL Command Line
6 rows selected.
SQL> select * from hospital where pincode=500061;
HOSPITAL_REG_ID HOSPITAL_NAME      HOSPITAL_ADDR      PINCODE
-----
4 rainbow      secundrabad      500061
Hyderabad
visakhapatnam 5 sevenhills      marikavalasa      506451
anantapur     6 medical_cure    anandanagar      500654
6 rows selected.
SQL> select * from department where no_of_floors=3;
DEPT_ID DEPT_NAME      NO_OF_FLOORS
-----
2 ENT      3
SQL> select * from guardian where guardian_ph_no=8335540054;
GUARDIAN_NAME      GUARDIAN_PH_NO RELATION
-----
gopal      8335540054 uncle
SQL> desc patient;
Name Null? Type
-----
PATIENT_ID NUMBER
PATIENT_NAME VARCHAR2(20)
PH_NUMBER NUMBER
PROBLEM VARCHAR2(20)
PATIENT_ADDR VARCHAR2(20)
SQL> desc doctor;
Name Null? Type
-----
DOCTOR_ID NUMBER
NAME VARCHAR2(20)
DOCTOR_PH_NO NUMBER
```

Question: Display the Description of doctor table

Query: desc doctor;

Output:

```
Run SQL Command Line
6 rows selected.
SQL> select * from hospital where pincode=500061;
HOSPITAL_REG_ID HOSPITAL_NAME      HOSPITAL_ADDR      PINCODE
-----
4 rainbow      secundrabad      500061
Hyderabad
SQL> select * from department where no_of_floors=3;
DEPT_ID DEPT_NAME      NO_OF_FLOORS
-----
2 ENT      3
SQL> select * from guardian where guardian_ph_no=8335540054;
GUARDIAN_NAME      GUARDIAN_PH_NO RELATION
-----
gopal      8335540054 uncle
SQL> desc patient;
Name Null? Type
-----
PATIENT_ID NUMBER
PATIENT_NAME VARCHAR2(20)
PH_NUMBER NUMBER
PROBLEM VARCHAR2(20)
PATIENT_ADDR VARCHAR2(20)
SQL> desc doctor;
Name Null? Type
-----
DOCTOR_ID NUMBER
NAME VARCHAR2(20)
DOCTOR_PH_NO NUMBER
SQL> select doctor_ph_no from doctor union select ph_number from patient;
DOCTOR_PH_NO
```

Question: Display the doctor phone number from table doctor and union phone number from table patient

Query: select doctor_ph_no from doctor union select ph_number from patient;

Output:

```
Run SQL Command Line
SQL> select * from guardian where guardian_ph_no=8335540054;
GUARDIAN_NAME      GUARDIAN_PH_NO RELATION
-----
gopal              8335540054  uncle

SQL> desc patient;
Name               Null?    Type
-----
PATIENT_ID         NUMBER
PATIENT_NAME       VARCHAR2(20)
PH_NUMBER          NUMBER
PROBLEM            VARCHAR2(20)
PATIENT_ADDR       VARCHAR2(20)

SQL> desc doctor;
Name               Null?    Type
-----
DOCTOR_ID          NUMBER
NAME               VARCHAR2(20)
DOCTOR_PH_NO       NUMBER

SQL> select doctor_ph_no from doctor union select ph_number from patient;
DOCTOR_PH_NO
-----
8132100
6543134005
6803054065
8321354100
8681354613
8743168465
8743513133
9310006541
9313640041
9314684216
9516841354
DOCTOR_PH_NO
-----
9845213311
12 rows selected.
```

Question: Display the date of test, sum(bill) from medical report table grouped by date of test

Query: select date_of_test,sum(bill) from medical_report group by date_of_test;

Output:

```
Run SQL Command Line
9314684216
9516841354
DOCTOR_PH_NO
-----
9845213311
12 rows selected.

SQL> select date_of_t,bill from medical_report groupby date_of_t;
select date_of_t,bill from medical_report groupby date_of_t
*
ERROR at line 1:
ORA-00933: SQL command not properly ended

SQL> select date_of_t,bill from medical_report group by date_of_t;
select date_of_t,bill from medical_report group by date_of_t
*
ERROR at line 1:
ORA-00904: "DATE_OF_T": invalid identifier

SQL> select date_of_test,bill from medical_report group by date_of_test;
select date_of_test,bill from medical_report group by date_of_test
*
ERROR at line 1:
ORA-00979: not a GROUP BY expression

SQL> select date_of_test,sum(bill) from medical_report group by date_of_test;
DATE_OF_T  SUM(BILL)
-----
21-MAY-21  6332
16-OCT-21  13232
14-FEB-16  34513
12-JUN-09  3255
24-JUN-21  3165
28-AUG-18  65832
6 rows selected.

SQL> select patient_name,count(problem) from patient group by problem;
```

Question: Display the patient name, count from table patient group by patient name

Query: select patient_name,count(problem) from patient group by patient_name;

Output:

```
Run SQL Command Line
ERROR at line 1:
ORA-00979: not a GROUP BY expression

SQL> select date_of_test,sum(bill) from medical_report group by date_of_test;

DATE_OF_T    SUM(BILL)
-----
21-MAY-21      6332
16-OCT-21     13232
14-FEB-16      34513
12-JUN-09      3255
24-JUN-21      3165
28-AUG-18     65032

6 rows selected.

SQL> select patient_name,count(problem) from patient group by problem;
select patient_name,count(problem) from patient group by problem
*
ERROR at line 1:
ORA-00979: not a GROUP BY expression

SQL> select patient_name,count(problem) from patient group by patiet_name;
select patient_name,count(problem) from patient group by patiet_name
*
ERROR at line 1:
ORA-00904: "PATIET_NAME": invalid identifier

SQL> select patient_name,count(problem) from patient group by patient_name;

PATIENT_NAME    COUNT(PROBLEM)
-----
asimov           1
karan            1
anand            1
bhansali         1
sushant          1
hrithik          1

6 rows selected.
```

Question: Display the hospital name, hospital address, pincode order by pincode from table hospital

Query: select hospital_name,hospital_addr,pincode from hospital order by pincode;

Output:

```
Run SQL Command Line
24-JUN-21      3165
28-AUG-18     65032

6 rows selected.

SQL> select patient_name,count(problem) from patient group by problem;
select patient_name,count(problem) from patient group by problem
*
ERROR at line 1:
ORA-00979: not a GROUP BY expression

SQL> select patient_name,count(problem) from patient group by patiet_name;
select patient_name,count(problem) from patient group by patiet_name
*
ERROR at line 1:
ORA-00904: "PATIET_NAME": invalid identifier

SQL> select patient_name,count(problem) from patient group by patient_name;

PATIENT_NAME    COUNT(PROBLEM)
-----
asimov           1
karan            1
anand            1
bhansali         1
sushant          1
hrithik          1

6 rows selected.

SQL> select hospital_name,hospital_addr,pincode from hospital order by pincode;

HOSPITAL_NAME    HOSPITAL_ADDR    PINCODE
-----
medicare          madhapur          500002
rainbow           secundrabad       500061
medical_cure      anandanagar       500654
sevenhills        marikavalasa      506451
apollo            gajuwaka          521541
care              rajam             532127

6 rows selected.
```

Question: Display the doctor phone number order by phone number from table doctor

Query: select name,doctor_ph_no from doctor order by doctor_ph_no;

Output:

```
Run SQL Command Line
PATIENT_NAME      COUNT(Problem)
-----
asimov            1
karan             1
anand             1
bhansali          1
sushant           1
hrithik           1
6 rows selected.

SQL> select hospital_name,hospital_addr,pincode from hospital order by pincode;

HOSPITAL_NAME      HOSPITAL_ADDR      PINCODE
-----
medicare            madhapur            500002
rainbow             secundrabad         500061
medical_cure        anandanagar         500654
sevenhills          marikavalasa        506451
apollo              gajuwaka            521541
care                rajam               532127
6 rows selected.

SQL> select doctor_name,doctor_ph_no from hospital order by doctor_ph_no;
select doctor_name,doctor_ph_no from hospital order by doctor_ph_no
*
ERROR at line 1:
ORA-00904: "DOCTOR_PH_NO": invalid identifier

SQL> select name,doctor_ph_no from doctor order by doctor_ph_no;

NAME                DOCTOR_PH_NO
-----
salman              8681354613
shahrukh            8743168465
karthik             8743513133
alladin            9314684216
singh              9516841354
vishal             9845213311
6 rows selected.
```

Question: Display the patient name, phone number, problem order by problem from table patient

Query: select patient_name,ph_number,problem from patient order by problem;

Output:

```
Run SQL Command Line
*
ERROR at line 1:
ORA-00904: "DOCTOR_PH_NO": invalid identifier

SQL> select name,doctor_ph_no from doctor order by doctor_ph_no;

NAME                DOCTOR_PH_NO
-----
salman              8681354613
shahrukh            8743168465
karthik             8743513133
alladin            9314684216
singh              9516841354
vishal             9845213311
6 rows selected.

SQL> select patient_name,ph_number,problem from patient order by problem;

PATIENT_NAME      PH_NUMBER  PROBLEM
-----
hrithik           9310006541 fractures
asimov            6543134005 headache
bhansali          6803054065 heartbeat
karan             8132100    heartbeat
sushant           8321354100 leg_pains
anand             9313640041 neckpain
6 rows selected.

SQL>
```

Question: Display the department name, no of floors order by no of floors from table department

Query: select dept_name,no_of_floors from department order by no_of_floors;

Output:

```
Run SQL Command Line
singh          9516841354
vishal         9845213311
6 rows selected.

SQL> select patient_name,ph_number,problem from patient order by problem;

PATIENT_NAME      PH_NUMBER PROBLEM
-----
anithik           9310006541 fractures
asimov            6543134005 headache
bhansali          6803054065 heartbeat
karan             8132100 heartbeat
sushant           8321354100 leg_pains
anand             9313640041 neckpain
6 rows selected.

SQL> select dept_name,no_of_floors from department order by no_of_floors;

DEPT_NAME      NO_OF_FLOORS
-----
nursing         2
Medical_Record 2
ENT             3
Radiology       4
Operation_Theatre 4
Paramedical     4
Cardiology      4
7 rows selected.

SQL>
```

Question: Display the phone number from table patient where patient id<3

Query: select * from(select * from patient order by ph_number) where patient_id<3;

Output:

```
Run SQL Command Line

SQL> select * from(select * from patient order by ph_number) where patient_id<3;

PATIENT_ID PATIENT_NAME      PH_NUMBER PROBLEM
-----
PATIENT_ADDR
-----
madhapur    2 karan             8132100 heartbeat
madhapur    1 bhansali          6803054065 heartbeat

SQL>
```

Question: Display the doctor id if in(1,3) from table doctor

Query: select * from doctor where doctor_id in (1,3);

Output:

```
Run SQL Command Line

SQL> select * from(select * from patient order by ph_number) where patient_id<3;

PATIENT_ID PATIENT_NAME      PH_NUMBER PROBLEM
-----
PATIENT_ADDR
-----
madhapur      2 karan                8132100 heartbeat
madhapur      1 bhansali             6803054065 heartbeat

SQL> select * from doctor where doctor_id in (1,3);

DOCTOR_ID NAME      DOCTOR_PH_NO
-----
1 vishal            9845213311
3 singh             9516841354

SQL>
```

Question: Display the no of floors from department table if exists no of floors =4 from department table

Query: select no_of_floors from department where EXISTS(select dept_id from department where no_of_floors = 4);

Output:

```
Run SQL Command Line

SQL> select * from(select * from patient order by ph_number) where patient_id<3;

PATIENT_ID PATIENT_NAME      PH_NUMBER PROBLEM
-----
PATIENT_ADDR
-----
madhapur      2 karan                8132100 heartbeat
madhapur      1 bhansali             6803054065 heartbeat

SQL> select * from doctor where doctor_id in (1,3);

DOCTOR_ID NAME      DOCTOR_PH_NO
-----
1 vishal            9845213311
3 singh             9516841354

SQL> select no_of_floors from department where EXISTS(select dept_id from dapartment where no_of_floors = 4);
select no_of_floors from department where EXISTS(select dept_id from dapartment where no_of_floors = 4)
ERROR at line 1:
ORA-00942: table or view does not exist

SQL> select no_of_floors from department where EXISTS(select dept_id from department where no_of_floors = 4);

NO_OF_FLOORS
-----
4
3
4
2
4
4
2

7 rows selected.

SQL>
```


Question: Display the usage of having and grouping by function.

Query: select max(patient_id),ph_number from patient group by ph_number having count(problem)<2;

Output:

```
Run SQL Command Line
4
2
4
4
2
7 rows selected.
SQL> select max(patient_id),ph_number from patient group by ph_number having count(problem)<2;
MAX(PATIENT_ID)  PH_NUMBER
-----
5 9310006541
2 8132100
6 9313640041
1 6803054065
3 8321354100
4 6543134005
6 rows selected.
SQL> _
```
