

SQL PROJECT

Topic : Create project table and insert all data.

Task :

1. Write a query to create a patients table with the fields such as date, patient id, patient name, age, weight, gender, location, phone number, disease, doctor name, and doctor id.

Ans : Query

use project;

```
create table patients_table(Date varchar(30), pid int, p_name varchar(50), age int, weight int, gender varchar(30), location varchar(50), phone_no bigint, disease varchar(50), doctor_name varchar(50), doctor_id int );
```

desc patients_table;

Result :

The screenshot displays the MySQL Workbench interface. The 'SCHEMAS' panel on the left shows the 'project' database selected. The main editor window contains the following SQL queries:

```
1 • show databases;
2 • create database project;
3 • use project;
4 • create table patients_table(Date varchar(30), pid int, p_name varchar(50), age int, weight int, gender varchar(30),
5 • location varchar(50), phone_no bigint, disease varchar(50), doctor_name varchar(50), doctor_id int );
```

The 'Result Grid' shows the table structure for 'patients_table':

Field	Type	Null	Key	Default	Extra
Date	varchar(30)	YES		NULL	
pid	int	YES		NULL	
p_name	varchar(50)	YES		NULL	
age	int	YES		NULL	
weight	int	YES		NULL	
gender	varchar(30)	YES		NULL	
location	varchar(50)	YES		NULL	
phone_no	bigint	YES		NULL	
disease	varchar(50)	YES		NULL	
doctor_name	varchar(50)	YES		NULL	
doctor_id	int	YES		NULL	

The 'Output' panel at the bottom shows the execution results:

#	Time	Action	Message	Duration / Fetch
10	12:45:52	create table patients_table(Date varchar(30), pid int, p_name varchar(50), age int, weight i...	0 row(s) affected	0.313 sec
11	12:45:55	desc patients_table	11 row(s) returned	0.000 sec / 0.000 sec

2. Write a query to insert values into the patients table.

Ans : Query

insert into

patients_table(Date,pid,p_name,age,weight,gender,location,phone_no,disease,doctor_name,doctor_id) values

```
('2014-03-04','AP2021','Sarath',67,76,'Male','Chennai',8975262145,'Cardiac','Mohan',21),
('2019-07-18','AP2022','John',62,80,'Male','Banglore',9702354665,'Cancer','Suraj',22),
('2016-05-02','AP2023','Henry',43,65,'Male','Kerala',9758624583,'Liver','Mehta',23),
('2016-12-24','AP2024','Carl',56,72,'Female','Mumbai',8756954231,'Asthma','Karthik',24),
('2013-03-12','AP2025','Shikar',55,71,'Male','Delhi',9725364867,'Cardiac','Mohan',21),
('2014-12-06','AP2026','Piyush',47,59,'Male','Haryana',9836475982,'Cancer','Suraj',22),
('2017-03-25','AP2027','Stephen',69,55,'Male','Gujarat',7589684215,'Liver','Mehta',23),
('2014-02-28','AP2028','Aaron',75,53,'Male','Banglore',9863452175,'Asthma','Karthik',24);

select* from patients_table;
```

Result :

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
values('2014-03-04','AP2021','Sarath',67,76,'Male','Chennai',8975262145,'Cardiac','Mohan',21),
('2019-07-18','AP2022','John',62,80,'Male','Banglore',9702354665,'Cancer','Suraj',22),
('2016-05-02','AP2023','Henry',43,65,'Male','Kerala',9758624583,'Liver','Mehta',23),
('2016-12-24','AP2024','Carl',56,72,'Female','Mumbai',8756954231,'Asthma','Karthik',24),
('2013-03-12','AP2025','Shikar',55,71,'Male','Delhi',9725364867,'Cardiac','Mohan',21),
('2014-12-06','AP2026','Piyush',47,59,'Male','Haryana',9836475982,'Cancer','Suraj',22),
('2017-03-25','AP2027','Stephen',69,55,'Male','Gujarat',7589684215,'Liver','Mehta',23),
('2014-02-28','AP2028','Aaron',75,53,'Male','Banglore',9863452175,'Asthma','Karthik',24);

select* from patients_table;
```

The Results tab shows the data inserted into the patients_table:

Date	pid	p_name	age	weight	gender	location	phone_no	disease	doctor_name	doctor_id
2014-03-04	AP2021	Sarath	67	76	Male	Chennai	8975262145	Cardiac	Mohan	21
2019-07-18	AP2022	John	62	80	Male	Banglore	9702354665	Cancer	Suraj	22
2016-05-02	AP2023	Henry	43	65	Male	Kerala	9758624583	Liver	Mehta	23
2016-12-24	AP2024	Carl	56	72	Female	Mumbai	8756954231	Asthma	Karthik	24
2013-03-12	AP2025	Shikar	55	71	Male	Delhi	9725364867	Cardiac	Mohan	21
2014-12-06	AP2026	Piyush	47	59	Male	Haryana	9836475982	Cancer	Suraj	22
2017-03-25	AP2027	Stephen	69	55	Male	Gujarat	7589684215	Liver	Mehta	23
2014-02-28	AP2028	Aaron	75	53	Male	Banglore	9863452175	Asthma	Karthik	24

The Output tab shows the execution details:

#	Time	Action	Message	Duration / Fetch
19	19:36:37	insert into patients_table(Date,pid,p_name,age,weight,gender,location,phone_no,disease,doctor_name,doctor_id) values	8 row(s) affected Records: 8 Duplicates: 0 Warnings: 0	1.141 sec
20	19:36:39	select* from patients_table LIMIT 0, 1000	16 row(s) returned	0.031 sec / 0.047 sec

3. Write a query to display the total number of patients in the table.

Ans : Query

```
select count(*) from patients_table;
```

Result :

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following code:

```
15 ('18-07-2019','AP2022','John',62,60,'Male','Bangalore',9702354665,'Cancer','Suraj',22),
16 ('02-05-2016','AP2023','Henry',43,65,'Male','Kerala',9758624583,'Liver','Mehta',23),
17 ('23-24-2016','AP2024','Carl',56,72,'Female','Mumbai',8756954231,'Asthma','Karthik',24),
18 ('12-03-2013','AP2025','Shikar',55,71,'Male','Delhi',9725364867,'Cardiac','Mohan',21),
19 ('06-12-2014','AP2026','Piyush',47,59,'Male','Haryana',9836475982,'Cancer','Suraj',22),
20 ('25-03-2017','AP2027','Stephen',69,55,'Male','Gujarat',7589684215,'Liver','Mehta',23),
21 ('37-02-2014','AP2028','Aaron',75,53,'Male','Bangalore',9863452175,'Asthma','Karthik',24);
22 • select* from patients_table;
23
24 -- Write a query to display the total number of patients in the table.
25 • select count(*) from patients_table;
```

The Result Grid shows the output of the query:

count(*)
8

The Action Output pane shows the execution details:

#	Time	Action	Message	Duration / Fetch
6	16:48:10	select* from patients_table LIMIT 0.1000	8 row(s) returned	0.078 sec / 0.000 sec
7	16:48:15	select count(*) from patients_table LIMIT 0.1000	1 row(s) returned	0.687 sec / 0.000 sec

4. Write a query to display the patient id, patient name, gender, and disease of the patient whose age is maximum.

Ans : Query

```
select max(age) from patients_table;
```

```
select* from patients_table
```

```
where age=(select max(age) from patients_table);
```

Result :

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following code:

```
22 • select* from patients_table;
23
24 -- Write a query to display the total number of patients in the table.
25 • select count(*) from patients_table;
26
27 -- Write a query to display the patient id, patient name, gender, and disease of the patient whose age is maximum.
28 • select max(age) from patients_table;
29 • select* from patients_table
30 where age=(select max(age) from patients_table);
31
32 -- Write a query to display the old patient's name and new patient's name in uppercase.
33
```

The Result Grid shows the output of the query:

Date	pid	p_name	age	weight	gender	location	phone_no	disease	doctor_name	doctor_id
37-02-2014	AP2028	Aaron	75	53	Male	Bangalore	9863452175	Asthma	Karthik	24

The Action Output pane shows the execution details:

#	Time	Action	Message	Duration / Fetch
5	19:51:45	select max(age) from patients_table LIMIT 0.1000	1 row(s) returned	0.000 sec / 0.000 sec
6	20:02:28	select* from patients_table where age=(select max(age) from patients_table) LIMIT 0.1000	1 row(s) returned	0.031 sec / 0.000 sec

5. Write a query to display patient id and patient name with the current date.

Ans : Query

```
select curdate() Date, pid, p_name from patients_table;
```

Result :

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
29 • select* from patients_table
30   where age=(select max(age) from patients_table);
31
32 -- Write a query to display patient id and patient name with the current date.
33 • select curdate() Date, pid, p_name from patients_table;
34
35 -- Write a query to display the old patient's name and new patient's name in uppercase.
36 • select upper(p_name) as newPatientName
```

The Result Grid shows the output of the query:

Date	pid	p_name
2023-03-27	AP2021	Sarath
2023-03-27	AP2022	John
2023-03-27	AP2023	Henry
2023-03-27	AP2024	Carl
2023-03-27	AP2025	Shikar
2023-03-27	AP2026	Piyush
2023-03-27	AP2027	Stephen
2023-03-27	AP2028	Aaron

The Action Output pane shows the execution details:

#	Time	Action	Message	Duration / Fetch
10	13:47:49	Insert into patients_table(Date,pid,p_name,age,weight,gender,location,phone_no,disease,doctor...	8 row(s) affected Records: 8 Duplicates: 0 Warnings: 0	0.328 sec
11	13:47:52	select* from patients_table LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
12	13:47:58	select curdate() Date, pid, p_name from patients_table LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec

6. Write a query to display the old patient's name and new patient's name in uppercase.

Ans : Query

```
select upper(p_name) as newPatientName
from patients_table;
```

Result :

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following query:

```
32 -- Write a query to display patient id and patient name with the current date.
33
34 -- Write a query to display the old patient's name and new patient's name in uppercase.
35
36 • select upper(p_name) as newPatientName
37   from patients_table;
38
39 -- Write a query to display the patient's name along with the length of their name.
40 • select pid, p_name, length(p_name) as length from patients_table order by length,pid;
```

The Result Grid shows the output of the query:

newPatientName
SARATH
JOHN
HENRY
CARL
SHIKAR
PIYUSH
STEPHEN
AARON

The Action Output pane shows the execution details:

#	Time	Action	Message	Duration / Fetch
7	20:22:54	select pid, p_name, length(p_name) as length from patients_table order by length,pid LIMIT 0, 1000	8 row(s) returned	0.047 sec / 0.000 sec
8	20:31:12	select upper(p_name) as newPatientName from patients_table LIMIT 0, 1000	8 row(s) returned	0.062 sec / 0.000 sec

7. Write a query to display the patient's name along with the length of their name.

Ans : Query

```
select pid, p_name, length(p_name) as length from patients_table order by length,pid;
```

Result :

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following queries:

```
25 • select count(*) from patients_table;
26
27 -- Write a query to display the patient id, patient name, gender, and disease of the patient whose age is maximum.
28 • select max(age) from patients_table;
29 • select* from patients_table
30 where age=(select max(age) from patients_table);
31
32 -- Write a query to display the old patient's name and new patient's name in uppercase.
33
```

The Result Grid shows the output of the first query:

pid	p_name	length
AP2022	John	4
AP2024	Carl	4
AP2023	Henry	5
AP2028	Aaron	5
AP2021	Sarah	6
AP2025	Shikar	6
AP2026	Piyush	6
AP2027	Stephen	7

The Output pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
6	20:02:28	select* from patients_table where age=(select max(age) from patients_table) LIMIT 0, 1000	1 row(s) returned	0.031 sec / 0.000 sec
7	20:22:54	select pid, p_name, length(p_name) as length from patients_table order by length,pid LIMIT 0, 1000	8 row(s) returned	0.047 sec / 0.000 sec

8. Write a query to display the patient's name, and the gender of the patient must be mentioned as M or F.

Ans : Query

```
select p_name,
case when gender ='Male' then 'M' when gender = 'Female' then 'F' else 'Other' end
from patients_table;
```

Result :

The screenshot shows the MySQL Workbench interface. The SQL editor contains the following queries:

```
41
42 -- Write a query to display the patient's name and the gender of the patient must be mentioned as M or F.
43 • select p_name,
44 case when gender ='Male' then 'M' when gender = 'Female' then 'F' else 'Other' end
45 from patients_table;
46
47
48 -- Write a query to combine the names of the patient and the doctor in a new column.
```

The Result Grid shows the output of the first query:

p_name	case when gender ='Male' then 'M' when gender = 'Female' then 'F' else 'Other' end
Sarah	M
John	M
Henry	M
Carl	F
Shikar	M
Piyush	M
Stephen	M
Aaron	M

The Output pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
5	16:30:33	select* from patients_table LIMIT 0, 1000	8 row(s) returned	0.031 sec / 0.000 sec
6	16:30:41	select p_name, case when gender ='Male' then 'M' when gender = 'Female' then 'F' else 'Other' e...	8 row(s) returned	0.000 sec / 0.000 sec

9. Write a query to combine the names of the patient and the doctor in a new column.

Ans : Query

```
select CONCAT(p_name , ' ', doctor_name ) as Name
from patients_table;
```

Result :

The screenshot shows the MySQL Workbench interface. The SQL editor contains a query to combine patient and doctor names. The result grid displays the output of the query.

```
44 case when gender = 'Male' then 'M' when gender = 'Female' then 'F' else 'Other' end
45 from patients_table;
46
47 -- Write a query to combine the names of the patient and the doctor in a new column.
48 select CONCAT(p_name , ' ', doctor_name ) as Name
49 from patients_table;
50
51 -- SELECT a name FROM patients table
```

Name
Sarath Mohan
John Suraj
Henry Mehta
Carl Karthik
Shikar Mohan
Piyush Suraj
Stephen Mehta
Aaron Karthik

Result 6 x

Output

#	Time	Action	Message	Duration / Fetch
12	13:47:58	select curdate() Date, pid, p_name from patients_table LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
13	13:53:01	select CONCAT(p_name , ' ', doctor_name) as P_Name , D_Name from patients_table LIMIT...	Error Code: 1054. Unknown column 'D_Name' in field list	0.015 sec
14	13:54:32	select CONCAT(p_name , ' ', doctor_name) as Name from patients_table LIMIT 0, 1000	8 row(s) returned	0.015 sec

10. Write a query to display the patients' age along with the logarithmic value (base 10) of their age.

Ans : Query

```
select log10(age) from patients_table;
```

Result :

The screenshot shows the MySQL Workbench interface. The SQL editor contains a query to display the logarithmic value of patient ages. The result grid displays the output of the query.

```
46
47 -- Write a query to combine the names of the patient and the doctor in a new column.
48 select CONCAT(p_name , ' ', doctor_name ) as Name
49 from patients_table;
50
51 -- Write a query to display the patients' age along with the logarithmic value (base 10) of their age.
52
53 select log10(age) from patients_table;
```

log10(age)
1.8260748027008264
1.792391689498254
1.6334684555795864
1.7481880270062005
1.7403626894942439
1.672097879357175
1.8388490907372552
1.8750612633917

Result 7 x

Output

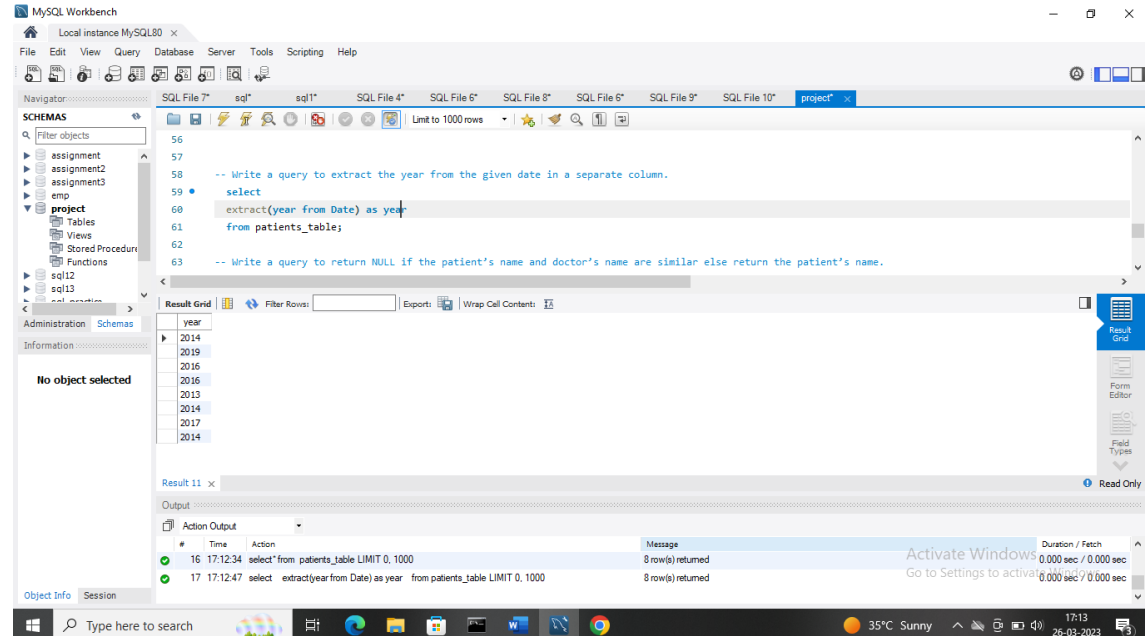
#	Time	Action	Message	Duration / Fetch
14	13:54:32	select CONCAT(p_name , ' ', doctor_name) as Name from patients_table LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
15	15:00:38	select log10(age) LIMIT 0, 1000	Error Code: 1054. Unknown column 'age' in field list	0.422 sec
16	15:01:20	select log10(age) from patients_table LIMIT 0, 1000	8 row(s) returned	0.250 sec / 0.000 sec

11. Write a query to extract the year from the given date in a separate column.

Ans : Query

```
select
extract(year from Date) as year
from patients_table;
```

Result :

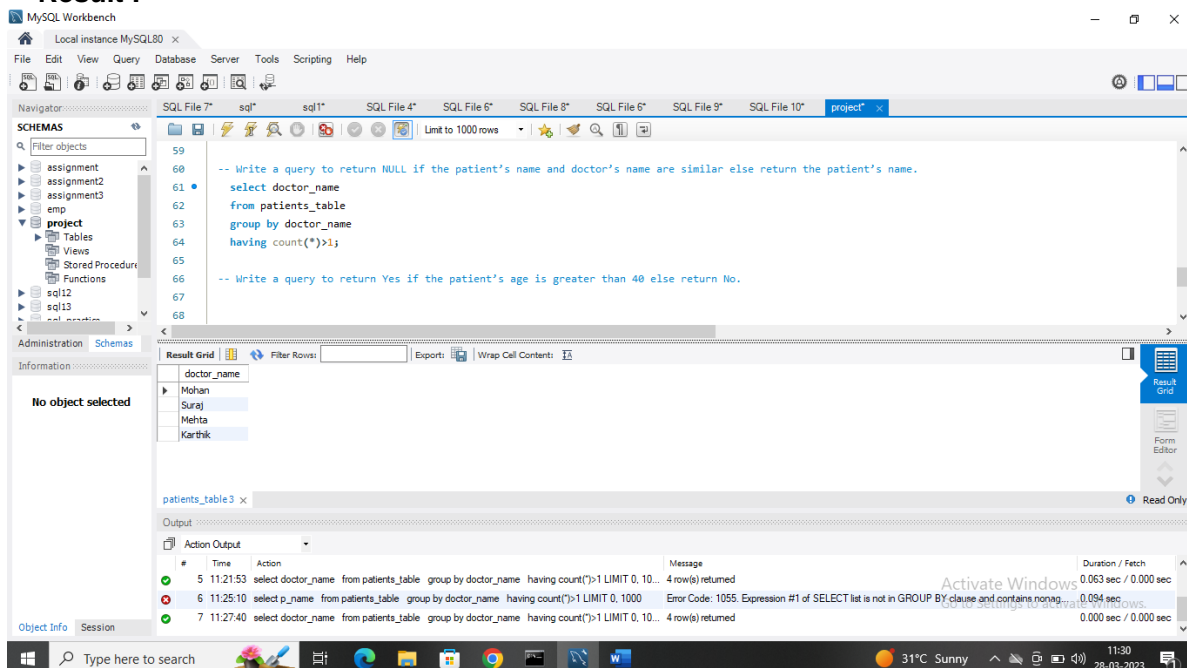


12. Write a query to return NULL if the patient's name and doctor's name are similar else return the patient's name.

Ans : Query

```
select doctor_name
from patients_table
group by doctor_name
having count(*)>1;
```

Result :



13. Write a query to display the doctor's duplicate name from the table.

Ans : Query

select doctor_name,count(*) as occurrence from
patients_table group by doctor_name having count(*)>1;

Result :

The screenshot shows the MySQL Workbench interface. The SQL Editor contains the following query:

```
-- Write a query to return Yes if the patient's age is greater than 40 else return No.  
  
-- Write a query to display the doctor's duplicate name from the table.  
select doctor_name,count(*) as occurrence from  
patients_table group by doctor_name having count(*)>1;
```

The Result Grid shows the following data:

doctor_name	occurrence
Mohan	2
Suraj	2
Mehta	2
Karthik	2

The Output pane shows the execution log:

#	Time	Action	Message	Duration / Fetch
17	17:12:47	select extract(year from Date) as year from patients_table LIMIT 0, 1000	8 row(s) returned	0.000 sec / 0.000 sec
18	18:03:09	select doctor_name,count(*) as occurrence from patients_table group by doctor_name having co...	4 row(s) returned	0.172 sec / 0.000 sec