**PRSQ-01-Medical Data History**

**Perform the Problem Queries:**

1.Show first name, last name, and gender of patients who's gender is 'M'

SELECT first\_name, last\_name, gender

FROM patients

WHERE gender = 'M';

2. Show first name and last name of patients who does not have allergies.

SELECT first\_name, last\_name

FROM patients

WHERE allergies IS NULL OR allergies = '';

3. Show first name of patients that start with the letter 'C'

SELECT first\_name

FROM patients

WHERE first\_name LIKE 'C%';

4. Show first name and last name of patients that weight within the range of 100 to 120 (inclusive)

SELECT first\_name, last\_name

FROM patients

WHERE weight BETWEEN 100 AND 120;

5. Update the patients table for the allergies column. If the patient's allergies is null then replace it with 'NKA'

6. Show first name and last name concatenated into one column to show their full name.

SELECT CONCAT(first\_name, ' ', last\_name) AS full\_name

FROM patients;

7. Show first name, last name, and the full province name of each patient.

SELECT p.first\_name, p.last\_name, pr.province\_name

FROM patients p

JOIN province\_names pr ON p.province\_id = pr.province\_id;

8. Show how many patients have a birth\_date with 2010 as the birth year.

SELECT COUNT(\*) AS total\_patients

FROM patients

WHERE YEAR(birth\_date) = 2010;

9. Show the first\_name, last\_name, and height of the patient with the greatest height.

SELECT first\_name, last\_name, height

FROM patients

ORDER BY height DESC

LIMIT 1;

10. Show all columns for patients who have one of the following patient\_ids: 1,45,534,879,1000

SELECT \*

FROM patients

WHERE patient\_id IN (1, 45, 534, 879, 1000);

11. Show the total number of admissions

SELECT COUNT(\*) AS total\_admissions

FROM admissions;

12. Show all the columns from admissions where the patient was admitted and discharged on the same day.

SELECT \*

FROM admissions

WHERE admission\_date = discharge\_date;

13. Show the total number of admissions for patient\_id 579.

SELECT COUNT(\*) AS total\_admissions

FROM admissions

WHERE patient\_id = 579;

14. Based on the cities that our patients live in, show unique cities that are in province\_id 'NS'?

SELECT DISTINCT city

FROM patients

WHERE province\_id = 'NS';

15. Write a query to find the first\_name, last name and birth date of patients who have height more than 160 and weight more than 70

SELECT first\_name, last\_name, birth\_date

FROM patients

WHERE height > 160 AND weight > 70;

16. Show unique birth years from patients and order them by ascending.

SELECT DISTINCT YEAR(birth\_date) AS birth\_year

FROM patients

ORDER BY birth\_year ASC;

17. Show unique first names from the patients table which only occurs once in the list.

For example, if two or more people are named 'John' in the first\_name column then don't include their name in the output list. If only 1 person is named 'Leo' then include them in the output. Tip: HAVING clause was added to SQL because the WHERE keyword cannot be used with aggregate functions.

SELECT first\_name

FROM patients

GROUP BY first\_name

HAVING COUNT (first\_name) = 1;

18. Show patient\_id and first\_name from patients where their first\_name start and ends with 's' and is at least 6 characters long.

SELECT patient\_id, first\_name

FROM patients

WHERE first\_name LIKE 's%s'

AND LENGTH(first\_name) >= 6;

19. Show patient\_id, first\_name, last\_name from patients whos diagnosis is 'Dementia'. Primary diagnosis is stored in the admissions table.

SELECT p.patient\_id, p.first\_name, p.last\_name

FROM patients p

JOIN admissions a ON p.patient\_id = a.patient\_id

WHERE a.diagnosis = 'Dementia';

20. Display every patient's first\_name. Order the list by the length of each name and then by alphbetically.

SELECT first\_name

FROM patients

ORDER BY LENGTH(first\_name), first\_name;

21. Show the total amount of male patients and the total amount of female patients in the patients table. Display the two results in the same row.

SELECT

COUNT(CASE WHEN gender = 'M' THEN 1 END) AS total\_male\_patients,

COUNT(CASE WHEN gender = 'F' THEN 1 END) AS total\_female\_patients

FROM patients;

22. Show the total amount of male patients and the total amount of female patients in the patients table. Display the two results in the same row.

SELECT

COUNT(CASE WHEN gender = 'M' THEN 1 END) AS total\_male\_patients,

COUNT(CASE WHEN gender = 'F' THEN 1 END) AS total\_female\_patients

FROM patients;

23. Show patient\_id, diagnosis from admissions. Find patients admitted multiple times for the same diagnosis.

SELECT patient\_id, diagnosis

FROM admissions

GROUP BY patient\_id, diagnosis

HAVING COUNT(\*) > 1;

24. Show the city and the total number of patients in the city. Order from most to least patients and then by city name ascending.

SELECT city, COUNT(\*) AS total\_patients

FROM patients

GROUP BY city

ORDER BY total\_patients DESC, city ASC;

25. Show first name, last name and role of every person that is either patient or doctor. The roles are either "Patient" or "Doctor"

SELECT first\_name, last\_name, 'Patient' AS role

FROM patients

UNION

SELECT first\_name, last\_name, 'Doctor' AS role

FROM doctors;

26. Show all allergies ordered by popularity. Remove NULL values from query.

SELECT allergies, COUNT(\*) AS occurrence\_count

FROM patients

WHERE allergies IS NOT NULL

GROUP BY allergies

ORDER BY occurrence\_count DESC;

27. Show all patient's first\_name, last\_name, and birth\_date who were born in the 1970s decade. Sort the list starting from the earliest birth\_date.

SELECT first\_name, last\_name, birth\_date

FROM patients

WHERE YEAR(birth\_date) BETWEEN 1970 AND 1979

ORDER BY birth\_date ASC;

28. We want to display each patient's full name in a single column. Their last\_name in all upper letters must appear first, then first\_name in all lower case letters. Separate the last\_name and first\_name with a comma. Order the list by the first\_name in decending order EX: SMITH,jane

SELECT CONCAT(UPPER(last\_name), ',', LOWER(first\_name)) AS full\_name

FROM patients

ORDER BY first\_name DESC;

29. Show the province\_id(s), sum of height; where the total sum of its patient's height is greater than or equal to 7,000.

SELECT province\_id, SUM(height) AS total\_height

FROM patients

GROUP BY province\_id

HAVING total\_height >= 7000;

30. Show the difference between the largest weight and smallest weight for patients with the last name 'Maroni'

SELECT MAX(weight) - MIN(weight) AS weight\_difference

FROM patients

WHERE last\_name = 'Maroni';

31. Show all of the days of the month (1-31) and how many admission\_dates occurred on that day. Sort by the day with most admissions to least admissions.

SELECT DAY(admission\_date) AS admission\_day, COUNT(\*) AS total\_admissions

FROM admissions

GROUP BY admission\_day

ORDER BY total\_admissions DESC;

32. Show all of the patients grouped into weight groups. Show the total amount of patients in each weight group. Order the list by the weight group decending. e.g. if they weight 100 to 109 they are placed in the 100 weight group, 110-119 = 110 weight group, etc.

SELECT FLOOR(weight / 10) \* 10 AS weight\_group, COUNT(\*) AS total\_patients

FROM patients

GROUP BY weight\_group

ORDER BY weight\_group DESC;

33. Show patient\_id, weight, height, isObese from the patients table. Display isObese as a boolean 0 or 1. Obese is defined as weight(kg)/(height(m). Weight is in units kg. Height is in units cm.

SELECT patient\_id,

weight,

height,

CASE

WHEN weight / POWER(height / 100, 2) >= 30 THEN 1

ELSE 0

END AS isObese

FROM patients;

34. Show patient\_id, first\_name, last\_name, and attending doctor's specialty. Show only the patients who has a diagnosis as 'Epilepsy' and the doctor's first name is 'Lisa'. Check patients, admissions, and doctors tables for required information.

SELECT p.patient\_id, p.first\_name, p.last\_name, d.specialty

FROM patients p

JOIN admissions a ON p.patient\_id = a.patient\_id

JOIN doctors d ON a.attending\_doctor\_id = d.doctor\_id

WHERE a.diagnosis = 'Epilepsy'

AND d.first\_name = 'Lisa';

35. All patients who have gone through admissions, can see their medical documents on our site. Those patients are given a temporary password after their first admission. Show the patient\_id and temp\_password.

The password must be the following, in order:

- patient\_id

- the numerical length of patient's last\_name

- year of patient's birth\_date

SELECT a.patient\_id,

CONCAT(a.patient\_id, LENGTH(p.last\_name), YEAR(p.birth\_date)) AS temp\_password

FROM admissions a

JOIN (

SELECT patient\_id, MIN(admission\_date) AS first\_admission

FROM admissions

GROUP BY patient\_id

) first\_admissions ON a.patient\_id = first\_admissions.patient\_id

AND a.admission\_date = first\_admissions.first\_admission

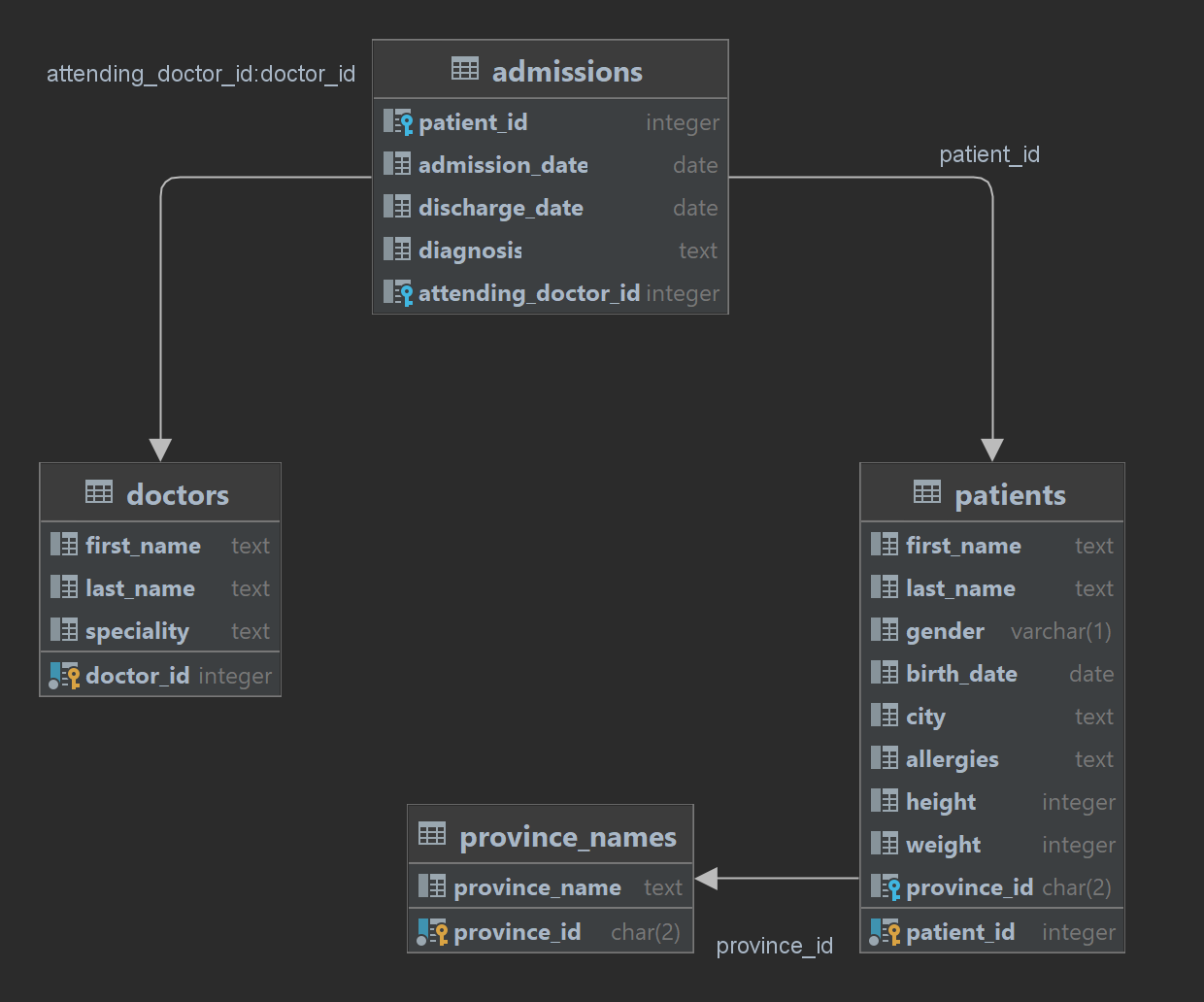
JOIN patients p ON a.patient\_id = p.patient\_id;

**SQL Link:**

Note: Connect to the database with the given credentials to fetch the data

DB Name: **project\_medical\_data\_history**  
Host: 18.136.157.135  
Domain Name: [projects.datamites.com](http://projects.datamites.com/)  
Username: **dm\_team4**  
Password: **DM!$!Team!47@4!23&**

**SQL Schema:**

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**Note:-** *Change the column name attending\_doctor\_id to doctor\_id of table admission to merge with table doctors*