**# Healthcare\_Mangement\_**

This will help to design and implement a relational database system to store patient and doctor information, medical records, and treatment details.

**Queries**

**1. Retrieve Names and Genders of All Patients**

SELECT patient\_name, gender

FROM Patients;

**2. List Unique Diagnoses Recorded in Medical Records**

SELECT DISTINCT diagnosis

FROM MedicalRecords;

**3. Count Total Number of Patients**

SELECT COUNT(\*) AS total\_patients

FROM Patients;

**4. Find the Oldest Patient**

SELECT patient\_name, date\_of\_birth

FROM Patients

ORDER BY date\_of\_birth

LIMIT 1;

**5. Display Address and Phone Number of Patient with ID 7**

SELECT address, phone\_number

FROM Patients

WHERE patient\_id = 7;

**6. Retrieve Names and Specializations of All Doctors**

SELECT doctor\_name, specialization

FROM Doctors;

**7. Calculate Average Length of Hospital Stay**

SELECT AVG(DATEDIFF(discharge\_date, admission\_date)) AS avg\_length\_of\_stay

FROM MedicalRecords;

**8. Count Number of Male and Female Patients Separately**

SELECT gender, COUNT(\*) AS total\_count

FROM Patients

GROUP BY gender;

**9. Find the Doctor Who Treated the Most Patients**

SELECT doctor\_id, COUNT(\*) AS patient\_count

FROM MedicalRecords

GROUP BY doctor\_id

ORDER BY patient\_count DESC

LIMIT 1;

**10. List Patients Whose Names Start with 'J'**

SELECT \*

FROM Patients

WHERE patient\_name LIKE 'J%';

**11. Retrieve Names of Patients with Admission and Discharge Dates**

SELECT p.patient\_name, m.admission\_date, m.discharge\_date

FROM Patients p

JOIN MedicalRecords m ON p.patient\_id = m.patient\_id;

**12. Calculate Total Number of Medical Records**

SELECT COUNT(\*) AS total\_medical\_records

FROM MedicalRecords;

**13. List Patients Diagnosed with Hypertension or Diabetes**

SELECT p.\*

FROM Patients p

JOIN MedicalRecords m ON p.patient\_id = m.patient\_id

WHERE m.diagnosis IN ('Hypertension', 'Diabetes');

**14. Find Average Age of Patients**

SELECT AVG(YEAR(CURRENT\_DATE) - YEAR(date\_of\_birth)) AS avg\_age

FROM Patients;

**15. Display Doctors Who Treated Patients Admitted in January 2023**

SELECT DISTINCT d.\*

FROM Doctors d

JOIN MedicalRecords m ON d.doctor\_id = m.doctor\_id

WHERE m.admission\_date BETWEEN '2023-01-01' AND '2023-01-31';

**16. Calculate Total Number of Patients Treated by Each Doctor**

SELECT doctor\_id, COUNT(\*) AS total\_patients\_treated

FROM MedicalRecords

GROUP BY doctor\_id;

**17. List Patients Treated by Doctors Specializing in Cardiology**

SELECT DISTINCT p.\*

FROM Patients p

JOIN MedicalRecords m ON p.patient\_id = m.patient\_id

JOIN Doctors d ON m.doctor\_id = d.doctor\_id

WHERE d.specialization = 'Cardiology';

**18. Find Patient with the Longest Hospital Stay Duration**

SELECT p.\*

FROM Patients p

JOIN MedicalRecords m ON p.patient\_id = m.patient\_id

ORDER BY DATEDIFF(m.discharge\_date, m.admission\_date) DESC

LIMIT 1;

**19. Display Top 5 Most Common Diagnoses**

SELECT diagnosis, COUNT(\*) AS diagnosis\_count

FROM MedicalRecords

GROUP BY diagnosis

ORDER BY diagnosis\_count DESC

LIMIT 5;

**20. List Patients Treated by Doctors Whose Names Start with 'Dr. S'**

SELECT p.\*

FROM Patients p

JOIN MedicalRecords m ON p.patient\_id = m.patient\_id

JOIN Doctors d ON m.doctor\_id = d.doctor\_id

WHERE d.doctor\_name LIKE 'Dr. S%';

**21. Calculate Percentage of Male and Female Patients**

SELECT

gender,COUNT(\*) \* 100.0 / (SELECT COUNT(\*) FROM Patients) AS percentage

FROM Patients

GROUP BY gender;

**22. Find Patient with the Highest Number of Medical Records**

SELECT patient\_id,COUNT(\*) AS record\_count FROM MedicalRecords

GROUP BY patient\_id

ORDER BY record\_count DESC

LIMIT 1;

**23. List Top 3 Doctors Who Treated the Most Patients**

SELECT doctor\_id,COUNT(\*) AS patient\_count FROM MedicalRecords

GROUP BY doctor\_id

ORDER BY patient\_count DESC

LIMIT 3;

**24. Calculate Average Length of Hospital Stay by Diagnosis**

SELECT

diagnosis,

AVG(DATEDIFF(discharge\_date, admission\_date)) AS avg\_length\_of\_stay

FROM

MedicalRecords

GROUP BY

diagnosis;

**25. Rank Patients Based on Number of Medical Records**

SELECT

patient\_id,

COUNT(\*) AS record\_count,

RANK() OVER (ORDER BY COUNT(\*) DESC) AS record\_rank

FROM

MedicalRecords

GROUP BY

patient\_id;

**26. Display Patient Who Spent the Most Time in the Hospital**

SELECT

p.patient\_id,

p.patient\_name,

DATEDIFF(MAX(m.discharge\_date), MIN(m.admission\_date)) AS total\_days

FROM

Patients p

JOIN

MedicalRecords m ON p.patient\_id = m.patient\_id

GROUP BY

p.patient\_id, p.patient\_name

ORDER BY

total\_days DESC

LIMIT 1;

**27. List Patients Treated by Doctors Specializing in Cardiology or Pulmonology**

SELECT

p.\*

FROM

Patients p

JOIN

MedicalRecords m ON p.patient\_id = m.patient\_id

JOIN

Doctors d ON m.doctor\_id = d.doctor\_id

WHERE

d.specialization IN ('Cardiology', 'Pulmonology');

**28. Find Doctor Who Treated the Most Patients Diagnosed with Diabetes**

SELECT

m.doctor\_id,

d.doctor\_name,

COUNT(\*) AS diabetes\_patients

FROM

MedicalRecords m

JOIN

Doctors d ON m.doctor\_id = d.doctor\_id

WHERE

m.diagnosis = 'Diabetes'

GROUP BY

m.doctor\_id, d.doctor\_name

ORDER BY

diabetes\_patients DESC

LIMIT 1;

**29. Calculate Total Number of Patients Treated by Each Doctor, Including Those with No Patients**

SELECT

d.doctor\_id,

d.doctor\_name,

COUNT(m.patient\_id) AS patient\_count

FROM

Doctors d

LEFT JOIN

MedicalRecords m ON d.doctor\_id = m.doctor\_id

GROUP BY

d.doctor\_id, d.doctor\_name;

**30. Identify Patients Readmitted Within 30 Days of Discharge**

SELECT

m1.patient\_id,

p.patient\_name,

m1.admission\_date AS readmission\_date,

m1.discharge\_date AS readmission\_discharge\_date,

m2.admission\_date AS previous\_admission\_date

FROM

MedicalRecords m1

JOIN

MedicalRecords m2 ON m1.patient\_id = m2.patient\_id

AND m1.admission\_date > m2.discharge\_date

AND DATEDIFF(m1.admission\_date, m2.discharge\_date) <= 30

JOIN

Patients p ON m1.patient\_id = p.patient\_id

ORDER BY

m1.patient\_id, m1.admission\_date;

**31. Calculate Average Length of Hospital Stay by Month for the Past Year**

SELECT

YEAR(admission\_date) AS year,

MONTH(admission\_date) AS month,

AVG(DATEDIFF(discharge\_date, admission\_date)) AS avg\_length\_of\_stay

FROM

MedicalRecords

WHERE

admission\_date >= DATE\_SUB(CURRENT\_DATE, INTERVAL 1 YEAR)

GROUP BY

YEAR(admission\_date), MONTH(admission\_date)

ORDER BY

year, month;

**32. List Patients Admitted More Than Once in the Past Year**

SELECT

p.patient\_id,

p.patient\_name,

COUNT(\*) AS admissions

FROM

MedicalRecords m

JOIN

Patients p ON m.patient\_id = p.patient\_id

WHERE

m.admission\_date >= DATE\_SUB(CURRENT\_DATE, INTERVAL 1 YEAR)

GROUP BY

p.patient\_id, p.patient\_name

HAVING

COUNT(\*) > 1;

**33. Find Patients Whose Total Hospital Charges Exceed a Certain Threshold**

SELECT

p.patient\_id,

p.patient\_name,

SUM(m.hospital\_charges) AS total\_charges

FROM

MedicalRecords m

JOIN

Patients p ON m.patient\_id = p.patient\_id

GROUP BY

p.patient\_id, p.patient\_name

HAVING

total\_charges > 100;

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