1. Find the Total Number of Appointments for Each Doctor

select d.doctor\_id,concat(d.first\_name," ",d.last\_name) as doctor\_name,

count(a.appointment\_id)as total\_appointment

from doctors d join appointments a on d.doctor\_id=appointment\_id

group by d.doctor\_id;

2. List All Patients Who Have an Appointment with a Specific Doctor (e.g., Dr. John Smith)

select p.patient\_id,a.appointment\_id, concat(p.first\_name," ",p.last\_name)

as patient\_name ,concat(d.first\_name," ",d.last\_name) as doctor\_name

From appointments a join patients p on a.patient\_id=p.patient\_id

join doctors d on a.doctor\_id=d.doctor\_id

where d.first\_name='john' and d.last\_name='Doe';

3. Find the Number of Appointments Scheduled in a Specific Department

SELECT d.department\_name, COUNT(a.appointment\_id) AS total\_appointments

FROM appointments a JOIN doctors doc ON a.doctor\_id = doc.doctor\_id

JOIN departments d ON doc.department\_id = d.department\_id

WHERE d.department\_name = 'Cardiology' and a.status="Scheduled"

GROUP BY d.department\_name;

4. Find the Most Popular Specialty Based on Number of Appointments

SELECT s.specialty\_name, COUNT(a.appointment\_id) AS total\_appointments

FROM appointments a JOIN doctors d ON a.doctor\_id = d.doctor\_id ,

JOIN specialties s ON d.specialty\_id = s.specialty\_id

GROUP BY s.specialty\_name

ORDER BY total\_appointments DESC LIMIT 1;

5. Get the Total Payment Amount for All Completed Appointments.

SELECT a.status, SUM(p.payment\_amount) AS total\_payment

FROM appointments a JOIN payments p on a.appointment\_id=p.appointment\_id

WHERE a.status = 'Completed';

6. Find the Number of Patients Seen by Each Doctor

SELECT doctor\_id, COUNT(DISTINCT patient\_id) AS total\_patients

FROM appointments GROUP BY doctor\_id;

7. List All Patients Who Have Missed Their Appointments (Status 'Cancelled')

SELECT p.patient\_id, concat(p.first\_name," ",p.last\_name) As patient\_name,

a.appointment\_id, a.appointment\_date AS appointment\_date

FROM appointments a JOIN patients p ON a.patient\_id = p.patient\_id

WHERE a.status = 'Cancelled';

8. Find the Total Number of Appointments for Each Status (Scheduled, Completed, Cancelled)

SELECT status , COUNT(\*) AS total\_appointments

FROM appointments GROUP BY status;

9. Get the Average Payment Amount for Completed Appointments

SELECT AVG(p.payment\_amount) AS average\_payment

FROM payments p join appointments a on p.appointment\_id=a.appointment\_id

WHERE a.status = 'Completed';

10. Find the Doctor with the Highest Number of Appointments

SELECT d.doctor\_id, concat(d.first\_name," ",d.last\_name) as doctor\_name, COUNT(a.appointment\_id) AS total\_appointments FROM appointments a

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

GROUP BY d.doctor\_id, d.first\_name

ORDER BY total\_appointments DESC LIMIT 1;