Lab Sheet - 6

Ques 1. Inner Join

(a) Show the patient, name, disease, and their doctor's name and department.

```sql
SELECT
        Patient.patient_name,
        Patient.disease,
        Doctor.doctor_name,
        Doctor.department
FROM
        Patient
INNER JOIN
        Doctor
ON
        Patient.doctor_id = Doctor.doctor_id.
```

~~Ques 2~~ (b) Display all bills along with the patient names for whom those bills are issued.

```sql
SELECT
        Bill.bill_id,
        Bill.amount,
        Patient.patient_name
```

```sql
FROM
    Bill
INNER JOIN
    Patient
ON
    Bill.patient_id = Patient.patient_id;
```

(C) List all doctors and their patients who have a matching doctor ID.

```sql
SELECT
    Doctor.doctor_id,
    Doctor.doctor_name,
    Patient.patient_name,
    Patient.disease.
FROM
    Doctor
INNER JOIN
    Patient
ON
    Doctor.doctor_id = Patient.doctor_id;
```

Ques2 Left Join

(a) Show all patients and their assigned doctors. Include patients even if they don't have a doctor assigned.

```sql
SELECT
    Patient.patient_name,
    Patient.disease,
    Doctor.doctor_name,
    Doctor.department
FROM
    Patient
LEFT JOIN
    Doctor
ON
    Patient.doctor_id = Doctor.doctor_id;
```

(b) List all patients and their bills. Include Patients even if no Bill is generated yet.

```sql
SELECT
    Patient.patient_name,
    Bill.bill_id,
    Bill.amount,
    Bill.bill_date
FROM
    Patient
LEFT JOIN
    Bill
ON
    Patient.patient_id = Bill.patient_id;
```

(C) Display all Patients and the room they are admitted to, even if some patients haven't been assigned any room.

```sql
SELECT
    Patient.patient_name,
    Patient.disease,
    Room.room_number,
    Room.room_type.
FROM
    Patient
LEFT JOIN
    ROOM
ON
    Patient.room_id = Room.room_id;
```

Ques 3 Right Join

(a) Display all doctors — — — — — — — leave Patients.

```sql
SELECT
    Doctor.doctor_id,
    Doctor.doctor_name,
    Doctor.department,
    Patient.patient_name,
    Patient.disease
FROM
    Patient
```

```sql
RIGHT JOIN
    Doctor
ON
    Patient.doctor-id = Doctor.doctor-id;
```

(b) Show all rooms — — — — — — — assigned.

```sql
SELECT
    Room.room-id,
    Room.room-number,
    Room.room-type,
    Patient.Patient-name,
    Patient.disease
FROM
    Patient
RIGHT JOIN
    Room
ON
    Patient.room-id = Room.room-id;
```

(C) Show all — — — — — — — — — patient.

```sql
SELECT
    Doctor.doctor-id,
    Doctor.doctor-name,
    Doctor.department,
    Consultation.Consultation-id,
    Consultation.Patient-id,
    Consultation.date
FROM
    Consultation
```

RIGHT JOIN
    Doctor
ON
    Consultation.doctor_id = Doctor.doctor_id;

Ques4 → FULL JOIN

(a) Show all patients ---------- patient).

    SELECT
        Patient.patient_name,
        Patient.disease,
        Doctor.doctor_name,
        Doctor.department

    FROM
        Patient

    FULL JOIN
        Doctor

    ON
        Patient.doctor_id = Doctor.doctor_id;

(b) Show all patients ---------- inconsistency)

    SELECT
        Patient.patient_name,
        Patient.patient_id,
        Bill.bill_id,
        Bill.amount,
        Bill.bill_date

```sql
FROM
    Patient
FULL JOIN
    Bill
ON
    Patient.patient-id = Bill.patient-id;
```

5. Cross Join

(a) Display all - - - - - - - - - - patients.

```sql
SELECT
    Doctor.doctor-name,
    Doctor.department,
    Patient.patient-name,
    Patient.disease
FROM
    Doctor
CROSS JOIN
    Patient;
```

(b) Show all possible - - - - - - logic).

```sql
SELECT
    Patient.patient-name,
    Room.room-number,
    Room.room-type
FROM
    Patient
CROSS JOIN
    ROOM;
```

Bonus Concept Questions

Ques → (a) What type of join will you use if you want only records that have matching doctor ID's in both Doctor and Patient tables?

Ans → INNER JOIN

Ques(b) → Which join will show all patients, even those who are not yet billed?

Ans → Left JOIN (from tab Patients to Bills)

Ques(c) → Which join will you use to show every possible Pairing of Patients and doctors?

Ans → CROSS JOIN

Ques(d) → which join ensures no record from either table is missed, even if unmatched?

Ans → FULL OUTER JOIN (simulated using LEFT JOIN UNION RIGHT JOIN)

Ques(e) → Which join returns only records that exist in both tables (intersection)?

Ans → Inner Join

Ques(f) → If a patient doesn't have an assigned doctor, which join should you use to still display that patient's details?

Ans → Left Join

Ques(g) → What is the difference between INNER JOIN and LEFT JOIN when used between Patient and Doctor tables?

Inner Join	Left Join
→ Only patients who have a doctor assigned	All patients, even if no doctor assigned
→ Not-Shown-Unmatched rows excluded	Shown for doctor fields if no match
→ To find patients who are being treated	To list all patients (treated or not)