**23rd Day Internship Report**

**Date:** 2 July 2025  
**Topic:** SQL Constraints, Keys, ORDER BY Clause, and CRUD Operations

On the 23rd day of our internship, we continued exploring SQL and focused on important database concepts including **constraints**, **keys**, the **ORDER BY** clause, and **CRUD operations**.

**Key Learnings:**

1. **Constraints in SQL:**
   * Constraints are rules applied to table columns to ensure data integrity.
   * Common constraints include:
     + NOT NULL: Ensures that a column cannot have a NULL value.
     + UNIQUE: Ensures all values in a column are different.
     + PRIMARY KEY: Uniquely identifies each record in a table and does not allow NULL or duplicate values.
     + FOREIGN KEY: Maintains referential integrity between two related tables.
     + CHECK: Ensures the value in a column meets a specific condition.
2. **Unique Key vs. Primary Key:**
   * **Primary Key**: Only one per table, cannot be NULL, and must be unique.
   * **Unique Key**: Can be more than one per table, must be unique, but can allow a single NULL.
3. **ORDER BY Clause:**
   * Used to sort data in ascending (ASC) or descending (DESC) order.
   * Example:

sql

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SELECT \* FROM employees ORDER BY name ASC;

1. **CRUD Operations:**
   * **C**reate: INSERT INTO – Add new records.
   * **R**ead: SELECT – Retrieve data.
   * **U**pdate: UPDATE – Modify existing data.
   * **D**elete: DELETE – Remove records.
   * These operations are the foundation of working with relational databases.

**Conclusion:**

This session helped us understand how data is organized, maintained, and controlled in SQL using constraints and keys. Learning about the ORDER BY clause and performing basic **CRUD operations** laid the groundwork for efficiently managing and manipulating data. These concepts are essential for any database-related application or backend development work.