

## SQL NULL VALUES

→ NULL represents missing or unknown data

→ Insert record with NULL value

```
INSERT INTO employees VALUES (2,'Alex',NULL,'alex@mail.com','2025-01-04',50000.00);
```

## Retrieving Records using NULL

```
SELECT * FROM employees WHERE lastname is null;
```

## SQL Update Statement

\* purpose is to modify the existing records in a table

```
UPDATE employees SET email = 'jhon.doe@mail.com' WHERE employeeid = 1;
```

## SQL DELETE Statement

→ remove records from the table

-- Deleting single record

```
DELETE FROM employees WHERE firstName = 'Bob';
```

-- DELETE Multiple Records

```
DELETE FROM employees WHERE lastname is NULL;
```

-- COMPLETE DELETE of records

```
DELETE FROM employees;
```

## MySQL Alter Table :

\* used to modify the structure of an existing table in MySQL

\* add columns

\* alter/modify columns

\* drop columns

\* rename columns

### ① Adding Columns :

Single Column :

```
ALTER TABLE employees  
ADD COLUMN phone_number VARCHAR(25);
```

Multiple Columns :

```
ALTER TABLE employees  
ADD COLUMN phone_number VARCHAR(25),  
ADD COLUMN date_of_birth VARCHAR(25);
```

### ② Modifying or Altering Columns

```
ALTER TABLE employees  
MODIFY COLUMN phone_number VARCHAR(20);
```

```
ALTER TABLE employees  
MODIFY COLUMN salary INT;
```

### ③ Renaming Columns

```
ALTER TABLE employees  
CHANGE COLUMN lastname middlename VARCHAR(50);
```

### ④ Dropping Columns

```
ALTER TABLE employees  
DROP COLUMN date_of_birth,  
DROP COLUMN phone_number;
```

## SQL Constraints

- 1) Primary key
- 2) Foreign key
- 3) NotNull Constraint
- 4) Check Constraint
- 5) Unique Constraint
- 6) Alter Table  
→ Add constraints

① Primary key: primary key uniquely identifies each record in a table. It cannot have NULL values

- \* ensures uniqueness of records
- \* Automatically disallows NULL values

```
CREATE TABLE authors(  
  author_id INT PRIMARY KEY,  
  first_name VARCHAR(25),  
  last_name VARCHAR(25),  
  email VARCHAR(25)  
);
```

\* Attempt to insert duplicate author\_id value, results in error

Using alter to add primary key to existing table

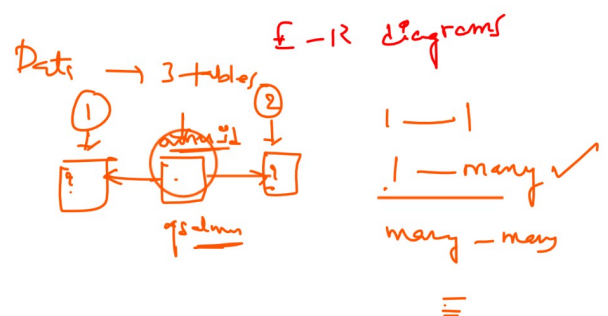
```
ALTER TABLE employees  
MODIFY employeeID INT PRIMARY KEY;
```

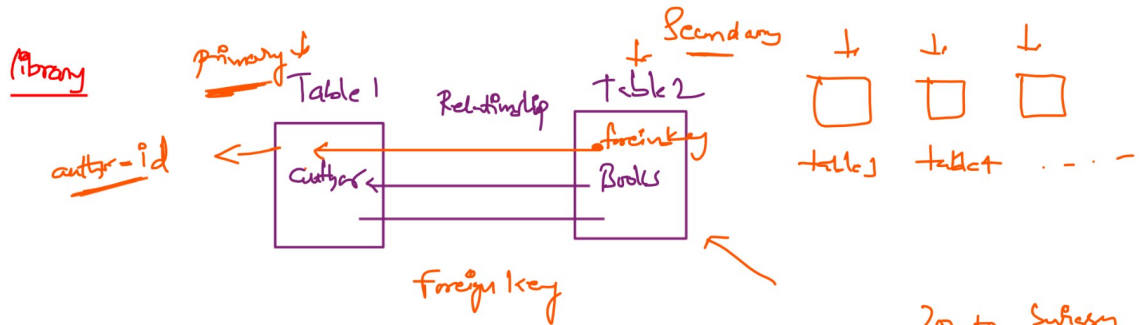
Dropping primary key constraint

```
ALTER TABLE employees  
DROP PRIMARY KEY;
```

② foreign key:

\* It establishes a relationship b/w two tables by using the primary key of another table





```
CREATE TABLE books (
  book_id INT PRIMARY KEY,
  title VARCHAR(20),
  author_id INT,
  publication_year INT,
  FOREIGN KEY (author_id) REFERENCES authors(author_id)
);
```

\* Key points

→ ensures referential integrity

A-Z

Zero to Subsets

Customer Table

