

1) Real-world system where Soft Deletes are required

E-commerce application (Amazon / Flipkart – Orders & Users)

Soft delete

Legal & audit history must be kept
Customer support may need old details
Order history cannot simply disappear
Accidentally deleted accounts must be recoverable
Refund, returns, GST records depend on past orders

So the data is **not deleted**, only **marked as deleted**.

we add a column like-----> deleted = TRUE / FALSE-----> deleted_at = timestamp

Shows as deleted to user-----> But still **stored in DB** internally

```
CREATE TABLE Users (
    user_id INT PRIMARY KEY,
    name VARCHAR(100),
    email VARCHAR(100),
    deleted BOOLEAN DEFAULT FALSE
);
```

```
UPDATE Users
```

```
SET deleted = TRUE
```

```
WHERE user_id = 101;
```

```
SELECT * FROM Users  
WHERE deleted = FALSE;
```

```
UPDATE Users  
SET deleted = FALSE  
WHERE user_id = 101;
```

2) Real-world system where **Hard Deletes are preferred**

Temporary cart items in Food Delivery app

Why hard delete

- Cart items are temporary
- No legal requirement to keep
- User adds → removes → adds again quickly
- Keeping deleted items wastes space

```
CREATE TABLE CartItems (  
    cart_id INT,  
    user_id INT,  
    product_id INT,  
    quantity INT  
);
```

```
DELETE FROM CartItems  
WHERE user_id = 10 AND product_id = 55;
```

```
DELETE FROM CartItems  
WHERE user_id = 10;
```

Soft delete

Soft delete marks data as deleted instead of removing it. Useful when records must be kept for history, legal reasons, audit or recovery. Example: deleting Amazon account only hides it.

Hard delete

Hard delete permanently removes data from database. Useful for temporary or unnecessary data. Example: removing items from cart in Swiggy.