

Database Relationships Explained (Using FoodieExpress 🍔)

This document explains database relationships in a **simple and real-life way** using the *FoodieExpress* Food Delivery System.

1. One-to-One (1:1)

Meaning

One record in Table A is connected to **only one** record in Table B.

FoodieExpress Example

Customer ↔ CustomerProfile

Customer	CustomerProfile
customer_id	profile_id

Each customer has exactly one profile.

Real Life: One person → One Aadhaar Card.

2. One-to-Many (1:N)

Meaning

One record in Table A can have **many** records in Table B.

FoodieExpress Example

Customer → Orders

Customer	Orders
customer_id	order_id

One customer can place many orders.

Another Example: Restaurant → MenuItems

3. Many-to-One (N:1)

Meaning

Many records in Table A belong to **one** record in Table B.

FoodieExpress Example

Orders → Restaurant

Many orders can come from the same restaurant.

4. Many-to-Many (M:N)

Meaning

Many records in Table A relate to many records in Table B.

FoodieExpress Example

Orders ↔ MenuItems

Because: - One order has many items - One item can be in many orders

So we use a **Join Table**:

OrderItems

| order_id | item_id | quantity |

5. Foreign Key (FK)

A Foreign Key is a column that **connects two tables**.

Example: Orders.customer_id → Customer.customer_id

Quick Summary

Relationship	Example
One-to-One	Customer ↔ Profile
One-to-Many	Customer → Orders
Many-to-One	Orders → Restaurant
Many-to-Many	Orders ↔ MenuItems

Why Relationships Matter

- Avoid duplicate data
 - Keep data consistent
 - Make reports easy
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You can use this to explain in interviews or training sessions.