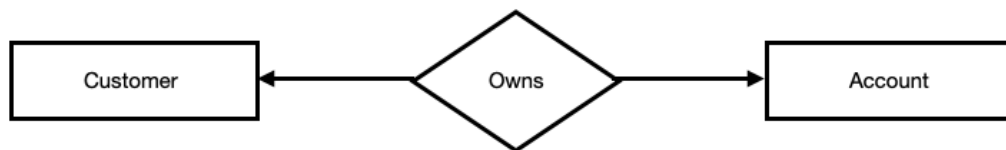


Types of Relationship

- One to One
- One to many
- Many to Many

One to One

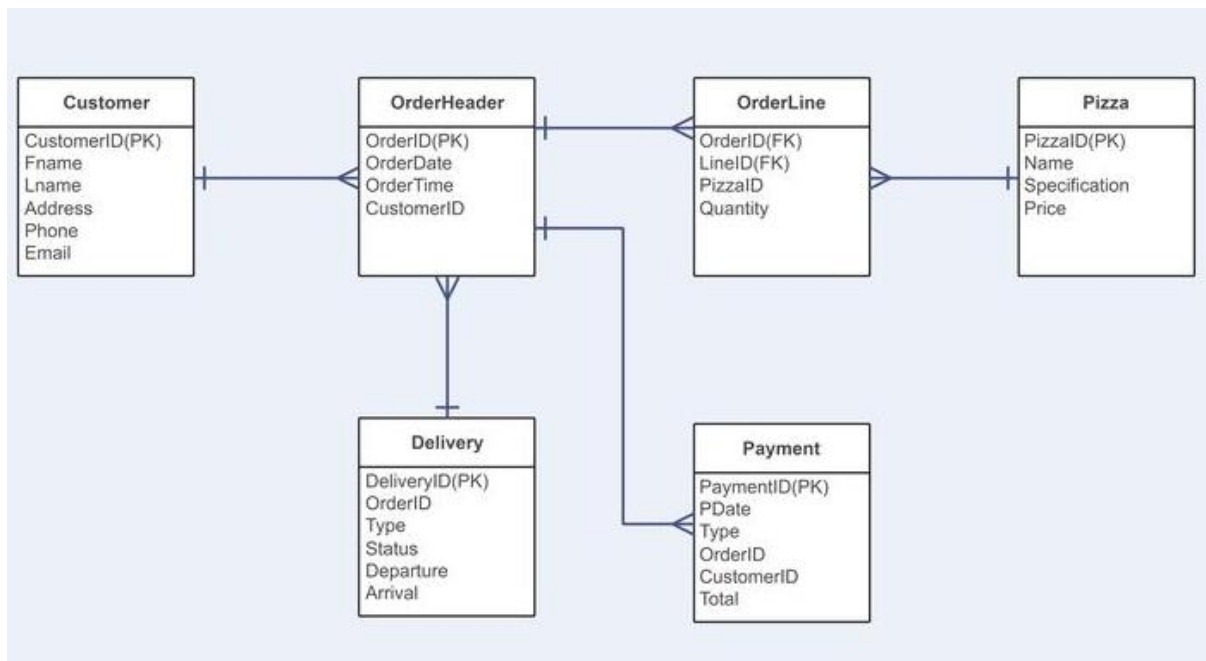
A One-to-One relationship represents a unique connection between two tables where each record appears only once in both tables.



One to One Relationship

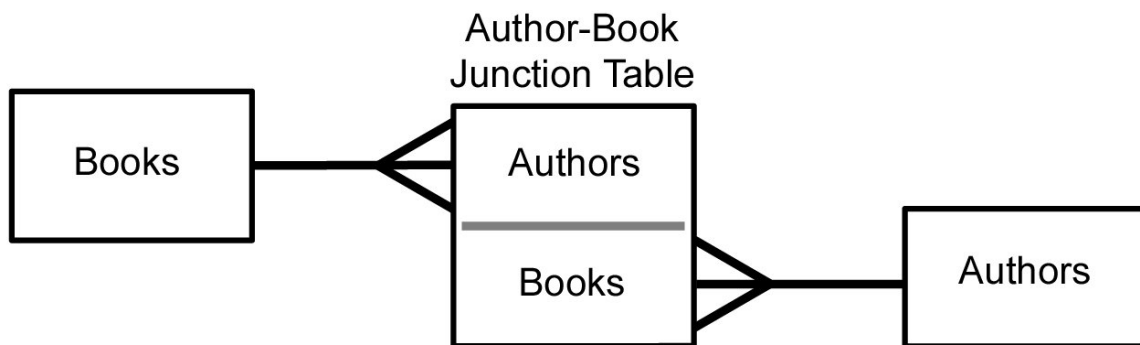
One to Many

When each entry in one table may be linked to one or more records in the other table, this is known as a one-to-many relationship.



Many to Many

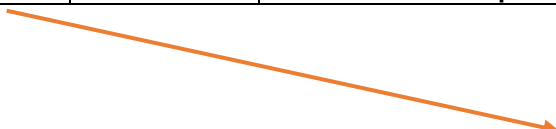
A many to many relationship exists when one or more items in one table can have a relationship to one or more items in another table.



Use case of One to Many relationship

cust_id	name	email
1	Mario	mario@example.com
2	Luigi	luigi@example.com
3	Shaun	shaun@example.com

Customer



order_id	date	amount	cust_id
o1	2022-05-12	500	1
o2	2022-06-18	600	2
o3	2022-05-22	300	3

Order

FOREIGN KEY

The FOREIGN KEY constraint is used to prevent actions that would destroy links between tables. A FOREIGN KEY is a field (or collection of fields) in one table, that refers to the PRIMARY KEY in another table. The table with the foreign key is called the child table, and the table with the primary key is called the referenced or parent table.

Primary key

cust_id	name	email
1	Mario	mario@example.com
2	Luigi	luigi@example.com
3	Shaun	shaun@example.com

Customer

Primary key

Foreign Key

order_id	date	amount	cust_id
o1	2022-05-12	500	1
o2	2022-06-18	600	2
o3	2022-05-22	300	3

Order

```
CREATE TABLE customer (  
  cust_id INT AUTO_INCREMENT PRIMARY KEY,  
  name VARCHAR(50) NOT NULL,  
  email VARCHAR(50) NOT NULL  
);  
  
CREATE TABLE orders (  
  order_id INT PRIMARY KEY AUTO_INCREMENT,  
  date DATE,  
  amount DECIMAL(10, 2),  
  cust_id INT,  
  FOREIGN KEY (cust_id) REFERENCES customer(cust_id)  
);
```

Checking the foreign key is set or not

```
SELECT CONSTRAINT_NAME, COLUMN_NAME, REFERENCED_TABLE_NAME FROM  
INFORMATION_SCHEMA.KEY_COLUMN_USAGE WHERE TABLE_NAME='orders';
```

```
INSERT INTO customer(name, email) VALUES ('Mario', 'mario@example.com'),('Luigi',  
'luigi@example.com'),('Shaun', 'shaun@example.com');
```

```
INSERT INTO orders (date, amount, cust_id) VALUES ('2022-05-22', 500.50, 1),  
('2022-06-18', 600.50, 2), ('2022-05-22', 300.70, 3), ('2022-05-22', 900.70, 3), ('2022-05-22',  
400.70, 2);
```