Introduction to Database

Database

Structured **collection of data** that is organized in a way that allows efficient retrieval and management of information.

- **Relational**
- **NoSQL**
- **Object-oriented**
- **Graph**

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Relational Database Concept

1. Structure
2. Entity-Relationship (ER) Model
3. Cardinality

Database Concept

1. **Structure**
2. Entity-Relationship (ER) Model
3. Cardinality

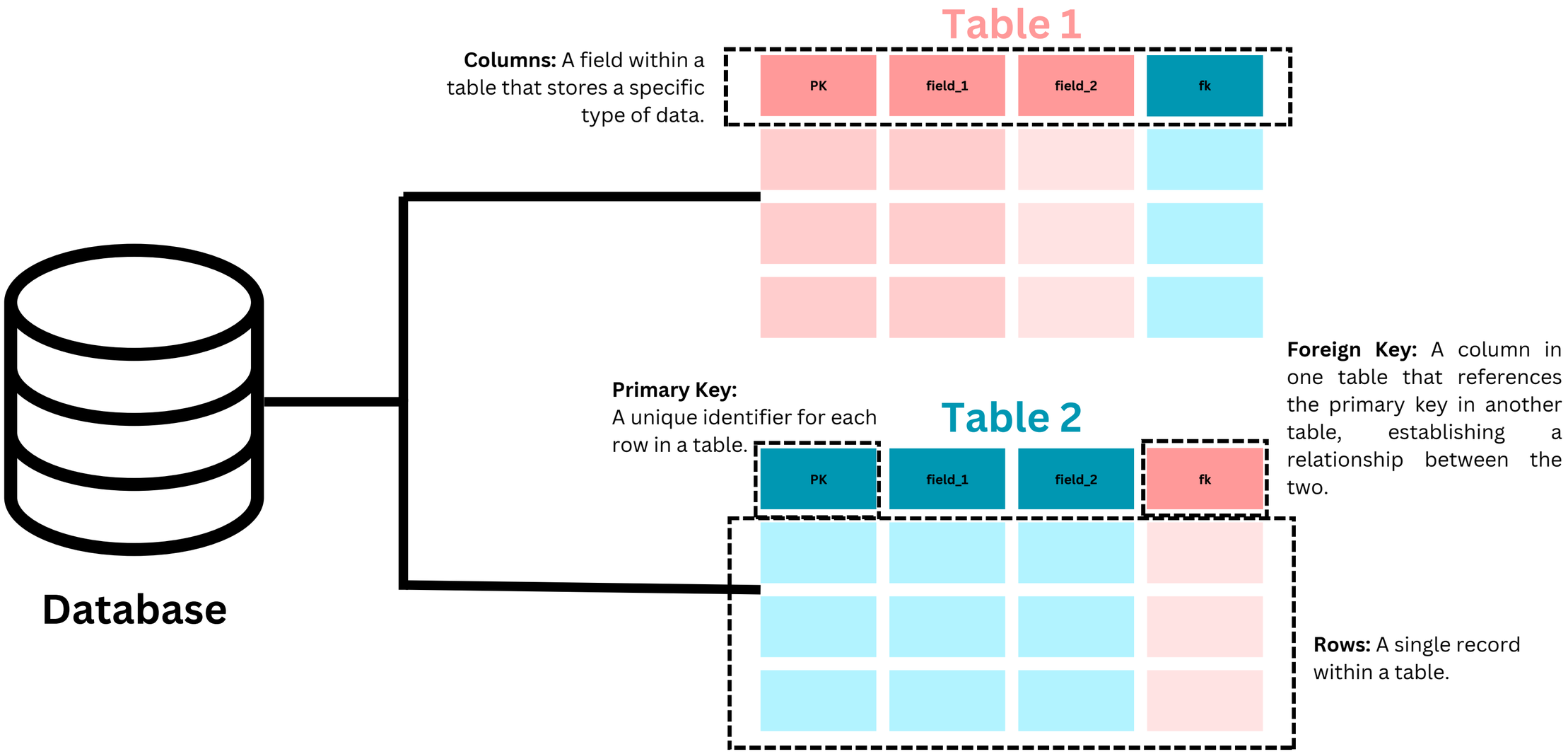
Table 1
Columns: A field within a table that stores a specific type of data.
PK
field_1
field_2
fk
Foreign Key: A column in one table that references the primary key in another table, establishing a relationship between the two.
Primary Key:
A unique identifier for each row in a table.
Table 2
PK
field_1
field_2
fk
Rows: A single record within a table.
Database

Database Concept

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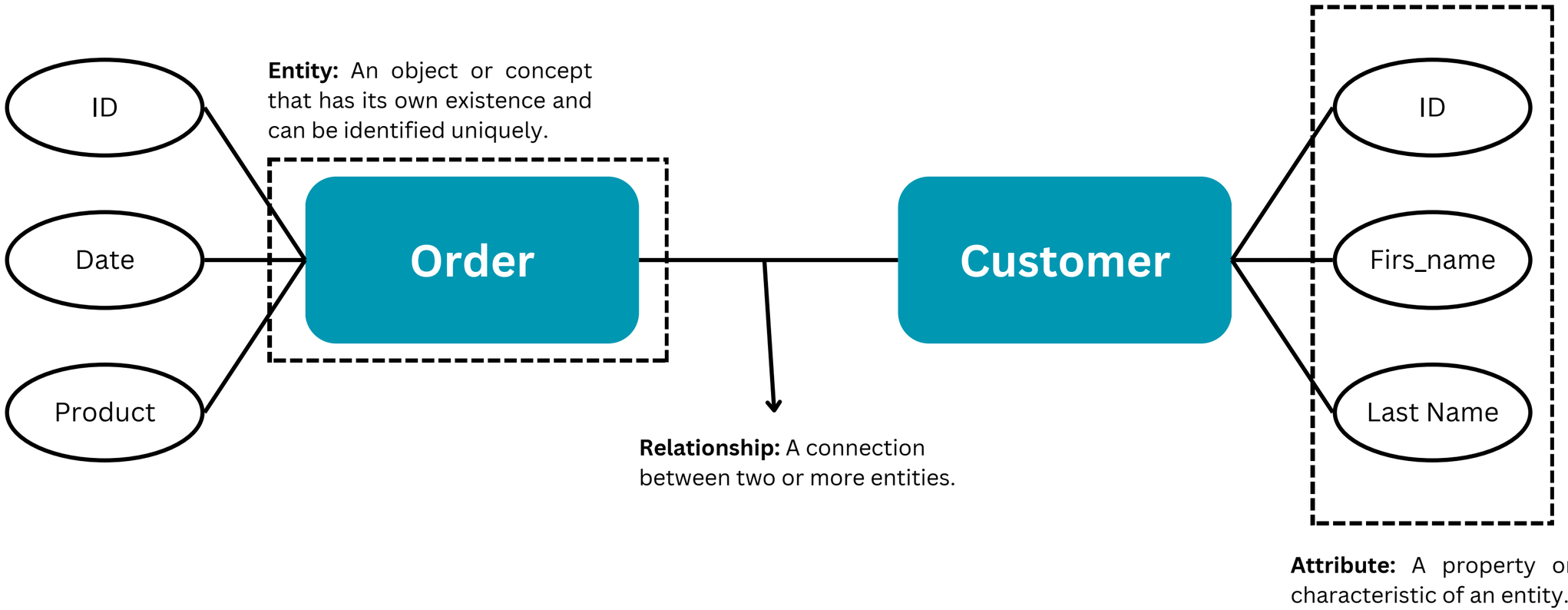
3. Cardinality

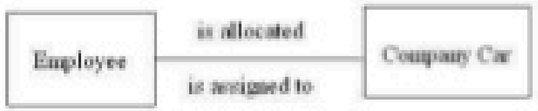

ID
Date
Product
Entity: An object or concept that has its own existence and can be identified uniquely.
Order
Customer
ID
Firs_name
Last Name
Relationship: A connection between two or more entities.
Attribute: A property or characteristic of an entity.

Database Concept

1. Structure
2. Entity-Relationship (ER) Model
3. **Cardinality**

There are three degrees of Cardinality, known as:

- **One-to-One** (1:1):One occurrence of an entity relates to only one occurrence in another entity.



- **One-to-Many** (1:M): One occurrence in an entity relates to many occurrences in another entity.

- **Many-to-Many** (M:N) Many occurrences in an entity relate to many occurrences in another entity.