

ER Diagram. Entity, Attributes, Relationships.

ENTITY RELATIONAL (ER) MODEL

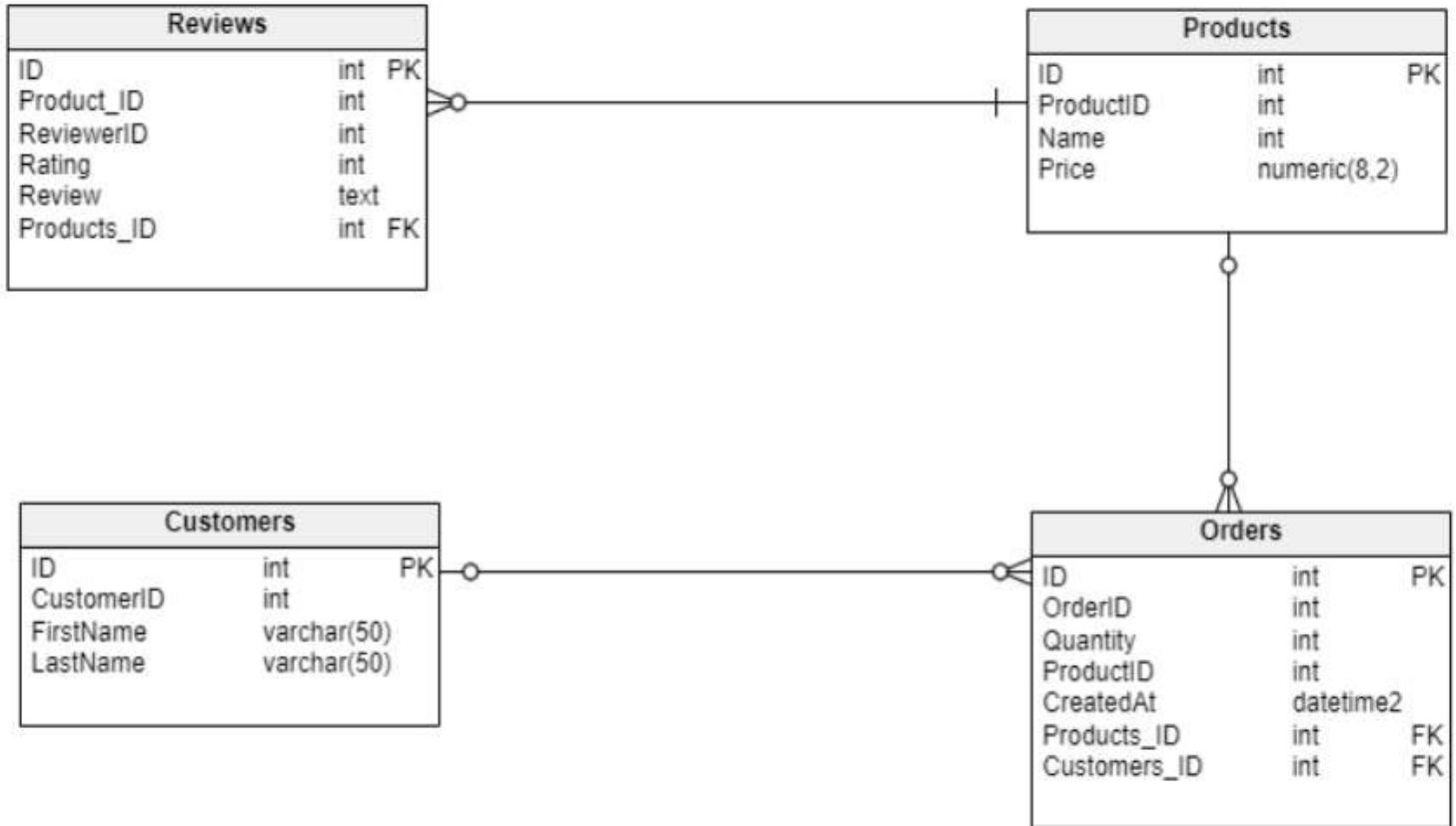
- is a high-level conceptual data model diagram.
- ER modeling helps you to analyze data requirements systematically to produce a well-designed database.
- The Entity-Relation model represents real-world entities and the relationship between them.

ER

DIAGRAM

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- **ENTITY-RELATIONSHIP DIAGRAM (ERD)** displays the relationships of entity set stored in a database. In other words, we can say that ER diagrams help you to explain the logical structure of databases.



Why use ER Diagrams?

- Helps to define terms related to entity relationship modeling
- Provide a preview of how all your tables should connect, what fields are
- Helps to describe entities, attributes, relationships
- ER diagrams are translatable into relational tables which allows you to build databases quickly
- ERD is allowed you to communicate with the logical structure of the database to users



Entity Name

Entity

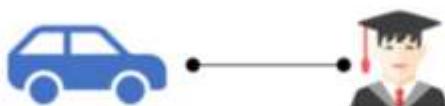
Person, place, object, event or concept about which data is to be maintained
Example: Car, Student



Attribute Name

Attribute

Property or characteristic of an entity
Example: Color of car Entity
Name of Student Entity



Relation



Verb Phrase

Association between the instances of one or more entity types

Example: Blue Car Belongs to Student Jack



WHAT IS ENTITY?

- A real-world thing either living or non-living that is easily recognizable and nonrecognizable.
- An entity can be place, person, object, event or a concept, which stores data in the database.
- **Examples of entities:**
- **Person:** Employee, Student, Patient
- **Place:** Store, Building
- **Object:** Machine, product, and Car
- **Event:** Sale, Registration, Renewal
- **Concept:** Account, Course

ATTRIBUTES

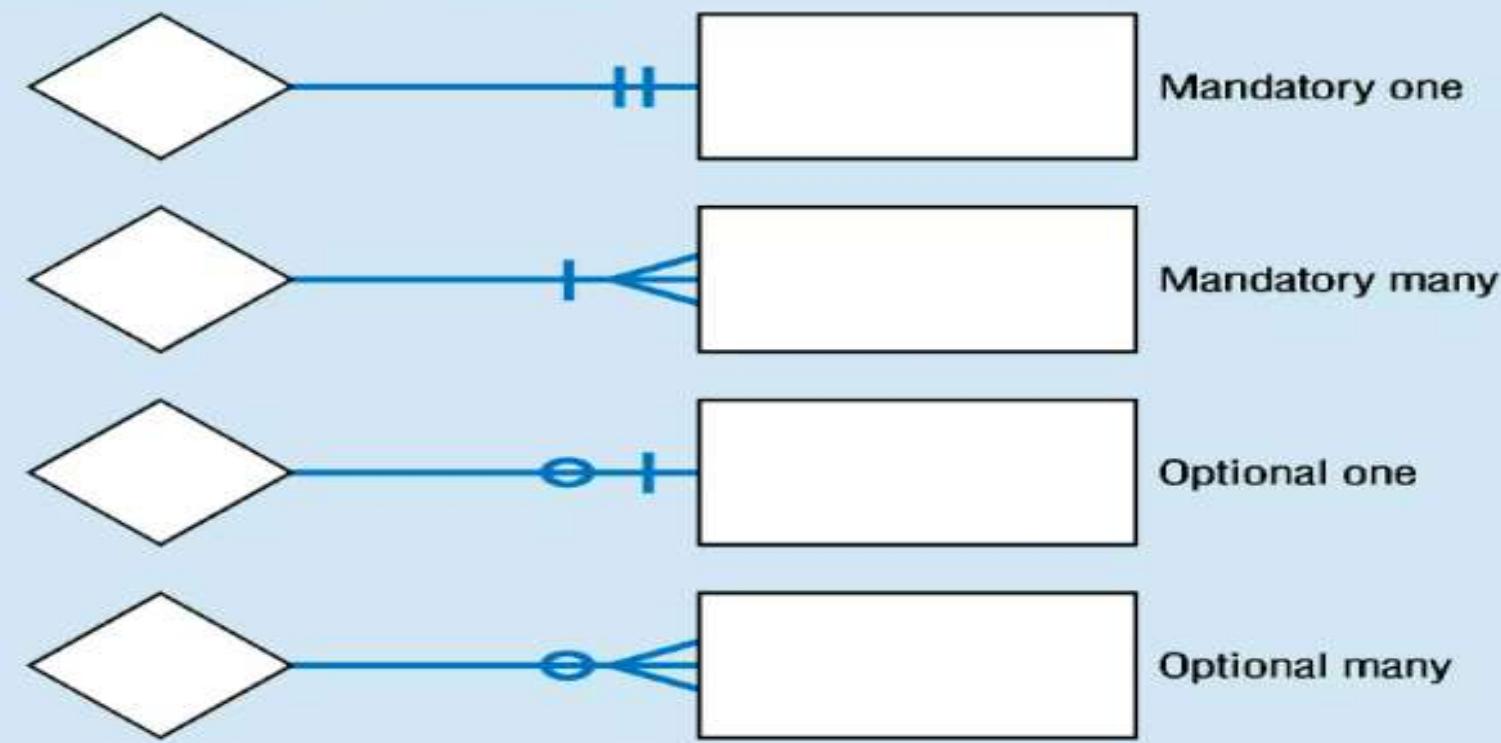
- Entities are represented by their properties, which also called attributes.
- For example, a student entity may have a name, age, class, as attributes.



Relationships

- There are three types of relationships between entities (tables) in data modeling:
- One-to-many relationships (also denoted as 1:M).
- Many-to-many relationships (M:N).
- One-to-one relationships (1:1).

Relationship cardinality



Steps to Create an ERD

