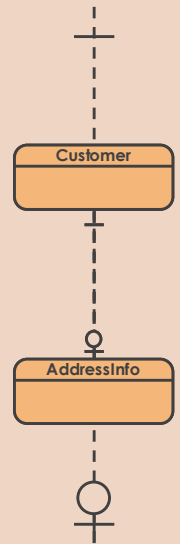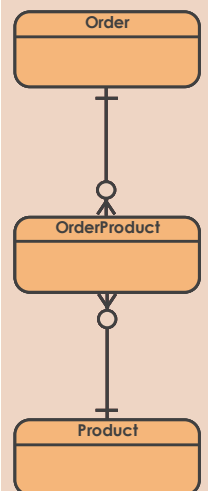## Relationship and cardinality ▪ 1 to 0..1

- Used when a record in a table can reference up to one record in another table.
  - Examples
    - A **BlogPost** can have a single piece of blog **Content**
    - A **Customer** can have one set of **AddressInfo**
- You gain performance due to:
  - Separating less commonly used data into another table.
- You lose performance due to:
  - More tables lead to more table overhead and disc storage.
  - Complicated queries resulted by additional JOIN clause.
- Conclusion:
  - If there are data that you don't access in >90% of your use cases (or you don't have that data in most of the time), then it would be a wise choice to separate these data into another table for better performance.

Customer

AddressInfo

Key and Relationship

Relationship and cardinality ▪ Many to Many

- Broken down into a pair of one-to-many relationships.

- Associative entity is used to define the association between two related entities

- Used when a record in a parent table can reference multiple records in another table. At the same time, a record in a child table can also reference multiple records in the parent table.
  - Examples
    - A **Student** can enroll in many **Course**s, while a **Course** can be taken by many **Student**s
    - An **Order** can consist of many **Product**s, while a **Product** can appear in many **Orders**.

Order

OrderProduct

Product

Key and Relationship