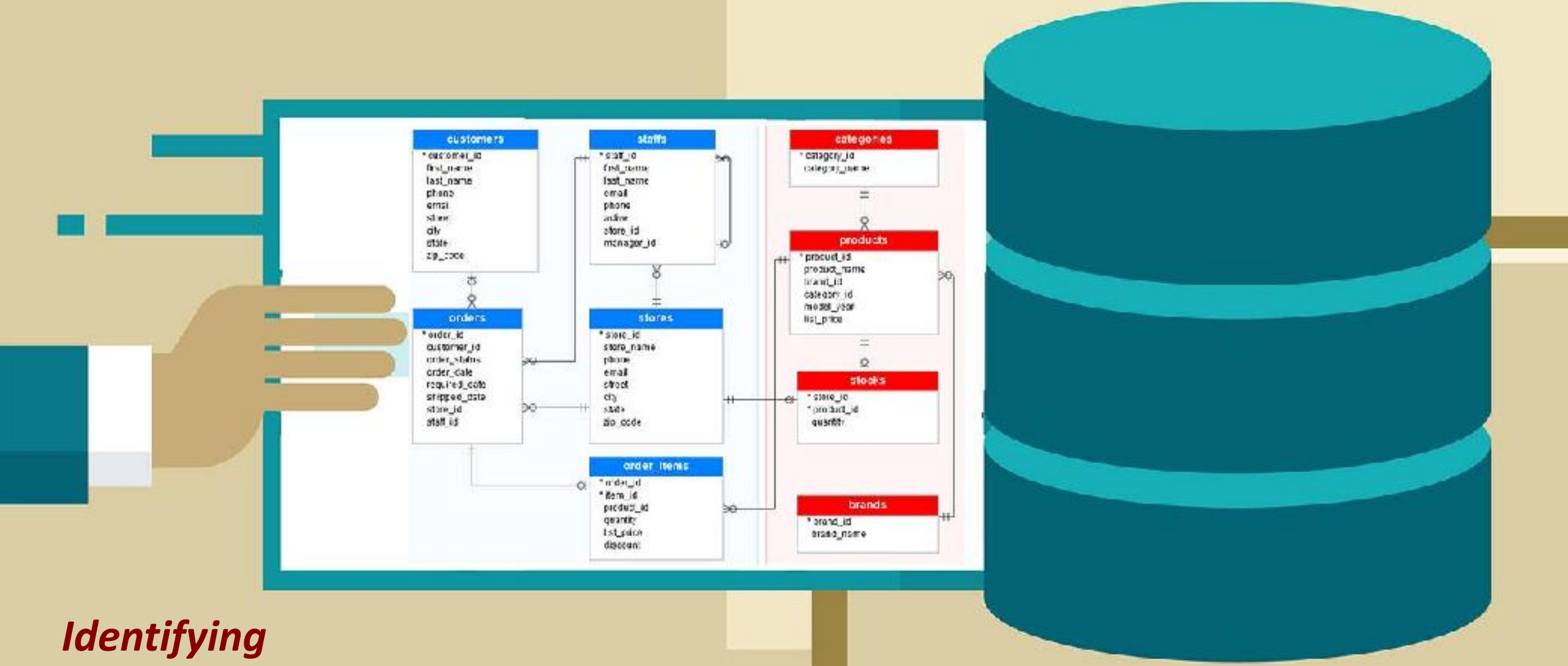


Identifying

RELATIONSHIP

Relationships in Data Models

Represent something of significance or importance to the business

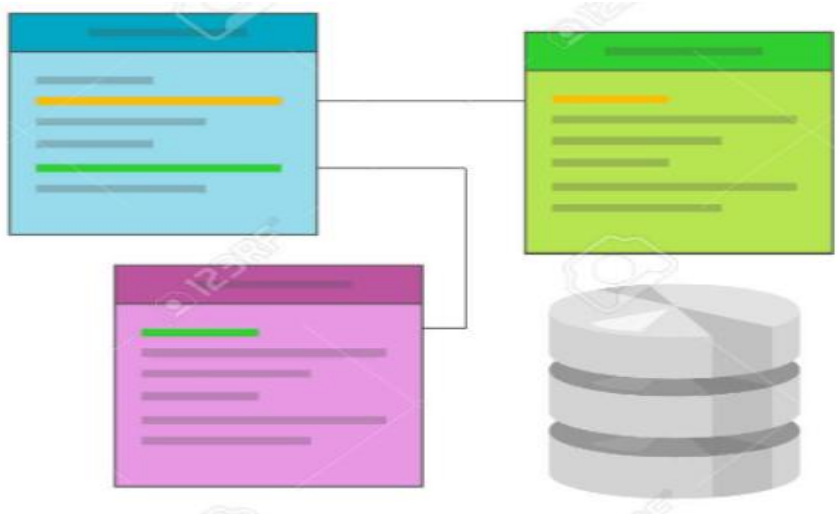
Show how entities are related to each other

Exist only between entities (or one entity and itself)

Are bi-directional

Are named at both ends

Have optionality and cardinality



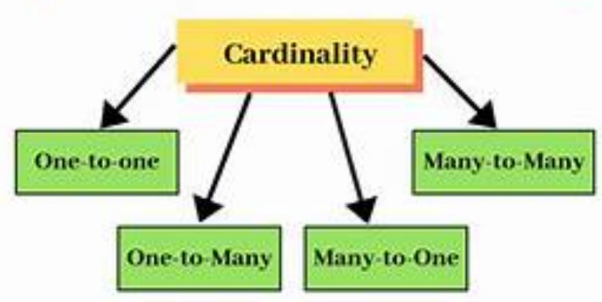
Optionality in a Relationship

Relationships are either mandatory or optional

Must every employee have a job?

Must every job be assigned to an employee?

Cardinality in a Relationship



Cardinality measures the quantity of something

Determines the degree to which one entity is related t another by answering the question, “How many?”

Defines the numerical attributes of the relationship between two entities or entity sets.

Cardinality refers to the relationship of data in one database table with respect to another table.

How many jobs can one employee hold? One job only? Or more than one job?

How many employees can hold one specific job? One employee only? Or more than one employee?

Types of cardinalitas relationship:

One-to-One Relationships

One-to-Many Relationships

Many-to-One Relationships

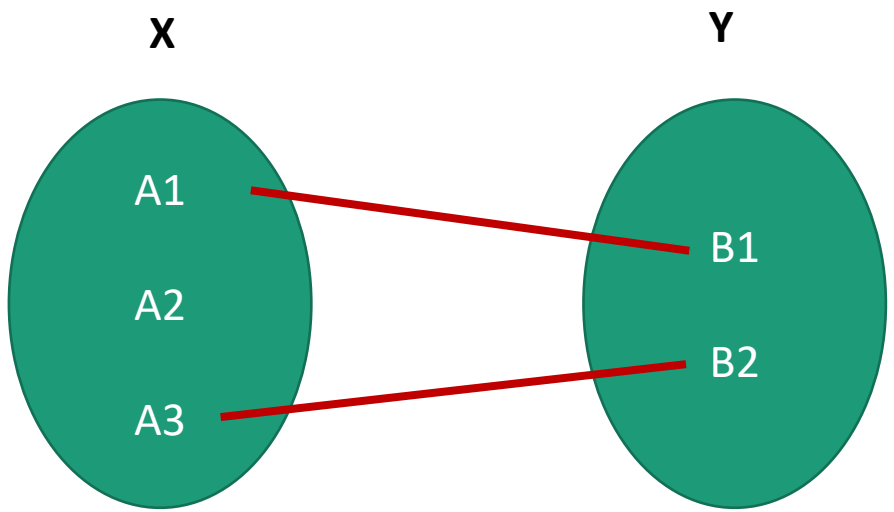
Many-to-Many Relationships

One to one 1 : 1

One entity from entity set X can be associated with at most one entity of entity set Y and vice versa.

One row in table A relates to one row in table B.

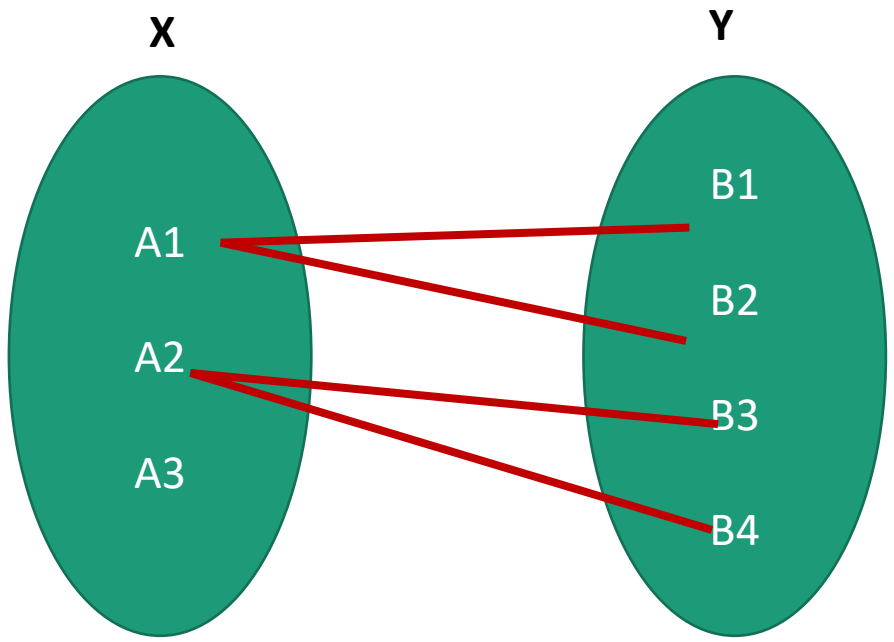
Using an entity-relationship (ER) model, 1:1 means that one occurrence of an entity relates to only one occurrence in another entity.



One to Many 1 : M

One row in table A relates to many rows in table B.

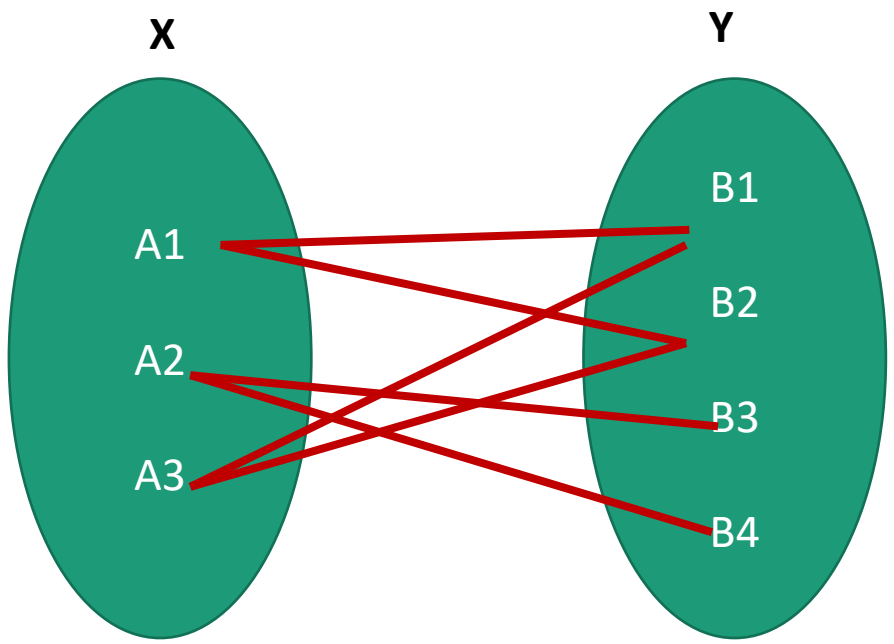
In ER modelling, 1:Many means that one occurrence in an entity relates to many occurrences in another entity.



Many to many M : M

Many rows in table A relate to many rows in table B.

In ER terms, many occurrences in one entity relate to many occurrences in another entity.



Business Scenario:

What are the relationships in the following business scenario?
–“In our restaurant, a customer walks up to the counter and places their order. A customer can order for him or herself only, or for him/herself and others

–For example, a mother orders for herself and her children

–We consider the mother to be the customer who owns the order and is responsible for payment

–Over a period of time, a customer can place as many orders as he wants”

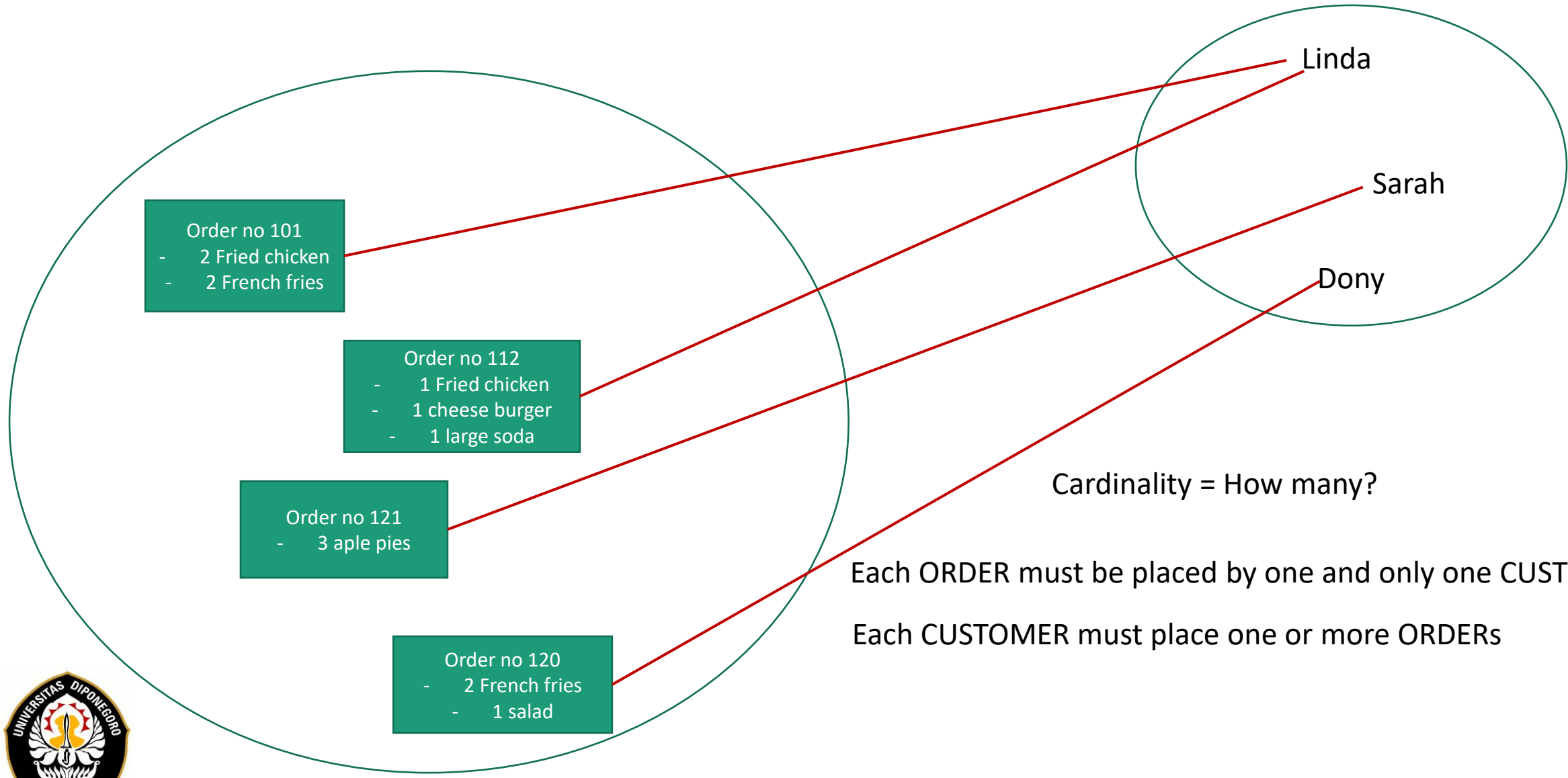
Business Scenario:

CUSTOMER places ORDERs:
 –optionality and cardinality

Optionality = Must or May?

Each ORDER must be placed by one (and only one) CUSTOMER

Each CUSTOMER must place one or more ORDERs



Cardinality = How many?

Each ORDER must be placed by one and only one CUSTOMER

Each CUSTOMER must place one or more ORDERs