

Relationship

- Relationships between entities are determined by analyzing the system.
- Cardinality: Degree to which each entity participates in the relationship:
 - 1:1 – 1 department can only have 1 head; and 1 department head is assignment to 1 department.
 - 1:N or 1:M – one to many; e.g. 1 credit sale record can be assigned to 1 customer; 1 customer can have many credit sales.
 - M:N or N:N – many to many; e.g. 1 student can take many subjects; 1 subject can have many students.
- Some ER diagrams show if a relationship is:
 - Mandatory (denoted by a “I”); or
 - Optional (denoted by an “O”).



A sale can only be for 1 customer (don't know whether this is optional or mandatory – see the 2 situations below). 1 customer can have many sales.



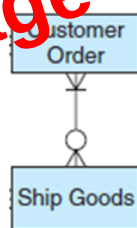
A sale may involve only one customer or no customer at all. A customer may have many sales or none at all.



A sale must be assigned to one and only one customer. A customer may have many sales or no sales at all.



An item MAY be made from many sales or none at all. A sale must involve at least one item.



A customer order MAY involve many goods shipment or none at all. A goods shipment must have at least a customer order.



A payment received must have 1 A/R clerk. An A/R clerk may be involved in many payments received or no payment at all.