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Thursday, July 11, 2024

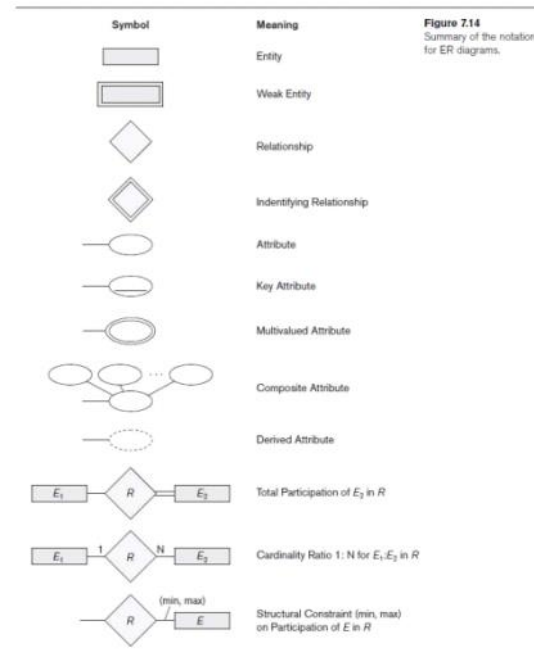
3:17 PM

## Attribute Types

- Composite Key  $\Rightarrow$  Primary Key composed of more than one attribute
- Composite Attribute  $\Rightarrow$  Attribute that can be subdivided to yield additional attributes
- Simple Attributes  $\Rightarrow$  Attribute that cannot be subdivided
- Single-valued Attribute  $\Rightarrow$  Attribute that has only a single value (simple attribute)
- Multivalued Attributes  $\Rightarrow$  Attributes that have many values for a given object record. (A tuple)

## Design of E-R Model

- Identify all Entities
- Identify a common set of Attributes for each entity
- Identify all Relationships between any 2 entities.



## Steps to Identify Cardinality of Relationship

How to Identify 1-1, 1-N, or M-N for a Relationship between Two Entities

1. Pick an object in the left Entity, check whether, for a given object in the left side Entity, it is allowed to have a relationship with one or more objects from the right-side Entity
2. Pick an object in the right-side Entity, check whether for a given object in right Entity, it is allowed to have a relationship with one or more objects from the left side of Entity

If Both Step 1 and Step 2 is NO  $\Rightarrow$  1-1

If Yes in Step 1 but No in Step2  $\Rightarrow$  1-N

Or

If No in Step 1 but Yes in Step2  $\Rightarrow$  N-1

(Note that N-1 is equivalent to 1-N if you switch the left entity with the right entity)

If Yes in Both Step 1 And Step 2  $\Rightarrow$  M-N