

IT 775

Database Technology

ER Modeling

Weak Entity

WEAK ENTITY

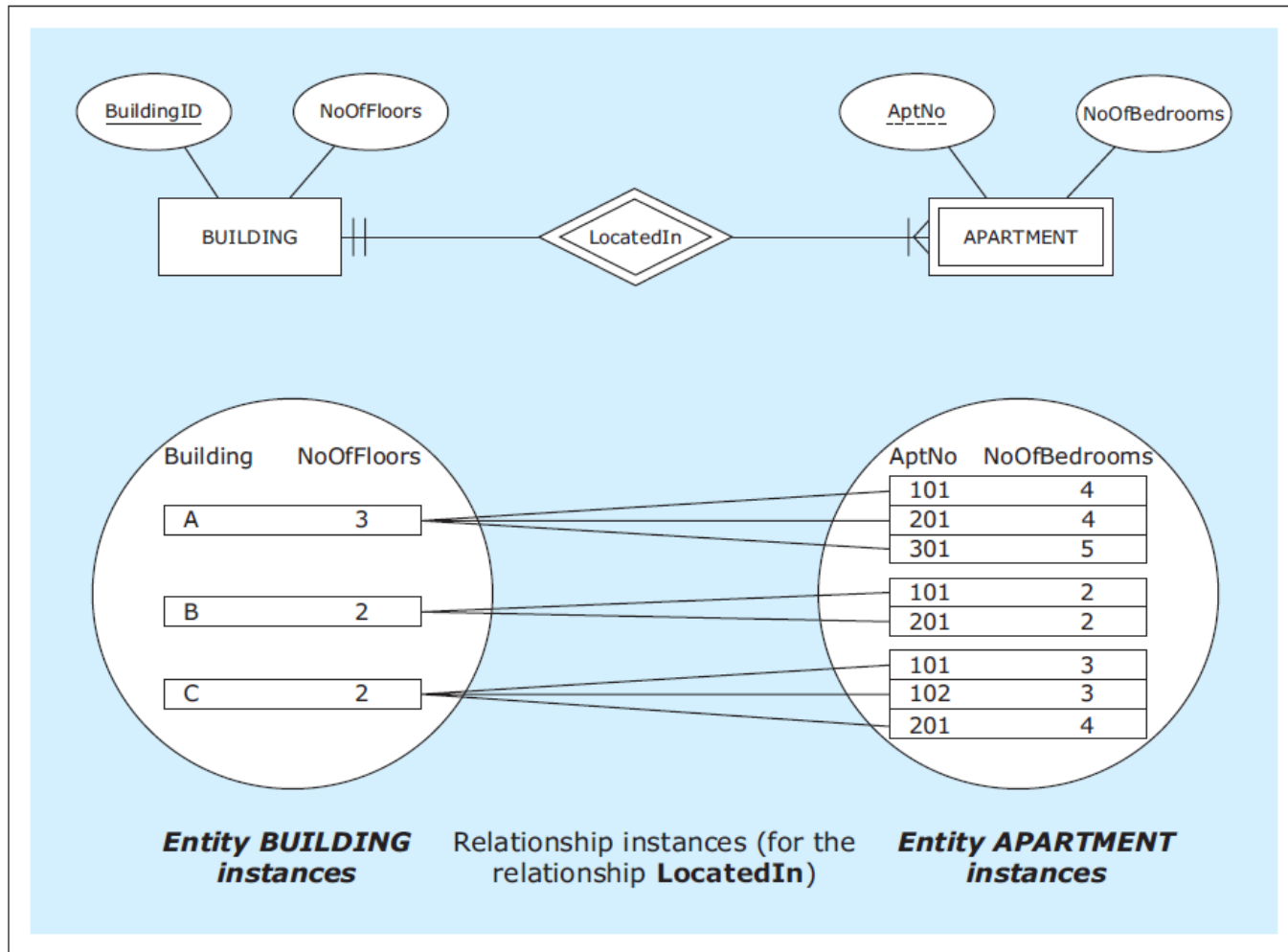
- **Weak entity** - ER diagram construct depicting an entity that does not have a unique attribute of its own
- **Owner entity** - entity whose unique attribute provides a mechanism for identifying instances of a weak entity
- **Identifying relationship** - relationship between a weak entity and its owner entity in which each instance of a weak entity is associated with exactly one instance of an owner entity
 - Each weak entity must be associated with its owner entity via an identifying relationship
 - Unique attribute from the owner entity uniquely identifies every instance of the weak entity via an identifying relationship

WEAK ENTITY

- **Partial key** - attribute of a weak entity that combined with the unique attribute of the owner entity uniquely identifies the weak entity's instances
 - Combination of the partial key and the unique attribute from the owner entity uniquely identifies every instance of the weak entity

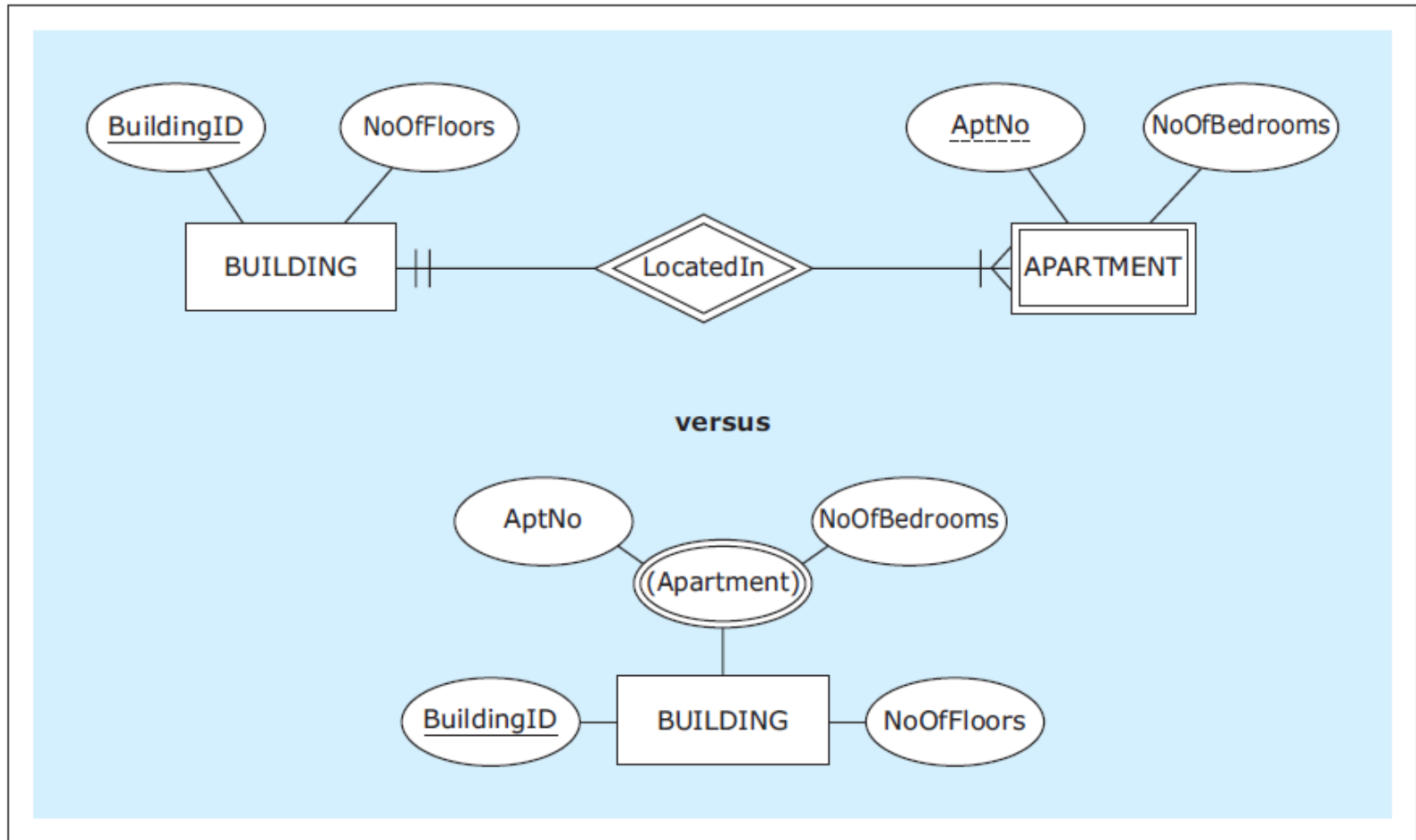
WEAK ENTITY

A weak entity example with entity instances



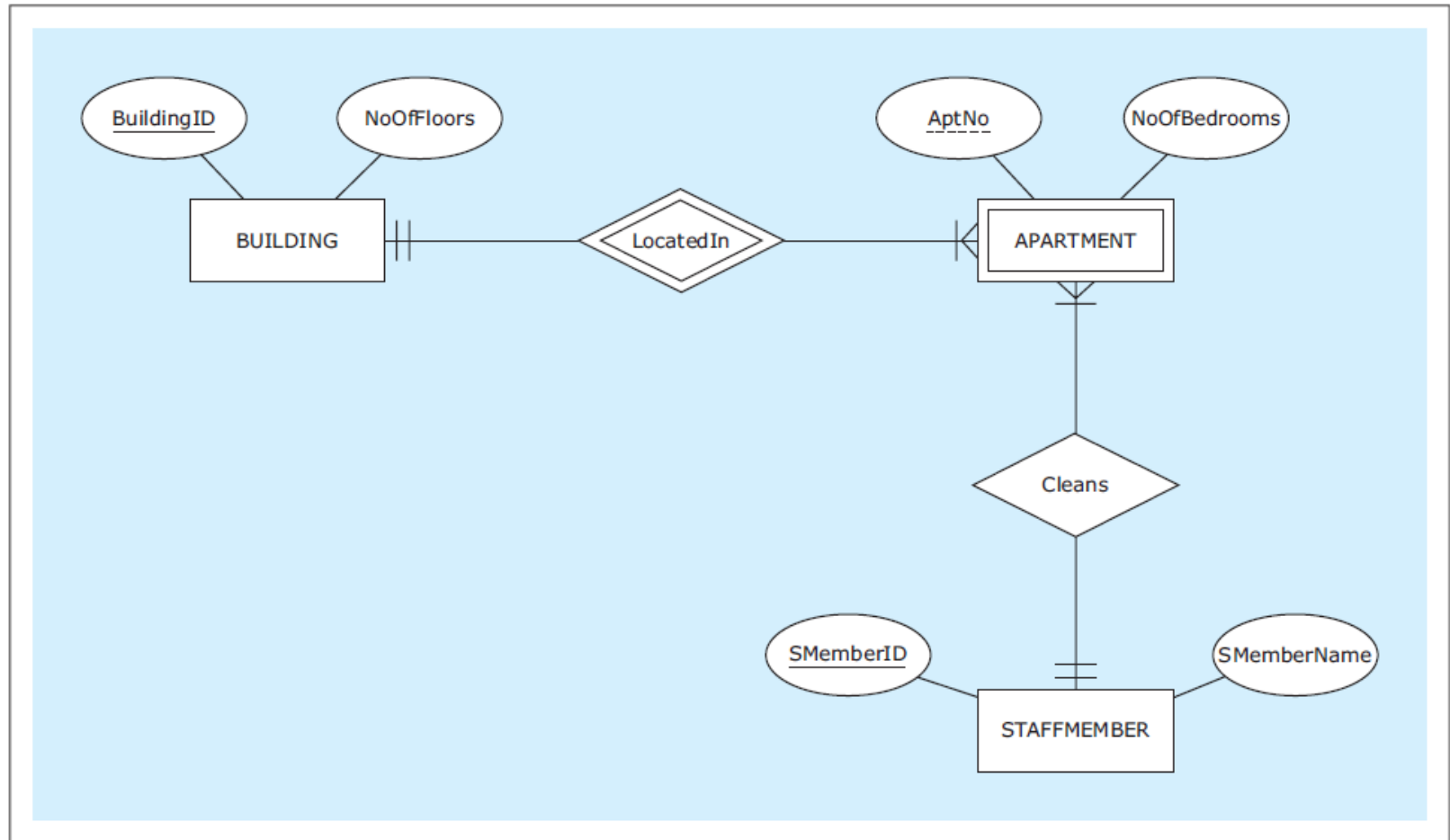
WEAK ENTITY

A weak entity versus a multivalued composite attribute



WEAK ENTITY

A weak entity with an identifying and regular relationship



WEAK ENTITY

- Identifying relationship is either 1:M or 1:1 relationship
 - In case of 1:M identifying relationship, a weak entity must have a partial key attribute
 - In case of 1:1 identifying relationship, a weak entity doesn't need to have a partial key attribute

WEAK ENTITY

A weak entity with a 1:1 identifying relationship

