



Relational Database Concepts

Summary Of Integrity Rules And Description

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Objectives

- Review the Integrity rules.



Rules for Completeness

- **Primary key rule:** All entity types have a primary key (direct, borrowed, or inherited).
- **Naming rule:** All entity types, relationships, and attributes are named.
- **Cardinality rule:** Cardinality is given for both entity types in a relationship.
- **Entity participation rule:** All entity types participate in at least one relationship.

Rules Consistency

- **Entity name rule:** Entity type names are unique.
- **Attribute name rule:** Attribute names are unique within entity types and relationships.
- **Relationship/entity type connection rule:** All relationships connect two entity types (not necessarily distinct).
- **Relationship/relationship connection rule:** Relationships are not connected to other relationships.
- **Weak entity type rule:** Weak entity types have at least one identifying relationship.
- **Identifying relationship rule:** For each identifying relationship, at least one participating entity type must be weak.
- **Identification dependency cardinality rule:** For each identifying relationship, the minimum and maximum cardinality must be 1 in the direction from the child (weak entity) to the parent entity type.
- **Redundant foreign key rule:** Redundant foreign keys are not used.