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Domains, Attributes, Tuples, Relations

- Relation
 - Set of n -tuples

Integrity, Referential Integrity & Foreign Key

- Entity Integrity Constraint
 - No primary key value can be NULL
- Referential Integrity Constraint
 - Specified between 2 relations
 - Maintains consistency among tuples in 2 relations

Foreign Key Rules

Relational Databases

- Relational DB Schema
 - Set of relation schemas $S = \{R_1, R_2, R_3, \dots, R_n\}$
 - Set of integrity constraints (IC)
- Relational DB State
 - Set of relation states $DB = \{r_1, r_2, \dots, r_n\}$
- Invalid State
 - Does not obey all the integrity of constraints
- Valid State
 - Satisfies all the constraints in the defined set of Integrity Constraints

Constraints

- Domain on Column
 - Set of atomic values in same domain type
- Atomic Constraint
 - Each value should be single and Indivisible
- Specifying a domain
 - Data type specified for each domain for each column

Primary Key Constraint

- Any value of PK should be unique
- No duplicates
- Entity Integrity Constraint
 - No primary key value can be NULL
 - Null value cannot be inserted