Intigrity Rules

- Integrity constraints are used to ensure accuracy and consistency of the data in a relational database.
- Integrity constraints are set of rules that the database is not permitted to violate.
- Constraints may apply to each attribute or they may apply to relationships between tables.
- Integrity constraints ensure that changes (update, deletion, insertion) made to the database by authorized users do not result in a loss of data consistency. Thus, integrity constraints guard against accidental damage to the database.
 - Example A blood group must be 'A' or 'B' or 'AB' or 'O' only (can not any other

Types of Intigrity Constraint

Domain Constraint
Entity Integrity Constraint
Referential Integrity Constraint
Key Constraints

Domain Constraint

- Domain constraints defines the domain or the valid set of values for an attribute.
- The data type of domain includes string, character, integer, time, date, currency, etc. The value of the attribute must be available in the corresponding domain.

STUDENT_ID	NAME	SEMESTER	AGE
101	Manish	1 st	18
102	Rohit	3rd	19
103	Badal	5th	20
104	Amit	7th	A

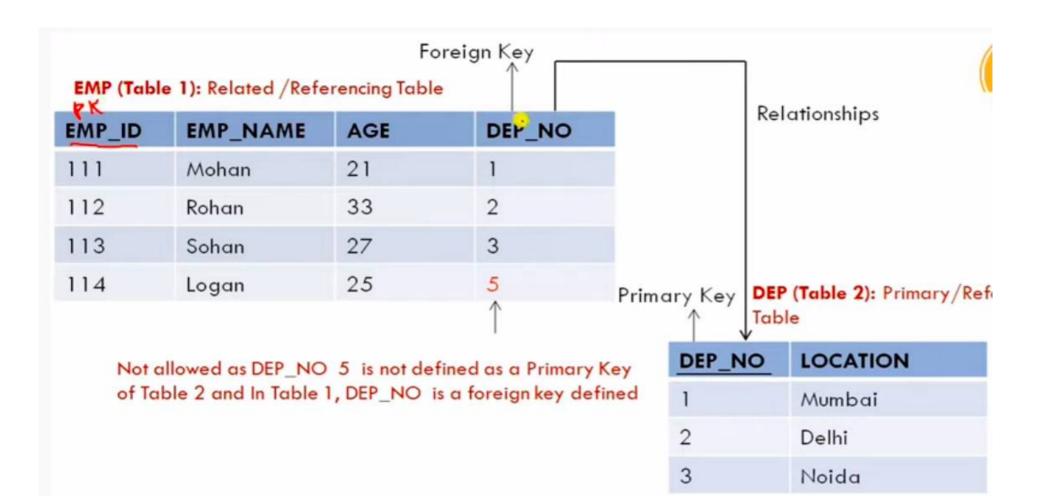
Entity Intigrity Constraint

- The entity integrity constraint states that primary key value can't be null.
- This is because the primary key value is used to identify individual rows in relation and if the primary key has a null value, then we can't identify those rows.
- A table can contain a null value other than the primary key field.

EMP_ID	EMP_NAME	SALARY
111	Mohan	20000
112	Rohan	30000
113	Sohan	35000
^	Logan	20000

Referencial Intigrity Constraint

- A referential integrity constraint is specified between two tables.
- Referential Integrity constraint is enforced when a foreign key references the primary key of a table.
- In the Referential integrity constraints, if a foreign key in Table 1 refers to the Primary Key of Table 2, then either every value of the foreign Key in Table 1 must be available in primary key value of Table 2 or it must be null.
- The rules are:
 - You can't delete a record from a primary table if matching records exist in a related table.
 - You can't change a primary key value in the primary table if that record has related records.
 - You can't insert a value in the foreign key field of the related table that doesn't exist in the primary key of the primary table.
 - However, you can enter a Null value in the foreign key, specifying that the records are unrelated.



Key Constraint

- An entity set can have multiple keys or candidate keys (minimal superkey), but out of which one key will be the primary key.
- Key constraint specifies that in any relation-
 - All the values of primary key must be unique.
 - The value of primary key must not be null.

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