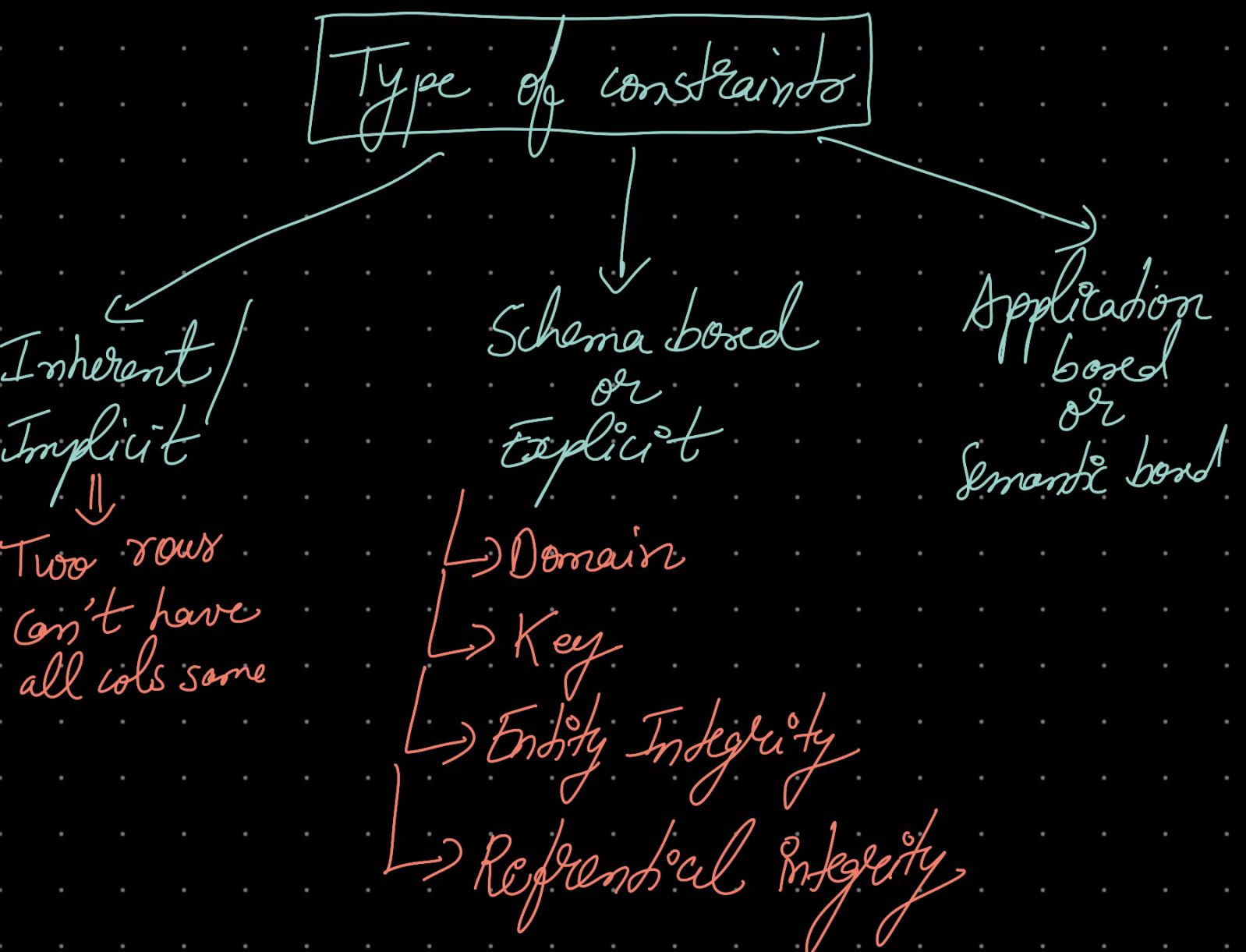


Constraints

- * Two rows can't have all attributes same.
- * Relation → set of rows/tuples



- * Another category → Functional Dependencies
↓
Used for Normalisation

① Implicit / Inherent

↳ No need to specify explicitly

Eg ① Two rows can't have all cols same in a table.

② Each column hold atomic values

② Explicit

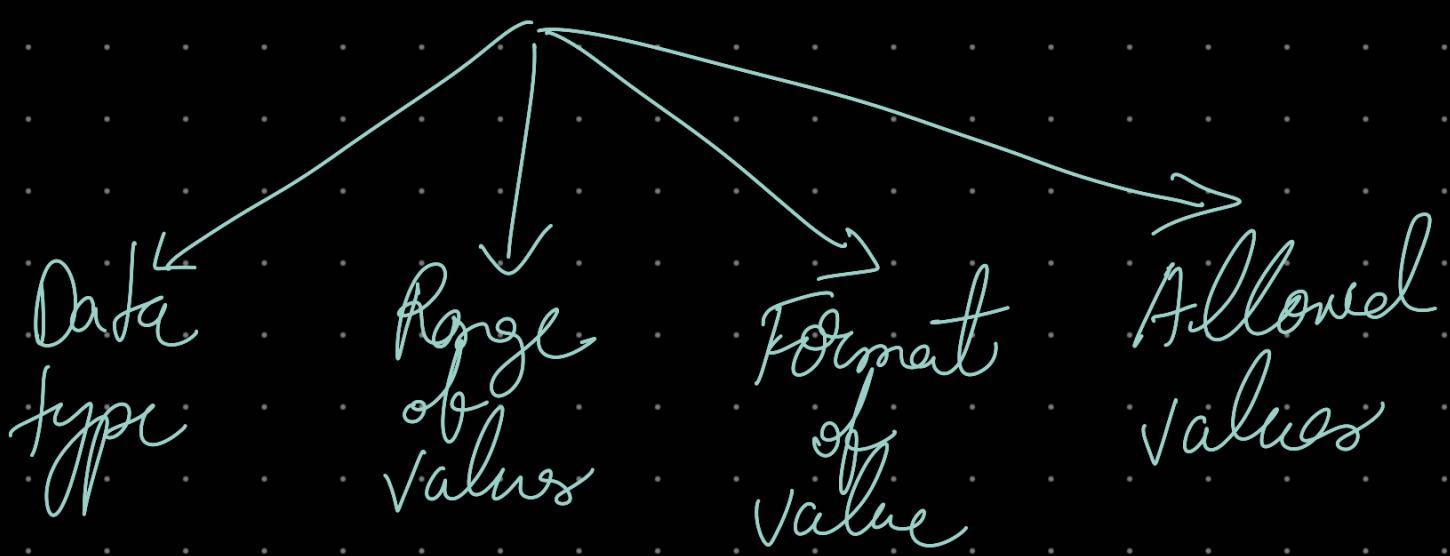
a) Domain constraint

↳ Each attribute will have some set of accepted values

↳ Composite attribute not allowed

↳ Multivalued " "

* Smallest possible attribute should be taken in database



⑥

Key constraints

- * Used for uniqueness of record

Name	Rollno.	Class	Mark
			→ t ₁
			→ t ₂

$$t_1 \neq t_2$$

- * Super Key → Combination of attributes in which all attributes don't have same value

All attributes

↓ unique

Super Keys \Rightarrow Multiple

↓ Minimize

Keys

Candidate
Key 1

Candidate

Key 2

primary
Key

Alternate Keys

* One of the Candidate Keys is chosen as primary key.

(c) Entity Integrity

→ Primary key → unique value
 → Not null

(d) Referential Integrity

* Foreign Key
↳ attribute (set of attribute)
in one table that refers to
primary key in another table

Employee table Department table

E.No	E.name	D.NO
1	a	Null
2	b	3

→ D.NO

D.NO
1
2
3

Foreign Key
of Employee Table

could be null

child table

Primary Key
of Department
table

can't be null

parent table

③ Semantic Integrity

E.g. Salary of an employee
shouldn't be greater than
\$50,000.

These constraints gets violated:

- ① Insertion
- ② Deletion
- ③ Updation

[Actions on Constraints violation]

- ① Insertion

↳ Reject action taken by default

- ② Deletion

① Domain → Not violated

② Key → Not violated

③ Uniqueness → Not violated

④ Referential → can violate

E.g. →
Employee

	D.NO
1	1
2	1
	2

Department

P.NO
1
2

Deletion of D.NO 1
will affect Employee Table

Reject

Cascade
delete

Delete rows
from other table

Set Null
or
some other
value

③ Updation

↳ Insertion + Deletion

↳ Depends on type of insertion
and deletion.