

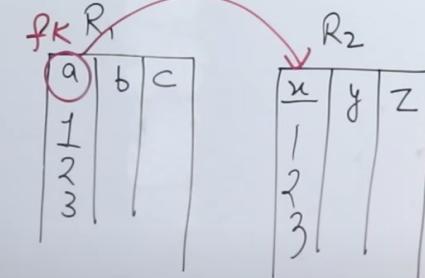
FK Question

Let $R_1(a, b, c)$ and $R_2(x, y, z)$ be two relations in which 'a' is foreign key in R_1 , that refers to Primary Key of R_2 . Consider four options

- a) Insert into R_1
- c) Delete from R_1
- b) Insert into R_2
- d) Delete from R_2

Which is correct regarding Referential integrity?

- 1) Option a and b cause violation
- 2) Option b and c will cause violation
- 3) Option c and d will cause violation
- 4) Option d and a " , , ,

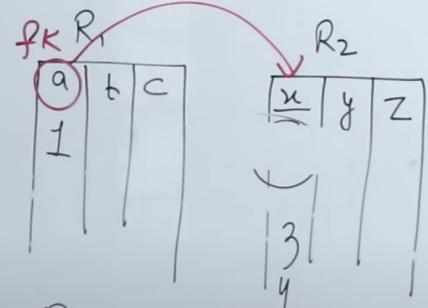


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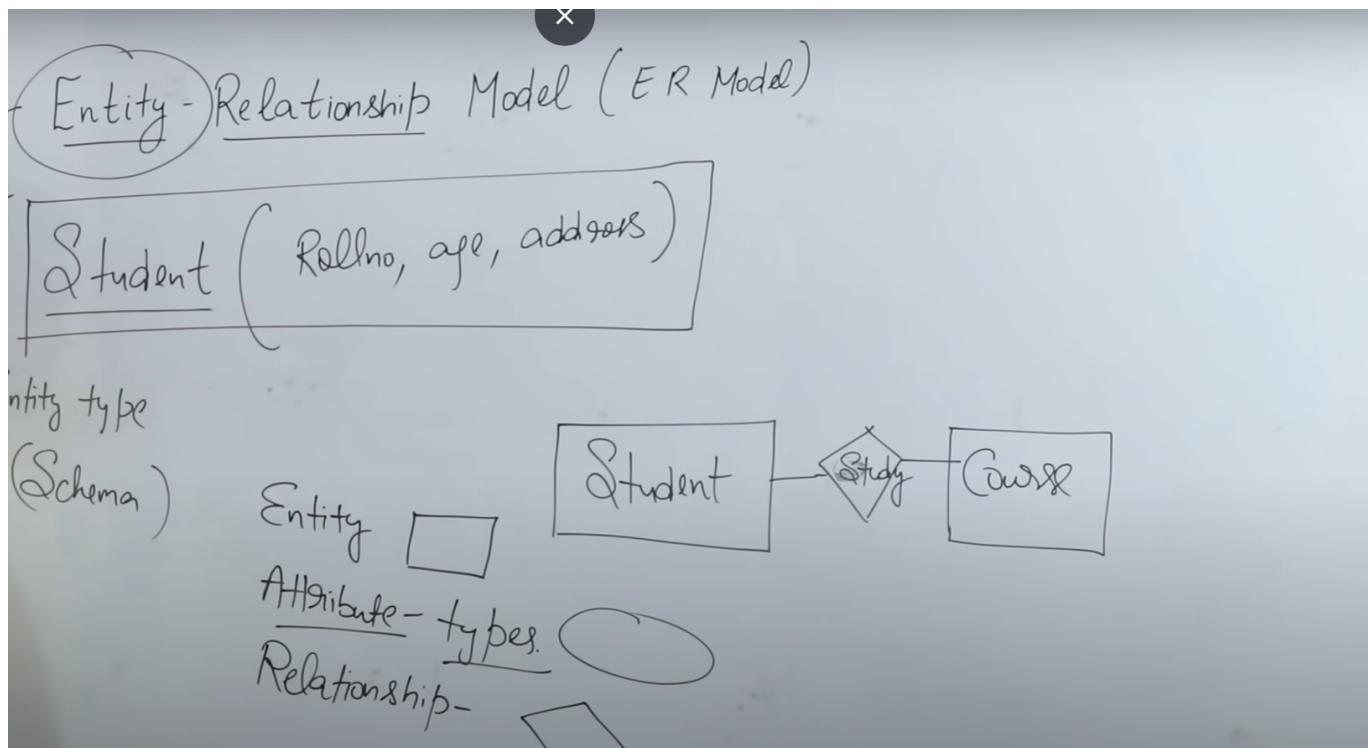
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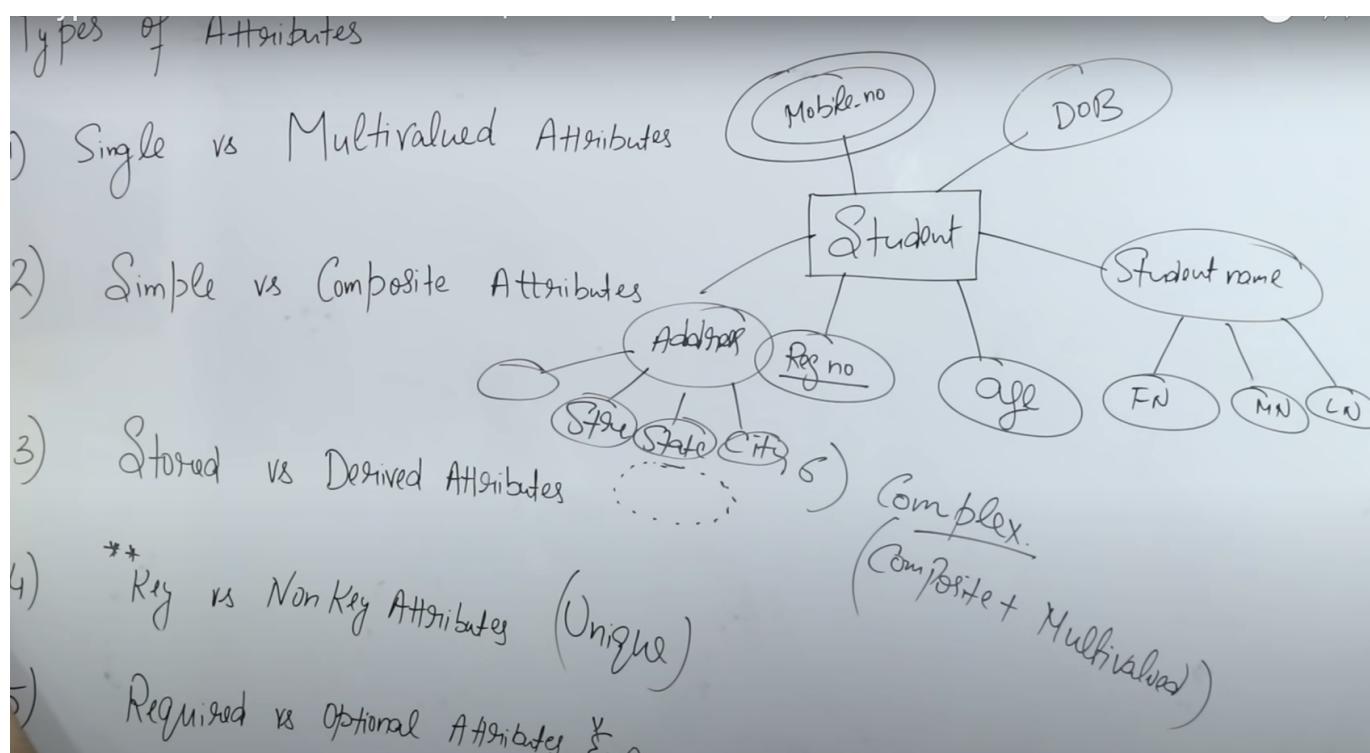


Referencing Base
 Referenced

ER Model



Types of Attributes



- <https://www.youtube.com/watch?v=Cn3RpA-QubY>

Steps to create ER Model

1. Identify Entities
2. Determine their relationships
3. Identify attributes + Identity PK

4. Cardinalities
5. Create with appropriate symbols

Degree of Relationship / Cardinality

1. 1:1
2. 1:M or M:1
3. M:N

DBMS Mapping Cardinalities

- * **One to one**: An entity in A is associated with at most one entity in B, and an entity in B is associated with at most one entity in A.
- * **One to many**: An entity in A is associated with any number (zero or more) of entities in B. An entity in B, however, can be associated with at most one entity in A.
- * **Many to one**: An entity in A is associated with at most one entity in B. An entity in B, however, can be associated with any number (zero or more) of entities in A.
- * **Many to many**: An entity in A is associated with any number (zero or more) of entities in B, and an entity in B is associated with any number (zero or more) of entities in A.

ER Model to Relational Model

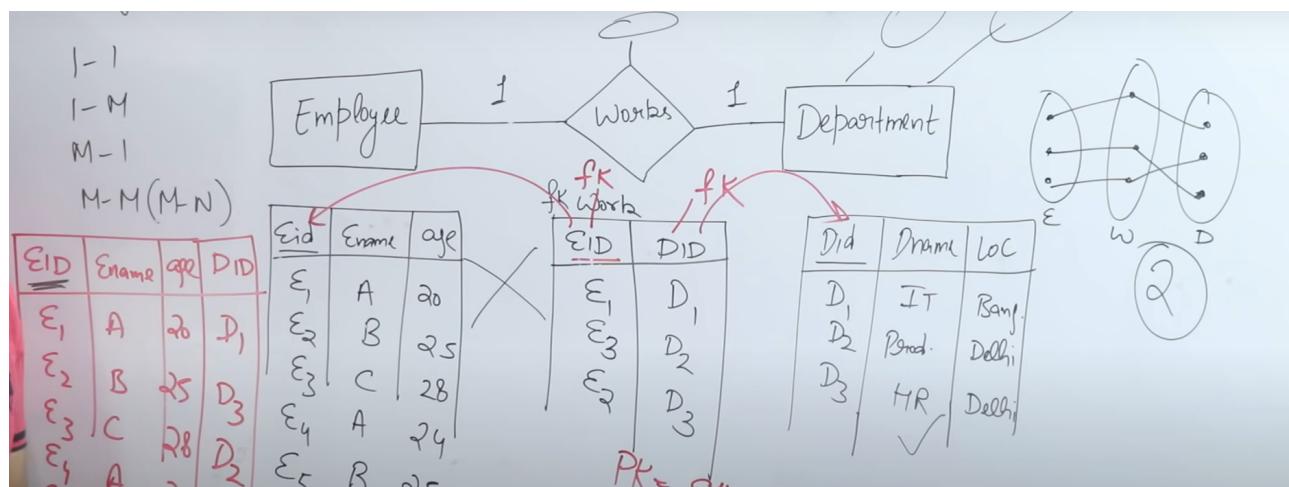
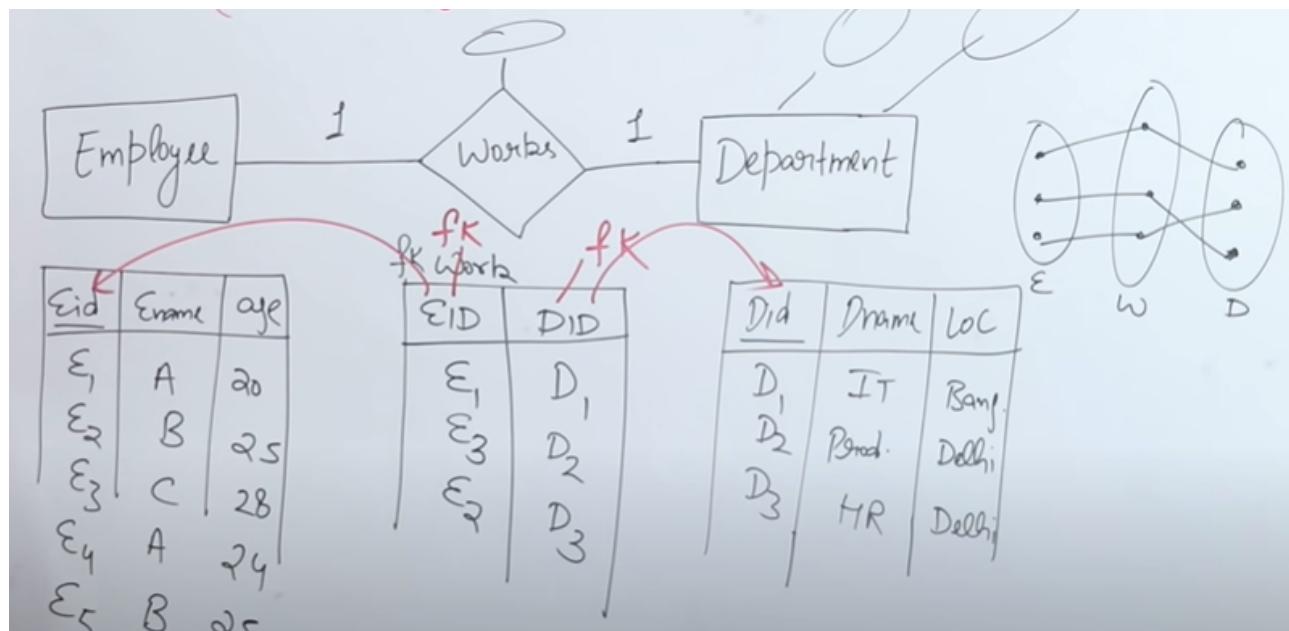
1:1 Relationship



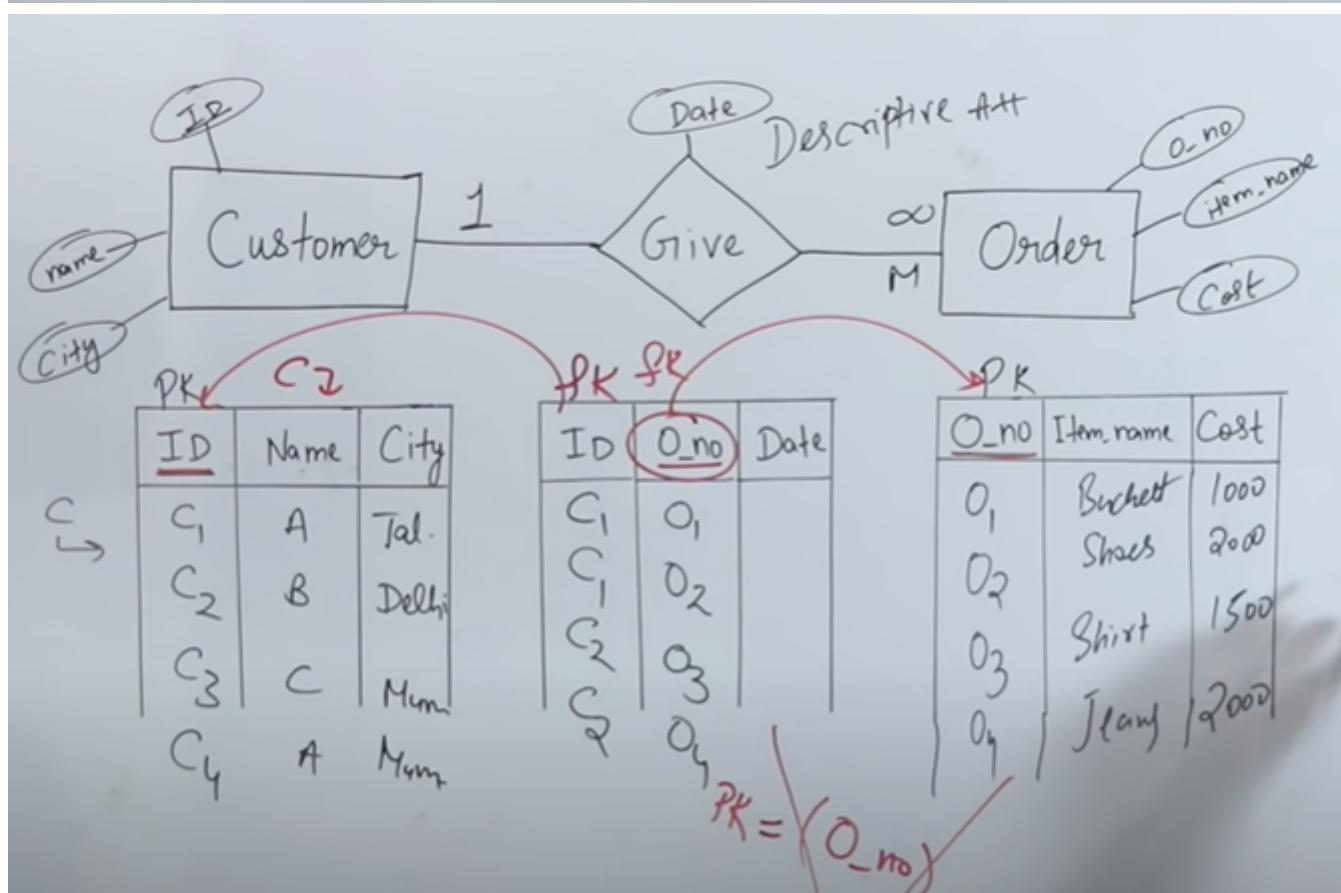
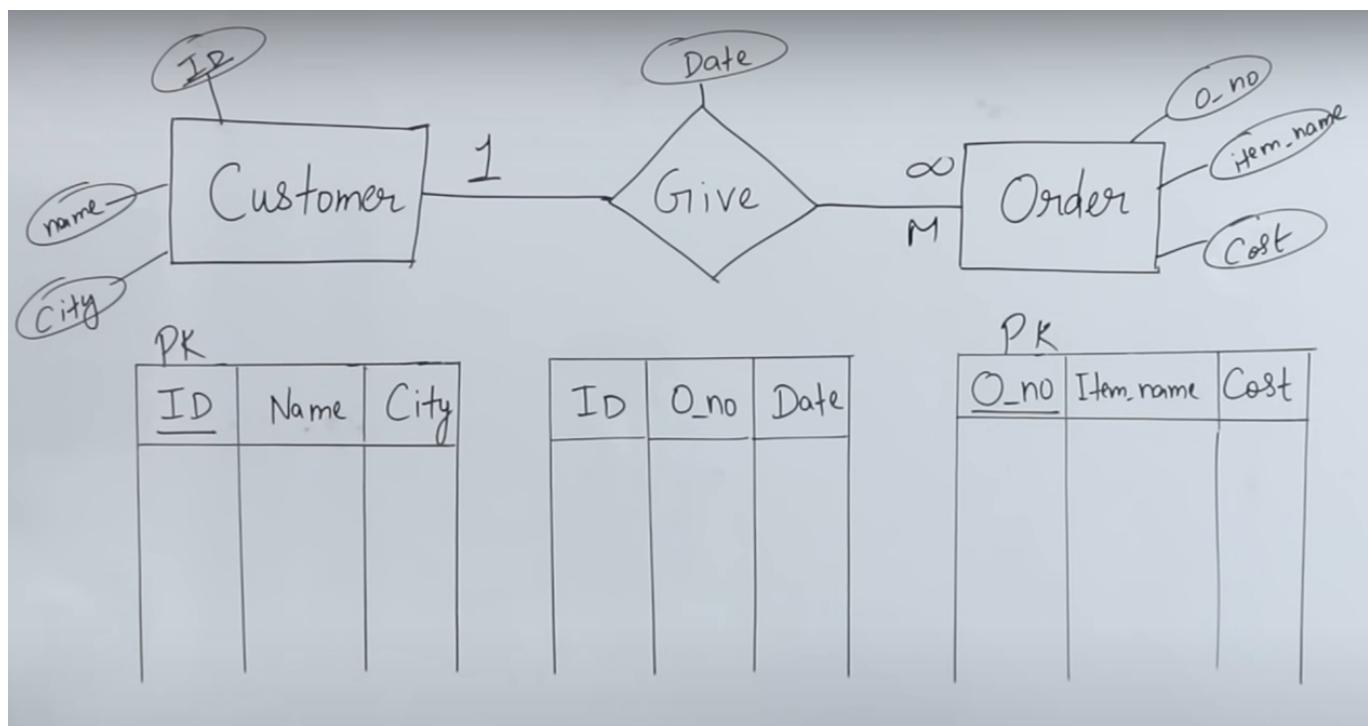
Eid	Ename	age
E ₁	A	20
E ₂	B	25
E ₃	C	28
E ₄	A	24
E ₅	B	25

Did	Dname	Loc
D ₁	IT	Bang.
D ₂	Prod.	Delhi
D ₃	HR	Delhi

- PK - Either Eid or Did
- Yes can minimize
- Min 2 Tables

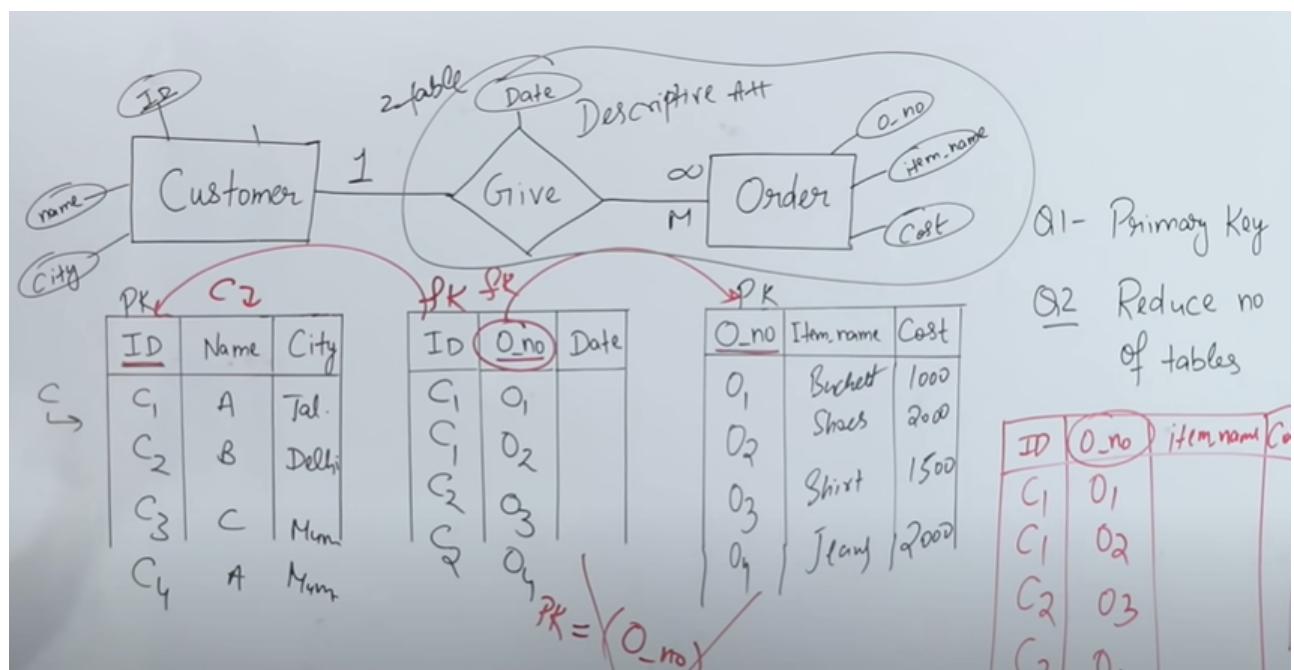


1:M

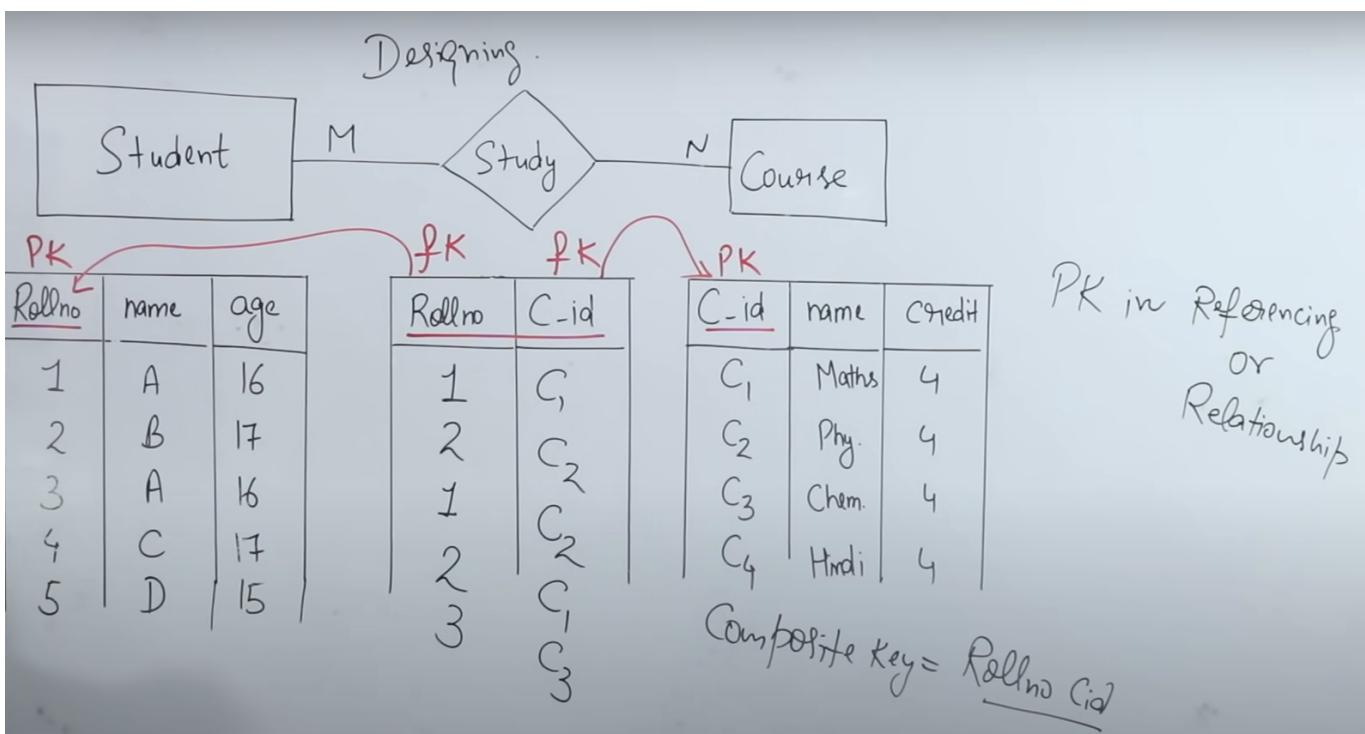
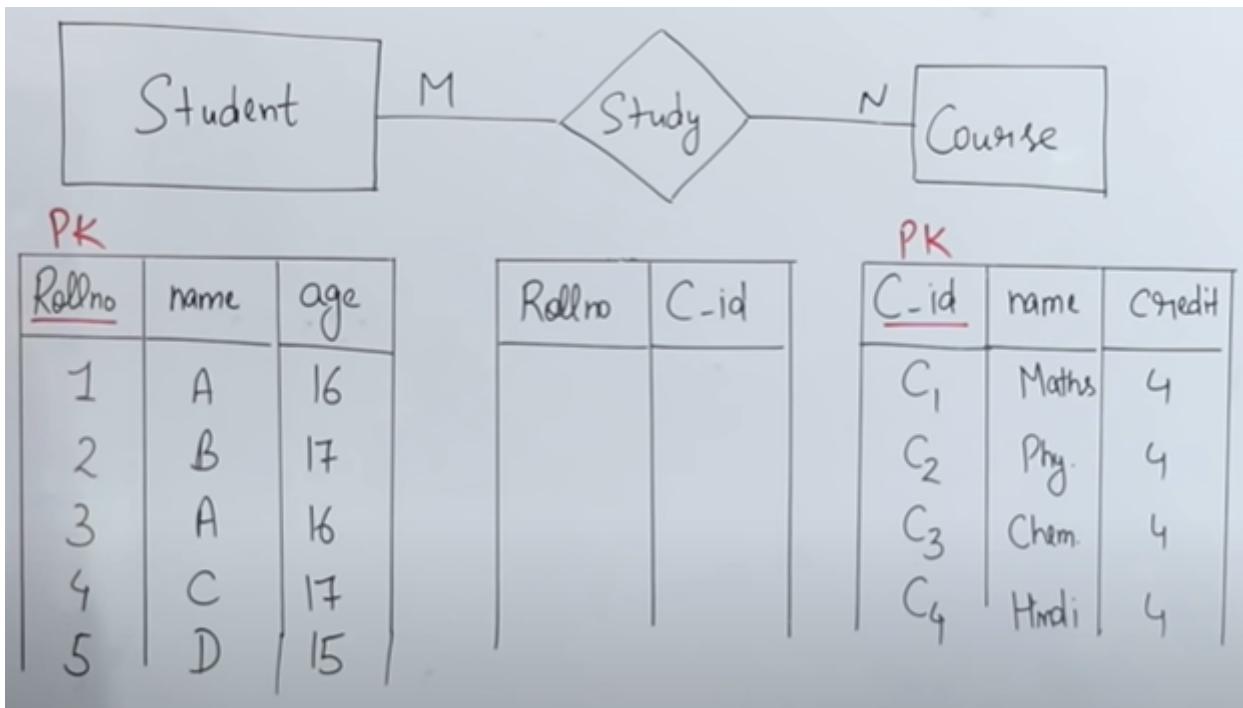


- PK - M side
- Yes can minimize (Relationship table with M side Table)

- Min 2 Tables



M:N



- PK - Composite : Both
- No can't minimize
- Min 3 Tables

Minimization Question

