

Normalisation (normalise the table)
 → reduce data redundancy (duplicate records)
 → maintain integrity (consistent, accurate data)
 Normal forms
 → 1st normal form
 → 2nd normal form
 → 3rd normal form
 → 4th normal form
 → 5th normal form

1st normal form
 → no data in group
 → atomic values - no nested values, single value

Movie Table

ID	Movie Name	Genre	Director	Year
1	Avatar	Sci-Fi	James Cameron	2009
2	Inception	Thriller	Christopher Nolan	2010
3	The Godfather	Drama	Francis Ford Coppola	1972

Student Data

ID	Name	Class	Score
1	John	Math	85
2	Jane	Math	78
3	Mike	Math	92

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Student

ID	Name	Class
1	John	Math
2	Jane	Math
3	Mike	Math

Class

ID	Name
1	Math
2	Science
3	History

2nd normal form
 → Table should be in 1st form
 → non-key attributes depend on primary

Movie genre table

Movie ID	Genre
1	Sci-Fi
2	Thriller
3	Drama

Dependent table

3rd form
 → should be in 2nd form
 → no indirect relations
 → all non-primary attributes should depend on primary key

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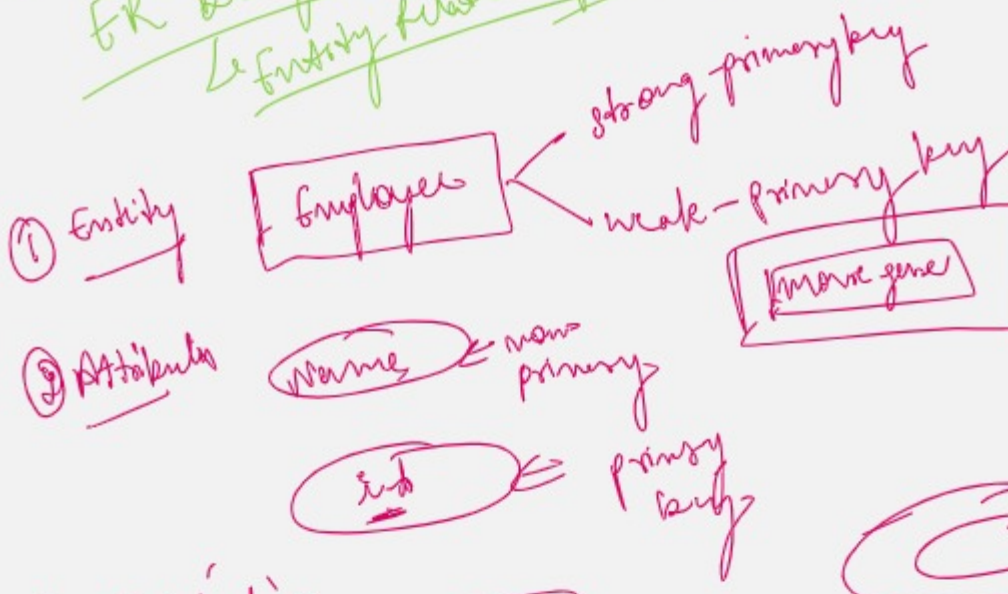
Movie Table

ID	Movie Name	Year
1	Avatar	2009
2	Inception	2010
3	The Godfather	1972

Director

ID	Name	Address
1	James Cameron	Los Angeles
2	Christopher Nolan	Los Angeles
3	Francis Ford Coppola	Los Angeles

steps
 → create ER diagram, schema structure
 → Normalization → details
 → 3rd normal form DB & tables
 ER Diagrams
 → Entity Relationship Diagrams



Task for ER diagrams & Normalization

- Employee
 - managers
 - Department
 - Project
- Table

- 1 to N → company to employees
- N to 1 → books to authors
- N to N → subjects to teachers
- 1 to 1 → projects to employees

