

Normalisation

Computing

The first three normal forms, in the order you apply them.

Each form assumes the previous one is already satisfied.

1

1NF — atomic values

No repeating groups, no comma-separated lists in a column. One value per cell.

2

2NF — full dependency on the key

No column depends on only part of a composite primary key.

3

3NF — no transitive dependency

No column depends on another non-key column.

4

Then denormalise deliberately

Duplicate data only for a measured read performance need.

3NF VIOLATION

`orders(id, customer_id, customer_city)`

city depends on customer, not on the order

Move it to the customers table

Every duplicated fact is a chance for two copies to disagree. That, not disk space, is what normalisation prevents.