1 Normalization

Normalization is the process of improving a relation by analyzing it usnig its functional dependencies and primary keys.

We attempt to get a relation into a higher normal form.

• First Normal Form (1NF) - more relaxed requirements

"The key": The attributes must include only atomic (indivisible) values (i.e.: no combination values, no multi-values.) The primary key must be able to reach all of the values.

• Second Normal Form (2NF)

"The whole key": For every non-prime attribute $A \in R$, A is fully functionally dependent on the primary key of R.

• Third Normal Form (3NF)

"Nothing but the key": None of the attributes of the relation are determined via a transitive relationship.

• Boyce-Codd Normal Form, 4NF and 5NF - more stringent requirements