

Normalization is the process of organizing data in a data base to reduce redundancy and improve data integrity.

1NF (First Normal form)

- Data must be atomic nature.
- Each column should have only single value.

2NF (Second Normal form)

- Must be in 1NF
- No partial dependency (non-key columns must depend on the whole primary key).

3NF (Third Normal form)

Must be in 2NF.

- No transitive dependency (non-key columns should not depend on other non-key columns).

BCNF (Boyce - Codd Normal form)

- Must be in 3NF.
- Every determinant must be a Candidate Key.

4NF (fourth Normal form)

- Must be in BCNF.
- No Multi-valued dependencies (no multiple independent sets of data in one table).

5NF (fifth Normal form)

- Must be in 4NF.

- No join dependency that cannot be expressed using Candidate keys.

