**Normalization**

It is a step by step process to organize the data into multiple related tables that minimizes the redundancy and ensures the data integrity.

Data integrity means consistency of data, for example we have employee table and department table in both table there is a Salary column then the salary of employees in employee table and department table must be same, like Ramesh has salary 50k then it should be same in another table.

**Types of Normalization:**

**1NF** - each column should contain atomic values.

**2NF** - removes partial dependency, partial dependency means when a column (non-key attribute) depends on only part (one or two col not all) of a composite key, not the whole key.

**3NF** - removes transitive dependency, transitive dependency means when a column depends on another non-key column, instead of directly depending on the primary key.

Basically, the column indirectly depends on PK column.

**BCNF**- Boyce codd normal form, it’s a refined version of 3NF.

**For every dependency (X → Y), X must be a candidate key.**

**Candidate key** = a column (or combo) that can uniquely identify a row

**In BCNF it doesn’t matter how many no. of cols are there but they be dependent only on superkey/candidate key.**

**Superkey - its unique and can be one or more column**

**Candidate key - its uning and can be two or more column.**