

What is Normalization?

- Normalization is the process of organizing the data and the attributes of a database.
- Normalization is used to minimize the redundancy from a relation.
- It is also used to remove anomaly like Insertion, Update, and Deletion.
- Normalization divides the larger table into smaller and links them using relationships.

A database anomaly is a flaw in the database that occurs because of poor planning and redundancy.

Insertion anomalies: This occurs when we are not able to insert data into a database because some attributes may be missing at the time of insertion.

Updation anomalies: The update anomaly is when an update of a single data value requires multiple rows of data to be updated. Due to updation to many places, if one forgets to update the data at all the intended places, may be Data inconsistency arises.

Deletion anomalies: This occurs when deleting one part of the data deletes the other necessary information from the database.

Types of Normal Forms:

1. First Normal Form (1NF)
2. Second Normal Form (2NF)
3. Third Normal Form (3NF)
4. Boyce-Codd Normal Form (BCNF)