

LET'S START WITH DBMS :).

Normalisation and its types

First Normal Form (1NF)

First normal form is the first step in the normalisation process which helps us to reduce data redundancy. Every table should have atomic values i.e there shouldn't be any multivalued attributes

It ensures the following set of rules is followed in a table:

- Atomicity(Attributes should have single valuse)
- Uniqueness of rows (Each row should be uniquely identifiable)

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- Atomicity: Each column contains only indivisible (atomic) values, meaning each attribute holds a single value.

ID	PersonName	Order
1	Raj	Muffin,Sugar
2	Riti	Muffin
3	Rahul	Sugar,Egg

Here, Order is a multivalued attribute(having more than one value)

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How to achieve atomicity?

1.Repeat the values in id and PersonName column twice to store single value of multivaule attribute order

ID	PersonName	Order
1	Raj	Muffin
1	Raj	Sugar
2	Riti	Muffin
3	Rahul	Sugar
3	Rahul	Egg

PK – Order+ ID

ID	PersonName	Order
1	Raj	Muffin,Sugar
2	Riti	Muffin
3	Rahul	Sugar,Egg

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How to achieve atomicity?

2. Make new columns for each multivalue present.

ID	PersonName	Order1	Order2
1	Raj	Muffin	Sugar
2	Riti	Muffin	Null
3	Rahul	Sugar	Egg

PK – ID

ID	PersonName	Order
1	Raj	Muffin,Sugar
2	Riti	Muffin
3	Rahul	Sugar,Egg

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How to achieve atomicity?

3. Divide the table into student(base) and order(referencing) table based on the multivalued attribute order.

pk

ID	PersonName
1	Raj
2	Riti
3	Rahul

fk

ID	Order
1	Muffin
1	Sugar
2	Muffin
3	Sugar
3	Egg

ID	PersonName	Order
1	Raj	Muffin,Sugar
2	Riti	Muffin
3	Rahul	Sugar,Egg