

Original Table

order_id	customer_id	customer_name	order_status
1	1	Alice Khan	Dispatched
2	2	Bob Ahmed	In Progress

1NF (First Normal Form)

- ✓ All values are **atomic**, no repeating groups or multivalued fields.
- ✓ **1NF is satisfied.**

2NF (Second Normal Form)

- ✓ The **primary key** is order_id.
- ✓ All non-key attributes must be **fully dependent** on the primary key.
- ✓ customer_name depends on customer_id, **not** directly on order_id.

Partial dependency exists.

- ✓ **adminorder**

order_id	customer_id	order_status
1	1	Dispatched
2	2	In Progress

- ✓ **Now in 2NF.**

3NF (Third Normal Form)

- ✓ Check for **transitive dependencies**.
 - ✓ No attribute is dependent on another non-key attribute.
 - ✓ **Now in 3NF.**
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BCNF (Boyce-Codd Normal Form)

- ✓ Every determinant must be a candidate key.
 - ✓ No violations — order_id is the primary key.
 - ✓ **BCNF is satisfied.**
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4NF (Fourth Normal Form)

- ✓ No multivalued dependencies.
 - ✓ Each row represents one fact about one order.
 - ✓ **4NF is satisfied.**
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5NF (Fifth Normal Form)

- ✓ No join dependencies.
- ✓ Nothing to decompose further.
- ✓ **5NF is satisfied.**