

## Original Table

order_id	mobile_no	payment_type	payment_status
101	03001234567	Easypaisa	Paid
102	03012345678	Cash on Delivery	Pending

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### 1NF (First Normal Form)

- ✓ **Already in 1NF**
- ✓ no repeating or multivalued fields.
- ✓ All values are atomic.

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### 2NF (Second Normal Form)

- ✓ The **primary key** is order\_id.
- ✓ All non-key attributes depend fully on the primary key.
- ✓ **The table is already in 2NF.**

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### 3NF (Third Normal Form)

- ✓ We check for **transitive dependencies**.
- ✓ Is any non-key column dependent on another non-key column?
- ✓ **No** such transitive dependency exists.
- ✓ **The table is in 3NF.**

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### BCNF (Boyce-Codd Normal Form)

- ✓ Check if **every determinant is a candidate key**.
- ✓ order\_id → mobile\_no, payment\_type, payment\_status  
→ order\_id is the primary key.
- ✓ **BCNF is satisfied.**

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## 4NF (Fourth Normal Form)

- ✓ Check for **multivalued dependencies**.
- ✓ One order has only **one** mobile number and one payment method.
- ✓ **4NF is satisfied.**

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## 5NF (Fifth Normal Form)

- ✓ No complex join dependencies or lossless join issues here.
- ✓ **5NF is satisfied.**