

## 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**.
- ✓  $\text{order\_id} \rightarrow \text{mobile\_no}, \text{payment\_type}, \text{payment\_status}$   
 $\rightarrow \text{order\_id}$  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.**