Original Table

personal_id	personal_name	order_id	email	mobile_no	personal_status
1	Ali Raza	1	ali.raza@delivery.com	03451234567	Delivered
2	Sara Yousuf	2	sara@delivery.com	03551234567	Pending

1NF (First Normal Form)

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

2NF (Second Normal Form)

- ✓ Primary Key: personal_id
- ✓ All non-key attributes must depend fully on personal_id.
- ✓ All fields are functionally dependent on personal_id (no partial dependency).
- ✓ **2NF is satisfied**

3NF (Third Normal Form)

- ✓ Check for **transitive dependencies**:
- ✓ email, mobile_no, personal_status → directly depend on personal_id
- ✓ No non-key attribute depends on another non-key attribute.
- ✓ **3NF is satisfied**

BCNF (Boyce-Codd Normal Form)

- ✓ Every determinant must be a candidate key.

- ✓ personal_id is the only determinant, and it's a candidate key.
- ✓ **BCNF is satisfied**

4NF (Fourth Normal Form)

- ✓ Check for **multivalued dependencies**:
- ✓ Does one delivery person handle **multiple orders**?
  If yes, then:
- ✓ A delivery person (e.g., Ali Raza) may have multiple order_ids.
- ✓ That would violate 4NF.

Split into two tables:

- ✓ **delivery_person**

personal_id	personal_name	email	mobile_no
1	Ali Raza	ali.raza@delivery.com	03451234567
2	Sara Yousuf	sara@delivery.com	03551234567

- ✓ **delivery_assignment (to handle multiple orders)**

personal_id	order_id	personal_status
1	1	Delivered
2	2	Pending

- ✓ **Now in 4NF**

5NF (Fifth Normal Form)

- ✓ Check for **join dependencies**:
- ✓ If a person can deliver many orders, and one order can have multiple persons (unlikely), a join dependency may exist.

- ✓ Since:
- ✓ Each order is handled by **only one delivery person** (in current design),
- ✓ **5NF is not required.**