Task 3: Why is normalization important?

- ➢ Normalisation helps remove redundancy in our database leading to unique entries and lesser chances of anomalies during execution of queries on our database

- ➢ Normalization helps reduce incorrect dependencies between attributes of an entity, so changes in one attribute do not cause inconsistencies or anomalies in other attributes.

- ➢ Normalization improves data consistency because a single field update is sufficient, as the same data is not duplicated across multiple places in the database.

- ➢ Data Normalisation helps in reducing space similar kind of data is not stored leading to space saving

What problems occur if a data is not normalized?

1. WIthout Normalisation incorrect dependencies exist between attributes of an entity so changes in any attribute will require us to change everywhere we have same attribute

2. Data Consistency is compromised as same information appears many time leading to ACID Properties compromise

3. More Space is required

4. Query Performance degrade leading to slower response

5. Databases become complex and hard to optimise later.

Convert the following unnormalized data into 1NF:

Order_ID	Customer_Name	Products
101	Rahul	Laptop, Mouse

After Converting:

Table 1: Order

Order_ID	Customer_Name
101	Rahul

Table 2: Products

Product_ID	Product_Name
P1	Laptop
P2	Mouse

Table 3: Purchase

Order_ID	Product_ID
101	P1
101	P2