NORMALIZATION RECALL

Instructor

Dr. Sanam Shahla Rizvi
PhD in Information and Communication
from Ajou University, Korea

ONF: CUSTOMER ORDER

• Assumption: A customer can have multiple orders but an order can be for only 1 product.

CustName	OrderNo	ProdNo	ProdDesc	Qty	CustAddress	DateOrdered
Ahmed	1001	12	Batteries	100	Islamabad	1/1/2010
	1010	14	Nodes	50		1/7/2010

1NF - REMOVE MULTIVALVE DEPENDENCIES

- CUSTOMER (CustName, CustAddress)
- ORDER (<u>CustName</u>, <u>OrderNo</u>, ProdNo, ProdDesc, Qty, DateOrdered)

2NF - REMOVE PARTIAL DEPENDENCIES

- CUSTOMER (CustName, CustAddress)
- CUSTOMER ORDER (CustName, OrderNo)
- ORDER (<u>OrderNo</u>, ProdNo, ProdDesc, Qty, DateOrdered)

o Partial dependency: PK/CK→NK

• Non key attributes should determine only by primary key or candidate key no by any other non key attribute.

3NF - REMOVE TRANSITIVE DEPENDENCIES

- CUSTOMER (CustName, CustAddress)
- CUSTOMER ORDER (CustName, OrderNo)
- ORDER (OrderNo, ProdNo, Qty, DateOrdered)
- PRODUCT (<u>ProdNo</u>, ProdDesc)

o Transitive dependencies: PK→NK

• Non key attributes should determine only by primary key even neither by candidate key.