DR. B. R. AMBEDKAR NATIONAL INSTITUTE OF TECHNOLOGY, JALANDHAR

{ CSPC – 202 *DBMS*}

TOPIC : Order Management System

SUBMITTED BY:

- Ashanpreet Singh Sra - {20103033}
- Ayush Kumar Jha - {20103035}
- Bhart Bansal - {20103039}
- Cherry Kataria - {20103045}

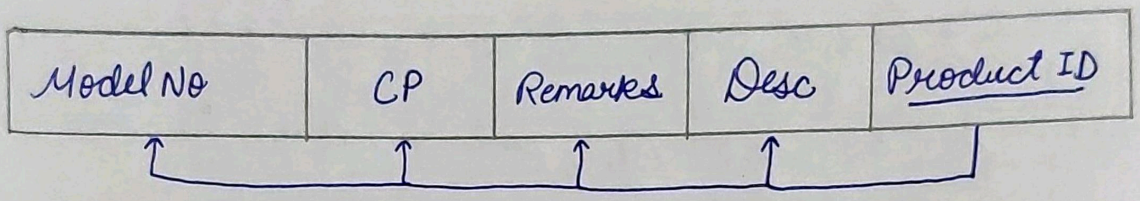
SUBMITTED TO: Prof. Dr. Rajneesh Rani

DATE: 28-April-2022

Assignment ⇒ 4

NORMALIZATION

1. Product_Info

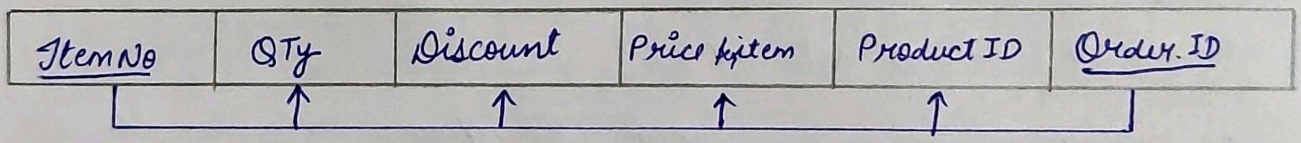


Functional Dependencies :→

Product ID → { Model No, CP, Remarks, Desc }

⇒ As productID is a superkey, so relation is in Boyce Codd Normal Form.

2. Order_Dtls



Functional Dependencies :→

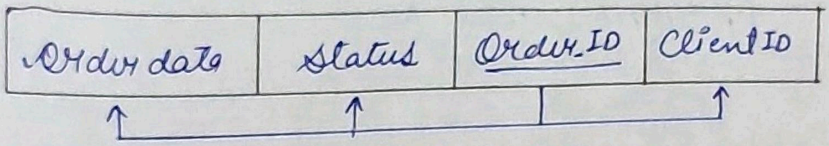
[OrderID → { Order data, status, client_ID }

[⇒ Order ID is a superkey].
[Our relation]

{ OrderID, ITEMNO } → { QTy, Discount, Price per item, productID }

⇒ As (orderID + ITEMNO) is a super key, so our relation is in Boyce Codd Normal form

3. Order_Info

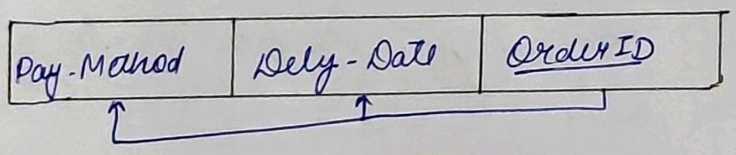


Functional Dependencies :→

Order_ID → { Order Date, Status, client ID }

⇒ OrderID is a superkey, our relation is in Boyce Codd Normal Form.

4. Fulfilled

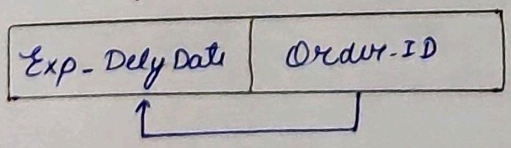


Functional Dependencies :→

Order.ID ⟶ Dely-Date
Order_ID ⟶ Pay-Mathod

⇒ As orderID is a superkey. Therefore, relation is in Boyce-Codd Normal Form.

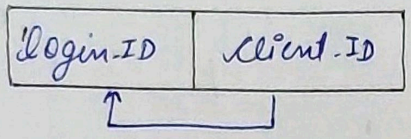
5. In Progress



Order_ID → Exp-Dely Date

⇒ As order_ID is a superkey, so relation is in Boyce. Codd Normal Form.

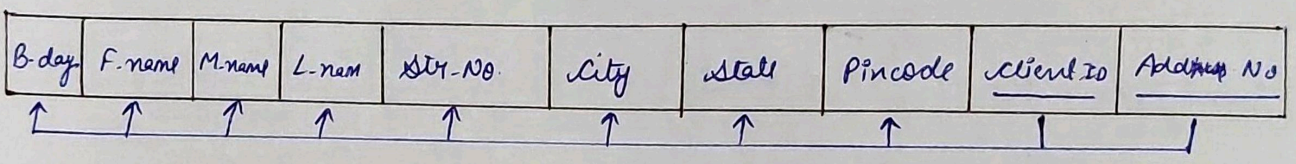
6. Client



Functional Dependencies :→ Client_ID → { Login_ID }

⇒ As client_ID is superkey. so our relation is in Boyce - Codd Normal form.

7. Individual



Functional Dependencies :→

Addhar No → { Bday, F-name, M-name, L-name, str-no, city, state, pincode }

Client No → { B.day, F-name, M-name, L-name, str-no, city, state, pincode }

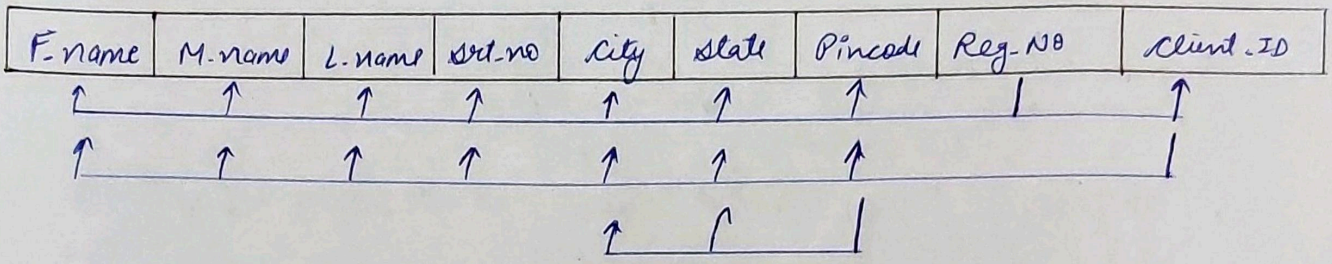
Pincode → { city, State }

(a) Pincode is not a superkey, so our relation is not in Boycee - Codd Normal form

(b) city and state are not prime attributes, so our relation is not in third normal form.

(c) Every non-prime attribute is fully functionally dependent on super key. Therefore, our relation is in second Normal form.

8. Firm



Reg_No → { F_name, M_name, L_name, Srt_no, city, state, pincode, client_No }

client_No → { F_name, M_name, L_name, Srt_no, city, state, pincode }

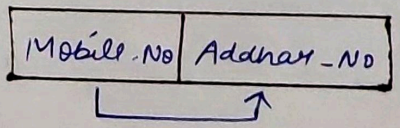
Pincode → { city, state }

⇒ Here we can see that pincode is not super key, hence our relation is not in BCNF.

⇒ City and state are not prime attribute, therefore our relation is not in 3rd normal form.

⇒ In the relation, every non-prime attribute is fully functionally dependent on super key, therefore our relation is in 2nd normal form.

9. Mobile_No :→

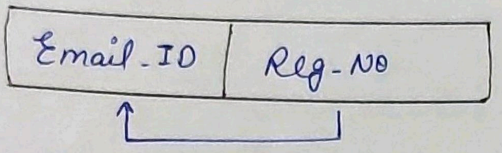


Functional Dependencies :→

Mobile_No → Addhar_No.

⇒ As Mobile_No is super key, this relation is in BCNF.

10. Email_ID



Functional Dependencies →

Reg_No → { Email_ID }

⇒ Here, Reg_No is a superkey, therefore our relation is in Boyce-Codd Normal Form.