30/9/25

Task 8:- Normalizating database using function dependencies

AIM

To perform upto BCNF based on given dependencies.

E-commers Database

1. Identify E-commers attributes:- user, order, categories
2. Relational schema :- E-commers (users, Product, payment, Reviews)
3. Functional dependency (FD's blw attributes:
   User ID :- Name, Email, phone
   Product ID :- Product, Name, Category ID,
   Category ID :- Category - Name
   Order ID :- Payment ID.

Step 2:- Convert to 1NF

* No repeating groups or arrays
* All attributes are atomic

Step 3:- Convert to 2NF

All primary key are single column keys. So no partial dependence exist

O/P

The ~~S~~ Scheme to already in 2NF

Steps:- Convert to 3NF

Eliminate Transitive Dependencies

* Product ID → Category ID → Category-Name
* User ID → Numerical-Email, Address
* Order ID → User ID → User details

Using Griffith tool

1. Input relation schema or dependency graph
2. Griffith tool generate a dependency
3. Verify the resulting scheme

Normalizing Scheme

User (UserID, Name, Email)

Categories (Category ID, Name of the category)

Product (Product ID, Name, Price)

Order (Order ID, Product ID, Quantity)

VEL TECH	
EX NO.	8
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	15
TOTAL (20)	
SIGN WITH DATE	30/09/25

Result

Thus the database of normalizing the database is executed successfully.