Date
9-10-25

Task 8

Normalizing DataBases using Fundatinal Dependency

Aim:- To normalize the employee database up to BCNF we decompose the schema using functional dependencies to estimate Redundacy.

Initial Relatinal Schema:

Employee (Employee_id, name, Dept, Job-little, manager_id, Hire_Data, Salary)

Functinal Dependancy

* Employee-ID -> name, Dept, Job-little, manager-id, wire-data, Salary)
* Department -> manager ID
* Manager-ID -> Name.

Step by Step normalization

1NF (First normal form)

- no repeating groups (or) arrays in schema.
- already in 1NF

2NF (Second Normal Form)

- Remove, partial dependencies.
- However, BCNF FDs suggest

dependency rest on primary key.

Decomposition

→ Employee (Employee-ID, name, Dept-ID Job title, hire-date Salary)

→ Department (Dept-ID, manager-ID, name)

3NF (third normal form)

→ Eliminate ofensitivic dependency is D-manager-k name

(transitive via)

Department → manager-ID

Updated tables

Employee Employees, ID, name, Department-ID, Job-tittle, Hire Date, Salary)

Department (Dept-ID, Manager-ID)

manager (manager-ID, name)

BCNF

→ every determinate must be a candidate key

→ all remaining PDS Wer determinats that are candidate keys.

* Employee-ID
* Department-ID
* Manager-ID.

Find BCNF

Employee (Employee-ID, Name, Dept-ID
Job title, hire date Salary);

Department (Dept-ID, Manager-ID);
Manager-ID, Name.

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EX NO.	08
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	-
TOTAL (20)	15
SIGN WITH DATE	

29/10

Result: Thus, the database was normalized to BCNF by decomposing it into employee department * manager table based on functional dependency.