10/25 Task-8

normalizing database using functional dependence upto BCNF

Aim: To Normalize database using function dependent upto BCNF

Ex: we decompose the schema using functional dependencies to estimate Redundancy

Initial Relation schema:

Employee (Employee, ID, name, dept, Job-title, manager, IW, Hire, Data, salary)

Functional Dependency

* Employee - ID - Name, Dept, Job-title, manager-ID, wire-Date, salary)
* Department - manager ID
* manager - ID → Name.

Step by step Normalization

1DF (First Normal Form)
- No repeating groups (or) arrays in schema.
- Already in 1NF

2DF (Second Normal Form)
- Remove partial dependencies
- However, PDLF FDS suggest dependencies not on primary key

Decompositions:

→ Employee (Employee-ID, Name, Dept-ID, Job title, Hire-Data sal.

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

3NF : (Third Normal Form)

-) Eliminate transitive dependency is D-manager
- to Name
(transitive via)
Department → manager_ID

Updated Tables

Employe Employees, ID, Name, Department ID
Job - title, Hire Date, salary)
Department (Dept_ID, manager_ID)
managen (manage_ID, Name)

BCNF

-) Every determinate must be a candidate key
-) all remaining FDS here determinants that are candidate keys
* Employee_ID
* Department_ID
* manager_ID

No Decomposition is needed

Find BCNF :

Employee (employee_ID, Name, Dept_ID, Job-title, Hire data salary);
Departments (Dept_ID, manager_ID)
manager (manager_ID, Name)

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Reg No. - ID, Name)	8
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	5
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Result: Thus, the database was normalized to BCNF by decomposing It into employes, department & manager tables based on Functional dependency