30-9-25

Task 8: Normalizing Database using Functional Dependencies upto BCNF

1. Identify Doctor attributes: Doctor-ID, Name, Department, Job-Title, Hire-Date, Salary

2. Define relational schema: Doctor (Doctor-ID, name, Department, Job-Title, Hire-Date, salary)

3 Determine Functional Department Between attributes:

- Doctor-ID -> Name, Department, Job-Title, Hire-Date, Salary - Department-ID -> Name

step 2: convert to 1NF

1. Eliminate repeating group or arrays
2. create separate tables for each repeating group.

step 3: convert to 2NF

1. Ensure each non-key attribute Depends on the entire primary key
2. move non-key attributes to separate tables If they Depend on only part of key

*create Depart table: Department (Department-ID, Name).

*create Doctor table: Doctor (Doctor-ID, Name, Department-ID, Job-Title, Hire-Date, Salary)

Step 4: convert to 3NF.

1. Ensure there are no transitive
2. move non-key attributes to seperate tables if they depends on another non-key

- create patient table: patient(Patient ID, name)

Step 5: convert to BCNF

1. Ensure every determinant is a candidate key
2. check for overlapping candidate key
3. Decompose relation to eliminate redundancy

using Graffity Tool

1. Input relational scheme and functional dep
2. Griffity tool generates a Dependency graph
3. Analyze the graph to identify normalization
4. Apply normalization to identify scheme

Graffity Tool steps

1. create a new project in graffity
2. Define the relational scheme and FDs
3. Run the "Dependency Graph" tool.
4. Analyze the graph for normalization.
5. Apply transformations using "Normalize" tool

VEL TECH	
EX NO.	8
PERFORMANCE (5)	5
RESULT AND ANALYSIS (5)	5
VIVA VOCE (5)	5
RECORD (5)	-
TOTAL (20)	15
SIGN WITH DATE	30/9

Result: Thus the normalizing database using functional dependencies upto BCNF is done successfully.