Experiment-10

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Section/Group: B
Semester: 7
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Subject Name: Advanced Database Management Lab
Subject Code: CSP - 434

1. Aim/Overview of the practical:

To implement a Case Study on Functional dependency with examples for redundant functional dependencies

2. Task to be done:

To implement a Case Study on Functional dependency with examples for redundant functional dependencies

3. What is a functional dependency?

A functional dependency is a relationship that exists between two attributes. It typically exists between the primary key and non-key attribute within a table.

4. What are the types of Functional Dependencies?

Trivial functional dependency

- A → B has trivial functional dependency if B is a subset of A.
- The following dependencies are also trivial like: A → A, B → B

Non-trivial functional dependency

- A → B has a non-trivial functional dependency if B is not a subset of A.
- When A intersection B is NULL, then A → B is called as complete non-trivial.

5. Steps to be followed:

1. Ensure singleton attribute on the right hand side of each functional dependency.
2. Remove extraneous (redundant) attribute from the left hand side of each functional dependency.
3. Remove redundant functional dependency if any.

6. Example:

$R(A, B, C)$

$F = \{A \to B, B \to A, A \to C, C \to A, B \to C\}$

$A \to B$ is not redundant.

$B \to A$ is redundant hence we remove it.

$A \to C$ is redundant hence we remove it.

$C \to A$ is not redundant.

$B \to C$ is mandatory.

$F_c = \{A \to B, C \to A, B \to C\}$

3. Result/Output/Writing Summary:

- Successfully implemented FUNCTIONAL DEPENDENCIES.
- Successfully implemented removing FUNCTIONAL DEPENDENCIES.
- Successfully understood the functioning and importance of the above mentioned.

4. Learning outcomes (What I have learnt):

- How to implement MINIMAL CLOSURE.
- How to implement FUNCTIONAL DEPENDENCIES.
- How to implement removal FUNCTIONAL DEPENDENCIES.

Evaluation Grid (To be created as per the SOP and Assessment guidelines by the faculty):

Sr. No.	Parameters	Marks Obtained	Maximum Marks
1.			
2.			
3.			