

Task 1:

The following table is in 3NF but not in BCNF because of this anomaly: if Sutton drops out of the Condors team, then we have no record of Bachmann leading the Condors team.

Simplest way to avoid the delete anomaly is to create a separate table for each conception.

These two tables are partially redundant to avoid the delete anomaly. This decomposition is lossless and retains functional dependencies, but also degrades upgrade performance due to redundancy and requires additional space.

Task 2:

A) WardName --> staffName

WardName --> patientName

Relation is BSNF, but there is related multivalued dependency, so it is not in 4NF

B)

Insertion Anomalies:

- After Insertion of a new patientName we need to add more than 1 record (+1 record for each staff member)
- If we want to update the name of the patient we need to update it for all records with that patientName
- On deletion of the patient we need to delete 2 records (1 for each staff member which is related to that patient)

C)

We need to provide two new tables:

Ward_Patient(wardName,patientName)

Ward_Staff(wardName,staffName)