KUPPI SERIES II

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NORMALIZATION

- Technique of organizing data in database.
- Normalization used for reduce redundancy
- Normalization ensure data dependencies
- Eliminating data redundancy (repetition) known as Anomalies
- Types of Anomalies
  - o Insertion Anomalies
  - o Deletion Anomalies
  - o Update Anomalies
- **Insert** Anomalies: Makes the Relation with NULL Values for certain Attributes
- **Deletion** Anomalies: Multiple Information will be deleted along with a record has been removed
- **Updation** Anomalies : In a situation where data has not been updated (Data inconsistency)

RELATIONAL SCHEME

Student (<u>Admission no</u>, name, age, salary)
Marks (Admission no, marks1, marks2)

KEYS

Candidate Key - uniquely identify the other attributes of the table
Alternative Key – keys which are not selected as the primary key
Primary Key - column in a relational database table that's distinctive for each record
Foreign Key – primary used in another table

PROCESS OF NORMALIZATIONS

Zero Normal Form
First Normal Form
Third Normal Form
BCNF (Boyce and Codd Normal Form)

DEPENDENCIES

Functional Dependencies If the information stored in a table can uniquely determine another information in the same table
Partial Dependencies when a nonprime attribute is functionally dependent on part of a candidate key.
Transitive Dependency When an indirect relationship causes functional dependency

NORMAL FORM	PROCESS
First Normal Form	- Must contain a Primary Key - Values must be under same domain - Atomic valued attribute
PRIMARY KEY	
Second Normal Form	- It should be in the First Normal Form - It Should not have Partial Dependency
PRIMARY KEY → NON-PRIMARY KEY ATTRIBUTE	
Third Normal Form	- It should be in Second Normal Form - It Should not have Transitive Dependency
NON-PRIMARY KEY → NON-PRIMARY KEY	
BCNF	- Must be in Third Normal Form - X Should contain a Super Key