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Computer Science IInd Year (Morning) Prepared By
Subject - DBMS (Shardha Vaish)

Relational Database system are expected to be equipped with a query language that can assist its users to query the database instances. There are two kind of query language.

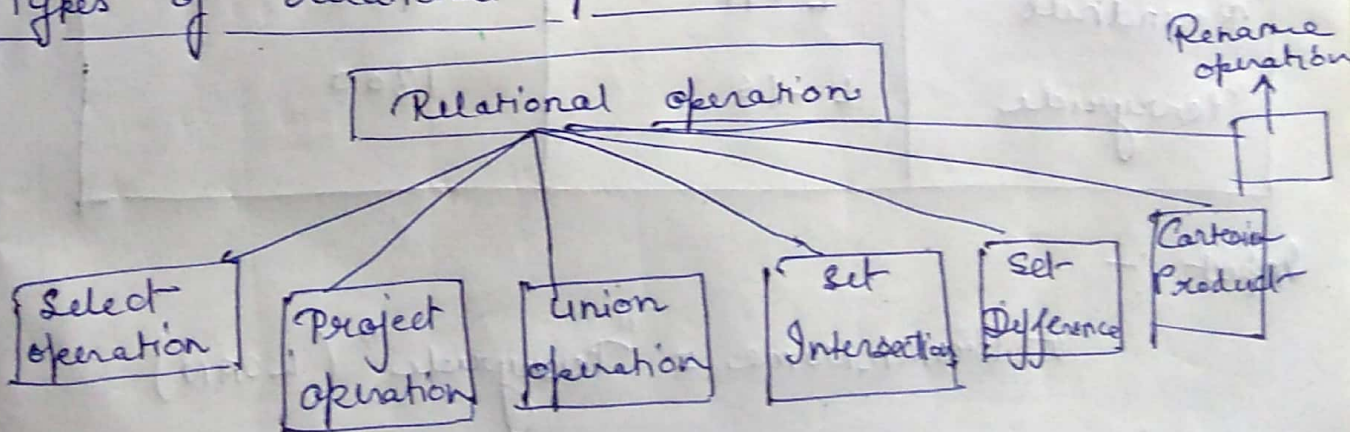
- 1) Relational Algebra
- 2) Relational Calculus

Relational Algebra

Relational Algebra is a procedural query language, which takes instances of Relation as input and yields instances of relation as output. It uses operators to perform query.

- ⇒ An operator can be either unary or binary
- ⇒ Relational algebra is performed recursively on a relation on a relation and intermediate result are also considered relation.

Types of relational operation



Select operation

- ⇒ The select operation selects tuples that satisfy a given predicate.
- ⇒ It is denoted by Sigma (σ)

Notation :- $\sigma P(R)$

Where :-
 σ is used for selection predicate
 R is used for relation
 P is used as a propositional logic formula which may use connector like AND OR and NOT, these relational can use as relational operator like
 $= \neq > < > \leq$

For example :- LOAN Relation

Branch-Name	Loan-No	Amount
Downtown	L-17	1000
Redwood	L-23	2000
Perryridge	L-15	1500
Downtown	L-14	1500
Mianus	L-13	500
Roundhill	L-11	900
Perryridge	L-16	1300

Input :-

σ Branch-Name = "Perryridge" (LOAN)

Output :-

Branch-Name	Loan-No	Amount
Perryridge	L-15	1500
Perryridge	L-16	1300