TRUNCATE:

The truncate command in SQL is used to quickly and efficiently remove all rows from the table, effectively resetting it to an empty state

SYNTAX

TRUNCATE TABLE table_name;

Eg: truncate table IICSEB;

RENAME: (without alter)

to rename the table

SYNTAX

RENAME TABLE OldTableName To NewTableName

Eg:

RENAME TABLE Books To List of Books.

DROP

It is used to delete a table from the database.

SYNTAX

DROP TABLE Table.Name;

Eg:

DROP TABLE HR;

RELATIONAL ALGEBRA (1 unit topic)

Query Language:

⇒ A Query language is a language in which a user requests information from the database.

⇒ a Language which is used to store and retrieve data from database.

⇒ Two types

- Procedural Query Language
- Non-Procedural Query Language

Procedural Query Language

⇒ user instructs the system to perform a sequence of operations on the database to compute the desired result.

⇒ users tells what data to be retrieved from database and how to retrieve it

Eg: Relational algebra

Non-Procedural Query Language

=> users describes the desired information without giving a specific procedure for obtaing that information

⇒ user tells what data to be retrieved from database but doesn't tell how to retrieve it

Eg: Relational calculus.

Relational Algebra

⇒ conceptual procedural query language used on relational model

Relational calculus:

⇒ conceptual non-procedural query language used on relational model.

Relational algebra and calculus are the theoretical concepts used on relational model

SQL is a practical implementation of relational algebra and relational calculus.

Relational Algebra

⇒ Procedural query language that works on relational model.

⇒ it tells what data to be retrieve and how to be retrieved

⇒ Takes relational as input and generate relation as output.

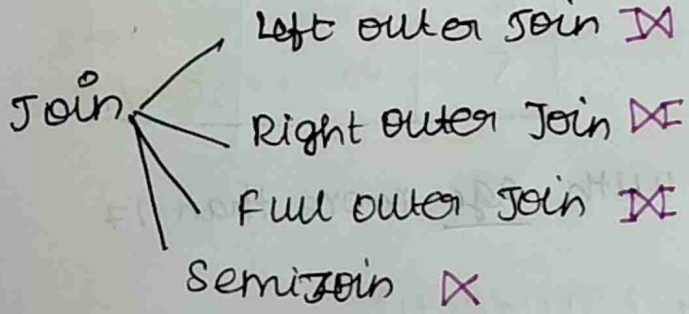
⇒ It uses operators to perform queries

→ Relational algebra works on the whole table at once, so we do not have to use loops etc to iterate over all the rows (tuples) of data one by one.

RELATIONAL ALGEBRA - OPERATIONS

Long answer

- ☆ Select → (σ)
- ☆ Project (π)
- ☆ Rename (ρ)
- ☆ union (∪)
- ☆ Intersect (∩)
- ☆ set difference (−)
- ☆ cartesian product (×)
- ☆ Join (⋈)
- ☆ Assignment (←)
- ☆ Division operator (÷)



Select

⇒ used to select the required tuples of data from a relation

⇒ denoted by sigma (σ)

- σ -> Selection predicate
- P -> Propositional logic (where we specify the conditions - may use connectors like:

AND, OR and NOT. These relational can use as relational operators like

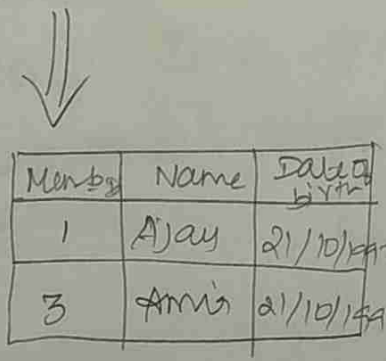
=, ≠, ≥, <, >, ≤)

- r -> relation.

Eg:

Query: Details of the members who were born on 21/10/1997

$\sigma_{\text{Date of birth} = 21/10/1997}(\text{Member})$



Member Id	Name	Date of birth
1	Ajay	21/10/1997
3	Amir	21/10/1997

Member (table name)

Mem Id	Name	Date of birth
1	Ajay	21/10/1997
2	Arun	7/6/1999
3	Amir	21/10/1997
4	Aksaj	6/7/1998
5	Kanchana	20/7/1999

Query: Students with age more than 17

$\sigma_{\text{age} > 17}(\text{students})$

Query: Select male students, for which age will greater than 17

$\sigma_{\text{age} > 17 \text{ and gender} = \text{'Male'}}(\text{Stud}$