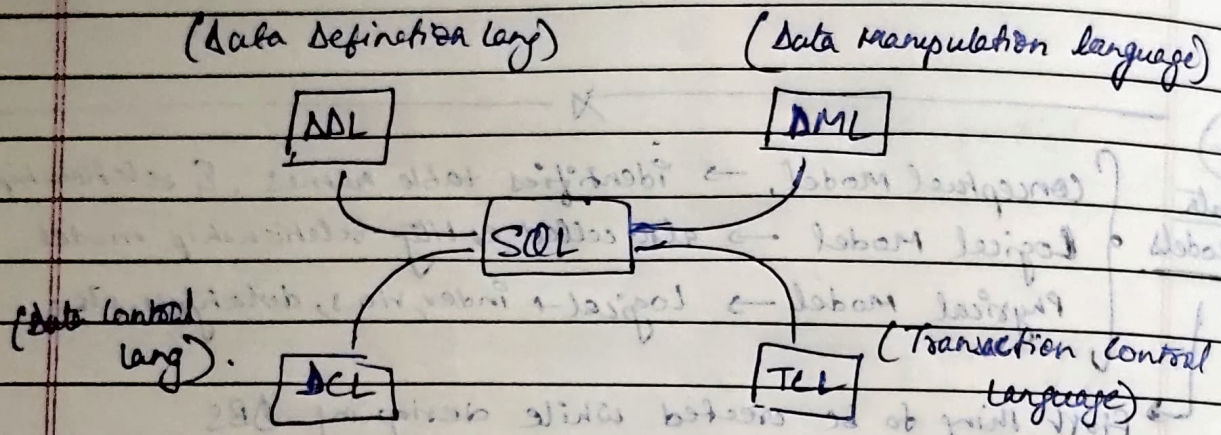
PAGE No.
DATE / /

Section 3 → SQL Basics

① → SQL (or) Structured Query language is used to manage data in all relational databases. Company → Oracle.
SQL standards are maintained by ISO.

②



(i) DDL → Used to specify the structure i.e the schema of a relational database.
Output contains metadata (data about data).

Create, Alter, Drop (delete), Truncate (Remove all rows from table)

(ii) DML → Requires a user to specify what data is needed without specifying how to get it.

Enables manipulation & access to database.

Insert, Update, Delete, Select (Retrieve data from table).

PAGE No.
DATE / /

(iii) **DCL** → Manages access to databases. Composes query key wrt to privilages given by DB Admin.

Grant, Revoke.

(iv) **TCL** → A transaction consists of a seq of SQL statements that are applied in an atomic (all or none) manner.

Commit (Save DB changes & end transaction), Rollback (Undo all changes not commited)

(3) Data types & Operators in SQL.

(i) Data types → Char data type (varchar2 → for var length char).
→ Integral (38 digit precision). (smallint, int, integer)
→ Non-integral (integer & fractional part (*))
→ Misc (date, timestamp, CLOB, BLOB (images, etc))

(ii) Operators → Arithmetic operators.
→ Comparison operators.
→ Logical operators.

[Only diff '=' is common for assignment & comparison.]

(*) Scale is number of digits allowed after decimal points.
→ Precision is total number of significant digits.
∴ Number(x, y) where y → No: of digits after decim.
x−y → No: of digits before decimal

Additional operators:

(*) → Range → Between <x> & <y> } inclusive.
List → IN } Dep IN {'IVS', 'ETA'}
String pattern matching → LIKE
Null test → IS NULL

PAGE No.
DATE / /

Section 4 → DDL Statements :

① →

Create command & Drop Command

~~CREATE TABLE~~ Student (→ Table Name.

StudentID INTEGER, → Seperated by (',')

FName VARCHAR2(10), → Data Types

DOJ DATE → Data Types

(Column Name → StudentID, FName, DOJ)

)

~~(Insertion of Data).~~

(*All tablenames & columnnames must be unique.)

DROP TABLE Student.

② → ~~A child table must be dropped before parent table.~~

DROP TABLE Student CASCADE CONSTRAINTS. } Allows you to drop Parent tables before child Tables.

③ Constraints → Integrity in DB is enforced using constraints.

Column lvl constraints are defined with column def.

Table lvl " " " after " ".

Various types → NOT NULL

PRIMARY KEY

CHECK → (Limit the values, Eg:- Gender limited to M, Fem & others).

UNIQUE

FOREIGN KEY.

DEFAULT (Not a constraint in Oracle) → Describes default values if non given.

All are self explainotory!

PAGE No.
DATE / /

4) Alter Command

ALTER TABLE TableName (ADD/MODIFY/RENAME COLUMN ... TO ... / DROP/ADD CONSTRAINT/DROP CONST.)

Section 5 → DML statements.

1) → Insert Command

→ Used to add tuples (records/rows) to the table. Supports 3 syntax.

i) INSERT INTO Student
VALUES (1, 'James', '01-Jun-2014', NULL)

ii) INSERT INTO Student
(Batch, SName, DOB, Designation)
VALUES (same as i)

iii) INSERT INTO Student
(Batch, SName, DOB, Designation)
SELECT QUERY.

→ Multiple rows can be inserted using single INSERT command using select statement.

P.T.O.

PAGE No.
DATE / /

(2) Select → The most common command used in SQL.
Used to retrieve (or fetch) data.

⇒ Select command can even fetch entire table if needed.

→ SELECT */NameofAtt FROM TName. WHERE condition.
(if only part needed)

AS → can also be used (Next page).
LIKE → " . " " in condition.

(3) Update →

⇒ UPDATE TName SET Salary = Salary * 1.2, Bonus = 100 WHERE
Mandatory. (If condition needed)

(4) Delete & Truncate →

⇒ DELETE FROM TName WHERE ---- } Delete rows

TRUNCATE TABLE (Emp) TName } Deletes all rows.

If whole table needs to be deleted