1. Data Definition Language (DDL) commands in RDBMS.

It is used to communicate with database. DDL is used to:

- Create an object
- Alter the structure of an object
- To drop the object created.

The commands used are:

- Create
- Alter
- Drop
- Truncate

CREATE TABLE

The Create Table Command: - it defines each column of the table uniquely. Each has minimum of three attributes, a name , data type and size.

Syntax:

CREATE TABLE <TABLE NAME> (<COL1> <DATATYPE>(<SIZE>),<COL2> <DATATYPE><SIZE>));

Example:

1. CREATE TABLE EMP(EMPNO NUMBER(4) PRIMARY KEY, ENAME CHAR(10));

2. CREATE TABLE PROG20 (PNAME VARCHAR2(20) NOT NULL, DOJ DATE NOT NULL,
DOB DATE NOT NULL, SEX VARCHAR(1) NOT NULL, PROF1 VARCHAR(20),
PROF2 VARCHAR(20),SALARY NUMBER(7,2) NOT NULL);

3. CREATE TABLE EMP (EMPNO NUMBER(5), ENAME VARCHAR(15),
JOB CHAR(10) CONSTRAINT UNIK1 UNIQUE,
DEPTNO NUMBER(3) CONSTRAINT FKEY2 REFERENCES DEPT(DEPTNO));

Rules:

1. Oracle reserved words cannot be used.
3. Underscore, numerals, letters are allowed but not blank space.
3. Maximum length for the table name is 30 characters.
4. 2 different tables should not have same name.
5. We should specify a unique column name.
6. We should specify proper data type along with width.
7. We can include “not null” condition when needed. By default it is ‘null’.

ALTER TABLE

Alter command is used to:

1. Add a new column.

2. Modify the existing column definition.
3. To include or drop integrity constraint.

Syntax: alter table tablename add/modify (attribute datatype(size));

Example:
1. ALTER TABLE EMP ADD (PHONE_NO CHAR (20));
2. ALTER TABLE EMP MODIFY(PHONE_NO NUMBER (10));
3. ALTER TABLE EMP ADD CONSTRAINT Pkey1 PRIMARY KEY (EmpNo);

Modifying the structure of tables.
a) Add new columns
Syntax:
ALTER TABLE <TABLENAME> ADD(<NEWCOL> <DATATYPE(SIZE), <NEWCOL>DATATYPE(SIZE));
Example:ALTER TABLE EMP ADD(SAL NUMBER(7,2));

Dropping a column from a table.
Syntax: ALTER TABLE <TABLENAME> DROP COLUMN <COL>;
Example:ALTER TABLE EMP DROP COLUMN SAL;

Modifying existing columns.
Syntax: ALTER TABLE <TABLENAME> MODIFY(<COL><NEWDATATYPE>(<NEWSIZE>));
Example:ALTER TABLE EMP MODIFY(ENAME VARCHAR2(15));

RENAMING THE TABLES
Syntax: RENAME <OLDTABLE> TO <NEW TABLE>;
Example: RENAME EMP TO EMP1;

DROP TABLE
It will delete the table structure provided the table should be empty.
Syntax: DROP TABLE <TABLENAME>;
Example: DROP TABLE PROG20; //Here prog20 is table name

TRUNCATE TABLE
If there is no further use of records stored in a table and the structure has to be retained then the records alone can be deleted.
Syntax: TRUNCATE TABLE <TABLE NAME>;
Example: TRUNCATE TABLE CUSTOMER;

DESC
This is used to view the structure of the table.
Syntax: DESC <TABLENAME>;
Example: DESC EMP;

NAME	NULL?	TYPE
EMPNO	NOT NULL	NUMBER(5)
ENAME	NOT NULL	VARCHAR(15)
JOB	NOT NULL	CHAR(10)
DEPTNO	NOT NULL	NUMBER(3)
PHONE_NO		NUMBER (10)

DML COMMANDS

DML commands are the most frequently used SQL commands and is used to query and manipulate the existing database objects. Some of the commands are :

- Insert
- Select
- Update
- Delete.

INSERT Command

Insert Command This is used to add one or more rows to a table. The values are separated by commas and the data types char and date are enclosed in apostrophes. The values must be entered in the same order as they are defined.

Example:

First create a table named ***STD***

CREATE TABLE STD (SNO NUMBER(5),SNAME VARCHAR2(20), AGE NUMBER(5),
SDOB DATE,SM1 NUMBER(4,2),SM2 NUMBER(4,2),SM3 NUMBER(4,4));

To insert values into the STD table

Syntax:

INSERT INTO STD VALUES(101,"AAA",16,"03-JUL-88",80,90,98);

INSERT INTO STD VALUES(102,"BBB",18,"04-AUG-89",88,98,90);

SELECT Command

Select query is used to retrieve data from a tables. It is the most used SQL query. We can retrieve complete tables, or partial by mentioning conditions using WHERE clause.

Syntax:

SELECT column-name1, column-name2, column-name3, column-nameN from *table-name*;

Example:
Consider the following ***Student table****,*

S_id	S_Name	age	address
101	Adam	15	Noida
102	Alex	18	Delhi
103	Abhi	17	Rohtak
104	Ankit	22	Panipat

SELECT S_ID, S_NAME, AGE FROM STUDENT;

The above query will fetch information of S_ID, S_NAME and AGE column from Student table

S_ID	S_NAME	AGE
101	ADAM	15
102	ALEX	18
103	ABHI	17
104	ANKIT	22

Example to Select all Records from Table

A special character **asterisk** * is used to address all the data(belonging to all columns) in a query.

Select statement uses * character to retrieve all records from a table.

SELECT * FROM STUDENT;

The above query will show all the records of Student table that means it will show complete Student table as result.

S_ID	S_NAME	AGE	ADDRESS
101	ADAM	15	NOIDA
102	ALEX	18	DELHI
103	ABHI	17	ROHTAK
104	ANKIT	22	PANIPAT

Example to Select particular Record based on Condition
SELECT * FROM STUDENT **WHERE** S_NAME = 'ABHI';
103 ABHI 17 ROHTAK

Example to Perform Simple Calculations using Select Query

Conside the following **Employee** table.

EID	NAME	AGE	SALARY
101	ADAM	26	5000
102	RICKY	42	8000
103	ABHI	22	10000
104	ROHAN	35	5000

SELECT EID, NAME, SALARY+3000 FROM EMPLOYEE;

The above command will display a new column in the result, showing 3000 added into existing salaries of the employees.

EID	NAME	SALARY+3000
101	ADAM	8000
102	RICKY	11000
103	ABHI	13000
104	ROHAN	8000

UPDATE command

Update command is used to update a row of a table. A single column may be updated or more than one column could be updated.

Following is its general Syntax,
UPDATE *table-name* set column-name = value *where* **condition**;

Example:
UPDATE STUDENT SET AGE=18 WHERE S_ID=102;

S_ID	S_NAME	AGE
101	ADAM	15
102	ALEX	18
103	CHRIS	14

Example to Update multiple columns
UPDATE STUDENT SET S_NAME='ABHI',AGE=17 WHERE S_ID=103;

The above command will update two columns of a record.

S_ID	S_NAME	AGE
101	ADAM	15
102	ALEX	18
103	ABHI	17

DELETE command
Delete command is used to delete data from a table. Delete command can also be used with condition to delete a particular row. The delete command consists of a from clause followed by anoptional where clause.

Following is its general syntax,
DELETE from *table-name*;

Example to Delete all Records from a Table
DELETE FROM STUDENT;
The above command will delete all the records from **Student** table.

Example to Delete a particular Record from a Table
Consider the following **Student** table

S_ID	S_NAME	AGE
101	ADAM	15
102	ALEX	18
103	ABHI	17

DELETE FROM STUDENT WHERE S_ID=103;
The above command will delete the record where s_id is 103 from **Student** table.

S_ID	S_NAME	AGE
101	ADAM	15
102	ALEX	18