ALTER:

It is DDL command

ALTER => Change

- Alter Command is used to change structure of table

Note:
- to modify table data use UPDATE
- to modify table structure use ALTER

Using ALTER command we can:
- Add the Columns => ADD
- Rename the Columns => RENAME COLUMN
- Drop the Columns => DROP
- Modify the field sizes => MODIFY
- Modify the data types => MODIFY

```
SQL> create table student
  2  (
  3  sid number(10),
  4  sname varchar2(10),
  5  m1 number(10));

Table created.

SQL> insert into student values(&sid,'&sname',&m1)
```

```
  2  ;
```

```
SQL> /
Enter value for sid: 1001
Enter value for sname: AA
Enter value for m1: 67
old   1: insert into student values(&sid,'&sname',&m1)
new   1: insert into student values(1001,'AA',67)

1 row created.

SQL> /
Enter value for sid: 1002
Enter value for sname: BB
Enter value for m1: 85
old   1: insert into student values(&sid,'&sname',&m1)
new   1: insert into student values(1002,'BB',85)

1 row created.
```

```
SQL> select * from student;

       SID SNAME            M1
---------- ---------- ----------
      1001 AA                 67
      1002 BB                 85
```

Q Adding a column [m2 column]:

```
SQL> ALTER TABLE STUDENT ADD M2 NUMBER(5,2);

Table altered.
```

```
SQL> select * from student;

       SID SNAME            M1         M2
---------- ---------- ---------- ----------
      1001 AA                 67
      1002 BB                 85
```

Q Adding a column [m3,m4 column]:

```
SQL> ALTER TABLE STUDENT ADD(M3 NUMBER(3,2),M4 NUMBER (3,2));

Table altered.

SQL> select * from student;

       SID SNAME            M1         M2         M3         M4
---------- ---------- ---------- ---------- ---------- ----------
      1001 AA                 67
      1002 BB                 85
```

```
SQL> ALTER TABLE STUDENT RENAME COLUMN M4 TO MATH;

Table altered.

SQL> select * from student;

       SID SNAME            M1         M2         M3       MATH
---------- ---------- ---------- ---------- ---------- ----------
      1001 AA                 67
      1002 BB                 85
```

```
SQL> ALTER TABLE STUDENT RENAME COLUMN M3 TO ENG;

Table altered.


SQL> ALTER TABLE STUDENT RENAME COLUMN M1 TO HINDI;

Table altered.

SQL> select * from student;

       SID SNAME          HINDI       HIS       ENG      MATH
---------- ---------- ---------- ---------- ---------- ----------
      1001 AA                 67
      1002 BB                 85
```

Q Dropping a column [drop maths column]:

```
SQL> ALTER TABLE STUDENT DROP (MATH);

Table altered.
```

Q Dropping Multiple columns [drop ENG and HIS]:

```
SQL> ALTER TABLE STUDENT DROP (ENG,HIS);

Table altered.

SQL> select * from student;

       SID SNAME          HINDI
---------- ---------- ----------
      1001 AA                 67
      1002 BB                 85
```

```
SQL> SET PAGESIZE 80 LINESIZE 80
SQL> DESC STUDENT
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 SID                                                NUMBER(10)
 SNAME                                              VARCHAR2(10)
 HINDI                                              NUMBER(10)
```

Q Modifying Field size [increase HINDI field size from 10 to 12]:

```
SQL> ALTER TABLE STUDENT MODIFY HINDI NUMBER(12);

Table altered.

SQL> DESC STUDENT
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 SID                                                NUMBER(20)
 SNAME                                              VARCHAR2(10)
 HINDI                                              NUMBER(12)



SQL> ALTER TABLE STUDENT MODIFY SNAME VARCHAR2(5);

Table altered.
SQL> DESC STUDENT
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
```

```
SID                                       NUMBER(20)
SNAME                                      VARCHAR2(5)
HINDI                                     NUMBER(12)
```

EXAMPLE.....

```
SQL> DESC EMPLOYEE
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 EMNO                                       NUMBER(10)
 ENAME                                      VARCHAR2(10)
 ESAL                                      NUMBER(8,2)
 TA                                        NUMBER(8,2)
 HRA                                        NUMBER(8,2)
 TAX                                       NUMBER(8,2)

SQL> ALTER TABLE EMPLOYEE ADD GROSS NUMBER(8,2);

Table altered.

SQL> DESC EMPLOYEE
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 EMNO                                       NUMBER(10)
 ENAME                                      VARCHAR2(10)
 ESAL                                      NUMBER(8,2)
 TA                                        NUMBER(8,2)
 HRA                                        NUMBER(8,2)
 TAX                                       NUMBER(8,2)
 GROSS                                      NUMBER(8,2)

SQL> UPDATE EMPLOYEE SET GROSS=ESAL+ESAL*0.1+ESAL*0.2-ESAL*0.05;

3 rows updated.
```

SQL> SELECT * FROM EMPLOYEE;

EMNO	ENAME	ESAL	TA	HRA	TAX	GROSS
1001	A	8000	800	1600	400	10000
1002	B	8500	850	1700	425	10625
1003	C	7500	750	1500	375	9375