Constraints

Rules that are used to control the invalid data entry in a column.

Conditions that holds for the data.

Common constraints are as follows:

- Not Null
- Unique
- Primary key
- Foreign key
- Check

CONSTRAINT	DESCRIPTION
NULL	Allows NULL values in column.
NOT NULL	Specifies that a column must have some value.
UNIQUE	Specifies that columns must have unique values.
PRIMARY KEY	Specifies a column or a set of columns that uniquely identifies as row. It does not allow null values.
FOREIGN KEY	Foreign key is a column(s) that references a column(s) of a table.
CHECK	Specifies a condition that must be satisfied by all the rows in a table.
DEFAULT	Specifies some default value if no value is entered by the user.

Simple Table

CREATE TABLE < tablename> (

<column name1 > < datatype>,

<column name 2> < datatype>,

<column name 3> < datatype>,……);

Two ways for defining constraint

- **Column level**
- **Table level**

Without Constraint Name

CREATE TABLE < tablename>

(

<column name 1> < datatype> **unique,**

<column name 2> < datatype> ,

<column name 3> < datatype> **not null**,

primary key (<column name2>)

);

With Constraint Name

CREATE TABLE < tablename1> (

<column name 1> < datatype>,

<column name 2> < datatype>,

constraint < constraint name>

primary key (<column name1>),

constraint <constraint name>

foreign key (<column name2>)

references <tablename2> (<column name1>));

With Check Constraint

CREATE TABLE < tablename> (

<column name1 > < datatype> ,

<column name 2> < datatype>,

constraint < constraint name1 >

check (column name > 0));

Ex:

```
create table emp(
emp_id        number(5)       primary key,
emp_name      varchar2(15)    not null,
email_id      varchar2(15)    unique,
phoneno       number(10)      not null,
salary        number(8,2)     check (salary>0),
dept_id       number(5), foreign key (dept_id)
references dept (dept_id) );
```

Ex: create table emp(emp_id number(5) constraint cempid_pk primary key,
emp_name varchar2(15)
constraint cname_nn not null,
email_id varchar2(15)
constraint cmail_uk unique,
phoneno number(10)
constraint phno_nnnot null,
salary number(8,2)
constraint sal_ck check (salary>0),
dept_id number(5),
constraint dep_fk foreign key (dept_id) references dept (dept_id));

Adding constraint

Alter table tablename **add constraint con_pk primary key** (column name);

Alter table tablename **add constraint con_ck check** (column name > value);

Alter table tablename **add constraint con_fk foreign key**(column name) **references** tablename(column name);

Alter table tablename **add constrinat con_uk unique** (column name);

Alter table tablename **modify** (column name datatype constraint con_nn not null);

Removing primary key

ALTER TABLE <tablename> **drop primary key;**

Dropping a constraint

ALTER TABLE <tablename> **drop constraint** < constraint name > ;

Disabling/enabling a constraint

ALTER TABLE <table_name> **Disable|Enable| constraint constraint_name>;**

Note:

Constraint addition and column changing (datatype or decreasing the width) can be done only if column values are null.

TCL commands

Commit : To save permanently on the disk

Commit;

Savepoint : To make markers in a lengthy transaction

SAVEPOINT <savepoint name>;

Rollback : To undo changes till last commit

ROLLBACK;

To undo changes till a marker

ROLLBACK <savepoint name>;