Constraints in SQL database :-

NOTNULL :-

The NOTNULL constraint is used to ensure that a given column of a table is never assigned the null value.

Syntax :- Create table tablename
(column_name datatype(size) NOTNULL);

Ex :- Create table emp
(eid number(3),
name varchar2(30) NOTNULL,
Degn varchar2(20),
Sal number(5) NOTNULL,
dno. number(2));

Primary Key :-

The primary key constraint uniquely identifies each record in a table. A table can have only one primary key & this constraint cannot contain NULL values.

Primary key define at column level.

Syntax :- Create table tablename
(col-name datatype(size) primary key);

Ex :- Create table emp(eid number(3) primary key,
name varchar2(30) NOTNULL,

Degn varchar2(20),
Sal number(5) NOT NULL
dno. number(2));

Define at table level:-

Syntax:- Create table tablename
(Col_name1 datatype(size),
:
col_namen datatype(size),
primary key (col_name));

Ex:- Create table emp (eid number(3),
name varchar(30) NOT NULL,
degn varchar2(20),
Sal number(5) NOT NULL,
dno. number(2),
primary key (eid));

Naming of Constraint :-

Syntax:- constraint <constraint name> constraint def^n;

Naming column level:-

Syntax:- Create table tablename
(col-name datatype(size)
constraint ~~pk~~ (constraint name) constraint def);

Ex:- Create table emp
(eid number(3). constraint pk_c Primary key);

Naming table level :-

Syntax: Create table tablename (col_name datatype(size),
:
col_namen datatype(size),
Constraint <constraint name>
constraint defn);

Ex:- Create table emp(eid number(3),
name varchar2(20)
Constraint PK_E_constraint primary key(eid));

Display table's constraint name :-

Syntax:- Select constraint_name,
constraint_type,
from user_constraints
where table_name = <'tablename'>;

Ex:- Select constraint_name,
constraint_type,
from user_constraints
where table_name = 'EMP';

UNIQUE KEY :-

→ Like primary key it has the uniqness property. Like primary key, the unique key doesnot allow duplicate values.

->So it combe of one column or more the one column. The basic difference the primary key & unique key.

i-> The primary key does not allow null value bcu the unique key allow null value.

ii-> Only one primary key is allow in table bcu in table more than one unique key is allow.

At column level :-

Syntax: Create table <tablename>
(col_name datatype (size)
constraint constraintname UNIQUE);

Ex: Create table emp
(eid number (3) constraint pk_e primary key,
name varchar2(30) constraint UNQ_N UNIQUE,
degn varchar2(20),
sal number(5) NOTNULL,
DOB date constraint UNQ_D UNIQUE);

At table level :-

Syntax :- Create table <tablename>
(col1 datatype (size)
col2 datatype (size)
:
coln datatype(size)
constraint <constraintname> UNIQUE(col));

Ex:- Create table emp (eid varchar2(10),

ename varchar2(30),
degn varchar2(20),
sal number(6) NOTNULL,
dob date,
dno number(3),
constraint PK_e primary key (eid),
constraint UNQ_d UNIQUE (ename,dob));

CHECK constraint :-

The CHECK constraint is used to limit the value range that can be placed in a column. If define a check constraint on a column it will allow only certain values for this column.

At column level :-

Syntax : Create table <tablename>
(col_name datatype (size) check (condition));

Ex:- Create table emp
(eid number(3) primary key
ename varchar2(10) UNIQUE,
gender varchar2(1) check (gender IN(M,F,T)));

At table level :-

Syntax: Create table <tablename>
(col name datatype (size),
constraint <constraint name> check(expression));

Ex:- Create table emp

```
(eid varchar2(10),
 ename varchar2(20),
 degn varchar2(10),
 sal number(6),
 gender varchar2(1),
 dno number(2),
 constraint pk_eid primary key(eid),
 constraint en_cn UNIQUE(ename),
 constraint ck_gender check(gender IN('M','F','T')),
 constraint ck_sal check(sal between 10,000
                         and 100000));
```

Foreign Key Constraint :-

-) Referential integrity constraint can be implimented by the concept of foreign key.

-) It is use to maintain consistency among rows in table.

-) It is use to maintain relationship among table or relations.

-) A foreign key set of attributes & columns which value is derived from primary key or unique key of some other table or same table called