

CHECK CONSTRAINT

Check constraints allow Oracle to verify the validity of data being entered on a table against a set of constant values. These constants act as valid values. The Check constraint consists of the keyword CHECK followed by parenthesized conditions. Check constraints must be specified as a logical expression that evaluates either to TRUE or FALSE. If an SQL statement causes the condition to be false an error message will be displayed.

Syntax of the check constraint is:

Column level syntax

Columnname datatype (size) [constraint constraintname] CHECK (logical expression)

Example

- Create a table EMP1 with empid as primary key, phone number as unique attribute and the salary of all the employees must be greater than 5000, address and phone_no are the other fields.

```
SQL> CREATE TABLE emp1
(empid number (10),
 salary number (10, 3) CHECK (salary > 5000),
 home_phone number (12),
 CONSTRAINT pk_empid
 PRIMARY KEY (empid),
 CONSTRAINT uk_phone UNIQUE (home_phone));
```

If, for example, someone tries to create an employee row for the table defined earlier with a salary of Rs. 1000, Oracle will return an error message saying that the record data defined for the SALARY column has violated the check constraint for that column.

Example

- Create a table emp1 with empid as primary key, phone number as unique attribute and the department of the employees must be either general or accounts with name and class as the composite primary key, address and phone_no are the other fields.

```
SQL> CREATE TABLE emp1
(empid number (10),
 deptname varchar2 (20) CHECK deptname in ('general', 'accounts'),
 home_phone number (12),
 CONSTRAINT pk_empid
 PRIMARY KEY (empid),
 CONSTRAINT uk_phone UNIQUE (home_phone));
```

Another Example

```
CREATE TABLE emp(
code CHAR(4) PRIMARY KEY, name VARCHAR2(15) NOT NULL,
department CHAR(10) CHECK (department IN ('mkt', 'sales', 'Acct'))
age NUMBER CHECK (age between 18 and 55),
basic NUMBER);
```

Limitations of Check Constraints

Check constraints have a number of limitations, these are:

- A column level check constraint cannot refer to another column of any table.
- It cannot refer to special keywords that can have values in them, such as user, sysdate or rowid.

Violations of Check Constraint

The check constraint in the table definition earlier is valid, but the one in the following excerpt from a table definition is not:

```
CREATE TABLE address
(.....,
city VARCHAR2(80) check(city in (SELECT city FROM cities))
...);
```

-- It is invalid because here check constraint refers a column of different table through SELECT statement.

Table level syntax

Check (logical expression)

Example

```
SQL> CREATE TABLE emp1
(empid number (10),
 salary number (10, 3),
 comm number (10, 3),
 home_phone number (12),
 CONSTRAINT pk_empid PRIMARY KEY (empid),
 CONSTRAINT uk_phone UNIQUE (home_phone),
 CHECK (salary > comm));
```

Example

```
SQL> CREATE TABLE emp1
(empid number (10),
 salary number (10, 3), Home_phone number (12),
 CONSTRAINT pk_empid PRIMARY KEY (empid),
 CONSTRAINT uk_phone UNIQUE (home_phone),
 CHECK (salary < 500000));
```