SNS COLLEGE OF ENGINEERING

Kurumbapalayam (Po), Coimbatore – 641 107

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DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

COURSE NAME : 19CS402 - DATABASE MANAGEMENT SYSTEMS

II YEAR / III SEMESTER

Unit – 2

Integrity Constraints

Integrity Constraints

- It is mechanism used to prevent invalid data entry into the table.

- Types
  - Domain integrity constraints
  - Entity integrity constraints
  - Referential integrity constraints

Domain integrity constraints

- It is column level constraints

1. Not null constraint
2. Check constraint

Not null constraint

It is used to enforce the particular column will not accept null values.

<u>Example</u>

SQL>create table emp1

(eno number(5) notnull,

ename varchar2(20) notnull,

salary number(8,2),

job varchar2(15));

SQL>create table emp2

(eno number(5) constraint emp21 notnull,

Ename varchar2(20) notnull,

Salary number(8,2),

Job varchar2(15));

(emp21 is constraint name. It is optional)

Check constraint

- It is used to specify the conditions that each row must satisfy.

Example

SQL>create table emp3

(eno number(5),

Ename varchar2(20),

Salary number(8,2),

Comm number(5,2) check (comm<1000));

Example

SQL>create table emp3

(eno number(5),

ename varchar2(20),

salary number(8,2) constraint sal check (salary>3000));

Note:

It a value less than 3000 is entered for salary, then it will produce error saying that the constraint has violated.

Entity Integrity Constraints

- Types
  - Unique constraint
  - Primary key constraint

Unique constraint

- Unique constraint is used to prevent duplication of values, but it allows null value for the column.

- Example

SQL>create table emp5

(eno number(5) unique,

ename varchar2(20),

salary number(8,2),

job varchar2(15));

Primary key constraint

- Primary key = notnull +unique.

- It is used to prevent duplication of values and it will not allow null value for the column.

- Example

SQL>create table emp5

(eno number(5) primarykey,

ename varchar2(20),

salary number(8,2),

job varchar2(15));

Referential integrity

- To establish a parent child relationship between two tables having a common column, we can use referential integrity constraints

Condition

1. Create master or parent table (ex.dept).
2. Keep common column (ex.dno) as primary key.
3. Create details or child table (ex. emp)

Example

SQL>create table dept
(dno number(4) primarykey,
dname varchar2(25),
loc varchar2(20));

SQL>create table emp
(eno number(5) primarykey,
ename varchar2(20) notnull,
salary number(8,2) check (salary>5000),
dno number(4) references dept(dno));

(It is column level constraint)

SQL>create table emp

(eno number(5) primarykey,

ename varchar2(20) notnull,

salary number(8,2) check (salary>5000),

dno number(4),

foreignkey (dno) references dept(dno));

(It is table level constraint)