

TUTORIAL – 2**(DDL - Table Creation and Alteration using Constraints)**

1. Create tables for the schema structure given below and with required constraints.

A. STUDENT(regno, name, branch)

(Use PRIMARY, NOT NULL and CHECK constraints)

B. MARK (regno, test_no, sub1, sub2, sub3, total, result)

Solution:

- CREATE table student (regno char(6) **constraint p1 primary key**,
name varchar(20) **not null**, branch char(4) **constraint c1 check** (regno='C%'));
// Column level PRIMARY KEY

[OR]

- CREATE table student (regno char(6), name varchar(20) not null,
branch char(4) **constraint c1 check** (regno='%c%'), **constraint p1 primary key(regno)**); //
Table level PRIMARY KEY

2. How will you verify the constraints that you have created, along with its objects details?

Solution:

```
SELECT * from user_constraints;
```

OWNER	CONSTRAINT_NAME	C	TABLE_NAME
AMR	P1	P	STUDENT
AMR	SYS_C001368	C	STUDENT
AMR	C1	C	STUDENT

3. How to get the details of the constraints that you have created for a specified object?

Solution:

```
SELECT constraint_name, constraint_type, search_condition from user_constraints  
where table_name= 'STUDENT'; // Table name has to be in capital letter
```

CONSTRAINT_NAME	C	SEARCH_CONDITION
-----	-----	-----
SYS_C001368	C	"NAME" IS NOT NULL
C1	C	regno='C%'
P1	U	

4. Create the foreign key of the Mark table (assume you have created the table already) with the option of deleting the records whenever its corresponding referenced record is deleted.

Solution:

ALTER table mark add constraint f1 foreign key (regno) references student (regno) on delete cascade;

5. Insert the records into the student table and Mark table and select its content.

Solution:

STUDENT			MARK					
REGNO	NAME	BRANCH	REGNO	SUB1	SUB2	SUB3	TOTAL	RESULT
-----	-----	-----	-----	-----	-----	-----	-----	-----
06C01	Arthi	CSE	06C01	68	89	90	247	pass
06C02	Bala	CSE	06C02	45	89	68	202	fail
06C03	Amutha	CSE	06 C03	70	80	90	240	pass
06C04	Bama	CSE	06 C04	70	22	93	185	fail

6. Insert a record of a student who belongs to the branch other than 'CSE' into student table and verify the result.

Solution:

INSERT into student values('05D01','Bala','**ECE**');
check constraint (AMR.C1) violated

7. Insert a duplicate record into Student table and verify the result.

Solution:

INSERT into student values('06C01','Amala','CSE');

*****note the error for duplicate record*

8. Delete a record from Student table which is referred by the Mark table and verify the result.

Solution:

DELETE from student where regno='06C01';

ORA-02292: integrity constraint (AMR.F1) violated - child record found

9. Delete all the records from Student table and verify the result.

Solution:

DELETE from student;

ORA-02292: integrity constraint (AMR.F1) violated - child record found

10. Insert a student's mark into MARK which is not there in the STUDENT and verify the result.

Solution:

INSERT into mark(regno,sub1,sub2,sub3) values('05C01',68,89,90);

ERROR at line 1:

ORA-02291: integrity constraint (AMR.F1) violated - parent key not found

11. Delete all the records from Mark table and verify the result.

Solution:

DELETE from mark;

*****4 records deleted note the comment *****

12. Disable the PRIMARY and the FOREIGN keys from student and mark tables by a single command.

Solution:

ALTER table student disable constraint p1 cascade;

// This in turn will also disable the foreign key of mark table

Note : View the status of the constraints in the student and Mark table

13. Repeat the Commands from 7 to 10 and verify how the integrity constraints behave.

14. Drop the table Student and verify the result.

Solution:

DROP table student;

unique/primary keys in table referenced by foreign keys

15. Drop the disabled constraints. (PRIMARY and the FOREIGN keys from student and mark)

Solution:

ALTER table student drop primary key **cascade**;

// This in turn will also drop the foreign key of mark table

Note : View the status of the constraints in the student and Mark table
