Ex. No. : 05
Date   :

Natural, equi and outer joins

Aim:
       To study and execute SQL natural join, equi join and outer joins.

Procedure:
Natural join is an SQL join operation that creates join on the base of the common columns in the tables. To perform natural join there must be one common attribute(Column) between two tables. Natural join will retrieve from multiple relations.
It works in three steps.
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- Natural join will retrieve from multiple relations. It works in three steps.

Tables
Student

Roll	sname	dept
101	aaa	cse
105	eee	it
102	bbb	ece
103	ccc	eee
104	ddd	cse
105	eee	it

Game

Gid	gname	roll
1	cricket	101
2	volley ball	102
3	cricket	104
4	carom	106
5	chess	107

Natural Join Syntax
SELECT *
FROM table1
NATURAL JOIN table2;

Example
Select * from student NATURAL JOIN game;

Roll	sname	dept	gid	game
101	aaa	cse	1	cricket
102	bbb	ece	2	volly ball
104	ddd	cse	3	cricket

Equi join:
- EQUI JOIN creates a JOIN for equality or matching column(s) values of the relative tables.
- EQUI JOIN also create JOIN by using JOIN with ON and then providing the names of the columns with their relative tables to check equality using equal sign (=).

Syntax
SELECT column_list
FROM table1, table2....
WHERE table1.column_name =
table2.column_name;

Example
SELECT   student.roll,student.sname,game.gname   FROM   student,game   WHERE
student.roll=game.roll;
Or
SELECT   student.roll,student.sname,game.gname   FROM   student   JOIN   game   ON
student.roll=game.roll;

Roll	sname	game
101	aaa	cricket
102	bbb	volly ball
104	ddd	cricket

Non Equi Join :

NON EQUI JOIN performs a JOIN using comparison operator other than equal(=) sign like >, <, >=, <= with conditions.

Syntax
SELECT column_list
FROM table1, table2....
WHERE table1.column_name >
table2.column_name;

Example
SELECT   student.roll,student.sname,game.gname   FROM   student,game   WHERE
student.roll>game.roll;

Roll	dept	game
105	eee	cricket
105	eee	volley ball
105	eee	cricket
102	bbb	cricket
103	ccc	cricket
103	ccc	volley ball
104	ddd	cricket
104	ddd	volley ball

105	eee	cricket
105	eee	volley ball
105	eee	cricket

Full outer join

The FULL OUTER JOIN keyword returns all records when there is a match in left (table1) or right (table2) table records. Full outer join and full join are same

Syntax
SELECT *column_name(s)*
FROM *table1*
FULL OUTER JOIN *table2*
ON *table1.column_name = table2.column_name*
WHERE *condition*;

Example
select student.roll,student.sname,game.gname from student left join game on student.roll=game.roll
union
select student.roll,student.sname,game.gname from student right join game on student.roll=game.roll;

Roll	sname	game
101	aaa	cricket
105	eee	Null
102	bbb	volley ball
103	ccc	Null
104	ddd	cricket
Null	Null	carom
Null	Null	chess

Result:
       Thus the natural join, equi join and outer join queries are written and executed successfully.