

Vel Tech Rangarajan Dr. Sagunthala R&D Institute of Science and Technology
(Deemed to be University Estd. u/s 3 of UGC Act, 1956)



School of Computing
B.Tech. – Computer Science and Engineering

VTR UGE2021- (CBCS)



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Course Code : 10211CS207

Course Name : Database Management Systems

Slot No : S1L4

DBMS TASK - 5 REPORT

Title: Writing Join Queries, equivalent, and/or recursive queries:

Submitted by:

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TASK 5

Writing Join Queries, equivalent, and/or recursive queries:

(Tool: SQL/ Oracle, ALM: Flipped Classroom)

Aim: To

Perform the advanced query processing and test its heuristics using designing of optimal correlated and nested sub queries such as finding summary statistics.

- 5.1 To retrieve all cricket boards and their teams.
- 5.2 To list all matches along with the teams and their captains.
- 5.3 To count the number of matches played by each team.
- 5.4 To find all the players who are part of the team named " TIGER ROCK ".
- 5.5 To retrieve all team details, including the count of winning matches for each team.
- 5.6 To retrieve the total number of 'Tie' matches in a team-wise manner.
- 5.7 To retrieve the team details who won the matches.
- 5.8 To retrieve players and match details of players who are above 25 years old.
- 5.9 To retrieve the details of Team who have not played any matches.
- 5.10 To retrieve the teamid, boardid, teamname, and playername for a particular playerid given.

- 5.1 To retrieve all cricket boards and their teams.

```
SQL> SELECT cb.Name AS CricketBoard, t.Name AS Team FROM CricketBoard cb JOIN Team t ON cb.BoardID = t.BoardID;
```

CricketBoard	Team
Chennai Cricket Board	ABS EXPRESS
Chennai Cricket Board	AVG EXPRESS

Tiruvallur Cricket Board	ANGRY BARD
Tiruvallur Cricket Board	TIGER ROCK
Trichy Cricket Board	ROCK
Viluppuram Cricket Board	RAINBOW
Madurai Cricket Board	PANTHER
Tuticorin Cricket Board	THUNDER
Selam Cricket Board	EAGLE
Tiruppur Cricket Board	KINGS

5.2 List all matches along with the teams and their captains.

```
SQL>SELECT m.matchid, m.match_date, m.result, t1.teamid AS team1_id, t1.name AS
team1_name, t1.captain AS team1_captain, t2.teamid AS team2_id, t2.name AS
team2_name, t2.captain AS team2_captain FROM match m JOIN team t1 ON m.teamid1 =
t1.teamid JOIN team t2 ON m.teamid2 = t2.teamid ORDER BY m.matchid;
```

MATCHID	MATCH_DATE	RESULT	TEAM1_ID	TEAM1_NAME	TEAM1_CAPTAIN	TEAM2_ID	TEAM2_NAME	TEAM2_CAPTAIN
M01	22-JUN-22	TCB01 - WIN	CCB01	ABS EXPRESS	SAMPATH KUMAR	TCB01	ANGRY BARD	CINIL JOHN
M02	22-JUN-22	CCB01 - WIN	CCB02	AVG EXPRESS	Y.JOHN	TCB02	TIGER ROCK	BEN GEORGE

M03	24-JUN-22 TCB01 - WIN	TRICB01	ROCK	K.MUTHU	TCB01	ANGRY BARD	CINIL JOHN
M04	25-JUN-22 TRICB01 - WIN	TRICB01	ROCK	K.MUTHU	TCB02	TIGER ROCK	BEN GEORGE
M05	27-JUN-25 TRICB01 - Tie	TRICB01	ROCK	K.MUTHU	TCB02	TIGER ROCK	BEN GEORGE

5.3 Count the number of matches played each team.

```
SQL>SELECT t.teamid, t.name AS team_name, COUNT(m.matchid) AS matches_played
FROM team t JOIN match m ON t.teamid = m.teamid1 OR t.teamid = m.teamid2 GROUP BY
t.teamid, t.name ORDER BY matches_played DESC
```

TEAMID	TEAM_NAME	MATCHES_PLAYED
TRICB01	ROCK	3
TCB02	TIGER ROCK	3
TCB01	ANGRY BARD	2
CCB02	AVG EXPRESS	1
CCB01	ABS EXPRESS	1

SQL>

5.4 To find all the players who are part of the team named "TIGER ROCK".

```
SQL> SELECT p.playerID, p.fname, p.teamID, t.coach, t.captain FROM player p JOIN team t
ON p.teamID = t.teamID WHERE t.name = 'TIGER ROCK';
```

PLAYER FNAME	TEAMID	COACH	CAPTAIN
102 Akash	TCB02	S.KANNAN	BEN GEORGE
12 Premkumar	TCB02	S.KANNAN	BEN GEORGE

5.5 To retrieve all team details, including the count of winning matches for each team.

```
SQL> SELECT t.TeamID, t.Name AS TeamName, t.Coach, t.Captain, COUNT(m.MatchID) AS
WinningMatchCount FROM Team t LEFT JOIN Match m ON t.TeamID = substr(m.result,1,5)
GROUP BY t.TeamID, t.Name, t.Coach, t.Captain;
```

Output:

TEAMID	TEAMNAME	COACH	CAPTAIN	
WINNINGMATCHCOUNT				
TRICB01	ROCK	K.PAUL	K.MUTHU	0
CCB02	AVG EXPRESS	T.KARTHIK	Y.JOHN	0
SCB01	EAGLE	SOMU	SRI HARI	0

MCB01	PANTHER	SARAVANAN	R.SUNILKUMAR	0
TUCB01	THUNDER	D ALEX	BARATHI	0
TCB01	ANGRY BARD	TOM BABU	CINIL JOHN	2
VCB01	RAINBOW	S.RAJESHKUMAR	MANIMARAN	0
TCB02	TIGER ROCK	S.KANNAN	BEN GEORGE	0
CCB01	ABS EXPRESS	G.D.RAMESH	SAMPATH KUMAR	1
TICB01	KINGS	D ANAND	MATHAN	0

10 rows selected.

5.6 To retrieve the total number of 'Tie' matches in a team-wise manner.

```
SQL>SELECT t.teamid,t.name AS team_name,COUNT(m.matchid) AS tie_matches
FROM team t JOIN match m ON (t.teamid = m.teamid1 OR t.teamid = m.teamid2)
WHERE UPPER(m.result) LIKE '%TIE%' GROUP BY t.teamid, t.name ORDER BY tie_matches DESC;
```

TEAMID	TEAM_NAME	TIE_MATCHES
TCB02	TIGER ROCK	1
TRICB01	ROCK	1

5.7. To retrieve the team details who won the matches.

```
SQL>SELECT DISTINCT t.teamid, t.boardid, t.name AS team_name, t.coach,
t.captain
FROM team t JOIN match m ON ( INSTR(m.result, m.teamid1) > 0 AND t.teamid = m.teamid1 )
OR ( INSTR(m.result, m.teamid2) > 0 AND t.teamid = m.teamid2 );
```

TEAMID	BOARDID	TEAM_NAME	COACH	CAPTAIN
TCB01	BID02	ANGRY BARD	TOM BABU	CINIL JOHN
TRICB01	BID04	ROCK	K.PAUL	K.MUTHU

5.8 To retrieve players and match details of players who are above 25 years old.

```
SQL>SELECT p.playerid,p.fname, p.lname, p.age, p.playingrole,t.teamid,t.name AS team_name,m.matchid,m.match_date,m.result
FROM player p JOIN team t ON p.teamid = t.teamid
JOIN match m ON (t.teamid = m.teamid1 OR t.teamid = m.teamid2)
WHERE p.age > 25
ORDER BY p.playerid, m.matchid;
```

PLAYER_FNAME	LNAME	AGE	PLAYINGROLE	TEAMID	TEAM_NAME	MATCHID	MATCH_DATE	RESULT
1 Raj	N	27	Bowler	CCB01	ABS EXPRESS	M01	22-JUN-22	TCB01 - WIN

5.9 To retrieve the details of Team who have not played any matches.

```
SQL>SELECT t.teamid,t.boardid,t.name      AS team_name, t.coach,t.captainFROM team
tWHERE t.teamid NOT IN (SELECT teamid1 FROM matchUNIONSELECT teamid2 FROM
match);
```

TEAMID	BOARDID	TEAM_NAME	COACH	CAPTAIN
VCB01	BID03	RAINBOW	S.RAJESHKUMAR	MANIMARAN
MCB01	BID05	PANTHER	SARAVANAN	R.SUNILKUMAR
TUCB01	BID06	THUNDER	D ALEX	BARATHI
SCB01	BID07	EAGLE	SOMU	SRI HARI
TICB01	BID08	KINGS	D ANAND	MATHAN

5.10 To retrieve the teamid, boardid, teamname, and playername for a particular playerid given.

```
SQL> SELECT t.teamid, t.boardid, t.name, p.fname FROM team t JOIN player p ON t.teamid =
p.teamid WHERE p.playerid = '66';
```

TEAMID	BOARDID	NAME	FNAME
VCB01	BID03	RAINBOW	Ganesh

Result:

Thus the query using Join Queries, equivalent, and/or recursive queries has been done successfully.