

### Query 3: IPL Matches

There are 10 IPL team. write an sql query such that each team play with every other team just once.

**Input table:**

<b>team_code</b> character varying (10)	<b>team_name</b> character varying (40)
CSK	Chennai Super Kings
DC	Delhi Capitals
GT	Gujarat Titans
KKR	Kolkata Knight Riders
LSG	Lucknow Super Giants
MI	Mumbai Indians
PBKS	Punjab Kings
RR	Rajasthan Royals
RCB	Royal Challengers Bangalore
SRH	Sunrisers Hyderabad

**Expected Output:**

<b>team</b> character varying (40)	<b>opponent</b> character varying (40)
Chennai Super Kings	Delhi Capitals
Chennai Super Kings	Gujarat Titans
Chennai Super Kings	Kolkata Knight Riders
Chennai Super Kings	Lucknow Super Giants
Chennai Super Kings	Mumbai Indians
Chennai Super Kings	Punjab Kings
Chennai Super Kings	Rajasthan Royals
Chennai Super Kings	Royal Challengers Bangalore
Chennai Super Kings	Sunrisers Hyderabad
Delhi Capitals	Gujarat Titans
Delhi Capitals	Kolkata Knight Riders
Delhi Capitals	Lucknow Super Giants
Delhi Capitals	Mumbai Indians

**Solution:**

```
with cte as(
    select row_number() over(order by team_name) as id, t.*
    from teams t)
select tea.team_name, opp.team_name
from cte tea
join cte opp on tea.id<opp.id
```

**Explanation:**

This query can be solved using self-join with windows function. The row\_number windows function generates a unique sequential integer (id) for each row, based on the alphabetical order of team\_name. The CTE provides a temporary result set with all columns from the teams table and an additional column id representing the row number.

The main select statement selects the team name from two different instances of the CTE, referred to as tea and opp.

This joins the CTE to itself. The alias tea represents one instance of the CTE, and opp represents another instance.

This is the join condition, which ensures that each team in the tea instance is paired with every other team in the opp instance that has a higher id. Essentially, it avoids pairing a team with itself and ensures each pair is listed only once (i.e., if team A is paired with team B, the reverse pairing (team B with team A) won't be listed).

The result is a list of all possible unique pairs of team names, avoiding duplicate and self-pairings.