==========

Queries

==========

1 . Find the name of team who won the awards.

-> select tname,awards_name from mydb.team inner join mydb.awards on mydb.team.teamid = mydb.awards.teamid group by awards_name,tname

```
select tname,awards_name from mydb.team inner join mydb.awards on mydb.team.teamid = mydb.awards.teamid
group by awards_name,tname
```

Data Output | Explain | Messages | Query History

| | tname character varying (20) | awards_name character varying (20) |
|---|---|---|
| 1 | shri-lanka | icc-test |
| 2 | south-africa | world-cup |
| 3 | england | icc-test |
| 4 | india | icc-test |

2 Find name of player who is in indian team and salary greater than 12000 and he is batsman.

-> select f_name,salary,tname from mydb.team

inner join mydb.player on mydb.team.teamid = mydb.player.teamid

inner join mydb.batsman on mydb.player.pid = mydb.batsman.playerid

where mydb.team.tname = 'india' and mydb.player.salary > 120000

```
select f_name,salary,tname from mydb.team
        inner join mydb.player on mydb.team.teamid = mydb.player.teamid
        inner join mydb.batsman on mydb.player.pid = mydb.batsman.playerid
        where mydb.team.tname = 'india'  and mydb.player.salary > 120000
```

Data Output | Explain | Messages | Query History

| | f_name character varying (20) | salary integer | tname character varying (20) |
|---|---|---|---|
| 1 | yuvraj | 200000 | india |
| 2 | hardik | 150000 | india |

3 Find name of upcoming IPL-series , and location and upcoming date.

-> select match_date,s_name,lname from mydb.series

inner join mydb.upcoming_schedule on mydb.series.upcoming_schedule_sid = mydb.upcoming_schedule.up_id

inner join mydb.location on mydb.series.location_id = mydb.location.locationid

where mydb.series.s_name = 'ipl'

```
select match_date,s_name,lname from mydb.series
 inner join mydb.upcoming_schedule on mydb.series.upcoming_schedule_sid = mydb.upcoming_schedule.up_id
   inner join mydb.location on mydb.series.location_id = mydb.location.locationid
     where mydb.series.s_name = 'ipl'
```

Data Output | Explain | Messages | Query History

| | match_date date | s_name character varying (20) | lname character varying (20) |
|---|---|---|---|
| 1 | 2019-02-18 | ipl | mumbai |

4 Count total number of awards for indian team

-> select count(awards_name) as india_team_win_awards from mydb.awards

inner join mydb.team on mydb.awards.teamid = mydb.team.teamid

where mydb.team.tname = 'india'

```
select count(awards_name) as india_team_win_awards from mydb.awards
        inner join mydb.team on mydb.awards.teamid = mydb.team.teamid
        where mydb.team.tname = 'india'
```

Data Output | Explain | Messages | Query History

| | india_team_win_awards bigint |
|---|---|
| 1 | 3 |

5 Name of umpire who salary is > 100000 and experience above 5 year and also he is belong to india

-> select u_name as umpire_name,experience,country,salary from mydb.umpire

where experience > 5 and salary > 100000 and country = 'india'

```
select u_name as umpire_name,experience,country,salary from mydb.umpire
      where experience > 5 and salary > 100000 and country = 'india'
```

Data Output | Explain | Messages | Query History

| | umpire_name character varying (20) | experience numeric (9) | country character varying (20) | salary integer |
|---|---|---|---|---|
| 1 | Sudhir Asnani | 10 | india | 175000 |

7 Display name of location and series

- > select lname from mydb.location

union

select s_name from mydb.series

```
select lname from mydb.location
          union
          select s_name  from mydb.series
```

Data Output | Explain | Messages | Query History

| | lname character varying (20) |
|---|---|
| 1 | t-20 |
| 2 | melbourne |
| 3 | 20-20 |
| 4 | ipl |
| 5 | mumbai |
| 6 | manchester |
| 7 | leeds |
| 8 | world-cup |
| 9 | odi |

9 Display player name who is bowler as well as batsman.

-> select player.playerid,f_name from mydb.batsman inner join mydb.player on mydb.batsman.playerid = mydb.player.playerid

intersect

select player.playerid,f_name from mydb.bowler inner join mydb.player on mydb.bowler.playerid = mydb.player.playerid

postgres on postgres@PostgreSQL 10

```
select player.playerid,f_name from mydb.batsman
inner join mydb.player on mydb.batsman.playerid = mydb.player.playerid
            intersect
select player.playerid,f_name from mydb.bowler
inner join mydb.player on mydb.bowler.playerid = mydb.player.playerid
```

Data Output | Explain | Messages | Notifications | Query History

| | playerid integer | f_name character varying (20) |
|---|---|---|
| 1 | 11 | Deven |
| 2 | 4 | hardik |
| 3 | 10 | Emran |
| 4 | 9 | Shoheb |

10 Display player name who is a batsman not a bowler

- > select f_name from mydb.batsman inner join mydb.player on mydb.batsman.playerid = mydb.player.playerid

except

select f_name from mydb.bowler inner join mydb.player on mydb.bowler.playerid = mydb.player.playerid

postgres on postgres@PostgreSQL 10

```
select f_name from mydb.batsman
inner join mydb.player on mydb.batsman.playerid = mydb.player.playerid
              except
              select f_name from mydb.bowler
              inner join mydb.player on mydb.bowler.playerid = mydb.player.playerid
```

Data Output | Explain | Messages | Notifications | Query History

| | f_name character varying (20) |
|---|---|
| 1 | shikhar |
| 2 | Sachin |
| 3 | yuvraj |
| 4 | virat |
| 5 | MS |

11 count number of batsman of team india who has greater than 150 runs.

-->

select count(playerid) from mydb.batsman

where runs>150 and playerid in(select playerid from mydb.player where teamid in(select teamid from mydb.team where tname like 'india'))

```
select count(playerid) from mydb.batsman
 where runs>150 and playerid in
 (select pid from mydb.player where teamid in(select teamid from mydb.team where tname like 'india'))
```

Data Output | Explain | Messages | Query History

| | count bigint |
|---|---|
| 1 | 5 |

12 give the name of team who played t20 series on mumbai location on 20th Feb,1995.

--> Select tname from mydb.team where teamid in(Select teamid from mydb.playedseriesXUmpire where matchDate='1995-02-20' and seriesid in(Select seriesid from mydb.series where s_name like 't-20'and location_id in(Select locationid from mydb.location where lname like 'mumbai')))

postgres on postgres@PostgreSQL 10

```
Select tname from mydb.team where teamid in(Select teamid from mydb.playedseriesXUmpire
    where matchDate='1995-02-20' and seriesid in(Select seriesid from mydb.series
 where s_name like 't-20'and location_id in(Select locationid from mydb.location where lname like 'mumbai')))
```

Data Output | Explain | Messages | Notifications | Query History

| | tname character varying (20) |
|---|---|
| 1 | india |
| 2 | pakistan |
| 3 | australia |

13 give the detail of all player who played world cup series which umpired by sudhir asnani

--> Select distinct concat_ws(' ',p.f_name, p.l_name)AS playerfullname, t.tname, u.u_name from mydb.player p

inner join mydb.team t on p.teamid=t.teamid

inner join mydb.playedseriesXumpire sp on p.playerid=sp.playerid

inner join mydb.series s on sp.seriesid=s.seriesid

inner join mydb.umpire u on sp.umpireid=u.umpireid

where s.s_name like 'world-cup' and u.u_name like 'Sudhir Asnani'

postgres on postgres@PostgreSQL 10

```
Select distinct concat_ws(' ',p.f_name, p.l_name)AS playerfullname, t.tname, u.u_name from mydb.player p
        inner join mydb.team t on p.teamid=t.teamid

        inner join mydb.playedseriesXumpire sp  on p.playerid=sp.playerid
        inner join mydb.series s on sp.seriesid=s.seriesid
        inner join mydb.umpire u on sp.umpireid=u.umpireid
        where s.s_name like 'world-cup' and u.u_name like 'Sudhir Asnani'
```

Data Output | Explain | Messages | Notifications | Query History

| | playerfullname text | tname character varying (20) | u_name character varying (20) |
|---|---|---|---|
| 1 | MS DHONI | india | Sudhir Asnani |
| 2 | yuvraj singh | india | Sudhir Asnani |

14 Give the details of australia team coach

--> Select first_name,last_name,dob,country from mydb.coach where coachid in(Select coach_id from mydb.team where tname like 'australia')

```
Select first_name,last_name,dob,country from mydb.coach where coachid in
 (Select coach_id from mydb.team where tname like 'australia')
```

Data Output | Explain | Messages | Query History

| | first_name character varying (20) | last_name character varying (20) | dob date | country character varying (20) |
|---|---|---|---|---|
| 1 | Justin | Langer | 1988-... | australia |

15 Get bowler's details of indian team who played 20-20 series in india under Sudhir Asnani coach.

->

Select Distinct concat_ws(' ',p.f_name, p.l_name)AS playerfullname, t.tname

from mydb.playedseriesxumpire us

inner join mydb.player p on p.teamid=us.teamid

inner join mydb.team t on p.teamid=t.teamid

inner join mydb.series s on us.seriesid=s.seriesid

inner join mydb.bowler bl on us.playerid = bl.playerid

inner join mydb.player pl on bl.playerid = pl.playerid

inner join mydb.location l on s.location_id=l.locationid

inner join mydb.umpire u on  u.umpireid=us.umpireid

where t.tname like 'india' and s.s_name like 't-20' and l.lname like 'mumbai' and

u.u_name like 'Sudhir Asnani'

postgres on postgres@PostgreSQL 10

```
Select Distinct concat_ws(' ',p.f_name, p.l_name)AS playerfullname, t.tname
            from mydb.playedseriesxumpire us
            inner join mydb.player p on p.teamid=us.teamid
            inner join mydb.team t on p.teamid=t.teamid
            inner join mydb.series s on us.seriesid=s.seriesid
            inner join mydb.bowler bl on us.playerid = bl.playerid
            inner join mydb.player pl on bl.playerid = pl.playerid
            inner join mydb.location l on s.location_id=l.locationid
            inner join mydb.umpire u on  u.umpireid=us.umpireid
            where t.tname like 'india' and s.s_name like 't-20' and l.lname like 'mumbai' and
             u.u_name like 'Sudhir Asnani'
```

Data Output | Explain | Messages | Notifications | Query History

| | playerfullname text | tname character varying (20) |
|---|---|---|
| 1 | hardik pandya | india |
| 2 | MS DHONI | india |
| 3 | rohit sharma | india |
| 4 | Sachin Tendulkar | india |
| 5 | shikhar dhavan | india |
| 6 | virat kohali | india |
| 7 | yuvraj singh | india |

16 Give the total number of series played by each team.

--> select  count(*)  as TotalCount, t.tname

from mydb.playedseriesxumpire PXU

inner join mydb.team t on t.teamid = PXU.teamid

group  by t.tname

```
select  count(*)  as TotalCount, t.tname
        from mydb.playedseriesxumpire PXU
        inner join mydb.team t on t.teamid = PXU.teamid
        group  by t.tname
```

Data Output | Explain | Messages | Query History

| | totalcount bigint | tname character varying (20) |
|---|---|---|
| 1 | 6 | india |
| 2 | 2 | england |
| 3 | 2 | australia |

17 find player who is captain as well as batsman.

-> select f_name,l_name from mydb.player where captainid isnull and playerid in(select playerid from mydb.batsman)

postgres on postgres@PostgreSQL 10

```
select f_name,l_name  from mydb.player
where captainid isnull and playerid in(select playerid from mydb.batsman)
```

Data Output | Explain | Messages | Notifications | Query History

| | f_name character varying (20) | l_name character varying (20) |
|---|---|---|
| 1 | Deven | Smith |
| 2 | MS | DHONI |

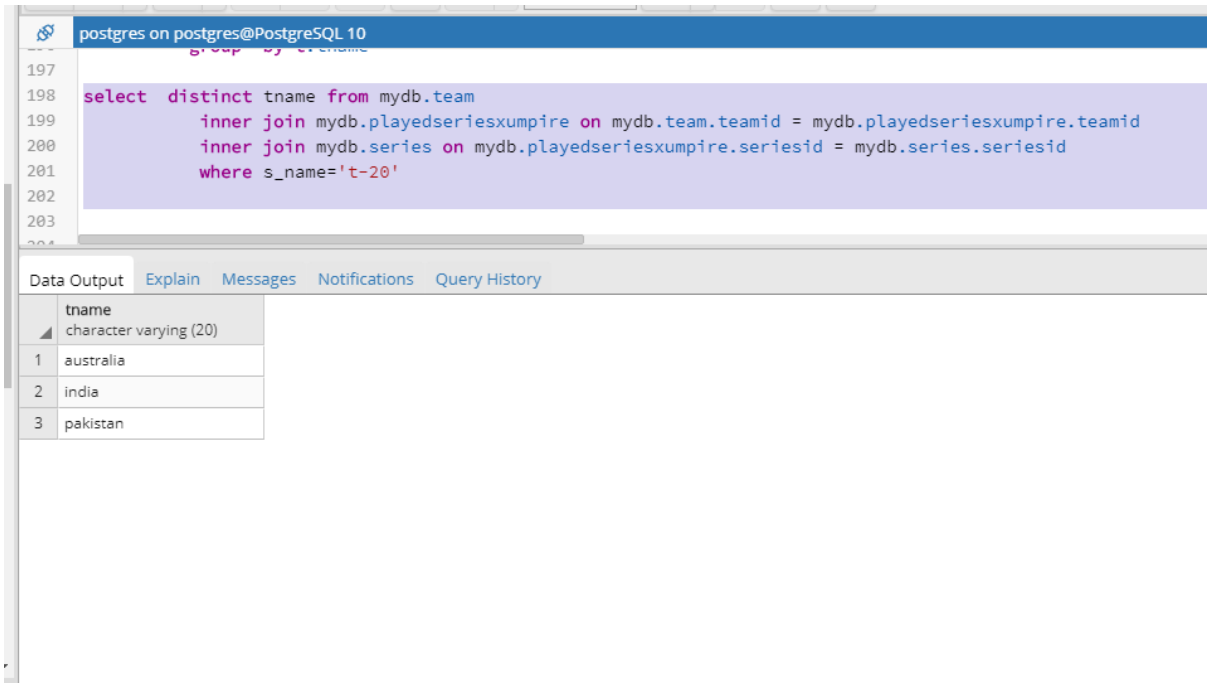
18 find team name who have played t-20.

-> select distinct tname from mydb.team

inner join mydb.playedseriesxumpire on mydb.team.teamid = mydb.playedseriesxumpire.teamid

inner join mydb.series on mydb.playedseriesxumpire.seriesid = mydb.series.seriesid

where s_name='t-20'




19 find a team who have maximum awards.

-> select count(*) as cnt,tname from mydb.team

join mydb.awards on mydb.team.teamid = mydb.awards.teamid

group by tname

order by cnt desc limit 1

```
select count(*) as cnt,tname from mydb.team
         join mydb.awards on  mydb.team.teamid = mydb.awards.teamid
        group  by tname
        order by cnt desc limit 1
```

Data Output | Explain | Messages | Query History

| | cnt bigint | tname character varying (20) |
|---|---|---|
| 1 | 3 | india |

20 Display average total of high total and low total for team

- > select avg(high_total) ,avg(low_total) from mydb.team

```
select avg(high_total) ,avg(low_total) from mydb.team
```

Data Output | Explain | Messages | Query History

| | avg numeric | avg numeric |
|---|---|---|
| 1 | 353.5833333333333333 | 157.5000000000000000 |

# Relational Algebra

1 Awards.name, t_name $\Pi_{tname, Awards_name}$ (Team) $\bowtie$ <team.teamid = awards.teamid> Awards

2 $\Pi_{f_name, salary, t_name}$ ($\sigma_{team.tname = 'india' \text{ and } player.salary > 12000}$ (Team)) $\bowtie$ <Player.Pid team.teamid = player.teamid> player $\bowtie$ <player.pid = batsman.playerid> Batsman

3 $\Pi_{match_date, S_name, l_name}$ ($\sigma_{series.S_name = 'IPL'}$ (series)) $\bowtie$ <series.upcoming_sid = UpcomingSchedule.UP_id> UpcomingSchedule $\bowtie$ <Series.locationid = location.locationid> Location

4 $r1 \leftarrow \sigma_{Team.tname = 'india'}$ (team)
$r2 \leftarrow \rho(team\ f\ count(Awards_name) \rightarrow India_won_Awards)(r1)$
$result \leftarrow \Pi_{India_won_Awards}$ (Awards) $\bowtie$ <Awards.teamid = r2.teamid> r2

5 $\Pi_{uname, country, exp, salary}$ ($\sigma_{<Umpire.exp > 5> \text{ and } <Umpire.salary > 10000 \text{ and } <Umpire.country = 'India'>}$ (Umpire))

7 $\Pi_{Location_name}$ (location)
$\cup$
$\Pi_{S_name}$ (Series)

9 $\Pi_{playerid, f_name}(batsman) \bowtie_{<batsman.playerid = player.playerid>} player$

$\cap$

$\Pi_{playerid, f_name}(bowler) \bowtie_{<bowler.playerid = player.playerid>} player$

10 $\Pi_{f_name}(batsman) \bowtie_{<batsman.playerid = player.playerid>} player$

$-$

$\Pi_{f_name}(bowler) \bowtie_{<bowler.playerid = player.playerid>} player$

11 $r_1 \leftarrow \Pi_{teamid}(\sigma_{<team.tname = 'india'>}(team))$

$r_2 \leftarrow \Pi_{pid}(\sigma_{<team.teamid = t1>}(player))$

$result \leftarrow \Pi_{count(t2)}(\sigma_{<batsman.runs > 150> \text{ and } <batsman.playerid = r2>}(batsman))$

12 $r_1 \leftarrow \Pi_{locationid}$
$(\sigma_{location.lname = 'mumbai'}(location))$

$r_2 \leftarrow \Pi_{seriesid}$
$(\sigma_{series.s_name = 'T20' \text{ and } location.locationid = r_1}(series))$

$r_3 \leftarrow \Pi_{teamid}$
$(\sigma_{series.seriesid = r_2}(playedseries \times umpire))$

$result \leftarrow \Pi_{tname}(\sigma_{team.teamid = r_3}(team))$

13 $\Pi_{f_name, l_name, tname, u_name}$
$(\sigma_{series.s_name = 't20' \text{ and } umpire.umpirname = 'Sudhir Asnani'}(player))$
$\bowtie_{player.teamid = team.teamid} (team)$
$\bowtie_{team.teamid = playedseries.teamid} (playedseries \times umpire)$
$\bowtie_{playedseries \times umpire.seriesid = series.seriesid} series$
$\bowtie_{series.seriesid = umpire.u_id} (umpire)$

14 $r_1 \leftarrow \Pi_{coachid}(\sigma_{team.tname = 'Australia'}(team))$

$result \leftarrow \Pi_{first_name, last_name, dob, country}$
$(\sigma_{coach.coachid = r_1}(coach))$

15 $\rho$ ( $\pi$ f_name → playerfullname, t_name
( $\sigma$ ( tname = 'india' and s_name = 'T-20' and l_name =
'mumbai' and uname = 'Sadhis ASmani' )(
playedSeriesxumpire )) $\bowtie$
< player.teamid = playedseriesxumpire.teamid > player
$\bowtie$ < player.teamid = team.teamid > team $\bowtie$
< playedseriesxumpire.seriesid = series.seriesid >
Series $\bowtie$
< playedseriesx umpire.playerid = bowler.playerid >
bowler $\bowtie$
< bowler.playerid = player.playerid > player $\bowtie$
< series.locationid = location.locationid > location $\bowtie$
< series.umpireid = umpire umpireid > umpire

16
tname $\gamma$ $\pi$ count(*), tname (playedseriesxumpire)
$\bowtie$ < playedseriesxumpire.teamid =
team.teamid > team

17 $\gamma_I$ ← $\pi$ playerid (batsman)
result ← $\pi$ f_name, L_name ( $\sigma$ certainid = 'null' and
playerid = $\gamma_I$ (player))

18 $\pi$ tname ( $\sigma$ < series.s_name = 'T-20' > (team) $\bowtie$
< team.teamid = playedseriesx umpire.teamid >
playedseriesxumpire $\bowtie$
< playedseriesxumpire.seriesid = series.seriesid >
Series

19

tname $\mathcal{F}$ $\Pi_{cnt\ limit\ 1,\ tname}$

$(\sigma_{Team}) \bowtie_{\langle team.teamid = Awards.teamid \rangle}$ Awards

0

$result \leftarrow Avg(high\text{-}total), Avg(low\text{-}total)(team)$

z