

Deliverable 3

Questions to Queries on the NBA Database

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3.1 Expressing questions in SQL

After going through each original question, I found that I had to make many changes. I also needed to add many more rows into my database. Some questions were unable to be answered because my database doesn't have any data before 2009, which is unfortunate because I can't capture any stats on older NBA players such as Michael Jordan, Shaq, and Kobe. The **nba_api** has stats easily accessible for *active players*, so that's what I could query on.

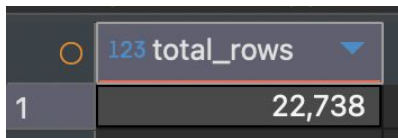
In the following pages I show all my questions and the sql equivalent translations along with images of the query results. I lost the sql script with the original views from the deliverable 2, so I created many more views to help me join tables and queries together.

3.2 Many Views and Joins

Some questions are answered in many parts (a, b, c) and many questions are joined with the results from previous views that build upon each other. I wanted to make small queries that made sense to me, then connect them to other small questions modularly to answer a bigger question.

There are some questions that are answered with no joins or only one join. However, there are many questions that contain 4 or more joins as well. It just depends on the question and how many tables were needed to find the answer I was looking for.

My original database had only about 5,000 rows. After these questions were answered, my database has now a total of 22,738 rows of nba stats from the **nba_api** between the years 2010-2025.



A screenshot of a database query result. It shows a table with one row. The first column contains the number '1'. The second column contains the text '123 total_rows' with a dropdown arrow. Below this, the value '22,738' is displayed.

1	123 total_rows
	22,738

1) What was the average free-throw percentage of each player in the database in 2021?

select

s.start_year, p.full_name, p.fta, p.ftm, p.ft_pct

from nba.seasons s

join nba.playersstats p

on s.season_id = p.season_id

where s.season_id = '2021-22'

order by p.ft_pct desc;

	123 start_year	AZ full_name	123 fta	123 ftm	123 ft_pct
1	2,021	Jordan Poole	266	246	0.925
2	2,021	Stephen Curry	298	275	0.923
3	2,021	Kyrie Irving	129	118	0.915
4	2,021	Kevin Durant	409	372	0.91
5	2,021	Trae Young	553	500	0.904
6	2,021	Klay Thompson	51	46	0.902
7	2,021	James Harden	186	166	0.892
8	2,021	Damian Lillard	181	159	0.878
9	2,021	DeMar DeRozan	593	520	0.877
10	2,021	LaMelo Ball	243	212	0.872
11	2,021	Jimmy Butler III	455	396	0.87
12	2,021	James Harden	350	304	0.869
13	2,021	Tyler Herro	219	190	0.868
14	2,021	Coby White	91	78	0.857
15	2,021	Jayson Tatum	469	400	0.853
16	2,021	Donovan Mitchell	313	267	0.853
17	2,021	Tyrese Haliburton	86	73	0.849
18	2,021	Cade Cunningham	168	142	0.845
19	2,021	Jalen Brunson	213	179	0.84
20	2,021	Tyrese Haliburton	104	87	0.837
21	2,021	Karl-Anthony Towns	467	384	0.822
22	2,021	Shai Gilgeous-Alexander	405	328	0.81
23	2,021	Nikola Jokić	468	379	0.81
24	2,021	Anthony Edwards	280	220	0.786
25	2,021	Ja Morant	415	316	0.761
26	2,021	Jaylen Brown	318	241	0.758
27	2,021	LeBron James	336	254	0.756
28	2,021	De'Aaron Fox	348	261	0.75
29	2,021	Luka Dončić	489	364	0.744
30	2,021	Giannis Antetokounmpo	766	553	0.722
31	2,021	Anthony Davis	244	174	0.713
32	2,021	Russell Westbrook	399	266	0.667

2) What year was Steph Curry's highest scoring season?

```
select
    first_name || ' ' || last_name as full_name, s.season_id, gp, ppg
from nba.seasons s
join nba.playersstats p
on s.season_id = p.season_id
join nba.playerinfo p2
on p.player_id = p2.person_id
where full_name = 'Stephen Curry'
order by ppg desc
limit 1;
```

	A-Z full_name ▼	A-Z ↕ season_id ▼	123 gp ▼	123 ppg ▼
1	Stephen Curry	2020-21	63	31.98

3) How many teams has LeBron James played for in his career? What are they?

```
create view lebron_teams as
select distinct t.abbreviation
from nba.playersstats s
join nba.playerinfo p
on s.player_id = p.person_id
join nba.teams t
on s.team_id = t.team_id
where p.first_name = 'LeBron';
```

-- Teams:

```
select * from lebron_teams;
```

-- Total teams count:

```
select count(*) as total_teams
from lebron_teams;
```

	A-Z abbreviation
1	CLE
2	LAL
3	MIA

	123 total_teams
1	3

4) Who had 50-40-90 seasons? Kevin Durant? Klay Thompson?

Changed to query active players instead of players who played in the era when the nba_api didn't have the data:

```
select
    s.season_id as "Season",
    s.player_age, t.abbreviation as "Team",
    s.full_name, s.ppg, s.fg_pct, s.fg3_pct, s.ft_pct
from nba.playersstats s
join nba.teams t
on s.team_abbreviation = t.abbreviation
where
    s.fg_pct >= 0.5
    and s.fg3_pct >= 0.4
    and s.ft_pct >= 0.9;
```

	A-Z Season	123 player_age	A-Z Team	A-Z full_name	123 ppg	123 fg_pct	123 fg3_pct	123 ft_pct
1	2015-16	28	GSW	Stephen Curry	30.06	0.504	0.454	0.908
2	2020-21	29	BKN	Kyrie Irving	26.87	0.506	0.402	0.922
3	2012-13	24	OKC	Kevin Durant	28.15	0.51	0.416	0.905

5a) Who are the top 5 scorers in RECENT NBA history, ranked from most to least points?

Changed to the top 5 scorers in the data in the database instead of all of nba history.

```
select distinct(p2.full_name),  
               /game_date, /matchup,  
               /wl, /min, /reb, /stl, /ast, /pts  
from nba.playergamelogs /  
join nba.playerinfo p  
on /.player_id = p.person_id  
left join nba.playersstats p2  
on p.person_id = p2.player_id  
order by pts desc  
limit 5;
```

	A-Z full_name	game_date	A-Z matchup	A-Z wl	123 min	123 reb	123 stl	123 ast	123 pts
1	Luka Dončić	2024-01-26	DAL @ ATL	W	45	10	1	7	73
2	Damian Lillard	2023-02-26	POR vs. HOU	W	39	6	0	6	71
3	Donovan Mitchell	2023-01-02	CLE vs. CHI	W	50	8	0	11	71
4	Giannis Antetokounmpo	2023-12-13	MIL vs. IND	W	37	14	4	3	64
5	Karl-Anthony Towns	2024-01-22	MIN vs. CHA	L	38	8	0	2	62

5b) Create a view to hold the player_id, name, game date, and total points for that game:

```
drop view if exists season_high;  
create view season_high as  
select distinct * from points  
order by pts desc  
limit 20;
```

```
select * from season_high;
```

	123 player_id	A-Z full_name	🕒 game_date	123 pts
1	1,629,029	Luka Dončić	2024-01-26	73
2	203,081	Damian Lillard	2023-02-26	71
3	1,628,378	Donovan Mitchell	2023-01-02	71
4	203,507	Giannis Antetokounmpo	2023-12-13	64
5	201,939	Stephen Curry	2021-01-03	62
6	1,626,157	Karl-Anthony Towns	2024-01-22	62
7	2,544	LeBron James	2014-03-03	61
8	201,935	James Harden	2019-01-23	61
9	201,935	James Harden	2019-03-22	61
10	203,081	Damian Lillard	2020-01-20	61
11	203,081	Damian Lillard	2020-08-11	61
12	203,999	Nikola Jokić	2025-04-01	61
13	1,628,973	Jalen Brunson	2024-03-29	61
14	201,935	James Harden	2018-01-30	60
15	201,935	James Harden	2019-11-30	60
16	201,939	Stephen Curry	2024-02-03	60
17	202,681	Kyrie Irving	2022-03-15	60
18	202,691	Klay Thompson	2016-12-05	60
19	203,081	Damian Lillard	2019-11-08	60
20	203,081	Damian Lillard	2023-01-25	60

6) Create a view that shows each player's points for each game, their age on that game, and the date for that game.

```
drop view if exists player_season_high_points;  
create view player_season_high_points as  
select p.game_date, p2.first_name || ' ' || p2.last_name as "Player Name", p3.player_age,  
p.pts  
from nba.playergamelogs p  
join nba.playerinfo p2  
on p.player_id = p2.person_id  
join nba.playersstats p3  
on  
    p.player_id = p3.player_id  
    and p.season_id = p3.season_id  
order by p.pts desc;
```

	game_date	A-Z Player Name	123 player_age	123 pts
1	2024-01-26	Luka Dončić	25	73
2	2023-02-26	Damian Lillard	32	71
3	2023-01-02	Donovan Mitchell	26	71
4	2023-12-13	Giannis Antetokounmpo	29	64
5	2024-01-22	Karl-Anthony Towns	28	62
6	2021-01-03	Stephen Curry	33	62
7	2019-03-22	James Harden	29	61
8	2019-01-23	James Harden	29	61
9	2020-01-20	Damian Lillard	29	61
10	2025-04-01	Nikola Jokić	30	61

```
select distinct * from player_season_high_points  
order by pts desc  
limit 10;
```

7) What is the order of players who have the most championships?

```
drop view if exists nba_champions;  
create view nba_champions as  
select distinct ps.full_name, a.description, a.season  
from nba.playersstats ps  
join nba.playerinfo p  
on ps.player_id = p.person_id  
join nba.awards a  
on p.person_id = a.person_id  
where a.description = 'NBA Champion';  
  
select full_name, count(description) as championships  
from nba_champions  
group by full_name  
order by championships desc;
```

	A-Z full_name	123 championships
1	Stephen Curry	4
2	Klay Thompson	4
3	LeBron James	4
4	Kawhi Leonard	2
5	Kevin Durant	2
6	Jayson Tatum	1
7	Jordan Poole	1
8	Nikola Jokić	1
9	Giannis Antetokounmpo	1
10	Kyrie Irving	1
11	Jamal Murray	1
12	Jaylen Brown	1
13	Anthony Davis	1

8) How many seasons did Steph Curry score more than 25 points per game?

Changed query to include more players: LeBron, KD, Kyrie:

```
select p.full_name, count(*) as high_scoring_season
from nba.playersstats p
where (p.full_name = 'Stephen Curry' or
       p.full_name = 'LeBron James' or
       p.full_name = 'Kevin Durant' or
       p.full_name = 'Kyrie Irving') and p.ppg > 25
group by p.full_name
order by high_scoring_season desc;
```

	A-Z full_name ▼	123 high_scoring_season ▼
1	LeBron James	20
2	Kevin Durant	17
3	Stephen Curry	8
4	Kyrie Irving	7

9) Added a question: How many points does Steph curry have throughout his career? How many 3pm?

```
drop view if exists points_per_season_curry;
create view points_per_season_curry as
select
    season_id,
    sum(fg3m) as threes_made,
    count(*) as games_played,
    sum(pts) as total_points
from nba.playergamelogs
join nba.playerinfo p
on player_id = p.person_id
where p.first_name || ' ' || p.last_name = 'Stephen Curry'
group by season_id
order by season_id;
```

```
select sum(total_points) as total_career_points from points_per_season_curry;
select sum(threes_made) as total_career_threes from points_per_season_curry;
```

	123 total_career_points ▼
1	25,386

	123 total_career_threes ▼
1	4,058

10) How many 50+ point games does Michael Jordan have in his career compared to LeBron James and Kobe Bryant?

Remake question because my database doesn't have any data for Michael Jordan or Kobe Bryant. Instead, search database for Kevin Durant, Damian Lillard, James Harden, and Stephen Curry.

-- There are 139 total games in the database where a player scores at least 50 points:

```
select count(*)
```

```
from nba.playergamelogs p
```

```
where pts >= 50; -- 139
```

-- Create a view about the stats of all players with 50 plus point games:

```
create view stats_50_plus as
```

```
select
```

```
    season_id,
```

```
    p2.first_name || ' ' || p2.last_name as "Player Name",
```

```
    game_date, matchup,
```

```
    wl, min as "Minutes",
```

```
    reb, ast,
```

```
    stl, tov,
```

```
    pts as "Points", plus_minus as "+/-"
```

```
from nba.playergamelogs p
```

```
join nba.playerinfo p2
```

```
on p.player_id = p2.person_id
```

```
where p.pts >= 50
```

-- Count the 50 point games for each player in the list of 50+ points...

```
select "Player Name", count(*) as "50 Point Games"
```

```
from stats_50_plus
```

```
group by "Player Name"
```

```
order by "50 Point Games" desc
```

```
limit 10;
```

	123 count
1	139

	A-Z Player Name	123 50 Point Games
1	James Harden	24
2	Damian Lillard	15
3	Stephen Curry	15
4	Giannis Antetokounmpo	9
5	Kevin Durant	9
6	Luka Dončić	7
7	Kyrie Irving	6
8	LeBron James	6
9	Jayson Tatum	5
10	Anthony Davis	5

11a) How many MVPs does each player in the database have?

```
drop view if exists mvp_awards;  
create view mvp_awards as  
select  
    p.first_name || ' ' || p.last_name as "Player Name",  
    a.team,  
    a.description as "MVP",  
    a.season  
from nba.playerinfo p  
join nba.awards a  
on p.person_id = a.person_id  
where a.description = 'NBA Most Valuable Player';  
select "Player Name", count(*) as "MVPs"  
from mvp_awards ma  
group by "Player Name";
```

	A-Z Player Name	123 MVPs
1	Giannis Antetokounmpo	2
2	James Harden	1
3	Kevin Durant	1
4	LeBron James	4
5	Nikola Jokić	3
6	Russell Westbrook	1
7	Stephen Curry	2

11b) Who was the youngest player to win the MVP award?

-- Derrick Rose is not in my database, although he is the youngest player to win MVP.
-- I will see what age each player in my database won MVP and see who was the youngest...

```
create view mvp_age as
```

```
select
```

```
    p.first_name || ' ' || p.last_name as "Player Name",
```

```
    a.team,
```

```
    a.description as "MVP",
```

```
    a.season,
```

```
    p2.player_age
```

```
from nba.playerinfo p
```

```
join nba.awards a
```

```
on p.person_id = a.person_id
```

```
join nba.playersstats p2
```

```
on p.person_id = p2.player_id and p2.season_id = a.season
```

```
where a.description = 'NBA Most Valuable Player';
```

	A-Z Player Name ▼	A-Z team ▼	A-Z MVP ▼	A-Z season ▼	123 player_age ▼
1	LeBron James	Cleveland Cavaliers	NBA Most Valuable Player	2008-09	24
2	Giannis Antetokounmpo	Milwaukee Bucks	NBA Most Valuable Player	2018-19	24

-- In this case, there are two players aged 24 who won

-- an MVP award.

```
select *from mvp_age
```

```
where player_age = (
```

```
    select min(player_age)
```

```
    from mvp_age
```

```
);
```


11c) Who was the oldest player to win the MVP award?

-- Same thing as the last question, but max instead of min:

select

*

from

	A-Z Player Name ▼	A-Z team ▼	A-Z MVP ▼	A-Z season ▼	123 player_age ▼
1	Nikola Jokić	Denver Nuggets	NBA Most Valuable Player	2023-24	29

mvp_age

where

player_age = (

select

max(player_age)

from

mvp_age

);

12) How many NBA players played for 5 or more teams in their careers? What were the teams?

```
select distinct on (team_abbreviation)
  full_name as player,
  season_id,
  team_abbreviation as team,
  player_age as age,
  ppg
from nba.playersstats p
where full_name = 'LeBron James';
```

	A-Z player	A-Z season_id	A-Z team	123 age	123 ppg
1	LeBron James	2003-04	CLE	19	20.94
2	LeBron James	2021-22	LAL	37	30.27
3	LeBron James	2010-11	MIA	26	26.72

```
create view player_teams as
select distinct on (team_abbreviation)
  full_name as player,
  season_id,
  team_abbreviation as team,
  player_age as age,
  ppg
from nba.playersstats p;

select
  p2.first_name || ' ' || p2.last_name as name,
  count(distinct p.team_abbreviation) as teams
from nba.playersstats p
join nba.playerinfo p2
on p.player_id = p2.person_id
group by name
order by teams desc
limit 10;
```

	A-Z name	123 teams
1	Russell Westbrook	6
2	James Harden	5
3	Kevin Durant	5
4	Jimmy Butler III	5
5	DeMar DeRozan	4
6	Kyrie Irving	4
7	Anthony Davis	4
8	LeBron James	3
9	Kawhi Leonard	3
10	De'Aaron Fox	2

13) Who are the players who won the finals MVP, and what were their stats in the finals?

I have no data regarding the nba playoffs besides brackets from the api.

Question changed:

How many points per game did LeBron James score in the 2010-11 season? Changed question because the api has no data for the 2003 nba season which was LeBron James's rookie season.

	A-Z season_id	A-Z full_name	123 player_age	123 gp	123 fgm	123 fga	123 ppg
1	2010-11	LeBron James	26	79	758	1,485	26.72

select

s.season_id, full_name,
player_age, gp, fgm, fga, ppg

from nba.seasons s

join nba.playersstats p

on s.season_id = p.season_id

join nba.playerinfo as i

on p.player_id = i.person_id

where s.season_id = '2010-11' and full_name = 'LeBron James';

14a) On average, how many seasons does it take for a player to win a championship?

```
drop view if exists seasons_to_champ;
create view seasons_to_champ as
select distinct on (full_name)
    s.season_id, full_name, team, description,
    min(player_age) age, s.end_year, draft_year, ppg
from nba.awards a
join nba.playersstats p
on a.person_id = p.player_id and a.season = p.season_id
join nba.playerinfo p2
on p.player_id = p2.person_id
join nba.seasons s
on p.season_id = s.season_id
where description = 'NBA Champion'
group by
    full_name, s.season_id,
    full_name, team, description,
    end_year, draft_year, ppg;

select * from seasons_to_champ;

select
    round(avg(end_year - draft_year), 0) as average_seasons_before_champ
from seasons_to_champ;
```

	123 average_seasons_before_champ
1	7

	A-Z season_id	A-Z full_name	A-Z team	A-Z description	123 age	123 end_year	123 draft_year	123 ppg
1	2019-20	Anthony Davis	Los Angeles Lakers	NBA Champion	27	2,020	2,012	26.1
2	2020-21	Giannis Antetokounmpo	Milwaukee Bucks	NBA Champion	26	2,021	2,013	28.15
3	2022-23	Jamal Murray	Denver Nuggets	NBA Champion	26	2,023	2,016	19.97
4	2023-24	Jaylen Brown	Boston Celtics	NBA Champion	27	2,024	2,016	23
5	2023-24	Jayson Tatum	Boston Celtics	NBA Champion	26	2,024	2,017	26.85
6	2021-22	Jordan Poole	Golden State Warriors	NBA Champion	23	2,022	2,019	18.49
7	2013-14	Kawhi Leonard	San Antonio Spurs	NBA Champion	23	2,014	2,011	12.79
8	2016-17	Kevin Durant	Golden State Warriors	NBA Champion	28	2,017	2,007	25.08
9	2014-15	Klay Thompson	Golden State Warriors	NBA Champion	25	2,015	2,011	21.66
10	2015-16	Kyrie Irving	Cleveland Cavaliers	NBA Champion	24	2,016	2,011	19.64
11	2011-12	LeBron James	Miami Heat	NBA Champion	27	2,012	2,003	27.15
12	2022-23	Nikola Jokić	Denver Nuggets	NBA Champion	28	2,023	2,014	24.49
13	2014-15	Stephen Curry	Golden State Warriors	NBA Champion	27	2,015	2,009	23.75

14b) What is the average age of a player when they win a championship?

```
select
```

```
    round(sum(age)::numeric / count(*)::numeric, 0) as "Average Age for Champs"
```

```
from seasons_to_champ;
```



The screenshot shows a database query result in a dark-themed interface. At the top, there is a header row with a circular icon on the left, the text "123 Average Age for Champs" in the center, and a downward-pointing triangle on the right. Below this is a single data row. The first column of this row contains the number "1". The second column contains the number "26".

	123 Average Age for Champs
1	26

15) How long has LeBron James been in the NBA? How many minutes has he played? How many total points? What is his career ppg? Calculate the total points given the total seasons and the avg career ppg:

-- How long has LeBron James been in the NBA?

```
create view total_seasons as
select count(*) as total_seasons
from nba.playersstats p
where full_name = 'LeBron James';
select * from total_seasons;
```

	123 total_seasons
1	22

-- How many minutes has he played?

```
select sum(min) as total_minutes
from nba.playersstats p
where full_name = 'LeBron James';
```

	123 total_minutes
1	59,040

-- How many total points?

```
create view total_points as
select sum(pts) as total_points
from nba.playersstats p
where full_name = 'LeBron James';
select * from total_points;
```

	123 total_points
1	42,184

-- What is his career ppg?

```
create view career_ppg as
select round(avg(ppg), 2) as total_seasons
from nba.playersstats p
where full_name = 'LeBron James';
select total_seasons as total_ppg from career_ppg;
```

	123 total_ppg
1	27.01

-- Calculate the total points given the total seasons and the avg career ppg:

```
create view total_points_calc as
select round(avg(ppg) * sum(gp), 2) as total_points
from nba.playersstats p
where full_name = 'LeBron James';
select * from total_points_calc;
```

	123 total_points
1	42,183.94

16a) What was the best regular season record, and what were the stats?

```
create view season_stats as
select season_id, first_name || ' ' || last_name as player, game_date, matchup, wl, pts
from nba.playergamelogs l
join nba.playerinfo p
on l.player_id = p.person_id
order by game_date;
select * from season_stats;
```

```
create view regular_season_record as
SELECT
    season_id,
    player,
    SUM(CASE WHEN wl = 'W' THEN 1 ELSE 0 END) AS wins,
    SUM(CASE WHEN wl = 'L' THEN 1 ELSE 0 END) AS losses,
    COUNT(*) AS total_games,
    ROUND(SUM(CASE WHEN wl = 'W' THEN 1 ELSE 0 END) * 100.0 / COUNT(*), 2) AS win_percentage
FROM season_stats
GROUP BY season_id, player
ORDER BY season_id, player;
```

```
select
    season_id,
    player,
    wins,
    losses,
    total_games,
    win_percentage
```

```
from regular_season_record rsr
where wins = (select max(wins) from regular_season_record rsr2);
```

	A-Z season_id ▼	A-Z player ▼	123 wins ▼	123 losses ▼	123 total_games ▼	123 win_percentage ▼
1	2015-16	Klay Thompson	71	9	80	88.75
2	2015-16	Stephen Curry	71	8	79	89.87

16b) What is the worst regular season record, and what were the stats for that team?

select -- This is the season that steph curry got injured.

season_id,
player,
wins,
losses,
total_games,
win_percentage

from

regular_season_record *rsr*

where

wins = (
select

min(wins)

from

regular_season_record *rsr2*

);

	A-Z season_id ▼	A-Z player ▼	123 wins ▼	123 losses ▼	123 total_games ▼	123 win_percentage ▼
1	2019-20	Stephen Curry	1	4	5	20

17) Which team has the most MVPS? And who is the head Coach?

```
create view total_mvps as
select distinct p.season_id, abbreviation, headcoach, full_name, draft_round, draft_number, gp, ppg, description,
               SUM(CASE WHEN wl = 'W' THEN 1 ELSE 0 END) AS wins,
               SUM(CASE WHEN wl = 'L' THEN 1 ELSE 0 END) AS losses,
               ROUND(SUM(CASE WHEN wl = 'W' THEN 1 ELSE 0 END) * 100.0 / COUNT(*), 2) AS win_percentage
from nba.teams t
join nba.playersstats p
on t.team_id = p.team_id and t.abbreviation = p.team_abbreviation
join nba.playerinfo p2
on p.player_id = p2.person_id
join nba.awards a
on p2.person_id = a.person_id and a.season = p.season_id
join nba.playergamelogs p3
on p2.person_id = p3.player_id and a.season = p3.season_id
where description = 'NBA Most Valuable Player'
group by
    p.season_id, abbreviation, headcoach,
    full_name, draft_round, draft_number, gp, ppg, description;

select distinct abbreviation, headcoach, count(*) as total_mvps
from total_mvps
group by abbreviation, headcoach
order by total_mvps desc
limit 1;
```

	A-Z abbreviation ▼	A-Z headcoach ▼	123 total_mvps ▼
1	DEN	David Adelman	3

18) How many more 30 PPG seasons does Michael Jordan have over LeBron James?

Changed from Michael Jordan to James Harden... Changed from James Harden to Stephen Curry... Since Michael Jordan is not in the database.

```
create view high_scoring_seasons as
select * from nba.playersstats
where ppg >= 30;
```

```
drop view if exists player_scoring;
create view player_scoring as
select full_name, count(*) as "30 pt avg seasons"
from high_scoring_seasons
group by full_name
order by "30 pt avg seasons" desc;
```

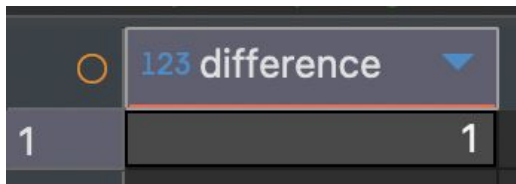
```
create view lebron as
select "30 pt avg seasons"
from player_scoring
where full_name = 'LeBron James';
```

```
create view steph as
select "30 pt avg seasons"
from player_scoring
where full_name = 'Stephen Curry';
```

-- Joining the two views and answering the question:

```
SELECT
p1."30 pt avg seasons" - p2."30 pt avg seasons" AS difference
FROM
player_scoring p1,
player_scoring p2
WHERE
p1.full_name = 'LeBron James'
AND p2.full_name = 'Stephen Curry';
```

The question is: How many more 30 PPG seasons does LeBron James have over Stephen Curry.



	123 difference	
1		1

19a) What was the season with the lowest PPG and still won MVP? What about the highest?

```
drop view if exists mvp;  
create view mvp as  
select  
    season,  
    person_id,  
    first_name || ' ' || last_name as player,  
    team,  
    description  
from nba.awards  
where description = 'NBA Most Valuable Player'  
order by season;
```

```
create view mvp_stats as  
select  
    m.season, m.player,  
    m.team, m.description,  
    p2.player_age, p2.gp,  
    p2.fg3m, p2.ppg  
from mvp m  
join nba.playerinfo p  
on m.player = p.display_first_last  
join nba.playersstats p2  
on p.person_id = p2.player_id and m.season = p2.season_id;  
select * from mvp_stats;
```

	A-Z season	A-Z player	A-Z team	A-Z description	123 player_age	123 gp	123 fg3m	123 ppg
1	2016-17	Russell Westbrook	Oklahoma City Thunder	NBA Most Valuable Player	28	81	200	31.58
2	2014-15	Stephen Curry	Golden State Warriors	NBA Most Valuable Player	27	80	286	23.75
3	2015-16	Stephen Curry	Golden State Warriors	NBA Most Valuable Player	28	79	402	30.06
4	2008-09	LeBron James	Cleveland Cavaliers	NBA Most Valuable Player	24	81	132	28.44
5	2009-10	LeBron James	Cleveland Cavaliers	NBA Most Valuable Player	25	76	129	29.71
6	2011-12	LeBron James	Miami Heat	NBA Most Valuable Player	27	62	54	27.15
7	2012-13	LeBron James	Miami Heat	NBA Most Valuable Player	28	76	103	26.79
8	2013-14	Kevin Durant	Oklahoma City Thunder	NBA Most Valuable Player	25	81	192	32.01
9	2018-19	Giannis Antetokounmpo	Milwaukee Bucks	NBA Most Valuable Player	24	72	52	27.69
10	2019-20	Giannis Antetokounmpo	Milwaukee Bucks	NBA Most Valuable Player	25	63	89	29.48
11	2017-18	James Harden	Houston Rockets	NBA Most Valuable Player	28	72	265	30.43

19b)

-- Lowest ppg with MVP:

create view small_ppg_mvp as

select *

from mvp_stats

where ppg = (select min(ppg) from mvp_stats);

select * from small_ppg_mvp;

	A-Z season	A-Z player	A-Z team	A-Z description	123 player_age	123 gp	123 fg3m	123 ppg
1	2014-15	Stephen Curry	Golden State Warriors	NBA Most Valuable Player	27	80	286	23.75

-- Highest ppg with MVP:

create view big_ppg_mvp as

select *

from mvp_stats

where ppg = (select max(ppg) from mvp_stats);

select * from big_ppg_mvp;

	A-Z season	A-Z player	A-Z team	A-Z description	123 player_age	123 gp	123 fg3m	123 ppg
1	2013-14	Kevin Durant	Oklahoma City Thunder	NBA Most Valuable Player	25	81	192	32.01

19c)

	A-Z season	A-Z player	A-Z team	A-Z description	123 player_age	123 ppg	123 wins	123 losses	123 win_percentage
1	2014-15	Stephen Curry	Golden State Warriors	NBA Most Valuable Player	27	23.75	67	13	83.75

-- Getting the data for the lowest and including win percentage:

select

season,

player,

team,

description,

s.player_age,

s.ppg,

SUM(CASE WHEN wl = 'W' THEN 1 ELSE 0 END) AS wins,

SUM(CASE WHEN wl = 'L' THEN 1 ELSE 0 END) AS losses,

ROUND(SUM(CASE WHEN wl = 'W' THEN 1 ELSE 0 END) * 100.0 / COUNT(*), 2) AS win_percentage

from small_ppg_mvp s

join nba.playersstats p

on s.player_age = p.player_age and s.player = p.full_name

join nba.seasons s2

on p.season_id = s2.season_id

join nba.playergamelogs p2

on s2.season_id = p2.season_id and p.player_id = p2.player_id

group by

season,

player,

team,

description,

s.ppg,

s.player_age;

19d)

	A-Z season	A-Z player	A-Z team	A-Z description	123 player_age	123 ppg	123 wins	123 losses	123 win_percentage
1	2013-14	Kevin Durant	Oklahoma City Thunder	NBA Most Valuable Player	25	32.01	58	23	71.6

-- Get the data for the highest:

select

season,

player,

team,

description,

s.player_age,

s.ppg,

SUM(CASE WHEN wl = 'W' THEN 1 ELSE 0 END) AS wins,

SUM(CASE WHEN wl = 'L' THEN 1 ELSE 0 END) AS losses,

ROUND(SUM(CASE WHEN wl = 'W' THEN 1 ELSE 0 END) * 100.0 / COUNT(*), 2) AS win_percentage

from big_ppg_mvp s

join nba.playersstats p

on s.player_age = p.player_age and s.player = p.full_name

join nba.seasons s2

on p.season_id = s2.season_id

join nba.playergamelogs p2

on s2.season_id = p2.season_id and p.player_id = p2.player_id

group by

season,

player,

team,

description,

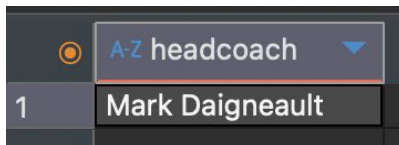
s.ppg,

s.player_age;

20) Which coach has the highest winning percentage in 2024?

```
drop view if exists wins;
create view wins as
select
    headcoach,
    abbreviation,
    SUM(case when wl = 'W' then 1 else 0 end) as wins,
    SUM(case when wl = 'L' then 1 else 0 end) as losses,
    ROUND(SUM(case when wl = 'W' then 1 else 0 end) * 100.0 / COUNT(*), 2) as win_percentage
from nba.playergamelogs p
join nba.seasons s
on p.season_id = s.season_id
join nba.playersstats p2
on s.season_id = p2.season_id and p.player_id = p2.player_id
join nba.playerinfo p3
on p2.player_id = p3.person_id
join nba.teams t
on p3.team_id = t.team_id
where p.season_id = '2024-25'
group by headcoach, abbreviation
order by win_percentage desc
limit 1;

select headcoach from wins;
```



	A-Z headcoach ▼
1	Mark Daigneault

Extra Question: What is the 2023-24 mvps home ppg vs away ppg?

```
drop view if exists mvp2023_24;
create view mvp2023_24 as
select person_id as player_id
from nba.awards a
where season = '2023-24' and description = 'NBA Most Valuable Player';
select * from mvp2023_24;
create view home_vs_away as
select
    game_date,
    full_name,
    matchup,
    wl,
    p3.pts,
    CASE
        WHEN matchup ILIKE '%@%' THEN 'Away'
        WHEN matchup ILIKE '%vs.%' THEN 'Home'
        ELSE 'Unknown'
    END AS location
from nba.playerinfo p
join nba.playersstats p2
on p.person_id = p2.player_id
join nba.seasons s
on p2.season_id = s.season_id
join nba.playergamelegs p3
on p.person_id = p3.player_id and p2.season_id = p3.season_id
where p2.player_id = (select * from mvp2023_24) and p2.season_id = '2023-24';
select * from home_vs_away;
create view home_vs_away_pts as
select
    count(case when location = 'Away' then 1 end) as away_games,
    sum(case when location = 'Away' then pts end) as away_pts,
    count(case when location = 'Home' then 1 end) as home_games,
    sum(case when location = 'Home' then pts end) as home_pts
from home_vs_away;
select * from home_vs_away_pts;
select
    round(away_pts/away_games::numeric, 2) as away_ppg,
    round(home_pts/home_games::numeric, 2) as home_ppg
from home_vs_away_pts;
```

	123 away_ppg ▼	123 home_ppg ▼
1	26.61	26.2