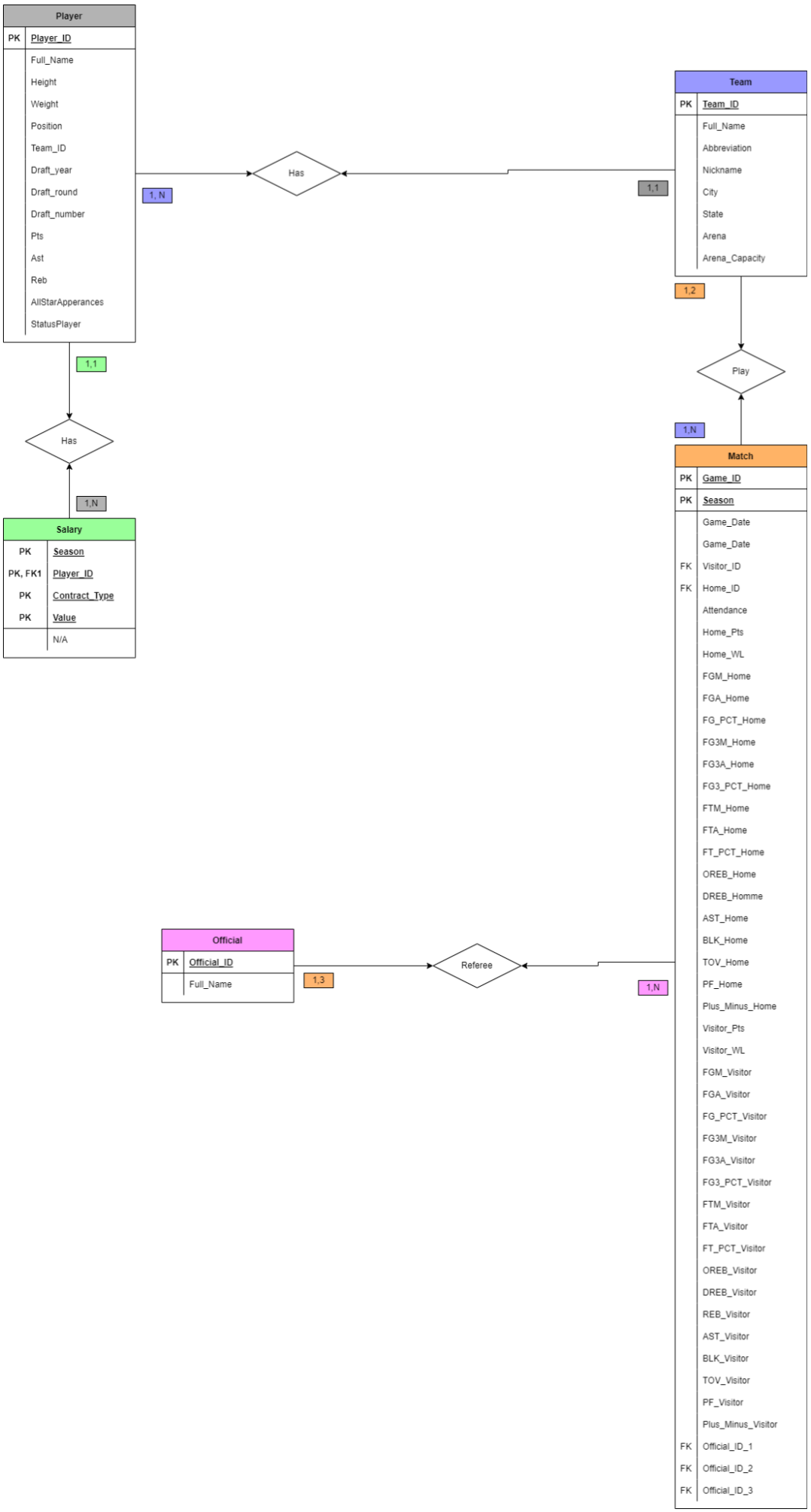
Universidad del Valle de Guatemala
Bases de datos
Ing. Jorge Yass

Diego Alonzo 20172
Paulo Sanchez 21401

Proyecto #1

Parte 1

Diagrama entidad relación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PK Player_ID
Full_Name
Height
Weight
Position
Team_ID
Draft_year
Draft_round
Draft_number
Pts
Ast
Reb
AllStarApperances
StatusPlayer
Has
1, N
1,1
Team
PK Team_ID
Full_Name
Abbreviation
Nickname
City
State
Arena
Arena_Capacity
1,2
Play
1,N
Match
PK Game_ID
PK Season
Game_Date
Game_Date
FK Visitor_ID
FK Home_ID
Attendance
Home_Pts
Home_WL
FGM_Home
FGA_Home
FG_PCT_Home
FG3M_Home
FG3A_Home
FG3_PCT_Home
FTM_Home
FTA_Home
FT_PCT_Home
OREB_Home
DREB_Homme
AST_Home
BLK_Home
TOV_Home
PF_Home
Plus_Minus_Home
Visitor_Pts
Visitor_WL
FGM_Visitor
FGA_Visitor
FG_PCT_Visitor
FG3M_Visitor
FG3A_Visitor
FG3_PCT_Visitor
FTM_Visitor
FTA_Visitor
FT_PCT_Visitor
OREB_Visitor
DREB_Visitor
REB_Visitor
AST_Visitor
BLK_Visitor
TOV_Visitor
PF_Visitor
Plus_Minus_Visitor
FK Official_ID_1
FK Official_ID_2
FK Official_ID_3
1,1
Has
1,N
Salary
PK Season
PK, FK1 Player_ID
PK Contract_Type
PK Value
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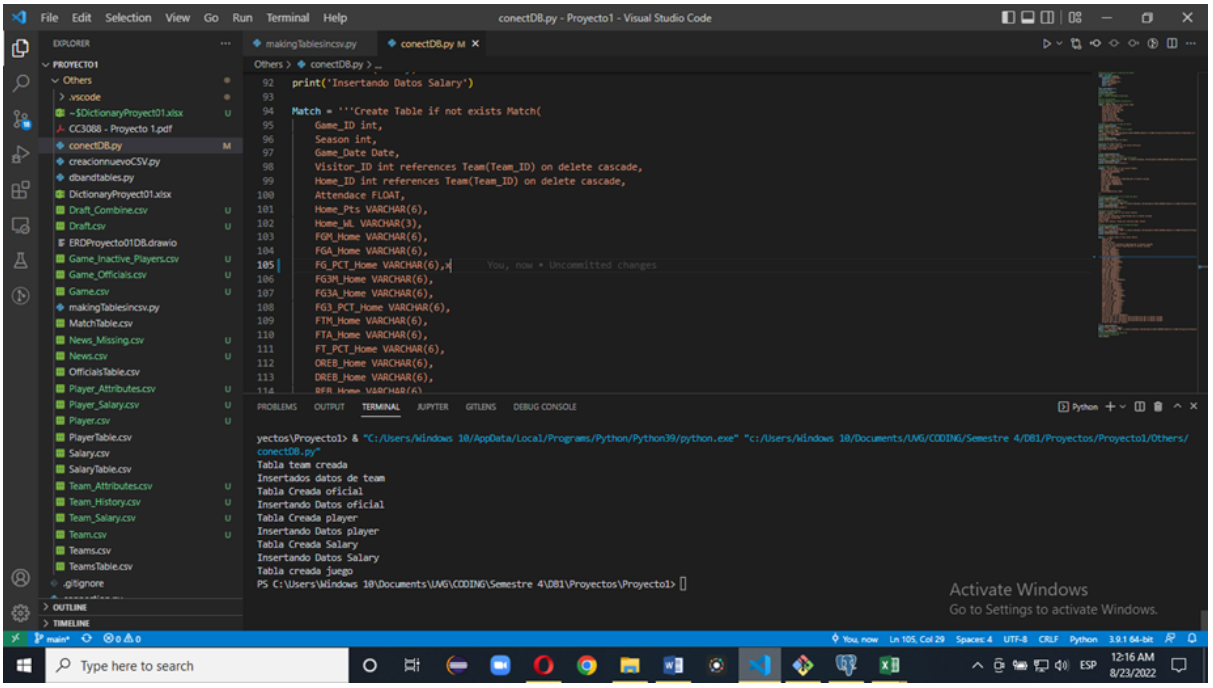
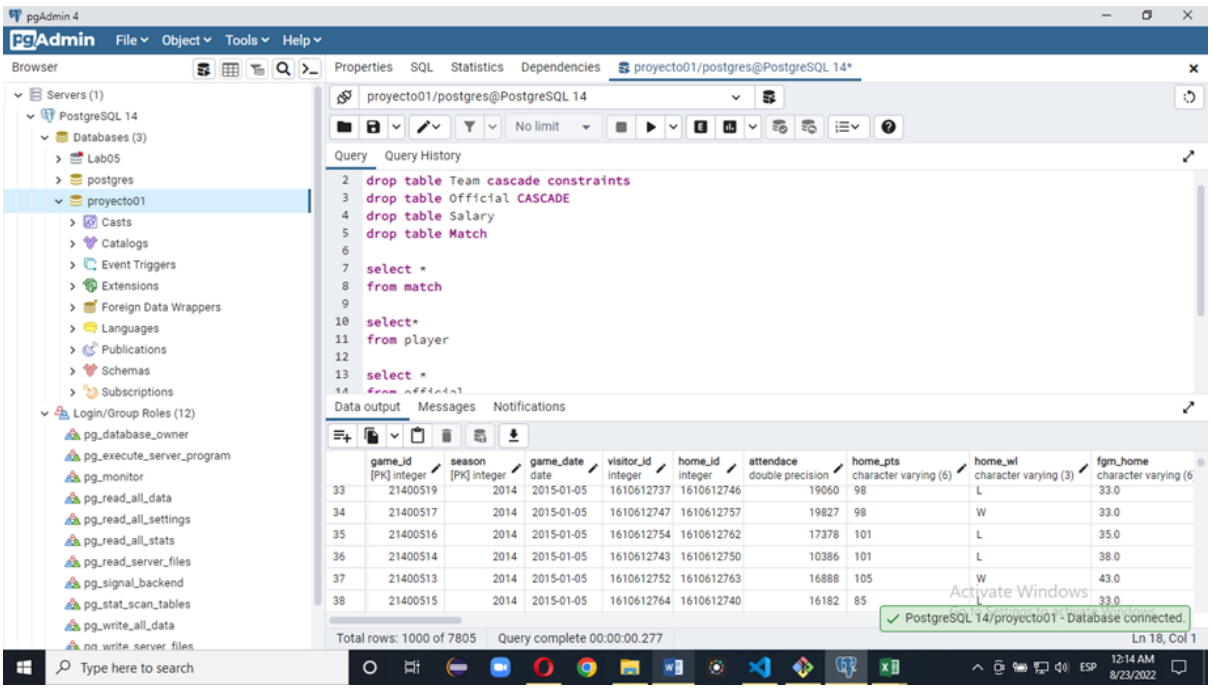
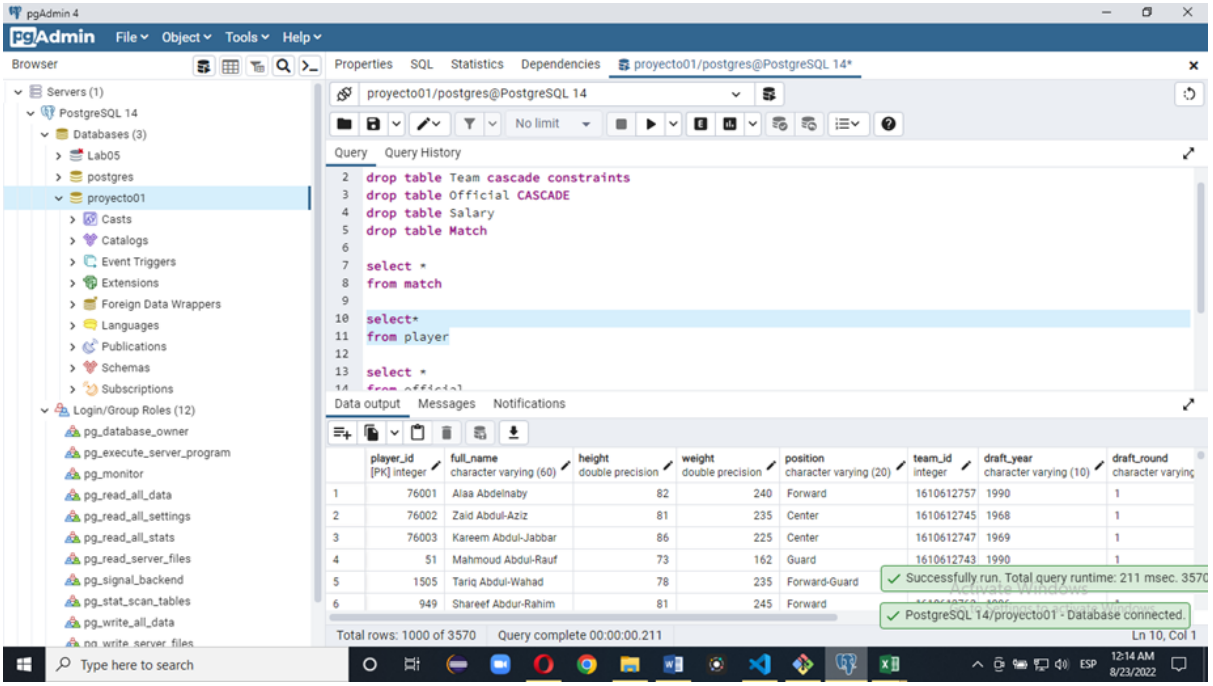
Official
PK Official_ID
Full_Name
1,3
Referee
1,N

Pruebas de que se logró realizar la parte 01 del proyecto.






pgAdmin 4
File Object Tools Help
Browser
Properties SQL Statistics Dependencies proyecto01/postgres@PostgreSQL 14*
proyecto01/postgres@PostgreSQL 14
No limit
Query Query History
drop table Team cascade constraints
drop table Official CASCADE
drop table Salary
drop table Match
select *
from match
select*
from player
select *
Data output Messages Notifications
player_id [PK] integer
full_name character varying (60)
height double precision
weight double precision
position character varying (20)
team_id integer
draft_year character varying (10)
draft_round character varying
1 76001 Alaa Abdelnaby 82 240 Forward 1610612757 1990 1
2 76002 Zaid Abdul-Aziz 81 235 Center 1610612745 1968 1
3 76003 Kareem Abdul-Jabbar 86 225 Center 1610612747 1969 1
4 51 Mahmoud Abdul-Rauf 73 162 Guard 1610612743 1990 1
5 1505 Tariq Abdul-Wahad 78 235 Forward-Guard
6 949 Shareef Abdur-Rahim 81 245 Forward
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PostgreSQL 14/proyecto01 - Database connected.
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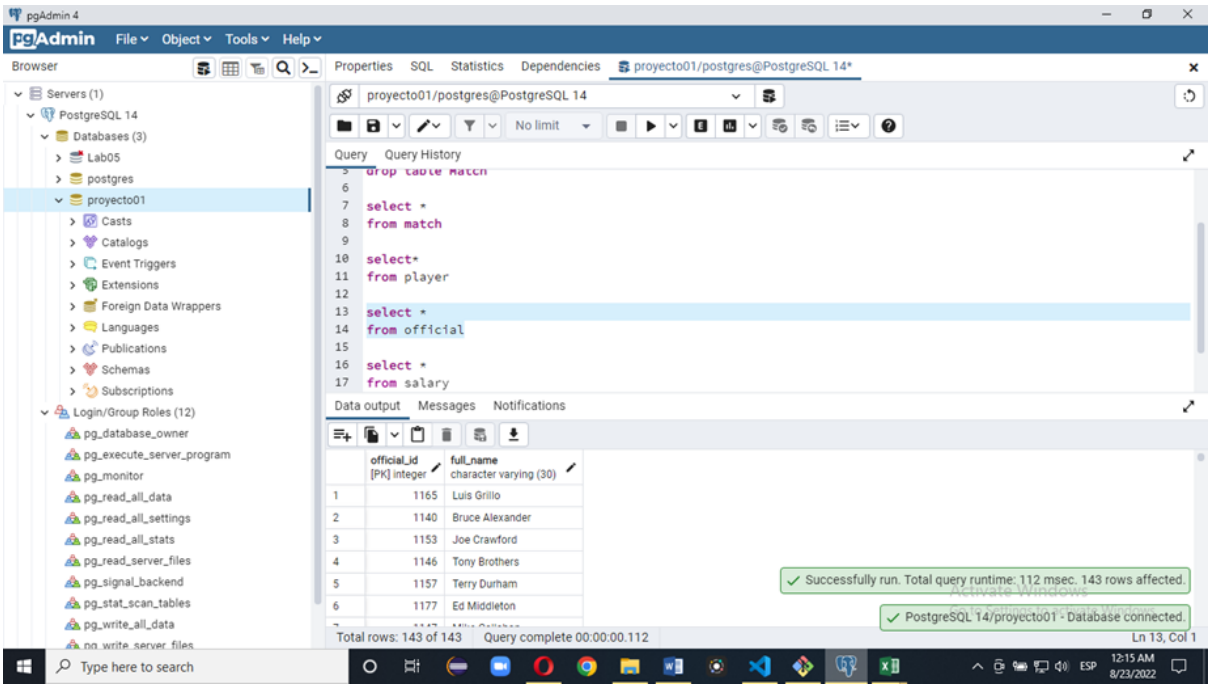
Type here to search
ESP
12:14 AM
8/23/2022


pgAdmin 4
File Object Tools Help
Browser
Properties SQL Statistics Dependencies proyecto01/postgres@PostgreSQL 14*
proyecto01/postgres@PostgreSQL 14
No limit
Query Query History
drop table Match
select *
from match
select*
from player
select *
from official
select *
from salary
Data output Messages Notifications
official_id [PK] integer
full_name character varying (30)
1 1165 Luis Grillo
2 1140 Bruce Alexander
3 1153 Joe Crawford
4 1146 Tony Brothers
5 1157 Terry Durham
6 1177 Ed Middleton
Successfully run. Total query runtime: 112 msec. 143 rows affected.
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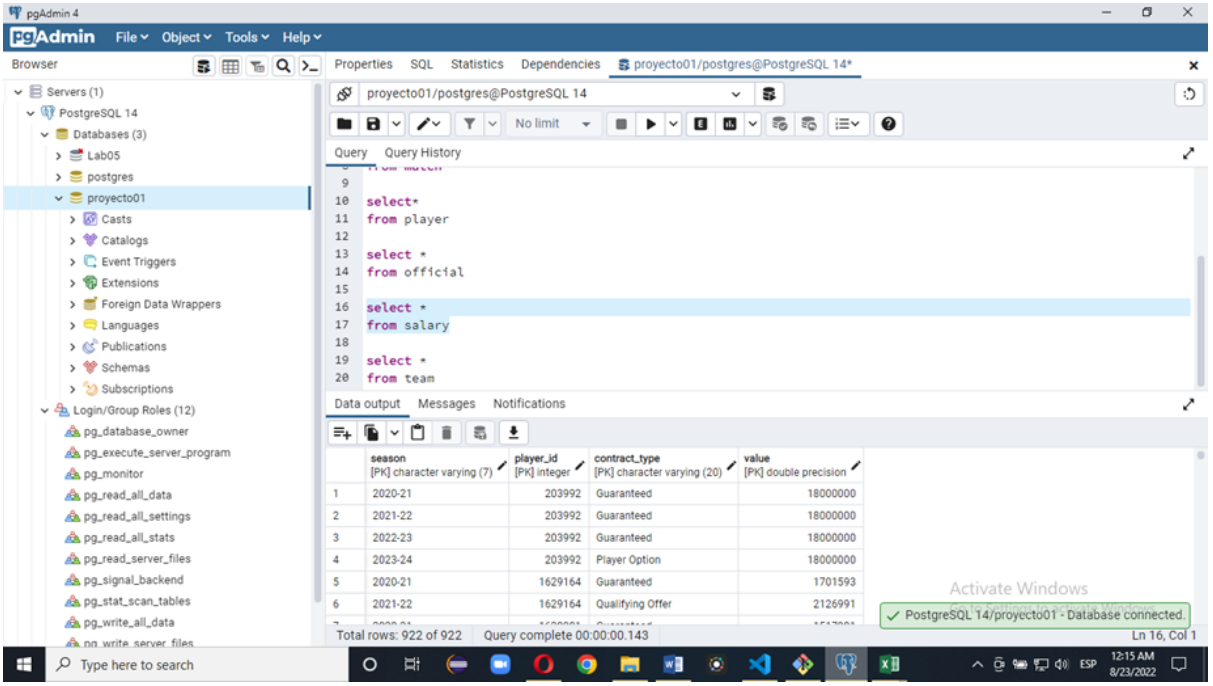
ESP
12:15 AM
8/23/2022


pgAdmin 4
File Object Tools Help
Browser
Properties SQL Statistics Dependencies proyecto01/postgres@PostgreSQL 14*
proyecto01/postgres@PostgreSQL 14
No limit
Query Query History
select*
from player
select *
from official
select *
from salary
select *
from team
Data output Messages Notifications
season [PK] character varying (7)
player_id [PK] integer
contract_type [PK] character varying (20)
value [PK] double precision
1 2020-21 203992 Guaranteed 18000000
2 2021-22 203992 Guaranteed 18000000
3 2022-23 203992 Guaranteed 18000000
4 2023-24 203992 Player Option 18000000
5 2020-21 1629164 Guaranteed 1701593
6 2021-22 1629164 Qualifying Offer 2126991
PostgreSQL 14/proyecto01 - Database connected.
Total rows: 922 of 922
Query complete 00:00:00.143
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ESP
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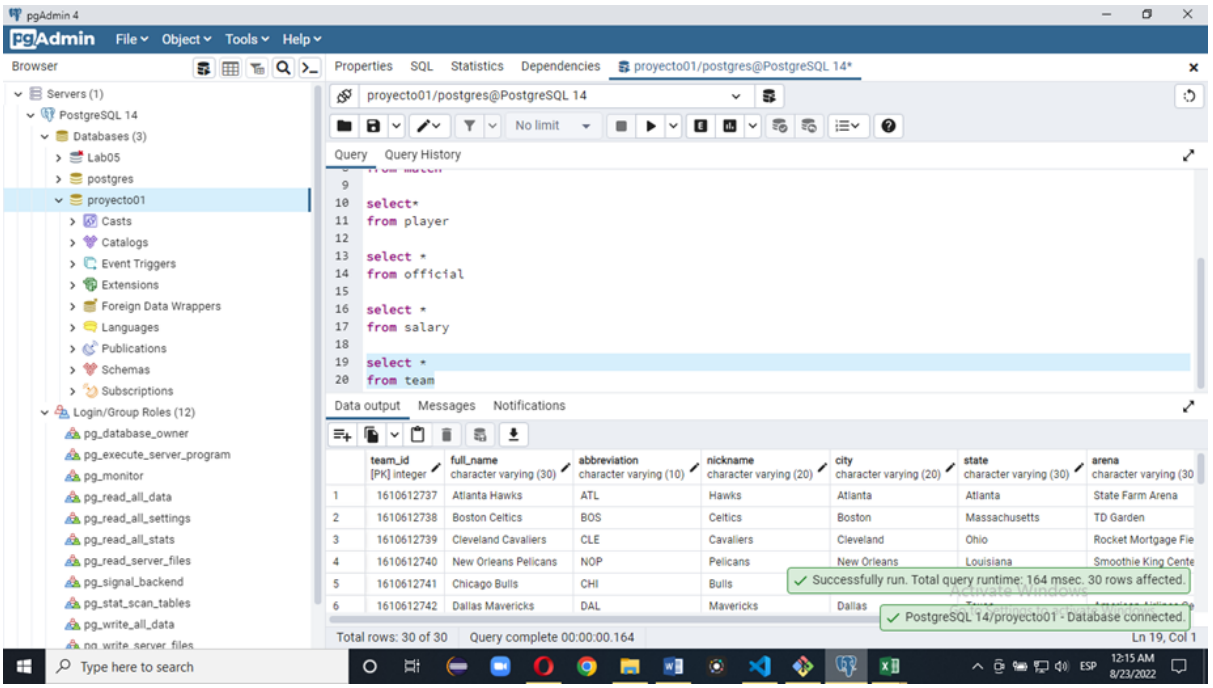
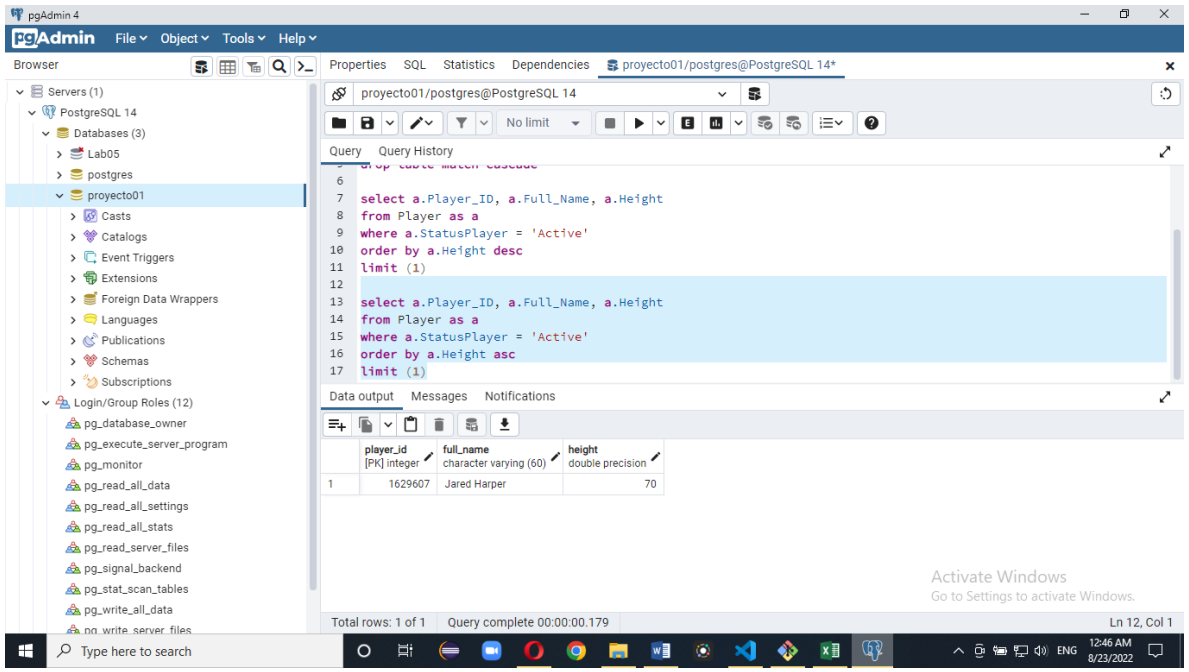
8/23/2022


pgAdmin 4
File Object Tools Help
Browser
Properties SQL Statistics Dependencies proyecto01/postgres@PostgreSQL 14*
proyecto01/postgres@PostgreSQL 14
No limit
Query Query History
select*
from player
select *
from official
select *
from salary
select *
from team
Data output Messages Notifications
team_id [PK] integer
full_name character varying (30)
abbreviation character varying (10)
nickname character varying (20)
city character varying (20)
state character varying (30)
arena character varying (30
1 1610612737 Atlanta Hawks ATL Hawks Atlanta Atlanta State Farm Arena
2 1610612738 Boston Celtics BOS Celtics Boston Massachusetts TD Garden
3 1610612739 Cleveland Cavaliers CLE Cavaliers Cleveland Ohio Rocket Mortgage Fie
4 1610612740 New Orleans Pelicans NOP Pelicans New Orleans Louisiana Smoothie King Cente
5 1610612741 Chicago Bulls CHI Bulls
6 1610612742 Dallas Mavericks DAL Mavericks Dallas
Successfully run. Total query runtime: 164 msec. 30 rows affected.
PostgreSQL 14/proyecto01 - Database connected.
Total rows: 30 of 30
Query complete 00:00:00.164
Ln 19, Col 1
Type here to search
ESP
12:15 AM
8/23/2022

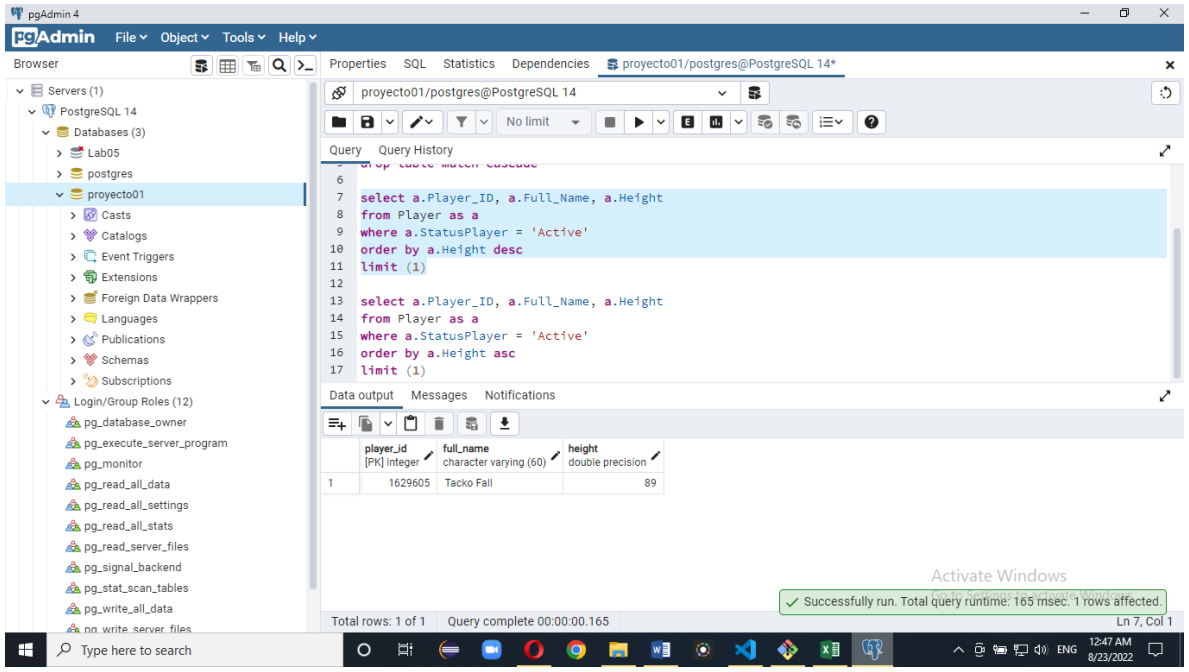
Parte 2

1. ¿Quién es el jugador más alto?



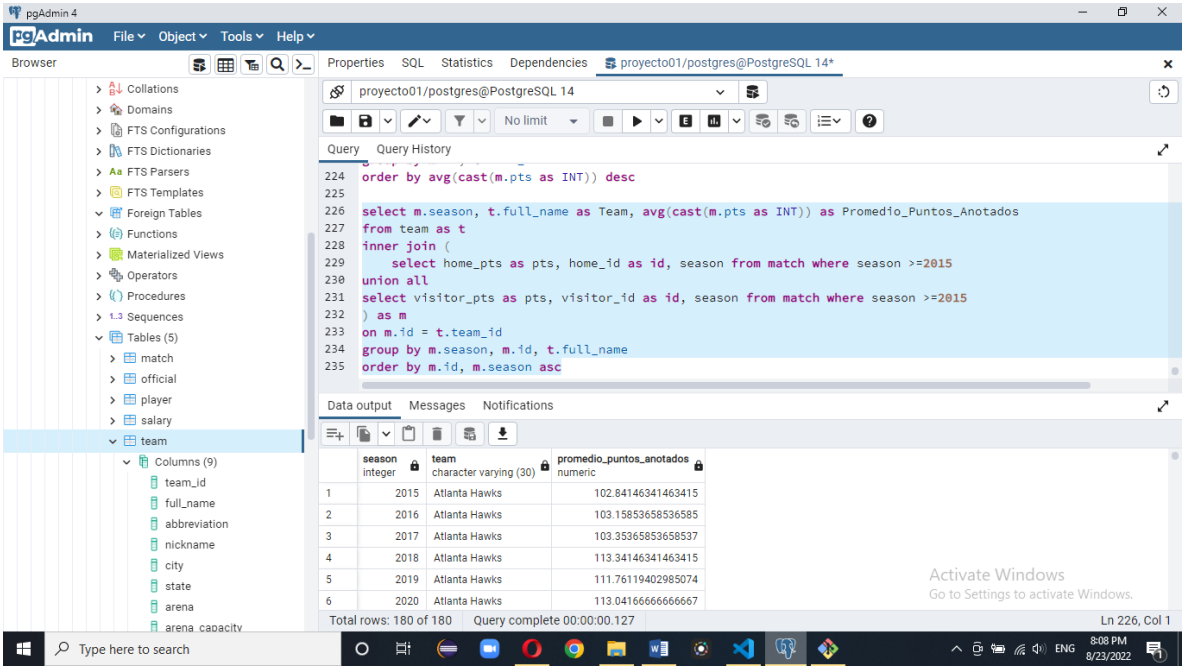
1629605 "Tacko Fall" 89

2. ¿Quién es el jugador más bajo?



1629607 "Jared Harper"70

3. ¿Cuál fue el promedio de puntos anotados y recibidos en cada una de las temporadas relevantes? El promedio de puntos anotados en cada temporada relevante [2015-2020] para cada equipo es:



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2017	"Atlanta Hawks"	103.35365853658537
2018	"Atlanta Hawks"	113.34146341463415
2019	"Atlanta Hawks"	111.76119402985074
2020	"Atlanta Hawks"	113.04166666666667
2015	"Boston Celtics"	105.71951219512195
2016	"Boston Celtics"	108.01219512195122
2017	"Boston Celtics"	104.01219512195122
2018	"Boston Celtics"	112.39024390243902
2019	"Boston Celtics"	113.65277777777777
2020	"Boston Celtics"	112.625
2015	"Cleveland Cavaliers"	104.32926829268293
2016	"Cleveland Cavaliers"	110.34146341463415
2017	"Cleveland Cavaliers"	110.86585365853658
2018	"Cleveland Cavaliers"	104.47560975609755
2019	"Cleveland Cavaliers"	106.8923076923077
2020	"Cleveland Cavaliers"	103.83333333333333
2015	"New Orleans Pelicans"	102.71951219512195
2016	"New Orleans Pelicans"	104.34146341463415
2017	"New Orleans Pelicans"	111.71951219512195
2018	"New Orleans Pelicans"	115.4390243902439
2019	"New Orleans Pelicans"	115.84722222222223
2020	"New Orleans Pelicans"	114.34722222222223
2015	"Chicago Bulls"	101.64634146341463
2016	"Chicago Bulls"	102.86585365853658
2017	"Chicago Bulls"	102.92682926829268
2018	"Chicago Bulls"	104.9390243902439
2019	"Chicago Bulls"	106.84615384615384

2020	"Chicago Bulls"	110.68055555555556
2015	"Dallas Mavericks"	102.29268292682927
2016	"Dallas Mavericks"	97.91463414634147
2017	"Dallas Mavericks"	102.3170731707317
2018	"Dallas Mavericks"	108.86585365853658
2019	"Dallas Mavericks"	117.01333333333334
2020	"Dallas Mavericks"	110.97222222222223
2015	"Denver Nuggets"	101.8641975308642
2016	"Denver Nuggets"	111.55555555555556
2017	"Denver Nuggets"	110
2018	"Denver Nuggets"	110.67073170731707
2019	"Denver Nuggets"	111.28767123287672
2020	"Denver Nuggets"	112.47222222222223
2015	"Golden State Warriors"	114.89024390243902
2016	"Golden State Warriors"	115.89024390243902
2017	"Golden State Warriors"	113.46341463414635
2018	"Golden State Warriors"	117.6829268292683
2019	"Golden State Warriors"	106.33846153846154
2020	"Golden State Warriors"	110.80555555555556
2015	"Houston Rockets"	106.54878048780488
2016	"Houston Rockets"	115.34146341463415
2017	"Houston Rockets"	112.35365853658537
2018	"Houston Rockets"	113.91463414634147
2019	"Houston Rockets"	117.80555555555556
2020	"Houston Rockets"	105.90277777777777
2015	"Los Angeles Clippers"	104.5
2016	"Los Angeles Clippers"	108.67073170731707
2017	"Los Angeles Clippers"	108.98780487804878
2018	"Los Angeles Clippers"	115.14634146341463
2019	"Los Angeles Clippers"	116.34722222222223
2020	"Los Angeles Clippers"	110.84722222222223
2015	"Los Angeles Lakers"	97.34146341463415
2016	"Los Angeles Lakers"	104.57317073170732
2017	"Los Angeles Lakers"	108.07317073170732
2018	"Los Angeles Lakers"	111.76829268292683
2019	"Los Angeles Lakers"	113.43661971830986
2020	"Los Angeles Lakers"	104.59722222222223
2015	"Miami Heat"	100.04878048780488
2016	"Miami Heat"	103.17073170731707
2017	"Miami Heat"	103.41463414634147
2018	"Miami Heat"	105.70731707317073
2019	"Miami Heat"	112.04109589041096
2020	"Miami Heat"	108.06944444444444
2015	"Milwaukee Bucks"	99.04878048780488
2016	"Milwaukee Bucks"	103.6219512195122
2017	"Milwaukee Bucks"	106.47560975609755

2018 "Milwaukee Bucks" 118.1219512195122
2019 "Milwaukee Bucks" 118.67123287671232
2020 "Milwaukee Bucks" 120.125
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2017 "Minnesota Timberwolves" 109.51219512195122
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2019 "Minnesota Timberwolves" 113.25
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2016 "Brooklyn Nets" 105.76829268292683
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2016 "New York Knicks" 104.34146341463415
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2019 "New York Knicks" 105.8030303030303
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2015 "Orlando Magic" 102.0609756097561
2016 "Orlando Magic" 100.93827160493827
2017 "Orlando Magic" 103.40243902439025
2018 "Orlando Magic" 107.3170731707317
2019 "Orlando Magic" 107.27397260273973
2020 "Orlando Magic" 104
2015 "Indiana Pacers" 102.15853658536585
2016 "Indiana Pacers" 105.09756097560975
2017 "Indiana Pacers" 105.5609756097561
2018 "Indiana Pacers" 108.01219512195122
2019 "Indiana Pacers" 109.43835616438356
2020 "Indiana Pacers" 113.95833333333333
2015 "Philadelphia 76ers" 97.34567901234568
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2016 "Phoenix Suns" 107.6951219512195
2017 "Phoenix Suns" 103.92682926829268
2018 "Phoenix Suns" 107.5
2019 "Phoenix Suns" 113.61643835616438
2020 "Phoenix Suns" 113
2015 "Portland Trail Blazers" 105.14634146341463

2016 "Portland Trail Blazers" 107.9390243902439
2017 "Portland Trail Blazers" 105.6219512195122
2018 "Portland Trail Blazers" 114.65853658536585
2019 "Portland Trail Blazers" 114.97297297297297
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2016 "Sacramento Kings" 102.8048780487805
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2015 "Oklahoma City Thunder" 110.21951219512195
2016 "Oklahoma City Thunder" 106.59756097560975
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2019 "Oklahoma City Thunder" 110.41666666666667
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2020 "Washington Wizards" 116.63888888888889
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2016 "Detroit Pistons" 101.32926829268293
2017 "Detroit Pistons" 103.76829268292683
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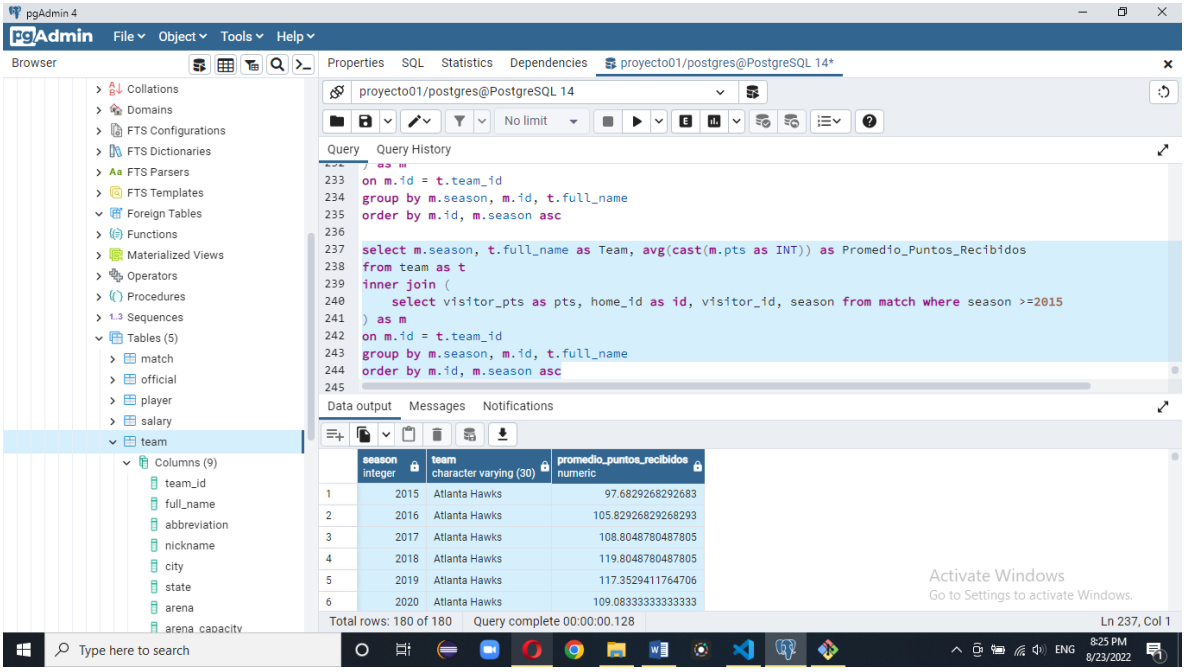
2020 "Charlotte Hornets" 109.45833333333333

Mientras que el promedio de puntos recibidos para cada equipo en cada temporada relevante [2015-2020] es:



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2020 "Boston Celtics" 111.08333333333333
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2016 "Cleveland Cavaliers" 104.5609756097561

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2018	"Cleveland Cavaliers"	112.51219512195122
2019	"Cleveland Cavaliers"	115.05555555555556
2020	"Cleveland Cavaliers"	114.33333333333333
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2018	"New Orleans Pelicans"	116
2019	"New Orleans Pelicans"	116.30555555555556
2020	"New Orleans Pelicans"	113.72222222222223
2015	"Chicago Bulls"	100.1951219512195
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2018	"Chicago Bulls"	113.39024390243902
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2018 "Los Angeles Lakers" 111.17073170731707
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2016 "Miami Heat" 102.51219512195122
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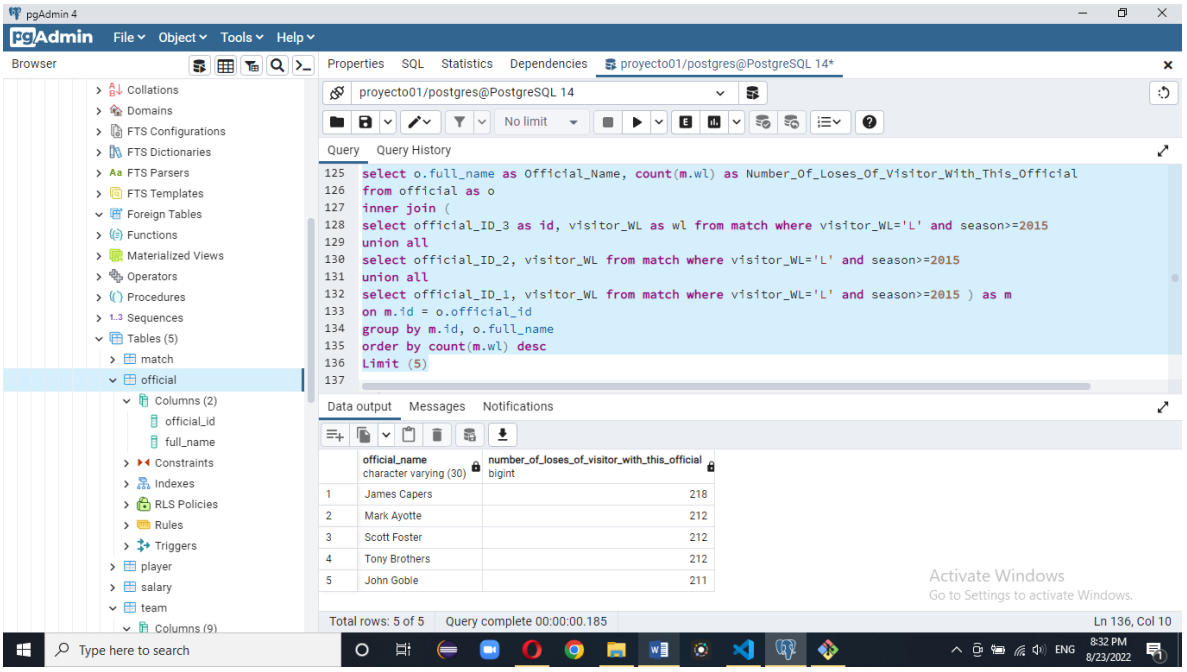
2020 "New York Knicks" 105.13888888888889
2015 "Orlando Magic" 102.17073170731707
2016 "Orlando Magic" 103.8048780487805
2017 "Orlando Magic" 107.3170731707317
2018 "Orlando Magic" 106.6829268292683
2019 "Orlando Magic" 106.4
2020 "Orlando Magic" 114.41666666666667
2015 "Indiana Pacers" 98.85365853658537
2016 "Indiana Pacers" 101.6829268292683
2017 "Indiana Pacers" 103.92682926829268
2018 "Indiana Pacers" 101.04878048780488

2019	"Indiana Pacers"	105.91666666666667
2020	"Indiana Pacers"	113
2015	"Philadelphia 76ers"	107.70731707317073
2016	"Philadelphia 76ers"	105.95121951219512
2017	"Philadelphia 76ers"	103.41463414634147
2018	"Philadelphia 76ers"	110.1951219512195
2019	"Philadelphia 76ers"	104.65714285714286
2020	"Philadelphia 76ers"	108.52777777777777
2015	"Phoenix Suns"	105.8048780487805
2016	"Phoenix Suns"	111.92682926829268
2017	"Phoenix Suns"	113.46341463414635
2018	"Phoenix Suns"	113.85365853658537
2019	"Phoenix Suns"	112.61538461538461
2020	"Phoenix Suns"	103.80555555555556
2015	"Portland Trail Blazers"	102.34146341463415
2016	"Portland Trail Blazers"	106.8780487804878
2017	"Portland Trail Blazers"	102.1951219512195
2018	"Portland Trail Blazers"	109.82926829268293
2019	"Portland Trail Blazers"	115.33333333333333
2020	"Portland Trail Blazers"	110
2015	"Sacramento Kings"	108.6829268292683
2016	"Sacramento Kings"	106.90243902439025
2017	"Sacramento Kings"	105.95121951219512
2018	"Sacramento Kings"	113.48780487804878
2019	"Sacramento Kings"	112.22857142857143
2020	"Sacramento Kings"	111.83333333333333
2015	"San Antonio Spurs"	91.17073170731707
2016	"San Antonio Spurs"	97.46341463414635
2017	"San Antonio Spurs"	98.1219512195122
2018	"San Antonio Spurs"	105.95121951219512
2019	"San Antonio Spurs"	112.94117647058823
2020	"San Antonio Spurs"	113.58333333333333
2015	"Oklahoma City Thunder"	99.6829268292683
2016	"Oklahoma City Thunder"	103.58536585365853
2017	"Oklahoma City Thunder"	103.5609756097561
2018	"Oklahoma City Thunder"	109.63414634146342
2019	"Oklahoma City Thunder"	109.02702702702703
2020	"Oklahoma City Thunder"	117.97222222222223
2015	"Toronto Raptors"	98.39024390243902
2016	"Toronto Raptors"	103.1951219512195
2017	"Toronto Raptors"	101.73170731707317
2018	"Toronto Raptors"	107.58536585365853
2019	"Toronto Raptors"	107.02777777777777
2020	"Toronto Raptors"	109.58333333333333
2015	"Utah Jazz"	93.04878048780488
2016	"Utah Jazz"	94.8048780487805

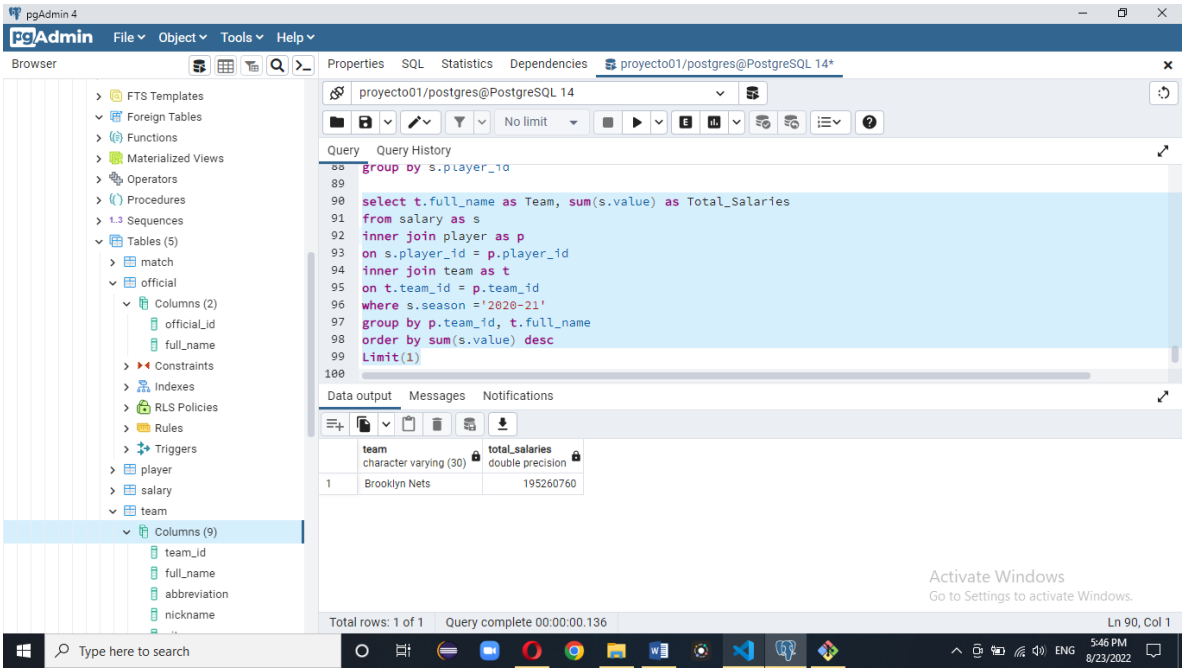
2017	"Utah Jazz"	96.73170731707317
2018	"Utah Jazz"	104.78048780487805
2019	"Utah Jazz"	107.6
2020	"Utah Jazz"	100.30555555555556
2015	"Memphis Grizzlies"	101.48780487804878
2016	"Memphis Grizzlies"	97.1219512195122
2017	"Memphis Grizzlies"	102.95121951219512
2018	"Memphis Grizzlies"	104.17073170731707
2019	"Memphis Grizzlies"	112.13513513513513
2020	"Memphis Grizzlies"	110.61111111111111
2015	"Washington Wizards"	103.48780487804878
2016	"Washington Wizards"	105.48780487804878
2017	"Washington Wizards"	105.29268292682927
2018	"Washington Wizards"	114.65853658536585
2019	"Washington Wizards"	115.86111111111111
2020	"Washington Wizards"	119.08333333333333
2015	"Detroit Pistons"	100.04878048780488
2016	"Detroit Pistons"	98.92682926829268
2017	"Detroit Pistons"	102.60975609756098
2018	"Detroit Pistons"	106.09756097560975
2019	"Detroit Pistons"	111.36363636363636
2020	"Detroit Pistons"	108.13888888888889
2015	"Charlotte Hornets"	99.09756097560975
2016	"Charlotte Hornets"	103.36585365853658
2017	"Charlotte Hornets"	108
2018	"Charlotte Hornets"	109.46341463414635
2019	"Charlotte Hornets"	109.51612903225806
2020	"Charlotte Hornets"	108.5

4. Muestre el top 5 árbitros que cuando pitan pierde el equipo visitante.

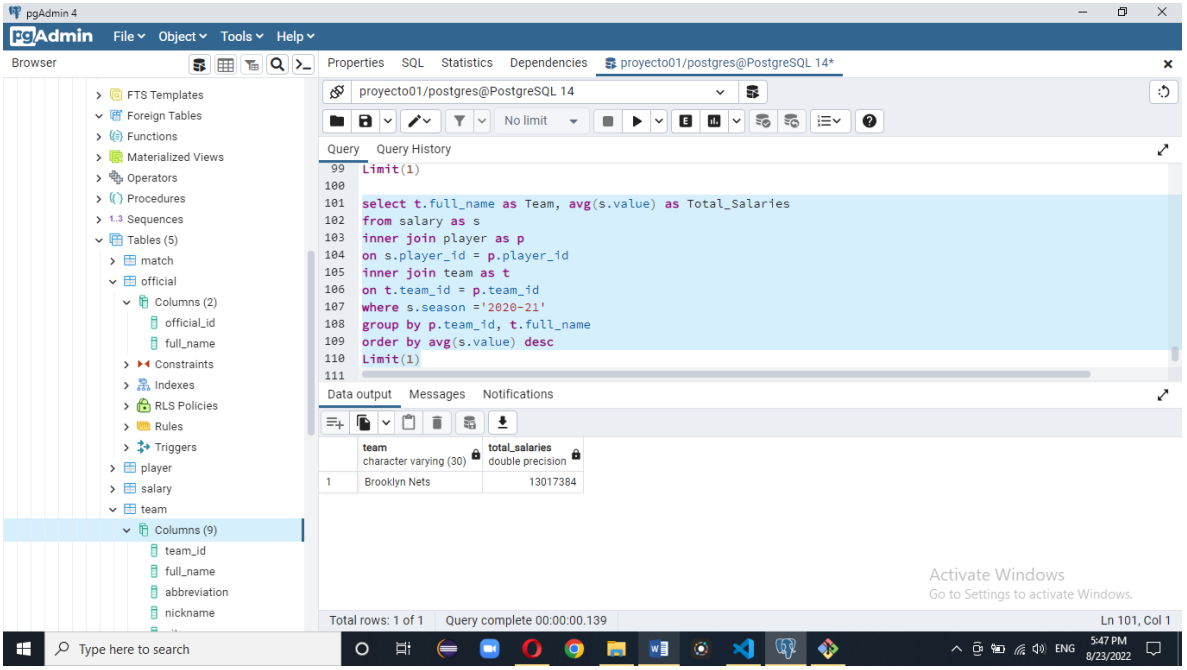


"James Capers" 218
"Mark Ayotte" 212
"Scott Foster" 212
"Tony Brothers" 212
"John Goble" 211

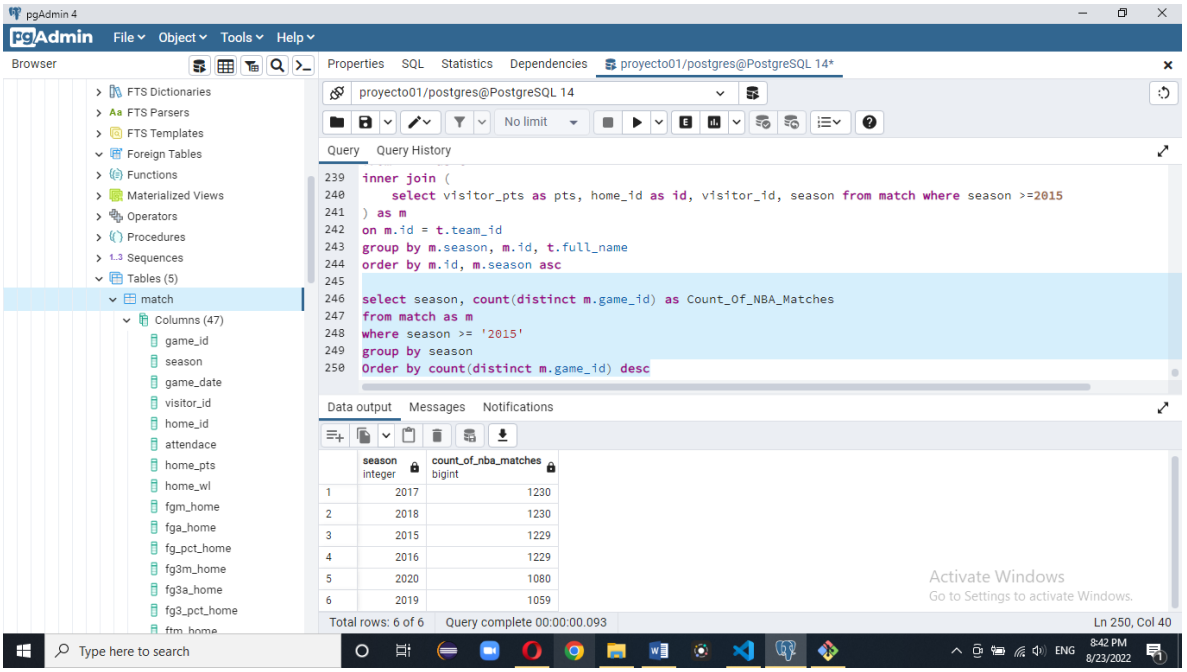
5. ¿Qué equipo maneja los salarios más altos actualmente?



El equipo que tiene los salarios más altos es "Brooklyn Nets" con un total de $195260760 invertidos en salarios para la temporada 2020-21.
Así mismo, esto es comprobado debido a que en la media de salarios, también tienen la más alta con un total de $13017384 por jugador.



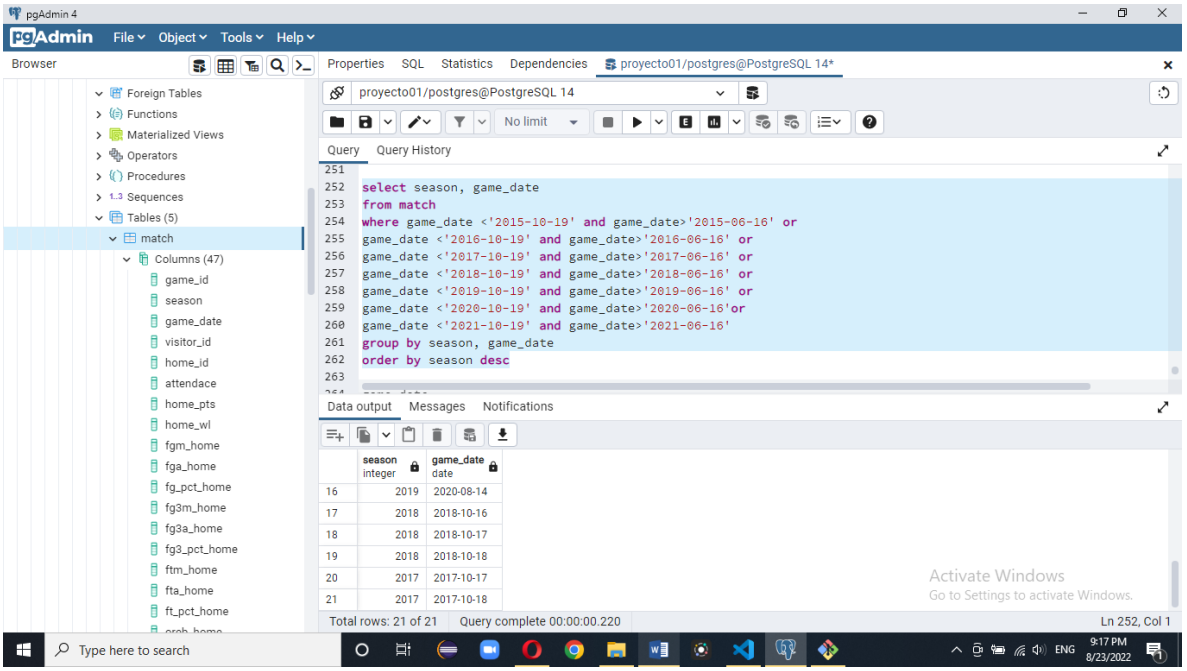
6. ¿Cuál fue la temporada con más partidos en la historia de la NBA? Se debe de destacar que solo se tomará en cuenta las temporadas entre [2015-2020] debido a que en las instrucciones del proyecto se especificó que eran de estas temporadas de las que nos teníamos que basar.



2017 1230
2018 1230
2015 1229
2016 1229
2020 1080
2019 1059

Por ende la temporada 2017 y la temporada 2018 son las temporadas con más partidos con 1230 partidos realizados.

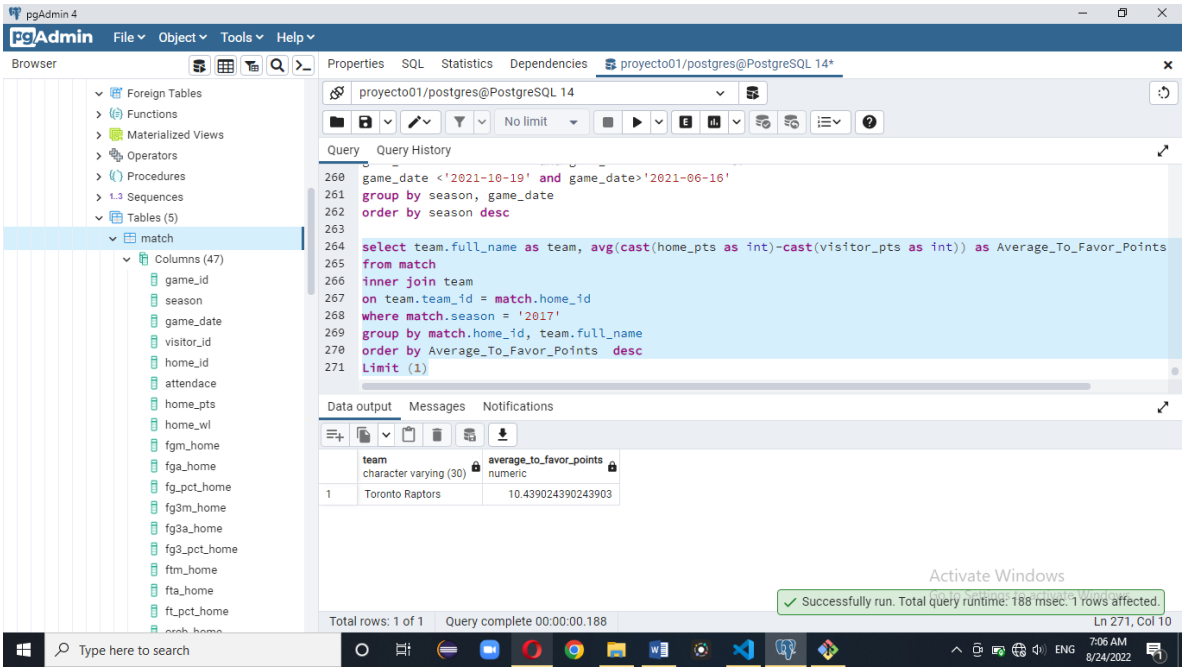
7. ¿Cuál fue la temporada en la que más se han prolongado las fechas de los juegos? Basándonos en el hecho de que la temporada regular de la NBA abarca desde el 19 de octubre de 2021 hasta el 10 de abril de 2022, luego hay play in del 12 al 15 de abril, play offs del 16 de abril al 30 de mayo y las finales son del 2 al 16 de Junio de 2022, una temporada regular estaría desde el año anterior-10-19 hasta el año actual-06-16.



Por ende, la temporada que más se prolongaron las fechas fue, la temporada 2017 y 2018 dado que la temporada tuvo fechas hasta el 18 de octubre. Un día antes que terminara la temporada.

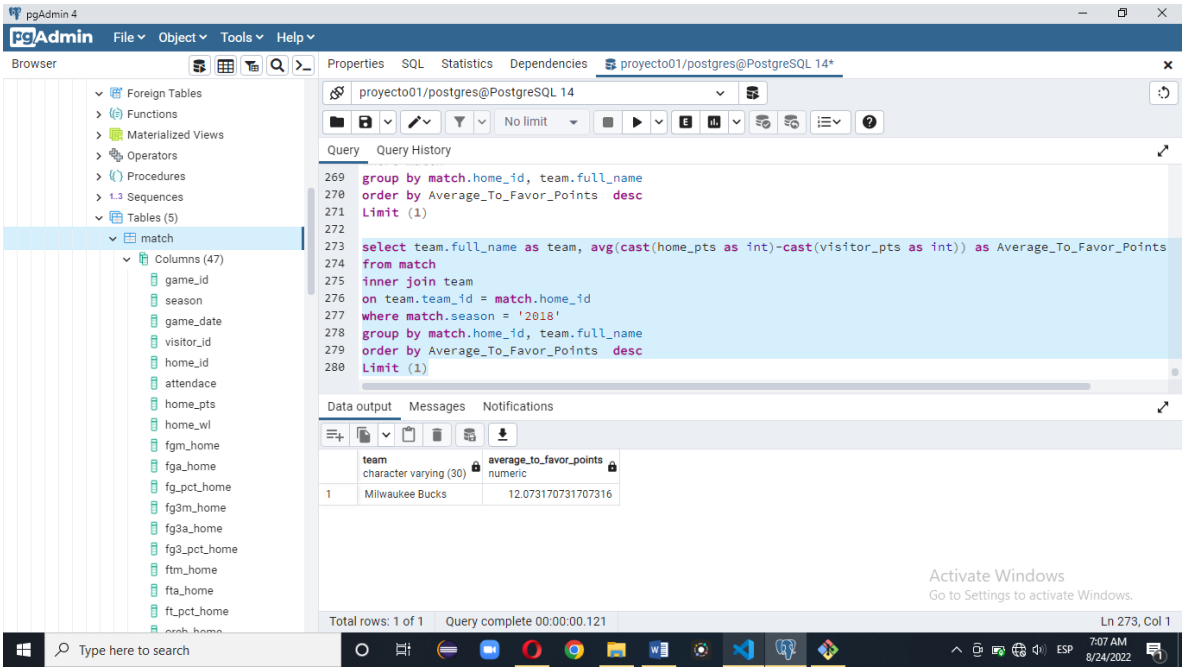
2019 "2020-07-30"
2019 "2020-07-31"
2019 "2020-08-01"
2019 "2020-08-02"
2019 "2020-08-03"
2019 "2020-08-04"
2019 "2020-08-05"
2019 "2020-08-06"
2019 "2020-08-07"
2019 "2020-08-08"
2019 "2020-08-09"
2019 "2020-08-10"
2019 "2020-08-11"
2019 "2020-08-12"
2019 "2020-08-13"
2019 "2020-08-14"
2018 "2018-10-16"
2018 "2018-10-17"
2018 "2018-10-18"
2017 "2017-10-17"
2017 "2017-10-18"

8. ¿Cuál es el equipo que más diferencia de puntos a favor obtuvo en promedio por partido para la temporada 2017?



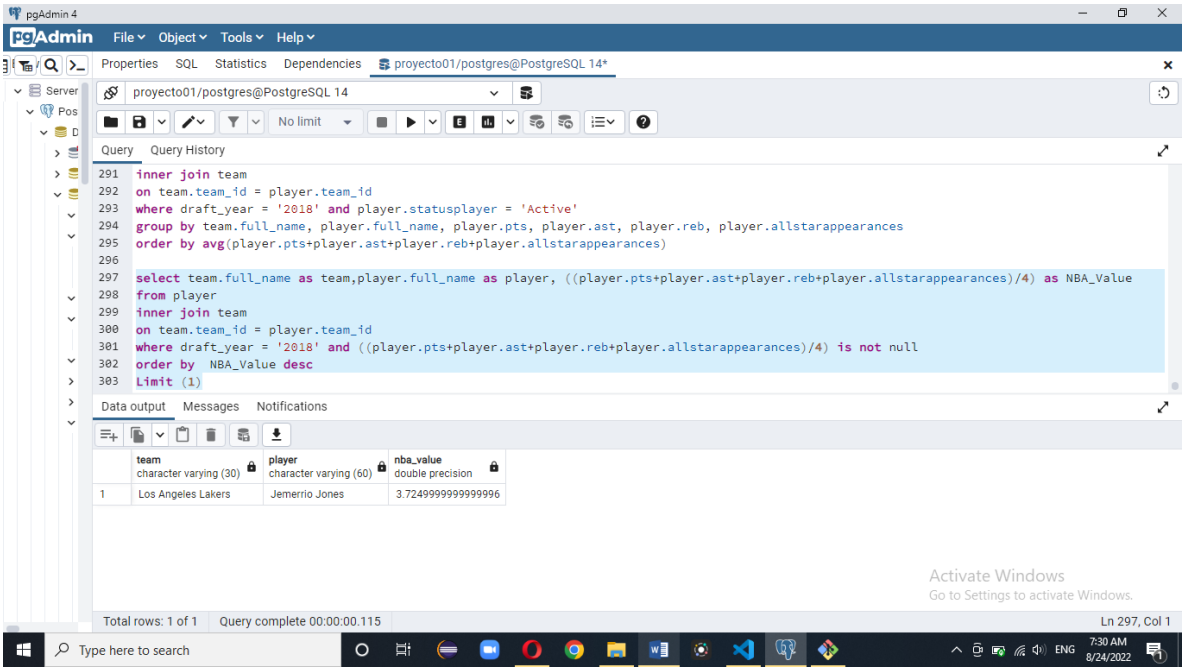
Por ende fue Toronto Raptors quien tuvo la diferencia de puntos más favorable en la temporada 2017 con 10.44 puntos a favor por partido jugado.

9. ¿Cuál es el equipo con más diferencia de punto a favor para la temporada 2018?



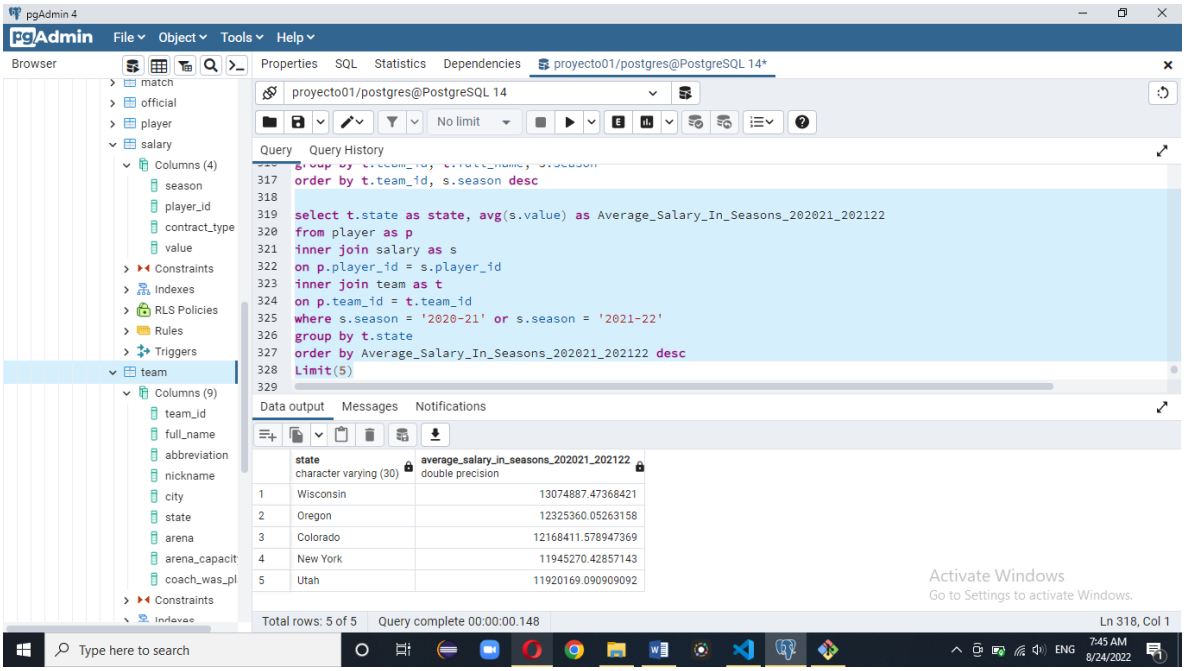
Para la temporada 2018 el equipo con la mayor diferencia de puntos a favor en promedio por partido jugado fue, Milwaukee Bucks, con 12.07 puntos a favor por partido jugado.

10. ¿Quién es el jugador más valioso del draft del 2018 hoy en día?



Por ende, el jugador más valioso de la NBA para el año 2018 fue Jemerrio Jones con un valor de nba de 3.72 perteneciente a Los Angeles Lakers.

11. Calcule el top 5 de los estados que más salarios pagaron durante las temporadas 2020-2021 y 2021-2022



"Wisconsin"	13074887.47368421
"Oregon"	12325360.05263158
"Colorado"	12168411.578947369
"New York"	11945270.42857143
"Utah"	11920169.090909092

Queries:

```
drop table Player cascade
drop table official cascade
drop table salary cascade
drop table team cascade
drop table match cascade

select a.Player_ID, a.Full_Name, a.Height
from Player as a
where a.StatusPlayer = 'Active'
order by a.Height desc
limit (1)

select * from match

select m.home_id, cast(m.home_pts as INT)
from match as m
order by m.home_id

select sum(cast(m.visitor_pts as INT)) as suma, m.visitor_id from match as m
group by m.visitor_id
order by m.visitor_id

select sum(cast(m.home_pts as INT)) as suma, m.home_id, l.suma, l.visitor_id
from match as m, (
    select sum(cast(m.visitor_pts as INT)) as suma, m.visitor_id from match as m
    group by m.visitor_id
    order by m.visitor_id
)as l
group by m.home_id, l.suma, l.visitor_id
```

```
order by m.home_id, l.visitor_id


select sum (coalesce(m.suma2)+coalesce(m.suma1)) as , m.id
from match, (
      select sum(cast(m.home_pts as INT)) as suma1, m.home_id as id, l.suma as suma2,
l.visitor_id
   from match as m, (
      select sum(cast(m.visitor_pts as INT)) as suma, m.visitor_id from match as m
      group by m.visitor_id
      order by m.visitor_id
   )as l
   group by m.home_id, l.suma, l.visitor_id
   order by m.home_id, l.visitor_id
) as m
group by m.id
order by m.id asc




select avg(coalesce(m.suma2)+coalesce(m.suma1)) as promedio, m.id
from match, (
      select avg(cast(m.home_pts as INT)) as suma1, m.home_id as id, l.suma as suma2,
l.visitor_id
   from match as m, (
      select avg(cast(m.visitor_pts as INT)) as suma, m.visitor_id from match as m
      group by m.visitor_id
      order by m.visitor_id
   )as l
   group by m.home_id, l.suma, l.visitor_id
   order by m.home_id, l.visitor_id
```

```
) as m
group by m.id
order by promedio asc

select count(visitor_WL), official_ID_1
from match
where visitor_WL='L'
group by official_ID_1
order by official_ID_1

select count(visitor_WL), official_ID_2
from match
where visitor_WL='L'
group by official_ID_2
order by official_ID_2

select count(visitor_W1L), official_ID_2
from match
where visitor_WL='L'
group by official_ID_3
order by official_ID_3

select count(l.visitor_WL) as Loses_Counter, l.official_ID_3 as Official_ID
from official, (
   select official_ID_3, visitor_WL from match where visitor_WL='L' and season>=2015
group by official_ID_3, visitor_WL
union all
select official_ID_2, visitor_WL from match where visitor_WL='L' and season>=2015 group
by official_ID_2, visitor_WL
union all
```

```
select official_ID_1, visitor_WL from match where visitor_WL='L' and season>=2015 group by official_ID_1, visitor_WL
) as l
group by l.official_ID_3
order by Loses_Counter desc
Limit 5

select p.Team_ID
from Salary as s, player as p
where p.player_id = s.player_id

select sum(s.value), s.player_id
from salary as s
where s.season ='2020-21'
group by s.player_id

select t.full_name as Team, sum(s.value) as Total_Salaries
from salary as s
inner join player as p
on s.player_id = p.player_id
inner join team as t
on t.team_id = p.team_id
where s.season ='2020-21'
group by p.team_id, t.full_name
order by sum(s.value) desc
Limit(1)

select t.full_name as Team, avg(s.value) as Total_Salaries
from salary as s
inner join player as p
on s.player_id = p.player_id
```

```
inner join team as t
on t.team_id = p.team_id
where s.season ='2020-21'
group by p.team_id, t.full_name
order by avg(s.value) desc
Limit(1)

select o.full_name, count(m.home_wl)
from official as o
inner join match as m
on m.official_id_1 = o.official_id
where m.home_wl = 'W'and m.season >=2014
group by m.official_id_1, o.full_name

select official_ID_3, visitor_WL from match where visitor_WL='L' and season>=2015
union all
select official_ID_2, visitor_WL from match where visitor_WL='L' and season>=2015
union all
select official_ID_1, visitor_WL from match where visitor_WL='L' and season>=2015

select o.full_name as Official_Name, count(m.wl) as
Number_Of_Loses_Of_Visitor_With_This_Official
from official as o
inner join (
select official_ID_3 as id, visitor_WL as wl from match where visitor_WL='L' and
season>=2015
union all
select official_ID_2, visitor_WL from match where visitor_WL='L' and season>=2015
union all
select official_ID_1, visitor_WL from match where visitor_WL='L' and season>=2015 ) as m
on m.id = o.official_id
```

```
group by m.id, o.full_name
order by count(m.wl) desc
Limit (5)

select t.full_name as Team, avg(cast(m.pts as INT)) as Promedio_Puntos_2014
from team as t
inner join (
   select home_pts as pts, home_id as id from match where season =2014
union all
select visitor_pts as pts, visitor_id as id from match where season =2014
) as m
on m.id = t.team_id
group by m.id, t.full_name
order by avg(cast(m.pts as INT)) desc

select t.full_name as Team, avg(cast(m.pts as INT)) as Promedio_Puntos_2015
from team as t
inner join (
   select home_pts as pts, home_id as id from match where season =2015
union all
select visitor_pts as pts, visitor_id as id from match where season =2015
) as m
on m.id = t.team_id
group by m.id, t.full_name
order by avg(cast(m.pts as INT)) desc

select t.full_name as Team, avg(cast(m.pts as INT)) as Promedio_Puntos_2016
from team as t
inner join (
   select home_pts as pts, home_id as id from match where season =2016
```

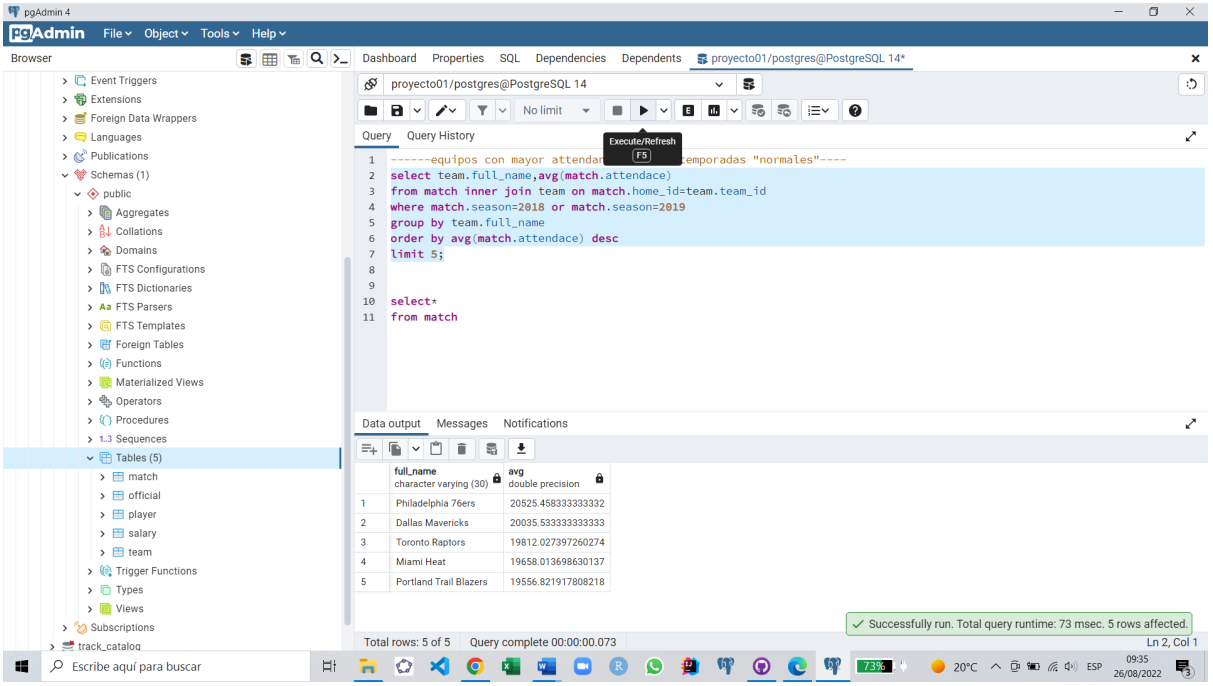
```
union all
select visitor_pts as pts, visitor_id as id from match where season =2016
) as m
on m.id = t.team_id
group by m.id, t.full_name
order by avg(cast(m.pts as INT)) desc

select t.full_name as Team, avg(cast(m.pts as INT)) as Promedio_Puntos_2017
from team as t
inner join (
   select home_pts as pts, home_id as id from match where season =2017
union all
select visitor_pts as pts, visitor_id as id from match where season =2017
) as m
on m.id = t.team_id
group by m.id, t.full_name
order by avg(cast(m.pts as INT)) desc

select t.full_name as Team, avg(cast(m.pts as INT)) as Promedio_Puntos_2018
from team as t
inner join (
   select home_pts as pts, home_id as id from match where season =2018
union all
select visitor_pts as pts, visitor_id as id from match where season =2018
) as m
on m.id = t.team_id
group by m.id, t.full_name
order by avg(cast(m.pts as INT)) desc

select t.full_name as Team, avg(cast(m.pts as INT)) as Promedio_Puntos_2019
```

```
from team as t
inner join (
   select home_pts as pts, home_id as id from match where season =2019
union all
select visitor_pts as pts, visitor_id as id from match where season =2019
) as m
on m.id = t.team_id
group by m.id, t.full_name
order by avg(cast(m.pts as INT)) desc

select t.full_name as Team, avg(cast(m.pts as INT)) as Promedio_Puntos_2020
from team as t
inner join (
   select home_pts as pts, home_id as id from match where season =2020
union all
select visitor_pts as pts, visitor_id as id from match where season =2020
) as m
on m.id = t.team_id
group by m.id, t.full_name
order by avg(cast(m.pts as INT)) desc

select t.full_name as Team, avg(cast(m.pts as INT)) as Promedio_Puntos_2021
from team as t
inner join (
   select home_pts as pts, home_id as id from match where season =2021
```

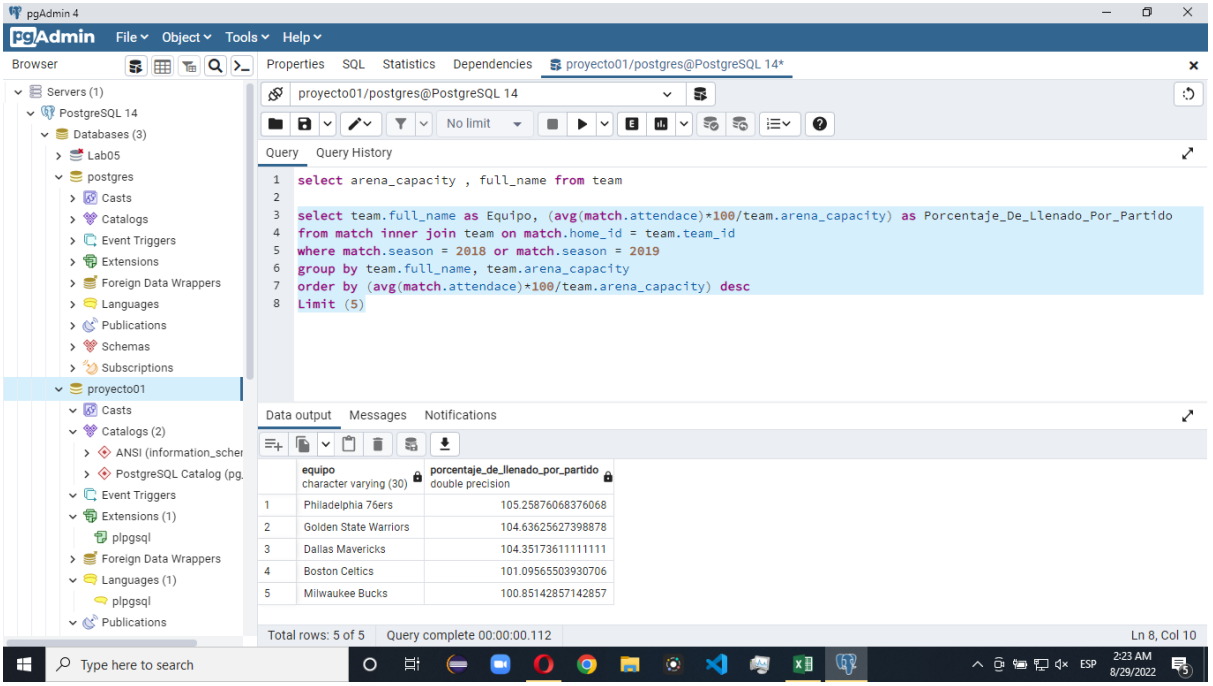
Parte 3

1.¿Cual son los 5 equipos con más asistencia de fanáticos en la temporada 2018 y 2019?
Se planteó esta pregunta ya que para que un equipo represente una ganancia hacia el inversor este tiene que tener una asistencia de fanáticos bastante fuerte para que la mercadería y negocios en el interior de los estadios tengan una ganancia. Asimismo la pregunta fue dirigida a esas dos temporadas ya que fueron las últimas temporadas con cierta “normalidad” ya que la de 2020 fue interrumpida por

la pandemia mundial. De acuerdo con (Young,2021) la NBA proyecta en total alrededor de 10 billones en ganancias para las próximas temporadas debido a que la asistencia de los fanáticos sigue aumentando. No vamos a tomar en cuenta cuantos juegos transmitidos en televisión tiene cada equipo ya que es un área que ha estado inestable debido a las nuevas formas de transmitir los juegos.

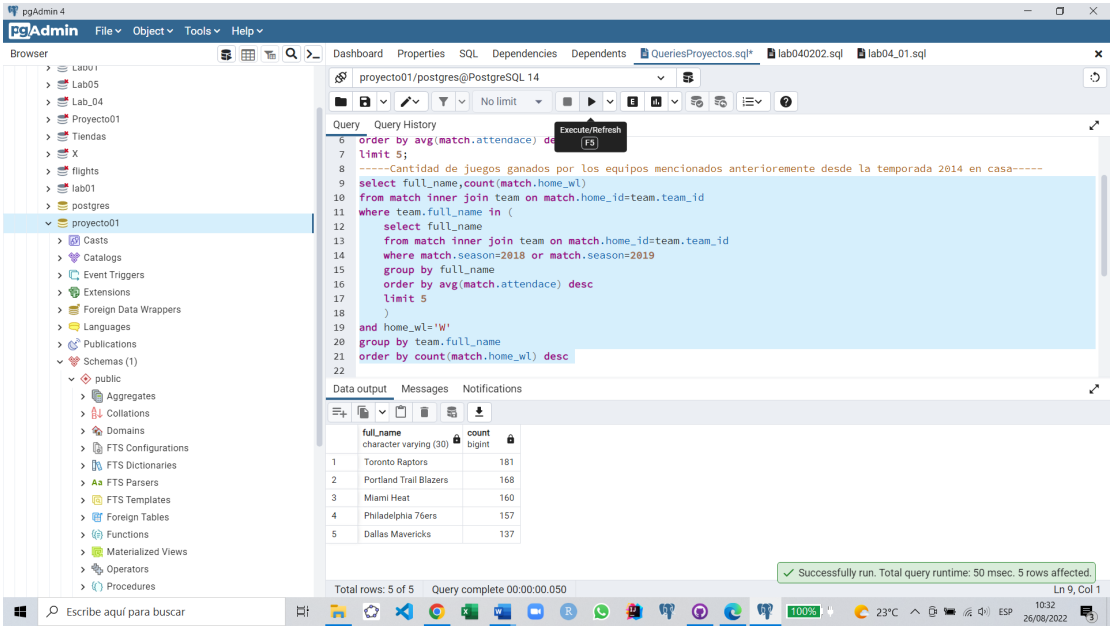


Los 5 equipos con mayor asistencia de fanáticos son los Philadelphia 76ers, Dallas Mavericks, Toronto Raptors, Miami Heat y Portland TrailBlazer. Así mismo, los equipos que suelen llenar de media la mayor parte de su estadio en promedio son: Philadelphia 76ers, Golden State Warriors, Dalas Movericks, Boston Celtics y Milwaukee Bucks.



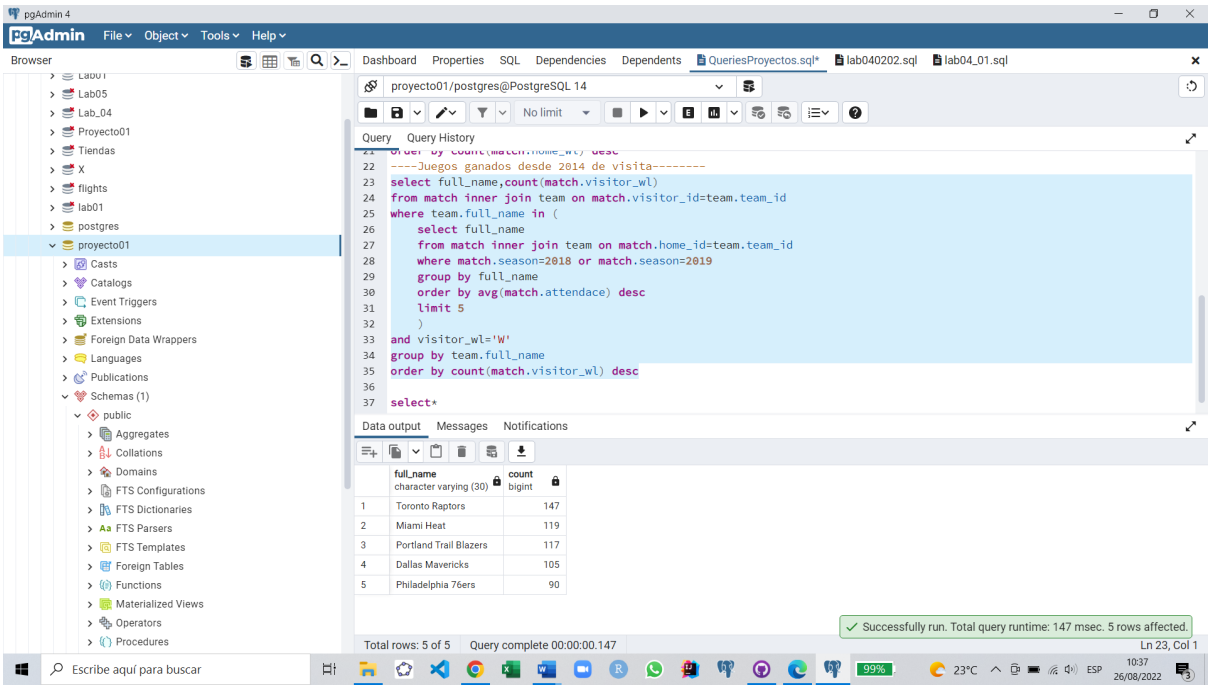
2. ¿Cual es la cantidad de juegos ganados en casa y de visita por Philadelphia 76ers, Dallas Mavericks, Toronto Raptors, Miami Heat y Portland TrailBlazers?

La cantidad de juegos ganados en total en casa desde la temporada 2014 hasta la temporada 2020 son



Los Toronto Raptors son los que más han ganado desde casa luego le sigue Portland Trail Blazers, Miami Heat, Philadelphia 76ers y por último los Dallas Mavericks.

Y la cantidad de juegos ganados de visita desde el 2014 por los equipos con mayor asistencia de fanáticos son:

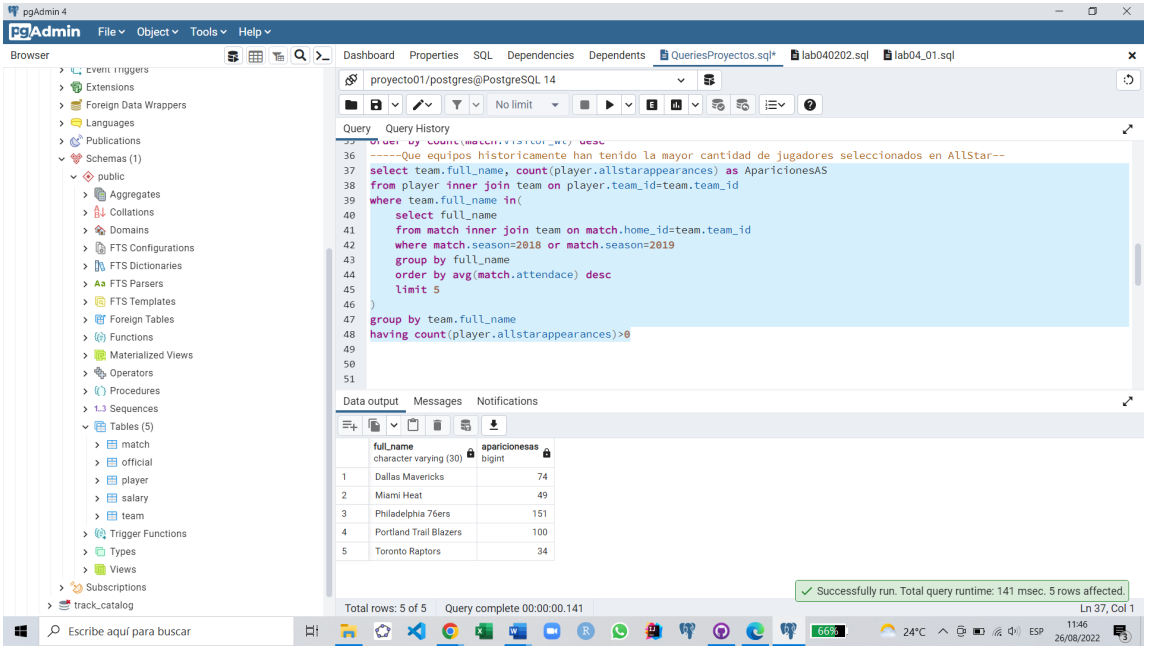


Los Toronto Raptors son los que más juegos han ganado desde 2014 de visita, seguidos por el Miami Heat, los Portland TrailBlazers, los Dallas Mavericks y de último los Philadelphia 76ers.

Como es evidente los equipos más consistentes de juegos ganados independientemente de si se encuentran de visita o de locales son los Toronto Raptors, Miami Heat y los Portland Trail Blazers.

3. ¿Que equipo tiene la mayor cantidad de jugadores All-Stars historicamente entre los Philadelphia 76ers, Dallas Mavericks, Toronto Raptors, Miami Heat y Portland TrailBlazers?

Se busca esto ya que según (Arlauckas,2022) existe una mayor tendencia de que televisen los juegos a partir de la cantidad de AllStars que los equipos han tenido históricamente, debido el que tengan o hayan tenido estrellas hace el equipo que tenga un nivel más alto de popularidad.

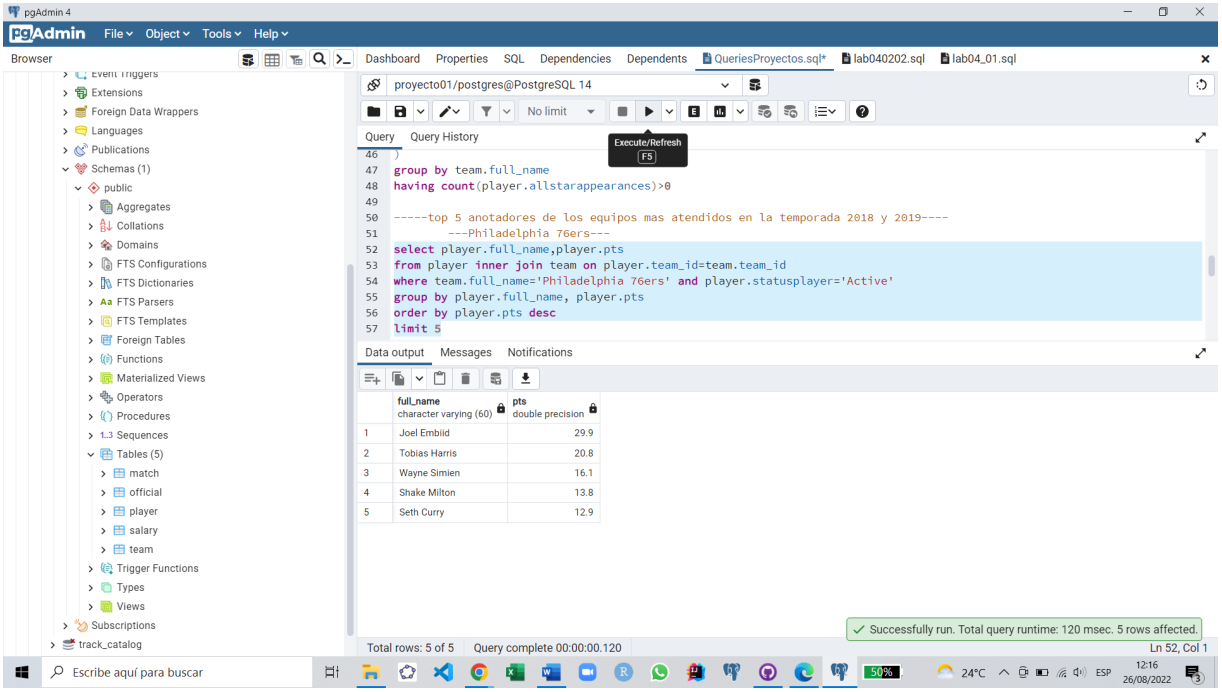


Historicamente los Philadelphia 76ers han tenido la mayor cantidad de All Stars seguidos por los Portland Trailblazers, luego los Dallas Mavericks, seguido por el Miami Heat y por último los Toronto Raptors.

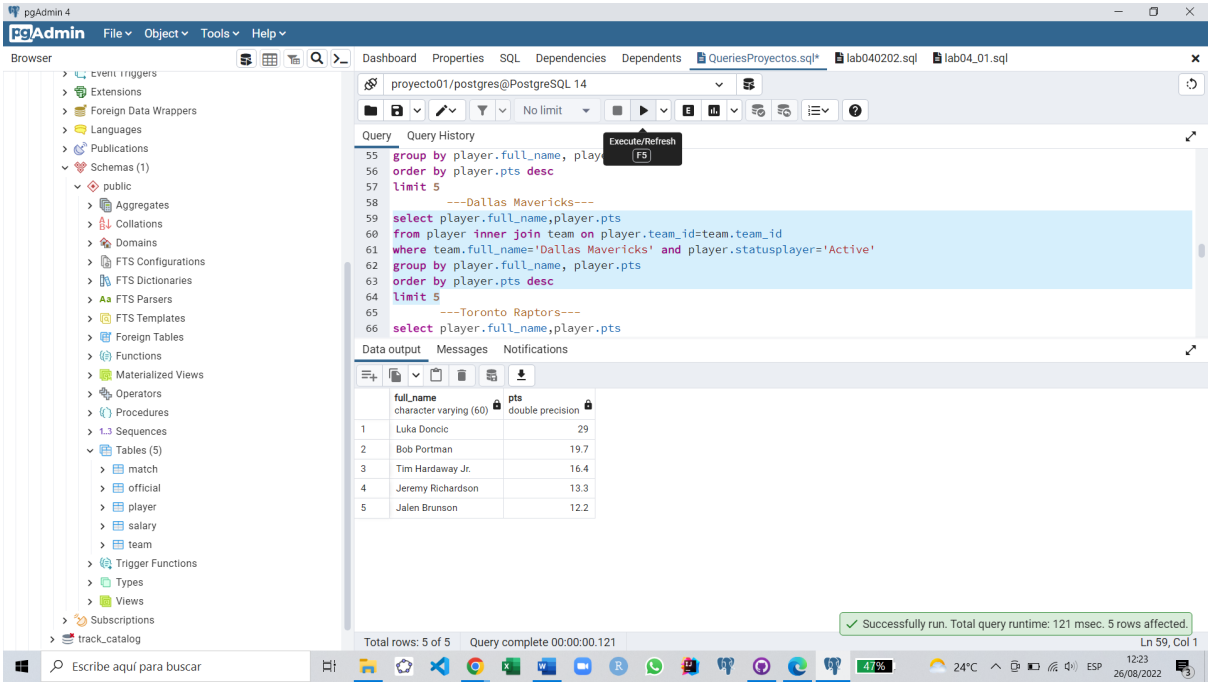
4. ¿Los 5 máximos anotadores de los Philadelphia 76ers, Dallas Mavericks, Toronto Raptors, Miami Heat y Portland TrailBlazers ?

De acuerdo con Scaletta(2010) cuando la distribución de anotación es lo más cercano a uniforme los equipos tienden a ganar más. Por lo que observaremos si hay mucha diferencia entre el máximo anotador y el que le sigue para determinar si el equipo solo depende de un jugador o tiene varios que aportan para ganar los partidos.

Philadelphia 76ers

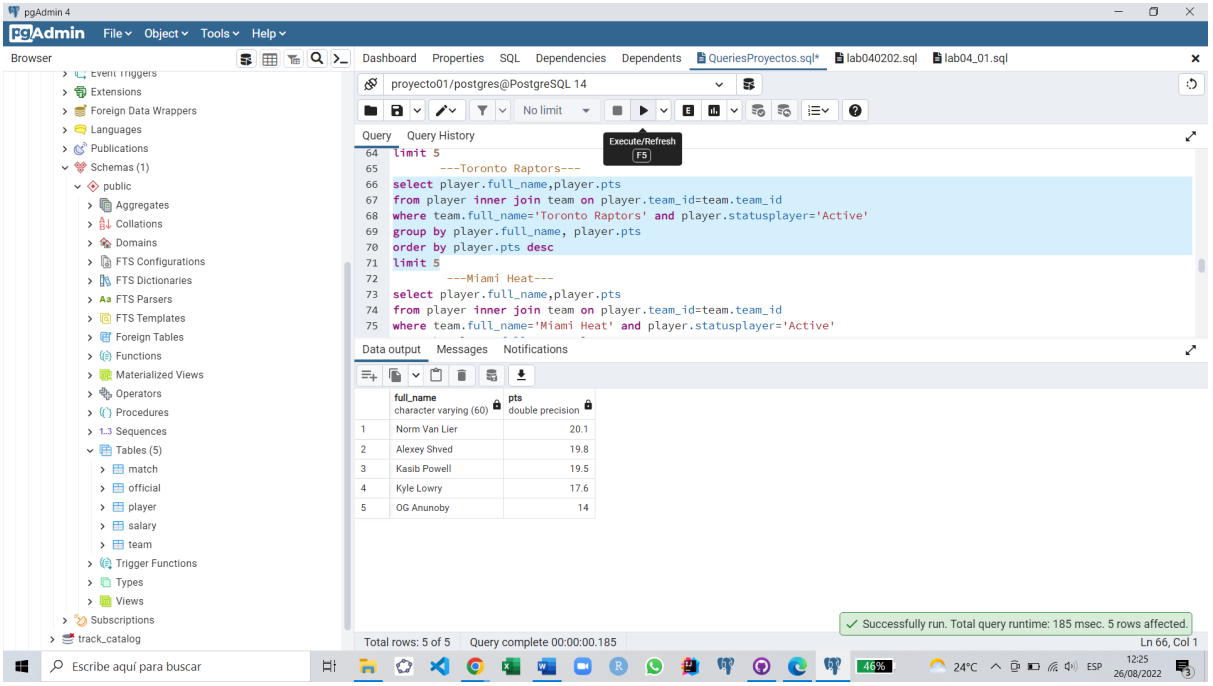


Como se puede observar entre el mejor y el segundo mejor solamente existen 9 puntos de diferencia.
Dallas Mavericks



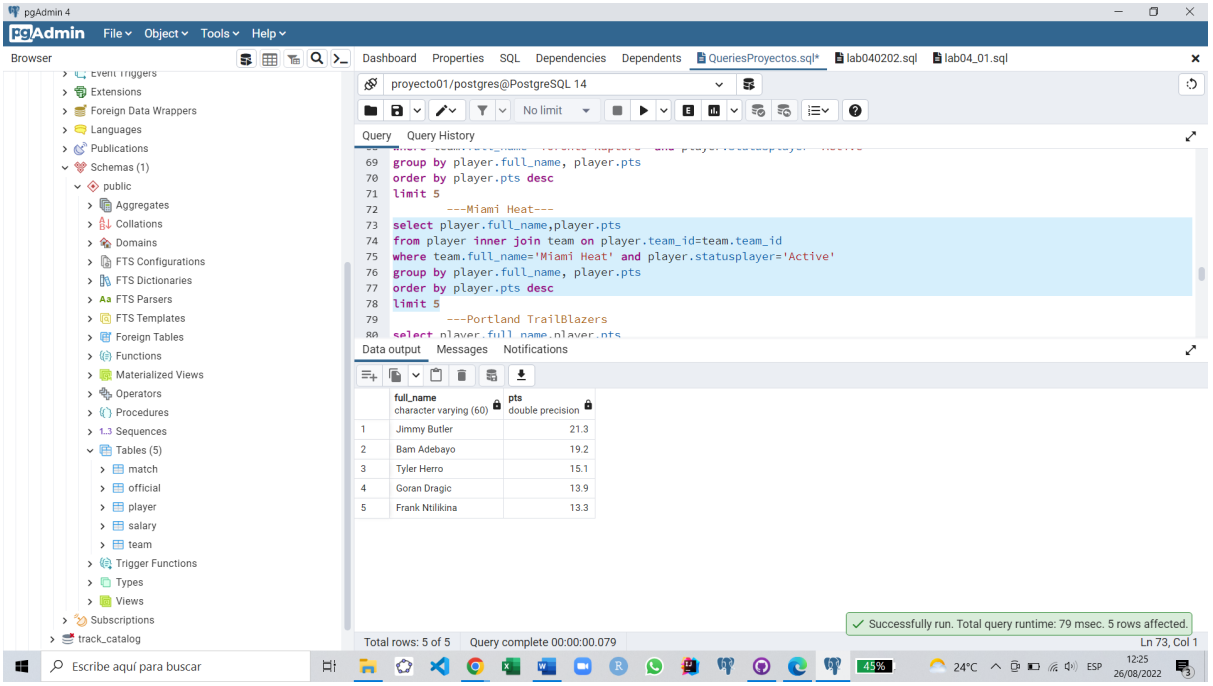
Como se puede observar entre el mejor y el segundo mejor existen únicamente 9.3 puntos de diferencia

Toronto Raptors



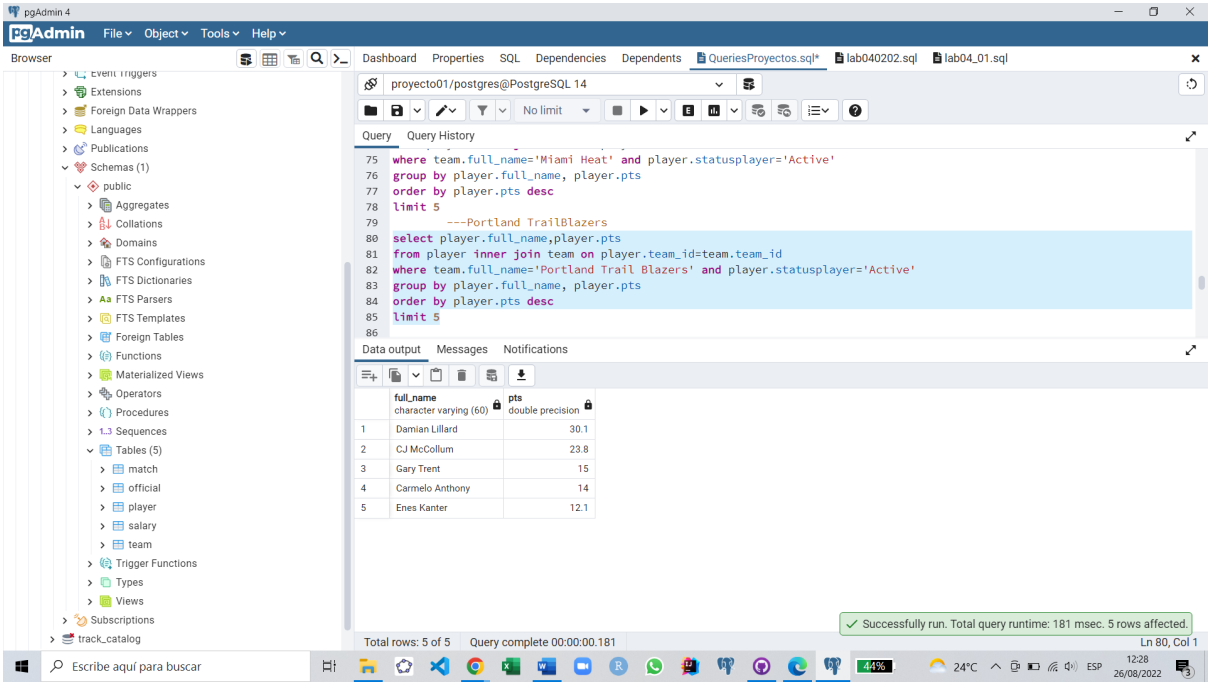
Únicamente existe una diferencia de 0.3 puntos entre el máximo anotador y el segundo máximo

Miami Heat



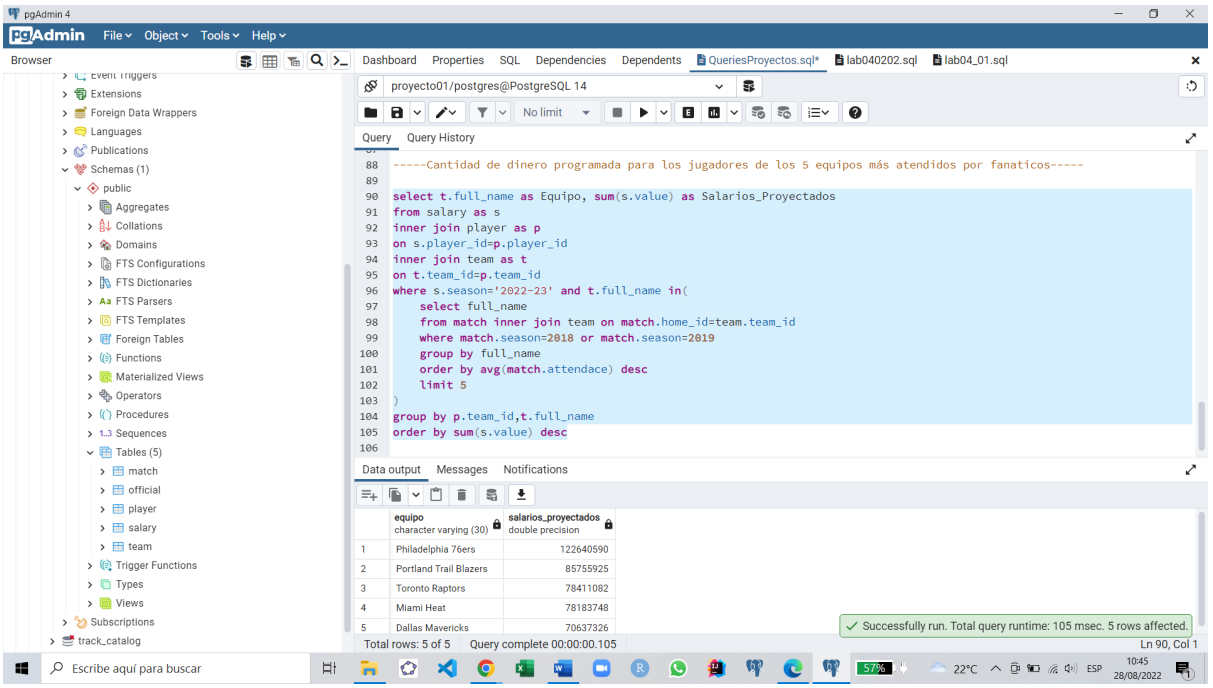
Existe solamente una diferencia de 1 punto entre el máximo anotador y el segundo máximo anotador.

Portland TrailBlazers



Hay una diferencia de 6.4 puntos entre el máximo anotador y el segundo máximo anotador

5. ¿Cuál es la proyección de salarios para la temporada 2022-2023 por parte de Philadelphia 76ers, Dallas Mavericks, Toronto Raptors, Miami Heat y Portland TrailBlazer?

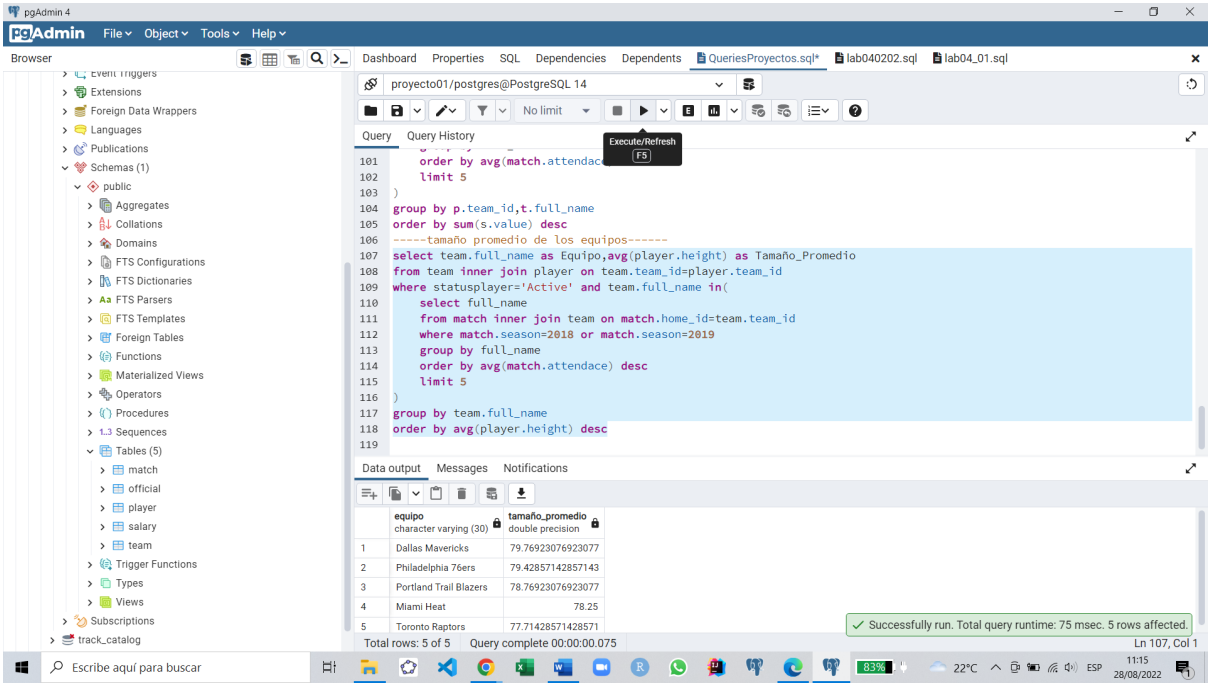


Como es evidente Philadelphia y Portland cuentan con la mayor cantidad de dinero comprometido. Según la página oficial de la NBA(2022) el máximo de dinero que tiene un equipo para pagarle a los jugadores es 123 millones de dólares, por lo que Philadelphia y Portland quedan definitivamente descartados debido a que no tienen espacio a que haya nuevas contrataciones para que los equipos sean mejores.

6. ¿Cuál es el tamaño promedio de Philadelphia 76ers, Dallas Mavericks, Toronto Raptors, Miami

Heat y Portland TrailBlazer?

De acuerdo con (Akabas,2022) los equipos tienen un mejor desempeño cuando los jugadores miden en promedio 6 pies con nueve pulgadas o 81 pulgadas por lo que con este query se va determinar que equipo se encuentra en ese parámetro o cercano a ese parámetro. El que el equipo tenga un buen tamaño implica



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