Live Session Module 7

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In [ ]:
```
import numpy as np
import pandas as pd
import wget
import sqlite3
import sqlalchemy
import requests
import json
import os
import sys
import dotenv


sys.tracebacklimit = 0 # turn off the error tracebacks
```

In [ ]:
```
nba_db= sqlite3.connect('nba.db')
```

In [ ]:
```
# read all the files in the database
myquery = """
SELECT * FROM games"""

pd.read_sql_query(myquery, nba_db)
```

Out[ ]:

	game_id	game_date	ot	season
0	202202170BRK	2022-02-17	0	2022
1	202202170CHO	2022-02-17	2	2022
2	202202170LAC	2022-02-17	0	2022
3	202202170MIL	2022-02-17	0	2022
4	202202170NOP	2022-02-17	0	2022
...	...	...	...	...
3192	202001080GSW	2020-01-08	0	2020
3193	202008020HOU	2020-08-02	0	2020
3194	201911060HOU	2019-11-06	0	2020
3195	201912250GSW	2019-12-25	0	2020
3196	202002200GSW	2020-02-20	0	2020

3197 rows × 4 columns

In [ ]:
```
# player's individual stats for all games in the 2022 season
```

```
myquery = """
SELECT *
FROM player_game pg
INNER JOIN players p
    ON pg.player_id = p.player_id
INNER JOIN games g
    ON pg.game_id = g.game_id
WHERE g.season = 2022
"""

pd.read_sql_query(myquery, nba_db)
```

Out[ ]:

	game_id	player_id	starter	mp	fg	fga	fg_pct	fg3	fg3a	fg3_pct	...	sf%	pf
0	202202170BRK	aldrila01	0	28:19	5	8	0.625	0	0	0.000	...	0.0	0
1	202202170BRK	avdijde01	0	30:50	4	10	0.400	1	3	0.333	...	62.0	31
2	202202170BRK	brownbr01	1	34:57	3	10	0.300	0	1	0.000	...	58.0	11
3	202202170BRK	bryanth01	1	14:04	5	6	0.833	0	1	0.000	...	0.0	0
4	202202170BRK	caldwke01	1	25:26	3	7	0.429	1	3	0.333	...	67.0	0
...	...	...	...	...	...	...	...	...	...	...	...	...	
23856	202201210PHI	niangge01	0	30:13	3	11	0.273	1	7	0.143	...	33.0	64
23857	202201210PHI	powelmy01	0	0:00	0	0	0.000	0	0	0.000	...	0.0	0
23858	202201210PHI	sprinja01	0	0:00	0	0	0.000	0	0	0.000	...	63.0	0
23859	202201210PHI	winslju01	0	0:00	0	0	0.000	0	0	0.000	...	8.0	72
23860	202201210PHI	zubaciv01	1	23:44	6	8	0.750	0	0	0.000	...	0.0	0

23861 rows × 66 columns

In [ ]:

```
# who should have been MVP in 2022?
myquery = """
SELECT p.player, SUM(pg.fg) AS total_field_goals, SUM(pg.fga) AS total_field_goal_a
FROM player_game pg
INNER JOIN players p
    ON pg.player_id = p.player_id
INNER JOIN games g
    ON pg.game_id = g.game_id
WHERE g.season = 2022
```

```
GROUP BY p.player_id, p.player
HAVING total_field_goal_attempts > 100
ORDER BY field_goal_percentage DESC, total_field_goals DESC
LIMIT 5
"""

pd.read_sql_query(myquery, nba_db)
```

Out[ ]:

	player	total_field_goals	total_field_goal_attempts	field_goal_percentage
0	Mitchell Robinson	189	248	0.762097
1	Robert Williams	208	284	0.732394
2	Onyeka Okongwu	92	128	0.718750
3	Rudy Gobert	246	346	0.710983
4	Daniel Gafford	183	272	0.672794

In [ ]:

```
# new system for the NBA scoring system from fantasy basketball
#
#Point = 1
#3PM = 1
#FGA = -1
#FGM = 2
#FTA = -1
#FTM = 1
#REB = 1
#AST = 2
#STL = 4
#BLK = 4
#TOV = -2

myquery = """
SELECT
    p.player,
    1.0*SUM(pg.pts) AS pts,
    1.0*SUM(pg.fg3) AS fg3,
    1.0*SUM(pg.fg) AS fg,
    1.0*SUM(pg.fga) AS fga,
    1.0*SUM(pg.fta) AS fta,
    1.0*SUM(pg.ft) AS ft,
    1.0*SUM(pg.trb) AS trb,
    1.0*SUM(pg.ast) AS ast,
    1.0*SUM(pg.stl) AS stl,
    1.0*SUM(pg.blk) AS blk,
    1.0*SUM(pg.tov) AS tov,
    SUM(pg.pts) + SUM(pg.fg3) + 2*SUM(pg.fg) - SUM(pg.fga) -
    SUM(pg.fta)  + SUM(pg.ft)  + SUM(pg.trb) + 2*SUM(pg.ast) +
    4*SUM(pg.stl) + 4*SUM(pg.blk) - 2*SUM(pg.tov) AS mvpscore
FROM player_game pg
INNER JOIN players p
    ON pg.player_id = p.player_id
INNER JOIN games g
    ON pg.game_id = g.game_id
WHERE g.season = 2022
```

```
GROUP BY p.player_id, p.player
ORDER BY mvpscore DESC
LIMIT 5
"""

pd.read_sql_query(myquery, nba_db)
```

Out[ ]:

	player	pts	fg3	fg	fga	fta	ft	trb	ast	stl	blk	tov	mvp
0	Nikola Jokic	1352.0	84.0	516.0	906.0	292.0	236.0	718.0	410.0	69.0	39.0	197.0	
1	Giannis Antetokounmpo	1443.0	58.0	496.0	906.0	545.0	393.0	551.0	296.0	48.0	68.0	162.0	
2	Dejounte Murray	1036.0	67.0	428.0	932.0	149.0	113.0	432.0	486.0	106.0	17.0	125.0	
3	Chris Paul	866.0	60.0	325.0	667.0	185.0	156.0	259.0	619.0	108.0	18.0	138.0	
4	Trae Young	1475.0	158.0	495.0	1085.0	364.0	327.0	206.0	493.0	53.0	5.0	217.0	

In [ ]:
```
# try to get the win/loss record for 2022 season
```