

Import Dependencies

In [1]:

```
import pandas as pd
from sqlalchemy import create_engine
```

In [2]:

```
pip install psycpg2
```

Requirement already satisfied: psycpg2 in /Users/shamiltajuddin/anaconda3/lib/python3.7/site-packages (2.8.4)

Note: you may need to restart the kernel to use updated packages.

In [3]:

```
pip install sqlalchemy psycpg2
```

Requirement already satisfied: sqlalchemy in /Users/shamiltajuddin/anaconda3/lib/python3.7/site-packages (1.3.5)

Requirement already satisfied: psycpg2 in /Users/shamiltajuddin/anaconda3/lib/python3.7/site-packages (2.8.4)

Note: you may need to restart the kernel to use updated packages.

Import Player Salary Information

In [4]:

```
nbasalary = "playersalary.csv"
nbasalary_df = pd.read_csv(nbasalary)
nbasalary_df.head()
```

Out[4]:

	Rk	Player	Tm	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	Signed Using	Guaranteed
0	483	A.J. Hammons	MIA	350087	350087.0	NaN	NaN	NaN	NaN	NaN	700174
1	53	Aaron Gordon	ORL	19863636	18136364.0	16409091.0	NaN	NaN	NaN	NaN	54409091
2	326	Aaron Holiday	IND	2239200	2345640.0	3980551.0	NaN	NaN	NaN	1st Round Pick	4584840
3	391	Abdel Nader	OKC	1618520	1752950.0	NaN	NaN	NaN	NaN	NaN	1618520
4	444	Admiral Schofield	WAS	898310	1517981.0	1782621.0	NaN	NaN	NaN	MLE	4198912

Tranform NBA Player Salary Dataframe and Rename Columns

In [5]:

```
nba1920_df = nbasalary_df[["Player", "2019-20"]].copy()
nba1920_df.head()
```

Out[5]:

	Player	2019-20
0	A.J. Hammons	350087
1	Aaron Gordon	19863636
2	Aaron Holiday	2239200
3	Abdel Nader	1618520

	Player	2019-20
4	Admiral Schofield	898310

In [18]:

```
# Renamed columns to lower case format and changed 2019-2020 header to salary for ease of use
salary1920_transformed = nba1920_df.rename(columns={"Player": "player", "2019-20": "salary"})
salary1920_transformed.head()
```

Out[18]:

	player	salary
0	A.J. Hammons	350087
1	Aaron Gordon	19863636
2	Aaron Holiday	2239200
3	Abdel Nader	1618520
4	Admiral Schofield	898310

Import NBA Player Stats Dataframe and Rename Columns

In [7]:

```
nbastats = "playerstats.csv"
nbastats_df = pd.read_csv(nbastats)
nbastats_df
```

Out[7]:

									MIN%Minutes Percentage of team minutes used by a player while he was on the floor	USG%Usage RateUsage rate, a.k.a., usage percentage is an estimate of the percentage of team plays used by a player while he was on the floor	TO%Turnover RateA metric that estimates the number of turnovers a player commits per 100 possessions		RPGReboundsRebou per ga
0	NaN	Steven Adams	Okc	C	26.55	45	26.7		55.7	17.0	14.2	...	
1	NaN	Bam Adebayo	Mia	C-F	22.55	50	34.7		72.2	19.8	17.3	...	
2	NaN	LaMarcus Aldridge	San	F-C	34.55	46	33.0		68.7	22.8	7.6	...	
3	NaN	Nickeil Alexander-Walker	Nor	G	21.43	39	12.7		26.4	22.9	13.8	...	
4	NaN	Grayson Allen	Mem	G	24.33	30	16.6		34.6	18.0	10.7	...	
5	NaN	Jarrett Allen	Bro	C	21.80	50	27.0		56.3	14.9	12.0	...	
6	NaN	Kadeem Allen	Nyk	G	27.06	10	11.7		24.4	20.6	14.1	...	
7	NaN	Al-Farouq Aminu	Orl	F	29.38	18	21.1		44.0	13.3	14.7	...	
8	NaN	Justin Anderson	Bro	F-G	26.21	3	5.6		11.7	17.0	0.0	...	
9	NaN	Kyle Anderson	Mem	F-G	26.38	45	17.4		36.3	13.6	15.0	...	
10	NaN	Ryan Anderson	Hou	F	31.75	2	7.0		14.6	23.4	12.5	...	
11	NaN	Giannis Antetokounmpo	Mil	F	25.17	46	30.7		64.0	37.9	12.9	...	
12	NaN	Kostas Antetokounmno	Lal	F	22.21	3	1.7		3.5	0.0	NaN	...	

Player statistics												
Rank	Player	Team	Pos	Age	GP	MPG	PTS	Reb	Ass	Stl	Blk	TO
13	Thanasis Antetokounmpo	Mil	F	27.55	15	4.1	8.5	2.6	15.6	...	...	...
14	Carmelo Anthony	Por	F	35.69	35	32.3	67.3	14.5	10.7	...	...	...
15	OG Anunoby	Tor	F	22.56	50	29.0	20.5	10.5	10.9	...	...	...
16	RANK Player Ryan Arcidiacono	Chi	G	25.87	48	14.6	30.5	10.5	10.9	...	...	...
17	Trevor Ariza	Sac	F	34.60	32	24.7	51.5	14.5	10.9	...	...	...
18	D.J. Augustin	Orl	G	32.24	39	26.0	54.1	14.5	12.4	...	...	...
19	Deandre Ayton	Pho	C	21.54	21	33.1	68.9	23.7	9.3	...	...	...
20	Dwayne Bacon	Cha	G-F	24.44	38	17.7	36.9	19.5	12.0	...	...	...
21	Marvin Bagley III	Sac	F	20.90	13	25.7	53.5	25.9	9.1	...	...	...
22	Lonzo Ball	Nor	G	22.28	43	31.7	66.0	19.1	19.7	...	...	...
23	Mo Bamba	Orl	C	21.74	47	15.0	31.3	16.9	13.5	...	...	...
24	J.J. Barea	Dal	G	35.61	16	15.5	32.2	25.1	13.8	...	...	...
25	Harrison Barnes	Sac	F	27.69	50	34.8	72.5	17.7	8.5	...	...	...
26	RJ Barrett	Nyk	F-G	19.64	41	31.2	65.1	23.3	12.8	...	...	...
27	Will Barton	Den	G	29.08	48	33.3	69.3	19.9	9.1	...	...	...
28	Keita Bates-Diop	Min	F	24.04	37	17.5	36.4	15.9	5.6	...	...	...
29	Nicolas Batum	Cha	G-F	31.14	22	23.0	47.8	9.3	20.5	...	...	...
...
468	Tyrone Wallace	Atl	G	25.66	14	11.5	23.9	15.9	16.3	...	...	...
469	Derrick Walton Jr.	Lac	G	24.85	23	9.6	20.1	8.2	9.1	...	...	...
470	Brad Wanamaker	Bos	G	30.54	49	18.7	38.9	16.0	16.0	...	...	...
471	T.J. Warren	Ind	F	26.42	49	32.2	67.0	22.7	7.4	...	...	...
472	P.J. Washington	Cha	F	21.46	44	30.0	62.4	17.9	13.0	...	...	...
473	Yuta Watanabe	Mem	G-F	25.32	7	3.9	8.1	12.2	12.7	...	...	...
474	Tremont Waters	Bos	G	22.07	8	8.9	18.5	22.6	21.3	...	...	...
475	Paul Watson	Atl	G	25.10	2	8.8	18.2	16.6	0.0	...	...	...
476	Russell Westbrook	Hou	G	31.23	42	35.9	74.9	33.6	14.7	...	...	...
477	Coby White	Chi	G	19.97	52	23.9	49.9	23.2	11.2	...	...	...
478	Derrick White	San	G	25.60	48	23.8	49.6	17.5	12.3	...	...	...
479	Hassan Whiteside	Por	C	30.65	47	30.6	63.7	19.7	13.3	...	...	...
480	Andrew Wiggins	Min	F	24.95	42	34.7	72.2	28.0	10.7	...	...	...
481	Robert Williams III	Bos	C-F	22.31	19	14.1	29.5	11.3	22.5	...	...	...
482	Nigel Williams-Goss	Uta	G	25.39	9	3.1	6.4	15.7	20.2	...	...	...
483	Grant Williams	Bos	F	21.18	48	15.5	32.2	12.4	18.5	...	...	...
484	Johnathan Williams	Was	F	24.71	10	13.5	28.0	9.6	12.8	...	...	...
485	Kenrich Williams	Nor	G-F	25.18	35	22.3	46.4	9.2	12.0	...	...	...
486	Lou Williams	Lac	G	33.28	48	29.8	62.1	28.8	14.3	...	...	...
487	Marvin Williams	Cha	F	33.63	41	19.7	41.0	13.9	9.7	...	...	...
488	Zion Williamson	Nor	F	19.58	7	27.1	56.5	29.3	13.3	...	...	...
489	D.J. Wilson	Mil	F-C	23.96	26	9.0	18.8	16.5	12.8	...	...	...
490	Justise Winslow	Mia	G-F	23.86	11	22.0	66.7	20.7	11.6	...	...	...

490	NaN	Winslow	Wla	G-F	23.00	11	32.0		00.7	20.7	14.0	...
491	NaN	Christian Wood	Det	F	24.36	49	18.0		37.4	USG%Usage	12.2	...
492	NaN	Delon Wright	Dal	G	27.78	49	21.1		43.9	RateUsage	...	...
493	NaN	Thaddeus Young	Chi	F	31.63	51	23.4			rate, a.k.a. usage	TO%Turnover	...
494	RANK	Trae Young	TEAM	POS	AGE	GP	MPG	MIN%Minutes	Percentage	percentage is an estimate of the number of turnovers a player commits per game	...	...
495	NaN	Cody Zeller	Cha	C	27.34	48	23.1	Percentage of team minutes used by a player while he was on the floor	48.2	percentage of team plays used by a player while he was on the floor	100	...
496	NaN	Ante Zizic	Cle	C	23.09	16	10.0		20.7	...	...	...
497	NaN	Ivica Zubac	Lac	C	22.89	51	17.9		37.3	...	...	...

498 rows x 29 columns

In [8]:

```
nbastats1920_df = nbastats_df[["Player", "GP", "FG%", "PPG"]].copy()
nbastats1920_df.head()
```

Out[8]:

	Player	GP	FG%	PPG
0	Steven Adams	45	0.597	10.7
1	Bam Adebayo	50	0.580	15.9
2	LaMarcus Aldridge	46	0.544	18.8
3	Nickeil Alexander-Walker	39	0.431	5.4
4	Grayson Allen	30	0.543	7.4

In [19]:

```
# Renamed columns to lower case format for ease of use
nbastats1920_transformed = nbastats1920_df.rename(columns={"Player": "player", "GP": "gp", "FG%": "fg_percent", "PPG": "ppg"})
nbastats1920_transformed.head()
```

Out[19]:

	player	gp	fg_percent	ppg
0	Steven Adams	45	0.597	10.7
1	Bam Adebayo	50	0.580	15.9
2	LaMarcus Aldridge	46	0.544	18.8
3	Nickeil Alexander-Walker	39	0.431	5.4
4	Grayson Allen	30	0.543	7.4

Create Database Connection

In [10]:

```
connection_string = "postgres:postgres@localhost:5432/etl_project"
```

In [11]:

```
enginesql = create_engine(f'postgresql://{connection_string}')
```

In [12]:

```
#Confirming connection by checking table names
enginesql.table_names()
```

Out[12]:

```
['player_stats', 'player_salary']
```

Use pandas to load csv converted DataFrame into database

In [13]:

```
nbastats1920_transformed.to_sql(name='player_stats', con=engine_sql, if_exists='append', index=False)
```

In [14]:

```
salary1920_transformed.to_sql(name='player_salary', con=engine_sql, if_exists='append', index=False)
```

Confirm data has been added by querying the player_stats table

In [16]:

```
pd.read_sql_query('select * from player_stats', con=engine_sql).head()
```

Out[16]:

	player	gp	fg_percent	ppg
0	Steven Adams	45	1.0	11
1	Bam Adebayo	50	1.0	16
2	LaMarcus Aldridge	46	1.0	19
3	Nickeil Alexander-Walker	39	0.0	5
4	Grayson Allen	30	1.0	7

Confirm data has been added by querying the player_salary table

In [17]:

```
pd.read_sql_query('select * from player_salary', con=engine_sql).head()
```

Out[17]:

	player	salary
0	A.J. Hammons	350087
1	Aaron Gordon	19863636
2	Aaron Holiday	2239200
3	Abdel Nader	1618520
4	Admiral Schofield	898310

In []: