

# Project\_NBA\_BIA\_652-Final-New\_Formula

February 8, 2018

```
In [89]: import pandas as pd
pd.set_option('display.height', 1000)
pd.set_option('display.max_rows', 5000)
pd.set_option('display.max_columns', 500)
pd.set_option('display.width', 1000)
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sb
%matplotlib inline
from sklearn import model_selection
from sklearn.linear_model import LogisticRegression
from sklearn.tree import DecisionTreeClassifier
from sklearn.neighbors import KNeighborsClassifier
from sklearn.discriminant_analysis import LinearDiscriminantAnalysis
from sklearn.naive_bayes import GaussianNB
from sklearn.svm import SVC
import tensorflow as tf
```

height has been deprecated.

```
In [90]: #df = pd.read_excel('NBA.xlsx',sheetname='COMBO')
df = pd.read_excel('Su.xlsx')
df.head()
df = df.reset_index(drop=True)
#df1.sort_values('Salary', ascending=False)
```

```
In [91]: df = df.sort_values('Salary',ascending = False).groupby('Team').head(9)
df
```

```
Out [91]:
```

	Name	Exp	Age	G	GS	MP
213	LeBron James	14.000000	31.000000	73.000000	73.000000	36.500000
278	Paul Millsap	11.000000	30.000000	74.333333	73.666667	33.133333
110	Gordon Hayward	7.000000	25.000000	76.333333	76.333333	35.033333
204	Kyle Lowry	11.000000	29.000000	69.000000	69.000000	36.300000
300	Russell Westbrook	9.000000	27.000000	76.000000	76.000000	34.466667
70	DeMar DeRozan	8.000000	26.000000	70.666667	70.666667	35.433333

3	Al Horford	10.000000	29.000000	75.333333	75.333333	31.633333
245	Mike Conley	9.000000	28.000000	65.000000	64.666667	32.133333
138	James Harden	7.000000	26.000000	81.333333	81.333333	37.100000
194	Kevin Durant	9.000000	27.000000	53.666667	53.666667	34.333333
43	Carmelo Anthony	14.000000	31.000000	62.000000	62.000000	35.033333
58	Damian Lillard	5.000000	25.000000	77.333333	77.333333	35.766667
83	Dirk Nowitzki	18.000000	37.000000	68.666667	68.666667	29.166667
269	Otto Porter	4.000000	22.000000	76.333333	55.333333	27.433333
48	Chris Paul	11.000000	30.000000	72.333333	72.333333	33.000000
39	C.J. McCollum	4.000000	24.000000	74.000000	54.333333	28.500000
114	Hassan Whiteside	5.000000	26.000000	66.000000	50.666667	28.500000
15	Andre Drummond	5.000000	22.000000	81.333333	81.333333	31.033333
34	Bradley Beal	5.000000	22.000000	65.000000	57.000000	33.133333
88	Dwight Howard	13.000000	30.000000	62.000000	62.000000	30.533333
125	J.J. Redick	10.500000	31.000000	77.000000	77.000000	29.033333
195	Kevin Love	9.000000	27.000000	70.666667	70.666667	32.233333
317	Steven Adams	4.000000	22.000000	76.666667	75.666667	26.800000
107	Giannis Antetokounmpo	4.000000	21.000000	80.333333	76.666667	34.100000
258	Nicolas Batum	9.000000	27.000000	72.666667	72.666667	34.166667
113	Harrison Barnes	4.000000	23.000000	75.666667	73.333333	31.566667
45	Chandler Parsons	5.000000	27.000000	53.666667	50.333333	27.500000
20	Anthony Davis	4.000000	22.000000	68.000000	68.000000	35.900000
299	Rudy Gobert	4.000000	23.000000	74.666667	59.333333	30.633333
208	LaMarcus Aldridge	10.000000	30.000000	72.333333	72.333333	32.800000
67	DeAndre Jordan	8.000000	27.000000	80.000000	80.000000	33.266667
225	Marc Gasol	8.000000	31.000000	69.000000	69.000000	33.933333
353	Victor Oladipo	4.000000	23.000000	70.333333	63.333333	33.966667
96	Enes Kanter	6.000000	23.000000	76.333333	25.000000	23.600000
29	Blake Griffin	6.000000	26.000000	54.333333	54.333333	34.200000
305	Serge Ibaka	8.000000	26.000000	73.666667	73.666667	31.966667
277	Paul George	7.000000	25.000000	54.000000	52.000000	28.633333
12	Allen Crabbe	4.000000	23.000000	70.333333	8.000000	22.633333
156	Jimmy Butler	6.000000	26.000000	69.333333	69.000000	37.533333
149	Jeff Teague	8.000000	27.000000	78.000000	77.333333	30.466667
207	Kyrie Irving	6.000000	23.000000	66.666667	66.666667	34.333333
301	Ryan Anderson	8.000000	27.000000	66.333333	28.000000	29.100000
165	John Wall	7.000000	25.000000	78.000000	78.000000	36.166667
219	Luol Deng	12.000000	30.000000	67.333333	64.666667	30.833333
112	Greg Monroe	7.000000	25.000000	76.333333	41.333333	27.600000
157	Joakim Noah	10.000000	30.000000	47.333333	38.333333	24.866667
102	Evan Turner	7.000000	27.000000	76.000000	27.000000	27.033333
357	Wesley Matthews	7.000000	29.000000	70.333333	70.333333	33.933333
109	Goran Dragic	9.000000	29.000000	74.333333	74.333333	33.433333
101	Evan Fournier	5.000000	23.000000	68.333333	56.333333	31.333333
28	Bismack Biyombo	6.000000	23.000000	75.666667	23.333333	21.166667
71	DeMarcus Cousins	6.000000	25.000000	65.333333	65.333333	34.300000
193	Kent Bazemore	5.000000	26.000000	74.333333	47.333333	24.133333
198	Klay Thompson	5.000000	25.000000	78.333333	78.333333	33.066667

118	Ian Mahinmi	9.000000	29.000000	54.333333	25.666667	20.766667	2
331	Tim Hardaway	4.000000	23.000000	66.666667	20.333333	22.733333	3
343	Tristan Thompson	6.000000	24.000000	80.666667	42.333333	28.133333	3
334	Tobias Harris	6.000000	23.000000	75.333333	61.666667	33.066667	6
288	Reggie Jackson	6.000000	25.000000	69.333333	56.333333	29.200000	1
276	Pau Gasol	15.000000	35.000000	71.333333	63.000000	30.533333	6
74	Dennis Schroder	4.000000	22.000000	78.666667	31.333333	23.833333	4
169	Jonas Valanciunas	5.000000	23.000000	73.333333	73.000000	26.000000	4
87	Draymond Green	4.000000	25.000000	78.666667	78.666667	32.900000	4
332	Timofey Mozgov	6.500000	29.000000	64.500000	54.166667	20.966667	3
72	DeMarre Carroll	8.000000	29.000000	56.000000	54.333333	29.200000	3
327	Thaddeus Young	10.000000	27.000000	74.333333	71.666667	31.733333	5
291	Ricky Rubio	6.000000	25.000000	57.666667	57.666667	31.666667	3
160	Joe Ingles	3.000000	28.000000	80.666667	20.000000	20.166667	1
111	Gorgui Dieng	4.000000	26.000000	79.000000	56.666667	29.833333	3
197	Khrist Middleton	5.000000	24.000000	62.333333	53.333333	32.300000	5
236	Mason Plumlee	4.000000	25.000000	81.666667	63.666667	24.400000	3
97	Eric Bledsoe	6.000000	26.000000	59.333333	59.333333	33.933333	6
320	Taj Gibson	8.000000	30.000000	71.000000	47.666667	26.433333	4
139	James Johnson	8.000000	28.000000	67.666667	18.000000	21.066667	3
293	Robin Lopez	9.000000	27.000000	74.000000	74.000000	27.633333	4
126	J.R. Smith	13.000000	30.000000	54.666667	52.333333	30.500000	4
298	Rudy Gay	10.000000	29.000000	56.000000	55.666667	34.400000	6
235	Marvin Williams	12.000000	29.000000	78.333333	64.666667	28.400000	1
244	Michael Kidd-Gilchrist	5.000000	22.000000	47.666667	46.666667	29.066667	4
192	Kenneth Faried	6.000000	26.000000	67.666667	56.333333	24.766667	4
227	Marcin Gortat	10.000000	31.000000	79.666667	79.333333	30.400000	5
37	Brandon Knight	5.000000	24.000000	56.333333	38.666667	29.800000	5
50	Cody Zeller	4.000000	23.000000	65.666667	54.333333	25.366667	3
262	Nikola Mirotic	3.000000	24.000000	72.666667	18.666667	23.033333	3
248	Miles Plumlee	5.000000	27.000000	59.666667	18.000000	13.833333	1
171	Jordan Clarkson	2.000000	23.000000	73.333333	45.333333	28.833333	5
350	Tyson Chandler	15.000000	33.000000	62.666667	60.333333	27.533333	3
98	Eric Gordon	8.000000	27.000000	60.333333	39.666667	32.333333	5
263	Nikola Vucevic	6.000000	25.000000	71.333333	63.000000	31.433333	7
316	Stephen Curry	7.000000	27.000000	79.333333	79.333333	33.433333	8
361	Wilson Chandler	9.000000	27.333333	70.333333	54.333333	31.233333	5
153	Jeremy Lin	7.000000	27.000000	62.666667	25.333333	25.533333	4
77	Derrick Favors	7.000000	24.000000	62.000000	57.333333	28.833333	5
191	Kemba Walker	6.000000	24.000000	72.000000	70.666667	35.200000	6
54	Courtney Lee	9.000000	30.000000	77.666667	71.000000	30.666667	3
164	John Henson	5.000000	25.000000	60.666667	17.000000	18.166667	2
178	Jrue Holiday	7.000000	25.000000	57.333333	40.333333	31.166667	6
313	Solomon Hill	3.000000	24.000000	73.666667	50.666667	24.466667	2
16	Andre Iguodala	12.000000	32.000000	72.666667	0.333333	26.600000	2
24	Austin Rivers	4.000000	23.000000	60.666667	12.666667	23.000000	3
13	Amir Johnson	12.000000	28.000000	78.000000	75.000000	23.100000	3
82	Dion Waiters	5.000000	24.000000	68.000000	27.000000	28.433333	4

8	Alec Burks	6.000000	24.000000	33.333333	10.000000	24.833333	3
275	Patty Mills	7.000000	27.000000	70.666667	3.666667	19.366667	3
349	Tyreke Evans	7.000000	26.000000	48.000000	35.666667	28.133333	5
189	Kelly Olynyk	4.000000	24.000000	69.333333	9.000000	20.966667	3
161	Joe Johnson	16.000000	34.000000	79.666667	58.333333	30.633333	3
324	Terrence Ross	5.000000	24.000000	77.666667	30.666667	24.833333	3
33	Bojan Bogdanovic	3.000000	26.000000	79.333333	40.333333	25.433333	4
250	Mirza Teletovic	5.000000	30.000000	63.000000	2.333333	19.933333	3
167	Jon Leuer	6.000000	26.000000	68.333333	22.333333	19.233333	3
141	Jared Dudley	9.000000	30.000000	72.333333	23.333333	23.666667	2
363	Zach Randolph	15.000000	34.000000	70.666667	43.000000	28.866667	6
119	Iman Shumpert	6.000000	25.000000	56.000000	12.333333	24.700000	2
239	Maurice Harkless	5.000000	22.000000	66.666667	29.000000	20.866667	2
65	Darren Collison	7.500000	28.000000	62.333333	41.333333	31.700000	5
60	Danny Green	7.000000	28.000000	76.000000	75.666667	27.066667	3
241	Meyers Leonard	5.000000	23.000000	63.333333	9.666667	17.933333	2
267	Omer Asik	6.000000	29.000000	58.333333	53.000000	19.633333	1
338	Tony Snell	4.000000	24.000000	72.000000	45.000000	23.033333	2
4	Al Jefferson	13.000000	31.000000	59.333333	26.666667	22.666667	5
238	Matthew Dellavedova	4.000000	25.000000	73.000000	27.000000	23.766667	2
17	Andre Roberson	4.000000	24.000000	72.000000	71.333333	23.833333	2
341	Trevor Booker	7.000000	28.000000	76.333333	16.666667	21.733333	3
155	Jerryd Bayless	9.000000	27.000000	44.000000	7.666667	24.966667	3
76	Deron Williams	11.000000	31.000000	65.666667	54.000000	29.800000	4
25	Avery Bradley	7.000000	25.000000	69.333333	68.000000	32.766667	6
89	Dwight Powell	3.000000	24.000000	58.333333	1.666667	13.266667	1
91	ETwaun Moore	5.000000	26.000000	62.666667	14.666667	18.433333	2
199	Kosta Koufos	8.000000	26.000000	76.666667	26.333333	18.533333	2
233	Markieff Morris	6.000000	26.000000	74.000000	67.666667	29.400000	5
105	Garrett Temple	6.000000	29.000000	65.666667	27.333333	21.700000	2
40	C.J. Miles	12.000000	28.000000	70.000000	31.000000	24.200000	4
55	Cristiano Felicio	2.000000	23.500000	48.500000	2.000000	13.100000	1
340	Trevor Ariza	12.000000	30.000000	81.000000	81.000000	35.233333	4
53	Cory Joseph	6.000000	24.000000	79.666667	13.333333	22.966667	3
52	Corey Brewer	9.000000	29.000000	81.333333	13.333333	20.700000	2
270	P.J. Tucker	5.000000	30.000000	80.333333	54.666667	29.733333	2
19	Andrew Wiggins	3.000000	20.000000	81.666667	81.666667	36.166667	7
64	Darrell Arthur	8.000000	27.000000	56.333333	9.000000	18.100000	2
46	Channing Frye	11.000000	32.000000	73.000000	32.666667	20.300000	2
5	Al-Farouq Aminu	7.000000	25.000000	72.333333	36.666667	25.366667	2
51	Cole Aldrich	7.000000	27.000000	61.000000	7.000000	12.633333	1
57	D.J. Augustin	9.000000	28.000000	74.000000	11.333333	20.900000	2
152	Jeremy Lamb	5.000000	23.000000	58.333333	4.333333	16.833333	3
30	Boban Marjanovic	2.000000	27.500000	44.500000	2.000000	8.900000	2
203	Kyle Korver	14.000000	34.000000	74.000000	59.000000	29.466667	3
215	Lou Williams	11.000000	29.000000	76.000000	12.000000	26.100000	4
130	Jae Crowder	5.000000	25.000000	75.666667	54.000000	28.033333	4
129	Jabari Parker	3.000000	20.000000	50.666667	49.000000	31.700000	6

211	Langston Galloway	2.666667	24.000000	67.000000	16.666667	25.800000	3
210	Lance Thomas	6.000000	27.000000	55.666667	19.000000	22.433333	2
228	Marco Belinelli	10.000000	29.000000	68.000000	5.333333	23.666667	3
92	Ed Davis	7.000000	26.000000	68.666667	12.000000	20.433333	2
170	Jonathon Simmons	2.000000	26.500000	66.500000	5.000000	16.300000	3
355	Wayne Ellington	8.000000	28.000000	67.666667	30.000000	23.766667	3
121	Isaiah Thomas	6.000000	26.000000	75.000000	52.000000	30.600000	7
187	Karl-Anthony Towns	2.000000	20.500000	82.000000	82.000000	34.500000	8
321	Tarik Black	2.000000	24.000000	56.333333	18.333333	16.000000	2
163	Joel Embiid	1.000000	22.000000	31.000000	31.000000	25.400000	6
100	Ersan Ilyasova	9.000000	28.000000	71.333333	48.000000	24.733333	4
312	Shelvin Mack	6.000000	25.000000	54.000000	12.000000	19.100000	2
273	Patrick Beverley	4.000000	27.000000	64.666667	61.666667	30.066667	3
123	Ish Smith	7.000000	27.000000	71.000000	33.000000	22.766667	3
81	Dewayne Dedmon	3.500000	26.000000	64.333333	24.000000	14.666667	1
347	Tyler Johnson	3.000000	23.000000	47.000000	2.333333	24.200000	3
310	Shaun Livingston	11.000000	30.000000	77.333333	2.666667	18.666667	2
9	Alex Abrines	1.000000	23.000000	68.000000	6.000000	15.500000	2
35	Brandan Wright	8.000000	28.000000	38.333333	4.666667	17.666667	3
356	Wesley Johnson	6.000000	28.000000	74.666667	23.666667	20.733333	2
56	DAngelo Russell	1.500000	19.500000	71.500000	54.000000	28.450000	5
337	Tony Allen	12.000000	34.000000	66.000000	54.666667	26.166667	3
2	Aaron Gordon	3.000000	20.000000	68.333333	39.000000	23.200000	3
326	Thabo Sefolosha	11.000000	31.000000	63.000000	20.000000	22.633333	2
145	Jason Smith	9.000000	29.000000	77.333333	12.000000	17.233333	2
274	Patrick Patterson	7.000000	26.000000	75.000000	4.000000	25.600000	2
257	Nick Young	9.000000	30.000000	52.000000	20.666667	22.933333	3
246	Mike Muscala	4.000000	24.000000	56.666667	3.666667	13.233333	1
230	Marcus Morris	6.000000	26.000000	80.000000	64.666667	31.133333	4
131	Jahlil Okafor	2.000000	20.500000	51.500000	40.500000	26.350000	6
62	Dante Exum	2.000000	20.000000	74.000000	33.500000	20.400000	2
147	Jaylen Brown	1.000000	20.000000	78.000000	20.000000	17.200000	2
10	Alex Len	3.000000	22.000000	74.666667	41.333333	21.866667	3
136	Jameer Nelson	13.000000	33.000000	59.000000	27.666667	25.400000	3
206	Kyle Singler	5.000000	27.000000	60.000000	20.666667	16.066667	3
183	Justin Holiday	4.000000	26.000000	64.666667	4.333333	15.233333	2
11	Alexis Ajinca	6.000000	27.000000	55.333333	13.333333	14.566667	2
231	Marcus Smart	3.000000	21.000000	69.000000	24.000000	28.233333	3
201	Kristaps Porzingis	2.000000	20.500000	69.000000	68.500000	30.600000	5
255	Nerlens Noel	3.000000	21.000000	64.333333	50.666667	26.866667	4
134	Jamal Crawford	16.500000	35.000000	75.000000	3.333333	26.600000	4
296	Ron Baker	1.000000	23.000000	52.000000	13.000000	16.500000	1
22	Aron Baynes	5.000000	29.000000	75.333333	6.666667	15.566667	2
354	Vince Carter	18.000000	39.000000	66.333333	6.333333	19.300000	2
80	Devin Harris	12.000000	32.000000	68.333333	1.000000	19.633333	2
209	Lance Stephenson	6.500000	25.000000	49.333333	12.666667	21.933333	3
124	J.J. Barea	10.000000	31.000000	62.000000	10.666667	20.733333	3
205	Kyle OQuinn	5.000000	25.000000	65.000000	8.666667	14.533333	2

232	Mario Hezonja	2.000000	20.500000	72.000000	5.500000	16.350000
200	Kris Dunn	1.000000	22.000000	78.000000	7.000000	17.100000
27	Ben McLemore	3.000000	22.000000	70.333333	53.666667	24.366667
214	Leandro Barbosa	13.000000	33.000000	67.000000	0.333333	15.066667
168	Jonas Jerebko	7.000000	28.000000	77.000000	2.000000	15.766667
253	Nemanja Bjelica	2.000000	27.500000	62.500000	0.500000	18.100000
282	Quincy Pondexter	5.000000	25.000000	49.666667	11.000000	21.000000
260	Nik Stauskas	3.000000	22.000000	75.333333	21.000000	22.533333
359	Willie Cauley-Stein	1.000000	22.500000	70.500000	30.000000	20.150000
358	Will Barton	5.000000	25.000000	66.666667	6.666667	24.666667
264	Noah Vonleh	3.000000	20.000000	59.000000	32.333333	14.200000
279	Paul Pierce	18.000000	38.000000	55.333333	39.333333	18.466667
254	Nene	14.000000	33.000000	63.666667	25.666667	20.800000
95	Emmanuel Mudiay	2.000000	19.500000	61.500000	53.500000	28.000000
135	Jamal Murray	1.000000	19.000000	82.000000	10.000000	21.500000
344	Troy Daniels	3.000000	24.000000	52.333333	1.000000	12.400000
86	Doug McDermott	3.000000	24.000000	61.000000	3.000000	18.233333
158	Jodie Meeks	8.000000	28.000000	33.000000	3.333333	19.733333
21	Anthony Tolliver	8.500000	30.000000	71.000000	8.333333	20.033333
180	Julius Randle	2.000000	21.000000	52.000000	44.333333	23.666667
362	Zach LaVine	3.000000	20.000000	68.666667	40.000000	29.966667
268	Omri Casspi	7.000000	27.000000	57.333333	14.000000	22.066667
335	Tomas Satoransky	1.000000	25.000000	57.000000	3.000000	12.600000
61	Dante Cunningham	7.000000	28.000000	70.666667	36.000000	24.866667
217	Lucas Nogueira	3.000000	23.000000	30.666667	2.333333	10.233333
185	Jusuf Nurkic	3.000000	21.000000	53.000000	26.000000	18.766667
306	Seth Curry	3.000000	25.000000	38.666667	17.000000	16.233333
364	Zaza Pachulia	13.000000	31.000000	73.000000	61.333333	22.733333
137	James Ennis	3.000000	25.000000	49.333333	12.000000	18.500000
103	Frank Kaminsky	2.000000	22.500000	78.000000	9.500000	23.600000
133	Jakob Poeltl	1.000000	21.000000	54.000000	4.000000	11.600000
184	Justise Winslow	2.000000	19.500000	48.000000	11.500000	31.650000
243	Michael Carter-Williams	4.000000	24.000000	55.000000	39.666667	27.300000
329	Thon Maker	1.000000	19.000000	57.000000	34.000000	9.900000
252	Myles Turner	2.000000	19.500000	70.500000	55.500000	27.100000
84	Domantas Sabonis	1.000000	20.000000	81.000000	66.000000	20.100000
224	Manu Ginobili	14.000000	38.000000	65.666667	0.000000	20.333333
221	Malcolm Delaney	1.000000	27.000000	73.000000	2.000000	17.100000
38	Bruno Caboclo	3.000000	20.000000	7.666667	0.333333	4.833333
63	Dario Saric	1.000000	22.000000	81.000000	36.000000	26.300000
322	Taurean Prince	1.000000	22.000000	59.000000	10.000000	16.600000
256	Nick Collison	13.000000	35.000000	48.333333	2.000000	11.633333
352	Udonis Haslem	14.000000	35.000000	38.333333	8.333333	10.366667
79	Devin Booker	1.000000	19.500000	77.000000	64.500000	31.350000
41	Cameron Payne	2.000000	21.500000	44.000000	0.500000	13.550000
216	Luc Mbah a Moute	8.000000	29.000000	74.000000	66.000000	22.633333
75	Denzel Valentine	1.000000	23.000000	57.000000	0.000000	17.100000
202	Kyle Anderson	3.000000	22.000000	61.000000	11.000000	13.666667

237	Matt Barnes	13.000000	35.000000	75.333333	45.666667	27.566667
319	T.J. Warren	2.000000	22.000000	51.000000	21.333333	23.066667
325	Terry Rozier	2.000000	21.500000	56.500000	0.000000	12.550000
346	Tyler Ennis	2.500000	21.000000	44.000000	3.333333	12.600000
303	Sam Dekker	2.000000	21.500000	40.000000	1.000000	10.200000
281	Quincy Acy	4.500000	25.000000	55.000000	17.333333	16.133333
348	Tyler Zeller	5.000000	26.000000	64.333333	22.333333	14.400000
73	Delon Wright	2.000000	23.500000	27.000000	0.500000	12.500000
42	Caris LeVert	1.000000	22.000000	57.000000	26.000000	21.700000
182	Justin Anderson	2.000000	22.500000	65.000000	9.500000	14.100000
292	Robert Covington	4.000000	25.000000	68.000000	55.000000	29.300000
240	Metta World Peace	16.000000	36.500000	30.000000	3.500000	11.650000
36	Brandon Bass	11.000000	30.000000	66.666667	14.333333	18.300000
309	Shane Larkin	3.000000	22.000000	67.333333	13.000000	19.033333
128	JaVale McGee	8.000000	28.000000	44.666667	4.000000	10.533333
6	Alan Anderson	7.000000	33.000000	39.000000	6.333333	16.233333
345	Ty Lawson	7.000000	28.000000	70.000000	37.333333	27.333333
212	Larry Nance Jr.	1.000000	23.500000	63.000000	14.500000	21.500000
328	Thomas Robinson	4.000000	24.000000	57.666667	4.000000	13.133333
173	Jordan Farmar	9.000000	29.000000	16.666667	3.333333	18.833333

```
In [92]: #dff = df.nlargest(9, 'Salary')
         df.Team.value_counts()
```

```
Out[92]: Houston Rockets          9
         Utah Jazz                 9
         Dallas Mavericks          9
         Portland Trail Blazers    9
         Chicago Bulls             9
         Orlando Magic            9
         Detroit Pistons           9
         New Orleans Pelicans      9
         Golden State Warrior      9
         Cleveland Cavaliers       9
         Oklahoma City Thunder     9
         New York Knicks           9
         Milwaukee Bucks          9
         Los Angeles Clippers      9
         Toronto Raptors           9
         Miami Heat                9
         Minnesota Timberwolves    9
         Philadelphia 76ers        9
         Charlotte Hornets         9
         Boston Celtics            9
         Atlanta Hawks             9
         Indiana Pacers            9
         Denver Nuggets            9
         Brooklyn Nets             9
```

```

Los Angeles Lakers      9
Phoenix Suns            9
Washington Wizards      9
Memphis Grizzlies       9
Sacramento Kings        8
SAN ANTONIO             6
Name: Team, dtype: int64

```

```

In [93]: df.dtypes
#df = pd.DataFrame(Shoots,Exp,Season,Tm,Lg,Pos, dtype='float')
df[['Salary']] = df[['Salary']].astype(float)

```

```

In [94]: df.describe()

```

```

Out[94]:

```

	Exp	Age	G	GS	MP	FG	
count	266.000000	266.000000	266.000000	266.000000	266.000000	266.000000	266.000000
mean	6.363409	26.091479	65.406642	36.497494	24.410589	3.966416	8.700000
std	3.818763	3.956390	12.248696	26.024625	6.966635	1.932884	4.130000
min	1.000000	19.000000	7.666667	0.000000	4.833333	0.466667	1.760000
25%	3.000000	23.000000	58.333333	12.000000	19.316667	2.500000	5.530000
50%	6.000000	26.000000	68.000000	33.750000	24.683333	3.500000	7.900000
75%	8.875000	28.750000	74.333333	59.250000	30.316667	5.325000	11.690000
max	18.000000	39.000000	82.000000	82.000000	37.533333	9.633333	21.360000

```

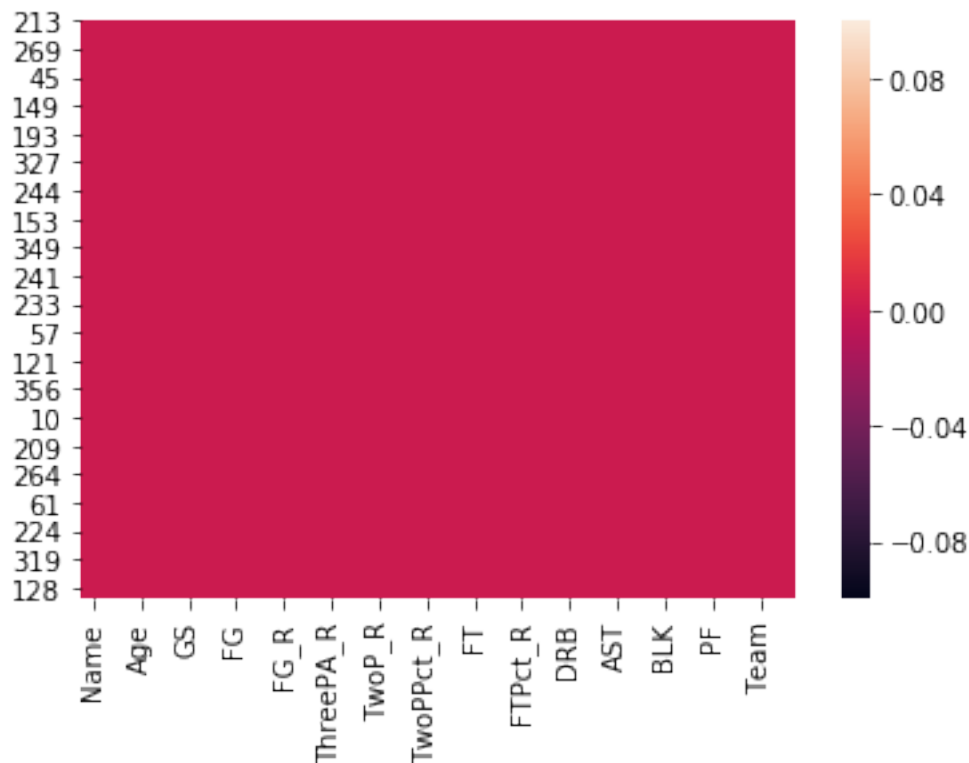
In [95]: sb.heatmap(df.isnull())

```

```

Out[95]: <matplotlib.axes._subplots.AxesSubplot at 0x11de1a518>

```





## 1 Create a function to drop Injured or Not playing players from each team

```
In [96]: dfgrouped = pd.DataFrame()
dfgrouped = df.groupby(['Name']).agg(['mean'])
dfgrouped.head()
```

```
Out [96]:
```

	Exp mean	Age mean	G mean	GS mean	MP mean	FG mean	FGA mean
Name							
Aaron Gordon	3.0	20.0	68.333333	39.000000	23.200000	3.466667	7.533333
Al Horford	10.0	29.0	75.333333	75.333333	31.633333	6.300000	12.433333
Al Jefferson	13.0	31.0	59.333333	26.666667	22.666667	5.433333	11.100000
Al-Farouq Aminu	7.0	25.0	72.333333	36.666667	25.366667	2.866667	7.066667
Alan Anderson	7.0	33.0	39.000000	6.333333	16.233333	1.733333	4.366667

```
In [97]: df.corr()
```

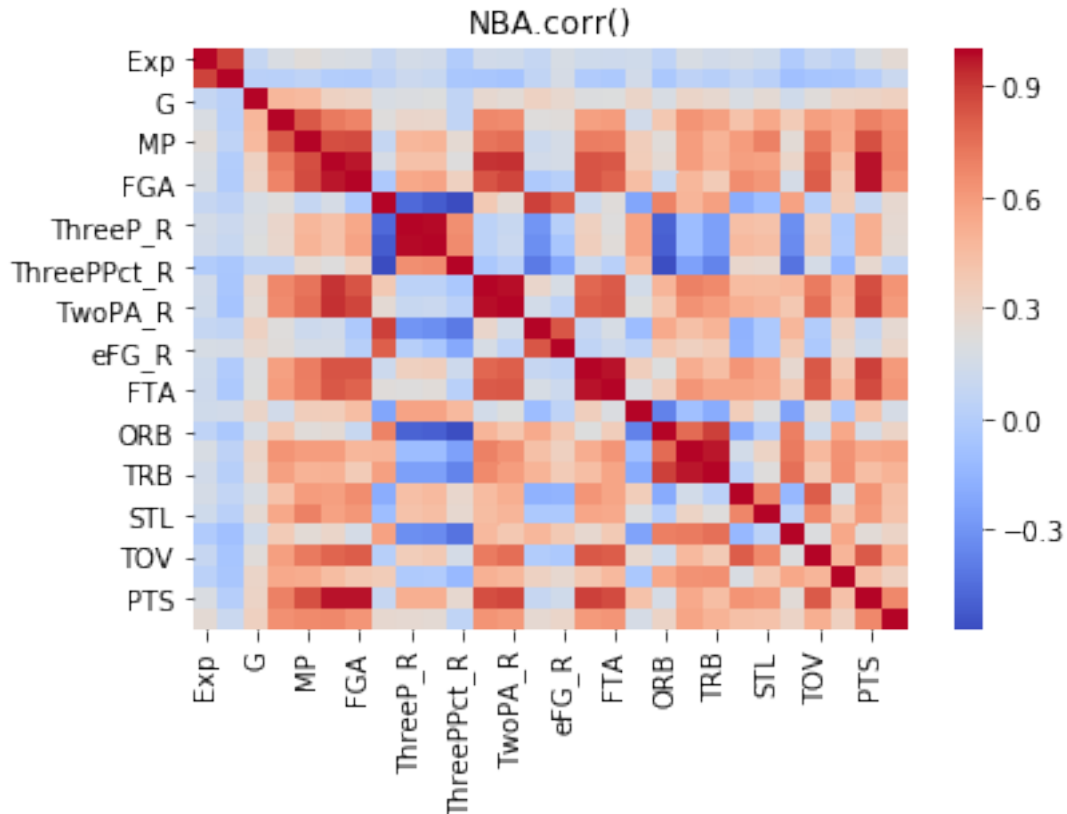
```
Out [97]:
```

	Exp	Age	G	GS	MP	FG	FGA
Exp	1.000000	0.885062	0.083743	0.187123	0.238072	0.190675	0.181878
Age	0.885062	1.000000	0.028789	0.019113	0.051046	-0.006156	-0.007860
G	0.083743	0.028789	1.000000	0.478489	0.460989	0.325393	0.307350
GS	0.187123	0.019113	0.478489	1.000000	0.822180	0.723463	0.684810
MP	0.238072	0.051046	0.460989	0.822180	1.000000	0.858472	0.864502
FG	0.190675	-0.006156	0.325393	0.723463	0.858472	1.000000	0.973767
FGA	0.181878	-0.007860	0.307350	0.684810	0.864502	0.973767	1.000000
FG_R	0.088090	0.046088	0.181189	0.226065	0.083545	0.167191	-0.030945
ThreeP_R	0.156757	0.109852	0.199340	0.290900	0.478792	0.423761	0.551225
ThreePA_R	0.146376	0.094040	0.209359	0.285303	0.490350	0.423806	0.564090
ThreePPct_R	-0.010777	-0.046405	0.065980	0.066508	0.262488	0.214527	0.333990
TwoP_R	0.141133	-0.055699	0.272906	0.673077	0.740899	0.920759	0.837103
TwoPA_R	0.135755	-0.062745	0.249642	0.660822	0.759642	0.929678	0.880872
TwoPPct_R	0.081501	0.064765	0.328705	0.221086	0.118749	0.145425	-0.027781
eFG_R	0.172730	0.166888	0.281068	0.227202	0.163795	0.164778	0.017160
FT	0.130537	-0.017710	0.206497	0.576369	0.705258	0.839953	0.835083
FTA	0.122307	-0.036986	0.210071	0.599084	0.702913	0.825671	0.793343
FTPct_R	0.139628	0.145495	0.303790	0.145493	0.353871	0.358801	0.446097
ORB	0.054177	-0.042544	0.179867	0.387625	0.237621	0.252964	0.093868
DRB	0.179177	0.043113	0.300508	0.626420	0.591215	0.590072	0.478708
TRB	0.144406	0.014704	0.274618	0.578075	0.500816	0.505265	0.371151
AST	0.162987	0.066782	0.186438	0.418211	0.595219	0.584972	0.650545
STL	0.128055	0.027246	0.254747	0.547356	0.696001	0.573258	0.616014
BLK	-0.014406	-0.092700	0.134536	0.369578	0.249840	0.299661	0.160487
TOV	0.087628	-0.060472	0.227669	0.583213	0.719784	0.790606	0.810439
PF	0.031433	-0.054528	0.302423	0.540136	0.529765	0.448606	0.390351

```
PTS          0.191398  0.009002  0.309512  0.696889  0.851426  0.980743  0.976157  0.
Salary       0.253277  0.103770  0.332782  0.640592  0.665416  0.672944  0.620994  0.
```

```
In [98]: sb.heatmap(df.corr(),cmap='coolwarm')
plt.title('NBA.corr()')
```

```
Out[98]: Text(0.5,1,'NBA.corr()')
```



```
In [99]: # Reading Team Score of the Last 3 years
Team_Score = pd.read_excel('Team Score.xlsx',sheetname='Sheet2')
Team_Score.head()
```

```
Out[99]:
```

	Team	Team Stats 2014	Team Stats 2015	Team Stats 2016
0	Atlanta	0.694	0.565	0.511
1	Boston	0.465	0.568	0.620
2	Brooklyn	0.455	0.256	0.244
3	Charlotte	0.402	0.573	0.439
4	Chicago	0.596	0.512	0.489

```
In [100]: Team_Score['Team_Score_Sum'] = Team_Score['Team Stats 2014']+Team_Score['Team Stats 2015']+Team_Score['Team Stats 2016']
Team_Score = Team_Score.sort_values('Team', ascending=True)
Team_Score.head(30)
```

```
Out[100]:
```

	Team	Team Stats 2014	Team Stats 2015	Team Stats 2016	Team_Score_Sum
0	Atlanta	0.694	0.565	0.511	1.770
1	Boston	0.465	0.568	0.620	1.653
2	Brooklyn	0.455	0.256	0.244	0.955
3	Charlotte	0.402	0.573	0.439	1.414
4	Chicago	0.596	0.512	0.489	1.597
5	Cleveland	0.657	0.709	0.640	2.006
6	Dallas	0.586	0.494	0.402	1.482
7	Denver	0.366	0.402	0.488	1.256
8	Detroit	0.390	0.512	0.451	1.353
9	Golden State	0.806	0.830	0.838	2.474
10	Houston	0.657	0.483	0.656	1.796
11	Indiana	0.463	0.539	0.488	1.490
12	LA Clippers	0.656	0.625	0.607	1.888
13	LA Lakers	0.256	0.207	0.317	0.780
14	Memphis	0.656	0.488	0.511	1.655
15	Miami	0.451	0.573	0.500	1.524
16	Milwaukee	0.489	0.402	0.500	1.391
17	Minnesota	0.195	0.354	0.378	0.927
18	New Orleans	0.523	0.366	0.415	1.304
19	New York	0.207	0.390	0.378	0.975
20	Okla City	0.549	0.660	0.552	1.761
21	Orlando	0.305	0.427	0.354	1.086
22	Philadelphia	0.220	0.122	0.342	0.684
23	Phoenix	0.476	0.281	0.293	1.050
24	Portland	0.598	0.527	0.477	1.602
25	Sacramento	0.354	0.402	0.390	1.146
26	San Antonio	0.652	0.793	0.704	2.149
27	Toronto	0.570	0.647	0.598	1.815
28	Utah	0.463	0.488	0.591	1.542
29	Washington	0.565	0.500	0.590	1.655

```
In [101]: Team_Score = Team_Score.sort_values('Team_Score_Sum', ascending=False)
Team_Score.head(30)
```

```
Out[101]:
```

	Team	Team Stats 2014	Team Stats 2015	Team Stats 2016	Team_Score_Sum
9	Golden State	0.806	0.830	0.838	2.474
26	San Antonio	0.652	0.793	0.704	2.149
5	Cleveland	0.657	0.709	0.640	2.006
12	LA Clippers	0.656	0.625	0.607	1.888
27	Toronto	0.570	0.647	0.598	1.815
10	Houston	0.657	0.483	0.656	1.796
0	Atlanta	0.694	0.565	0.511	1.770
20	Okla City	0.549	0.660	0.552	1.761
14	Memphis	0.656	0.488	0.511	1.655
29	Washington	0.565	0.500	0.590	1.655
1	Boston	0.465	0.568	0.620	1.653
24	Portland	0.598	0.527	0.477	1.602

4	Chicago	0.596	0.512	0.489	1.597
28	Utah	0.463	0.488	0.591	1.542
15	Miami	0.451	0.573	0.500	1.524
11	Indiana	0.463	0.539	0.488	1.490
6	Dallas	0.586	0.494	0.402	1.482
3	Charlotte	0.402	0.573	0.439	1.414
16	Milwaukee	0.489	0.402	0.500	1.391
8	Detroit	0.390	0.512	0.451	1.353
18	New Orleans	0.523	0.366	0.415	1.304
7	Denver	0.366	0.402	0.488	1.256
25	Sacramento	0.354	0.402	0.390	1.146
21	Orlando	0.305	0.427	0.354	1.086
23	Phoenix	0.476	0.281	0.293	1.050
19	New York	0.207	0.390	0.378	0.975
2	Brooklyn	0.455	0.256	0.244	0.955
17	Minnesota	0.195	0.354	0.378	0.927
13	LA Lakers	0.256	0.207	0.317	0.780
22	Philadelphia	0.220	0.122	0.342	0.684

```
In [102]: Team_Score.describe()
```

```
Out[102]:
```

	Team Stats 2014	Team Stats 2015	Team Stats 2016	Team_Score_Sum
count	30.000000	30.000000	30.000000	30.000000
mean	0.490733	0.489833	0.492100	1.472667
std	0.156793	0.160018	0.132172	0.411022
min	0.195000	0.122000	0.244000	0.684000
25%	0.393000	0.402000	0.393000	1.173500
50%	0.482500	0.497000	0.488500	1.507000
75%	0.597500	0.571750	0.590750	1.734500
max	0.806000	0.830000	0.838000	2.474000

```
In [103]: def Team_Score(data):
#     Salary = data[0]
#     data = data[]

    if data == 'Atlanta Hawks':

        return 1.770

    if data == 'Boston Celtics':

        return 1.653

    if data == 'Brooklyn Nets':
```

```
        return 0.955

    if data == 'Charlotte Hornets':

        return 1.414

    if data == 'Chicago Bulls':

        return 1.597

    if data == 'Cleveland Cavaliers':

        return 2.006

    if data == 'Dallas Mavericks':

        return 1.482

    if data == 'Denver Nuggets':

        return 1.256

    if data == 'Detroit Pistons':

        return 1.353

    if data == 'Golden State Warrior':

        return 2.474

    if data == 'Houston Rockets':

        return 1.796

    if data == 'Indiana Pacers':

        return 1.49
```

```
if data == 'Los Angeles Clippers':  
  
    return 1.888  
  
if data == 'Los Angeles Lakers':  
  
    return 0.78  
  
if data == 'Memphis Grizzlies':  
  
    return 1.655  
  
if data == 'Miami Heat':  
  
    return 1.524  
  
if data == 'Milwaukee Bucks':  
  
    return 1.391  
  
if data == 'Minnesota Timberwolves':  
  
    return 0.927  
  
if data == 'New Orleans Pelicans':  
  
    return 1.304  
  
if data == 'New York Knicks':  
  
    return 0.975  
  
if data == 'Oklahoma City Thunder':  
  
    return 1.761  
  
if data == 'Orlando Magic':
```

```

        return 1.086

    if data == 'Philadelphia 76ers':

        return 0.684

    if data == 'Phoenix Suns':

        return 1.05

    if data == 'Portland Trail Blazers':

        return 1.602

    if data == 'Sacramento Kings':

        return 1.146

    if data == 'SAN ANTONIO':

        return 2.149

    if data == 'Toronto Raptors':

        return 1.815

    if data == 'Utah Jazz':

        return 1.542

    if data == 'Washington Wizards':

        return 1.655

    else:
        return 99999

```

```

In [104]: df['Team_Score'] = df['Team'].apply(Team_Score)
          df.Team_Score.value_counts()
          df.head(30)

```

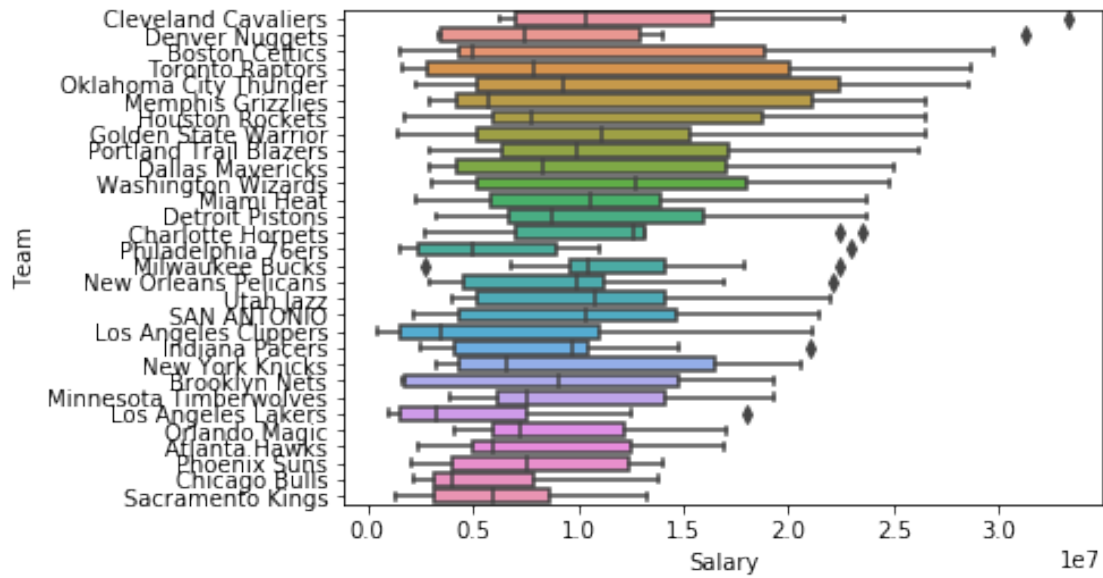
```
Out[104]:
```

	Name	Exp	Age	G	GS	MP	FG
213	LeBron James	14.0	31.0	73.000000	73.000000	36.500000	9.533333
278	Paul Millsap	11.0	30.0	74.333333	73.666667	33.133333	6.166667
110	Gordon Hayward	7.0	25.0	76.333333	76.333333	35.033333	6.800000
204	Kyle Lowry	11.0	29.0	69.000000	69.000000	36.300000	6.600000
300	Russell Westbrook	9.0	27.0	76.000000	76.000000	34.466667	9.266667
70	DeMar DeRozan	8.0	26.0	70.666667	70.666667	35.433333	8.133333
3	Al Horford	10.0	29.0	75.333333	75.333333	31.633333	6.300000
245	Mike Conley	9.0	28.0	65.000000	64.666667	32.133333	5.866667
138	James Harden	7.0	26.0	81.333333	81.333333	37.100000	8.333333
194	Kevin Durant	9.0	27.0	53.666667	53.666667	34.333333	9.133333
43	Carmelo Anthony	14.0	31.0	62.000000	62.000000	35.033333	8.333333
58	Damian Lillard	5.0	25.0	77.333333	77.333333	35.766667	8.066667
83	Dirk Nowitzki	18.0	37.0	68.666667	68.666667	29.166667	6.133333
269	Otto Porter	4.0	22.0	76.333333	55.333333	27.433333	4.033333
48	Chris Paul	11.0	30.0	72.333333	72.333333	33.000000	6.666667
39	C.J. McCollum	4.0	24.0	74.000000	54.333333	28.500000	6.433333
114	Hassan Whiteside	5.0	26.0	66.000000	50.666667	28.500000	5.933333
15	Andre Drummond	5.0	22.0	81.333333	81.333333	31.033333	6.266667
34	Bradley Beal	5.0	22.0	65.000000	57.000000	33.133333	6.866667
88	Dwight Howard	13.0	30.0	62.000000	62.000000	30.533333	5.500000
125	J.J. Redick	10.5	31.0	77.000000	77.000000	29.033333	5.466667
195	Kevin Love	9.0	27.0	70.666667	70.666667	32.233333	5.666667
317	Steven Adams	4.0	22.0	76.666667	75.666667	26.800000	3.700000
107	Giannis Antetokounmpo	4.0	21.0	80.333333	76.666667	34.100000	6.433333
258	Nicolas Batum	9.0	27.0	72.666667	72.666667	34.166667	4.600000
113	Harrison Barnes	4.0	23.0	75.666667	73.333333	31.566667	5.333333
45	Chandler Parsons	5.0	27.0	53.666667	50.333333	27.500000	4.400000
20	Anthony Davis	4.0	22.0	68.000000	68.000000	35.900000	9.633333
299	Rudy Gobert	4.0	23.0	74.666667	59.333333	30.633333	3.800000
208	LaMarcus Aldridge	10.0	30.0	72.333333	72.333333	32.800000	7.800000

```
In [105]: sb.boxplot(x='Salary', y='Team', data = df)
```

```
Out[105]: <matplotlib.axes._subplots.AxesSubplot at 0x11d3761d0>
```





```
In [106]: # Scoring based on Salary
#grp = df.groupby('Salary')

maxum = df.max()
Sal_max = maxum['Salary']
Sal_max

mean = df.mean()
Sal_mean = mean['Salary']
Sal_mean

minn = df.min()
Sal_min = minn['Salary']
Sal_min

# Highest - Mean / 5

c1 = (Sal_max - Sal_mean)/5
c1

# Mean - Lowest / 5

c2 = (Sal_mean - Sal_min)/5
c2

s1 = Sal_min+c2
s2 = Sal_min+2*c2
s3 = Sal_min+3*c2
```

```

s4 = Sal_min+4*c2
s5 = Sal_min+5*c2
s6 = Sal_mean+c1
s7 = Sal_mean+2*c1
s8 = Sal_mean+3*c1
s9 = Sal_mean+4*c1
s10= Sal_mean+5*c1

def Compute_Sal(data):
    Team = data[0]
    Salary = data[1]

    grp = df.groupby('Team')
    for name,group in grp:

        if Team == 'Atlanta Hawks':
            if Salary >= Sal_min and Salary < s1:

                return 1
            elif Salary > s1 and Salary < s2:
                return 2
            elif Salary > s2 and Salary < s3:
                return 3
            elif Salary > s3 and Salary < s4:
                return 4
            elif Salary > s4 and Salary < s5:
                return 5
            elif Salary > s5 and Salary < s6:
                return 6
            elif Salary > s6 and Salary < s7:
                return 7
            elif Salary > s7 and Salary < s8:
                return 8
            elif Salary > s8 and Salary < s9:
                return 9
            elif Salary > s9:
                return 10

```

```

if Team == 'Boston Celtics':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

```

```

if Team == 'Brooklyn Nets':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

```

```

if Team == 'Charlotte Hornets':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Chicago Bulls':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:

```

```

        return 10

if Team == 'Cleveland Cavaliers':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Dallas Mavericks':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:

```

```

        return 10

if Team == 'Denver Nuggets':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Detroit Pistons':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:

```

```

        return 9
    elif Salary > s9:
        return 10

if Team == 'Golden State Warrior':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Houston Rockets':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:

```

```

        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Indiana Pacers':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Los Angeles Clippers':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:

```



```

        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Los Angeles Lakers':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Memphis Grizzlies':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:

```

```

        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Miami Heat':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Milwaukee Bucks':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:

```

```

        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Minnesota Timberwolves':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'New Orleans Pelicans':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:

```

```

        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'New York Knicks':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Oklahoma City Thunder':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:

```

```

        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Orlando Magic':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Philadelphia 76ers':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:

```

```

        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Phoenix Suns':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Portland Trail Blazers':
    if Salary >= Sal_min and Salary < s1:

```

```

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Sacramento Kings':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'SAN ANTONIO':

```

```

if Salary >= Sal_min and Salary < s1:

    return 1
elif Salary > s1 and Salary < s2:
    return 2
elif Salary > s2 and Salary < s3:
    return 3
elif Salary > s3 and Salary < s4:
    return 4
elif Salary > s4 and Salary < s5:
    return 5
elif Salary > s5 and Salary < s6:
    return 6
elif Salary > s6 and Salary < s7:
    return 7
elif Salary > s7 and Salary < s8:
    return 8
elif Salary > s8 and Salary < s9:
    return 9
elif Salary > s9:
    return 10


if Team == 'Toronto Raptors':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

```



```

if Team == 'Utah Jazz':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:
        return 10

if Team == 'Washington Wizards':
    if Salary >= Sal_min and Salary < s1:

        return 1
    elif Salary > s1 and Salary < s2:
        return 2
    elif Salary > s2 and Salary < s3:
        return 3
    elif Salary > s3 and Salary < s4:
        return 4
    elif Salary > s4 and Salary < s5:
        return 5
    elif Salary > s5 and Salary < s6:
        return 6
    elif Salary > s6 and Salary < s7:
        return 7
    elif Salary > s7 and Salary < s8:
        return 8
    elif Salary > s8 and Salary < s9:
        return 9
    elif Salary > s9:

```

```
return 10
```

```
else:  
    return 9999999  
print(c1)
```

4626095.29173

```
In [107]: #merged_drop_dups.sort_values('Salary', axis=0, ascending=False,inplace=True)
```

```
In [108]: df['Salary_Eval'] = df[['Team','Salary']].apply(Compute_Sal,axis=1)  
df.Salary_Eval.value_counts()
```

```
Out[108]: 6      49  
          2      47  
          3      35  
          7      29  
          1      29  
          4      27  
          8      22  
          5      13  
          9      11  
         10       4  
Name: Salary_Eval, dtype: int64
```

```
In [109]: # Scoring based on Exp  
#grp = df.groupby('Exp')
```

```
def Compute_Exp(data):  
    Team = data[0]  
    Exp = data[1]  
  
    grp = df.groupby('Team')  
    for name,group in grp:  
  
        maxum = df.max()  
        Sal_max = maxum['Exp']  
        Sal_max  
  
        mean = df.mean()  
        Sal_mean = mean['Exp']  
        Sal_mean  
  
        minn = df.min()
```

```

Sal_min = minn['Exp']
Sal_min

# Highest - Mean / 5

c1 = (Sal_max - Sal_mean)/5
c1

# Mean - Lowest / 5

c2 = (Sal_mean - Sal_min)/5
c2

s1 = Sal_min+c2
s2 = Sal_min+2*c2
s3 = Sal_min+3*c2
s4 = Sal_min+4*c2
s5 = Sal_min+5*c2
s6 = Sal_mean+c1
s7 = Sal_mean+2*c1
s8 = Sal_mean+3*c1
s9 = Sal_mean+4*c1
s10= Sal_mean+5*c1


if Team == 'Atlanta Hawks':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8

```

```

elif Exp > s8 and Exp < s9:
    return 9
elif Exp > s9:
    return 10

if Team == 'Boston Celtics':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

if Team == 'Brooklyn Nets':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:

```

```

        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

if Team == 'Charlotte Hornets':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

if Team == 'Chicago Bulls':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6

```

```

elif Exp > s6 and Exp < s7:
    return 7
elif Exp > s7 and Exp < s8:
    return 8
elif Exp > s8 and Exp < s9:
    return 9
elif Exp > s9:
    return 10

if Team == 'Cleveland Cavaliers':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

if Team == 'Dallas Mavericks':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6

```

```

elif Exp > s6 and Exp < s7:
    return 7
elif Exp > s7 and Exp < s8:
    return 8
elif Exp > s8 and Exp < s9:
    return 9
elif Exp > s9:
    return 10

if Team == 'Denver Nuggets':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

if Team == 'Detroit Pistons':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5

```

```

elif Exp > s5 and Exp < s6:
    return 6
elif Exp > s6 and Exp < s7:
    return 7
elif Exp > s7 and Exp < s8:
    return 8
elif Exp > s8 and Exp < s9:
    return 9
elif Exp > s9:
    return 10

if Team == 'Golden State Warrior':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

if Team == 'Houston Rockets':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4

```



```

elif Exp > s4 and Exp < s5:
    return 5
elif Exp > s5 and Exp < s6:
    return 6
elif Exp > s6 and Exp < s7:
    return 7
elif Exp > s7 and Exp < s8:
    return 8
elif Exp > s8 and Exp < s9:
    return 9
elif Exp > s9:
    return 10

if Team == 'Indiana Pacers':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

if Team == 'Los Angeles Clippers':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3

```

```

elif Exp > s3 and Exp < s4:
    return 4
elif Exp > s4 and Exp < s5:
    return 5
elif Exp > s5 and Exp < s6:
    return 6
elif Exp > s6 and Exp < s7:
    return 7
elif Exp > s7 and Exp < s8:
    return 8
elif Exp > s8 and Exp < s9:
    return 9
elif Exp > s9:
    return 10

if Team == 'Los Angeles Lakers':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

if Team == 'Memphis Grizzlies':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2

```

```

elif Exp > s2 and Exp < s3:
    return 3
elif Exp > s3 and Exp < s4:
    return 4
elif Exp > s4 and Exp < s5:
    return 5
elif Exp > s5 and Exp < s6:
    return 6
elif Exp > s6 and Exp < s7:
    return 7
elif Exp > s7 and Exp < s8:
    return 8
elif Exp > s8 and Exp < s9:
    return 9
elif Exp > s9:
    return 10

if Team == 'Miami Heat':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

if Team == 'Milwaukee Bucks':
    if Exp >= Sal_min and Exp < s1:

        return 1

```

```

elif Exp > s1 and Exp < s2:
    return 2
elif Exp > s2 and Exp < s3:
    return 3
elif Exp > s3 and Exp < s4:
    return 4
elif Exp > s4 and Exp < s5:
    return 5
elif Exp > s5 and Exp < s6:
    return 6
elif Exp > s6 and Exp < s7:
    return 7
elif Exp > s7 and Exp < s8:
    return 8
elif Exp > s8 and Exp < s9:
    return 9
elif Exp > s9:
    return 10

if Team == 'Minnesota Timberwolves':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

if Team == 'New Orleans Pelicans':
    if Exp >= Sal_min and Exp < s1:

```

```

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

if Team == 'New York Knicks':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

```

```

if Team == 'Oklahoma City Thunder':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

```

```

if Team == 'Orlando Magic':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

```

```

if Team == 'Philadelphia 76ers':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

if Team == 'Phoenix Suns':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:

```

```

        return 10

if Team == 'Portland Trail Blazers':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

if Team == 'Sacramento Kings':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:

```



```

        return 9
    elif Exp > s9:
        return 10

if Team == 'SAN ANTONIO':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

if Team == 'Toronto Raptors':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7

```

```

elif Exp > s7 and Exp < s8:
    return 8
elif Exp > s8 and Exp < s9:
    return 9
elif Exp > s9:
    return 10

if Team == 'Utah Jazz':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6
    elif Exp > s6 and Exp < s7:
        return 7
    elif Exp > s7 and Exp < s8:
        return 8
    elif Exp > s8 and Exp < s9:
        return 9
    elif Exp > s9:
        return 10

if Team == 'Washington Wizards':
    if Exp >= Sal_min and Exp < s1:

        return 1
    elif Exp > s1 and Exp < s2:
        return 2
    elif Exp > s2 and Exp < s3:
        return 3
    elif Exp > s3 and Exp < s4:
        return 4
    elif Exp > s4 and Exp < s5:
        return 5
    elif Exp > s5 and Exp < s6:
        return 6

```

```

        elif Exp > s6 and Exp < s7:
            return 7
        elif Exp > s7 and Exp < s8:
            return 8
        elif Exp > s8 and Exp < s9:
            return 9
        elif Exp > s9:
            return 10

```

```

    else:
        return 9999999

```

```

In [110]: df['Exp_Eval'] = df[['Team', 'Exp']].apply(Compute_Exp,axis=1)
          df.Exp_Eval.value_counts()

```

```

Out[110]: 6      47
          1      41
          7      36
          4      30
          5      27
          3      27
          2      27
          8      16
          9       9
          10      6
          Name: Exp_Eval, dtype: int64

```

```

In [111]: # Scoring based on G
          #grp = df.groupby('G')

```

```

def Compute_G(data):
    Team = data[0]
    G = data[1]

    grp = df.groupby('Team')
    for name,group in grp:

        maxum = df.max()
        Sal_max = maxum['G']
        Sal_max

        mean = df.mean()
        Sal_mean = mean['G']

```

```

Sal_mean

minn = df.min()
Sal_min = minn['G']
Sal_min

# Highest - Mean / 5

c1 = (Sal_max - Sal_mean)/5
c1

# Mean - Lowest / 5

c2 = (Sal_mean - Sal_min)/5
c2

s1 = Sal_min+c2
s2 = Sal_min+2*c2
s3 = Sal_min+3*c2
s4 = Sal_min+4*c2
s5 = Sal_min+5*c2
s6 = Sal_mean+c1
s7 = Sal_mean+2*c1
s8 = Sal_mean+3*c1
s9 = Sal_mean+4*c1
s10= Sal_mean+5*c1


if Team == 'Atlanta Hawks':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:

```

```

        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Boston Celtics':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Brooklyn Nets':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5

```

```

elif G > s5 and G < s6:
    return 6
elif G > s6 and G < s7:
    return 7
elif G > s7 and G < s8:
    return 8
elif G > s8 and G < s9:
    return 9
elif G > s9:
    return 10

if Team == 'Charlotte Hornets':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Chicago Bulls':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:

```

```

        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Cleveland Cavaliers':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Dallas Mavericks':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:

```

```

        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Denver Nuggets':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Detroit Pistons':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:

```



```

        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Golden State Warrior':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Houston Rockets':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:

```

```

        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Indiana Pacers':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Los Angeles Clippers':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:

```

```

        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Los Angeles Lakers':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Memphis Grizzlies':
    if G >= Sal_min and G < s1:

```

```

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

```

```

if Team == 'Miami Heat':
    if G >= Sal_min and G < s1:

```

```

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

```

```

if Team == 'Milwaukee Bucks':

```

```

    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Minnesota Timberwolves':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

```

```

if Team == 'New Orleans Pelicans':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'New York Knicks':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

```

```

if Team == 'Oklahoma City Thunder':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Orlando Magic':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9

```

```

elif G > s9:
    return 10

if Team == 'Philadelphia 76ers':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Phoenix Suns':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8

```



```

        elif G > s8 and G < s9:
            return 9
        elif G > s9:
            return 10

if Team == 'Portland Trail Blazers':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Sacramento Kings':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7

```

```

elif G > s7 and G < s8:
    return 8
elif G > s8 and G < s9:
    return 9
elif G > s9:
    return 10

if Team == 'SAN ANTONIO':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Toronto Raptors':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:

```

```

        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Utah Jazz':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:
        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

if Team == 'Washington Wizards':
    if G >= Sal_min and G < s1:

        return 1
    elif G > s1 and G < s2:
        return 2
    elif G > s2 and G < s3:
        return 3
    elif G > s3 and G < s4:
        return 4
    elif G > s4 and G < s5:

```

```

        return 5
    elif G > s5 and G < s6:
        return 6
    elif G > s6 and G < s7:
        return 7
    elif G > s7 and G < s8:
        return 8
    elif G > s8 and G < s9:
        return 9
    elif G > s9:
        return 10

```

```

else:
    return 9999999

```

```

In [112]: df['G_Eval'] = df[['Team', 'G']].apply(Compute_G,axis=1)
          df.G_Eval.value_counts()

```

```

Out[112]: 5      70
          8      38
          7      33
          6      33
          9      32
          4      25
          10     22
          3       8
          2       3
          1       2
          Name: G_Eval, dtype: int64

```

```

In [113]: # Scoring based on GS
          #grp = df.groupby('GS')

```

```

def Compute_GS(data):
    Team = data[0]
    GS = data[1]

    grp = df.groupby('Team')
    for name,group in grp:

        maxum = df.max()
        Sal_max = maxum['GS']
        Sal_max

```

```

mean = df.mean()
Sal_mean = mean['GS']
Sal_mean

minn = df.min()
Sal_min = minn['GS']
Sal_min

# Highest - Mean / 5

c1 = (Sal_max - Sal_mean)/5
c1

# Mean - Lowest / 5

c2 = (Sal_mean - Sal_min)/5
c2

s1 = Sal_min+c2
s2 = Sal_min+2*c2
s3 = Sal_min+3*c2
s4 = Sal_min+4*c2
s5 = Sal_min+5*c2
s6 = Sal_mean+c1
s7 = Sal_mean+2*c1
s8 = Sal_mean+3*c1
s9 = Sal_mean+4*c1
s10= Sal_mean+5*c1


if Team == 'Atlanta Hawks':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5

```

```

elif GS > s5 and GS < s6:
    return 6
elif GS > s6 and GS < s7:
    return 7
elif GS > s7 and GS < s8:
    return 8
elif GS > s8 and GS < s9:
    return 9
elif GS > s9:
    return 10

if Team == 'Boston Celtics':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'Brooklyn Nets':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:

```

```

        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'Charlotte Hornets':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'Chicago Bulls':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3

```

```

elif GS > s3 and GS < s4:
    return 4
elif GS > s4 and GS < s5:
    return 5
elif GS > s5 and GS < s6:
    return 6
elif GS > s6 and GS < s7:
    return 7
elif GS > s7 and GS < s8:
    return 8
elif GS > s8 and GS < s9:
    return 9
elif GS > s9:
    return 10

if Team == 'Cleveland Cavaliers':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'Dallas Mavericks':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3

```



```

elif GS > s3 and GS < s4:
    return 4
elif GS > s4 and GS < s5:
    return 5
elif GS > s5 and GS < s6:
    return 6
elif GS > s6 and GS < s7:
    return 7
elif GS > s7 and GS < s8:
    return 8
elif GS > s8 and GS < s9:
    return 9
elif GS > s9:
    return 10

if Team == 'Denver Nuggets':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'Detroit Pistons':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2

```

```

elif GS > s2 and GS < s3:
    return 3
elif GS > s3 and GS < s4:
    return 4
elif GS > s4 and GS < s5:
    return 5
elif GS > s5 and GS < s6:
    return 6
elif GS > s6 and GS < s7:
    return 7
elif GS > s7 and GS < s8:
    return 8
elif GS > s8 and GS < s9:
    return 9
elif GS > s9:
    return 10

if Team == 'Golden State Warrior':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'Houston Rockets':
    if GS >= Sal_min and GS < s1:

        return 1

```

```

elif GS > s1 and GS < s2:
    return 2
elif GS > s2 and GS < s3:
    return 3
elif GS > s3 and GS < s4:
    return 4
elif GS > s4 and GS < s5:
    return 5
elif GS > s5 and GS < s6:
    return 6
elif GS > s6 and GS < s7:
    return 7
elif GS > s7 and GS < s8:
    return 8
elif GS > s8 and GS < s9:
    return 9
elif GS > s9:
    return 10

if Team == 'Indiana Pacers':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'Los Angeles Clippers':
    if GS >= Sal_min and GS < s1:

```

```

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'Los Angeles Lakers':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

```

```

if Team == 'Memphis Grizzlies':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

```

```

if Team == 'Miami Heat':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

```

```

if Team == 'Milwaukee Bucks':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'Minnesota Timberwolves':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:

```

```

        return 10

if Team == 'New Orleans Pelicans':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'New York Knicks':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:

```

```

        return 9
    elif GS > s9:
        return 10

if Team == 'Oklahoma City Thunder':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'Orlando Magic':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:

```



```

        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'Philadelphia 76ers':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'Phoenix Suns':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:

```

```

        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'Portland Trail Blazers':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'Sacramento Kings':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:

```

```

        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'SAN ANTONIO':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'Toronto Raptors':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4

```

```

elif GS > s4 and GS < s5:
    return 5
elif GS > s5 and GS < s6:
    return 6
elif GS > s6 and GS < s7:
    return 7
elif GS > s7 and GS < s8:
    return 8
elif GS > s8 and GS < s9:
    return 9
elif GS > s9:
    return 10

if Team == 'Utah Jazz':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3
    elif GS > s3 and GS < s4:
        return 4
    elif GS > s4 and GS < s5:
        return 5
    elif GS > s5 and GS < s6:
        return 6
    elif GS > s6 and GS < s7:
        return 7
    elif GS > s7 and GS < s8:
        return 8
    elif GS > s8 and GS < s9:
        return 9
    elif GS > s9:
        return 10

if Team == 'Washington Wizards':
    if GS >= Sal_min and GS < s1:

        return 1
    elif GS > s1 and GS < s2:
        return 2
    elif GS > s2 and GS < s3:
        return 3

```

```

elif GS > s3 and GS < s4:
    return 4
elif GS > s4 and GS < s5:
    return 5
elif GS > s5 and GS < s6:
    return 6
elif GS > s6 and GS < s7:
    return 7
elif GS > s7 and GS < s8:
    return 8
elif GS > s8 and GS < s9:
    return 9
elif GS > s9:
    return 10

```

```

else:
    return 9999999

```

```

In [114]: df['GS_Eval'] = df[['Team', 'GS']].apply(Compute_GS,axis=1)
df.GS_Eval.value_counts()

```

```

Out[114]: 1      48
          2      34
          7      29
          10     28
          9      27
          8      25
          4      22
          6      20
          3      19
          5      14
          Name: GS_Eval, dtype: int64

```

```

In [115]: # Scoring based on MP
#grp = df.groupby('MP')

```

```

def Compute_MP(data):
    Team = data[0]
    MP = data[1]

    grp = df.groupby('Team')
    for name,group in grp:

```

```

maxum = df.max()
Sal_max = maxum['MP']
Sal_max

mean = df.mean()
Sal_mean = mean['MP']
Sal_mean

minn = df.min()
Sal_min = minn['MP']
Sal_min

# Highest - Mean / 5

c1 = (Sal_max - Sal_mean)/5
c1

# Mean - Lowest / 5

c2 = (Sal_mean - Sal_min)/5
c2

s1 = Sal_min+c2
s2 = Sal_min+2*c2
s3 = Sal_min+3*c2
s4 = Sal_min+4*c2
s5 = Sal_min+5*c2
s6 = Sal_mean+c1
s7 = Sal_mean+2*c1
s8 = Sal_mean+3*c1
s9 = Sal_mean+4*c1
s10= Sal_mean+5*c1


if Team == 'Atlanta Hawks':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:

```

```

        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Boston Celtics':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Brooklyn Nets':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2

```

```

elif MP > s2 and MP < s3:
    return 3
elif MP > s3 and MP < s4:
    return 4
elif MP > s4 and MP < s5:
    return 5
elif MP > s5 and MP < s6:
    return 6
elif MP > s6 and MP < s7:
    return 7
elif MP > s7 and MP < s8:
    return 8
elif MP > s8 and MP < s9:
    return 9
elif MP > s9:
    return 10

if Team == 'Charlotte Hornets':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Chicago Bulls':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:

```



```

        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Cleveland Cavaliers':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Dallas Mavericks':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:

```

```

        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Denver Nuggets':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Detroit Pistons':
    if MP >= Sal_min and MP < s1:

```

```

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

```

```

if Team == 'Golden State Warrior':
    if MP >= Sal_min and MP < s1:

```

```

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

```

```

if Team == 'Houston Rockets':

```

```

    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Indiana Pacers':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

```

```

if Team == 'Los Angeles Clippers':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Los Angeles Lakers':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

```

```

if Team == 'Memphis Grizzlies':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Miami Heat':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9

```

```

elif MP > s9:
    return 10

if Team == 'Milwaukee Bucks':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Minnesota Timberwolves':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8

```

```

elif MP > s8 and MP < s9:
    return 9
elif MP > s9:
    return 10

if Team == 'New Orleans Pelicans':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'New York Knicks':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7

```



```

elif MP > s7 and MP < s8:
    return 8
elif MP > s8 and MP < s9:
    return 9
elif MP > s9:
    return 10

if Team == 'Oklahoma City Thunder':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Orlando Magic':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6

```

```

elif MP > s6 and MP < s7:
    return 7
elif MP > s7 and MP < s8:
    return 8
elif MP > s8 and MP < s9:
    return 9
elif MP > s9:
    return 10

if Team == 'Philadelphia 76ers':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Phoenix Suns':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5

```

```

elif MP > s5 and MP < s6:
    return 6
elif MP > s6 and MP < s7:
    return 7
elif MP > s7 and MP < s8:
    return 8
elif MP > s8 and MP < s9:
    return 9
elif MP > s9:
    return 10

if Team == 'Portland Trail Blazers':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Sacramento Kings':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4

```

```

elif MP > s4 and MP < s5:
    return 5
elif MP > s5 and MP < s6:
    return 6
elif MP > s6 and MP < s7:
    return 7
elif MP > s7 and MP < s8:
    return 8
elif MP > s8 and MP < s9:
    return 9
elif MP > s9:
    return 10

if Team == 'SAN ANTONIO':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Toronto Raptors':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:

```

```

        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Utah Jazz':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:
        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

if Team == 'Washington Wizards':
    if MP >= Sal_min and MP < s1:

        return 1
    elif MP > s1 and MP < s2:

```

```

        return 2
    elif MP > s2 and MP < s3:
        return 3
    elif MP > s3 and MP < s4:
        return 4
    elif MP > s4 and MP < s5:
        return 5
    elif MP > s5 and MP < s6:
        return 6
    elif MP > s6 and MP < s7:
        return 7
    elif MP > s7 and MP < s8:
        return 8
    elif MP > s8 and MP < s9:
        return 9
    elif MP > s9:
        return 10

```

```

else:
    return 9999999

```

```

In [116]: df['MP_Eval'] = df[['Team', 'MP']].apply(Compute_MP,axis=1)
df.MP_Eval.value_counts()

```

```

Out[116]: 5      51
          4      38
          8      34
          7      33
          6      29
          9      26
          3      26
          2      15
         10      13
          1       1
Name: MP_Eval, dtype: int64

```

```

In [117]: # Scoring based on FGA
#grp = df.groupby('FGA')

```

```

def Compute_FGA(data):
    Team = data[0]
    FGA = data[1]

```

```

grp = df.groupby('Team')
for name,group in grp:

    maxum = df.max()
    Sal_max = maxum['FGA']
    Sal_max

    mean = df.mean()
    Sal_mean = mean['FGA']
    Sal_mean

    minn = df.min()
    Sal_min = minn['FGA']
    Sal_min

    # Highest - Mean / 5

    c1 = (Sal_max - Sal_mean)/5
    c1

    # Mean - Lowest / 5

    c2 = (Sal_mean - Sal_min)/5
    c2

    s1 = Sal_min+c2
    s2 = Sal_min+2*c2
    s3 = Sal_min+3*c2
    s4 = Sal_min+4*c2
    s5 = Sal_min+5*c2
    s6 = Sal_mean+c1
    s7 = Sal_mean+2*c1
    s8 = Sal_mean+3*c1
    s9 = Sal_mean+4*c1
    s10= Sal_mean+5*c1


    if Team == 'Atlanta Hawks':
        if FGA >= Sal_min and FGA < s1:

            return 1
        elif FGA > s1 and FGA < s2:
            return 2

```

```

elif FGA > s2 and FGA < s3:
    return 3
elif FGA > s3 and FGA < s4:
    return 4
elif FGA > s4 and FGA < s5:
    return 5
elif FGA > s5 and FGA < s6:
    return 6
elif FGA > s6 and FGA < s7:
    return 7
elif FGA > s7 and FGA < s8:
    return 8
elif FGA > s8 and FGA < s9:
    return 9
elif FGA > s9:
    return 10

if Team == 'Boston Celtics':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Brooklyn Nets':
    if FGA >= Sal_min and FGA < s1:

```



```

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Charlotte Hornets':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Chicago Bulls':
    if FGA >= Sal_min and FGA < s1:

```

```

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Cleveland Cavaliers':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Dallas Mavericks':
    if FGA >= Sal_min and FGA < s1:

```

```

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Denver Nuggets':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

```

```

if Team == 'Detroit Pistons':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Golden State Warrior':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

```

```

if Team == 'Houston Rockets':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Indiana Pacers':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:

```

```

        return 10

if Team == 'Los Angeles Clippers':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Los Angeles Lakers':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:

```

```

        return 9
    elif FGA > s9:
        return 10

if Team == 'Memphis Grizzlies':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Miami Heat':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:

```

```

        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Milwaukee Bucks':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Minnesota Timberwolves':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:

```



```

        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'New Orleans Pelicans':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'New York Knicks':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:

```

```

        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Oklahoma City Thunder':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Orlando Magic':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:

```

```

        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Philadelphia 76ers':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Phoenix Suns':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:

```

```

        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Portland Trail Blazers':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Sacramento Kings':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:

```

```

        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'SAN ANTONIO':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Toronto Raptors':
    if FGA >= Sal_min and FGA < s1:

        return 1

```

```

elif FGA > s1 and FGA < s2:
    return 2
elif FGA > s2 and FGA < s3:
    return 3
elif FGA > s3 and FGA < s4:
    return 4
elif FGA > s4 and FGA < s5:
    return 5
elif FGA > s5 and FGA < s6:
    return 6
elif FGA > s6 and FGA < s7:
    return 7
elif FGA > s7 and FGA < s8:
    return 8
elif FGA > s8 and FGA < s9:
    return 9
elif FGA > s9:
    return 10

if Team == 'Utah Jazz':
    if FGA >= Sal_min and FGA < s1:

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

if Team == 'Washington Wizards':
    if FGA >= Sal_min and FGA < s1:

```

```

        return 1
    elif FGA > s1 and FGA < s2:
        return 2
    elif FGA > s2 and FGA < s3:
        return 3
    elif FGA > s3 and FGA < s4:
        return 4
    elif FGA > s4 and FGA < s5:
        return 5
    elif FGA > s5 and FGA < s6:
        return 6
    elif FGA > s6 and FGA < s7:
        return 7
    elif FGA > s7 and FGA < s8:
        return 8
    elif FGA > s8 and FGA < s9:
        return 9
    elif FGA > s9:
        return 10

    else:
        return 9999999
print(c1)

```

4626095.29173

```
In [118]: df['FGA_Eval'] = df[['Team', 'FGA']].apply(Compute_FGA,axis=1)
```

```
df.FGA_Eval.value_counts()
```

```
Out[118]: 3      46
          7      41
          5      37
          6      36
          4      35
          2      26
          8      19
          9      11
          1      11
          10      4
          Name: FGA_Eval, dtype: int64
```

```
In [119]: # Scoring based on ThreeP_R
          #grp = df.groupby('ThreeP_R')
```

```

def Compute_ThreeP_R(data):
    Team = data[0]
    ThreeP_R = data[1]

    grp = df.groupby('Team')
    for name,group in grp:

        maxum = df.max()
        Sal_max = maxum['ThreeP_R']
        Sal_max

        mean = df.mean()
        Sal_mean = mean['ThreeP_R']
        Sal_mean

        minn = df.min()
        Sal_min = minn['ThreeP_R']
        Sal_min

        # Highest - Mean / 5

        c1 = (Sal_max - Sal_mean)/5
        c1

        # Mean - Lowest / 5

        c2 = (Sal_mean - Sal_min)/5
        c2

        s1 = Sal_min+c2
        s2 = Sal_min+2*c2
        s3 = Sal_min+3*c2
        s4 = Sal_min+4*c2
        s5 = Sal_min+5*c2
        s6 = Sal_mean+c1
        s7 = Sal_mean+2*c1
        s8 = Sal_mean+3*c1
        s9 = Sal_mean+4*c1
        s10= Sal_mean+5*c1

```



```

if Team == 'Atlanta Hawks':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Boston Celtics':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

```

```

if Team == 'Brooklyn Nets':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Charlotte Hornets':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9

```

```

elif ThreeP_R > s9:
    return 10

if Team == 'Chicago Bulls':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Cleveland Cavaliers':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9

```

```

elif ThreeP_R > s9:
    return 10

if Team == 'Dallas Mavericks':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Denver Nuggets':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:

```

```

        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Detroit Pistons':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Golden State Warrior':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:

```

```

        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Houston Rockets':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Indiana Pacers':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:

```

```

        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Los Angeles Clippers':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Los Angeles Lakers':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:

```

```

        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Memphis Grizzlies':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Miami Heat':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:

```



```

        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Milwaukee Bucks':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Minnesota Timberwolves':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:

```

```

        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'New Orleans Pelicans':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'New York Knicks':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:

```

```

        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Oklahoma City Thunder':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Orlando Magic':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:

```

```

        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Philadelphia 76ers':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Phoenix Suns':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

```

```

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Portland Trail Blazers':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Sacramento Kings':

```

```

if ThreeP_R >= Sal_min and ThreeP_R < s1:

    return 1
elif ThreeP_R > s1 and ThreeP_R < s2:
    return 2
elif ThreeP_R > s2 and ThreeP_R < s3:
    return 3
elif ThreeP_R > s3 and ThreeP_R < s4:
    return 4
elif ThreeP_R > s4 and ThreeP_R < s5:
    return 5
elif ThreeP_R > s5 and ThreeP_R < s6:
    return 6
elif ThreeP_R > s6 and ThreeP_R < s7:
    return 7
elif ThreeP_R > s7 and ThreeP_R < s8:
    return 8
elif ThreeP_R > s8 and ThreeP_R < s9:
    return 9
elif ThreeP_R > s9:
    return 10

if Team == 'SAN ANTONIO':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

```

```

if Team == 'Toronto Raptors':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:
        return 10

if Team == 'Utah Jazz':
    if ThreeP_R >= Sal_min and ThreeP_R < s1:

        return 1
    elif ThreeP_R > s1 and ThreeP_R < s2:
        return 2
    elif ThreeP_R > s2 and ThreeP_R < s3:
        return 3
    elif ThreeP_R > s3 and ThreeP_R < s4:
        return 4
    elif ThreeP_R > s4 and ThreeP_R < s5:
        return 5
    elif ThreeP_R > s5 and ThreeP_R < s6:
        return 6
    elif ThreeP_R > s6 and ThreeP_R < s7:
        return 7
    elif ThreeP_R > s7 and ThreeP_R < s8:
        return 8
    elif ThreeP_R > s8 and ThreeP_R < s9:
        return 9
    elif ThreeP_R > s9:

```

```

        return 10

    if Team == 'Washington Wizards':
        if ThreeP_R >= Sal_min and ThreeP_R < s1:

            return 1
        elif ThreeP_R > s1 and ThreeP_R < s2:
            return 2
        elif ThreeP_R > s2 and ThreeP_R < s3:
            return 3
        elif ThreeP_R > s3 and ThreeP_R < s4:
            return 4
        elif ThreeP_R > s4 and ThreeP_R < s5:
            return 5
        elif ThreeP_R > s5 and ThreeP_R < s6:
            return 6
        elif ThreeP_R > s6 and ThreeP_R < s7:
            return 7
        elif ThreeP_R > s7 and ThreeP_R < s8:
            return 8
        elif ThreeP_R > s8 and ThreeP_R < s9:
            return 9
        elif ThreeP_R > s9:
            return 10

    else:
        return 9999999

```

```

In [120]: df['ThreeP_R_Eval'] = df[['Team', 'ThreeP_R']].apply(Compute_ThreeP_R,axis=1)
          df.ThreeP_R_Eval.value_counts()

```

```

Out[120]: 6      82
          1      62
          7      32
          3      27
          5      20
          4      15
          8      13
          2      13
          10      1
          9       1
          Name: ThreeP_R_Eval, dtype: int64

```



```

In [121]: # Scoring based on PTS
          #grp = df.groupby('PTS')

def Compute_PTS(data):
    Team = data[0]
    PTS = data[1]

    grp = df.groupby('Team')
    for name,group in grp:

        maxum = df.max()
        Sal_max = maxum['PTS']
        Sal_max

        mean = df.mean()
        Sal_mean = mean['PTS']
        Sal_mean

        minn = df.min()
        Sal_min = minn['PTS']
        Sal_min

        # Highest - Mean / 5

        c1 = (Sal_max - Sal_mean)/5
        c1

        # Mean - Lowest / 5

        c2 = (Sal_mean - Sal_min)/5
        c2

        s1 = Sal_min+c2
        s2 = Sal_min+2*c2
        s3 = Sal_min+3*c2
        s4 = Sal_min+4*c2
        s5 = Sal_min+5*c2
        s6 = Sal_mean+c1
        s7 = Sal_mean+2*c1
        s8 = Sal_mean+3*c1
        s9 = Sal_mean+4*c1
        s10= Sal_mean+5*c1

```

```

if Team == 'Atlanta Hawks':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Boston Celtics':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9

```

```

elif PTS > s9:
    return 10

if Team == 'Brooklyn Nets':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Charlotte Hornets':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8

```

```

elif PTS > s8 and PTS < s9:
    return 9
elif PTS > s9:
    return 10

if Team == 'Chicago Bulls':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Cleveland Cavaliers':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8

```

```

elif PTS > s8 and PTS < s9:
    return 9
elif PTS > s9:
    return 10

if Team == 'Dallas Mavericks':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Denver Nuggets':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:

```

```

        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Detroit Pistons':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Golden State Warrior':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:

```

```

        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Houston Rockets':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Indiana Pacers':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:

```

```

        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Los Angeles Clippers':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Los Angeles Lakers':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:

```



```

        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Memphis Grizzlies':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Miami Heat':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:

```

```

        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Milwaukee Bucks':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Minnesota Timberwolves':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:

```

```

        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'New Orleans Pelicans':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'New York Knicks':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:

```

```

        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Oklahoma City Thunder':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Orlando Magic':
    if PTS >= Sal_min and PTS < s1:

```

```

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

```

```

if Team == 'Philadelphia 76ers':
    if PTS >= Sal_min and PTS < s1:

```

```

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

```

```

if Team == 'Phoenix Suns':

```

```

if PTS >= Sal_min and PTS < s1:

    return 1
elif PTS > s1 and PTS < s2:
    return 2
elif PTS > s2 and PTS < s3:
    return 3
elif PTS > s3 and PTS < s4:
    return 4
elif PTS > s4 and PTS < s5:
    return 5
elif PTS > s5 and PTS < s6:
    return 6
elif PTS > s6 and PTS < s7:
    return 7
elif PTS > s7 and PTS < s8:
    return 8
elif PTS > s8 and PTS < s9:
    return 9
elif PTS > s9:
    return 10


if Team == 'Portland Trail Blazers':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

```

```

if Team == 'Sacramento Kings':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

```

```

if Team == 'SAN ANTONIO':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

```

```

if Team == 'Toronto Raptors':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:
        return 9
    elif PTS > s9:
        return 10

if Team == 'Utah Jazz':
    if PTS >= Sal_min and PTS < s1:

        return 1
    elif PTS > s1 and PTS < s2:
        return 2
    elif PTS > s2 and PTS < s3:
        return 3
    elif PTS > s3 and PTS < s4:
        return 4
    elif PTS > s4 and PTS < s5:
        return 5
    elif PTS > s5 and PTS < s6:
        return 6
    elif PTS > s6 and PTS < s7:
        return 7
    elif PTS > s7 and PTS < s8:
        return 8
    elif PTS > s8 and PTS < s9:

```



```

        return 9
    elif PTS > s9:
        return 10

    if Team == 'Washington Wizards':
        if PTS >= Sal_min and PTS < s1:

            return 1
        elif PTS > s1 and PTS < s2:
            return 2
        elif PTS > s2 and PTS < s3:
            return 3
        elif PTS > s3 and PTS < s4:
            return 4
        elif PTS > s4 and PTS < s5:
            return 5
        elif PTS > s5 and PTS < s6:
            return 6
        elif PTS > s6 and PTS < s7:
            return 7
        elif PTS > s7 and PTS < s8:
            return 8
        elif PTS > s8 and PTS < s9:
            return 9
        elif PTS > s9:
            return 10

    else:
        return 9999999

```

```

In [122]: df['PTS_Eval'] = df[['Team', 'PTS']].apply(Compute_PTS,axis=1)
          df.PTS_Eval.value_counts()

```

```

Out[122]: 3      54
          6      44
          4      40
          5      39
          7      35
          2      20
          8      13
          9       9
         10       7

```

```
1      5
Name: PTS_Eval, dtype: int64
```

```
In [123]: df['Player_Score'] = df.apply(lambda row: row.Team_Score +
                                         row.Salary_Eval+
                                         row.Exp_Eval+
                                         row.G_Eval+
                                         row.GS_Eval+
                                         row.MP_Eval+
                                         row.FGA_Eval+
                                         row.ThreeP_R_Eval+
                                         row.PTS_Eval
                                         ,axis=1)
```

```
In [124]: df.head(20)
```

```
Out [124]:
```

	Name	Exp	Age	G	GS	MP	FG	
213	LeBron James	14.0	31.0	73.000000	73.000000	36.500000	9.533333	18.43
278	Paul Millsap	11.0	30.0	74.333333	73.666667	33.133333	6.166667	13.33
110	Gordon Hayward	7.0	25.0	76.333333	76.333333	35.033333	6.800000	15.03
204	Kyle Lowry	11.0	29.0	69.000000	69.000000	36.300000	6.600000	15.26
300	Russell Westbrook	9.0	27.0	76.000000	76.000000	34.466667	9.266667	21.36
70	DeMar DeRozan	8.0	26.0	70.666667	70.666667	35.433333	8.133333	18.36
3	Al Horford	10.0	29.0	75.333333	75.333333	31.633333	6.300000	12.43
245	Mike Conley	9.0	28.0	65.000000	64.666667	32.133333	5.866667	13.20
138	James Harden	7.0	26.0	81.333333	81.333333	37.100000	8.333333	18.90
194	Kevin Durant	9.0	27.0	53.666667	53.666667	34.333333	9.133333	17.66
43	Carmelo Anthony	14.0	31.0	62.000000	62.000000	35.033333	8.333333	19.06
58	Damian Lillard	5.0	25.0	77.333333	77.333333	35.766667	8.066667	18.70
83	Dirk Nowitzki	18.0	37.0	68.666667	68.666667	29.166667	6.133333	13.73
269	Otto Porter	4.0	22.0	76.333333	55.333333	27.433333	4.033333	8.30
48	Chris Paul	11.0	30.0	72.333333	72.333333	33.000000	6.666667	14.10
39	C.J. McCollum	4.0	24.0	74.000000	54.333333	28.500000	6.433333	13.93
114	Hassan Whiteside	5.0	26.0	66.000000	50.666667	28.500000	5.933333	10.00
15	Andre Drummond	5.0	22.0	81.333333	81.333333	31.033333	6.266667	12.00
34	Bradley Beal	5.0	22.0	65.000000	57.000000	33.133333	6.866667	15.06
88	Dwight Howard	13.0	30.0	62.000000	62.000000	30.533333	5.500000	9.03

```
In [125]: class color:
          PURPLE = '\033[95m'
          CYAN = '\033[96m'
          DARKCYAN = '\033[36m'
          BLUE = '\033[94m'
          GREEN = '\033[92m'
          YELLOW = '\033[93m'
          RED = '\033[91m'
          BOLD = '\033[1m'
```

```

UNDERLINE = '\033[4m'
END = '\033[0m'

player_count = df.groupby('Team')
bb = '#####'
x = 0
y = 0

for a,b in player_count:
    print('The name of the Team : ' +str(a))
    print('The Total Player Score is : ' +str(b.Player_Score.sum()))
    print('The number of Players in the Team : ' +str(b.Name.count()))
    print(bb)
    if (b.Name.count()) < 12:
        x = x+1
        print('!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!! : ' +str(b.Na
        print(b.Name)
    elif (b.Name.count()) > 12:
        y =y+1
        print('!!!!!!!!!!!!!!___More_Player_Alert___!!!!!!!!!!!!!! : ' +str(b.Na
        print(b.Name)
    print(color.RED+'Total count of "Less Player" Alert is :'+color.BOLD+ str(x))
    print(color.RED+'Total count of "More Player" Alert is :'+color.BOLD+ str(y))
    print(color.RED+'Total count of "All" Alert is :'+color.BOLD+ str(x+y))

```

```

The name of the Team : Atlanta Hawks
The Total Player Score is : 314.92999999999995
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!! :9 Players only!!!
193      Kent Bazemore
74      Dennis Schroder
248      Miles Plumlee
228      Marco Belinelli
100      Ersan Ilyasova
81      Dewayne Dedmon
246      Mike Muscala
221      Malcolm Delaney
322      Taurean Prince
Name: Name, dtype: object
The name of the Team : Boston Celtics
The Total Player Score is : 392.87700000000007
The number of Players in the Team : 9

```

```
#####
!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!! :9 Players only!!!
110    Gordon Hayward
3      Al Horford
207    Kyrie Irving
230    Marcus Morris
147    Jaylen Brown
231    Marcus Smart
22     Aron Baynes
325    Terry Rozier
309    Shane Larkin
Name: Name, dtype: object
The name of the Team : Brooklyn Nets
The Total Player Score is : 343.59499999999999
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!! :9 Players only!!!
12     Allen Crabbe
332    Timofey Mozgov
72     DeMarre Carroll
153    Jeremy Lin
341    Trevor Booker
56     DAngelo Russell
281    Quincy Acy
348    Tyler Zeller
42     Caris LeVert
Name: Name, dtype: object
The name of the Team : Charlotte Hornets
The Total Player Score is : 418.72599999999994
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!! :9 Players only!!!
88     Dwight Howard
258    Nicolas Batum
235    Marvin Williams
244    Michael Kidd-Gilchrist
50     Cody Zeller
191    Kemba Walker
152    Jeremy Lamb
103    Frank Kaminsky
243    Michael Carter-Williams
Name: Name, dtype: object
The name of the Team : Chicago Bulls
The Total Player Score is : 290.373
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!! :9 Players only!!!
293    Robin Lopez
```

```

262      Nikola Mirotic
55      Cristiano Felicio
183      Justin Holiday
200      Kris Dunn
282      Quincy Pondexter
362      Zach LaVine
41      Cameron Payne
75      Denzel Valentine
Name: Name, dtype: object
The name of the Team : Cleveland Cavaliers
The Total Player Score is : 486.053999999999986
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
213      LeBron James
195      Kevin Love
343      Tristan Thompson
126      J.R. Smith
119      Iman Shumpert
46      Channing Frye
203      Kyle Korver
130      Jae Crowder
121      Isaiah Thomas
Name: Name, dtype: object
The name of the Team : Dallas Mavericks
The Total Player Score is : 395.337999999999985
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
83      Dirk Nowitzki
113      Harrison Barnes
357      Wesley Matthews
76      Deron Williams
89      Dwight Powell
255      Nerlens Noel
80      Devin Harris
124      J.J. Barea
306      Seth Curry
Name: Name, dtype: object
The name of the Team : Denver Nuggets
The Total Player Score is : 405.304
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
278      Paul Millsap
236      Mason Plumlee
192      Kenneth Faried
361      Wilson Chandler

```

```

64      Darrell Arthur
136      Jameer Nelson
358      Will Barton
95      Emmanuel Mudiay
135      Jamal Murray
Name: Name, dtype: object
The name of the Team : Detroit Pistons
The Total Player Score is : 400.177
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
15      Andre Drummond
334      Tobias Harris
288      Reggie Jackson
167      Jon Leuer
25      Avery Bradley
30      Boban Marjanovic
211      Langston Galloway
123      Ish Smith
21      Anthony Tolliver
Name: Name, dtype: object
The name of the Team : Golden State Warrior
The Total Player Score is : 450.26599999999996
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
194      Kevin Durant
198      Klay Thompson
87      Draymond Green
316      Stephen Curry
16      Andre Iguodala
310      Shaun Livingston
257      Nick Young
364      Zaza Pachulia
128      JaVale McGee
Name: Name, dtype: object
The name of the Team : Houston Rockets
The Total Player Score is : 464.16399999999993
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
138      James Harden
48      Chris Paul
301      Ryan Anderson
98      Eric Gordon
340      Trevor Ariza
215      Lou Williams
273      Patrick Beverley

```

```

254             Nene
303             Sam Dekker
Name: Name, dtype: object
The name of the Team : Indiana Pacers
The Total Player Score is : 403.41
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
353             Victor Oladipo
327             Thaddeus Young
33              Bojan Bogdanovic
65             Darren Collison
4              Al Jefferson
53             Cory Joseph
209            Lance Stephenson
252            Myles Turner
84             Domantas Sabonis
Name: Name, dtype: object
The name of the Team : Los Angeles Clippers
The Total Player Score is : 356.99199999999999
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
67             DeAndre Jordan
29             Blake Griffin
24             Austin Rivers
356            Wesley Johnson
279            Paul Pierce
216            Luc Mbah a Moute
36             Brandon Bass
6              Alan Anderson
173            Jordan Farmar
Name: Name, dtype: object
The name of the Team : Los Angeles Lakers
The Total Player Score is : 281.02
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
219            Luol Deng
171            Jordan Clarkson
52             Corey Brewer
321            Tarik Black
180            Julius Randle
346            Tyler Ennis
240            Metta World Peace
212            Larry Nance Jr.
328            Thomas Robinson
Name: Name, dtype: object

```

```

The name of the Team : Memphis Grizzlies
The Total Player Score is : 379.895
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
245      Mike Conley
45      Chandler Parsons
225      Marc Gasol
363      Zach Randolph
35      Brandan Wright
337      Tony Allen
354      Vince Carter
344      Troy Daniels
137      James Ennis
Name: Name, dtype: object
The name of the Team : Miami Heat
The Total Player Score is : 365.716
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
114      Hassan Whiteside
109      Goran Dragic
139      James Johnson
82      Dion Waiters
189      Kelly Olynyk
355      Wayne Ellington
347      Tyler Johnson
184      Justise Winslow
352      Udonis Haslem
Name: Name, dtype: object
The name of the Team : Milwaukee Bucks
The Total Player Score is : 377.51900000000006
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
107      Giannis Antetokounmpo
112      Greg Monroe
197      Khris Middleton
164      John Henson
250      Mirza Teletovic
338      Tony Snell
238      Matthew Dellavedova
129      Jabari Parker
329      Thon Maker
Name: Name, dtype: object
The name of the Team : Minnesota Timberwolves
The Total Player Score is : 425.34300000000001
The number of Players in the Team : 9

```



```
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
156      Jimmy Butler
149      Jeff Teague
111      Gorgui Dieng
320      Taj Gibson
19       Andrew Wiggins
51       Cole Aldrich
187     Karl-Anthony Towns
134      Jamal Crawford
253     Nemanja Bjelica
Name: Name, dtype: object
The name of the Team : New Orleans Pelicans
The Total Player Score is : 376.736
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
20       Anthony Davis
71      DeMarcus Cousins
178     Jrue Holiday
313     Solomon Hill
267     Omer Asik
91      ETwaun Moore
11      Alexis Ajinca
268     Omri Casspi
61      Dante Cunningham
Name: Name, dtype: object
The name of the Team : New York Knicks
The Total Player Score is : 337.77500000000001
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
96       Enes Kanter
157      Joakim Noah
331      Tim Hardaway
54       Courtney Lee
210     Lance Thomas
201     Kristaps Porzingis
296      Ron Baker
205      Kyle OQuinn
86       Doug McDermott
Name: Name, dtype: object
The name of the Team : Oklahoma City Thunder
The Total Player Score is : 400.84900000000005
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
300     Russell Westbrook
```

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43      Carmelo Anthony
317      Steven Adams
277      Paul George
17      Andre Roberson
9      Alex Abrines
274      Patrick Patterson
206      Kyle Singler
256      Nick Collison
Name: Name, dtype: object
The name of the Team : Orlando Magic
The Total Player Score is : 353.77400000000006
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
101      Evan Fournier
28      Bismack Biyombo
263      Nikola Vucevic
324      Terrence Ross
57      D.J. Augustin
170      Jonathon Simmons
312      Shelvin Mack
2      Aaron Gordon
232      Mario Hezonja
Name: Name, dtype: object
The name of the Team : Philadelphia 76ers
The Total Player Score is : 374.15600000000006
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
125      J.J. Redick
13      Amir Johnson
155      Jerryd Bayless
163      Joel Embiid
131      Jahlil Okafor
260      Nik Stauskas
63      Dario Saric
182      Justin Anderson
292      Robert Covington
Name: Name, dtype: object
The name of the Team : Phoenix Suns
The Total Player Score is : 389.45000000000005
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
97      Eric Bledsoe
37      Brandon Knight
350      Tyson Chandler
141      Jared Dudley

```

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270      P.J. Tucker
10       Alex Len
214     Leandro Barbosa
79      Devin Booker
319     T.J. Warren
Name: Name, dtype: object
The name of the Team : Portland Trail Blazers
The Total Player Score is : 369.41799999999995
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
58      Damian Lillard
39      C.J. McCollum
102     Evan Turner
239     Maurice Harkless
241     Meyers Leonard
5       Al-Farouq Aminu
92      Ed Davis
264     Noah Vonleh
185     Jusuf Nurkic
Name: Name, dtype: object
The name of the Team : SAN ANTONIO
The Total Player Score is : 274.894
The number of Players in the Team : 6
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :6 Players only!!!
208     LaMarcus Aldridge
276     Pau Gasol
275     Patty Mills
60      Danny Green
224     Manu Ginobili
202     Kyle Anderson
Name: Name, dtype: object
The name of the Team : Sacramento Kings
The Total Player Score is : 337.16800000000006
The number of Players in the Team : 8
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :8 Players only!!!
298     Rudy Gay
349     Tyreke Evans
199     Kosta Koufos
105     Garrett Temple
27      Ben McLemore
359     Willie Cauley-Stein
237     Matt Barnes
345     Ty Lawson
Name: Name, dtype: object
The name of the Team : Toronto Raptors

```

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The Total Player Score is : 350.335
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
204         Kyle Lowry
70          DeMar DeRozan
305         Serge Ibaka
169        Jonas Valanciunas
40          C.J. Miles
217         Lucas Nogueira
133         Jakob Poeltl
38          Bruno Caboclo
73          Delon Wright
Name: Name, dtype: object
The name of the Team : Utah Jazz
The Total Player Score is : 381.87800000000004
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
299         Rudy Gobert
291         Ricky Rubio
160         Joe Ingles
77          Derrick Favors
8           Alec Burks
161         Joe Johnson
326        Thabo Sefolosha
62          Dante Exum
168         Jonas Jerebko
Name: Name, dtype: object
The name of the Team : Washington Wizards
The Total Player Score is : 409.894999999999987
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
269         Otto Porter
34          Bradley Beal
165         John Wall
118         Ian Mahinmi
227         Marcin Gortat
233        Markieff Morris
145         Jason Smith
158         Jodie Meeks
335        Tomas Satoransky
Name: Name, dtype: object
Total count of "Less Player" Alert is :30Total count of "More Player" Alert is :0Total count of

In [126]: class color:
          PURPLE = '\033[95m'

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```

CYAN = '\033[96m'
DARKCYAN = '\033[36m'
BLUE = '\033[94m'
GREEN = '\033[92m'
YELLOW = '\033[93m'
RED = '\033[91m'
BOLD = '\033[1m'
UNDERLINE = '\033[4m'
END = '\033[0m'

check_df_9_player = df.groupby('Team')
bb = '#####'
x = 0
y = 0

for a,b in check_df_9_player:

    print('The name of the Team : ' +str(a))
    print('The smallest salary is : ' +str(b.Salary.nsmallest(6)))
    print('The Names are : ' +str(b.Name))
    print('The number of Players in the Team : ' +str(b.Name.count()))
    print(bb)
    if (b.Name.count()) < 12:
        x = x+1
        print('!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!! :' +str(b.Na
        print(b.Name)
    elif(b.Name.count()) > 12:
        y =y+1
        print('!!!!!!!!!!!!!!___More_Player_Alert___!!!!!!!!!!!!!! :' +str(b.Na
        print(b.Name)
    print(color.RED+'Total count of "Less Player" Alert is :'+color.BOLD+ str(x))
    print(color.RED+'Total count of "More Player" Alert is :'+color.BOLD+ str(y))
    print(color.RED+'Total count of "All" Alert is :'+color.BOLD+ str(x+y))

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The name of the Team : Atlanta Hawks
The smallest salary is : 322      2422560.0
221      2500000.0
246      5000000.0
100      6000000.0
81       6000000.0
228      6606060.0
Name: Salary, dtype: float64
The Names are : 193      Kent Bazemore

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74      Dennis Schroder
248      Miles Plumlee
228      Marco Belinelli
100      Ersan Ilyasova
81      Dewayne Dedmon
246      Mike Muscala
221      Malcolm Delaney
322      Taurean Prince
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!__Less_Player_Alert__!!!!!!!!!!!!!!! :9 Players only!!!
193      Kent Bazemore
74      Dennis Schroder
248      Miles Plumlee
228      Marco Belinelli
100      Ersan Ilyasova
81      Dewayne Dedmon
246      Mike Muscala
221      Malcolm Delaney
322      Taurean Prince
Name: Name, dtype: object
The name of the Team : Boston Celtics
The smallest salary is : 309      1524305.0
325      1988520.0
22      4328000.0
231      4538020.0
147      4956480.0
230      5000000.0
Name: Salary, dtype: float64
The Names are : 110      Gordon Hayward
3      Al Horford
207      Kyrie Irving
230      Marcus Morris
147      Jaylen Brown
231      Marcus Smart
22      Aron Baynes
325      Terry Rozier
309      Shane Larkin
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!__Less_Player_Alert__!!!!!!!!!!!!!!! :9 Players only!!!
110      Gordon Hayward
3      Al Horford
207      Kyrie Irving
230      Marcus Morris
147      Jaylen Brown

```

```

231      Marcus Smart
22       Aron Baynes
325      Terry Rozier
309      Shane Larkin
Name: Name, dtype: object
The name of the Team : Brooklyn Nets
The smallest salary is : 42      1632480.0
281      1709538.0
348      1709538.0
56       5562360.0
341      9125000.0
153      12000000.0
Name: Salary, dtype: float64
The Names are : 12      Allen Crabbe
332      Timofey Mozgov
72       DeMarre Carroll
153      Jeremy Lin
341      Trevor Booker
56       DAngelo Russell
281      Quincy Acy
348      Tyler Zeller
42       Caris LeVert
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!__Less_Player_Alert__!!!!!!!!!!!!!!! :9 Players only!!!
12       Allen Crabbe
332      Timofey Mozgov
72       DeMarre Carroll
153      Jeremy Lin
341      Trevor Booker
56       DAngelo Russell
281      Quincy Acy
348      Tyler Zeller
42       Caris LeVert
Name: Name, dtype: object
The name of the Team : Charlotte Hornets
The smallest salary is : 243      2700000.0
103      2847600.0
152      7000000.0
191      12000000.0
50       12584270.0
244      13000000.0
Name: Salary, dtype: float64
The Names are : 88      Dwight Howard
258      Nicolas Batum
235      Marvin Williams
244      Michael Kidd-Gilchrist

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50          Cody Zeller
191         Kemba Walker
152         Jeremy Lamb
103         Frank Kaminsky
243    Michael Carter-Williams
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
88          Dwight Howard
258         Nicolas Batum
235         Marvin Williams
244    Michael Kidd-Gilchrist
50          Cody Zeller
191         Kemba Walker
152         Jeremy Lamb
103         Frank Kaminsky
243    Michael Carter-Williams
Name: Name, dtype: object
The name of the Team : Chicago Bulls
The smallest salary is : 75      2186400.0
41      2203440.0
362     3202217.0
282     3853931.0
200     4046760.0
183     4615385.0
Name: Salary, dtype: float64
The Names are : 293      Robin Lopez
262      Nikola Mirotic
55      Cristiano Felicio
183      Justin Holiday
200      Kris Dunn
282      Quincy Pondexter
362      Zach LaVine
41      Cameron Payne
75      Denzel Valentine
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
293      Robin Lopez
262      Nikola Mirotic
55      Cristiano Felicio
183      Justin Holiday
200      Kris Dunn
282      Quincy Pondexter
362      Zach LaVine
41      Cameron Payne

```



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75      Denzel Valentine
Name: Name, dtype: object
The name of the Team : Cleveland Cavaliers
The smallest salary is  : 121      6261395.0
130      6796117.0
203      7000000.0
46      7420912.0
119      10337079.0
126      13760000.0
Name: Salary, dtype: float64
The Names are : 213      LeBron James
195      Kevin Love
343      Tristan Thompson
126      J.R. Smith
119      Iman Shumpert
46      Channing Frye
203      Kyle Korver
130      Jae Crowder
121      Isaiah Thomas
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!_Less_Player_Alert_!! :9 Players only!!!
213      LeBron James
195      Kevin Love
343      Tristan Thompson
126      J.R. Smith
119      Iman Shumpert
46      Channing Frye
203      Kyle Korver
130      Jae Crowder
121      Isaiah Thomas
Name: Name, dtype: object
The name of the Team : Dallas Mavericks
The smallest salary is  : 306      2898000.0
124      4096950.0
80      4228000.0
255      4384490.0
89      8375000.0
76      9000000.0
Name: Salary, dtype: float64
The Names are : 83      Dirk Nowitzki
113      Harrison Barnes
357      Wesley Matthews
76      Deron Williams
89      Dwight Powell
255      Nerlens Noel
80      Devin Harris

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124         J.J. Barea
306         Seth Curry
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
83         Dirk Nowitzki
113        Harrison Barnes
357        Wesley Matthews
76         Deron Williams
89         Dwight Powell
255        Nerlens Noel
80         Devin Harris
124         J.J. Barea
306         Seth Curry
Name: Name, dtype: object
The name of the Team : Denver Nuggets
The smallest salary is : 135      3355320.0
95         3381480.0
358        3533333.0
136        4736050.0
64         7464912.0
361        12016854.0
Name: Salary, dtype: float64
The Names are : 278      Paul Millsap
236        Mason Plumlee
192        Kenneth Faried
361        Wilson Chandler
64         Darrell Arthur
136        Jameer Nelson
358        Will Barton
95         Emmanuel Mudiay
135        Jamal Murray
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
278        Paul Millsap
236        Mason Plumlee
192        Kenneth Faried
361        Wilson Chandler
64         Darrell Arthur
136        Jameer Nelson
358        Will Barton
95         Emmanuel Mudiay
135        Jamal Murray
Name: Name, dtype: object
The name of the Team : Detroit Pistons

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The smallest salary is : 21      3290000.0
123      6000000.0
211      6666667.0
30       7000000.0
25       8808989.0
167      10497319.0
Name: Salary, dtype: float64
The Names are : 15      Andre Drummond
334      Tobias Harris
288      Reggie Jackson
167      Jon Leuer
25       Avery Bradley
30       Boban Marjanovic
211      Langston Galloway
123      Ish Smith
21       Anthony Tolliver
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!_Less_Player_Alert_!! :9 Players only!!!
15       Andre Drummond
334      Tobias Harris
288      Reggie Jackson
167      Jon Leuer
25       Avery Bradley
30       Boban Marjanovic
211      Langston Galloway
123      Ish Smith
21       Anthony Tolliver
Name: Name, dtype: object
The name of the Team : Golden State Warrior
The smallest salary is : 128      1403611.0
364      2898000.0
257      5192000.0
310      5782450.0
16       11131368.0
316      12112359.0
Name: Salary, dtype: float64
The Names are : 194      Kevin Durant
198      Klay Thompson
87       Draymond Green
316      Stephen Curry
16       Andre Iguodala
310      Shaun Livingston
257      Nick Young
364      Zaza Pachulia
128      JaVale McGee
Name: Name, dtype: object

```

```

The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!! :9 Players only!!!
194      Kevin Durant
198      Klay Thompson
87       Draymond Green
316      Stephen Curry
16       Andre Iguodala
310      Shaun Livingston
257      Nick Young
364      Zaza Pachulia
128      JaVale McGee
Name: Name, dtype: object
The name of the Team : Houston Rockets
The smallest salary is : 303      1720560.0
254      3477600.0
273      6000000.0
215      7000000.0
340      7806971.0
98       12385364.0
Name: Salary, dtype: float64
The Names are : 138      James Harden
48       Chris Paul
301      Ryan Anderson
98       Eric Gordon
340      Trevor Ariza
215      Lou Williams
273      Patrick Beverley
254      Nene
303      Sam Dekker
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!! :9 Players only!!!
138      James Harden
48       Chris Paul
301      Ryan Anderson
98       Eric Gordon
340      Trevor Ariza
215      Lou Williams
273      Patrick Beverley
254      Nene
303      Sam Dekker
Name: Name, dtype: object
The name of the Team : Indiana Pacers
The smallest salary is : 84      2550000.0
252      2569920.0
209      4180000.0

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53      7630000.0
4       9769821.0
65     10000000.0
Name: Salary, dtype: float64
The Names are : 353      Victor Oladipo
327      Thaddeus Young
33      Bojan Bogdanovic
65      Darren Collison
4       Al Jefferson
53      Cory Joseph
209     Lance Stephenson
252     Myles Turner
84      Domantas Sabonis
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
353      Victor Oladipo
327      Thaddeus Young
33      Bojan Bogdanovic
65      Darren Collison
4       Al Jefferson
53      Cory Joseph
209     Lance Stephenson
252     Myles Turner
84      Domantas Sabonis
Name: Name, dtype: object
The name of the Team : Los Angeles Clippers
The smallest salary is : 173      510921.0
6       1315448.0
36      1551659.0
216     2203000.0
279     3500000.0
356     5628000.0
Name: Salary, dtype: float64
The Names are : 67      DeAndre Jordan
29      Blake Griffin
24      Austin Rivers
356     Wesley Johnson
279     Paul Pierce
216     Luc Mbah a Moute
36      Brandon Bass
6       Alan Anderson
173     Jordan Farmar
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!

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67      DeAndre Jordan
29      Blake Griffin
24      Austin Rivers
356     Wesley Johnson
279     Paul Pierce
216     Luc Mbah a Moute
36      Brandon Bass
6       Alan Anderson
173     Jordan Farmar
Name: Name, dtype: object
The name of the Team : Los Angeles Lakers
The smallest salary is : 328      1050961.0
212     1207680.0
240     1551659.0
346     1733880.0
180     3267120.0
321     6191000.0
Name: Salary, dtype: float64
The Names are : 219      Luol Deng
171     Jordan Clarkson
52      Corey Brewer
321     Tarik Black
180     Julius Randle
346     Tyler Ennis
240     Metta World Peace
212     Larry Nance Jr.
328     Thomas Robinson
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!____Less_Player_Alert____!!!!!!!!!!!!!! :9 Players only!!!
219     Luol Deng
171     Jordan Clarkson
52      Corey Brewer
321     Tarik Black
180     Julius Randle
346     Tyler Ennis
240     Metta World Peace
212     Larry Nance Jr.
328     Thomas Robinson
Name: Name, dtype: object
The name of the Team : Memphis Grizzlies
The smallest salary is : 137      2898000.0
344     3332940.0
354     4264057.0
337     5505618.0
35      5700000.0
363     10361445.0

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```

Name: Salary, dtype: float64
The Names are : 245      Mike Conley
45      Chandler Parsons
225      Marc Gasol
363      Zach Randolph
35      Brandan Wright
337      Tony Allen
354      Vince Carter
344      Troy Daniels
137      James Ennis
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
245      Mike Conley
45      Chandler Parsons
225      Marc Gasol
363      Zach Randolph
35      Brandan Wright
337      Tony Allen
354      Vince Carter
344      Troy Daniels
137      James Ennis
Name: Name, dtype: object
The name of the Team : Miami Heat
The smallest salary is : 352      2328652.0
184      2705040.0
347      5881260.0
355      6270000.0
189      10607169.0
82      11000000.0
Name: Salary, dtype: float64
The Names are : 114      Hassan Whiteside
109      Goran Dragic
139      James Johnson
82      Dion Waiters
189      Kelly Olynyk
355      Wayne Ellington
347      Tyler Johnson
184      Justise Winslow
352      Udonis Haslem
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
114      Hassan Whiteside
109      Goran Dragic
139      James Johnson

```

```

82         Dion Waiters
189        Kelly Olynyk
355        Wayne Ellington
347        Tyler Johnson
184        Justise Winslow
352        Udonis Haslem
Name: Name, dtype: object
The name of the Team : Milwaukee Bucks
The smallest salary is : 329      2684160.0
129        6782392.0
238        9607500.0
338        9821429.0
250        10500000.0
164        11422536.0
Name: Salary, dtype: float64
The Names are : 107      Giannis Antetokounmpo
112          Greg Monroe
197          Khris Middleton
164          John Henson
250          Mirza Teletovic
338          Tony Snell
238      Matthew Dellavedova
129          Jabari Parker
329          Thon Maker
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!_Less_Player_Alert_!! :9 Players only!!!
107      Giannis Antetokounmpo
112          Greg Monroe
197          Khris Middleton
164          John Henson
250          Mirza Teletovic
338          Tony Snell
238      Matthew Dellavedova
129          Jabari Parker
329          Thon Maker
Name: Name, dtype: object
The name of the Team : Minnesota Timberwolves
The smallest salary is : 253      3949999.0
134        4328000.0
187        6216840.0
51         7300000.0
19         7574322.0
320        14000000.0
Name: Salary, dtype: float64
The Names are : 156      Jimmy Butler
149          Jeff Teague

```



```

111          Gorgui Dieng
320          Taj Gibson
19           Andrew Wiggins
51           Cole Aldrich
187      Karl-Anthony Towns
134          Jamal Crawford
253          Nemanja Bjelica
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
156          Jimmy Butler
149          Jeff Teague
111          Gorgui Dieng
320          Taj Gibson
19           Andrew Wiggins
51           Cole Aldrich
187      Karl-Anthony Towns
134          Jamal Crawford
253          Nemanja Bjelica
Name: Name, dtype: object
The name of the Team : New Orleans Pelicans
The smallest salary is : 61      2978250.0
268      3000000.0
11       4600000.0
91       8081363.0
267      9904494.0
313      11241218.0
Name: Salary, dtype: float64
The Names are : 20      Anthony Davis
71      DeMarcus Cousins
178      Jrue Holiday
313      Solomon Hill
267      Omer Asik
91      ETwaun Moore
11      Alexis Ajinca
268      Omri Casspi
61      Dante Cunningham
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
20      Anthony Davis
71      DeMarcus Cousins
178      Jrue Holiday
313      Solomon Hill
267      Omer Asik
91      ETwaun Moore

```

```

11      Alexis Ajinca
268      Omri Casspi
61      Dante Cunningham
Name: Name, dtype: object
The name of the Team : New York Knicks
The smallest salary is : 86      3294994.0
205      4087500.0
296      4328000.0
201      4503600.0
210      6655325.0
54      11747890.0
Name: Salary, dtype: float64
The Names are : 96      Enes Kanter
157      Joakim Noah
331      Tim Hardaway
54      Courtney Lee
210      Lance Thomas
201      Kristaps Porzingis
296      Ron Baker
205      Kyle OQuinn
86      Doug McDermott
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!____Less_Player_Alert____!!!!!!!!!!!!!!!!!! :9 Players only!!!
96      Enes Kanter
157      Joakim Noah
331      Tim Hardaway
54      Courtney Lee
210      Lance Thomas
201      Kristaps Porzingis
296      Ron Baker
205      Kyle OQuinn
86      Doug McDermott
Name: Name, dtype: object
The name of the Team : Oklahoma City Thunder
The smallest salary is : 256      2328652.0
206      4666500.0
274      5192000.0
9      5725000.0
17      9259259.0
277      19508958.0
Name: Salary, dtype: float64
The Names are : 300      Russell Westbrook
43      Carmelo Anthony
317      Steven Adams
277      Paul George
17      Andre Roberson

```

```

9          Alex Abrines
274       Patrick Patterson
206          Kyle Singler
256          Nick Collison
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
300       Russell Westbrook
43         Carmelo Anthony
317          Steven Adams
277          Paul George
17         Andre Roberson
9          Alex Abrines
274       Patrick Patterson
206          Kyle Singler
256          Nick Collison
Name: Name, dtype: object
The name of the Team : Orlando Magic
The smallest salary is : 232      4078320.0
2          5504420.0
312         6000000.0
170         6300000.0
57          7250000.0
324         10500000.0
Name: Salary, dtype: float64
The Names are : 101      Evan Fournier
28          Bismack Biyombo
263         Nikola Vucevic
324         Terrence Ross
57          D.J. Augustin
170         Jonathon Simmons
312         Shelvin Mack
2           Aaron Gordon
232         Mario Hezonja
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
101         Evan Fournier
28          Bismack Biyombo
263         Nikola Vucevic
324         Terrence Ross
57          D.J. Augustin
170         Jonathon Simmons
312         Shelvin Mack
2           Aaron Gordon
232         Mario Hezonja

```

```

Name: Name, dtype: object
The name of the Team : Philadelphia 76ers
The smallest salary is : 292      1577230.0
182      1579440.0
63       2422560.0
260      3807146.0
131      4995120.0
163      6100266.0
Name: Salary, dtype: float64
The Names are : 125      J.J. Redick
13       Amir Johnson
155      Jerryd Bayless
163      Joel Embiid
131      Jahlil Okafor
260      Nik Stauskas
63       Dario Saric
182      Justin Anderson
292      Robert Covington
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!! :9 Players only!!!
125      J.J. Redick
13       Amir Johnson
155      Jerryd Bayless
163      Joel Embiid
131      Jahlil Okafor
260      Nik Stauskas
63       Dario Saric
182      Justin Anderson
292      Robert Covington
Name: Name, dtype: object
The name of the Team : Phoenix Suns
The smallest salary is : 319      2128920.0
79       2223600.0
214      4000000.0
10       4823621.0
270      7590035.0
141      10470000.0
Name: Salary, dtype: float64
The Names are : 97      Eric Bledsoe
37       Brandon Knight
350      Tyson Chandler
141      Jared Dudley
270      P.J. Tucker
10       Alex Len
214      Leandro Barbosa
79       Devin Booker

```

```

319         T.J. Warren
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
97         Eric Bledsoe
37         Brandon Knight
350        Tyson Chandler
141        Jared Dudley
270        P.J. Tucker
10         Alex Len
214        Leandro Barbosa
79         Devin Booker
319        T.J. Warren
Name: Name, dtype: object
The name of the Team : Portland Trail Blazers
The smallest salary is : 185      2947305.0
264        3505233.0
92         6352531.0
5          7319035.0
241        9904495.0
239        10162922.0
Name: Salary, dtype: float64
The Names are : 58      Damian Lillard
39         C.J. McCollum
102        Evan Turner
239        Maurice Harkless
241        Meyers Leonard
5          Al-Farouq Aminu
92         Ed Davis
264        Noah Vonleh
185        Jusuf Nurkic
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :9 Players only!!!
58         Damian Lillard
39         C.J. McCollum
102        Evan Turner
239        Maurice Harkless
241        Meyers Leonard
5          Al-Farouq Aminu
92         Ed Davis
264        Noah Vonleh
185        Jusuf Nurkic
Name: Name, dtype: object
The name of the Team : SAN ANTONIO
The smallest salary is : 202      2151704.0

```

```

224      2500000.0
60      10000000.0
275     10714286.0
276     16000000.0
208     21461010.0
Name: Salary, dtype: float64
The Names are : 208      LaMarcus Aldridge
276          Pau Gasol
275          Patty Mills
60          Danny Green
224          Manu Ginobili
202          Kyle Anderson
Name: Name, dtype: object
The number of Players in the Team : 6
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :6 Players only!!!
208      LaMarcus Aldridge
276          Pau Gasol
275          Patty Mills
60          Danny Green
224          Manu Ginobili
202          Kyle Anderson
Name: Name, dtype: object
The name of the Team : Sacramento Kings
The smallest salary is : 345      1315448.0
237      2133542.0
359      3551160.0
27      4008882.0
105      8000000.0
199      8046500.0
Name: Salary, dtype: float64
The Names are : 298          Rudy Gay
349          Tyreke Evans
199          Kosta Koufos
105          Garrett Temple
27          Ben McLemore
359      Willie Cauley-Stein
237          Matt Barnes
345          Ty Lawson
Name: Name, dtype: object
The number of Players in the Team : 8
#####
!!!!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!!!!! :8 Players only!!!
298          Rudy Gay
349          Tyreke Evans
199          Kosta Koufos
105          Garrett Temple
27          Ben McLemore

```

```

359     Willie Cauley-Stein
237         Matt Barnes
345         Ty Lawson
Name: Name, dtype: object
The name of the Team : Toronto Raptors
The smallest salary is : 73      1645200.0
38      2451225.0
133      2825640.0
217      2947305.0
40      7936509.0
169      15460675.0
Name: Salary, dtype: float64
The Names are : 204      Kyle Lowry
70      DeMar DeRozan
305      Serge Ibaka
169      Jonas Valanciunas
40      C.J. Miles
217      Lucas Nogueira
133      Jakob Poeltl
38      Bruno Caboclo
73      Delon Wright
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!____Less_Player_Alert____!!!!!!!!!!!!!! :9 Players only!!!
204      Kyle Lowry
70      DeMar DeRozan
305      Serge Ibaka
169      Jonas Valanciunas
40      C.J. Miles
217      Lucas Nogueira
133      Jakob Poeltl
38      Bruno Caboclo
73      Delon Wright
Name: Name, dtype: object
The name of the Team : Utah Jazz
The smallest salary is : 168      4000000.0
62      4992385.0
326      5250000.0
161      10505000.0
8      10845506.0
77      12000000.0
Name: Salary, dtype: float64
The Names are : 299      Rudy Gobert
291      Ricky Rubio
160      Joe Ingles
77      Derrick Favors
8      Alec Burks

```

```

161         Joe Johnson
326     Thabo Sefolosha
62         Dante Exum
168         Jonas Jerebko
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
299         Rudy Gobert
291         Ricky Rubio
160         Joe Ingles
77         Derrick Favors
8         Alec Burks
161         Joe Johnson
326     Thabo Sefolosha
62         Dante Exum
168         Jonas Jerebko
Name: Name, dtype: object
The name of the Team : Washington Wizards
The smallest salary is : 335      3000000.0
158      3290000.0
145      5225000.0
233      8000000.0
227      12782609.0
118      16661641.0
Name: Salary, dtype: float64
The Names are : 269      Otto Porter
34         Bradley Beal
165         John Wall
118         Ian Mahinmi
227         Marcin Gortat
233         Markieff Morris
145         Jason Smith
158         Jodie Meeks
335     Tomas Satoransky
Name: Name, dtype: object
The number of Players in the Team : 9
#####
!!!!!!!!!!!!!!!___Less_Player_Alert___!!!!!!!!!!!!!!! :9 Players only!!!
269         Otto Porter
34         Bradley Beal
165         John Wall
118         Ian Mahinmi
227         Marcin Gortat
233         Markieff Morris
145         Jason Smith
158         Jodie Meeks
335     Tomas Satoransky

```



Name: Name, dtype: object

Total count of "Less Player" Alert is :30Total count of "More Player" Alert is :0Total count of

## 2 SAN ANTONIO add points

```
In [127]: df_9_player_repl = pd.concat([df]*41, ignore_index=True)
df_9_player_repl.count()
df_9_player_repl.head(5)
```

```
Out[127]:
```

	Name	Exp	Age	G	GS	MP	FG	F
0	LeBron James	14.0	31.0	73.000000	73.000000	36.500000	9.533333	18.4333
1	Paul Millsap	11.0	30.0	74.333333	73.666667	33.133333	6.166667	13.3333
2	Gordon Hayward	7.0	25.0	76.333333	76.333333	35.033333	6.800000	15.0333
3	Kyle Lowry	11.0	29.0	69.000000	69.000000	36.300000	6.600000	15.2666
4	Russell Westbrook	9.0	27.0	76.000000	76.000000	34.466667	9.266667	21.3666

```
In [128]: df_team_score = df.groupby(['Team'], as_index=False)['Player_Score'].sum()
df_team_score.to_excel('Team_Score.xlsx')
```

```
In [129]: df_team_mean = df.groupby(['Team'], as_index=False).mean()
df_team_mean.head(30)
#df_team_mean.to_excel('Team_Mean.xlsx')
df_team_mean.to_excel('Final_score.xlsx')
```

```
In [130]: NBA_Schedule_List_1 = pd.read_excel('NBA Schedule.xlsx', sheetname='Sheet3')
NBA_Schedule_List_1.head(5)
```

```
Out[130]:
```

	Read
0	Boston Celtics
1	Houston Rockets
2	Milwaukee Bucks
3	Atlanta Hawks
4	Charlotte Hornets

```
In [131]: def Compute_index_1(data):
    Read = data[0]
    # PTS = data[1]

    grp = NBA_Schedule_List_1['Read']
    for name in grp:
```

```
        if Read == 'Atlanta Hawks':
```

```
            return 0
```

```
if Read == 'Boston Celtics':  
  
    return 1  
  
if Read == 'Brooklyn Nets':  
  
    return 2  
  
if Read == 'Charlotte Hornets':  
    return 3  
  
if Read == 'Chicago Bulls':  
  
    return 4  
  
if Read == 'Cleveland Cavaliers':  
  
    return 5  
  
if Read == 'Dallas Mavericks':  
  
    return 6  
  
if Read == 'Denver Nuggets':  
  
    return 7  
  
if Read == 'Detroit Pistons':
```

```
        return 8

    if Read == 'Golden State Warrior':

        return 9

    if Read == 'Houston Rockets':

        return 10

    if Read == 'Indiana Pacers':

        return 11

    if Read == 'Los Angeles Clippers':

        return 12

    if Read == 'Los Angeles Lakers':
        return 13

    if Read == 'Memphis Grizzlies':

        return 14

    if Read == 'Miami Heat':

        return 15

    if Read == 'Milwaukee Bucks':
```

```
        return 16

    if Read == 'Minnesota Timberwolves':

        return 17

    if Read == 'New Orleans Pelicans':

        return 18

    if Read == 'New York Knicks':

        return 19

    if Read == 'Oklahoma City Thunder':

        return 20

    if Read == 'Orlando Magic':

        return 21

    if Read == 'Philadelphia 76ers':

        return 22

    if Read == 'Phoenix Suns':

        return 23

    if Read == 'Portland Trail Blazers':
```

```

        return 24

    if Read == 'Sacramento Kings':

        return 25

    if Read == 'SAN ANTONIO':

        return 26

    if Read == 'Toronto Raptors':

        return 27

    if Read == 'Utah Jazz':

        return 28

    if Read == 'Washington Wizards':

        return 29

    else:

        return 1

```

```
In [132]: NBA_Schedule_List_1['Computed_location'] = NBA_Schedule_List_1[['Read']].apply(Comput
```

```

    NBA_Schedule_List_1.head(1500)
    NBA_Schedule_List_1.to_excel('NBA_index_1.xlsx')

```

```
In [133]: NBA_Schedule_List_2 = pd.read_excel('NBA Schedule.xlsx', sheetname='Sheet4')
NBA_Schedule_List_2.head(5)
```

```
Out[133]:
```

Read
------

```
0 Cleveland Cavaliers
1 Golden State Warrior
2 Boston Celtics
3 Dallas Mavericks
4 Detroit Pistons
```

```
In [134]: def Compute_index_2(data):
          Read = data[0]
          # PTS = data[1]

          grp = NBA_Schedule_List_2['Read']
          for name in grp:

              if Read == 'Atlanta Hawks':

                  return 0

              if Read == 'Boston Celtics':

                  return 1

              if Read == 'Brooklyn Nets':

                  return 2

              if Read == 'Charlotte Hornets':
                  return 3

              if Read == 'Chicago Bulls':

                  return 4
```

```
if Read == 'Cleveland Cavaliers':  
    return 5  
  
if Read == 'Dallas Mavericks':  
    return 6  
  
if Read == 'Denver Nuggets':  
    return 7  
  
if Read == 'Detroit Pistons':  
    return 8  
  
if Read == 'Golden State Warrior':  
    return 9  
  
if Read == 'Houston Rockets':  
    return 10  
  
if Read == 'Indiana Pacers':  
    return 11  
  
if Read == 'Los Angeles Clippers':  
    return 12
```

```
if Read == 'Los Angeles Lakers':  
    return 13  
  
if Read == 'Memphis Grizzlies':  
  
    return 14  
  
if Read == 'Miami Heat':  
  
    return 15  
  
if Read == 'Milwaukee Bucks':  
  
    return 16  
  
if Read == 'Minnesota Timberwolves':  
  
    return 17  
  
if Read == 'New Orleans Pelicans':  
  
    return 18  
  
if Read == 'New York Knicks':  
  
    return 19  
  
if Read == 'Oklahoma City Thunder':  
  
    return 20
```



```
if Read == 'Orlando Magic':  
    return 21  
  
if Read == 'Philadelphia 76ers':  
    return 22  
  
if Read == 'Phoenix Suns':  
    return 23  
  
if Read == 'Portland Trail Blazers':  
    return 24  
  
if Read == 'Sacramento Kings':  
    return 25  
  
if Read == 'SAN ANTONIO':  
    return 26  
  
if Read == 'Toronto Raptors':  
    return 27  
  
if Read == 'Utah Jazz':  
    return 28
```

```
if Read == 'Washington Wizards':
```

```
    return 29
```

```
else:
```

```
    return 1
```

```
In [135]: NBA_Schedule_List_2['Computed_location'] = NBA_Schedule_List_2[['Read']].apply(Comput
```

```
NBA_Schedule_List_2.head(1500)
```

```
NBA_Schedule_List_2.to_excel('NBA_index_2.xlsx')
```

```
In [136]: df_team_A = df_team_mean.reindex([1,
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```

```
In [138]: df_team_B.head()
```

```

Out[138]:
      Team      Exp      Age      G      GS      MP
5  Cleveland Cavaliers  9.333333  28.222222  70.296296  49.814815  28.940741  4.718
9  Golden State Warrior  8.666667  28.333333  67.740741  42.111111  26.133333  4.948
1    Boston Celtics  4.777778  24.055556  71.611111  38.518519  24.968519  4.150
6  Dallas Mavericks  7.888889  28.111111  63.555556  38.592593  24.577778  3.929
8  Detroit Pistons  5.574074  25.500000  68.574074  38.851852  24.755556  4.318

```

```
In [139]: df_team_A.index = pd.RangeIndex(len(df_team_A.index))
df_team_B.index = pd.RangeIndex(len(df_team_B.index))
```

```
In [140]: df_team_A.head()
```

```

Out[140]:
      Team      Exp      Age      G      GS      MP      FG
0  Boston Celtics  4.777778  24.055556  71.611111  38.518519  24.968519  4.150000
1  Houston Rockets  8.555556  27.833333  67.296296  44.740741  28.214815  4.788889
2  Milwaukee Bucks  4.222222  23.666667  66.148148  38.407407  24.500000  4.029630

```

3	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2.825926
4	Charlotte Hornets	6.666667	24.944444	65.518519	47.166667	27.829630	4.270370

```
In [141]: df_team_B.head()
df_team_B.columns
```

```
Out[141]: Index(['Team', 'Exp', 'Age', 'G', 'GS', 'MP', 'FG', 'FGA', 'FG_R', 'ThreeP_R', 'ThreeP_R_Eval', 'PTS', 'PTS_Eval', 'Team_Score', 'Salary', 'Salary_Eval', 'Player_Score'], dtype='object', length=17)
```

```
In [142]: df_team_A.rename(columns={'Team': 'Team_A',
                                   'Team_code': 'Team_code_A',
                                   'Exp_Eval': 'Exp_Eval_A',
                                   'G_Eval': 'G_Eval_A',
                                   'GS_Eval': 'GS_Eval_A',
                                   'MP_Eval': 'MP_Eval_A',
                                   'FGA_Eval': 'FGA_Eval_A',
                                   'ThreeP_R_Eval': 'ThreeP_R_Eval_A',
                                   'PTS_Eval': 'PTS_Eval_A',
                                   'Team_Score': 'Team_Score_A',
                                   'Salary_Eval': 'Salary_Eval_A',
                                   'Player_Score': 'Player_Score_A'}, inplace=True)
```

```
In [143]: df_team_B.rename(columns={'Team': 'Team_B',
                                   'Team_code': 'Team_code_B',
                                   'Exp_Eval': 'Exp_Eval_B',
                                   'G_Eval': 'G_Eval_B',
                                   'GS_Eval': 'GS_Eval_B',
                                   'MP_Eval': 'MP_Eval_B',
                                   'FGA_Eval': 'FGA_Eval_B',
                                   'ThreeP_R_Eval': 'ThreeP_R_Eval_B',
                                   'PTS_Eval': 'PTS_Eval_B',
                                   'Team_Score': 'Team_Score_B',
                                   'Salary_Eval': 'Salary_Eval_B',
                                   'Player_Score': 'Player_Score_B'}, inplace=True)
```

```
In [144]: Final_Team_list = pd.concat([df_team_A, df_team_B], axis=1)
Final_Team_list.head()
Final_Team_list.to_excel('qwerty.xlsx')
```

```
In [145]: Final_Team_list.head(10)
```

```
Out[145]:
```

	Team_A	Exp	Age	G	GS	MP	
0	Boston Celtics	4.777778	24.055556	71.611111	38.518519	24.968519	4.111111
1	Houston Rockets	8.555556	27.833333	67.296296	44.740741	28.214815	4.777778
2	Milwaukee Bucks	4.222222	23.666667	66.148148	38.407407	24.500000	4.000000
3	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2.825926
4	Charlotte Hornets	6.666667	24.944444	65.518519	47.166667	27.829630	4.270370
5	Brooklyn Nets	4.944444	25.388889	64.185185	30.907407	22.305556	3.333333
6	New Orleans Pelicans	5.666667	25.888889	63.185185	39.481481	25.044444	4.333333
7	Miami Heat	6.444444	26.277778	60.703704	25.685185	24.709259	3.925926
8	Portland Trail Blazers	5.111111	23.666667	67.814815	33.814815	23.207407	3.703704
9	Houston Rockets	8.555556	27.833333	67.296296	44.740741	28.214815	4.777778

```
In [146]: Final_Team_list.columns
```

```
Out[146]: Index(['Team_A', 'Exp', 'Age', 'G', 'GS', 'MP', 'FG', 'FGA', 'FG_R', 'ThreeP_R', 'Th
```

```
In [147]: new_list = pd.read_excel('pre.xlsx')
new_list.head()
```

```
Out[147]:
```

	Team_A	Exp	Age	G	GS	MP	FG
0	Boston Celtics	4.777778	24.055556	71.611111	38.518519	24.968519	4.150000
1	Houston Rockets	8.555556	27.833333	67.296296	44.740741	28.214815	4.788889
2	Milwaukee Bucks	4.222222	23.666667	66.148148	38.407407	24.500000	4.029630
3	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2.825926
4	Charlotte Hornets	6.666667	24.944444	65.518519	47.166667	27.829630	4.270370

```
In [148]: new_list.columns
```

```
Out[148]: Index(['Team_A', 'Exp', 'Age', 'G', 'GS', 'MP', 'FG', 'FGA', 'FG_R', 'ThreeP_R', 'Th
```

```
In [149]: drop_cols = new_list[[ 'Age', 'Age.1', 'FG', 'FG_R', 'ThreePA_R',
                                'FT', 'FTPct_R',
                                'DRB', 'AST', 'BLK', 'PF',
                                'Salary', 'Salary.1',
                                'FG.1', 'FG_R.1', 'ThreePA_R.1',
                                'FT.1',
                                'FTPct_R.1', 'DRB.1', 'AST.1', 'BLK.1', 'PF.1',
                                'Label', 'Team_A', 'Team_B',
                                'GS', 'GS.1', 'ORB', 'ORB.1', 'ThreePPct_R', 'ThreePPct_R.1',
                                'TwoPPct_R', 'TwoPPct_R.1', 'TwoP_R', 'TwoP_R.1', 'TwoPPct_R', 'Two
                                'TwoPA_R', 'TwoPA_R.1'
                                ]]
```

```
X = new_list.drop(drop_cols, axis=1)
```

```
X.to_csv('Data_to_Predict1.csv', index=False)
```

```
y = new_list['Label']
```

```
In [151]: from sklearn.cross_validation import train_test_split
```

```
In [152]: X_train, X_test, y_train, y_test = train_test_split(X, y, test_size = 0.3, random_sta
```

```
In [153]: #gbm = xgb.XGBClassifier(max_depth=4, n_estimators=100, learning_rate=0.05, objectiv
#predictions = gbm.predict(X_test, ntree_limit=10)
```

```
In [154]: from sklearn.linear_model import LogisticRegression
```

```
In [155]: logmodel = LogisticRegression()
```

```
In [156]: logmodel.fit(X_train,y_train)
```

```
Out[156]: LogisticRegression(C=1.0, class_weight=None, dual=False, fit_intercept=True,
                             intercept_scaling=1, max_iter=100, multi_class='ovr', n_jobs=1,
                             penalty='l2', random_state=None, solver='liblinear', tol=0.0001,
                             verbose=0, warm_start=False)
```

```
In [157]: predictions = logmodel.predict(X_test)
```

```
In [158]: from sklearn.metrics import classification_report
```

```
In [159]: print(classification_report(y_test,predictions))
```

	precision	recall	f1-score	support
0	0.74	0.84	0.79	69
1	0.72	0.58	0.64	48
avg / total	0.73	0.74	0.73	117

```
In [160]: from sklearn.metrics import confusion_matrix
```

```
In [161]: print(confusion_matrix(y_test,predictions))
```

```
[[58 11]
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```

```
In [162]: from sklearn.metrics import accuracy_score
```

```
In [163]: accuracy = accuracy_score(y_test, predictions)
          print("Accuracy: %.2f%%" % (accuracy * 100.0))
```

```
Accuracy: 73.50%
```

```
In [164]: dodo = pd.read_csv('Data_to_Predict1.csv')
          dodo.head()
```

```
Out[164]:
```

	Exp	G	MP	FGA	ThreeP_R	eFG_R	FTA	TRB
0	4.777778	71.611111	24.968519	9.301852	0.985185	0.484019	2.437037	3.942593
1	8.555556	67.296296	28.214815	10.922222	1.781481	0.494241	3.538889	4.174074
2	4.222222	66.148148	24.500000	8.562963	0.792593	0.517370	2.411111	4.566667
3	4.722222	67.222222	19.088889	6.381481	0.700000	0.503370	1.581481	3.300000
4	6.666667	65.518519	27.829630	9.459259	0.824074	0.500759	3.157407	5.918519

```
In [165]: predictions_final = logmodel.predict(dodo)
```



```
In [166]: save = pd.DataFrame({
        "Prediction": predictions_final
    })
    save.to_csv('Final_Prediction_outcome1.csv', index=False)
    save.head()
```

```
Out[166]:    Prediction
0          0
1          1
2          0
3          0
4          0
```

```
In [167]: final = pd.concat([new_list,save], axis=1)
    final.to_excel('NBA_Prediction_Result.xlsx')
```

```
In [168]: final
```

```
Out[168]:
```

	Team_A	Exp	Age	G	GS	MP	
0	Boston Celtics	4.777778	24.055556	71.611111	38.518519	24.968519	4
1	Houston Rockets	8.555556	27.833333	67.296296	44.740741	28.214815	4
2	Milwaukee Bucks	4.222222	23.666667	66.148148	38.407407	24.500000	4
3	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2
4	Charlotte Hornets	6.666667	24.944444	65.518519	47.166667	27.829630	4
5	Brooklyn Nets	4.944444	25.388889	64.185185	30.907407	22.305556	3
6	New Orleans Pelicans	5.666667	25.888889	63.185185	39.481481	25.044444	4
7	Miami Heat	6.444444	26.277778	60.703704	25.685185	24.709259	3
8	Portland Trail Blazers	5.111111	23.666667	67.814815	33.814815	23.207407	3
9	Houston Rockets	8.555556	27.833333	67.296296	44.740741	28.214815	4
10	Minnesota Timberwolves	6.277778	26.555556	73.277778	47.240741	28.029630	4
11	Denver Nuggets	6.555556	25.759259	68.833333	39.425926	25.688889	4
12	Philadelphia 76ers	4.944444	24.444444	63.425926	39.185185	24.564815	4
13	Los Angeles Clippers	8.555556	29.222222	57.925926	33.333333	22.851852	3
14	New York Knicks	5.111111	25.055556	63.407407	29.648148	22.685185	3
15	Chicago Bulls	3.333333	23.555556	61.907407	17.500000	19.746296	2
16	Orlando Magic	4.888889	23.888889	69.759259	27.351852	22.735185	3
17	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2
18	SAN ANTONIO	9.333333	30.000000	69.500000	37.611111	23.961111	4
19	Portland Trail Blazers	5.111111	23.666667	67.814815	33.814815	23.207407	3
20	Cleveland Cavaliers	9.333333	28.222222	70.296296	49.814815	28.940741	4
21	Utah Jazz	6.888889	26.333333	66.888889	35.351852	25.062963	3
22	Golden State Warrior	8.666667	28.333333	67.740741	42.111111	26.133333	4
23	Boston Celtics	4.777778	24.055556	71.611111	38.518519	24.968519	4
24	Los Angeles Lakers	5.611111	25.777778	58.333333	23.481481	19.879630	2
25	Detroit Pistons	5.574074	25.500000	68.574074	38.851852	24.755556	4
26	Sacramento Kings	6.875000	27.187500	66.562500	38.958333	25.272917	3
27	Orlando Magic	4.888889	23.888889	69.759259	27.351852	22.735185	3
28	SAN ANTONIO	9.333333	30.000000	69.500000	37.611111	23.961111	4

29	Dallas Mavericks	7.888889	28.111111	63.555556	38.592593	24.577778	3
30	Phoenix Suns	6.555556	26.611111	66.740741	40.425926	26.224074	4
31	Golden State Warrior	8.666667	28.333333	67.740741	42.111111	26.133333	4
32	Indiana Pacers	5.888889	24.833333	69.574074	43.425926	26.400000	4
33	Portland Trail Blazers	5.111111	23.666667	67.814815	33.814815	23.207407	3
34	Detroit Pistons	5.574074	25.500000	68.574074	38.851852	24.755556	4
35	Philadelphia 76ers	4.944444	24.444444	63.425926	39.185185	24.564815	4
36	Oklahoma City Thunder	7.111111	26.666667	65.777778	41.074074	24.174074	4
37	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2
38	New Orleans Pelicans	5.666667	25.888889	63.185185	39.481481	25.044444	4
39	Minnesota Timberwolves	6.277778	26.555556	73.277778	47.240741	28.029630	4
40	Golden State Warrior	8.666667	28.333333	67.740741	42.111111	26.133333	4
41	Washington Wizards	6.555556	26.333333	66.074074	42.370370	25.207407	4
42	Philadelphia 76ers	4.944444	24.444444	63.425926	39.185185	24.564815	4
43	Memphis Grizzlies	9.000000	30.000000	58.962963	33.962963	24.051852	4
44	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2
45	Charlotte Hornets	6.666667	24.944444	65.518519	47.166667	27.829630	4
46	SAN ANTONIO	9.333333	30.000000	69.500000	37.611111	23.961111	4
47	Toronto Raptors	5.888889	24.388889	52.888889	36.055556	21.451852	3
48	New York Knicks	5.111111	25.055556	63.407407	29.648148	22.685185	3
49	Chicago Bulls	3.333333	23.555556	61.907407	17.500000	19.746296	2
50	Utah Jazz	6.888889	26.333333	66.888889	35.351852	25.062963	3
51	Indiana Pacers	5.888889	24.833333	69.574074	43.425926	26.400000	4
52	Brooklyn Nets	4.944444	25.388889	64.185185	30.907407	22.305556	3
53	New Orleans Pelicans	5.666667	25.888889	63.185185	39.481481	25.044444	4
54	Cleveland Cavaliers	9.333333	28.222222	70.296296	49.814815	28.940741	4
55	Denver Nuggets	6.555556	25.759259	68.833333	39.425926	25.688889	4
56	Memphis Grizzlies	9.000000	30.000000	58.962963	33.962963	24.051852	4
57	Minnesota Timberwolves	6.277778	26.555556	73.277778	47.240741	28.029630	4
58	Toronto Raptors	5.888889	24.388889	52.888889	36.055556	21.451852	3
59	Washington Wizards	6.555556	26.333333	66.074074	42.370370	25.207407	4
60	Sacramento Kings	6.875000	27.187500	66.562500	38.958333	25.272917	3
61	Indiana Pacers	5.888889	24.833333	69.574074	43.425926	26.400000	4
62	Houston Rockets	8.555556	27.833333	67.296296	44.740741	28.214815	4
63	Utah Jazz	6.888889	26.333333	66.888889	35.351852	25.062963	3
64	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2
65	Dallas Mavericks	7.888889	28.111111	63.555556	38.592593	24.577778	3
66	Boston Celtics	4.777778	24.055556	71.611111	38.518519	24.968519	4
67	Los Angeles Clippers	8.555556	29.222222	57.925926	33.333333	22.851852	3
68	New Orleans Pelicans	5.666667	25.888889	63.185185	39.481481	25.044444	4
69	Denver Nuggets	6.555556	25.759259	68.833333	39.425926	25.688889	4
70	Houston Rockets	8.555556	27.833333	67.296296	44.740741	28.214815	4
71	Washington Wizards	6.555556	26.333333	66.074074	42.370370	25.207407	4
72	Toronto Raptors	5.888889	24.388889	52.888889	36.055556	21.451852	3
73	Oklahoma City Thunder	7.111111	26.666667	65.777778	41.074074	24.174074	4
74	Brooklyn Nets	4.944444	25.388889	64.185185	30.907407	22.305556	3
75	Sacramento Kings	6.875000	27.187500	66.562500	38.958333	25.272917	3
76	Oklahoma City Thunder	7.111111	26.666667	65.777778	41.074074	24.174074	4

77	Philadelphia 76ers	4.944444	24.444444	63.425926	39.185185	24.564815	4
78	Detroit Pistons	5.574074	25.500000	68.574074	38.851852	24.755556	4
79	Houston Rockets	8.555556	27.833333	67.296296	44.740741	28.214815	4
80	Boston Celtics	4.777778	24.055556	71.611111	38.518519	24.968519	4
81	Cleveland Cavaliers	9.333333	28.222222	70.296296	49.814815	28.940741	4
82	Phoenix Suns	6.555556	26.611111	66.740741	40.425926	26.224074	4
83	Los Angeles Lakers	5.611111	25.777778	58.333333	23.481481	19.879630	2
84	Milwaukee Bucks	4.222222	23.666667	66.148148	38.407407	24.500000	4
85	Denver Nuggets	6.555556	25.759259	68.833333	39.425926	25.688889	4
86	Orlando Magic	4.888889	23.888889	69.759259	27.351852	22.735185	3
87	New York Knicks	5.111111	25.055556	63.407407	29.648148	22.685185	3
88	Detroit Pistons	5.574074	25.500000	68.574074	38.851852	24.755556	4
89	Sacramento Kings	6.875000	27.187500	66.562500	38.958333	25.272917	3
90	Washington Wizards	6.555556	26.333333	66.074074	42.370370	25.207407	4
91	Sacramento Kings	6.875000	27.187500	66.562500	38.958333	25.272917	3
92	Philadelphia 76ers	4.944444	24.444444	63.425926	39.185185	24.564815	4
93	Golden State Warrior	8.666667	28.333333	67.740741	42.111111	26.133333	4
94	Charlotte Hornets	6.666667	24.944444	65.518519	47.166667	27.829630	4
95	Minnesota Timberwolves	6.277778	26.555556	73.277778	47.240741	28.029630	4
96	Orlando Magic	4.888889	23.888889	69.759259	27.351852	22.735185	3
97	Denver Nuggets	6.555556	25.759259	68.833333	39.425926	25.688889	4
98	Toronto Raptors	5.888889	24.388889	52.888889	36.055556	21.451852	3
99	Dallas Mavericks	7.888889	28.111111	63.555556	38.592593	24.577778	3
100	Phoenix Suns	6.555556	26.611111	66.740741	40.425926	26.224074	4
101	SAN ANTONIO	9.333333	30.000000	69.500000	37.611111	23.961111	4
102	Detroit Pistons	5.574074	25.500000	68.574074	38.851852	24.755556	4
103	Oklahoma City Thunder	7.111111	26.666667	65.777778	41.074074	24.174074	4
104	SAN ANTONIO	9.333333	30.000000	69.500000	37.611111	23.961111	4
105	Milwaukee Bucks	4.222222	23.666667	66.148148	38.407407	24.500000	4
106	Indiana Pacers	5.888889	24.833333	69.574074	43.425926	26.400000	4
107	Toronto Raptors	5.888889	24.388889	52.888889	36.055556	21.451852	3
108	Dallas Mavericks	7.888889	28.111111	63.555556	38.592593	24.577778	3
109	Orlando Magic	4.888889	23.888889	69.759259	27.351852	22.735185	3
110	Chicago Bulls	3.333333	23.555556	61.907407	17.500000	19.746296	2
111	Minnesota Timberwolves	6.277778	26.555556	73.277778	47.240741	28.029630	4
112	Houston Rockets	8.555556	27.833333	67.296296	44.740741	28.214815	4
113	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2
114	Portland Trail Blazers	5.111111	23.666667	67.814815	33.814815	23.207407	3
115	Phoenix Suns	6.555556	26.611111	66.740741	40.425926	26.224074	4
116	Los Angeles Lakers	5.611111	25.777778	58.333333	23.481481	19.879630	2
117	Golden State Warrior	8.666667	28.333333	67.740741	42.111111	26.133333	4
118	Houston Rockets	8.555556	27.833333	67.296296	44.740741	28.214815	4
119	New Orleans Pelicans	5.666667	25.888889	63.185185	39.481481	25.044444	4
120	Miami Heat	6.444444	26.277778	60.703704	25.685185	24.709259	3
121	Milwaukee Bucks	4.222222	23.666667	66.148148	38.407407	24.500000	4
122	Brooklyn Nets	4.944444	25.388889	64.185185	30.907407	22.305556	3
123	Phoenix Suns	6.555556	26.611111	66.740741	40.425926	26.224074	4
124	Boston Celtics	4.777778	24.055556	71.611111	38.518519	24.968519	4

125	Chicago Bulls	3.333333	23.555556	61.907407	17.500000	19.746296	2
126	Indiana Pacers	5.888889	24.833333	69.574074	43.425926	26.400000	4
127	Charlotte Hornets	6.666667	24.944444	65.518519	47.166667	27.829630	4
128	Toronto Raptors	5.888889	24.388889	52.888889	36.055556	21.451852	3
129	Cleveland Cavaliers	9.333333	28.222222	70.296296	49.814815	28.940741	4
130	New Orleans Pelicans	5.666667	25.888889	63.185185	39.481481	25.044444	4
131	Golden State Warrior	8.666667	28.333333	67.740741	42.111111	26.133333	4
132	SAN ANTONIO	9.333333	30.000000	69.500000	37.611111	23.961111	4
133	Memphis Grizzlies	9.000000	30.000000	58.962963	33.962963	24.051852	4
134	Dallas Mavericks	7.888889	28.111111	63.555556	38.592593	24.577778	3
135	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2
136	Utah Jazz	6.888889	26.333333	66.888889	35.351852	25.062963	3
137	Miami Heat	6.444444	26.277778	60.703704	25.685185	24.709259	3
138	Memphis Grizzlies	9.000000	30.000000	58.962963	33.962963	24.051852	4
139	Charlotte Hornets	6.666667	24.944444	65.518519	47.166667	27.829630	4
140	Indiana Pacers	5.888889	24.833333	69.574074	43.425926	26.400000	4
141	Boston Celtics	4.777778	24.055556	71.611111	38.518519	24.968519	4
142	Oklahoma City Thunder	7.111111	26.666667	65.777778	41.074074	24.174074	4
143	Phoenix Suns	6.555556	26.611111	66.740741	40.425926	26.224074	4
144	Washington Wizards	6.555556	26.333333	66.074074	42.370370	25.207407	4
145	Boston Celtics	4.777778	24.055556	71.611111	38.518519	24.968519	4
146	Miami Heat	6.444444	26.277778	60.703704	25.685185	24.709259	3
147	Brooklyn Nets	4.944444	25.388889	64.185185	30.907407	22.305556	3
148	Milwaukee Bucks	4.222222	23.666667	66.148148	38.407407	24.500000	4
149	Brooklyn Nets	4.944444	25.388889	64.185185	30.907407	22.305556	3
150	New Orleans Pelicans	5.666667	25.888889	63.185185	39.481481	25.044444	4
151	Charlotte Hornets	6.666667	24.944444	65.518519	47.166667	27.829630	4
152	Memphis Grizzlies	9.000000	30.000000	58.962963	33.962963	24.051852	4
153	Oklahoma City Thunder	7.111111	26.666667	65.777778	41.074074	24.174074	4
154	Los Angeles Clippers	8.555556	29.222222	57.925926	33.333333	22.851852	3
155	Chicago Bulls	3.333333	23.555556	61.907407	17.500000	19.746296	2
156	Philadelphia 76ers	4.944444	24.444444	63.425926	39.185185	24.564815	4
157	Dallas Mavericks	7.888889	28.111111	63.555556	38.592593	24.577778	3
158	Los Angeles Lakers	5.611111	25.777778	58.333333	23.481481	19.879630	2
159	Indiana Pacers	5.888889	24.833333	69.574074	43.425926	26.400000	4
160	Minnesota Timberwolves	6.277778	26.555556	73.277778	47.240741	28.029630	4
161	New York Knicks	5.111111	25.055556	63.407407	29.648148	22.685185	3
162	Miami Heat	6.444444	26.277778	60.703704	25.685185	24.709259	3
163	Oklahoma City Thunder	7.111111	26.666667	65.777778	41.074074	24.174074	4
164	Cleveland Cavaliers	9.333333	28.222222	70.296296	49.814815	28.940741	4
165	Philadelphia 76ers	4.944444	24.444444	63.425926	39.185185	24.564815	4
166	New Orleans Pelicans	5.666667	25.888889	63.185185	39.481481	25.044444	4
167	Los Angeles Lakers	5.611111	25.777778	58.333333	23.481481	19.879630	2
168	Charlotte Hornets	6.666667	24.944444	65.518519	47.166667	27.829630	4
169	Indiana Pacers	5.888889	24.833333	69.574074	43.425926	26.400000	4
170	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2
171	Los Angeles Clippers	8.555556	29.222222	57.925926	33.333333	22.851852	3
172	Orlando Magic	4.888889	23.888889	69.759259	27.351852	22.735185	3

173	Brooklyn Nets	4.944444	25.388889	64.185185	30.907407	22.305556	3
174	Milwaukee Bucks	4.222222	23.666667	66.148148	38.407407	24.500000	4
175	Miami Heat	6.444444	26.277778	60.703704	25.685185	24.709259	3
176	Cleveland Cavaliers	9.333333	28.222222	70.296296	49.814815	28.940741	4
177	Orlando Magic	4.888889	23.888889	69.759259	27.351852	22.735185	3
178	Philadelphia 76ers	4.944444	24.444444	63.425926	39.185185	24.564815	4
179	Memphis Grizzlies	9.000000	30.000000	58.962963	33.962963	24.051852	4
180	Los Angeles Lakers	5.611111	25.777778	58.333333	23.481481	19.879630	2
181	Los Angeles Clippers	8.555556	29.222222	57.925926	33.333333	22.851852	3
182	SAN ANTONIO	9.333333	30.000000	69.500000	37.611111	23.961111	4
183	Minnesota Timberwolves	6.277778	26.555556	73.277778	47.240741	28.029630	4
184	Chicago Bulls	3.333333	23.555556	61.907407	17.500000	19.746296	2
185	Brooklyn Nets	4.944444	25.388889	64.185185	30.907407	22.305556	3
186	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2
187	Toronto Raptors	5.888889	24.388889	52.888889	36.055556	21.451852	3
188	Miami Heat	6.444444	26.277778	60.703704	25.685185	24.709259	3
189	Houston Rockets	8.555556	27.833333	67.296296	44.740741	28.214815	4
190	Dallas Mavericks	7.888889	28.111111	63.555556	38.592593	24.577778	3
191	Orlando Magic	4.888889	23.888889	69.759259	27.351852	22.735185	3
192	Philadelphia 76ers	4.944444	24.444444	63.425926	39.185185	24.564815	4
193	Memphis Grizzlies	9.000000	30.000000	58.962963	33.962963	24.051852	4
194	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2
195	Cleveland Cavaliers	9.333333	28.222222	70.296296	49.814815	28.940741	4
196	Los Angeles Lakers	5.611111	25.777778	58.333333	23.481481	19.879630	2
197	Denver Nuggets	6.555556	25.759259	68.833333	39.425926	25.688889	4
198	Minnesota Timberwolves	6.277778	26.555556	73.277778	47.240741	28.029630	4
199	SAN ANTONIO	9.333333	30.000000	69.500000	37.611111	23.961111	4
200	Boston Celtics	4.777778	24.055556	71.611111	38.518519	24.968519	4
201	Sacramento Kings	6.875000	27.187500	66.562500	38.958333	25.272917	3
202	Toronto Raptors	5.888889	24.388889	52.888889	36.055556	21.451852	3
203	SAN ANTONIO	9.333333	30.000000	69.500000	37.611111	23.961111	4
204	Cleveland Cavaliers	9.333333	28.222222	70.296296	49.814815	28.940741	4
205	Philadelphia 76ers	4.944444	24.444444	63.425926	39.185185	24.564815	4
206	Indiana Pacers	5.888889	24.833333	69.574074	43.425926	26.400000	4
207	Washington Wizards	6.555556	26.333333	66.074074	42.370370	25.207407	4
208	Detroit Pistons	5.574074	25.500000	68.574074	38.851852	24.755556	4
209	Sacramento Kings	6.875000	27.187500	66.562500	38.958333	25.272917	3
210	Toronto Raptors	5.888889	24.388889	52.888889	36.055556	21.451852	3
211	Utah Jazz	6.888889	26.333333	66.888889	35.351852	25.062963	3
212	Chicago Bulls	3.333333	23.555556	61.907407	17.500000	19.746296	2
213	Orlando Magic	4.888889	23.888889	69.759259	27.351852	22.735185	3
214	Golden State Warrior	8.666667	28.333333	67.740741	42.111111	26.133333	4
215	Houston Rockets	8.555556	27.833333	67.296296	44.740741	28.214815	4
216	Utah Jazz	6.888889	26.333333	66.888889	35.351852	25.062963	3
217	Charlotte Hornets	6.666667	24.944444	65.518519	47.166667	27.829630	4
218	Los Angeles Clippers	8.555556	29.222222	57.925926	33.333333	22.851852	3
219	Minnesota Timberwolves	6.277778	26.555556	73.277778	47.240741	28.029630	4
220	New Orleans Pelicans	5.666667	25.888889	63.185185	39.481481	25.044444	4

221	Detroit Pistons	5.574074	25.500000	68.574074	38.851852	24.755556	4
222	Phoenix Suns	6.555556	26.611111	66.740741	40.425926	26.224074	4
223	Portland Trail Blazers	5.111111	23.666667	67.814815	33.814815	23.207407	3
224	Oklahoma City Thunder	7.111111	26.666667	65.777778	41.074074	24.174074	4
225	New York Knicks	5.111111	25.055556	63.407407	29.648148	22.685185	3
226	Miami Heat	6.444444	26.277778	60.703704	25.685185	24.709259	3
227	Boston Celtics	4.777778	24.055556	71.611111	38.518519	24.968519	4
228	Los Angeles Clippers	8.555556	29.222222	57.925926	33.333333	22.851852	3
229	Milwaukee Bucks	4.222222	23.666667	66.148148	38.407407	24.500000	4
230	Houston Rockets	8.555556	27.833333	67.296296	44.740741	28.214815	4
231	Utah Jazz	6.888889	26.333333	66.888889	35.351852	25.062963	3
232	Golden State Warrior	8.666667	28.333333	67.740741	42.111111	26.133333	4
233	SAN ANTONIO	9.333333	30.000000	69.500000	37.611111	23.961111	4
234	Golden State Warrior	8.666667	28.333333	67.740741	42.111111	26.133333	4
235	Denver Nuggets	6.555556	25.759259	68.833333	39.425926	25.688889	4
236	Indiana Pacers	5.888889	24.833333	69.574074	43.425926	26.400000	4
237	Detroit Pistons	5.574074	25.500000	68.574074	38.851852	24.755556	4
238	Chicago Bulls	3.333333	23.555556	61.907407	17.500000	19.746296	2
239	Washington Wizards	6.555556	26.333333	66.074074	42.370370	25.207407	4
240	Minnesota Timberwolves	6.277778	26.555556	73.277778	47.240741	28.029630	4
241	Boston Celtics	4.777778	24.055556	71.611111	38.518519	24.968519	4
242	Cleveland Cavaliers	9.333333	28.222222	70.296296	49.814815	28.940741	4
243	Portland Trail Blazers	5.111111	23.666667	67.814815	33.814815	23.207407	3
244	Washington Wizards	6.555556	26.333333	66.074074	42.370370	25.207407	4
245	Oklahoma City Thunder	7.111111	26.666667	65.777778	41.074074	24.174074	4
246	Los Angeles Clippers	8.555556	29.222222	57.925926	33.333333	22.851852	3
247	Indiana Pacers	5.888889	24.833333	69.574074	43.425926	26.400000	4
248	Utah Jazz	6.888889	26.333333	66.888889	35.351852	25.062963	3
249	Denver Nuggets	6.555556	25.759259	68.833333	39.425926	25.688889	4
250	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2
251	Chicago Bulls	3.333333	23.555556	61.907407	17.500000	19.746296	2
252	Los Angeles Clippers	8.555556	29.222222	57.925926	33.333333	22.851852	3
253	Washington Wizards	6.555556	26.333333	66.074074	42.370370	25.207407	4
254	Brooklyn Nets	4.944444	25.388889	64.185185	30.907407	22.305556	3
255	Denver Nuggets	6.555556	25.759259	68.833333	39.425926	25.688889	4
256	Dallas Mavericks	7.888889	28.111111	63.555556	38.592593	24.577778	3
257	Boston Celtics	4.777778	24.055556	71.611111	38.518519	24.968519	4
258	Orlando Magic	4.888889	23.888889	69.759259	27.351852	22.735185	3
259	Sacramento Kings	6.875000	27.187500	66.562500	38.958333	25.272917	3
260	Toronto Raptors	5.888889	24.388889	52.888889	36.055556	21.451852	3
261	Golden State Warrior	8.666667	28.333333	67.740741	42.111111	26.133333	4
262	Portland Trail Blazers	5.111111	23.666667	67.814815	33.814815	23.207407	3
263	Milwaukee Bucks	4.222222	23.666667	66.148148	38.407407	24.500000	4
264	Los Angeles Lakers	5.611111	25.777778	58.333333	23.481481	19.879630	2
265	Chicago Bulls	3.333333	23.555556	61.907407	17.500000	19.746296	2
266	New York Knicks	5.111111	25.055556	63.407407	29.648148	22.685185	3
267	Orlando Magic	4.888889	23.888889	69.759259	27.351852	22.735185	3
268	Portland Trail Blazers	5.111111	23.666667	67.814815	33.814815	23.207407	3

269	Charlotte Hornets	6.666667	24.944444	65.518519	47.166667	27.829630	4
270	Memphis Grizzlies	9.000000	30.000000	58.962963	33.962963	24.051852	4
271	Chicago Bulls	3.333333	23.555556	61.907407	17.500000	19.746296	2
272	Toronto Raptors	5.888889	24.388889	52.888889	36.055556	21.451852	3
273	Miami Heat	6.444444	26.277778	60.703704	25.685185	24.709259	3
274	Detroit Pistons	5.574074	25.500000	68.574074	38.851852	24.755556	4
275	New Orleans Pelicans	5.666667	25.888889	63.185185	39.481481	25.044444	4
276	Toronto Raptors	5.888889	24.388889	52.888889	36.055556	21.451852	3
277	Sacramento Kings	6.875000	27.187500	66.562500	38.958333	25.272917	3
278	Oklahoma City Thunder	7.111111	26.666667	65.777778	41.074074	24.174074	4
279	New Orleans Pelicans	5.666667	25.888889	63.185185	39.481481	25.044444	4
280	New York Knicks	5.111111	25.055556	63.407407	29.648148	22.685185	3
281	Boston Celtics	4.777778	24.055556	71.611111	38.518519	24.968519	4
282	Orlando Magic	4.888889	23.888889	69.759259	27.351852	22.735185	3
283	Los Angeles Clippers	8.555556	29.222222	57.925926	33.333333	22.851852	3
284	Milwaukee Bucks	4.222222	23.666667	66.148148	38.407407	24.500000	4
285	Portland Trail Blazers	5.111111	23.666667	67.814815	33.814815	23.207407	3
286	Miami Heat	6.444444	26.277778	60.703704	25.685185	24.709259	3
287	Brooklyn Nets	4.944444	25.388889	64.185185	30.907407	22.305556	3
288	Phoenix Suns	6.555556	26.611111	66.740741	40.425926	26.224074	4
289	Detroit Pistons	5.574074	25.500000	68.574074	38.851852	24.755556	4
290	SAN ANTONIO	9.333333	30.000000	69.500000	37.611111	23.961111	4
291	Brooklyn Nets	4.944444	25.388889	64.185185	30.907407	22.305556	3
292	Orlando Magic	4.888889	23.888889	69.759259	27.351852	22.735185	3
293	Los Angeles Lakers	5.611111	25.777778	58.333333	23.481481	19.879630	2
294	Portland Trail Blazers	5.111111	23.666667	67.814815	33.814815	23.207407	3
295	Cleveland Cavaliers	9.333333	28.222222	70.296296	49.814815	28.940741	4
296	Dallas Mavericks	7.888889	28.111111	63.555556	38.592593	24.577778	3
297	Phoenix Suns	6.555556	26.611111	66.740741	40.425926	26.224074	4
298	Miami Heat	6.444444	26.277778	60.703704	25.685185	24.709259	3
299	Washington Wizards	6.555556	26.333333	66.074074	42.370370	25.207407	4
300	Milwaukee Bucks	4.222222	23.666667	66.148148	38.407407	24.500000	4
301	Denver Nuggets	6.555556	25.759259	68.833333	39.425926	25.688889	4
302	Brooklyn Nets	4.944444	25.388889	64.185185	30.907407	22.305556	3
303	Phoenix Suns	6.555556	26.611111	66.740741	40.425926	26.224074	4
304	Indiana Pacers	5.888889	24.833333	69.574074	43.425926	26.400000	4
305	Golden State Warrior	8.666667	28.333333	67.740741	42.111111	26.133333	4
306	Minnesota Timberwolves	6.277778	26.555556	73.277778	47.240741	28.029630	4
307	Miami Heat	6.444444	26.277778	60.703704	25.685185	24.709259	3
308	Oklahoma City Thunder	7.111111	26.666667	65.777778	41.074074	24.174074	4
309	Washington Wizards	6.555556	26.333333	66.074074	42.370370	25.207407	4
310	Memphis Grizzlies	9.000000	30.000000	58.962963	33.962963	24.051852	4
311	Charlotte Hornets	6.666667	24.944444	65.518519	47.166667	27.829630	4
312	Cleveland Cavaliers	9.333333	28.222222	70.296296	49.814815	28.940741	4
313	Philadelphia 76ers	4.944444	24.444444	63.425926	39.185185	24.564815	4
314	Chicago Bulls	3.333333	23.555556	61.907407	17.500000	19.746296	2
315	Utah Jazz	6.888889	26.333333	66.888889	35.351852	25.062963	3
316	Milwaukee Bucks	4.222222	23.666667	66.148148	38.407407	24.500000	4

317	SAN ANTONIO	9.333333	30.000000	69.500000	37.611111	23.961111	4
318	Sacramento Kings	6.875000	27.187500	66.562500	38.958333	25.272917	3
319	Charlotte Hornets	6.666667	24.944444	65.518519	47.166667	27.829630	4
320	Minnesota Timberwolves	6.277778	26.555556	73.277778	47.240741	28.029630	4
321	Golden State Warrior	8.666667	28.333333	67.740741	42.111111	26.133333	4
322	Indiana Pacers	5.888889	24.833333	69.574074	43.425926	26.400000	4
323	New Orleans Pelicans	5.666667	25.888889	63.185185	39.481481	25.044444	4
324	Detroit Pistons	5.574074	25.500000	68.574074	38.851852	24.755556	4
325	Phoenix Suns	6.555556	26.611111	66.740741	40.425926	26.224074	4
326	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2
327	Memphis Grizzlies	9.000000	30.000000	58.962963	33.962963	24.051852	4
328	Los Angeles Clippers	8.555556	29.222222	57.925926	33.333333	22.851852	3
329	Los Angeles Lakers	5.611111	25.777778	58.333333	23.481481	19.879630	2
330	SAN ANTONIO	9.333333	30.000000	69.500000	37.611111	23.961111	4
331	Detroit Pistons	5.574074	25.500000	68.574074	38.851852	24.755556	4
332	New Orleans Pelicans	5.666667	25.888889	63.185185	39.481481	25.044444	4
333	Houston Rockets	8.555556	27.833333	67.296296	44.740741	28.214815	4
334	Golden State Warrior	8.666667	28.333333	67.740741	42.111111	26.133333	4
335	Los Angeles Clippers	8.555556	29.222222	57.925926	33.333333	22.851852	3
336	Orlando Magic	4.888889	23.888889	69.759259	27.351852	22.735185	3
337	Sacramento Kings	6.875000	27.187500	66.562500	38.958333	25.272917	3
338	Brooklyn Nets	4.944444	25.388889	64.185185	30.907407	22.305556	3
339	Milwaukee Bucks	4.222222	23.666667	66.148148	38.407407	24.500000	4
340	Cleveland Cavaliers	9.333333	28.222222	70.296296	49.814815	28.940741	4
341	Orlando Magic	4.888889	23.888889	69.759259	27.351852	22.735185	3
342	Denver Nuggets	6.555556	25.759259	68.833333	39.425926	25.688889	4
343	New York Knicks	5.111111	25.055556	63.407407	29.648148	22.685185	3
344	Minnesota Timberwolves	6.277778	26.555556	73.277778	47.240741	28.029630	4
345	Golden State Warrior	8.666667	28.333333	67.740741	42.111111	26.133333	4
346	Phoenix Suns	6.555556	26.611111	66.740741	40.425926	26.224074	4
347	Detroit Pistons	5.574074	25.500000	68.574074	38.851852	24.755556	4
348	Washington Wizards	6.555556	26.333333	66.074074	42.370370	25.207407	4
349	Utah Jazz	6.888889	26.333333	66.888889	35.351852	25.062963	3
350	Washington Wizards	6.555556	26.333333	66.074074	42.370370	25.207407	4
351	Phoenix Suns	6.555556	26.611111	66.740741	40.425926	26.224074	4
352	Dallas Mavericks	7.888889	28.111111	63.555556	38.592593	24.577778	3
353	Golden State Warrior	8.666667	28.333333	67.740741	42.111111	26.133333	4
354	SAN ANTONIO	9.333333	30.000000	69.500000	37.611111	23.961111	4
355	Chicago Bulls	3.333333	23.555556	61.907407	17.500000	19.746296	2
356	Minnesota Timberwolves	6.277778	26.555556	73.277778	47.240741	28.029630	4
357	Detroit Pistons	5.574074	25.500000	68.574074	38.851852	24.755556	4
358	Denver Nuggets	6.555556	25.759259	68.833333	39.425926	25.688889	4
359	Memphis Grizzlies	9.000000	30.000000	58.962963	33.962963	24.051852	4
360	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2
361	Miami Heat	6.444444	26.277778	60.703704	25.685185	24.709259	3
362	Oklahoma City Thunder	7.111111	26.666667	65.777778	41.074074	24.174074	4
363	Los Angeles Lakers	5.611111	25.777778	58.333333	23.481481	19.879630	2
364	Washington Wizards	6.555556	26.333333	66.074074	42.370370	25.207407	4



365	Houston Rockets	8.555556	27.833333	67.296296	44.740741	28.214815	4
366	Chicago Bulls	3.333333	23.555556	61.907407	17.500000	19.746296	2
367	Golden State Warrior	8.666667	28.333333	67.740741	42.111111	26.133333	4
368	Cleveland Cavaliers	9.333333	28.222222	70.296296	49.814815	28.940741	4
369	Toronto Raptors	5.888889	24.388889	52.888889	36.055556	21.451852	3
370	Dallas Mavericks	7.888889	28.111111	63.555556	38.592593	24.577778	3
371	SAN ANTONIO	9.333333	30.000000	69.500000	37.611111	23.961111	4
372	Denver Nuggets	6.555556	25.759259	68.833333	39.425926	25.688889	4
373	Boston Celtics	4.777778	24.055556	71.611111	38.518519	24.968519	4
374	Orlando Magic	4.888889	23.888889	69.759259	27.351852	22.735185	3
375	Miami Heat	6.444444	26.277778	60.703704	25.685185	24.709259	3
376	New York Knicks	5.111111	25.055556	63.407407	29.648148	22.685185	3
377	Los Angeles Lakers	5.611111	25.777778	58.333333	23.481481	19.879630	2
378	Philadelphia 76ers	4.944444	24.444444	63.425926	39.185185	24.564815	4
379	Washington Wizards	6.555556	26.333333	66.074074	42.370370	25.207407	4
380	Oklahoma City Thunder	7.111111	26.666667	65.777778	41.074074	24.174074	4
381	Utah Jazz	6.888889	26.333333	66.888889	35.351852	25.062963	3
382	Sacramento Kings	6.875000	27.187500	66.562500	38.958333	25.272917	3
383	Houston Rockets	8.555556	27.833333	67.296296	44.740741	28.214815	4
384	Boston Celtics	4.777778	24.055556	71.611111	38.518519	24.968519	4
385	Denver Nuggets	6.555556	25.759259	68.833333	39.425926	25.688889	4
386	Dallas Mavericks	7.888889	28.111111	63.555556	38.592593	24.577778	3
387	Philadelphia 76ers	4.944444	24.444444	63.425926	39.185185	24.564815	4
388	Atlanta Hawks	4.722222	25.666667	67.222222	21.074074	19.088889	2
389	Toronto Raptors	5.888889	24.388889	52.888889	36.055556	21.451852	3

```
In [169]: for index, row in final.iterrows():
            #print(row)
            if row.Prediction == 0:
                print('In the Match between '+row.Team_A+' and '+ row.Team_B+ ' :>> '+row.Prediction)
            if row.Prediction == 1:
                print('In the Match between '+row.Team_A+' and '+ row.Team_B+ ' :>> '+row.Prediction)

            # Threat vulnerability impact/consequences probability action
```

```
In the Match between Boston Celtics and Cleveland Cavaliers :>> Boston Celtics will loose
In the Match between Houston Rockets and Golden State Warrior :>> Houston Rockets will win
In the Match between Milwaukee Bucks and Boston Celtics :>> Milwaukee Bucks will loose !
In the Match between Atlanta Hawks and Dallas Mavericks :>> Atlanta Hawks will loose !
In the Match between Charlotte Hornets and Detroit Pistons :>> Charlotte Hornets will loose
In the Match between Brooklyn Nets and Indiana Pacers :>> Brooklyn Nets will loose !
In the Match between New Orleans Pelicans and Memphis Grizzlies :>> New Orleans Pelicans will win
In the Match between Miami Heat and Orlando Magic :>> Miami Heat will win !
In the Match between Portland Trail Blazers and Phoenix Suns :>> Portland Trail Blazers will win
In the Match between Houston Rockets and SAN ANTONIO :>> Houston Rockets will win !
In the Match between Minnesota Timberwolves and Sacramento Kings :>> Minnesota Timberwolves will win
In the Match between Denver Nuggets and Utah Jazz :>> Denver Nuggets will loose !
In the Match between Philadelphia 76ers and Washington Wizards :>> Philadelphia 76ers will win
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In the Match between Los Angeles Clippers and Los Angeles Lakers :>> Los Angeles Clippers will loose !  
 In the Match between New York Knicks and Oklahoma City Thunder :>> New York Knicks will loose !  
 In the Match between Chicago Bulls and Toronto Raptors :>> Chicago Bulls will loose !  
 In the Match between Orlando Magic and Brooklyn Nets :>> Orlando Magic will loose !  
 In the Match between Atlanta Hawks and Charlotte Hornets :>> Atlanta Hawks will loose !  
 In the Match between SAN ANTONIO and Dallas Mavericks :>> SAN ANTONIO will loose !  
 In the Match between Portland Trail Blazers and Indiana Pacers :>> Portland Trail Blazers will loose !  
 In the Match between Cleveland Cavaliers and Milwaukee Bucks :>> Cleveland Cavaliers will loose !  
 In the Match between Utah Jazz and Minnesota Timberwolves :>> Utah Jazz will loose !  
 In the Match between Golden State Warrior and New Orleans Pelicans :>> Golden State Warrior will loose !  
 In the Match between Boston Celtics and Philadelphia 76ers :>> Boston Celtics will win !  
 In the Match between Los Angeles Lakers and Phoenix Suns :>> Los Angeles Lakers will loose !  
 In the Match between Detroit Pistons and Washington Wizards :>> Detroit Pistons will loose !  
 In the Match between Sacramento Kings and Chicago Bulls :>> Sacramento Kings will win !  
 In the Match between Orlando Magic and Cleveland Cavaliers :>> Orlando Magic will loose !  
 In the Match between SAN ANTONIO and Denver Nuggets :>> SAN ANTONIO will loose !  
 In the Match between Dallas Mavericks and Houston Rockets :>> Dallas Mavericks will loose !  
 In the Match between Phoenix Suns and Los Angeles Clippers :>> Phoenix Suns will loose !  
 In the Match between Golden State Warrior and Memphis Grizzlies :>> Golden State Warrior will loose !  
 In the Match between Indiana Pacers and Miami Heat :>> Indiana Pacers will win !  
 In the Match between Portland Trail Blazers and Milwaukee Bucks :>> Portland Trail Blazers will loose !  
 In the Match between Detroit Pistons and New York Knicks :>> Detroit Pistons will win !  
 In the Match between Philadelphia 76ers and Toronto Raptors :>> Philadelphia 76ers will loose !  
 In the Match between Oklahoma City Thunder and Utah Jazz :>> Oklahoma City Thunder will loose !  
 In the Match between Atlanta Hawks and Brooklyn Nets :>> Atlanta Hawks will loose !  
 In the Match between New Orleans Pelicans and Los Angeles Lakers :>> New Orleans Pelicans will loose !  
 In the Match between Minnesota Timberwolves and Oklahoma City Thunder :>> Minnesota Timberwolves will loose !  
 In the Match between Golden State Warrior and Dallas Mavericks :>> Golden State Warrior will loose !  
 In the Match between Washington Wizards and Denver Nuggets :>> Washington Wizards will win !  
 In the Match between Philadelphia 76ers and Detroit Pistons :>> Philadelphia 76ers will loose !  
 In the Match between Memphis Grizzlies and Houston Rockets :>> Memphis Grizzlies will loose !  
 In the Match between Atlanta Hawks and Miami Heat :>> Atlanta Hawks will loose !  
 In the Match between Charlotte Hornets and Milwaukee Bucks :>> Charlotte Hornets will loose !  
 In the Match between SAN ANTONIO and Phoenix Suns :>> SAN ANTONIO will loose !  
 In the Match between Toronto Raptors and Sacramento Kings :>> Toronto Raptors will win !  
 In the Match between New York Knicks and Boston Celtics :>> New York Knicks will loose !  
 In the Match between Chicago Bulls and Cleveland Cavaliers :>> Chicago Bulls will loose !  
 In the Match between Utah Jazz and Los Angeles Clippers :>> Utah Jazz will loose !  
 In the Match between Indiana Pacers and Minnesota Timberwolves :>> Indiana Pacers will loose !  
 In the Match between Brooklyn Nets and Orlando Magic :>> Brooklyn Nets will loose !  
 In the Match between New Orleans Pelicans and Portland Trail Blazers :>> New Orleans Pelicans will loose !  
 In the Match between Cleveland Cavaliers and Brooklyn Nets :>> Cleveland Cavaliers will loose !  
 In the Match between Denver Nuggets and Charlotte Hornets :>> Denver Nuggets will loose !  
 In the Match between Memphis Grizzlies and Dallas Mavericks :>> Memphis Grizzlies will loose !  
 In the Match between Minnesota Timberwolves and Detroit Pistons :>> Minnesota Timberwolves will loose !  
 In the Match between Toronto Raptors and Golden State Warrior :>> Toronto Raptors will loose !  
 In the Match between Washington Wizards and Los Angeles Lakers :>> Washington Wizards will loose !  
 In the Match between Sacramento Kings and Miami Heat :>> Sacramento Kings will loose !

In the Match between Indiana Pacers and Oklahoma City Thunder :>> Indiana Pacers will loose !  
 In the Match between Houston Rockets and Philadelphia 76ers :>> Houston Rockets will win !  
 In the Match between Utah Jazz and Phoenix Suns :>> Utah Jazz will loose !  
 In the Match between Atlanta Hawks and Chicago Bulls :>> Atlanta Hawks will loose !  
 In the Match between Dallas Mavericks and Memphis Grizzlies :>> Dallas Mavericks will loose !  
 In the Match between Boston Celtics and Milwaukee Bucks :>> Boston Celtics will win !  
 In the Match between Los Angeles Clippers and Portland Trail Blazers :>> Los Angeles Clippers will win !  
 In the Match between New Orleans Pelicans and SAN ANTONIO :>> New Orleans Pelicans will win !  
 In the Match between Denver Nuggets and Atlanta Hawks :>> Denver Nuggets will win !  
 In the Match between Houston Rockets and Charlotte Hornets :>> Houston Rockets will win !  
 In the Match between Washington Wizards and Golden State Warrior :>> Washington Wizards will win !  
 In the Match between Toronto Raptors and Los Angeles Lakers :>> Toronto Raptors will win !  
 In the Match between Oklahoma City Thunder and Minnesota Timberwolves :>> Oklahoma City Thunder will win !  
 In the Match between Brooklyn Nets and New York Knicks :>> Brooklyn Nets will loose !  
 In the Match between Sacramento Kings and Orlando Magic :>> Sacramento Kings will loose !  
 In the Match between Oklahoma City Thunder and Chicago Bulls :>> Oklahoma City Thunder will win !  
 In the Match between Philadelphia 76ers and Dallas Mavericks :>> Philadelphia 76ers will win !  
 In the Match between Detroit Pistons and Los Angeles Clippers :>> Detroit Pistons will win !  
 In the Match between Houston Rockets and Memphis Grizzlies :>> Houston Rockets will win !  
 In the Match between Boston Celtics and Miami Heat :>> Boston Celtics will win !  
 In the Match between Cleveland Cavaliers and New Orleans Pelicans :>> Cleveland Cavaliers will win !  
 In the Match between Phoenix Suns and Portland Trail Blazers :>> Phoenix Suns will loose !  
 In the Match between Los Angeles Lakers and Utah Jazz :>> Los Angeles Lakers will loose !  
 In the Match between Milwaukee Bucks and Atlanta Hawks :>> Milwaukee Bucks will win !  
 In the Match between Denver Nuggets and Brooklyn Nets :>> Denver Nuggets will loose !  
 In the Match between Orlando Magic and Charlotte Hornets :>> Orlando Magic will loose !  
 In the Match between New York Knicks and Cleveland Cavaliers :>> New York Knicks will loose !  
 In the Match between Detroit Pistons and Golden State Warrior :>> Detroit Pistons will loose !  
 In the Match between Sacramento Kings and Indiana Pacers :>> Sacramento Kings will loose !  
 In the Match between Washington Wizards and SAN ANTONIO :>> Washington Wizards will win !  
 In the Match between Sacramento Kings and Boston Celtics :>> Sacramento Kings will loose !  
 In the Match between Philadelphia 76ers and Houston Rockets :>> Philadelphia 76ers will win !  
 In the Match between Golden State Warrior and Los Angeles Clippers :>> Golden State Warrior will win !  
 In the Match between Charlotte Hornets and Memphis Grizzlies :>> Charlotte Hornets will win !  
 In the Match between Minnesota Timberwolves and Miami Heat :>> Minnesota Timberwolves will win !  
 In the Match between Orlando Magic and New Orleans Pelicans :>> Orlando Magic will loose !  
 In the Match between Denver Nuggets and New York Knicks :>> Denver Nuggets will loose !  
 In the Match between Toronto Raptors and Portland Trail Blazers :>> Toronto Raptors will win !  
 In the Match between Dallas Mavericks and Utah Jazz :>> Dallas Mavericks will loose !  
 In the Match between Phoenix Suns and Brooklyn Nets :>> Phoenix Suns will win !  
 In the Match between SAN ANTONIO and Indiana Pacers :>> SAN ANTONIO will loose !  
 In the Match between Detroit Pistons and Los Angeles Lakers :>> Detroit Pistons will win !  
 In the Match between Oklahoma City Thunder and Milwaukee Bucks :>> Oklahoma City Thunder will win !  
 In the Match between SAN ANTONIO and Boston Celtics :>> SAN ANTONIO will loose !  
 In the Match between Milwaukee Bucks and Charlotte Hornets :>> Milwaukee Bucks will loose !  
 In the Match between Indiana Pacers and Cleveland Cavaliers :>> Indiana Pacers will loose !  
 In the Match between Toronto Raptors and Denver Nuggets :>> Toronto Raptors will loose !  
 In the Match between Dallas Mavericks and Los Angeles Clippers :>> Dallas Mavericks will win !

In the Match between Orlando Magic and Memphis Grizzlies :>> Orlando Magic will loose !  
 In the Match between Chicago Bulls and Miami Heat :>> Chicago Bulls will loose !  
 In the Match between Minnesota Timberwolves and New Orleans Pelicans :>> Minnesota Timberwolves will loose !  
 In the Match between Houston Rockets and New York Knicks :>> Houston Rockets will win !  
 In the Match between Atlanta Hawks and Philadelphia 76ers :>> Atlanta Hawks will loose !  
 In the Match between Portland Trail Blazers and Utah Jazz :>> Portland Trail Blazers will loose !  
 In the Match between Phoenix Suns and Washington Wizards :>> Phoenix Suns will loose !  
 In the Match between Los Angeles Lakers and Portland Trail Blazers :>> Los Angeles Lakers will loose !  
 In the Match between Golden State Warrior and Sacramento Kings :>> Golden State Warrior will loose !  
 In the Match between Houston Rockets and Atlanta Hawks :>> Houston Rockets will win !  
 In the Match between New Orleans Pelicans and Dallas Mavericks :>> New Orleans Pelicans will loose !  
 In the Match between Miami Heat and Denver Nuggets :>> Miami Heat will loose !  
 In the Match between Milwaukee Bucks and Detroit Pistons :>> Milwaukee Bucks will loose !  
 In the Match between Brooklyn Nets and Los Angeles Lakers :>> Brooklyn Nets will loose !  
 In the Match between Phoenix Suns and New York Knicks :>> Phoenix Suns will loose !  
 In the Match between Boston Celtics and Oklahoma City Thunder :>> Boston Celtics will win !  
 In the Match between Chicago Bulls and Orlando Magic :>> Chicago Bulls will loose !  
 In the Match between Indiana Pacers and Philadelphia 76ers :>> Indiana Pacers will loose !  
 In the Match between Charlotte Hornets and Sacramento Kings :>> Charlotte Hornets will loose !  
 In the Match between Toronto Raptors and Utah Jazz :>> Toronto Raptors will win !  
 In the Match between Cleveland Cavaliers and Washington Wizards :>> Cleveland Cavaliers will loose !  
 In the Match between New Orleans Pelicans and Chicago Bulls :>> New Orleans Pelicans will loose !  
 In the Match between Golden State Warrior and Denver Nuggets :>> Golden State Warrior will loose !  
 In the Match between SAN ANTONIO and Detroit Pistons :>> SAN ANTONIO will loose !  
 In the Match between Memphis Grizzlies and Los Angeles Clippers :>> Memphis Grizzlies will loose !  
 In the Match between Dallas Mavericks and Minnesota Timberwolves :>> Dallas Mavericks will loose !  
 In the Match between Atlanta Hawks and Cleveland Cavaliers :>> Atlanta Hawks will loose !  
 In the Match between Utah Jazz and Houston Rockets :>> Utah Jazz will loose !  
 In the Match between Miami Heat and Los Angeles Clippers :>> Miami Heat will win !  
 In the Match between Memphis Grizzlies and Los Angeles Lakers :>> Memphis Grizzlies will loose !  
 In the Match between Charlotte Hornets and Minnesota Timberwolves :>> Charlotte Hornets will loose !  
 In the Match between Indiana Pacers and New York Knicks :>> Indiana Pacers will win !  
 In the Match between Boston Celtics and Orlando Magic :>> Boston Celtics will win !  
 In the Match between Oklahoma City Thunder and Portland Trail Blazers :>> Oklahoma City Thunder will loose !  
 In the Match between Phoenix Suns and Sacramento Kings :>> Phoenix Suns will loose !  
 In the Match between Washington Wizards and Toronto Raptors :>> Washington Wizards will loose !  
 In the Match between Boston Celtics and Atlanta Hawks :>> Boston Celtics will win !  
 In the Match between Miami Heat and Golden State Warrior :>> Miami Heat will loose !  
 In the Match between Brooklyn Nets and Phoenix Suns :>> Brooklyn Nets will loose !  
 In the Match between Milwaukee Bucks and Cleveland Cavaliers :>> Milwaukee Bucks will loose !  
 In the Match between Brooklyn Nets and Denver Nuggets :>> Brooklyn Nets will loose !  
 In the Match between New Orleans Pelicans and Indiana Pacers :>> New Orleans Pelicans will loose !  
 In the Match between Charlotte Hornets and New York Knicks :>> Charlotte Hornets will loose !  
 In the Match between Memphis Grizzlies and Portland Trail Blazers :>> Memphis Grizzlies will loose !  
 In the Match between Oklahoma City Thunder and SAN ANTONIO :>> Oklahoma City Thunder will loose !  
 In the Match between Los Angeles Clippers and Sacramento Kings :>> Los Angeles Clippers will loose !  
 In the Match between Chicago Bulls and Toronto Raptors :>> Chicago Bulls will loose !  
 In the Match between Philadelphia 76ers and Utah Jazz :>> Philadelphia 76ers will win !

In the Match between Dallas Mavericks and Washington Wizards :>> Dallas Mavericks will loose !  
 In the Match between Los Angeles Lakers and Boston Celtics :>> Los Angeles Lakers will loose !  
 In the Match between Indiana Pacers and Detroit Pistons :>> Indiana Pacers will loose !  
 In the Match between Minnesota Timberwolves and Golden State Warrior :>> Minnesota Timberwolves will loose !  
 In the Match between New York Knicks and Orlando Magic :>> New York Knicks will loose !  
 In the Match between Miami Heat and Phoenix Suns :>> Miami Heat will win !  
 In the Match between Oklahoma City Thunder and Denver Nuggets :>> Oklahoma City Thunder will loose !  
 In the Match between Cleveland Cavaliers and Houston Rockets :>> Cleveland Cavaliers will loose !  
 In the Match between Philadelphia 76ers and SAN ANTONIO :>> Philadelphia 76ers will win !  
 In the Match between New Orleans Pelicans and Toronto Raptors :>> New Orleans Pelicans will loose !  
 In the Match between Los Angeles Lakers and Washington Wizards :>> Los Angeles Lakers will loose !  
 In the Match between Charlotte Hornets and Boston Celtics :>> Charlotte Hornets will loose !  
 In the Match between Indiana Pacers and Chicago Bulls :>> Indiana Pacers will win !  
 In the Match between Atlanta Hawks and Detroit Pistons :>> Atlanta Hawks will loose !  
 In the Match between Los Angeles Clippers and Oklahoma City Thunder :>> Los Angeles Clippers will loose !  
 In the Match between Orlando Magic and Phoenix Suns :>> Orlando Magic will loose !  
 In the Match between Brooklyn Nets and Portland Trail Blazers :>> Brooklyn Nets will loose !  
 In the Match between Milwaukee Bucks and Sacramento Kings :>> Milwaukee Bucks will win !  
 In the Match between Miami Heat and Utah Jazz :>> Miami Heat will loose !  
 In the Match between Cleveland Cavaliers and Dallas Mavericks :>> Cleveland Cavaliers will loose !  
 In the Match between Orlando Magic and Denver Nuggets :>> Orlando Magic will loose !  
 In the Match between Philadelphia 76ers and Golden State Warrior :>> Philadelphia 76ers will loose !  
 In the Match between Memphis Grizzlies and Houston Rockets :>> Memphis Grizzlies will loose !  
 In the Match between Los Angeles Lakers and Milwaukee Bucks :>> Los Angeles Lakers will loose !  
 In the Match between Los Angeles Clippers and New Orleans Pelicans :>> Los Angeles Clippers will loose !  
 In the Match between SAN ANTONIO and New York Knicks :>> SAN ANTONIO will loose !  
 In the Match between Minnesota Timberwolves and Phoenix Suns :>> Minnesota Timberwolves will loose !  
 In the Match between Chicago Bulls and Sacramento Kings :>> Chicago Bulls will loose !  
 In the Match between Brooklyn Nets and Utah Jazz :>> Brooklyn Nets will loose !  
 In the Match between Atlanta Hawks and Washington Wizards :>> Atlanta Hawks will loose !  
 In the Match between Toronto Raptors and Boston Celtics :>> Toronto Raptors will win !  
 In the Match between Miami Heat and Detroit Pistons :>> Miami Heat will loose !  
 In the Match between Houston Rockets and Indiana Pacers :>> Houston Rockets will win !  
 In the Match between Dallas Mavericks and Oklahoma City Thunder :>> Dallas Mavericks will loose !  
 In the Match between Orlando Magic and Golden State Warrior :>> Orlando Magic will loose !  
 In the Match between Philadelphia 76ers and Los Angeles Clippers :>> Philadelphia 76ers will loose !  
 In the Match between Memphis Grizzlies and Milwaukee Bucks :>> Memphis Grizzlies will loose !  
 In the Match between Atlanta Hawks and New Orleans Pelicans :>> Atlanta Hawks will loose !  
 In the Match between Cleveland Cavaliers and New York Knicks :>> Cleveland Cavaliers will loose !  
 In the Match between Los Angeles Lakers and Phoenix Suns :>> Los Angeles Lakers will loose !  
 In the Match between Denver Nuggets and Portland Trail Blazers :>> Denver Nuggets will loose !  
 In the Match between Minnesota Timberwolves and Utah Jazz :>> Minnesota Timberwolves will loose !  
 In the Match between SAN ANTONIO and Washington Wizards :>> SAN ANTONIO will loose !  
 In the Match between Boston Celtics and Brooklyn Nets :>> Boston Celtics will win !  
 In the Match between Sacramento Kings and Dallas Mavericks :>> Sacramento Kings will loose !  
 In the Match between Toronto Raptors and Houston Rockets :>> Toronto Raptors will win !  
 In the Match between SAN ANTONIO and Atlanta Hawks :>> SAN ANTONIO will loose !  
 In the Match between Cleveland Cavaliers and Charlotte Hornets :>> Cleveland Cavaliers will loose !

In the Match between Philadelphia 76ers and Los Angeles Lakers :>> Philadelphia 76ers will  
 In the Match between Indiana Pacers and Memphis Grizzlies :>> Indiana Pacers will win !  
 In the Match between Washington Wizards and Miami Heat :>> Washington Wizards will win !  
 In the Match between Detroit Pistons and Milwaukee Bucks :>> Detroit Pistons will loose  
 In the Match between Sacramento Kings and Minnesota Timberwolves :>> Sacramento Kings wi  
 In the Match between Toronto Raptors and New Orleans Pelicans :>> Toronto Raptors will win  
 In the Match between Utah Jazz and New York Knicks :>> Utah Jazz will loose !  
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 In the Match between Golden State Warrior and Boston Celtics :>> Golden State Warrior will  
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 In the Match between Utah Jazz and Brooklyn Nets :>> Utah Jazz will loose !  
 In the Match between Charlotte Hornets and Chicago Bulls :>> Charlotte Hornets will loose  
 In the Match between Los Angeles Clippers and Cleveland Cavaliers :>> Los Angeles Clipper  
 In the Match between Minnesota Timberwolves and Dallas Mavericks :>> Minnesota Timberwolv  
 In the Match between New Orleans Pelicans and Denver Nuggets :>> New Orleans Pelicans wi  
 In the Match between Detroit Pistons and Indiana Pacers :>> Detroit Pistons will loose !  
 In the Match between Phoenix Suns and Los Angeles Lakers :>> Phoenix Suns will win !  
 In the Match between Portland Trail Blazers and SAN ANTONIO :>> Portland Trail Blazers w  
 In the Match between Oklahoma City Thunder and Sacramento Kings :>> Oklahoma City Thunde  
 In the Match between New York Knicks and Toronto Raptors :>> New York Knicks will loose  
 In the Match between Miami Heat and Washington Wizards :>> Miami Heat will loose !  
 In the Match between Boston Celtics and Atlanta Hawks :>> Boston Celtics will win !  
 In the Match between Los Angeles Clippers and Charlotte Hornets :>> Los Angeles Clippers  
 In the Match between Milwaukee Bucks and Dallas Mavericks :>> Milwaukee Bucks will win !  
 In the Match between Houston Rockets and Memphis Grizzlies :>> Houston Rockets will win !  
 In the Match between Utah Jazz and Orlando Magic :>> Utah Jazz will loose !  
 In the Match between Golden State Warrior and Philadelphia 76ers :>> Golden State Warrior  
 In the Match between SAN ANTONIO and Portland Trail Blazers :>> SAN ANTONIO will loose !  
 In the Match between Golden State Warrior and Brooklyn Nets :>> Golden State Warrior will  
 In the Match between Denver Nuggets and Los Angeles Lakers :>> Denver Nuggets will win !  
 In the Match between Indiana Pacers and Miami Heat :>> Indiana Pacers will win !  
 In the Match between Detroit Pistons and Minnesota Timberwolves :>> Detroit Pistons will  
 In the Match between Chicago Bulls and Phoenix Suns :>> Chicago Bulls will loose !  
 In the Match between Washington Wizards and Toronto Raptors :>> Washington Wizards will  
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 In the Match between Boston Celtics and Dallas Mavericks :>> Boston Celtics will win !  
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 In the Match between Oklahoma City Thunder and New Orleans Pelicans :>> Oklahoma City Th  
 In the Match between Los Angeles Clippers and New York Knicks :>> Los Angeles Clippers w  
 In the Match between Indiana Pacers and Orlando Magic :>> Indiana Pacers will win !  
 In the Match between Utah Jazz and Philadelphia 76ers :>> Utah Jazz will loose !  
 In the Match between Denver Nuggets and SAN ANTONIO :>> Denver Nuggets will loose !  
 In the Match between Atlanta Hawks and Sacramento Kings :>> Atlanta Hawks will loose !  
 In the Match between Chicago Bulls and Los Angeles Lakers :>> Chicago Bulls will loose !  
 In the Match between Los Angeles Clippers and Atlanta Hawks :>> Los Angeles Clippers wil

In the Match between Washington Wizards and Charlotte Hornets :>> Washington Wizards will loose !  
 In the Match between Brooklyn Nets and Cleveland Cavaliers :>> Brooklyn Nets will loose !  
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 In the Match between Toronto Raptors and New York Knicks :>> Toronto Raptors will win !  
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 In the Match between Portland Trail Blazers and Philadelphia 76ers :>> Portland Trail Blazers will loose !  
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 In the Match between Portland Trail Blazers and Brooklyn Nets :>> Portland Trail Blazers will loose !  
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 In the Match between Memphis Grizzlies and Denver Nuggets :>> Memphis Grizzlies will loose !  
 In the Match between Chicago Bulls and Golden State Warrior :>> Chicago Bulls will loose !  
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 In the Match between New Orleans Pelicans and Phoenix Suns :>> New Orleans Pelicans will loose !  
 In the Match between Toronto Raptors and Atlanta Hawks :>> Toronto Raptors will win !  
 In the Match between Sacramento Kings and Charlotte Hornets :>> Sacramento Kings will loose !  
 In the Match between Oklahoma City Thunder and Dallas Mavericks :>> Oklahoma City Thunder will loose !  
 In the Match between New Orleans Pelicans and Golden State Warrior :>> New Orleans Pelicans will loose !  
 In the Match between New York Knicks and Houston Rockets :>> New York Knicks will loose !  
 In the Match between Boston Celtics and Indiana Pacers :>> Boston Celtics will win !  
 In the Match between Orlando Magic and Philadelphia 76ers :>> Orlando Magic will loose !  
 In the Match between Los Angeles Clippers and SAN ANTONIO :>> Los Angeles Clippers will loose !  
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 In the Match between SAN ANTONIO and Golden State Warrior :>> SAN ANTONIO will loose !  
 In the Match between Brooklyn Nets and Houston Rockets :>> Brooklyn Nets will loose !  
 In the Match between Orlando Magic and Indiana Pacers :>> Orlando Magic will loose !  
 In the Match between Los Angeles Lakers and Los Angeles Clippers :>> Los Angeles Lakers will loose !  
 In the Match between Portland Trail Blazers and New York Knicks :>> Portland Trail Blazers will loose !  
 In the Match between Cleveland Cavaliers and Philadelphia 76ers :>> Cleveland Cavaliers will loose !  
 In the Match between Dallas Mavericks and Sacramento Kings :>> Dallas Mavericks will loose !  
 In the Match between Phoenix Suns and Chicago Bulls :>> Phoenix Suns will win !  
 In the Match between Miami Heat and Cleveland Cavaliers :>> Miami Heat will loose !  
 In the Match between Washington Wizards and Minnesota Timberwolves :>> Washington Wizards will loose !  
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In the Match between Denver Nuggets and Utah Jazz :>> Denver Nuggets will loose !  
 In the Match between Brooklyn Nets and Dallas Mavericks :>> Brooklyn Nets will loose !  
 In the Match between Phoenix Suns and Detroit Pistons :>> Phoenix Suns will loose !  
 In the Match between Indiana Pacers and Houston Rockets :>> Indiana Pacers will win !  
 In the Match between Golden State Warrior and Los Angeles Lakers :>> Golden State Warrior  
 In the Match between Minnesota Timberwolves and New Orleans Pelicans :>> Minnesota Timber  
 In the Match between Miami Heat and New York Knicks :>> Miami Heat will win !  
 In the Match between Oklahoma City Thunder and Orlando Magic :>> Oklahoma City Thunder w  
 In the Match between Washington Wizards and Philadelphia 76ers :>> Washington Wizards wi  
 In the Match between Memphis Grizzlies and Sacramento Kings :>> Memphis Grizzlies will lo  
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 In the Match between Cleveland Cavaliers and Atlanta Hawks :>> Cleveland Cavaliers will w  
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 In the Match between Chicago Bulls and Denver Nuggets :>> Chicago Bulls will loose !  
 In the Match between Utah Jazz and Los Angeles Clippers :>> Utah Jazz will loose !  
 In the Match between Milwaukee Bucks and Portland Trail Blazers :>> Milwaukee Bucks will  
 In the Match between SAN ANTONIO and Chicago Bulls :>> SAN ANTONIO will loose !  
 In the Match between Sacramento Kings and Memphis Grizzlies :>> Sacramento Kings will lo  
 In the Match between Charlotte Hornets and Miami Heat :>> Charlotte Hornets will loose !  
 In the Match between Minnesota Timberwolves and Oklahoma City Thunder :>> Minnesota Timber  
 In the Match between Golden State Warrior and Orlando Magic :>> Golden State Warrior will  
 In the Match between Indiana Pacers and Toronto Raptors :>> Indiana Pacers will loose !  
 In the Match between New Orleans Pelicans and Utah Jazz :>> New Orleans Pelicans will lo  
 In the Match between Detroit Pistons and Washington Wizards :>> Detroit Pistons will loo  
 In the Match between Phoenix Suns and Boston Celtics :>> Phoenix Suns will loose !  
 In the Match between Atlanta Hawks and Brooklyn Nets :>> Atlanta Hawks will loose !  
 In the Match between Memphis Grizzlies and Cleveland Cavaliers :>> Memphis Grizzlies wil  
 In the Match between Los Angeles Clippers and Dallas Mavericks :>> Los Angeles Clippers v  
 In the Match between Los Angeles Lakers and Denver Nuggets :>> Los Angeles Lakers will lo  
 In the Match between SAN ANTONIO and Milwaukee Bucks :>> SAN ANTONIO will loose !  
 In the Match between Detroit Pistons and Philadelphia 76ers :>> Detroit Pistons will loo  
 In the Match between New Orleans Pelicans and Portland Trail Blazers :>> New Orleans Pel  
 In the Match between Houston Rockets and Los Angeles Lakers :>> Houston Rockets will win  
 In the Match between Golden State Warrior and Miami Heat :>> Golden State Warrior will win  
 In the Match between Los Angeles Clippers and Minnesota Timberwolves :>> Los Angeles Clip  
 In the Match between Orlando Magic and New York Knicks :>> Orlando Magic will loose !  
 In the Match between Sacramento Kings and Oklahoma City Thunder :>> Sacramento Kings wil  
 In the Match between Brooklyn Nets and Atlanta Hawks :>> Brooklyn Nets will win !  
 In the Match between Milwaukee Bucks and Boston Celtics :>> Milwaukee Bucks will loose !  
 In the Match between Cleveland Cavaliers and Chicago Bulls :>> Cleveland Cavaliers will w  
 In the Match between Orlando Magic and Charlotte Hornets :>> Orlando Magic will loose !  
 In the Match between Denver Nuggets and Dallas Mavericks :>> Denver Nuggets will loose !  
 In the Match between New York Knicks and Indiana Pacers :>> New York Knicks will loose !  
 In the Match between Minnesota Timberwolves and Memphis Grizzlies :>> Minnesota Timberwol  
 In the Match between Golden State Warrior and New Orleans Pelicans :>> Golden State Warri  
 In the Match between Phoenix Suns and Philadelphia 76ers :>> Phoenix Suns will loose !  
 In the Match between Detroit Pistons and Sacramento Kings :>> Detroit Pistons will win !  
 In the Match between Washington Wizards and Utah Jazz :>> Washington Wizards will win !



In the Match between Utah Jazz and Oklahoma City Thunder :>> Utah Jazz will loose !  
 In the Match between Washington Wizards and Portland Trail Blazers :>> Washington Wizards  
 In the Match between Phoenix Suns and Toronto Raptors :>> Phoenix Suns will loose !  
 In the Match between Dallas Mavericks and Boston Celtics :>> Dallas Mavericks will loose  
 In the Match between Golden State Warrior and Charlotte Hornets :>> Golden State Warrior w  
 In the Match between SAN ANTONIO and Cleveland Cavaliers :>> SAN ANTONIO will loose !  
 In the Match between Chicago Bulls and Indiana Pacers :>> Chicago Bulls will loose !  
 In the Match between Minnesota Timberwolves and Los Angeles Clippers :>> Minnesota Timber  
 In the Match between Detroit Pistons and Milwaukee Bucks :>> Detroit Pistons will loose  
 In the Match between Denver Nuggets and New Orleans Pelicans :>> Denver Nuggets will loos  
 In the Match between Memphis Grizzlies and New York Knicks :>> Memphis Grizzlies will loo  
 In the Match between Atlanta Hawks and Orlando Magic :>> Atlanta Hawks will loose !  
 In the Match between Miami Heat and Sacramento Kings :>> Miami Heat will win !  
 In the Match between Oklahoma City Thunder and Brooklyn Nets :>> Oklahoma City Thunder wi  
 In the Match between Los Angeles Lakers and Philadelphia 76ers :>> Los Angeles Lakers wi  
 In the Match between Washington Wizards and Phoenix Suns :>> Washington Wizards will win  
 In the Match between Houston Rockets and Utah Jazz :>> Houston Rockets will win !  
 In the Match between Chicago Bulls and Charlotte Hornets :>> Chicago Bulls will loose !  
 In the Match between Golden State Warrior and Detroit Pistons :>> Golden State Warrior wi  
 In the Match between Cleveland Cavaliers and Indiana Pacers :>> Cleveland Cavaliers will v  
 In the Match between Toronto Raptors and Memphis Grizzlies :>> Toronto Raptors will win !  
 In the Match between Dallas Mavericks and Milwaukee Bucks :>> Dallas Mavericks will loose  
 In the Match between SAN ANTONIO and New Orleans Pelicans :>> SAN ANTONIO will loose !  
 In the Match between Denver Nuggets and Orlando Magic :>> Denver Nuggets will loose !  
 In the Match between Boston Celtics and Sacramento Kings :>> Boston Celtics will win !  
 In the Match between Orlando Magic and Atlanta Hawks :>> Orlando Magic will win !  
 In the Match between Miami Heat and Brooklyn Nets :>> Miami Heat will win !  
 In the Match between New York Knicks and Chicago Bulls :>> New York Knicks will loose !  
 In the Match between Los Angeles Lakers and Charlotte Hornets :>> Los Angeles Lakers wil  
 In the Match between Philadelphia 76ers and Cleveland Cavaliers :>> Philadelphia 76ers w  
 In the Match between Washington Wizards and Los Angeles Clippers :>> Washington Wizards w  
 In the Match between Oklahoma City Thunder and Memphis Grizzlies :>> Oklahoma City Thunde  
 In the Match between Utah Jazz and Milwaukee Bucks :>> Utah Jazz will loose !  
 In the Match between Sacramento Kings and Phoenix Suns :>> Sacramento Kings will loose !  
 In the Match between Houston Rockets and Portland Trail Blazers :>> Houston Rockets will v  
 In the Match between Boston Celtics and Detroit Pistons :>> Boston Celtics will win !  
 In the Match between Denver Nuggets and Indiana Pacers :>> Denver Nuggets will loose !  
 In the Match between Dallas Mavericks and Minnesota Timberwolves :>> Dallas Mavericks wi  
 In the Match between Philadelphia 76ers and New Orleans Pelicans :>> Philadelphia 76ers w  
 In the Match between Atlanta Hawks and New York Knicks :>> Atlanta Hawks will loose !  
 In the Match between Toronto Raptors and SAN ANTONIO :>> Toronto Raptors will win !

```

In [170]: for i, j in final.groupby('Team_A'):
            count = j.Label.sum()
            max_match = j.Team_A.count()
            lost = max_match - count
  
```

```
print('Team name is ' +str(i)+' and win count is : ' +str(count) + ' and the lost
```

```
Team name is Atlanta Hawks and win count is : 3 and the lost count is : 11 >>>Total match played
Team name is Boston Celtics and win count is : 11 and the lost count is : 3 >>>Total match played
Team name is Brooklyn Nets and win count is : 5 and the lost count is : 8 >>>Total match played
Team name is Charlotte Hornets and win count is : 1 and the lost count is : 10 >>>Total match played
Team name is Chicago Bulls and win count is : 2 and the lost count is : 12 >>>Total match played
Team name is Cleveland Cavaliers and win count is : 9 and the lost count is : 4 >>>Total match played
Team name is Dallas Mavericks and win count is : 2 and the lost count is : 10 >>>Total match played
Team name is Denver Nuggets and win count is : 4 and the lost count is : 10 >>>Total match played
Team name is Detroit Pistons and win count is : 6 and the lost count is : 8 >>>Total match played
Team name is Golden State Warrior and win count is : 13 and the lost count is : 3 >>>Total match played
Team name is Houston Rockets and win count is : 12 and the lost count is : 1 >>>Total match played
Team name is Indiana Pacers and win count is : 6 and the lost count is : 7 >>>Total match played
Team name is Los Angeles Clippers and win count is : 4 and the lost count is : 8 >>>Total match played
Team name is Los Angeles Lakers and win count is : 4 and the lost count is : 8 >>>Total match played
Team name is Memphis Grizzlies and win count is : 3 and the lost count is : 8 >>>Total match played
Team name is Miami Heat and win count is : 7 and the lost count is : 7 >>>Total match played 14
Team name is Milwaukee Bucks and win count is : 6 and the lost count is : 6 >>>Total match played
Team name is Minnesota Timberwolves and win count is : 8 and the lost count is : 6 >>>Total match played
Team name is New Orleans Pelicans and win count is : 7 and the lost count is : 6 >>>Total match played
Team name is New York Knicks and win count is : 1 and the lost count is : 8 >>>Total match played
Team name is Oklahoma City Thunder and win count is : 3 and the lost count is : 10 >>>Total match played
Team name is Orlando Magic and win count is : 5 and the lost count is : 11 >>>Total match played
Team name is Philadelphia 76ers and win count is : 6 and the lost count is : 7 >>>Total match played
Team name is Phoenix Suns and win count is : 5 and the lost count is : 8 >>>Total match played
Team name is Portland Trail Blazers and win count is : 6 and the lost count is : 4 >>>Total match played
Team name is SAN ANTONIO and win count is : 4 and the lost count is : 11 >>>Total match played
Team name is Sacramento Kings and win count is : 5 and the lost count is : 7 >>>Total match played
Team name is Toronto Raptors and win count is : 8 and the lost count is : 6 >>>Total match played
Team name is Utah Jazz and win count is : 2 and the lost count is : 9 >>>Total match played 11
Team name is Washington Wizards and win count is : 8 and the lost count is : 7 >>>Total match played
```

```
In [171]: for i, j in final.groupby('Team_A'):
          count = j.Team_A.count()
```

```
print('Team name is ' +str(i)+' and play count is : ' +str(count))
```

```
Team name is Atlanta Hawks and play count is : 14
Team name is Boston Celtics and play count is : 14
Team name is Brooklyn Nets and play count is : 13
Team name is Charlotte Hornets and play count is : 11
Team name is Chicago Bulls and play count is : 14
Team name is Cleveland Cavaliers and play count is : 13
```

Team name is Dallas Mavericks and play count is : 12  
 Team name is Denver Nuggets and play count is : 14  
 Team name is Detroit Pistons and play count is : 14  
 Team name is Golden State Warrior and play count is : 16  
 Team name is Houston Rockets and play count is : 13  
 Team name is Indiana Pacers and play count is : 13  
 Team name is Los Angeles Clippers and play count is : 12  
 Team name is Los Angeles Lakers and play count is : 12  
 Team name is Memphis Grizzlies and play count is : 11  
 Team name is Miami Heat and play count is : 14  
 Team name is Milwaukee Bucks and play count is : 12  
 Team name is Minnesota Timberwolves and play count is : 14  
 Team name is New Orleans Pelicans and play count is : 13  
 Team name is New York Knicks and play count is : 9  
 Team name is Oklahoma City Thunder and play count is : 13  
 Team name is Orlando Magic and play count is : 16  
 Team name is Philadelphia 76ers and play count is : 13  
 Team name is Phoenix Suns and play count is : 13  
 Team name is Portland Trail Blazers and play count is : 10  
 Team name is SAN ANTONIO and play count is : 15  
 Team name is Sacramento Kings and play count is : 12  
 Team name is Toronto Raptors and play count is : 14  
 Team name is Utah Jazz and play count is : 11  
 Team name is Washington Wizards and play count is : 15

```
In [172]: import matplotlib.pyplot as plt
```

```

# Pie chart, where the slices will be ordered and plotted counter-clockwise:
labels = [

    'Cleaveland Cavaliers',

    'Washington Wizards',

    'Atlanta Hawks',

    'Boston Celtics',

    'Chicago Bulls',

    'Detroit Pistons',

    'Miami Heat',

    'Toronto Raptors']
sizes = [16,15,14,14,14,14,14,14]
explode = (0.2,0,0,0,0,0,0,0)

```

```
fig1, ax1 = plt.subplots()
ax1.pie(sizes, explode=explode, labels=labels,
        shadow=True, startangle=90)
ax1.axis('equal') # Equal aspect ratio ensures that pie is drawn as a circle.

plt.show()
```

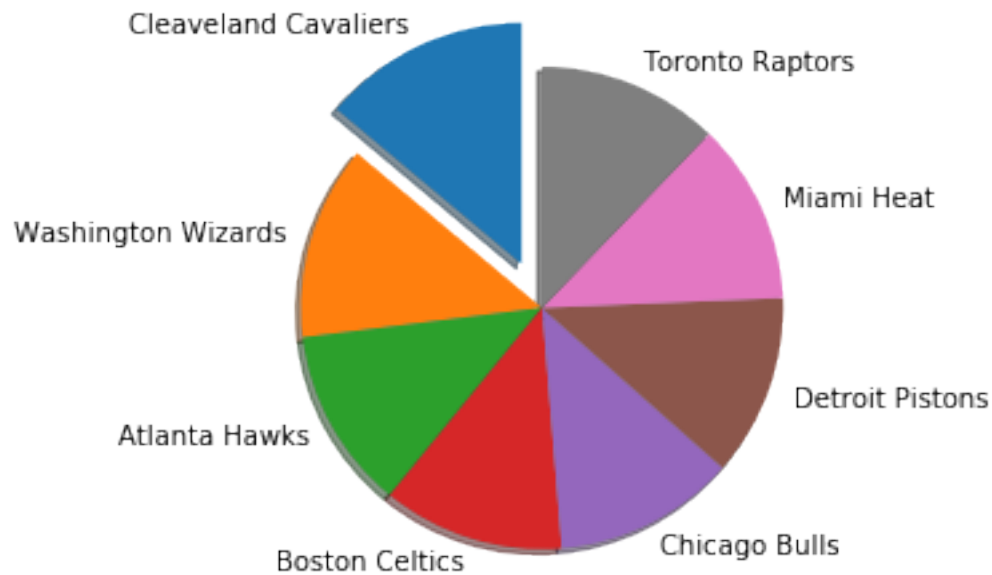
```
import matplotlib.pyplot as plt

# Get current size
fig_size = plt.rcParams["figure.figsize"]

# Prints: [8.0, 6.0]
#print ("Current size:", fig_size)

# Set figure width to 12 and height to 9
fig_size[0] = 12
fig_size[1] = 9
plt.rcParams["figure.figsize"] = fig_size

plt.show()
```



```
In [173]: import matplotlib.pyplot as plt

# Pie chart, where the slices will be ordered and plotted counter-clockwise:
```

```

labels = [
    'Golden State Warrior',
    'San Antonio',
    'Minnesota Timberwolves',
    'Denver Nuggets',
    'Houston Rockets',
    'Oklahoma City Thunder',
    'Phoenix Suns',
    'New Orleans Pelicans ',
]
sizes = [16,15,14,14,13,13,13,13]
explode = (0.2,0,0,0,0,0,0,0)

fig1, ax1 = plt.subplots()
ax1.pie(sizes, explode=explode, labels=labels,
        shadow=True, startangle=90)
ax1.axis('equal') # Equal aspect ratio ensures that pie is drawn as a circle.

plt.show()

import matplotlib.pyplot as plt

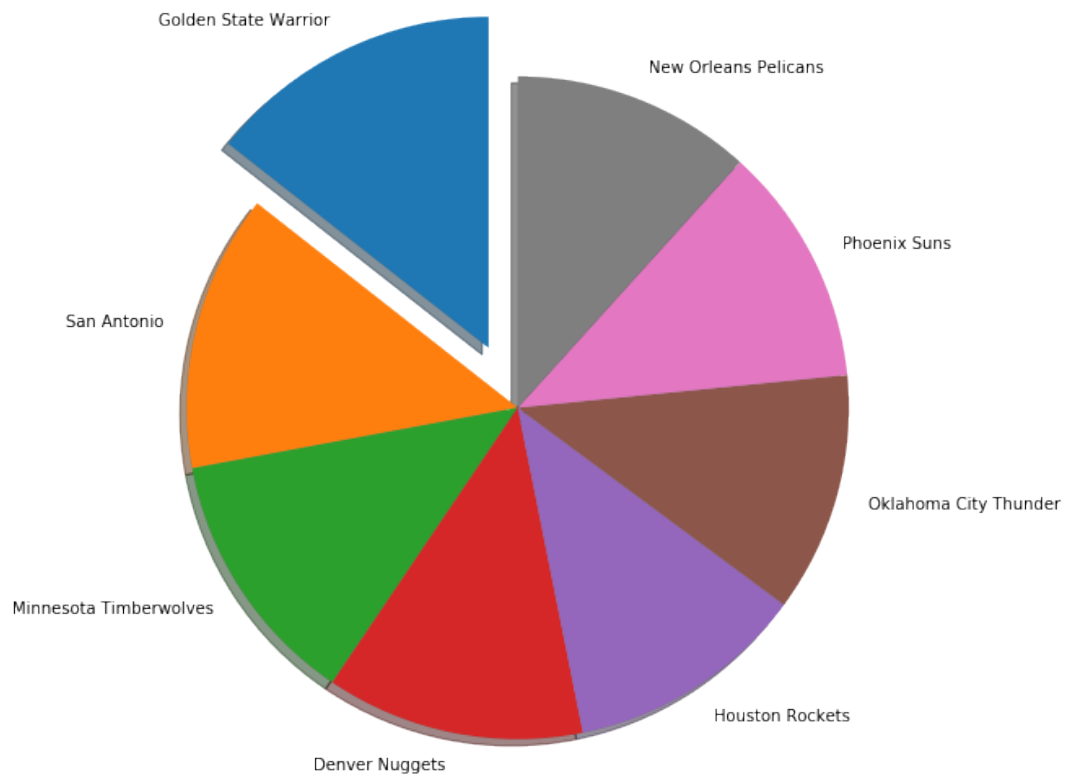
# Get current size
fig_size = plt.rcParams["figure.figsize"]

# Prints: [8.0, 6.0]
#print ("Current size:", fig_size)

# Set figure width to 12 and height to 9
fig_size[0] = 12
fig_size[1] = 9
plt.rcParams["figure.figsize"] = fig_size

plt.show()

```



In [ ]:

In [ ]: