

Today, we are going to find out a few things – that people may not know – about an NBA team, Los Angeles Lakers.

First, we all know that since NBA is a super competitive sport, players tend to have relatively short careers. Therefore, let's find out who are the 10 players that have played for the Lakers for the longest:

Players (years played for the Lakers): Kobe Bryant (20), Kareem Abdul-Jabbar (14), Elgin Baylor (14), Jerry West (14), Derek Fisher (13), Magic Johnson (13), Michael Cooper (12), James Worthy (12), Byron Scott (11), Vern Mikkelsen (10).

Depending on your age, you may or may not know about these players. As a fan who started watching NBA roughly after 2010, I've decided to only include players that were still active after 2010 to make it more interesting. Below is the new result:

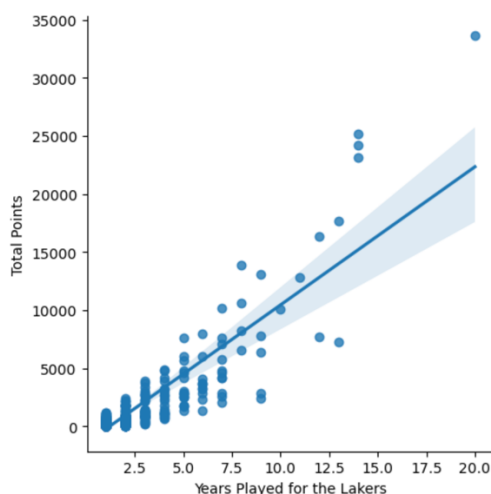
Players (years played for the Lakers): *Kobe Bryant (20), *Derek Fisher (13), *Luke Walton (9), *Andrew Bynum (7), *Pau Gasol (7), *Lamar Odom (7), *Sasha Vujacic (7) *Metta World Peace (6), *Jordan Farmar (5), LeBron James (5).

Nice! I recognize more names now. More importantly, if you are also a Lakers fan, you should notice that almost all players (besides LeBron James) on the list actually helped Lakers won the championship from 2009-2011.

Moving on, now let's find out who are the top scorers for the Lakers.

Players (total points as a Lakers player): Kobe Bryant (33643), LeBron James (7614), Pau Gasol (7610), Derek Fisher (7223), Lamar Odom (7092), Anthony Davis (4782), Andrew Bynum (4597), Kyle Kuzma (4206), Jordan Clarkson (3904), Kentavious Caldwell-Pope (3228).

In addition, here's a scatterplot between years played for the Lakers and total points scored.



It looks like we have a positive correlation between the two variables, which makes sense because the longer a player plays, the more points he/she will generally score.

Having this knowledge in mind, we can now use a naïve linear regression to predict how many points you and me would score if we played for the Los Angeles Lakers:

1 year: -264 points. This doesn't really make sense in this context because obviously we cannot score negative points.

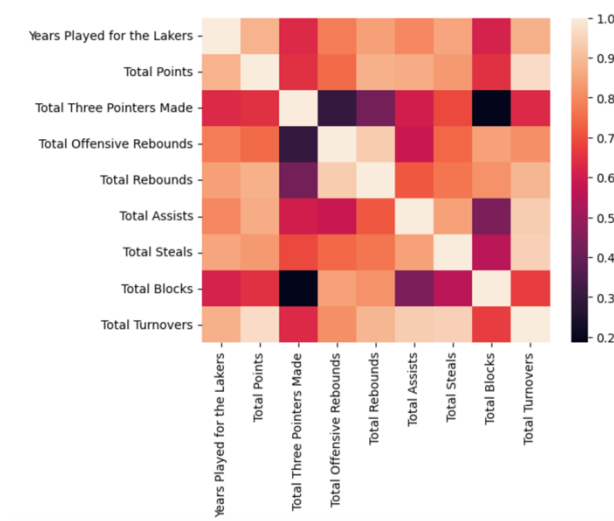
5 years: 4493 points.

10 years: 10439 points.

20 years: 22332 points. Quick Note: My favorite player, Kobe Bryant, an NBA legend, also played for the Lakers for exactly 20 years, and he had scored 33643 points! We can see that our simple model cannot really predict the potential of a great player like Kobe Bryant (R.I.P).

Last but not least, let's take a look at the covariance matrix, and its heatmap, of our dataset.

	Years Played for the Lakers	Total Points	Total Three Pointers Made	Total Offensive Rebounds	Total Rebounds	Total Assists	Total Steals	Total Blocks	Total Turnovers
Years Played for the Lakers	1.000000	0.880648	0.632623	0.777364	0.841378	0.799310	0.855020	0.612223	0.876783
Total Points	0.880648	1.000000	0.648175	0.745689	0.876813	0.867805	0.829107	0.649822	0.965825
Total Three Pointers Made	0.632623	0.648175	1.000000	0.301589	0.426166	0.605205	0.690309	0.185296	0.633037
Total Offensive Rebounds	0.777364	0.745689	0.301589	1.000000	0.930860	0.588339	0.741954	0.846280	0.810584
Total Rebounds	0.841378	0.876813	0.426166	0.930860	1.000000	0.714596	0.764838	0.818296	0.886344
Total Assists	0.799310	0.867805	0.605205	0.588339	0.714596	1.000000	0.846188	0.440094	0.934465
Total Steals	0.855020	0.829107	0.690309	0.741954	0.764838	0.846188	1.000000	0.557129	0.945744
Total Blocks	0.612223	0.649822	0.185296	0.846280	0.818296	0.440094	0.557129	1.000000	0.669266
Total Turnovers	0.876783	0.965825	0.633037	0.810584	0.886344	0.934465	0.945744	0.669266	1.000000



We should see that among all the variables we select, every pair has relatively strong ($r \geq 0.5$) and positive correlation. However, there're few exceptions. For example, total three pointers made with total blocks (0.185) and total rebounds (0.426), respectively.

However, if we think about it, these correlations actually make sense because players who are more likely to attempt, and thus make, a three-point shot, are smaller players such as shooting guards and point guards. As a result, it's much harder for these players to get rebounds and blocks, explaining the weak association.