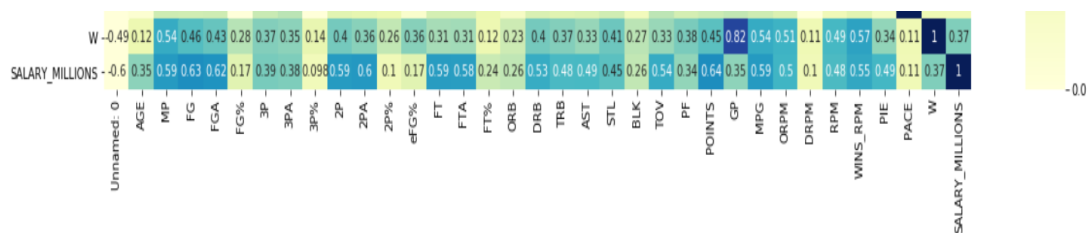


## Overview

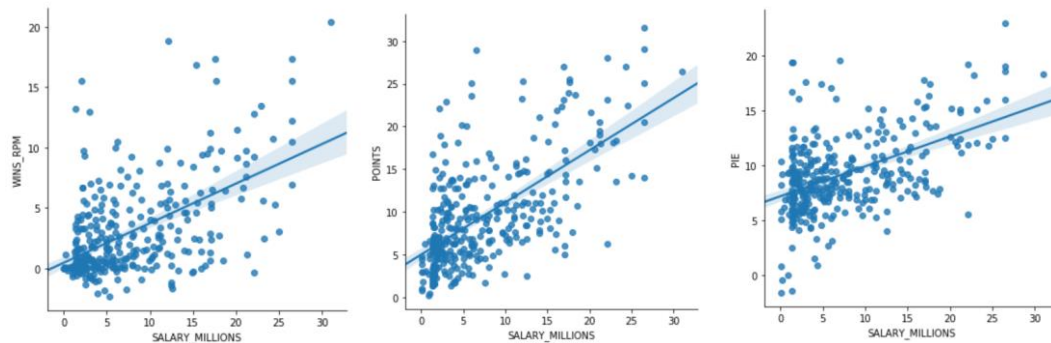
In this project, I am trying to figure out which factors are highly relevant to one player's salary.

## Technique

First, I load the data and drop the column that will not be used in my analysis. Then, I draw a heatmap to present the correlations between a pair of variables in the dataset.



The correlation score and the color show the relationship between two variables. As for salary, variable points, PIA and WINS\_RPM seem to have a strong relationship. Once I have an initial understanding of what properties are related to each other, the next step is to further discover relationships in the data by drawing a diagram in Seaborn. So, I design three diagrams:



Observing from the diagrams, there seem to be strong linear relationships between salary and WINS\_RPM, salary and points and salary and PIE. To investigate the situation further, I decide to run a linear regression for each pair of variables. In three linear regression models, all three variables are statistically significant to the responding variable, salary, with three p-values near to 0. Besides, all three coefficients are positive, which means that these three factors determine a player's salary to some extent. If a player can get more points in a game or has a better performance with these two indicators, he is more likely to get a decent salary.

In addition, the position of the player and team the player serves can also have an impact on his salary.



Observing from these two bar charts, players who are in the position of small forward are prone to get more salaries. The second highest paying position is point guard. As for teams, some teams have higher total salary amount. For the same player, he may be paid more on a team with a higher total salary than one with a lower total salary.

## Conclusion

A player's salary can be affected in many ways. Points, PIA and WINS\_RPM have significant influence. In addition, salary space and player position of the team are also important factors.

One thing to note, however, is that the 2017 salary level do not fully reflect a player's contribution and influence. For example, Stephen Curry and Kyrie Irving were both contracted before 2016, before the teams' total salaries exploded. In addition, Curry suffered frequent ankle injuries before signing the contract, which added to the concerns of the team's management. Therefore, Curry signed a smaller contract at that time. But in the summer of 2017, Curry signed a five-year, \$200 million Max contract, which is not reflected in the available data.