

Win Games To Fill The Stands?

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Overview

- Introduction
- Dataset
- Analysis
- Discussion

Introduction

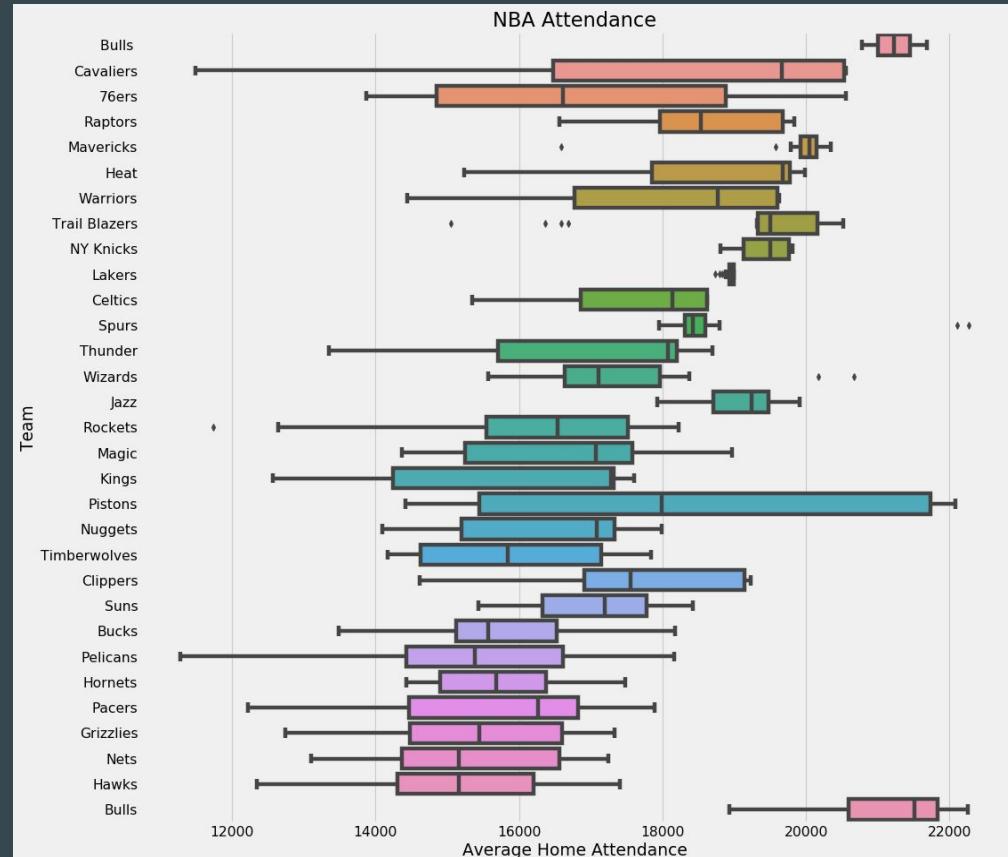
- The term and psyche of ‘Home-Court Advantage’ can be described as a thought that a home team in sports has the advantage of their fans cheering for them.
- How do teams and organizations make sure that their home stadiums are filled with as many people as possible?
 - Do teams have to win many games and prove their pedigree to bring in large crowds of fans?
 - Or, do teams with packed home stadiums win more?

Dataset

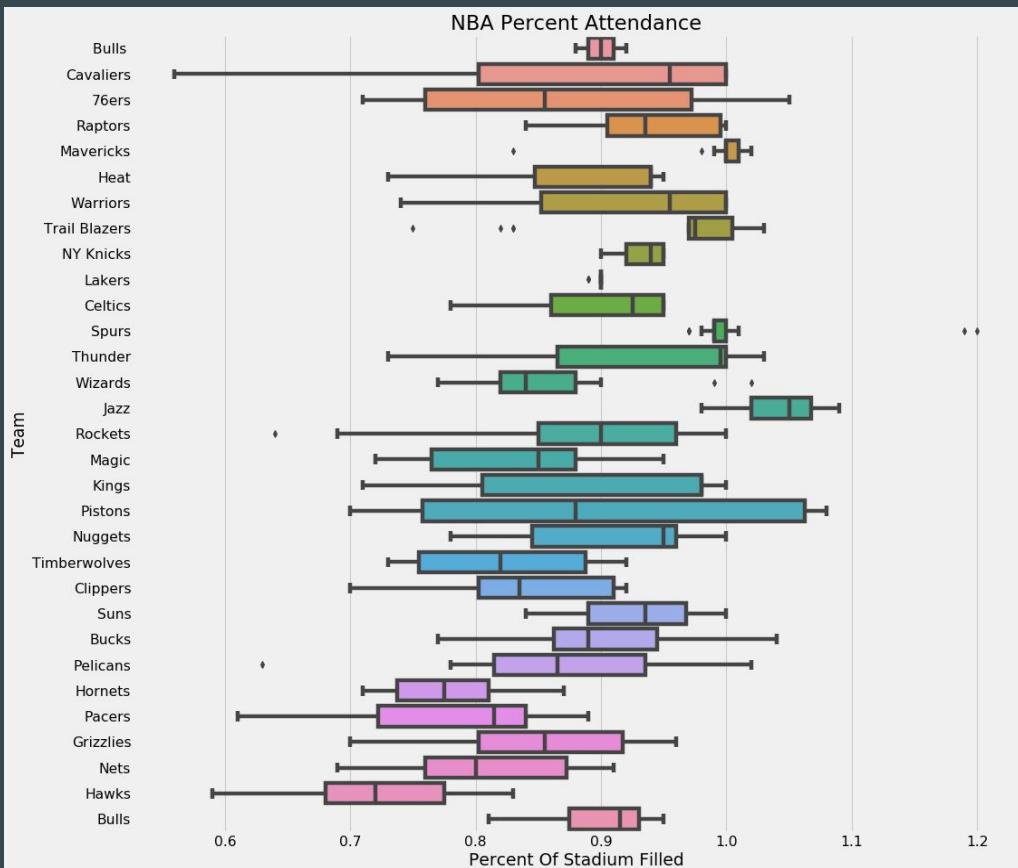
- The dataset used for this project was a concatenation of three different datasets.
 - The first dataset served as the foundation. It included the data for all teams in the NBA from the years 2000-2015.
 - The second dataset, to provide more recent data, included the data for the teams from the years 2016 and 2017
 - The third and final dataset was a simpler dataset that listed the max capacity of each team's home arena.

Analysis

- This graph shows each team's spread of average home attendance starting from the 2000-2001 season to the 2017-2018 season.
- Some teams such as the Pistons, Cavaliers, and Pelicans show very large variances and experiences years of very low attendance and years of high attendance.
- Other teams such as the Lakers, Mavericks, and Bulls retain a very consistent amount of attendance regardless.

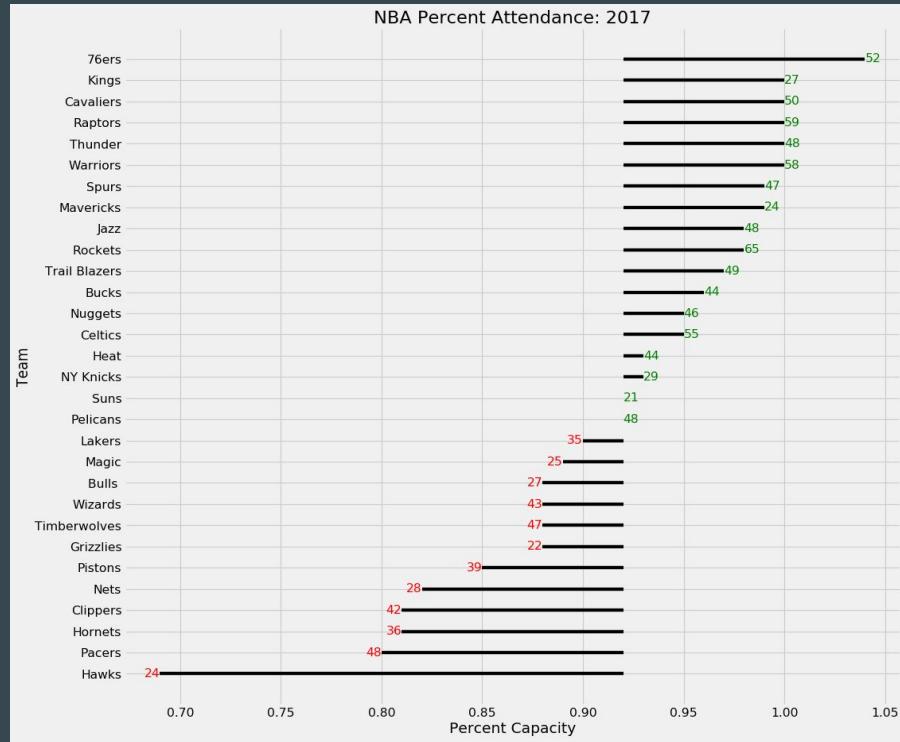
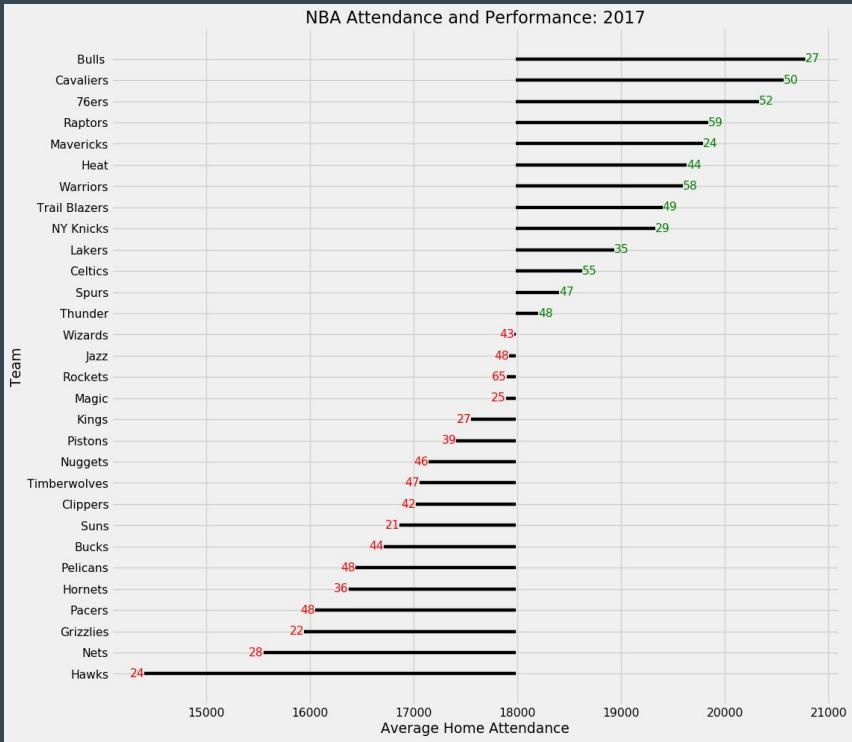


- This visualization shows the teams of the NBA and their percentage of filling up their home stadiums.
- Similarly, the teams that showed high variance in average home attendance also show a wide spectrum in their percentages throughout the years and teams with little change in attendance show little change in their percentages as well.

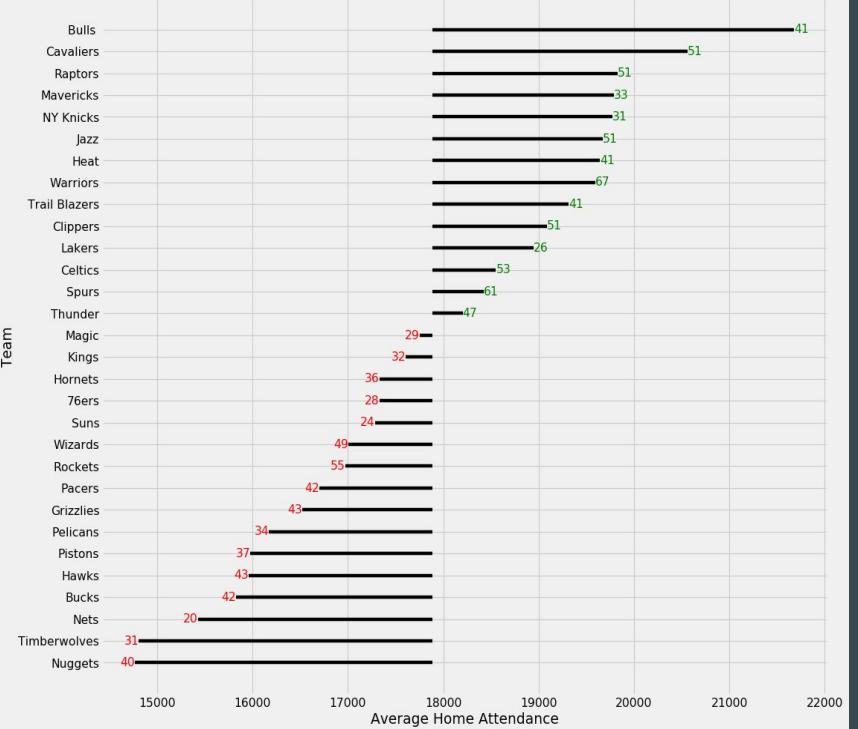


In-Depth Analysis

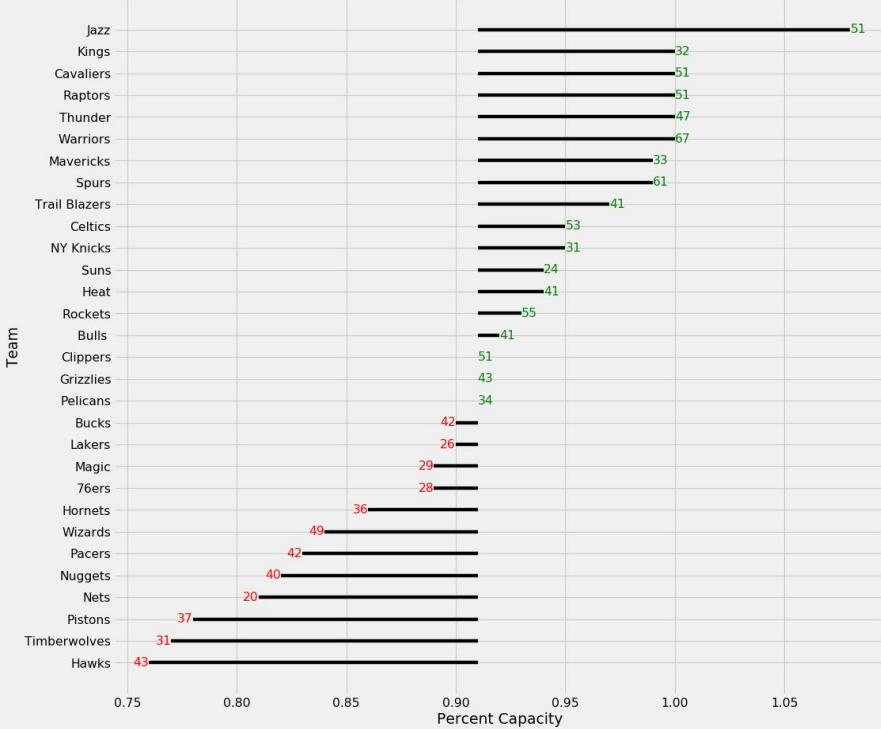
- The following visual representations will illustrate the average home attendance of each team according to their ranking within the league on the left side and the graph on the right side will show the percentage that each team managed to fill their stadiums on average throughout the year.
- The numbers at the ends of the lines represent the amount of wins that the team had during that season. The green color represents that the team experienced above league average home attendance and filled their stadiums above the league percentage. The numbers in red, represent that bottom half of the teams in each case.
- This distinction is important because some teams play in bigger stadiums than other teams. In order to put each team on an even field, the percentage that each team filled their respective stadiums is of much interest.



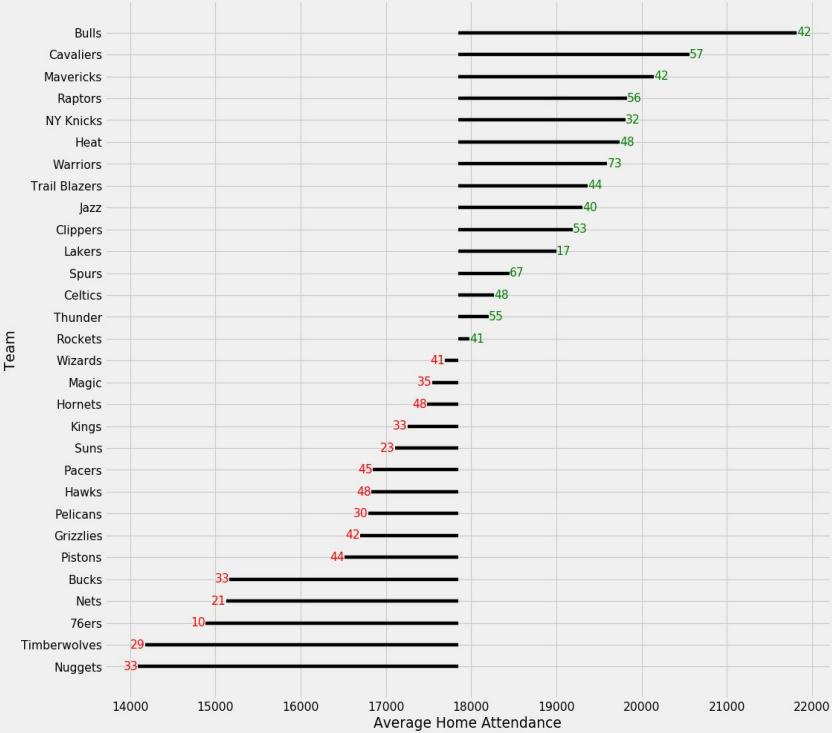
NBA Attendance and Performance: 2016



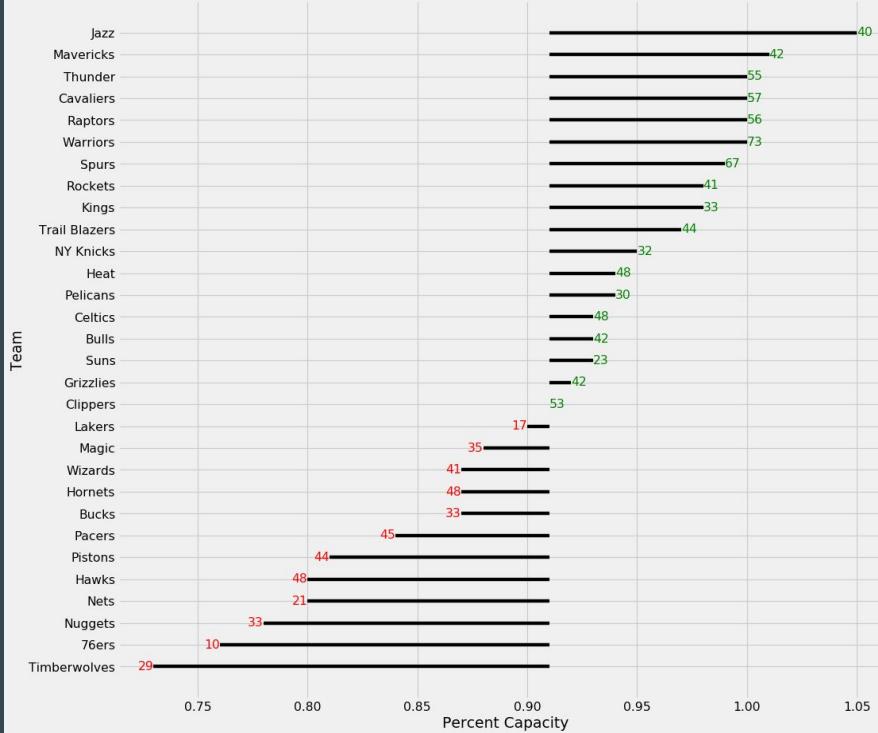
NBA Percent Attendance: 2016



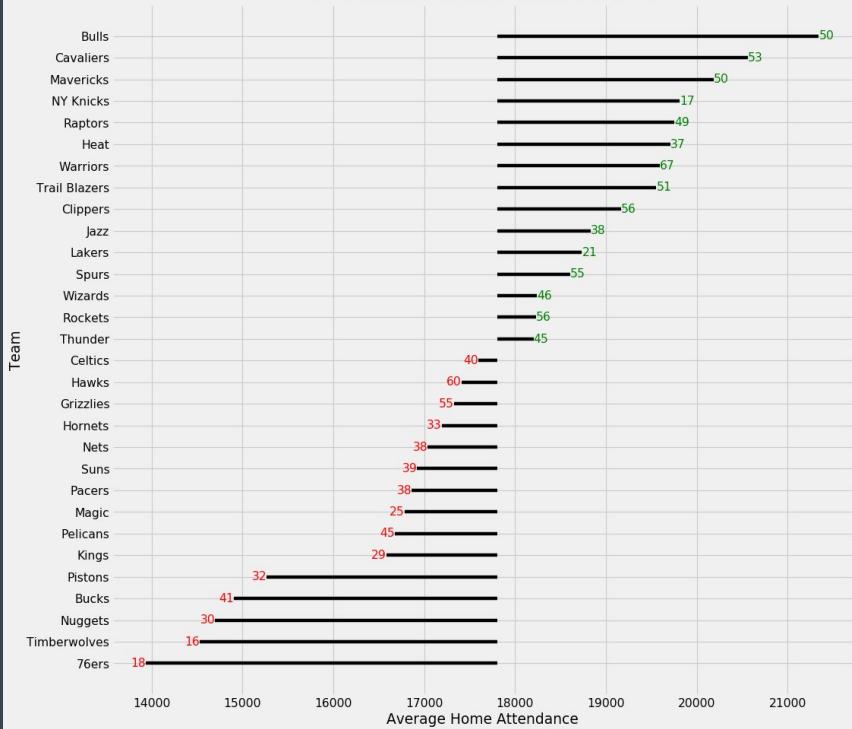
NBA Attendance and Performance: 2015



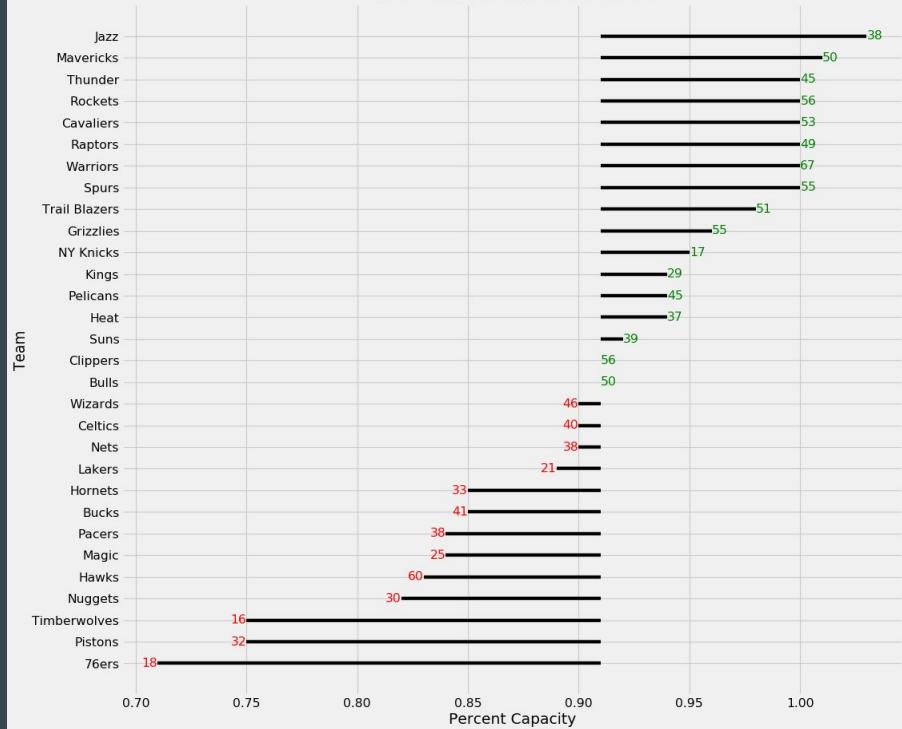
NBA Percent Attendance: 2015



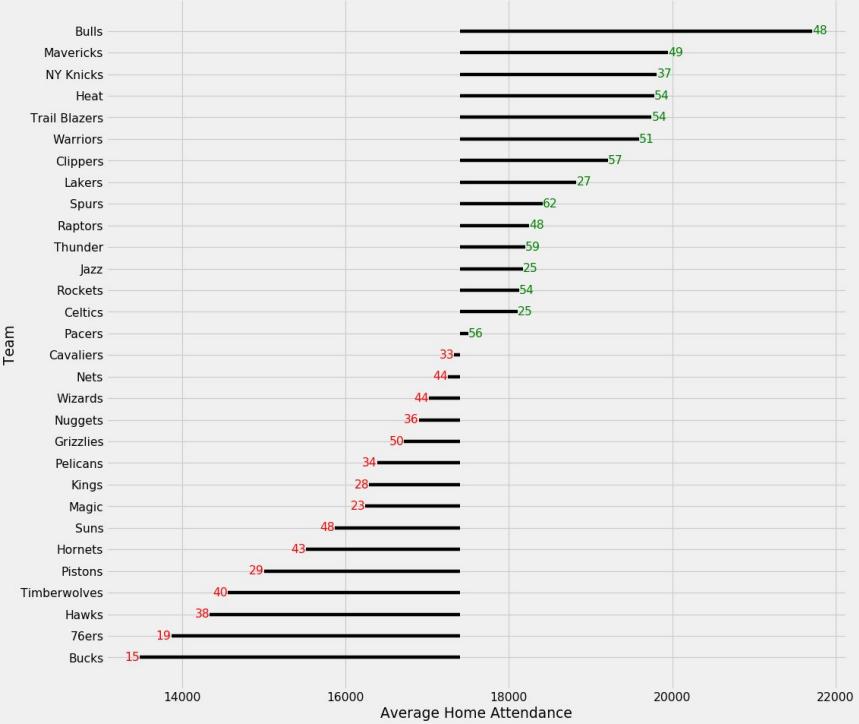
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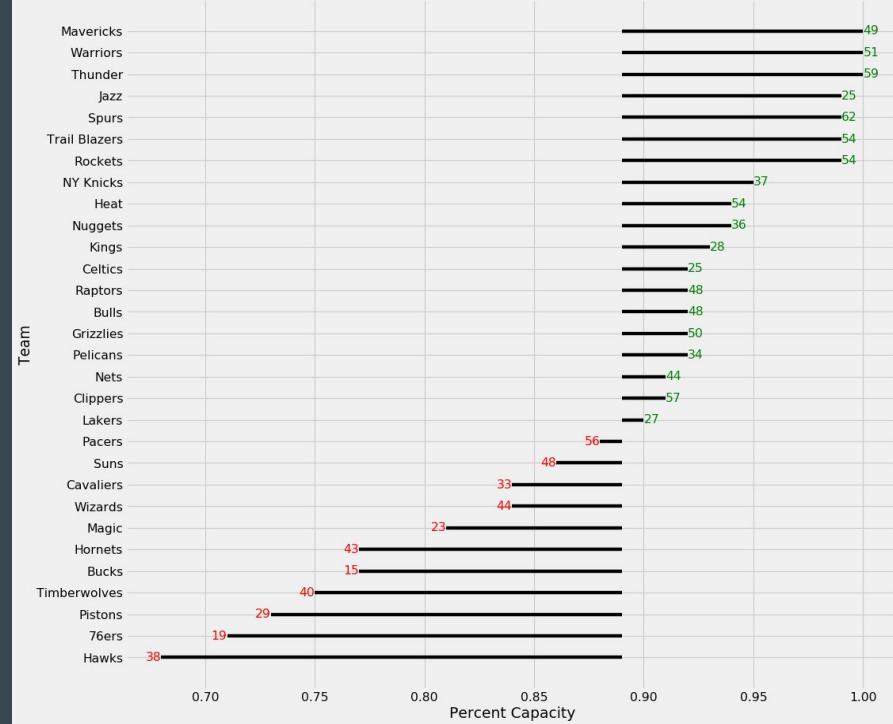
NBA Percent Attendance: 2014



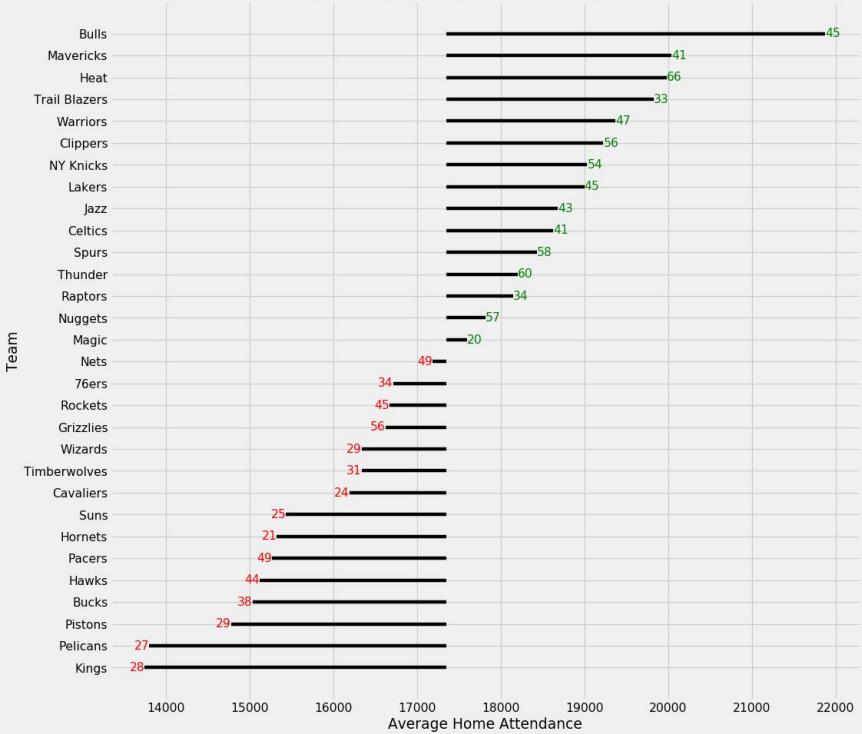
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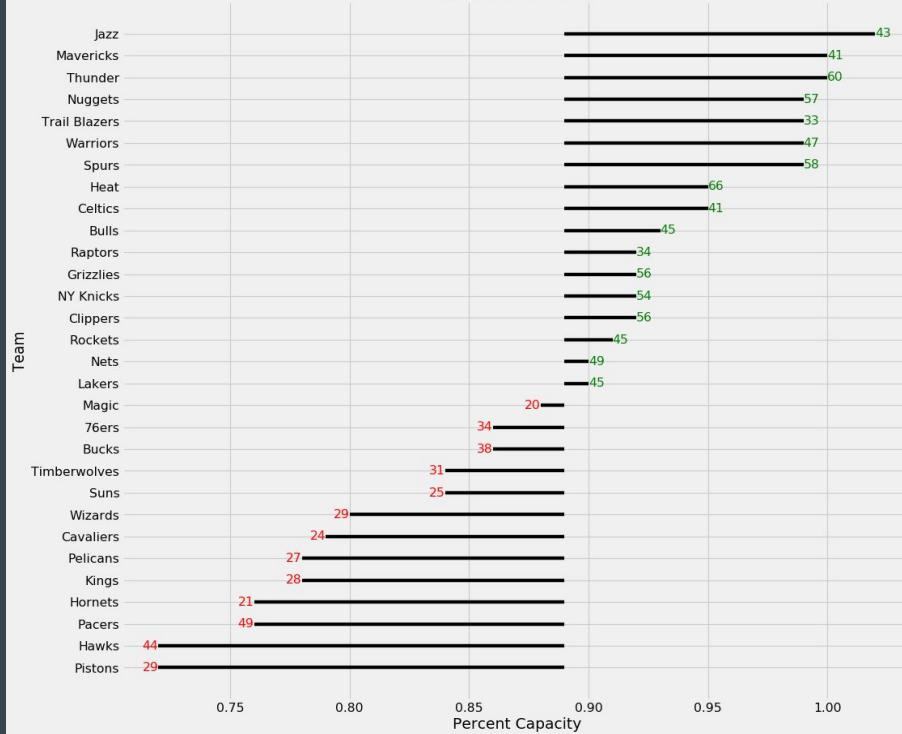
NBA Percent Attendance: 2013



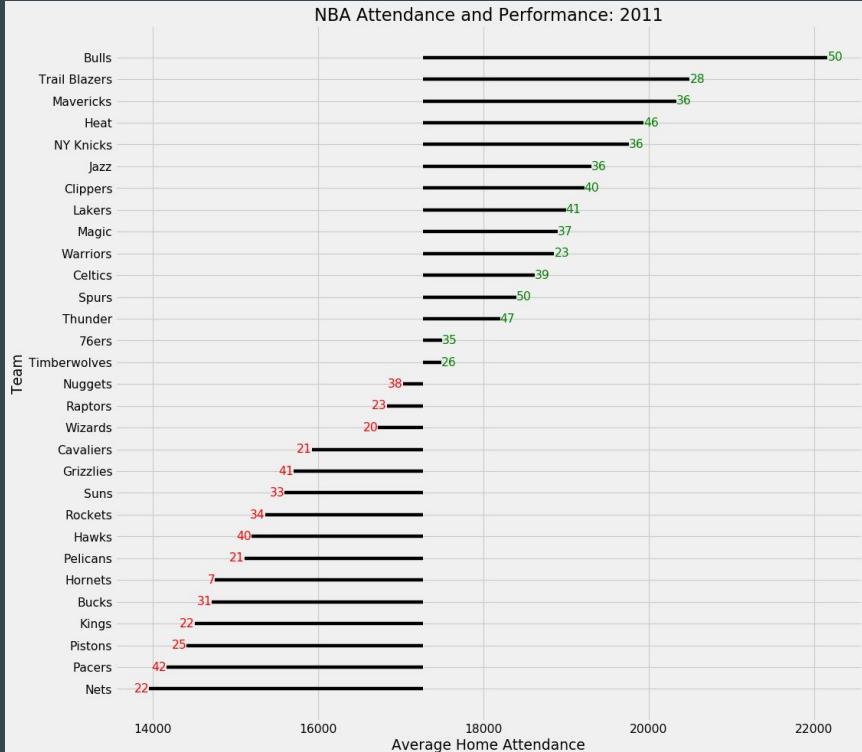
NBA Attendance and Performance: 2012



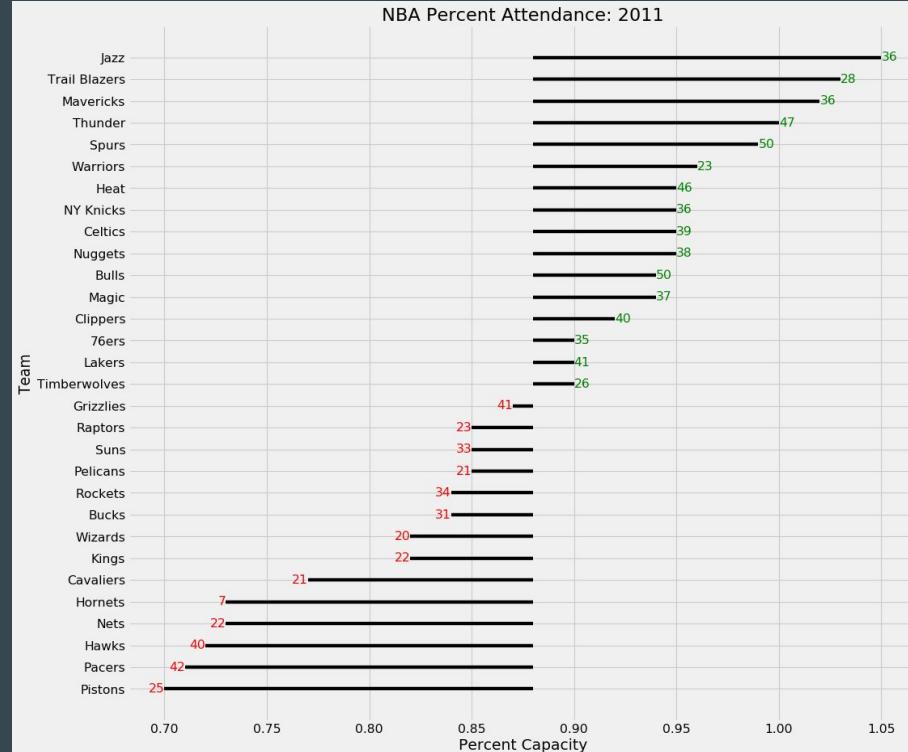
NBA Percent Attendance: 2012

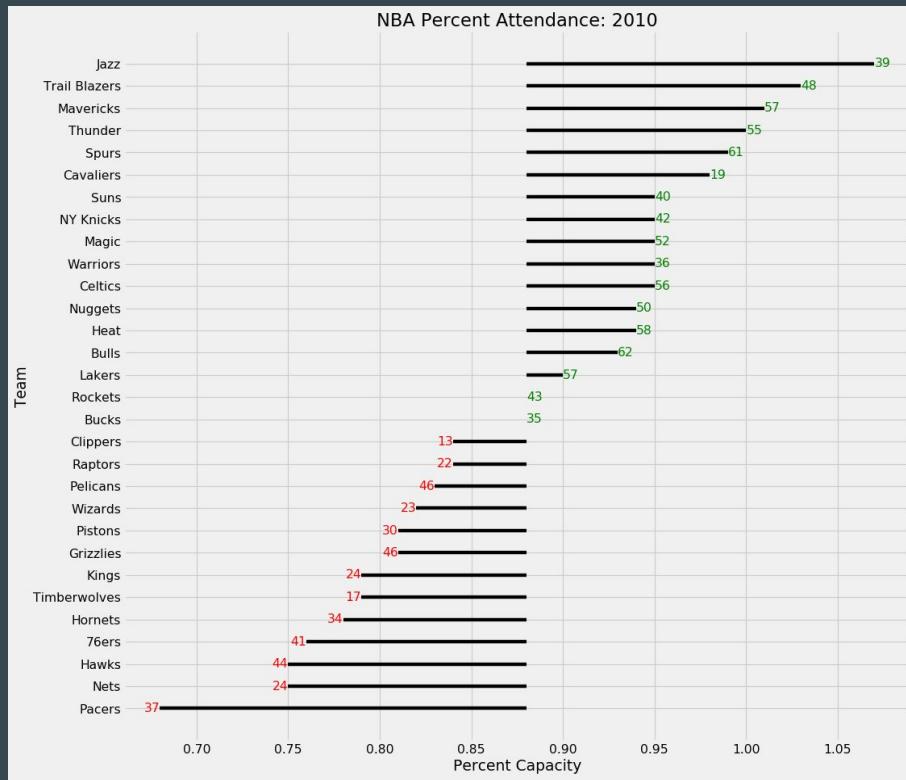
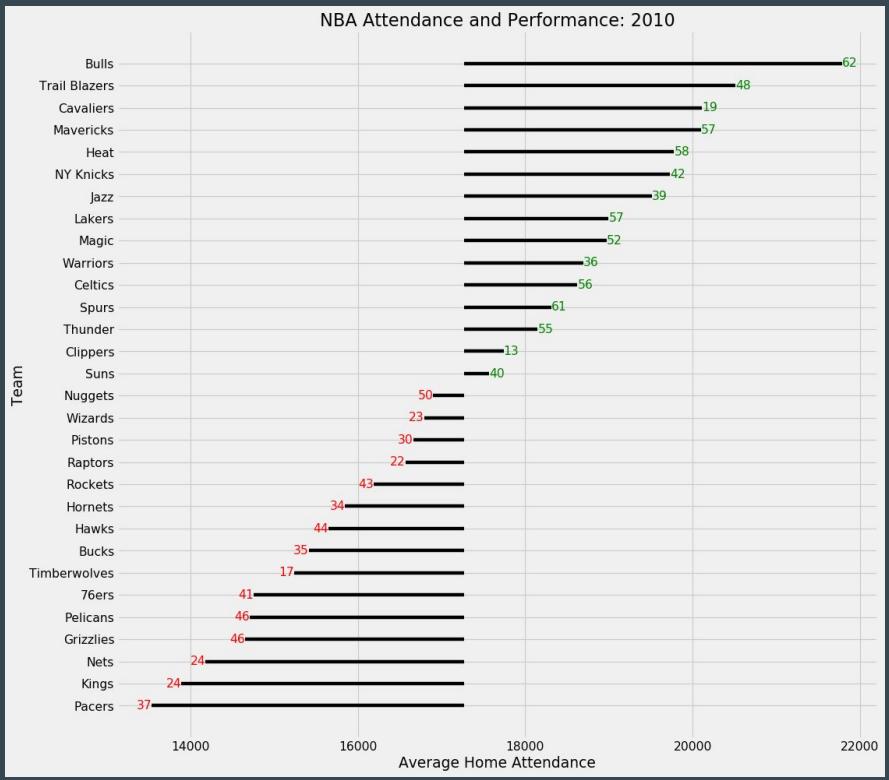


NBA Attendance and Performance: 2011

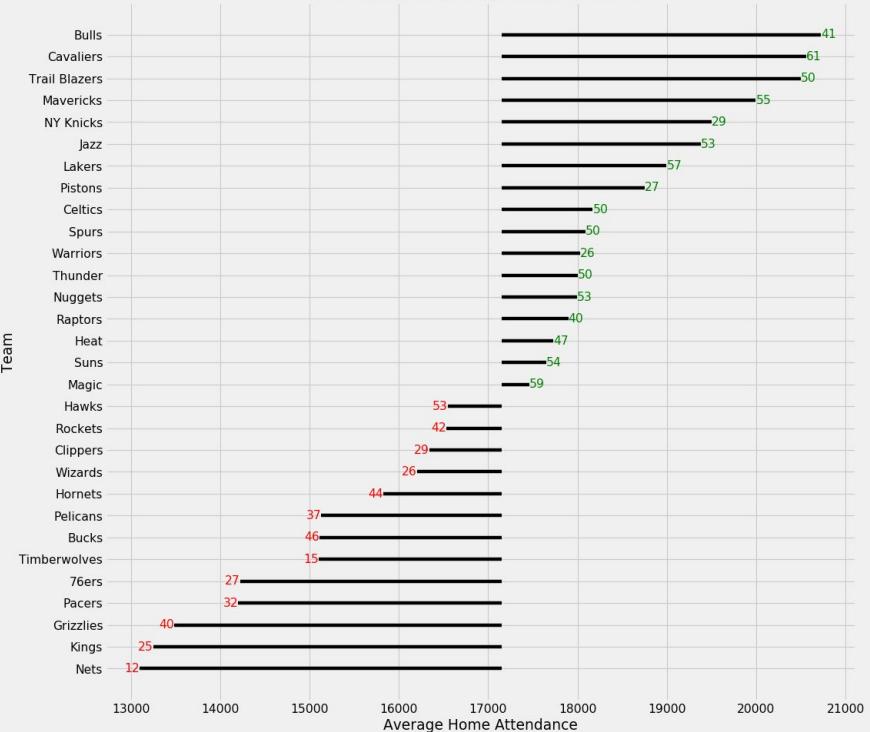


NBA Percent Attendance: 2011

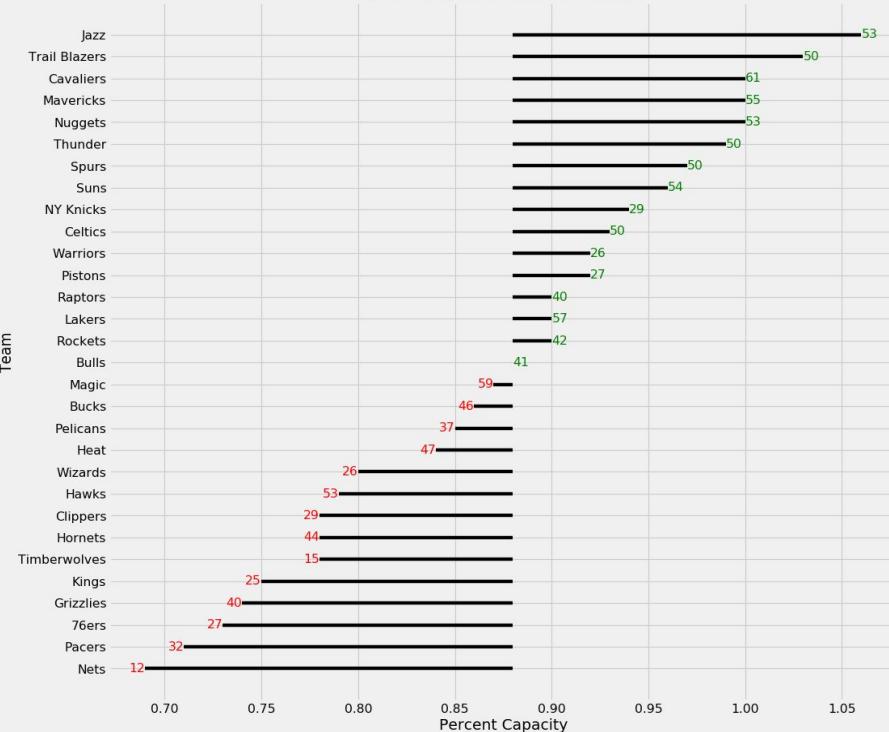




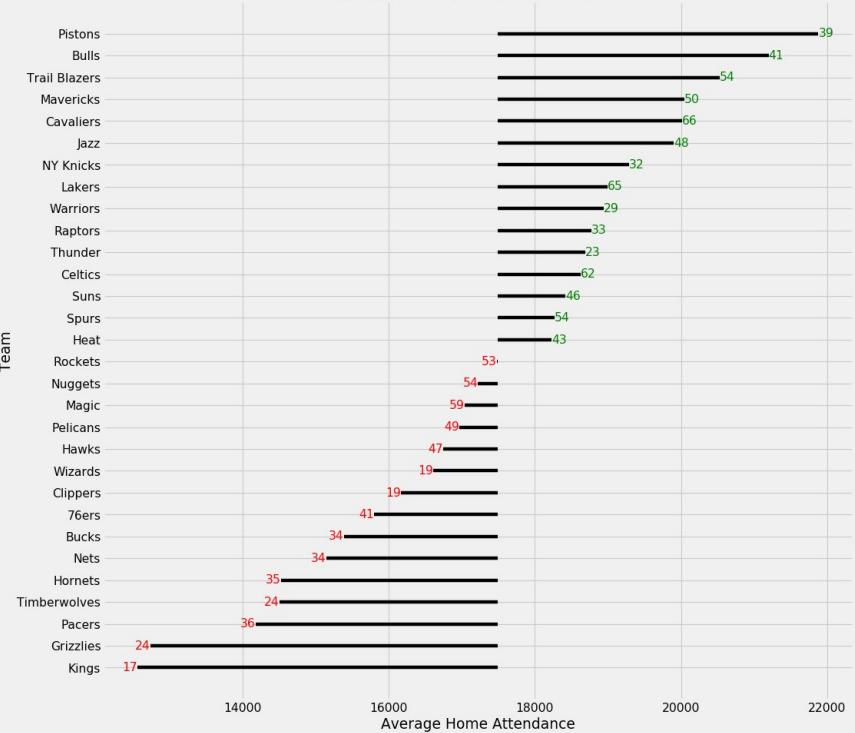
NBA Attendance and Performance: 2009



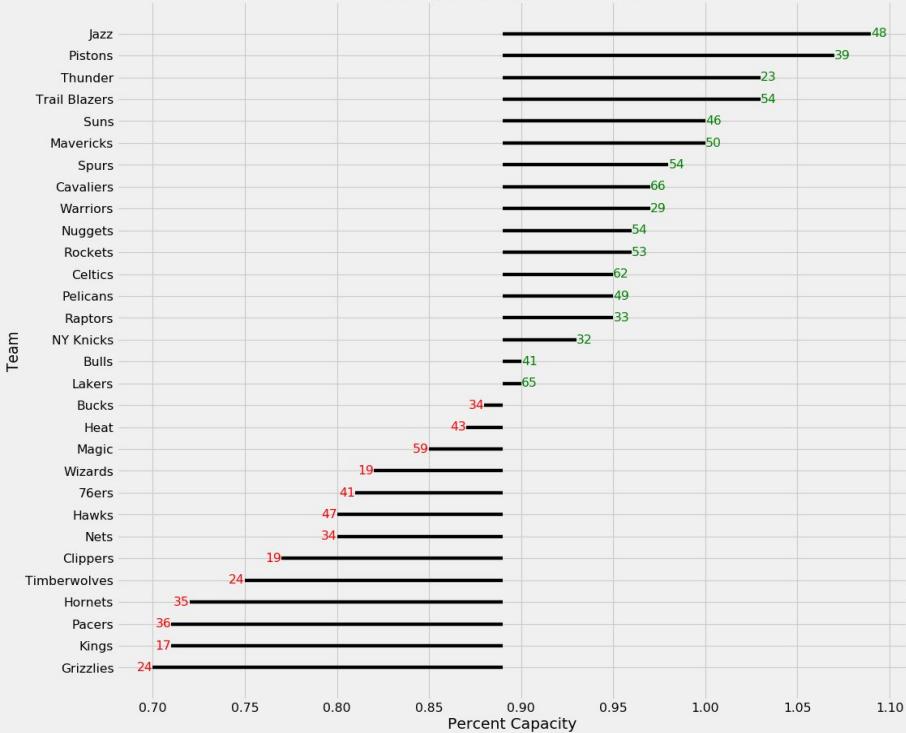
NBA Percent Attendance: 2009



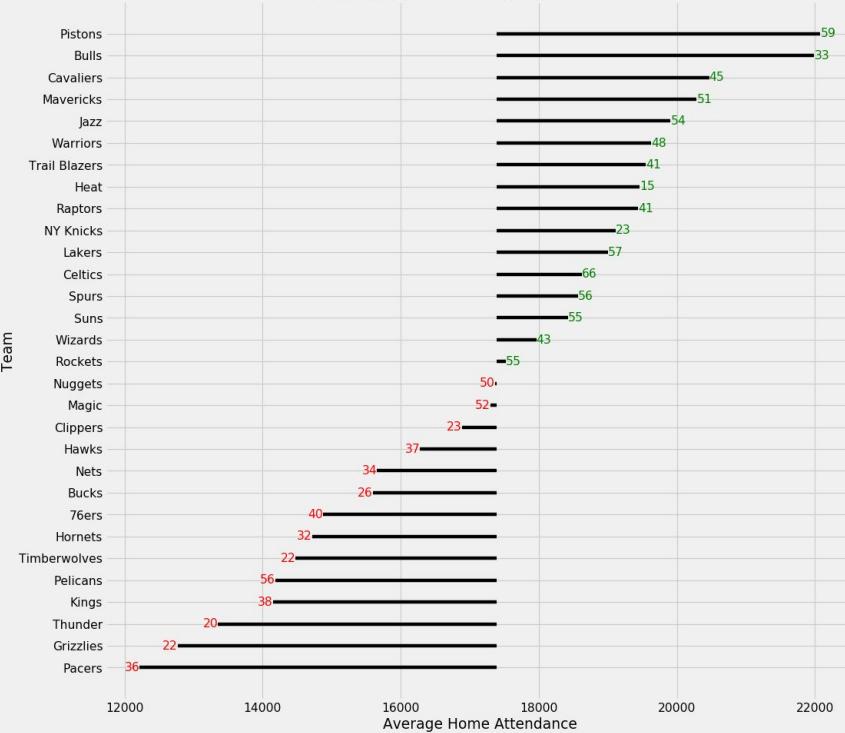
NBA Attendance and Performance: 2008



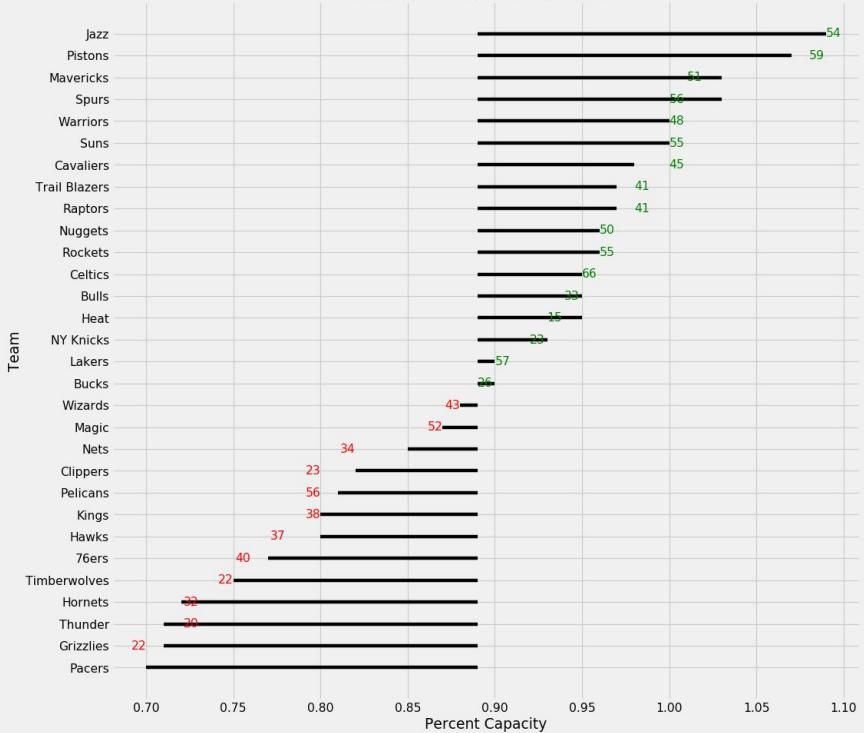
NBA Percent Attendance: 2008

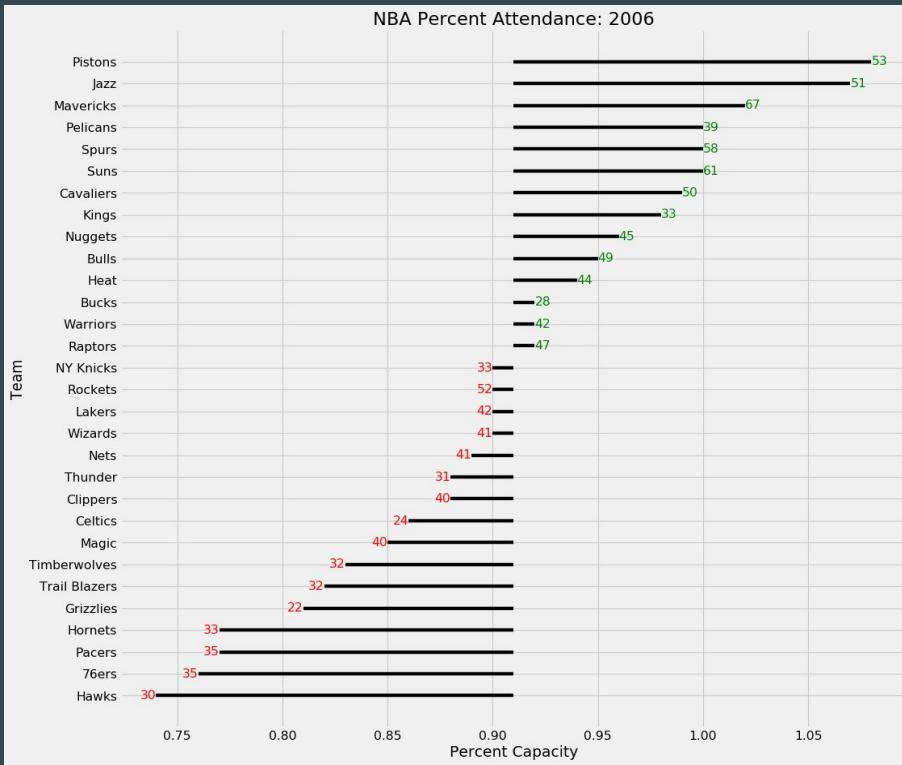
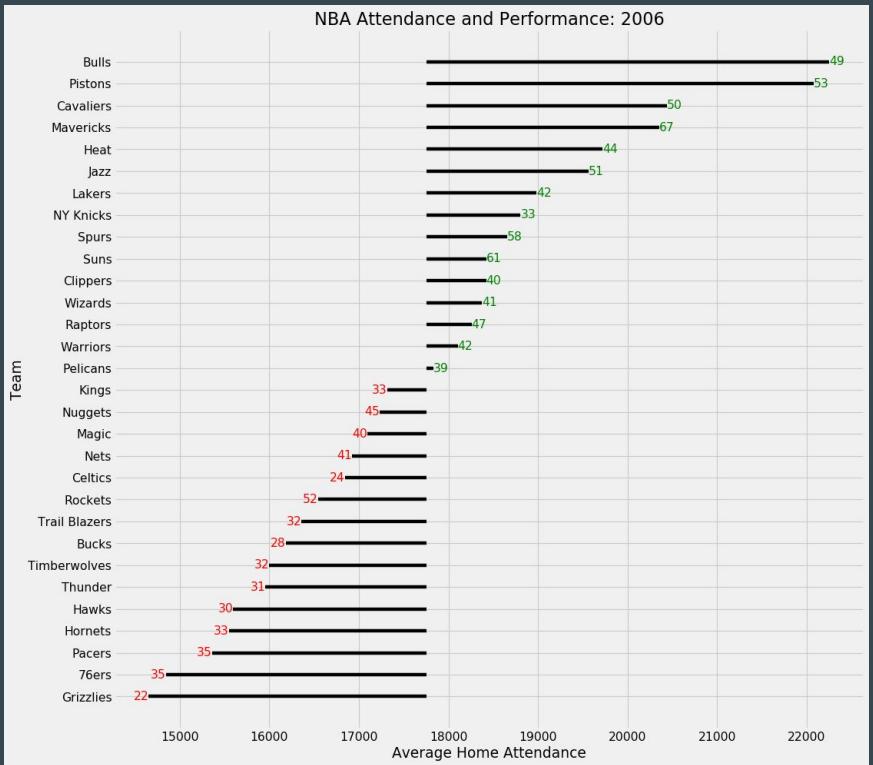


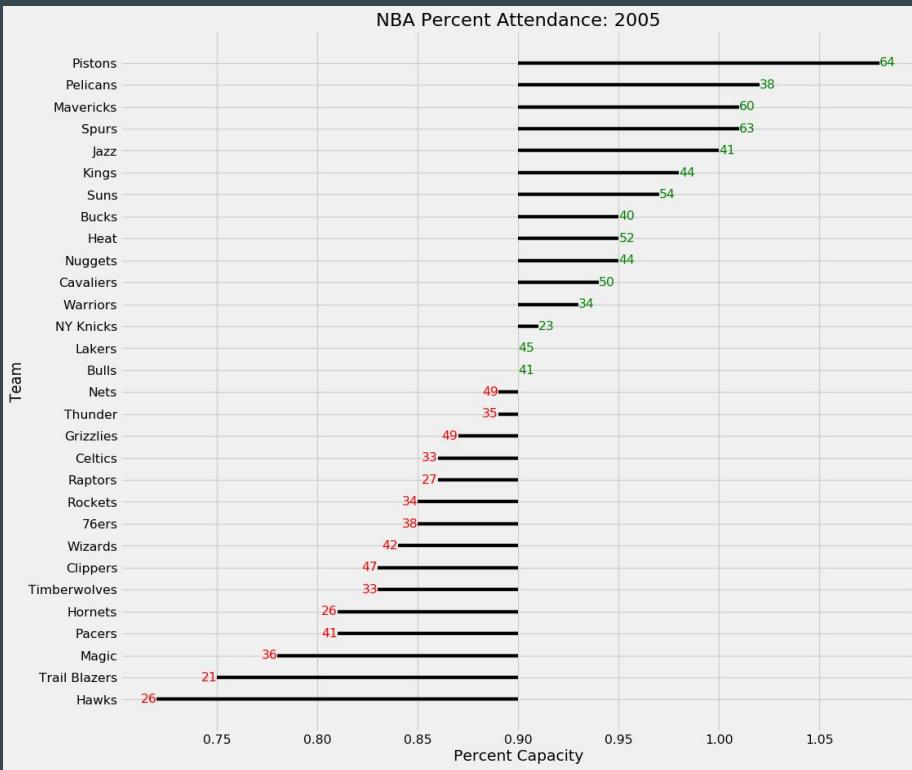
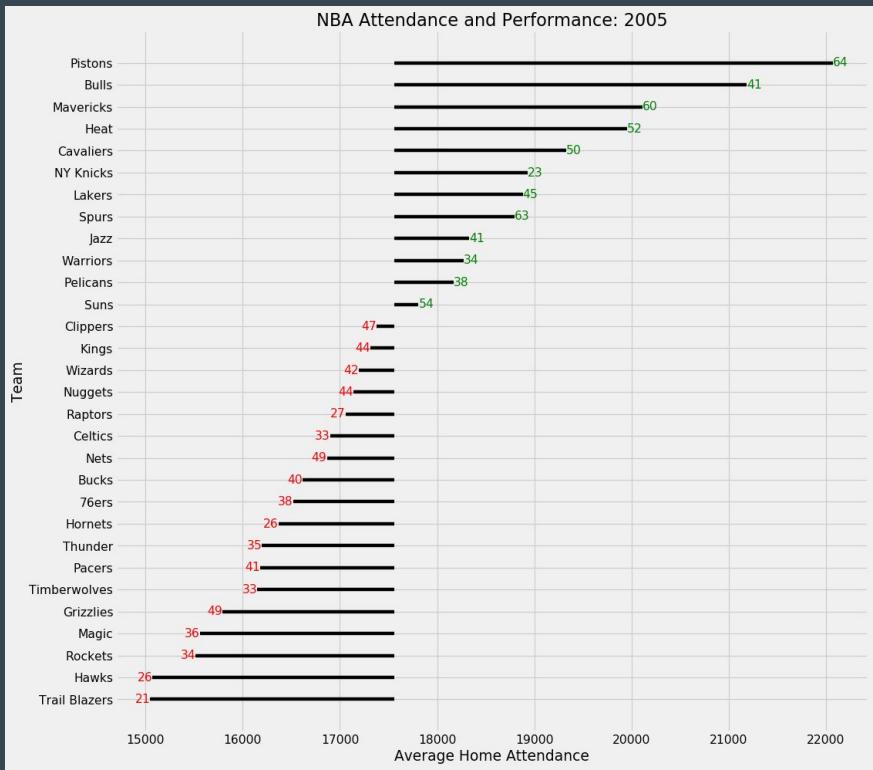
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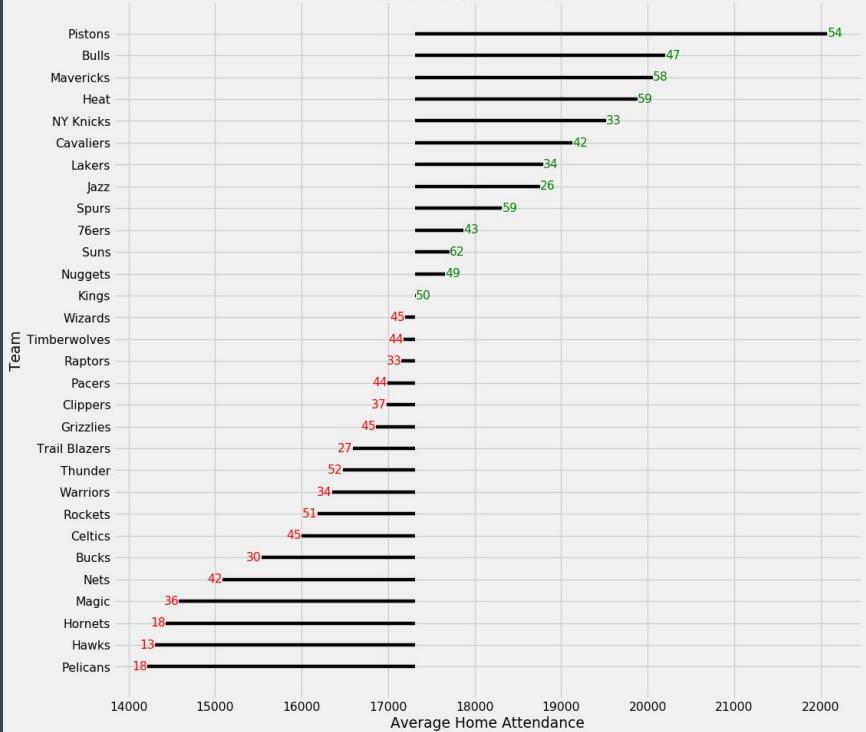
NBA Percent Attendance: 2007



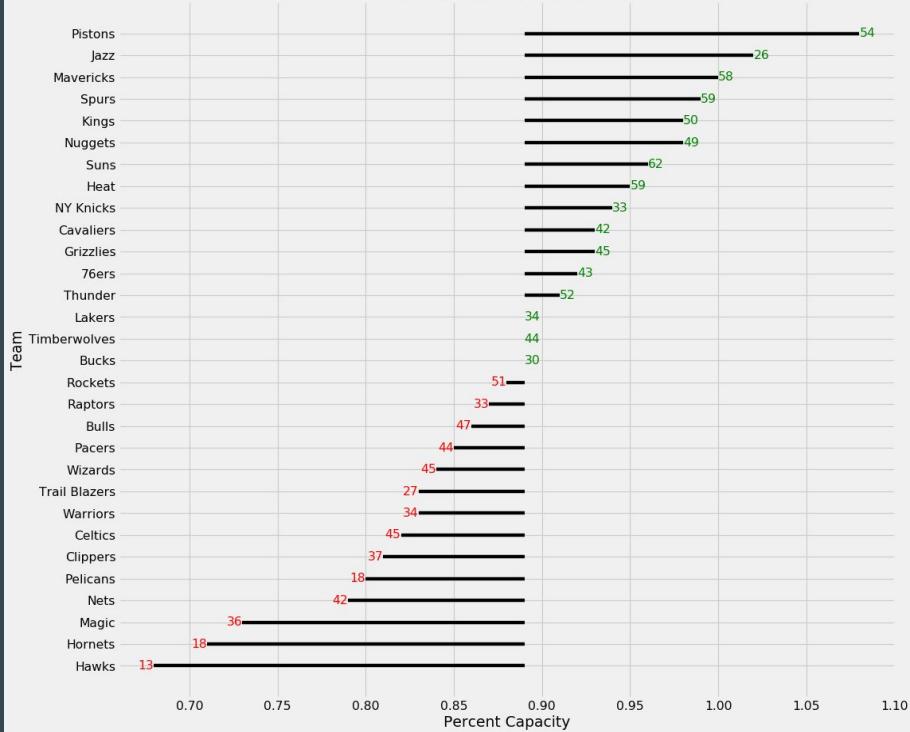


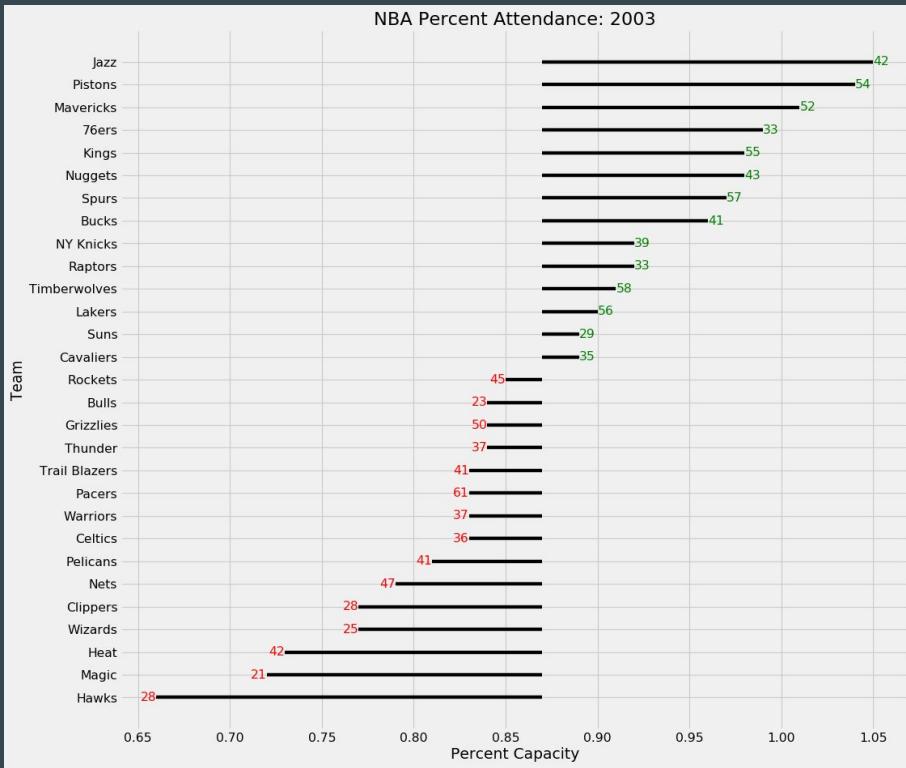
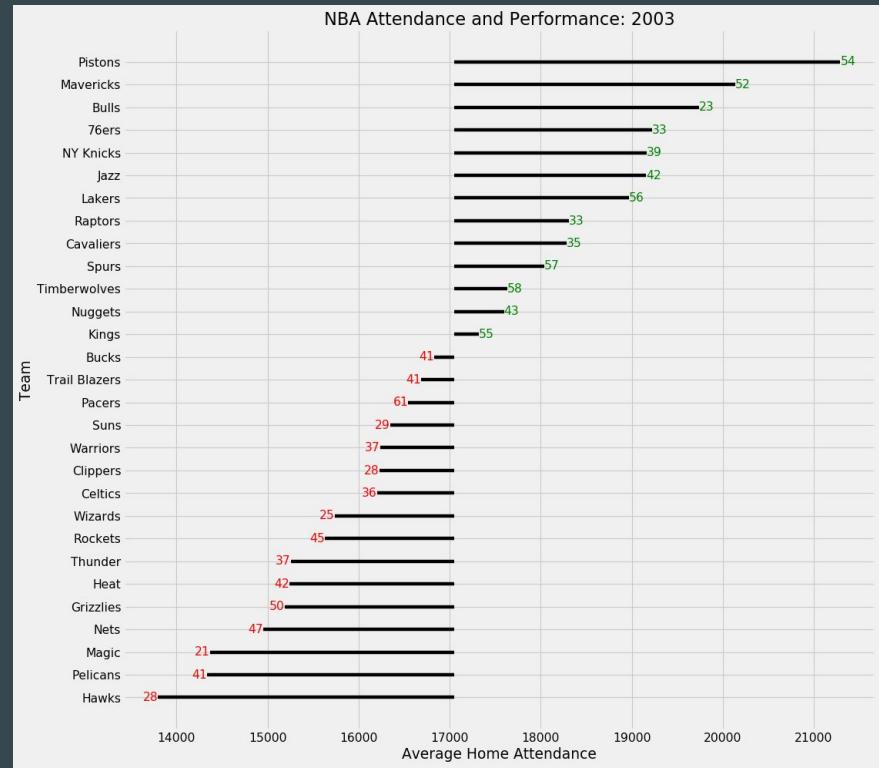


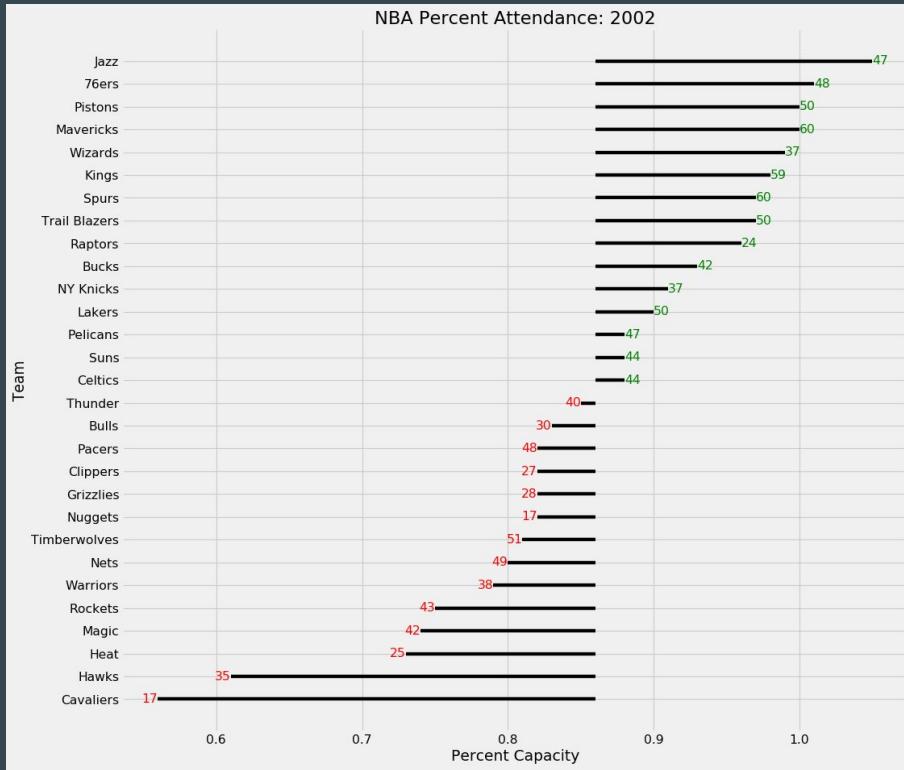
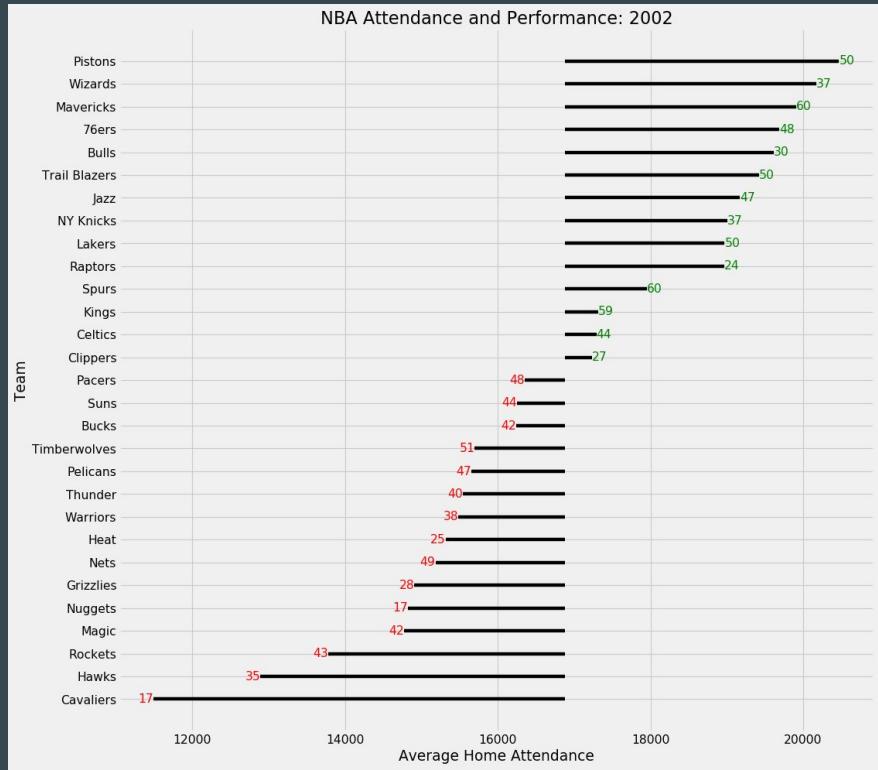
NBA Attendance and Performance: 2004

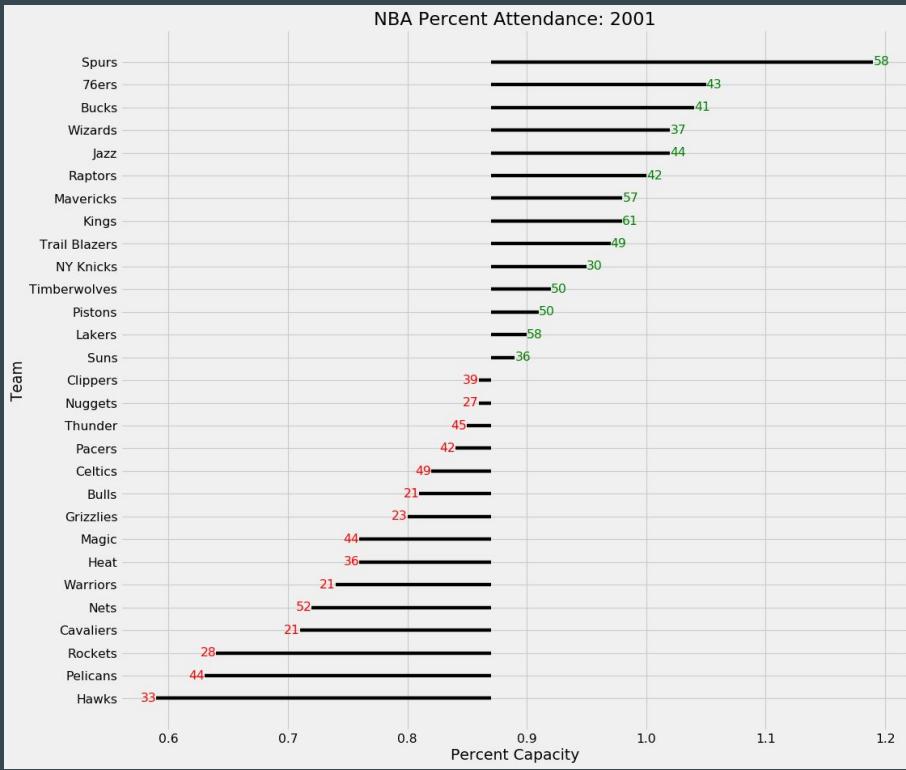
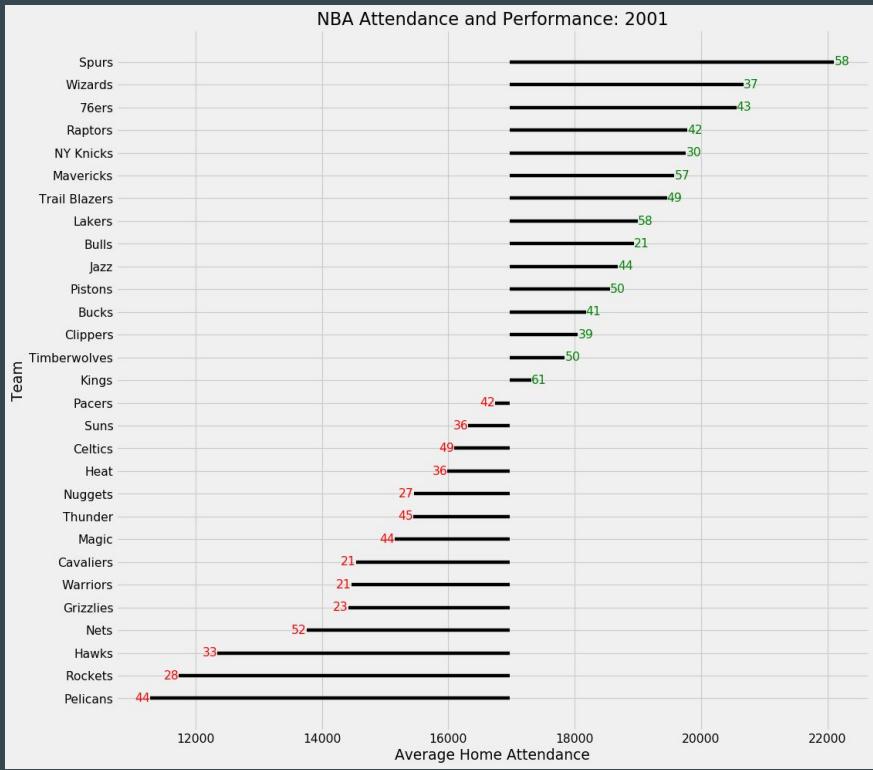


NBA Percent Attendance: 2004

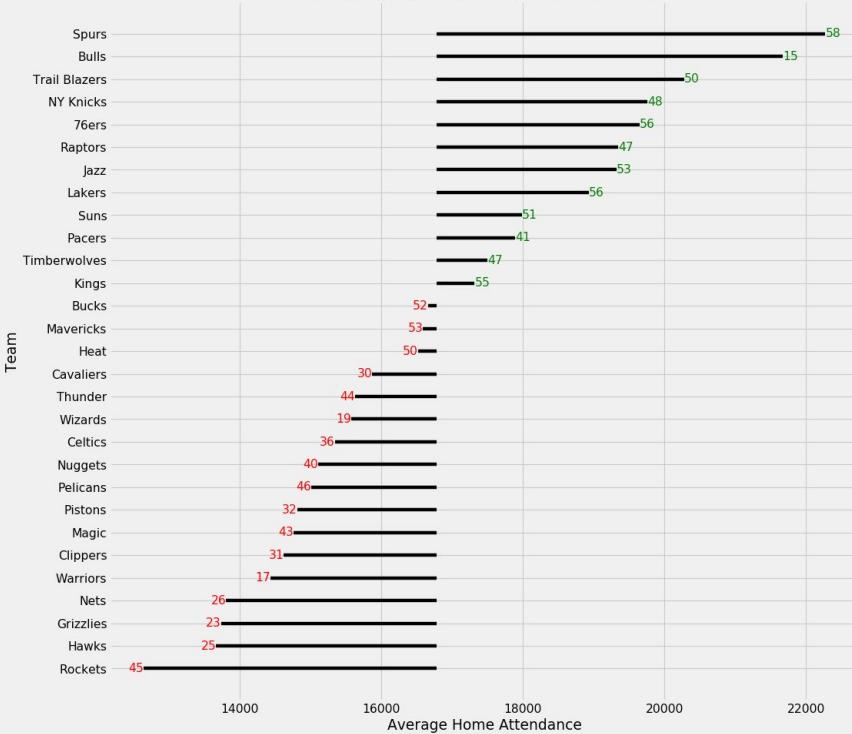




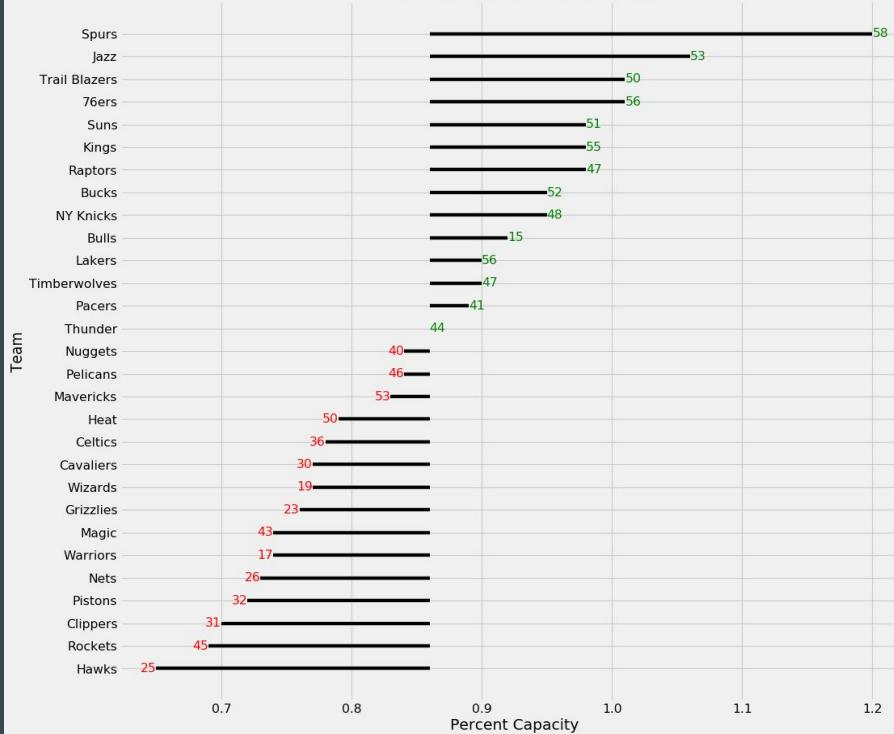




NBA Attendance and Performance: 2000



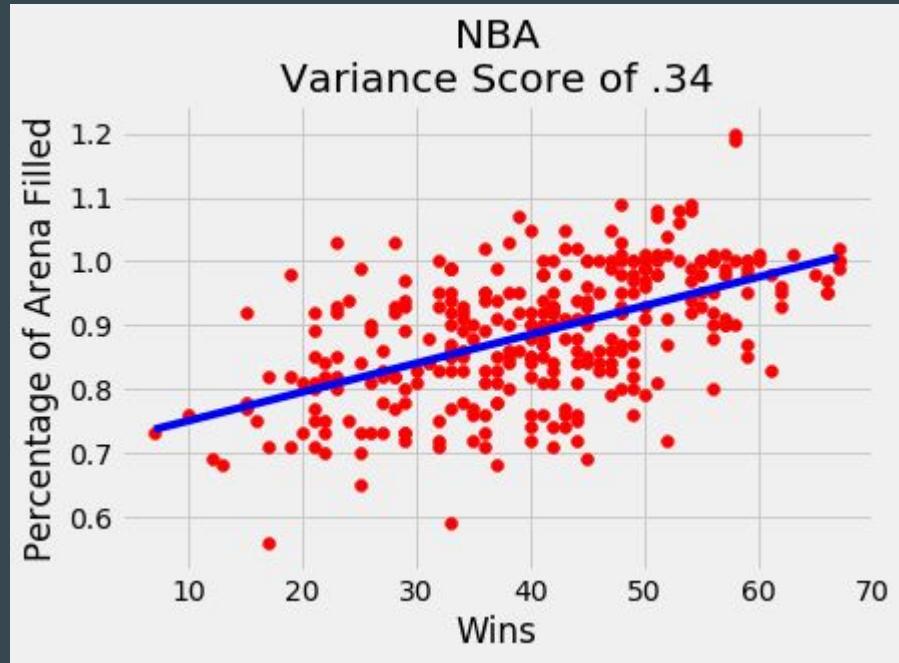
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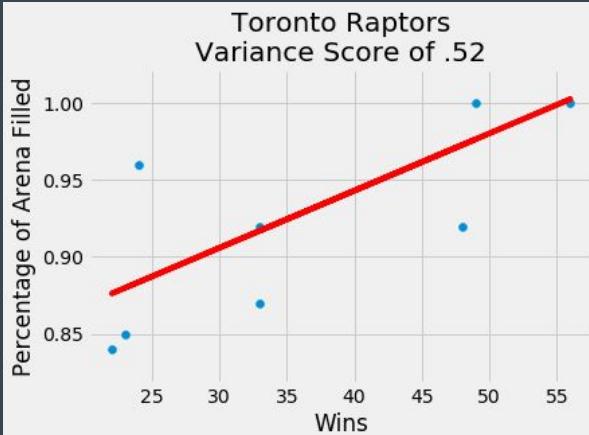
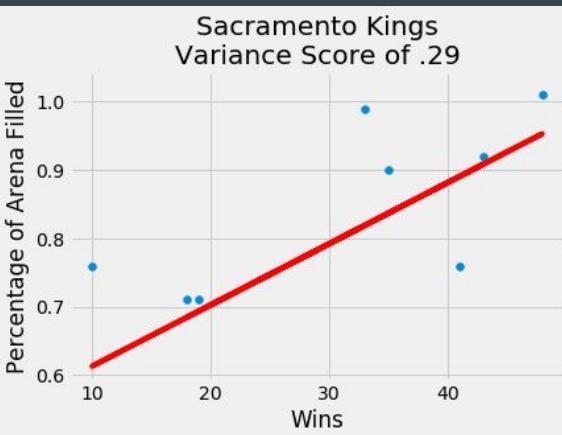
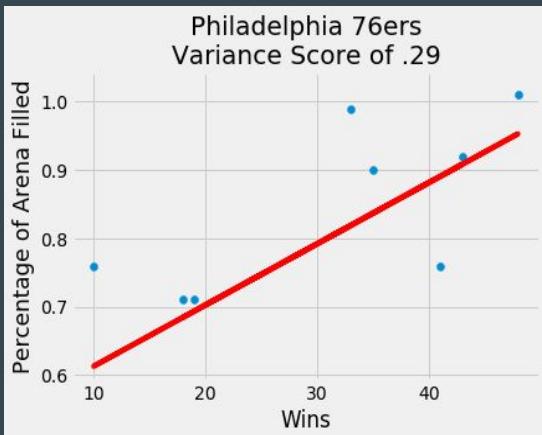
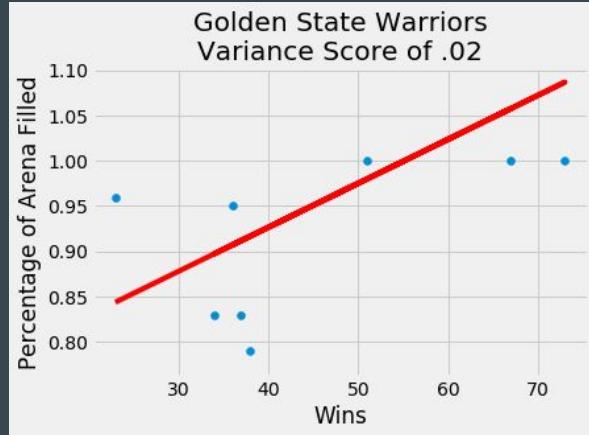
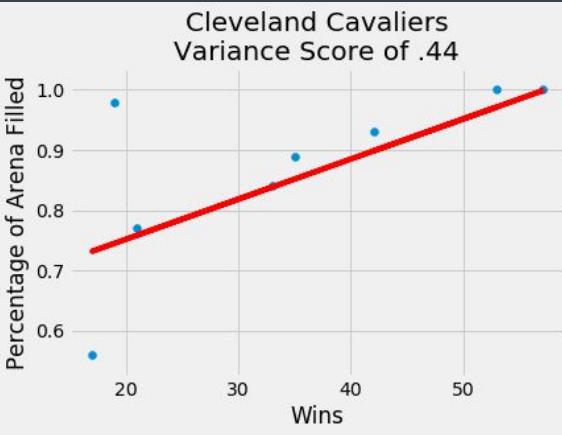
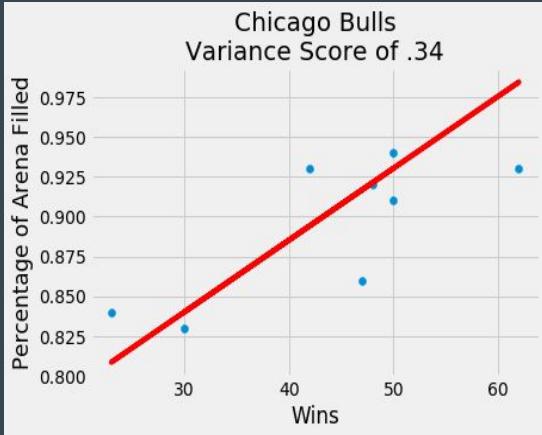


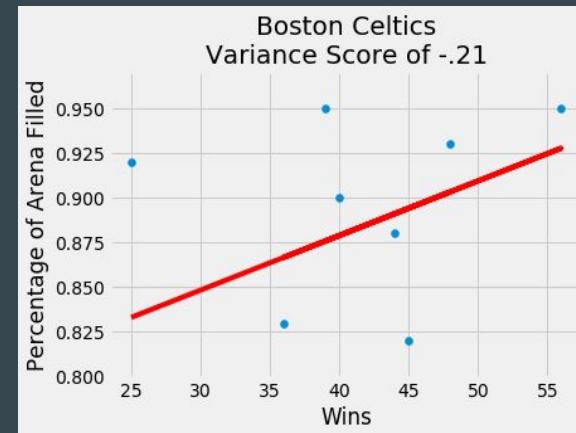
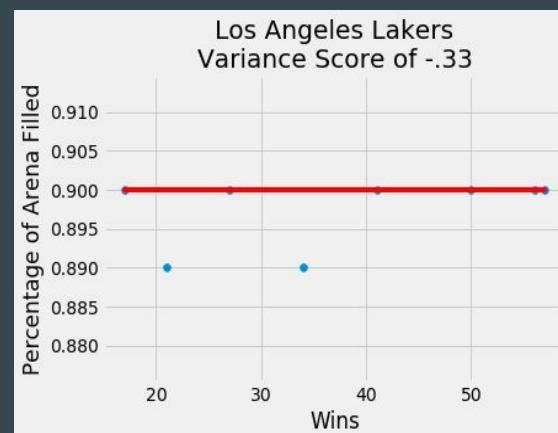
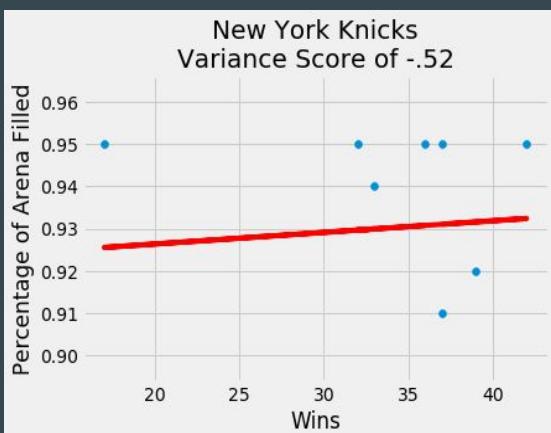
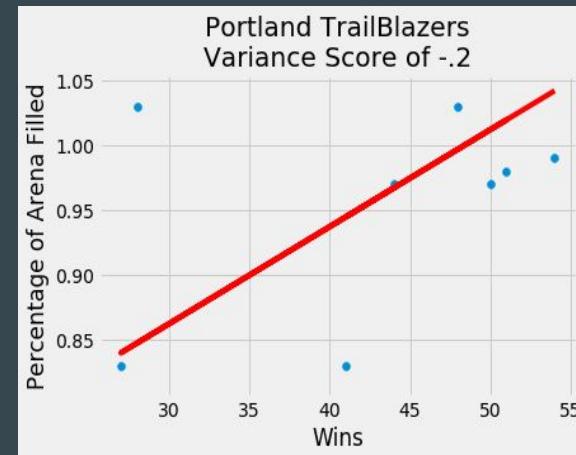
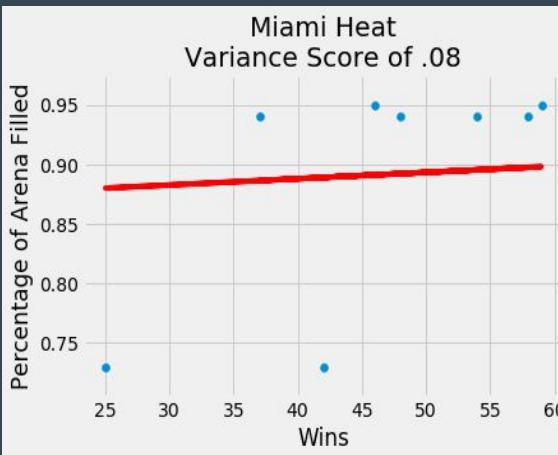
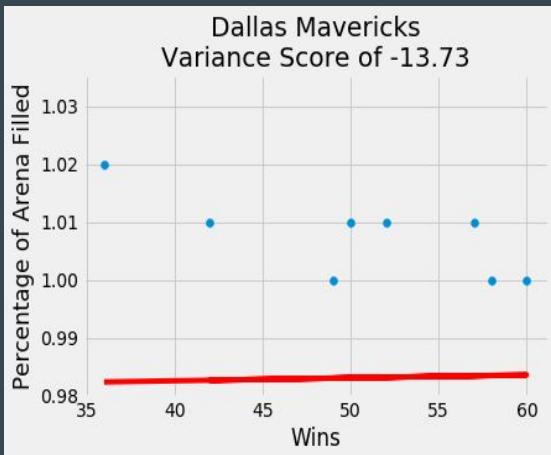
Interesting Trends

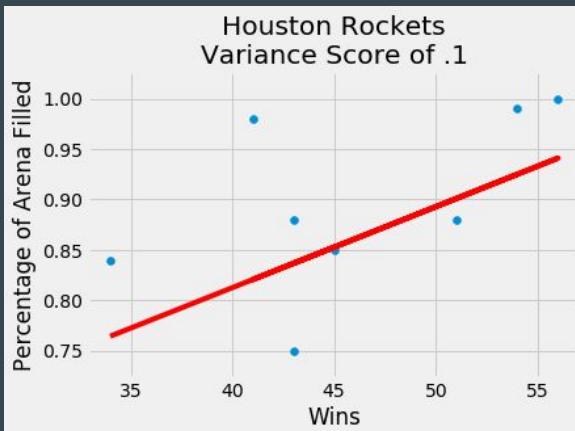
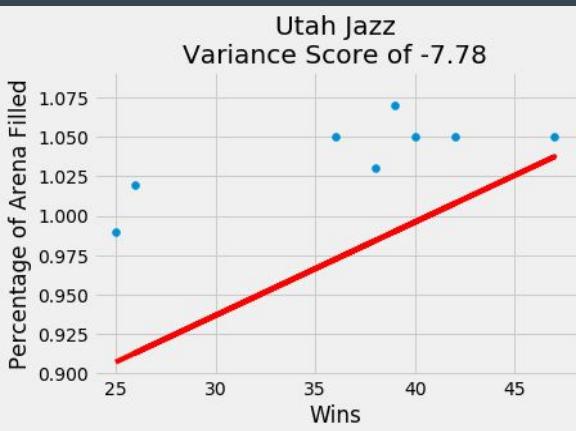
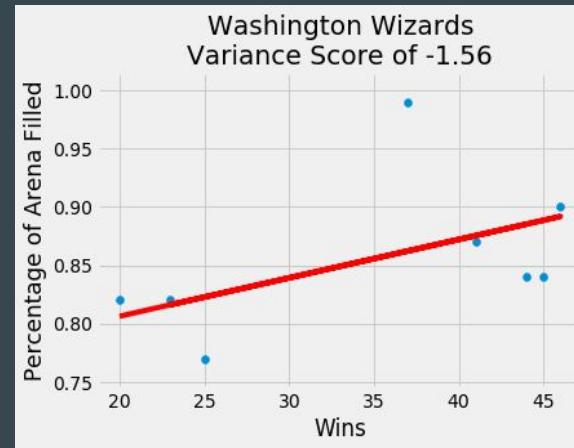
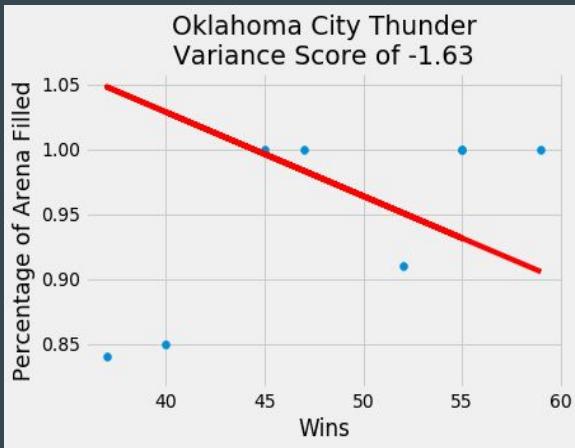
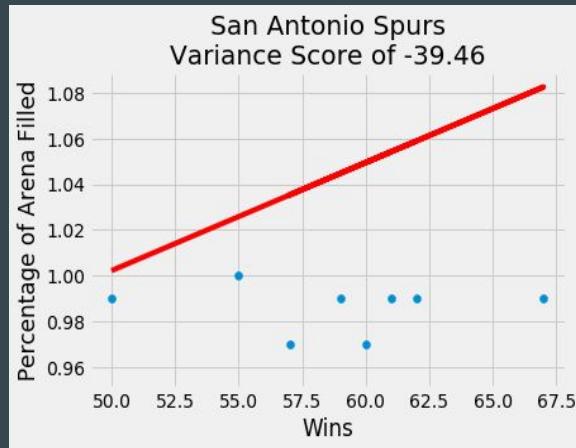
- The average home attendance has increased from 16,783 during the 2000-2001 season to 17,988 during the 2017-2018 season. The average percent capacity increased from 86% during the 2000-2001 season to 92% throughout the 2017-2018 season.
- The Golden State Warriors found themselves towards the bottom in terms of percent capacity but they have been or at 100% of their stadium capacity since the 2012-2013 season.
- During the 2017-2018 season, the Sacramento Kings, despite winning just 27 games, managed to fill 100% of their stadium throughout the season
- Even when the Atlanta Hawks won an astonishing 60 games during the 2014-2015 season, they found themselves in the lower echelon in both attendance and percent capacity, behind the 25-win Orlando Magic and 38-win Indiana Pacers.

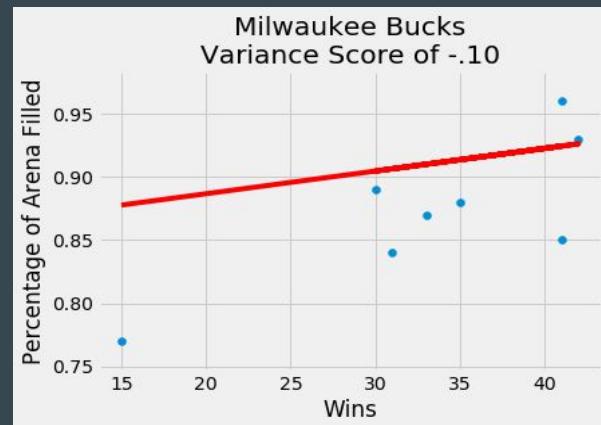
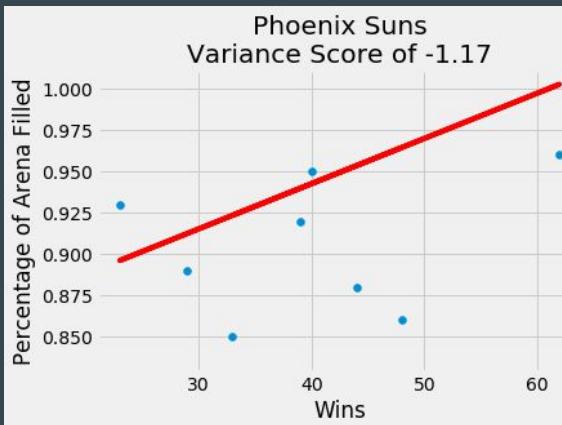
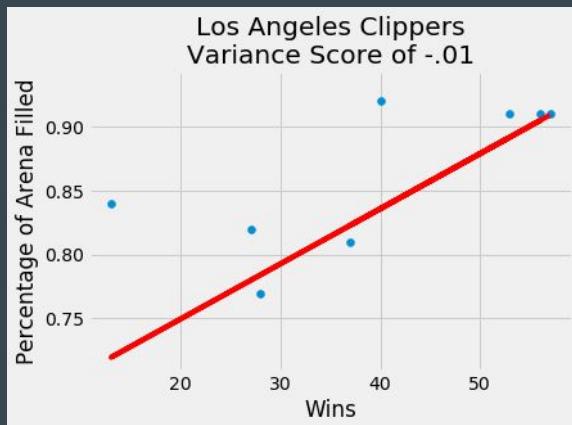
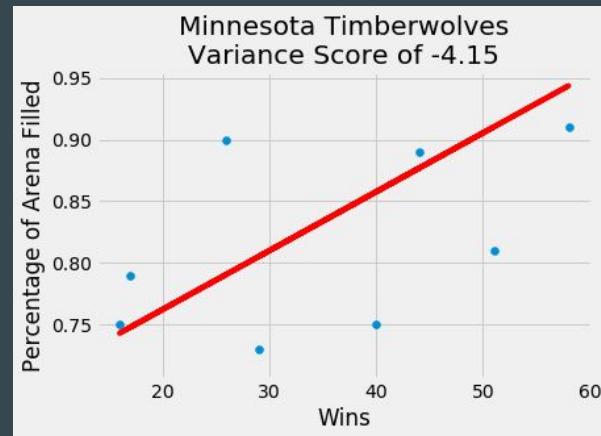
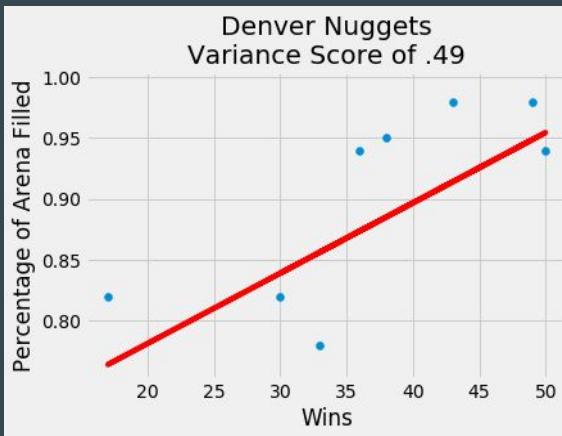
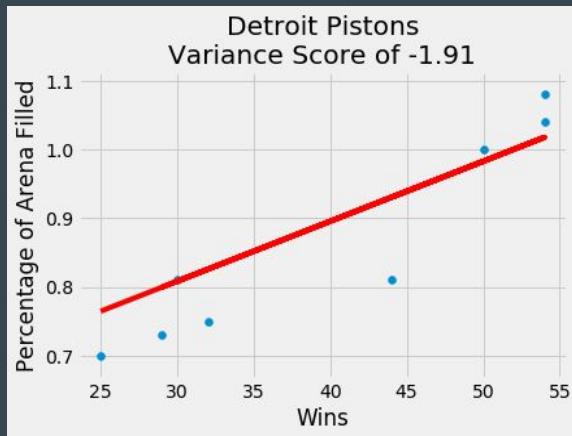
- The results of the linear regression model show that teams in the NBA posted a variance score of .34
- The Toronto Raptors posted the highest score in the league with a variance score of .52
- The San Antonio Spurs posted the lowest score around the league with a variance score of -39.46
- Some teams like the Cleveland Cavaliers and Atlanta Hawks follow a very linear relationship between wins and percent capacity
- Other teams like the Dallas Mavericks and Utah Jazz experience similar percent capacity regardless of wins

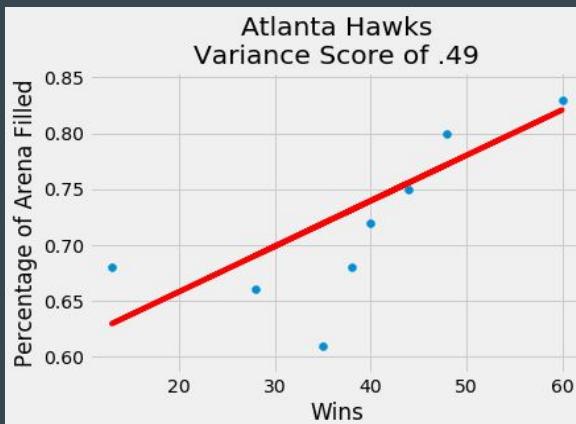
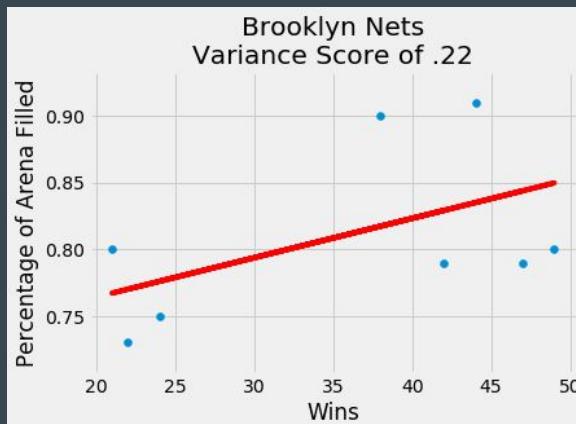
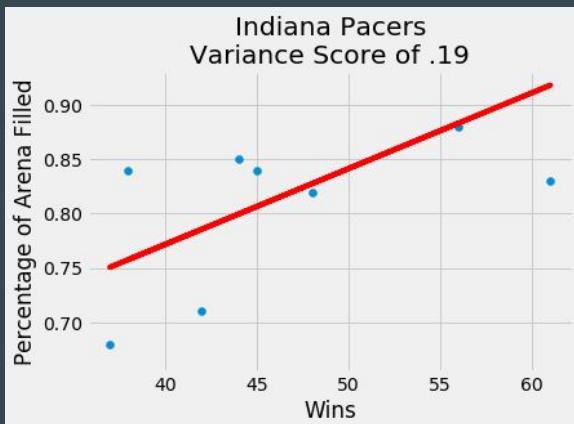
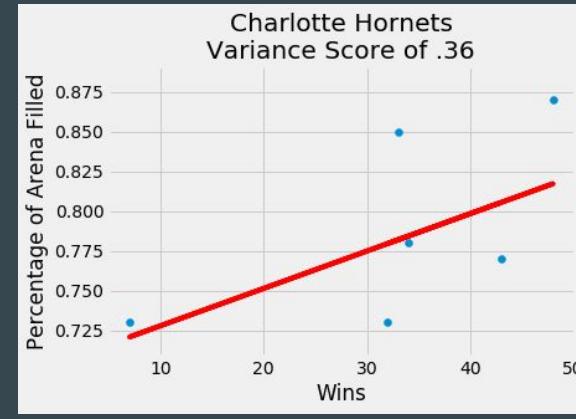
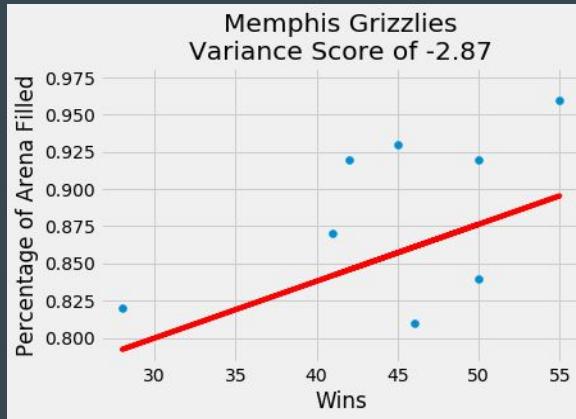
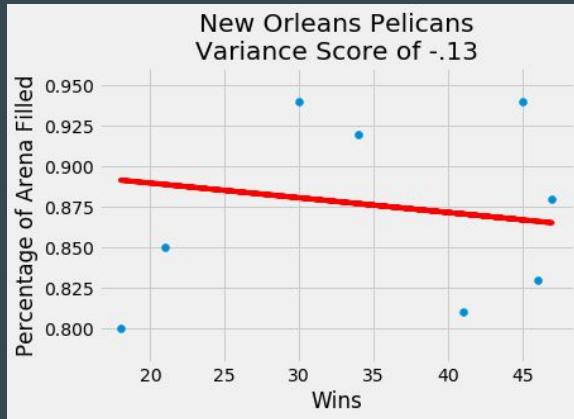












Future Considerations

- More personal and descriptive information could potentially be found if research was conducted specifically for each NBA team.
 - One possible tangent to pursue would be to conduct a poll for the respective fans of each team and compile a ranking of what factors are most important in bringing fans to the games. This would give a more accurate representation for the respective team and would be more applicable for each team as well. For example, a stadium may attract more fans because of the different attractions inside the stadium while another team's fans rank the quality of the team as the most important reason.
 - Another avenue to consider researching would be the impact a superstar player could have on the attendance trends. It would be interesting to see if a singular player could impact a team's attendance in any significant way.