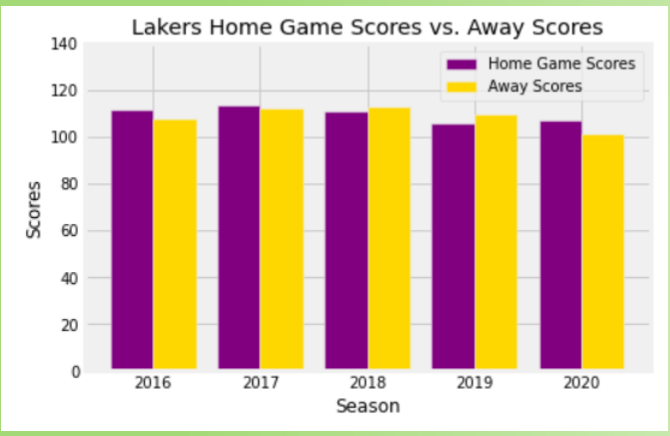
ANALYZING NBA GAME STATISTICS

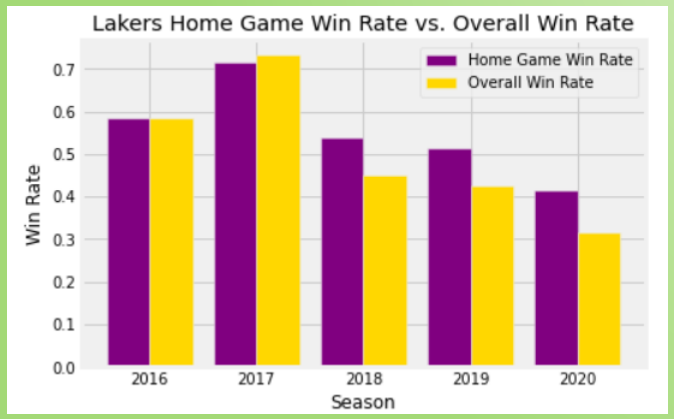
DIGHUM 100 - Theory and Methods in Digital Humanities by Dr. Adam G. Anderson || Kenneth Mao || June 6, 2021

Research Questions:

- Is home court advantage real?
- Is it more likely for a team to win if it was a home game.?
- Do teams score more for home games regardless of winning or losing?



Lakers home games scores vs away scores for the past 5 seasons



Lakers home games win rate vs overall win rate for the past 5 seasons

Average Overall Home Game Win Rate for the Past 5 years

DATA DESCRIPTION:

games.csv: all games from 2004 season to 2020 season with the dates, teams and some details like number of points for each game played.
games_details.csv: details of each game, such as player scores, time playerd, etc.
players.csv: player's name and team of each year.
ranking.csv: includes the ranking of teams for the western and eastern conference for each season, contains games won, total, home, and away.
teams.csv: includes detail of each team, such as year founded, owner, arena name, nicknames, etc.

PROCESS:

1) Obtain accurate NBA statistics, in .csv format.
2) Upload files to google drive.
3) Set up notebook.
4) Data cleaning.
5) Sort data to look for trend and pattern.
6) Use direct comparion to check if home court adventage exist.
7) Plot data to look for trend and pattern.
8) Use result to come up with an hypothesis.

References

1) .csv files with all the NBA Statistics from 2004 to 2020 seasons: https://www.kaggle.com/nathanlauga/nba-games
2) Insipiration of using NBA data for poster: Poster by Edress Gul from Summer 2020
3) Source of the average Field Goal percentage graph: https://weaksideawareness.wordpress.com/2012/01/12/how-aggregate-nba-stats-change-through-season/
4) Reference for setting up Github: https://github.com/AshQTan/DH100/blob/main/DH100_demo.ipynb
5) References of datascience functions: http://data8.org/sp21/python-reference.html
6) Coding reference for making the clustered bar charts: https://www.geeksforgeeks.org/create-a-grouped-bar-plot-in-matplotlib/