1. Warm-up
   1. Sort the goalies by their save percentage (‘SV%’), which is the ratio of their shots saved over the total number of shots they faced. What issues do you notice by using this metric to rank goalies? What could be done to deal with this? **Add this discussion to your blog post** (no need for the dataframe or a plot yet).

Answer:

* When we sorted the goalies by their SV%, all variables become sorted in the same time.
* How we fix it:
* First, we rank all columns
* Second, we rank the data frame by SV%
* Lastly, we sorted the data frame by SV%

Text, email

Description automatically generated

Graphical user interface, text

Description automatically generated

1. Filter out the goalies using your proposed approach above, and produce a bar plot with player names on the y-axisand save percentage (‘SV%’) on the x-axis. You can keep the top 20 goalies. **Include this figure in your blog post**; ensure all of the axes are labeled and the title is appropriate.

A picture containing graphical user interface

Description automatically generated

1. Save percentage is obviously not a very comprehensive feature. **Discuss** what other features could potentially be useful in determining a goalie’s performance. You do not need to implement anything unless you really want to, all that’s required is a short paragraph of discussion.

There are other features that could demaonstrate the goalie performance which include numbers of points(P), game won (Win), and number of game played as followed. We took top 20 players.

* 1. Goalie performance by number of points(P) which is a total of numbers of assist plus number goal per player among the top 20.

A picture containing chart

Description automatically generated

* 1. Goalie performance by number of game won(Win).

Chart

Description automatically generated with low confidence

* 1. Goalie’s performance by number of games played(GP) among the top 20.

Chart, bar chart

Description automatically generated

5.Simple Visualizations

1. 5. 1. **Produce a histogram OR BARPLOT** of shot types over all teams in a season of your choosing. Overlay the number of goals overtop the number of shots. What appears to be the most dangerous type of shot? The most common type of shot? Add this figure and discussion to your blog post.

Answer: The most type of shot is deflected shot which yielded 24% of the total shot attempted. The most common type of short is Wrist shot which counted 40392 shots more than any type of shot.