Final Project

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```
# Load libraries
library(readr)
library(dplyr)
```

```
##
## Attaching package: 'dplyr'
```

```
## The following objects are masked from 'package:stats':
##
##     filter, lag
```

```
## The following objects are masked from 'package:base':
##
##     intersect, setdiff, setequal, union
```

```
library(ggplot2)
```

Here I downloaded csv files from Baseball Reference 2023 Team Data to look at how the Padres compared to every other team and against the league average in defense, pitching, batting, and war for each position group

```
# Load in csv files
defense_2023 = read_csv("defense_2023.csv") |>
  filter(Tm != "NA")
```

```
## Rows: 32 Columns: 12
## -- Column specification --------------------------------------------------------
## Delimiter: ","
## chr  (1): Tm
## dbl (11): RA/G, DefEff, Ch, PO, A, E, DP, Fld%, Rtot, Rtot/yr, Rdrs
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

```
war_2023 = read_csv("war_2023.csv")
```

```
## Rows: 31 Columns: 17
## -- Column specification --------------------------------------------------------
## Delimiter: ","
## chr (17): Rk, Total, All P, SP, RP, Non-P, C, 1B, 2B, 3B, SS, LF, CF, RF, OF...
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

```
pitch_2023 = read_csv("pitch_2023.csv")|>
  filter(Tm != "NA")
```

```
## Rows: 32 Columns: 25
```

```
## -- Column specification --------------------------------------------------------
## Delimiter: ","
## chr  (1): Tm
## dbl (24): RA/G, W-L%, ERA, CG, tSho, cSho, SV, IP, H, R, ER, HR, BB, SO, WP,...
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

```
bat_2023 = read_csv("bat_2023.csv") |>
  filter(Tm != "NA")
```

```
## Rows: 32 Columns: 20
## -- Column specification --------------------------------------------------------
## Delimiter: ","
## chr  (1): Tm
## dbl (19): R/G, R, H, 2B, 3B, HR, RBI, SB, CS, BB, SO, BA, OBP, SLG, OPS, OPS...
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

```
# Trimming this doum to Padres versus league average
padres_bat = bat_2023 |>
  filter(Tm == "San Diego Padres" | Tm == "League Average")

head(padres_bat)
```

```
## # A tibble: 2 x 20
##   Tm     `R/G`     R     H  `2B`  `3B`    HR   RBI    SB    CS    BB    SO    BA
##   <chr>  <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>
## 1 San D~  4.64   752  1316   273    14   205   719   137    32   653  1311 0.244
## 2 Leagu~  4.62   748  1361   274    24   196   717   117    29   527  1395 0.248
## # i 7 more variables: OBP <dbl>, SLG <dbl>, OPS <dbl>, `OPS+` <dbl>, TB <dbl>,
## #   GDP <dbl>, LOB <dbl>
```

The Padres are only significantly under league average in 3B, GIDP and a little under LOB

```
# Trimming this doum to Padres versus league average while getting rid of a column that had a Unicode v
padres_pitch = pitch_2023 |>
  select(-24) |>
  filter(Tm == "San Diego Padres" | Tm == "League Average")

head(padres_pitch)
```

```
## # A tibble: 2 x 24
##   Tm          `RA/G` `W-L%`   ERA    CG  tSho  cSho    SV    IP     H     R    ER
##   <chr>        <dbl>  <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>
## 1 League Av~   4.62  0.5    4.33     1    10     1    41  1436  1361   748   690
## 2 San Diego~   4     0.506  3.73     0    16     0    36  1441  1270   648   598
## # i 12 more variables: HR <dbl>, BB <dbl>, SO <dbl>, WP <dbl>, `ERA+` <dbl>,
## #   FIP <dbl>, WHIP <dbl>, H9 <dbl>, HR9 <dbl>, BB9 <dbl>, SO9 <dbl>, LOB <dbl>
```

The Padres are only worse than league average in W-L%, SV, Walks, and BB9. They also were better than league average in SO/Walk ratio.

```
# Triming this doum to Padres versus league average
padres_defense = defense_2023 |>
  filter(Tm == "San Diego Padres" | Tm == "League Average")
```

```r
head(padres_defense)
```

```
## # A tibble: 2 x 12
##   Tm    `RA/G` DefEff    Ch    PO     A     E    DP `Fld%`  Rtot `Rtot/yr`  Rdrs
##   <chr>  <dbl>  <dbl> <dbl> <dbl> <dbl> <dbl> <dbl>  <dbl> <dbl>     <dbl> <dbl>
## 1 San ~   4     0.702  5840  4323  1444    73   130  0.988    44         4    40
## 2 Leag~   4.62  0.691  5794  4309  1401    84   132  0.986     1         0     9
```

The Padres are only worse than league average in DP.

```r
# Showing WAR and ranking for each position
war_2023
```

```
## # A tibble: 31 x 17
##    Rk    Total   `All P` SP    RP    `Non-P` C     `1B`  `2B`  `3B`  SS    LF
##    <chr> <chr>   <chr>   <chr> <chr> <chr>   <chr> <chr> <chr> <chr> <chr> <chr>
##  1 1     Atlant~ MIA22.9 MIA1~ NYY1~ ATL39.4 ARI3~ ATL7~ TEX7~ ATL5~ TEX7~ SDP5~
##  2 2     Tampa ~ PHI21.6 MIN1~ CIN1~ TBR35.4 STL3~ LAD6~ CLE5~ PIT5~ TBR6~ ARI4~
##  3 3     Texas ~ MIN20.8 PHI1~ PHI7~ TEX34.8 PHI3~ TBR5~ ATL5~ HOU4~ NYM5~ TBR3~
##  4 4     Housto~ NYY20.0 TEX1~ MIA7~ HOU32.0 ATL3~ ARI3~ ARI4~ TOR4~ SEA5~ MIL3~
##  5 5     Minnes~ MIL18.6 SDP1~ MIL7~ LAD31.9 SEA3~ NYM3~ CHC4~ TBR4~ CHC5~ HOU3~
##  6 6     Toront~ SEA17.8 NYM1~ TBR6~ TOR30.7 MIL3~ SFG3~ MIA4~ BAL4~ SDP4~ CLE3~
##  7 7     Philad~ TBR17.5 SEA1~ BOS6~ SDP29.1 BAL3~ STL2~ SDP4~ CLE4~ TOR4~ CHC3~
##  8 8     Los An~ BOS17.4 MIL1~ HOU6~ BAL28.0 TEX2~ TEX2~ HOU4~ SDP3~ KCR4~ TOR2~
##  9 9     San Di~ SFG16.5 TBR1~ SFG6~ MIN25.5 TOR2~ BAL2~ PHI3~ BOS3~ HOU4~ CIN2~
## 10 10    Baltim~ BAL16.3 BOS1~ BAL6~ SEA24.9 LAD2~ BOS2~ MIN3~ MIN3~ PHI3~ BAL2~
## # i 21 more rows
## # i 5 more variables: CF <chr>, RF <chr>, `OF (All)` <chr>, DH <chr>, PH <chr>
```

Based off of WAR rankings, they were ranked 9th total, 12th in all Pitching, 5th in SP, 22nd in RP, 11th in C, 23rd in 1B, 7th in 2nd, 8th in 3B, 6th in SS, 3rd in OF, and 20th in DH.

So Based off of all of these stats, they should've been a good, if not great team, like the preseason media polls and power rankings predicted. Let's see what the Pythagorem Winning Percentage shows.

```r
# Create the Pythagorem Win Percentage
R = padres_bat$R[1]
RA = padres_pitch$R[2]

pyth = round((R ^ 2) / ( (R ^ 2) + (RA ^ 2)) * 162, digits = 2)
cat("The Pythagorem Winning Percentage equation estimates they shouldve won:", pyth, "games")
```

```
## The Pythagorem Winning Percentage equation estimates they shouldve won: 92.97 games
```

```r
actual_wins = round(padres_pitch$`W-L%`[2] * 162, digits = 0)
cat("The Padres actually won:", actual_wins, "games")
```

```
## The Padres actually won: 82 games
```

So they were projected to win roughly 93 games but only ended up winning 82 games. In both leagues, 93 wins would've been enough to get them in the playoffs. Based off of everything so far, nothing seems to show how they lost 11 more games than they should've. There's a couple splits I want to look at that could be the problem. First I want to see if their home/away splits were really good or really bad in either pitching or hitting. Secondly, I want to see if injuries to some of their star players could've skewed the Runs/RA data. Lastly, I want to see the monthly breakdown to see if maybe they just had a really good start to the season that skewed numbers or vice versa with the end of the season.

Home/Away Splits

```
# Download retrosheet library and download their 2023 games
library(retrosheet)
```

```
##
## For Retrosheet data obtained with this package:
##
## The information used here was obtained free of charge from
## and is copyrighted by Retrosheet. Interested parties may
## contact Retrosheet at "www.retrosheet.org"
```

```
padres_games = getRetrosheet("game", 2023) |>
  filter(VisTm == "SDN" | HmTm == "SDN")

# Get their home wins/losses and away wins/losses
home_wins = padres_games |>
  filter(HmTm == "SDN" & HmRuns > VisRuns) |>
  summarise(wins = n())

home_losses = padres_games |>
  filter(HmTm == "SDN" & HmRuns < VisRuns) |>
  summarise(losses = n())

away_wins = padres_games |>
  filter(VisTm == "SDN" & HmRuns < VisRuns) |>
  summarise(wins = n())

away_losses = padres_games |>
  filter(VisTm == "SDN" & HmRuns > VisRuns) |>
  summarise(losses = n())

cat("The Padres home record was", home_wins$wins, "wins and", home_losses$losses, "losses
")
```

```
## The Padres home record was 44 wins and 37 losses
```

```
cat("The Padres away record was", away_wins$wins, "wins and", away_losses$losses, "losses")
```

```
## The Padres away record was 38 wins and 43 losses
```

Based off of this, it seems like their home and away record isn't anything that could explain the bad record

Injuries/Suspended/Days off

I'm interested to see if maybe in games without Tatis, Machado, Bogaerts, or Soto has any affect on their record and could explain why they lost so many games. So I will compare their winning percentage with all four of them starting and without at least 1 of them there.

```
# Filtered games so that all 4 had to be in the starting lineup and unfortunately had to go by anywhere
games_with_all = padres_games |>
  filter( (VisBat1Nm == "Fernando Tatis" | VisBat2Nm == "Fernando Tatis" | VisBat3Nm == "Fernando Tatis
```

```r
# Finding games where they won/loss with and without all 4 playing
win_all = games_with_all |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())

lose_all = games_with_all |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())

win_pct_with_all = win_all$wins / (win_all$wins + lose_all$losses)
total_win_pct = round(82 / 162, digits = 2)

cat("With all four of their best position players, the Padres won", win_pct_with_all * 100, "% of their
```

```
## With all four of their best position players, the Padres won 50 % of their games while having a 51 %
```

So this data seems to suggest that in games where they were missing at least 1 of their top 4 offensive hitters, they had a pretty similar win percentage. I'm going to look into parts of the season where they were missing one of their main starting pitchers or Josh Hader (just because he is that good) and see if they lost more games when they were out.

For the pitchers, Snell didn't miss any time, Yu Darvish missed all of September, Michael Wacha missed a month and a half from July 1st to August 15th, Seth Lugo missed a month from May 16th to June 20th, Musgrove didn't start till April 22nd and didn't pitch after July 28th and Hader didn't miss any significant time. I'll use retrosheet to see the win percentage during each stint without each pitcher and see if it was much different.

```r
# filter games by dates these pitchers where out
games_without_darvish = padres_games |>
  filter(Date >= 20230901)
games_without_wacha = padres_games |>
  filter(Date > 20230701 & Date < 20230815)
games_without_lugo = padres_games |>
  filter(Date > 20230516 & Date < 20230620)
games_without_musgrove = padres_games |>
  filter(Date < 20230423 | Date > 20230729)


# Find win percentage during times with and without each pitcher
win_no_darvish = games_without_darvish |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_no_darvish = games_without_darvish |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_without_darvish = win_no_darvish$wins / (win_no_darvish$wins + lose_no_darvish$losses)


win_no_wacha = games_without_wacha |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_no_wacha = games_without_wacha |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_without_wacha = win_no_wacha$wins / (win_no_wacha$wins + lose_no_wacha$losses)
```

```r
win_no_lugo = games_without_lugo |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_no_lugo = games_without_lugo |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_without_lugo = win_no_lugo$wins / (win_no_lugo$wins + lose_no_lugo$losses)


win_no_musgrove = games_without_musgrove |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_no_musgrove = games_without_musgrove |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_without_musgrove = win_no_musgrove$wins / (win_no_musgrove$wins + lose_no_musgrove$losses)

cat("The win percentage without Yu Darvish was", round(win_pct_without_darvish * 100, digits = 2), "%,
```

```
## The win percentage without Yu Darvish was 74.07 %, the win percentage without Michael Wacha was 50 %
```

Based off of this we can conlcude that with the batters and pitchers missing games throughout the season, it had zero affect on winning percentage except for Yu Darvish who actually hurt the team's winning percentage which makes sense since he didn't have a good season.

Montly Breakdown

Now I'm going to look at the monthly win percent to see if maybe they just had really good months to cover up their bad months.

```r
# Filter games into each month
march_games = padres_games |>
  filter(Date >= 20230301 & Date < 20230401) # Two games
april_games = padres_games |>
  filter(Date >= 20230401 & Date < 20230501)
may_games = padres_games |>
  filter(Date >= 20230501 & Date < 20230601)
june_games = padres_games |>
  filter(Date >= 20230601 & Date < 20230701)
july_games = padres_games |>
  filter(Date >= 20230701 & Date < 20230801)
august_games = padres_games |>
  filter(Date >= 20230801 & Date < 20230901)
september_games = padres_games |>
  filter(Date >= 20230901 & Date < 20231001)
october_games = padres_games |>
  filter(Date >= 20231001 & Date < 20231101) # One non-playoff game

# Find win loss percentage for each month
win_march = march_games |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
```

```
  summarise(wins = n())
lose_march = march_games |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_march = win_march$wins / (win_march$wins + lose_march$losses)


win_april = april_games |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_april = april_games |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_april = win_april$wins / (win_april$wins + lose_april$losses)


win_may = may_games |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_may = may_games |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_may = win_may$wins / (win_may$wins + lose_may$losses)


win_june = june_games |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_june = june_games |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_june = win_june$wins / (win_june$wins + lose_june$losses)


win_july = july_games |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_july = july_games |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_july = win_july$wins / (win_july$wins + lose_july$losses)


win_august = august_games |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_august = august_games |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_august = win_august$wins / (win_august$wins + lose_august$losses)


win_september = september_games |>
```

```
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_september = september_games |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_september = win_september$wins / (win_september$wins + lose_september$losses)


win_october = october_games |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_october = october_games |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_october = win_october$wins / (win_october$wins + lose_october$losses)



cat("The win percentage in the month of March was", round(win_pct_march * 100, digits = 2),"% (in two g
```

```
## The win percentage in the month of March was 0 % (in two games)
```

```
cat("The win percentage in the month of April was", round(win_pct_april * 100, digits = 2),"%\n")
```

```
## The win percentage in the month of April was 55.56 %
```

```
cat("The win percentage in the month of May was", round(win_pct_may * 100, digits = 2),"%\n")
```

```
## The win percentage in the month of May was 38.46 %
```

```
cat("The win percentage in the month of June was", round(win_pct_june * 100, digits = 2),"%\n")
```

```
## The win percentage in the month of June was 44.44 %
```

```
cat("The win percentage in the month of July was", round(win_pct_july * 100, digits = 2),"%\n")
```

```
## The win percentage in the month of July was 60 %
```

```
cat("The win percentage in the month of August was", round(win_pct_august * 100, digits = 2),"%\n")
```

```
## The win percentage in the month of August was 35.71 %
```

```
cat("The win percentage in the month of September was", round(win_pct_september * 100, digits = 2),"%\n
```

```
## The win percentage in the month of September was 73.08 %
```

```
cat("The win percentage in the month of October was", round(win_pct_october * 100, digits = 2),"% (in o
```

```
## The win percentage in the month of October was 100 % (in one game)
```

So here we have 2 months that were really bad months and 1 more month that is bad but not terrible. Is this average for playoff teams to have a couple down months? They did have a very good July and September as well, so could this be the reason why they did worse than they were predicted to? Let's take a look at some another top preseason teams and see if they had similar months. I'm choosing the Houston Astros, the Philadelphia Phillies, and the Toronto Blue Jays.

```
# Get games for each team
astros_games = getRetrosheet("game", 2023) |>
  filter(VisTm == "HOU" | HmTm == "HOU")
```

```
phillies_games = getRetrosheet("game", 2023) |>
  filter(VisTm == "PHI" | HmTm == "PHI")

jays_games = getRetrosheet("game", 2023) |>
  filter(VisTm == "TOR" | HmTm == "TOR")
```

```
# Do monthly breakdowns for each team
march_games_astros = astros_games |>
  filter(Date >= 20230301 & Date < 20230401) # Two games
april_games_astros = astros_games |>
  filter(Date >= 20230401 & Date < 20230501)
may_games_astros = astros_games |>
  filter(Date >= 20230501 & Date < 20230601)
june_games_astros = astros_games |>
  filter(Date >= 20230601 & Date < 20230701)
july_games_astros = astros_games |>
  filter(Date >= 20230701 & Date < 20230801)
august_games_astros = astros_games |>
  filter(Date >= 20230801 & Date < 20230901)
september_games_astros = astros_games |>
  filter(Date >= 20230901 & Date < 20231001)
october_games_astros = astros_games |>
  filter(Date >= 20231001 & Date < 20231101) # One non-playoff game


win_march_astros = march_games_astros |>
  filter( (VisTm == "HOU" & VisRuns > HmRuns) | (HmTm == "HOU" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_march_astros = march_games_astros |>
  filter( (VisTm == "HOU" & VisRuns < HmRuns) | (HmTm == "HOU" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_march_astros = win_march_astros$wins / (win_march_astros$wins + lose_march_astros$losses)


win_april_astros = april_games_astros |>
  filter( (VisTm == "HOU" & VisRuns > HmRuns) | (HmTm == "HOU" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_april_astros = april_games_astros |>
  filter( (VisTm == "HOU" & VisRuns < HmRuns) | (HmTm == "HOU" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_april_astros = win_april_astros$wins / (win_april_astros$wins + lose_april_astros$losses)


win_may_astros = may_games_astros |>
  filter( (VisTm == "HOU" & VisRuns > HmRuns) | (HmTm == "HOU" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_may_astros = may_games_astros |>
  filter( (VisTm == "HOU" & VisRuns < HmRuns) | (HmTm == "HOU" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_may_astros = win_may_astros$wins / (win_may_astros$wins + lose_may_astros$losses)


win_june_astros = june_games_astros |>
  filter( (VisTm == "HOU" & VisRuns > HmRuns) | (HmTm == "HOU" & VisRuns < HmRuns) ) |>
```

```
  summarise(wins = n())
lose_june_astros = june_games_astros |>
  filter( (VisTm == "HOU" & VisRuns < HmRuns) | (HmTm == "HOU" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_june_astros = win_june_astros$wins / (win_june_astros$wins + lose_june_astros$losses)


win_july_astros = july_games_astros |>
  filter( (VisTm == "HOU" & VisRuns > HmRuns) | (HmTm == "HOU" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_july_astros = july_games_astros |>
  filter( (VisTm == "HOU" & VisRuns < HmRuns) | (HmTm == "HOU" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_july_astros = win_july_astros$wins / (win_july_astros$wins + lose_july_astros$losses)


win_august_astros = august_games_astros |>
  filter( (VisTm == "HOU" & VisRuns > HmRuns) | (HmTm == "HOU" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_august_astros = august_games_astros |>
  filter( (VisTm == "HOU" & VisRuns < HmRuns) | (HmTm == "HOU" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_august_astros = win_august_astros$wins / (win_august_astros$wins + lose_august_astros$losses)


win_september_astros = september_games_astros |>
  filter( (VisTm == "HOU" & VisRuns > HmRuns) | (HmTm == "HOU" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_september_astros = september_games_astros |>
  filter( (VisTm == "HOU" & VisRuns < HmRuns) | (HmTm == "HOU" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_september_astros = win_september_astros$wins / (win_september_astros$wins + lose_september_astr


win_october_astros = october_games_astros |>
  filter( (VisTm == "HOU" & VisRuns > HmRuns) | (HmTm == "HOU" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_october_astros = october_games_astros |>
  filter( (VisTm == "HOU" & VisRuns < HmRuns) | (HmTm == "HOU" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_october_astros = win_october_astros$wins / (win_october_astros$wins + lose_october_astros$losse


cat("The win percentage of the Astros in the month of March was", round(win_pct_march_astros * 100, dig
```

```
## The win percentage of the Astros in the month of March was 50 % (in two games)
```

```
cat("The win percentage of the Astros in the month of April was", round(win_pct_april_astros * 100, dig
```

```
## The win percentage of the Astros in the month of April was 53.85 %
```

```
cat("The win percentage of the Astros in the month of May was", round(win_pct_may_astros * 100, digits =
```

```
## The win percentage of the Astros in the month of May was 62.96 %
```

```
cat("The win percentage of the Astros in the month of June was", round(win_pct_june_astros * 100, digits
```

```
## The win percentage of the Astros in the month of June was 48.15 %
```

```
cat("The win percentage of the Astros in the month of July was", round(win_pct_july_astros * 100, digits
```

```
## The win percentage of the Astros in the month of July was 60 %
```

```
cat("The win percentage of the Astros in the month of August was", round(win_pct_august_astros * 100, di
```

```
## The win percentage of the Astros in the month of August was 60.71 %
```

```
cat("The win percentage  of the Astrosin the month of September was", round(win_pct_september_astros *
```

```
## The win percentage  of the Astrosin the month of September was 46.15 %
```

```
cat("The win percentage of the Astros in the month of October was", round(win_pct_october_astros * 100,
```

```
## The win percentage of the Astros in the month of October was 100 % (in one game)
```

```
# Do monthly breakdowns for each team
march_games_phillies = phillies_games |>
  filter(Date >= 20230301 & Date < 20230401) # One games
april_games_phillies = phillies_games |>
  filter(Date >= 20230401 & Date < 20230501)
may_games_phillies = phillies_games |>
  filter(Date >= 20230501 & Date < 20230601)
june_games_phillies = phillies_games |>
  filter(Date >= 20230601 & Date < 20230701)
july_games_phillies = phillies_games |>
  filter(Date >= 20230701 & Date < 20230801)
august_games_phillies = phillies_games |>
  filter(Date >= 20230801 & Date < 20230901)
september_games_phillies = phillies_games |>
  filter(Date >= 20230901 & Date < 20231001)
october_games_phillies = phillies_games |>
  filter(Date >= 20231001 & Date < 20231101) # One non-playoff game


win_march_phillies = march_games_phillies |>
  filter( (VisTm == "PHI" & VisRuns > HmRuns) | (HmTm == "PHI" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_march_phillies = march_games_phillies |>
  filter( (VisTm == "PHI" & VisRuns < HmRuns) | (HmTm == "PHI" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_march_phillies = win_march_phillies$wins / (win_march_phillies$wins + lose_march_phillies$losse


win_april_phillies = april_games_phillies |>
  filter( (VisTm == "PHI" & VisRuns > HmRuns) | (HmTm == "PHI" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_april_phillies = april_games_phillies |>
  filter( (VisTm == "PHI" & VisRuns < HmRuns) | (HmTm == "PHI" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_april_phillies = win_april_phillies$wins / (win_april_phillies$wins + lose_april_phillies$losse
```

```
win_may_phillies = may_games_phillies |>
  filter( (VisTm == "PHI" & VisRuns > HmRuns) | (HmTm == "PHI" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_may_phillies = may_games_phillies |>
  filter( (VisTm == "PHI" & VisRuns < HmRuns) | (HmTm == "PHI" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_may_phillies = win_may_phillies$wins / (win_may_phillies$wins + lose_may_phillies$losses)


win_june_phillies = june_games_phillies |>
  filter( (VisTm == "PHI" & VisRuns > HmRuns) | (HmTm == "PHI" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_june_phillies = june_games_phillies |>
  filter( (VisTm == "PHI" & VisRuns < HmRuns) | (HmTm == "PHI" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_june_phillies = win_june_phillies$wins / (win_june_phillies$wins + lose_june_phillies$losses)


win_july_phillies = july_games_phillies |>
  filter( (VisTm == "PHI" & VisRuns > HmRuns) | (HmTm == "PHI" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_july_phillies = july_games_phillies |>
  filter( (VisTm == "PHI" & VisRuns < HmRuns) | (HmTm == "PHI" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_july_phillies = win_july_phillies$wins / (win_july_phillies$wins + lose_july_phillies$losses)


win_august_phillies = august_games_phillies |>
  filter( (VisTm == "PHI" & VisRuns > HmRuns) | (HmTm == "PHI" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_august_phillies = august_games_phillies |>
  filter( (VisTm == "PHI" & VisRuns < HmRuns) | (HmTm == "PHI" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_august_phillies = win_august_phillies$wins / (win_august_phillies$wins + lose_august_phillies$l


win_september_phillies = september_games_phillies |>
  filter( (VisTm == "PHI" & VisRuns > HmRuns) | (HmTm == "PHI" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_september_phillies = september_games_phillies |>
  filter( (VisTm == "PHI" & VisRuns < HmRuns) | (HmTm == "PHI" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_september_phillies = win_september_phillies$wins / (win_september_phillies$wins + lose_septembe


win_october_phillies = october_games_phillies |>
  filter( (VisTm == "PHI" & VisRuns > HmRuns) | (HmTm == "PHI" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_october_phillies = october_games_phillies |>
  filter( (VisTm == "PHI" & VisRuns < HmRuns) | (HmTm == "PHI" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_october_phillies = win_october_phillies$wins / (win_october_phillies$wins + lose_october_phillie
```

```
cat("The win percentage of the Phillies in the month of March was", round(win_pct_march_phillies * 100,
```

```
## The win percentage of the Phillies in the month of March was 0 % (in one game)
```

```
cat("The win percentage of the Phillies in the month of April was", round(win_pct_april_phillies * 100,
```

```
## The win percentage of the Phillies in the month of April was 53.57 %
```

```
cat("The win percentage of the Phillies in the month of May was", round(win_pct_may_phillies * 100, digi
```

```
## The win percentage of the Phillies in the month of May was 38.46 %
```

```
cat("The win percentage of the Phillies in the month of June was", round(win_pct_june_phillies * 100, di
```

```
## The win percentage of the Phillies in the month of June was 69.23 %
```

```
cat("The win percentage of the Phillies in the month of July was", round(win_pct_july_phillies * 100, di
```

```
## The win percentage of the Phillies in the month of July was 56 %
```

```
cat("The win percentage of the Phillies in the month of August was", round(win_pct_august_phillies * 10
```

```
## The win percentage of the Phillies in the month of August was 62.96 %
```

```
cat("The win percentage of the Phillies in the month of September was", round(win_pct_september_phillies
```

```
## The win percentage of the Phillies in the month of September was 53.57 %
```

```
cat("The win percentage of the Phillies in the month of October was", round(win_pct_october_phillies *
```

```
## The win percentage of the Phillies in the month of October was 100 % (in one game)
```

```
# Do monthly breakdowns for each team
march_games_jays = jays_games |>
  filter(Date >= 20230301 & Date < 20230401) # One game
april_games_jays = jays_games |>
  filter(Date >= 20230401 & Date < 20230501)
may_games_jays = jays_games |>
  filter(Date >= 20230501 & Date < 20230601)
june_games_jays = jays_games |>
  filter(Date >= 20230601 & Date < 20230701)
july_games_jays = jays_games |>
  filter(Date >= 20230701 & Date < 20230801)
august_games_jays = jays_games |>
  filter(Date >= 20230801 & Date < 20230901)
september_games_jays = jays_games |>
  filter(Date >= 20230901 & Date < 20231001)
october_games_jays = jays_games |>
  filter(Date >= 20231001 & Date < 20231101) # One non-playoff game


win_march_jays = march_games_jays |>
  filter( (VisTm == "TOR" & VisRuns > HmRuns) | (HmTm == "TOR" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_march_jays = march_games_jays |>
  filter( (VisTm == "TOR" & VisRuns < HmRuns) | (HmTm == "TOR" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_march_jays = win_march_jays$wins / (win_march_jays$wins + lose_march_jays$losses)
```

```
win_april_jays = april_games_jays |>
  filter( (VisTm == "TOR" & VisRuns > HmRuns) | (HmTm == "TOR" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_april_jays = april_games_jays |>
  filter( (VisTm == "TOR" & VisRuns < HmRuns) | (HmTm == "TOR" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_april_jays = win_april_jays$wins / (win_april_jays$wins + lose_april_jays$losses)


win_may_jays = may_games_jays |>
  filter( (VisTm == "TOR" & VisRuns > HmRuns) | (HmTm == "TOR" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_may_jays = may_games_jays |>
  filter( (VisTm == "TOR" & VisRuns < HmRuns) | (HmTm == "TOR" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_may_jays = win_may_jays$wins / (win_may_jays$wins + lose_may_jays$losses)


win_june_jays = june_games_jays |>
  filter( (VisTm == "TOR" & VisRuns > HmRuns) | (HmTm == "TOR" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_june_jays = june_games_jays |>
  filter( (VisTm == "TOR" & VisRuns < HmRuns) | (HmTm == "TOR" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_june_jays = win_june_jays$wins / (win_june_jays$wins + lose_june_jays$losses)


win_july_jays = july_games_jays |>
  filter( (VisTm == "TOR" & VisRuns > HmRuns) | (HmTm == "TOR" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_july_jays = july_games_jays |>
  filter( (VisTm == "TOR" & VisRuns < HmRuns) | (HmTm == "TOR" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_july_jays = win_july_jays$wins / (win_july_jays$wins + lose_july_jays$losses)


win_august_jays = august_games_jays |>
  filter( (VisTm == "TOR" & VisRuns > HmRuns) | (HmTm == "TOR" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_august_jays = august_games_jays |>
  filter( (VisTm == "TOR" & VisRuns < HmRuns) | (HmTm == "TOR" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_august_jays = win_august_jays$wins / (win_august_jays$wins + lose_august_jays$losses)


win_september_jays = september_games_jays |>
  filter( (VisTm == "TOR" & VisRuns > HmRuns) | (HmTm == "TOR" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_september_jays = september_games_jays |>
  filter( (VisTm == "TOR" & VisRuns < HmRuns) | (HmTm == "TOR" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_september_jays = win_september_jays$wins / (win_september_jays$wins + lose_september_jays$losses
```

```
win_october_jays = october_games_jays |>
  filter( (VisTm == "TOR" & VisRuns > HmRuns) | (HmTm == "TOR" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_october_jays = october_games_jays |>
  filter( (VisTm == "TOR" & VisRuns < HmRuns) | (HmTm == "TOR" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_october_jays = win_october_jays$wins / (win_october_jays$wins + lose_october_jays$losses)


cat("The win percentage of the Bluejays in the month of March was", round(win_pct_march_jays * 100, digi
```

```
## The win percentage of the Bluejays in the month of March was 100 % (in one game)
```

```
cat("The win percentage of the Bluejays in the month of April was", round(win_pct_april_jays * 100, digi
```

```
## The win percentage of the Bluejays in the month of April was 62.96 %
```

```
cat("The win percentage of the Bluejays in the month of May was", round(win_pct_may_jays * 100, digits =
```

```
## The win percentage of the Bluejays in the month of May was 39.29 %
```

```
cat("The win percentage of the Bluejays in the month of June was", round(win_pct_june_jays * 100, digits
```

```
## The win percentage of the Bluejays in the month of June was 59.26 %
```

```
cat("The win percentage of the Bluejays in the month of July was", round(win_pct_july_jays * 100, digits
```

```
## The win percentage of the Bluejays in the month of July was 58.33 %
```

```
cat("The win percentage of the Bluejays in the month of August was", round(win_pct_august_jays * 100, di
```

```
## The win percentage of the Bluejays in the month of August was 51.85 %
```

```
cat("The win percentage of the Bluejays in the month of September was", round(win_pct_september_jays * 1
```

```
## The win percentage of the Bluejays in the month of September was 59.26 %
```

```
cat("The win percentage of the Bluejays in the month of October was", round(win_pct_october_jays * 100,
```

```
## The win percentage of the Bluejays in the month of October was 0 % (in one game)
```

These three teams either had 1 really bad month (under 40% win percentage) or two not good months (between 40-50% win percentage), so the fact that the Padres have two really bad months and one not good month are why they didn't have enough wins to make the playoffs. Even though they had a 73% win percentage for September, the other months explains where they came from but not why they lost those games. Next I want to see how they did in close games and extra inning games to see if clutch situations are why they lost so many games with a monthly breakdown as well to see if it happen a lot in their 3 down months.

Clutch Situations

First let's look at how they did overall in clutch situations. To be a clutch situation, I'll look at one run games or games that went into extra innings.

```
# Find each game where it was decided by 1 run or went into extra innings
clutch_games = padres_games |>
  filter(abs(VisRuns - HmRuns) <= 1 | NumOuts > 54)
```

```r
# Find win percentage during these games
win_clutch = clutch_games |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_clutch = clutch_games |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_clutch = win_clutch$wins / (win_clutch$wins + lose_clutch$losses)

# Added Wins and.Losses to help visualize as well
cat("The win percentage in clutch games was", round(win_pct_clutch * 100, digits = 2),"%. They had", wi
```

```
## The win percentage in clutch games was 26.32 %. They had 10 Wins and 28 Losses in clutch situations.
```

This could explain why there performed so much worse than they should've. Being 10-28 in clutch situations is horrible for any team, let alone a team who should've at the very least been in the playoffs if not a contender. Now let's go and see if this was pretty even across the entire season, or if there was overlap with their bad months.

```r
# Do monthly breakdown for clutch games
march_games_clutch = clutch_games |>
  filter(Date >= 20230301 & Date < 20230401) # Two games
april_games_clutch = clutch_games |>
  filter(Date >= 20230401 & Date < 20230501)
may_games_clutch = clutch_games |>
  filter(Date >= 20230501 & Date < 20230601)
june_games_clutch = clutch_games |>
  filter(Date >= 20230601 & Date < 20230701)
july_games_clutch = clutch_games |>
  filter(Date >= 20230701 & Date < 20230801)
august_games_clutch = clutch_games |>
  filter(Date >= 20230801 & Date < 20230901)
september_games_clutch = clutch_games |>
  filter(Date >= 20230901 & Date < 20231001)
october_games_clutch = clutch_games |>
  filter(Date >= 20231001 & Date < 20231101) # One non-playoff game


win_march_clutch = march_games_clutch |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_march_clutch = march_games_clutch |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_march_clutch = win_march_clutch$wins / (win_march_clutch$wins + lose_march_clutch$losses)


win_april_clutch = april_games_clutch |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_april_clutch = april_games_clutch |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_april_clutch = win_april_clutch$wins / (win_april_clutch$wins + lose_april_clutch$losses)
```

```
win_may_clutch = may_games_clutch |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_may_clutch = may_games_clutch |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_may_clutch = win_may_clutch$wins / (win_may_clutch$wins + lose_may_clutch$losses)


win_june_clutch = june_games_clutch |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_june_clutch = june_games_clutch |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_june_clutch = win_june_clutch$wins / (win_june_clutch$wins + lose_june_clutch$losses)


win_july_clutch = july_games_clutch |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_july_clutch = july_games_clutch |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_july_clutch = win_july_clutch$wins / (win_july_clutch$wins + lose_july_clutch$losses)


win_august_clutch = august_games_clutch |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_august_clutch = august_games_clutch |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_august_clutch = win_august_clutch$wins / (win_august_clutch$wins + lose_august_clutch$losses)


win_september_clutch = september_games_clutch |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_september_clutch = september_games_clutch |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_september_clutch = win_september_clutch$wins / (win_september_clutch$wins + lose_september_clut


win_october_clutch = october_games_clutch |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_october_clutch = october_games_clutch |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_october_clutch = win_october_clutch$wins / (win_october_clutch$wins + lose_october_clutch$losse
```

```
# Added Wins and.Losses to help visualize as well
cat("The clutch win percentage in the month of March was", round(win_pct_march_clutch * 100, digits = 2)
```

```
## The clutch win percentage in the month of March was NaN % (in two games) with 0 Wins and 0 Losses
```

```
cat("The clutch win percentage in the month of April was", round(win_pct_april_clutch * 100, digits = 2)
```

```
## The clutch win percentage in the month of April was 50 % with 3 Wins and 3 Losses
```

```
cat("The clutch win percentage in the month of May was", round(win_pct_may_clutch * 100, digits = 2),"%
```

```
## The clutch win percentage in the month of May was 0 % with 0 Wins and 8 Losses
```

```
cat("The clutch win percentage in the month of June was", round(win_pct_june_clutch * 100, digits = 2),
```

```
## The clutch win percentage in the month of June was 25 % with 2 Wins and 6 Losses
```

```
cat("The clutch win percentage in the month of July was", round(win_pct_july_clutch * 100, digits = 2),
```

```
## The clutch win percentage in the month of July was 16.67 % with 1 Wins and 5 Losses
```

```
cat("The clutch win percentage in the month of August was", round(win_pct_august_clutch * 100, digits =
```

```
## The clutch win percentage in the month of August was 0 % with 0 Wins and 4 Losses
```

```
cat("The clutch win percentage in the month of September was", round(win_pct_september_clutch * 100, dig
```

```
## The clutch win percentage in the month of September was 60 % with 3 Wins and 2 Losses
```

```
cat("The clutch win percentage in the month of October was", round(win_pct_october_clutch * 100, digits
```

```
## The clutch win percentage in the month of October was 100 % (in one game) with 1 Wins and 0 Losses
```

Looking back at their full monthly breakdown, their bad months were May, June and August. This lines up pretty well with our clutch game monthly breakdown, since they were 2-18 in those 3 months and also had a pretty bad July, but they were 14-5 in non-clutch situations in July so they just handedly beat teams for the majority of the other games. This is also just a very interesting result since they had one of the best closers in the game healthy all season, and 22nd in RP which might just mean that they lost all of these close games with other relivers blowing the game and Josh Hader was just carrying their RP WAR. This tracks since after seeing that Josh Hader had a WAR of 2.4, the RP ranking without him would make them the 4th worst relief pitching staff in the league.

So now that we know it was clutch situations that caused their collapse, let's look at one last thing and see how many of these clutch situations had Josh Hader as a pitcher during the game.

Josh Hader/RP

Let's first look at games where Hader got a Win, a Loss, or a Save because those are the obvious games he played in

```
# Find games where Josh Hader got the Win in clutch games
hader_win = clutch_games |>
  filter(WinPNm == "Josh Hader")
hader_win
```

```
##       Date DblHdr Day VisTm VisTmLg VisTmGNum HmTm HmTmLg HmTmGNum VisRuns
## 1 20230927      0 Wed   SDN      NL       159  SFN     NL      159       5
##   HmRuns NumOuts DayNight Completion Forfeit Protest ParkID Attendance Duration
```

```
## 1      2      60        N                 NA      NA  SFO03      32151      172
##      VisLine     HmLine VisAB VisH VisD VisT VisHR VisRBI VisSH VisSF VisHBP
## 1 0000101003 0100100000    38   10    2    0     1      5     0     2      0
##   VisBB VisIBB VisK VisSB VisCS VisGDP VisCI VisLOB VisPs VisER VisTER VisWP
## 1     1      1   11     0     0      1     0      7     5     2      2     0
##   VisBalks VisPO VisA VisE VisPassed VisDB VisTP HmAB HmH HmD HmT HmHR HmRBI
## 1        0    30   17    0         0     1     0   34   5   1   0    1     2
##   HmSH HmSF HmHBP HmBB HmIBB HmK HmSB HmCS HmGDP HmCI HmLOB HmPs HmER HmTER
## 1    0    0     1    5     0   5    3    0     1    0     9    5    2     2
##   HmWP HmBalks HmPO HmA HmE HmPass HmDB HmTP   UmpHID         UmpHNm  Ump1BID
## 1    0       0   30  12   3      0    1    0 millb903 Brennan Miller blakr901
##        Ump1BNm  Ump2BID      Ump2BNm  Ump3BID      Ump3BNm UmpLFID UmpLFNm
## 1 Ryan Blakney carlm901 Mark Carlson gibsh902 Tripp Gibson      NA  (none)
##   UmpRFID UmpRFNm VisMgrID   VisMgrNm  HmMgrID     HmMgrNm   WinPID     WinPNm
## 1      NA  (none) melvb001 Bob Melvin kaplg001 Gabe Kapler hadej001 Josh Hader
##        PID        PNAme  SavePID      SavePNm GWinRBIID       GWinRBINm
## 1 brebj001 John Brebbia cosgt001 Tom Cosgrove  bogax001 Xander Bogaerts
##   VisStPchID   VisStPchNm HmStPchID   HmStPchNm VisBat1ID       VisBat1Nm
## 1   waldm003 Matt Waldron  manas001 Sean Manaea  bogax001 Xander Bogaerts
##   VisBat1Pos VisBat2ID      VisBat2Nm VisBat2Pos VisBat3ID VisBat3Nm VisBat3Pos
## 1          6  tatif002 Fernando Tatis          9  sotoj001 Juan Soto          7
##   VisBat4ID     VisBat4Nm VisBat4Pos VisBat5ID    VisBat5Nm VisBat5Pos
## 1  machm001 Manny Machado         10  kim-h002 Ha-Seong Kim          4
##   VisBat6ID      VisBat6Nm VisBat6Pos VisBat7ID      VisBat7Nm VisBat7Pos
## 1  coopg002 Garrett Cooper          3  battm001 Matthew Batten          5
##   VisBat8ID   VisBat8Nm VisBat8Pos VisBat9ID      VisBat9Nm VisBat9Pos HmBat1ID
## 1  azocj001 Jose Azocar          8  sullb001 Brett Sullivan          2 wadel001
##       HmBat1Nm HmBat1Pos HmBat2ID         HmBat2Nm HmBat2Pos HmBat3ID
## 1 LaMonte Wade         3 yastm001 Mike Yastrzemski         9 florw001
##        HmBat3Nm HmBat3Pos HmBat4ID     HmBat4Nm HmBat4Pos HmBat5ID
## 1 Wilmer Flores         5 pedej001 Joc Pederson        10 estrt001
##         HmBat5Nm HmBat5Pos HmBat6ID         HmBat6Nm HmBat6Pos HmBat7ID
## 1 Thairo Estrada         4 confm001 Michael Conforto         7 lucim001
##        HmBat7Nm HmBat7Pos HmBat8ID       HmBat8Nm HmBat8Pos HmBat9ID
## 1 Marco Luciano         6 bailp001 Patrick Bailey         2 fitzt001
##           HmBat9Nm HmBat9Pos Additional Acquisition
## 1 Tyler Fitzgerald         8                     Y
```

```
# Find games where Josh Hader got the Loss in clutch games
hader_loss = clutch_games |>
  filter(PNAme == "Josh Hader")
hader_loss
```

```
##       Date DblHdr Day VisTm VisTmLg VisTmGNum HmTm HmTmLg HmTmGNum VisRuns
## 1 20230531      0 Wed   SDN      NL        55  MIA     NL       56       1
## 2 20230829      0 Tue   SDN      NL       133  SLN     NL      133       5
## 3 20230830      0 Wed   SDN      NL       134  SLN     NL      134       4
##   HmRuns NumOuts DayNight Completion Forfeit Protest ParkID Attendance Duration
## 1      2      52        N                 NA      NA  MIA02      11773      144
## 2      6      58        N                 NA      NA  STL10      36851      171
## 3      5      53        D                 NA      NA  STL10      32583      158
##      VisLine     HmLine VisAB VisH VisD VisT VisHR VisRBI VisSH VisSF VisHBP
## 1  001000000  000000002    28    2    0    0     1      1     0     0      0
## 2 1002010100 0011010201    38   12    2    0     1      5     1     2      0
## 3  120000100  000300002    32   11    1    0     0      4     2     0      0
```

```
##   VisBB VisIBB VisK VisSB VisCS VisGDP VisCI VisLOB VisPs VisER VisTER VisWP
## 1     1      0   13     1     0      1     0      1     4     2      2     1
## 2     4      0    8     0     0      1     0     11     5     4      4     0
## 3     2      0    2     0     1      3     0      5     5     5      5     0
##   VisBalks VisPO VisA VisE VisPassed VisDB VisTP HmAB HmH HmD HmT HmHR HmRBI
## 1        0    25    9    1         0     3     0   27   6   0   0    0     2
## 2        0    28    9    1         0     0     0   35   9   1   0    2     6
## 3        0    26   10    0         0     1     0   35  10   3   0    2     5
##   HmSH HmSF HmHBP HmBB HmIBB HmK HmSB HmCS HmGDP HmCI HmLOB HmPs HmER HmTER
## 1    2    0     0    5     0   8    1    0     3    0     7    3    1     1
## 2    1    1     0    2     1  10    0    0     0    0     6    4    4     4
## 3    0    0     1    1     0   7    3    0     1    0     6    4    4     4
##   HmWP HmBalks HmPO HmA HmE HmPass HmDB HmTP   UmpHID            UmpHNm
## 1    0       0   27  10   1      0    1    0 millb903     Brennan Miller
## 2    0       0   30   8   1      0    1    0 rippm901     Mark Ripperger
## 3    0       0   27  12   0      0    3    0 lives901 Shane Livensparger
##    Ump1BID            Ump1BNm  Ump2BID      Ump2BNm  Ump3BID        Ump3BNm
## 1 tomln901     Nate Tomlinson carlm901 Mark Carlson bakej902   Jordan Baker
## 2 lives901 Shane Livensparger belld901  Dan Bellino cuzzp901     Phil Cuzzi
## 3 belld901        Dan Bellino cuzzp901   Phil Cuzzi rippm901 Mark Ripperger
##   UmpLFID UmpLFNm UmpRFID UmpRFNm VisMgrID   VisMgrNm  HmMgrID        HmMgrNm
## 1      NA  (none)      NA  (none) melvb001 Bob Melvin schus001 Skip Schumaker
## 2      NA  (none)      NA  (none) melvb001 Bob Melvin marmo801  Oliver Marmol
## 3      NA  (none)      NA  (none) melvb001 Bob Melvin marmo801  Oliver Marmol
##     WinPID         WinPNm      PID      PNAme SavePID SavePNm GWinRBIID
## 1 okers001   Steven Okert hadej001 Josh Hader          (none)  fortn001
## 2 romej002    JoJo Romero hadej001 Josh Hader          (none)  edmat001
## 3 palla001 Andre Pallante hadej001 Josh Hader          (none)  edmat001
##     GWinRBINm VisStPchID  VisStPchNm HmStPchID       HmStPchNm VisBat1ID
## 1 Nick Fortes   snelb001 Blake Snell  garrb001 Braxton Garrett  kim-h002
## 2 Tommy Edman   lugos001   Seth Lugo  thomz002   Zack Thompson  kim-h002
## 3 Tommy Edman   hillr001   Rich Hill  mikom001   Miles Mikolas  kim-h002
##      VisBat1Nm VisBat1Pos VisBat2ID      VisBat2Nm VisBat2Pos VisBat3ID
## 1 Ha-Seong Kim          5  tatif002 Fernando Tatis          9  sotoj001
## 2 Ha-Seong Kim          4  sotoj001      Juan Soto          7  machm001
## 3 Ha-Seong Kim          4  sotoj001      Juan Soto          7  machm001
##       VisBat3Nm VisBat3Pos VisBat4ID       VisBat4Nm VisBat4Pos VisBat5ID
## 1     Juan Soto          7  bogax001 Xander Bogaerts          6  dixob001
## 2 Manny Machado         10  tatif002  Fernando Tatis          9  bogax001
## 3 Manny Machado          5  tatif002  Fernando Tatis          9  bogax001
##         VisBat5Nm VisBat5Pos VisBat6ID        VisBat6Nm VisBat6Pos VisBat7ID
## 1   Brandon Dixon          3  cronj001 Jake Cronenworth          4  cruzn002
## 2 Xander Bogaerts          6  coopg002   Garrett Cooper          3  campl002
## 3 Xander Bogaerts          6  coopg002   Garrett Cooper          3  carpm002
##        VisBat7Nm VisBat7Pos VisBat8ID      VisBat8Nm VisBat8Pos VisBat9ID
## 1    Nelson Cruz         10  sancg002   Gary Sanchez          2  grist001
## 2 Luis Campusano          2  battm001 Matthew Batten          5  azocj001
## 3 Matt Carpenter         10  campl002 Luis Campusano          2  grist001
##       VisBat9Nm VisBat9Pos HmBat1ID         HmBat1Nm HmBat1Pos HmBat2ID
## 1 Trent Grisham          8 delab001 Bryan De La Cruz         7 solej001
## 2   Jose Azocar          8 palar002  Richie Palacios         8 goldp001
## 3 Trent Grisham          8 edmat001      Tommy Edman         8 goldp001
##           HmBat2Nm HmBat2Pos HmBat3ID          HmBat3Nm HmBat3Pos HmBat4ID
## 1      Jorge Soler        10 arral001       Luis Arraez         4 gurry001
```

```
## 2 Paul Goldschmidt         3 gormn001      Nolan Gorman         4 arenn001
## 3 Paul Goldschmidt         3 contw001 Willson Contreras        10 arenn001
##           HmBat4Nm HmBat4Pos HmBat5ID          HmBat5Nm HmBat5Pos HmBat6ID
## 1 Yulieski Gurriel         3 bertj001         Jon Berti         6 seguj002
## 2    Nolan Arenado         5 contw001 Willson Contreras         2 burla001
## 3    Nolan Arenado         5 walkj003     Jordan Walker         9 kniza001
##         HmBat6Nm HmBat6Pos HmBat7ID      HmBat7Nm HmBat7Pos HmBat8ID
## 1    Jean Segura         5 fortn001   Nick Fortes         2 hampg001
## 2  Alec Burleson        10 oneit001 Tyler O'Neill         7 walkj003
## 3 Andrew Knizner         2 mottt001 Taylor Motter         4 palar002
##          HmBat8Nm HmBat8Pos HmBat9ID       HmBat9Nm HmBat9Pos Additional
## 1 Garrett Hampson         9 davij007 Jonathan Davis         8
## 2   Jordan Walker         9 winnm001     Masyn Winn         6
## 3 Richie Palacios         7 winnm001     Masyn Winn         6
##   Acquisition
## 1           Y
## 2           Y
## 3           Y
```

```
# Find games where Josh Hader got the Save in clutch games
hader_save = clutch_games |>
  filter(SavePNm == "Josh Hader")
hader_save
```

```
##       Date DblHdr Day VisTm VisTmLg VisTmGNum HmTm HmTmLg HmTmGNum VisRuns
## 1 20230407      0 Fri   SDN      NL         8  ATL     NL        8       5
## 2 20230419      0 Wed   ATL      NL        19  SDN     NL       20       0
## 3 20230610      0 Sat   SDN      NL        64  COL     NL       66       3
## 4 20230618      0 Sun   TBA      AL        75  SDN     NL       71       4
## 5 20230721      0 Fri   SDN      NL        98  DET     AL       97       5
## 6 20230920      0 Wed   COL      NL       152  SDN     NL      153       2
## 7 20230929      0 Fri   SDN      NL       160  CHA     AL      160       3
##   HmRuns NumOuts DayNight Completion Forfeit Protest ParkID Attendance Duration
## 1      4      54        N                NA      NA  ATL03      41963      181
## 2      1      51        D                NA      NA  SAN02      29581      133
## 3      2      54        D                NA      NA  DEN02      37234      173
## 4      5      51        D                NA      NA  SAN02      44404      180
## 5      4      54        N                NA      NA  DET05      28834      153
## 6      3      51        D                NA      NA  SAN02      35479      146
## 7      2      54        N                NA      NA  CHI12      20491      184
##     VisLine    HmLine VisAB VisH VisD VisT VisHR VisRBI VisSH VisSF VisHBP
## 1 210011000 003010000    32    7    2    0     0      5     1     1      0
## 2 000000000 00010000x    30    4    0    0     0      0     0     0      0
## 3 100002000 010010000    35    9    3    0     0      3     0     0      0
## 4 010100020 00311000x    35   12    0    0     0      4     0     1      2
## 5 302000000 000011200    36    9    2    1     2      5     0     0      0
## 6 200000000 10000020x    35    9    2    0     1      2     0     0      0
## 7 000012000 000000011    34    6    1    0     0      3     0     1      1
##   VisBB VisIBB VisK VisSB VisCS VisGDP VisCI VisLOB VisPs VisER VisTER VisWP
## 1     6      0   11     3     0      0     0      8     4     4      4     1
## 2     3      0    9     2     0      0     0      6     3     1      1     0
## 3     5      0   10     0     1      0     0     10     6     2      2     2
## 4     2      0    5     1     0      2     0      9     4     3      3     0
## 5     2      0    7     0     0      0     0      6     4     4      4     0
## 6     3      1    9     2     0      1     0      9     3     2      2     0
```

```
## 7     6      1   12     0     0      0     0     12     6     2      2     0
##   VisBalks VisPO VisA VisE VisPassed VisDB VisTP HmAB HmH HmD HmT HmHR HmRBI
## 1        0    27    8    1         0     1     0   33   6   0   0    1     3
## 2        0    24    9    0         0     1     0   28   6   1   0    1     1
## 3        0    27   12    1         0     0     0   31   5   0   0    1     2
## 4        0    24    7    2         0     1     0   29   7   3   0    0     3
## 5        0    27    8    1         0     0     0   33   8   0   1    2     4
## 6        0    24    9    1         0     2     0   28   8   1   0    0     3
## 7        0    27    6    0         0     1     0   34   8   2   0    2     2
##   HmSH HmSF HmHBP HmBB HmIBB HmK HmSB HmCS HmGDP HmCI HmLOB HmPs HmER HmTER
## 1    0    0     0    8     0   9    2    0     1    0    10    5    5     5
## 2    0    0     0    3     0   8    0    1     1    0     6    4    0     0
## 3    0    0     0    1     0   7    0    2     0    0     3    6    3     3
## 4    0    1     1    4     1   8    3    0     0    0     6    4    4     4
## 5    0    1     0    3     0   9    0    0     0    0     6    5    5     5
## 6    0    1     0    2     0   5    1    1     2    0     4    4    2     2
## 7    0    0     1    5     0  10    0    0     1    0    11    6    3     3
##   HmWP HmBalks HmPO HmA HmE HmPass HmDB HmTP   UmpHID          UmpHNm  Ump1BID
## 1    1       0   27   8   0      0    0    0 emmep901      Paul Emmel fairc901
## 2    0       0   27   8   0      0    1    0 ortir901   Roberto Ortiz drakr901
## 3    0       0   27   9   0      0    0    0 hamaa901     Adam Hamari mahrn901
## 4    0       0   27  12   1      1    2    0 muchm901 Mike Muchlinski barbs901
## 5    0       0   27   6   0      0    0    0 knigb901    Brian Knight ticht901
## 6    0       0   27  10   0      0    1    0 knigb901    Brian Knight merzd901
## 7    3       0   27   8   1      0    0    0 hudsm901   Marvin Hudson tumpj901
##          Ump1BNm  Ump2BID       Ump2BNm  Ump3BID       Ump3BNm UmpLFID UmpLFNm
## 1 Chad Fairchild lentn901     Nic Lentz rehaj901 Jeremie Rehak      NA  (none)
## 2      Rob Drake millb901   Bill Miller whitc901  Chad Whitson      NA  (none)
## 3   Nick Mahrley carav901 Vic Carapazza laynj901   Jerry Layne      NA  (none)
## 4    Sean Barber porta901   Alan Porter wolfj901      Jim Wolf      NA  (none)
## 5  Todd Tichenor randt901 Tony Randazzo tosia901     Alex Tosi      NA  (none)
## 6     Dan Merzel ticht901 Todd Tichenor walsb901   Brian Walsh      NA  (none)
## 7   John Tumpane macka901   Alex MacKay ballb901  Brock Ballou      NA  (none)
##   UmpRFID UmpRFNm VisMgrID      VisMgrNm  HmMgrID       HmMgrNm   WinPID
## 1      NA  (none) melvb001    Bob Melvin snitb801 Brian Snitker honeb001
## 2      NA  (none) snitb801 Brian Snitker melvb001    Bob Melvin martn002
## 3      NA  (none) melvb001    Bob Melvin blacb001   Buddy Black carld003
## 4      NA  (none) cashk001    Kevin Cash melvb001    Bob Melvin musgj001
## 5      NA  (none) melvb001    Bob Melvin hinca001    A.J. Hinch lugos001
## 6      NA  (none) blacb001   Buddy Black melvb001    Bob Melvin garcl005
## 7      NA  (none) melvb001    Bob Melvin grifp801  Pedro Grifol martn002
##           WinPNm      PID          PNAme  SavePID    SavePNm GWinRBIID
## 1 Brent Honeywell tonkm001 Michael Tonkin hadej001 Josh Hader  bogax001
## 2   Nick Martinez mortc002 Charlie Morton hadej001 Josh Hader  sotoj001
## 3    Drew Carlton birdj001      Jake Bird hadej001 Josh Hader  tatif002
## 4    Joe Musgrove chiry001 Yonny Chirinos hadej001 Josh Hader
## 5       Seth Lugo olsor001    Reese Olson hadej001 Josh Hader  sotoj001
## 6     Luis Garcia andec001 Chase Anderson hadej001 Josh Hader  choij001
## 7   Nick Martinez ceasd001    Dylan Cease hadej001 Josh Hader  bogax001
##         GWinRBINm VisStPchID     VisStPchNm HmStPchID     HmStPchNm VisBat1ID
## 1 Xander Bogaerts   martn002  Nick Martinez  shusj001 Jared Shuster  bogax001
## 2       Juan Soto   mortc002 Charlie Morton  martn002 Nick Martinez  acunr001
## 3  Fernando Tatis   weatr001  Ryan Weathers  freek001 Kyle Freeland  tatif002
## 4          (none)   chiry001 Yonny Chirinos  musgj001  Joe Musgrove  diazy001
```

```
## 5       Juan Soto   lugos001      Seth Lugo  olsor001   Reese Olson  kim-h002
## 6     Ji-Man Choi   andec001 Chase Anderson  lugos001     Seth Lugo  blacc001
## 7 Xander Bogaerts   martn002  Nick Martinez  ceasd001   Dylan Cease  bogax001
##          VisBat1Nm VisBat1Pos VisBat2ID       VisBat2Nm VisBat2Pos VisBat3ID
## 1  Xander Bogaerts          6  sotoj001       Juan Soto          7  machm001
## 2     Ronald Acuna          9  olsom001      Matt Olson          3  rilea001
## 3   Fernando Tatis          9  sotoj001       Juan Soto          7  machm001
## 4       Yandy Diaz          3  franw002   Wander Franco          6  ralel001
## 5     Ha-Seong Kim          4  tatif002  Fernando Tatis          9  sotoj001
## 6 Charlie Blackmon         10  rodgb002 Brendan Rodgers          4  jonen002
## 7  Xander Bogaerts          6  tatif002  Fernando Tatis          9  sotoj001
##       VisBat3Nm VisBat3Pos VisBat4ID       VisBat4Nm VisBat4Pos VisBat5ID
## 1 Manny Machado          5  cruzn002     Nelson Cruz         10  cronj001
## 2  Austin Riley          5  murps001     Sean Murphy          2  rosae001
## 3 Manny Machado          5  sancg002    Gary Sanchez         10  bogax001
## 4    Luke Raley         10  arozr001 Randy Arozarena          7  parei001
## 5     Juan Soto          7  machm001   Manny Machado          5  bogax001
## 6   Nolan Jones          7  bryak001     Kris Bryant          3  mcmar001
## 7     Juan Soto          7  machm001   Manny Machado         10  kim-h002
##         VisBat5Nm VisBat5Pos VisBat6ID        VisBat6Nm VisBat6Pos VisBat7ID
## 1 Jake Cronenworth          3  kim-h002     Ha-Seong Kim          4  nolaa002
## 2    Eddie Rosario         10  albio001     Ozzie Albies          4  grisv001
## 3  Xander Bogaerts          6  cronj001 Jake Cronenworth          3  kim-h002
## 4    Isaac Paredes          5  lowej002        Josh Lowe          9  margm001
## 5  Xander Bogaerts          6  cronj001 Jake Cronenworth          3  campl002
## 6     Ryan McMahon          5  tovae001   Ezequiel Tovar          6  boucs001
## 7     Ha-Seong Kim          4  coopg002   Garrett Cooper          3  sullb001
##        VisBat7Nm VisBat7Pos VisBat8ID          VisBat8Nm VisBat8Pos VisBat9ID
## 1    Austin Nola          2  grist001      Trent Grisham          8  azocj001
## 2 Vaughn Grissom          6  hills005       Sam Hilliard          8  pillk001
## 3   Ha-Seong Kim          4  grist001      Trent Grisham          8  nolaa002
## 4  Manuel Margot          8  wallt003 Davis Taylor Walls          4  bethc001
## 5 Luis Campusano          2  kohlt001     Taylor Kohlwey         10  grist001
## 6  Sean Bouchard          9  doylb001      Brenton Doyle          8  wynna001
## 7 Brett Sullivan          2  battm001     Matthew Batten          5  grist001
##               VisBat9Nm VisBat9Pos HmBat1ID         HmBat1Nm HmBat1Pos HmBat2ID
## 1           Jose Azocar          9 acunr001     Ronald Acuna         9 olsom001
## 2          Kevin Pillar          7 grist001    Trent Grisham         8 machm001
## 3           Austin Nola          2 profj001 Jurickson Profar         7 gricr001
## 4 Christian Bethancourt          2 tatif002   Fernando Tatis         9 sotoj001
## 5         Trent Grisham          8 mckiz001   Zach McKinstry         5 greer003
## 6          Austin Wynns          2 bogax001  Xander Bogaerts         6 tatif002
## 7         Trent Grisham          8 andet001     Tim Anderson         6 benia002
##            HmBat2Nm HmBat2Pos HmBat3ID          HmBat3Nm HmBat3Pos HmBat4ID
## 1        Matt Olson         3 rilea001      Austin Riley         5 albio001
## 2     Manny Machado         5 sotoj001         Juan Soto         7 bogax001
## 3    Randal Grichuk        10 mcmar001      Ryan McMahon         5 diaze005
## 4         Juan Soto         7 machm001     Manny Machado         5 bogax001
## 5      Riley Greene        10 torks001 Spencer Torkelson         3 carpk001
## 6    Fernando Tatis         9 sotoj001         Juan Soto         7 machm001
## 7 Andrew Benintendi         7 jimee001      Eloy Jimenez        10 moncy001
##          HmBat4Nm HmBat4Pos HmBat5ID         HmBat5Nm HmBat5Pos HmBat6ID
## 1    Ozzie Albies         4 murps001      Sean Murphy         2 rosae001
## 2 Xander Bogaerts         6 carpm002   Matt Carpenter        10 cronj001
```

```
## 3      Elias Diaz         2 monte001 Elehuris Montero         3 jonen002
## 4 Xander Bogaerts         6 cronj001 Jake Cronenworth         3 odorr001
## 5 Kerry Carpenter         9 vierm001    Matt Vierling         8 baezj001
## 6   Manny Machado        10 coopg002   Garrett Cooper         3 battm001
## 7    Yoan Moncada         5 vauga001    Andrew Vaughn         3 sheeg001
##           HmBat6Nm HmBat6Pos HmBat7ID       HmBat7Nm HmBat7Pos HmBat8ID
## 1    Eddie Rosario         7 arcio002  Orlando Arcia         6 ozunm001
## 2 Jake Cronenworth         3 kim-h002   Ha-Seong Kim         4 nolaa002
## 3      Nolan Jones         9 tovae001 Ezequiel Tovar         6 treja001
## 4     Rougned Odor         4 carpm002 Matt Carpenter        10 nolaa002
## 5      Javier Baez         6 maton001     Nick Maton         4 badda001
## 6   Matthew Batten         4 sullb001 Brett Sullivan         2 azocj001
## 7     Gavin Sheets         9 andre001   Elvis Andrus         4 thomt002
##          HmBat8Nm HmBat8Pos HmBat9ID      HmBat9Nm HmBat9Pos Additional
## 1   Marcell Ozuna        10 hills005  Sam Hilliard         8
## 2     Austin Nola         2 azocj001   Jose Azocar         9
## 3      Alan Trejo         4 doylb001 Brenton Doyle         8
## 4     Austin Nola         2 grist001 Trent Grisham         8
## 5     Akil Baddoo         7 rogej004   Jake Rogers         2
## 6     Jose Azocar         8 rosae002  Eguy Rosario         5
## 7 Trayce Thompson         8 lee-k002     Korey Lee         2
##   Acquisition
## 1           Y
## 2           Y
## 3           Y
## 4           Y
## 5           Y
## 6           Y
## 7           Y
```

Based off of this we can see that Hader played in at least 11 of the games on the list. I made a CSV file off all the dates from Hader's game log from Baseball Reference. Let's import that and see what other games he played in, where he didn't get a win, a loss, or a save

```
# read csv file of all games Hader played in 2023
hader_games = read_csv("hader_games.csv")
```

```
## Rows: 61 Columns: 1
## -- Column specification --------------------------------------------------------
## Delimiter: ","
## dbl (1): Date
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

```
# join it with the clutch games database so it shows only the clutch games where he played in it at som
hader_games = hader_games |>
  left_join(clutch_games, by = "Date") |>
  filter(Day != "NA")
hader_games
```

```
## # A tibble: 22 x 161
##        Date DblHdr Day   VisTm VisTmLg VisTmGNum HmTm  HmTmLg HmTmGNum VisRuns
##       <dbl>  <int> <chr> <chr> <chr>       <int> <chr> <chr>     <int>   <int>
##  1 20230407      0 Fri   SDN   NL              8 ATL   NL            8       5
##  2 20230413      0 Thu   MIL   NL             13 SDN   NL           14       4
```

```
##  3 20230416      0 Sun   MIL   NL             16 SDN   NL           17       1
##  4 20230419      0 Wed   ATL   NL             19 SDN   NL           20       0
##  5 20230502      0 Tue   CIN   NL             30 SDN   NL           31       2
##  6 20230507      0 Sun   LAN   NL             35 SDN   NL           35       5
##  7 20230510      0 Wed   SDN   NL             37 MIN   AL           37       3
##  8 20230516      0 Tue   KCA   AL             44 SDN   NL           43       5
##  9 20230531      0 Wed   SDN   NL             55 MIA   NL           56       1
## 10 20230610      0 Sat   SDN   NL             64 COL   NL           66       3
## # i 12 more rows
## # i 151 more variables: HmRuns <int>, NumOuts <int>, DayNight <chr>,
## #   Completion <chr>, Forfeit <lgl>, Protest <lgl>, ParkID <chr>,
## #   Attendance <int>, Duration <int>, VisLine <chr>, HmLine <chr>, VisAB <int>,
## #   VisH <int>, VisD <int>, VisT <int>, VisHR <int>, VisRBI <int>, VisSH <int>,
## #   VisSF <int>, VisHBP <int>, VisBB <int>, VisIBB <int>, VisK <int>,
## #   VisSB <int>, VisCS <int>, VisGDP <int>, VisCI <int>, VisLOB <int>, ...
```

These are all of the games that Hader played in clutch situations. He played 22 of the 38 close games. So that means in his 22 games, he got 1 W, 1 L and 7 SV. So in 13 games he got no result which means he did his job and didn't let the other team win, but just held the game. Let's take a look and see when these games he played in were just in case they also coincide with when they had their really bad clutch months.

```
# Do monthly breakdown on clutch games Hader played in
march_games_clutch_hader = hader_games |>
  filter(Date >= 20230301 & Date < 20230401) # Two games
april_games_clutch_hader = hader_games |>
  filter(Date >= 20230401 & Date < 20230501)
may_games_clutch_hader = hader_games |>
  filter(Date >= 20230501 & Date < 20230601)
june_games_clutch_hader = hader_games |>
  filter(Date >= 20230601 & Date < 20230701)
july_games_clutch_hader = hader_games |>
  filter(Date >= 20230701 & Date < 20230801)
august_games_clutch_hader = hader_games |>
  filter(Date >= 20230801 & Date < 20230901)
september_games_clutch_hader = hader_games |>
  filter(Date >= 20230901 & Date < 20231001)
october_games_clutch_hader = hader_games |>
  filter(Date >= 20231001 & Date < 20231101) # One non-playoff game


win_march_clutch_hader = march_games_clutch_hader |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_march_clutch_hader = march_games_clutch_hader |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_march_clutch_hader = win_march_clutch_hader$wins / (win_march_clutch_hader$wins + lose_march_clu


win_april_clutch_hader = april_games_clutch_hader |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_april_clutch_hader = april_games_clutch_hader |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
```

```
win_pct_april_clutch_hader = win_april_clutch_hader$wins / (win_april_clutch_hader$wins + lose_april_clu


win_may_clutch_hader = may_games_clutch_hader |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_may_clutch_hader = may_games_clutch_hader |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_may_clutch_hader = win_may_clutch_hader$wins / (win_may_clutch_hader$wins + lose_may_clutch_hade


win_june_clutch_hader = june_games_clutch_hader |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_june_clutch_hader = june_games_clutch_hader |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_june_clutch_hader = win_june_clutch_hader$wins / (win_june_clutch_hader$wins + lose_june_clutch_


win_july_clutch_hader = july_games_clutch_hader |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_july_clutch_hader = july_games_clutch_hader |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_july_clutch_hader = win_july_clutch_hader$wins / (win_july_clutch_hader$wins + lose_july_clutch_


win_august_clutch_hader = august_games_clutch_hader |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_august_clutch_hader = august_games_clutch_hader |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_august_clutch_hader = win_august_clutch_hader$wins / (win_august_clutch_hader$wins + lose_augus


win_september_clutch_hader = september_games_clutch_hader |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_september_clutch_hader = september_games_clutch_hader |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
  summarise(losses = n())
win_pct_september_clutch_hader = win_september_clutch_hader$wins / (win_september_clutch_hader$wins + l


win_october_clutch_hader = october_games_clutch_hader |>
  filter( (VisTm == "SDN" & VisRuns > HmRuns) | (HmTm == "SDN" & VisRuns < HmRuns) ) |>
  summarise(wins = n())
lose_october_clutch_hader = october_games_clutch_hader |>
  filter( (VisTm == "SDN" & VisRuns < HmRuns) | (HmTm == "SDN" & VisRuns > HmRuns) ) |>
```

```
  summarise(losses = n())
win_pct_october_clutch_hader = win_october_clutch_hader$wins / (win_october_clutch_hader$wins + lose_oct

# Added Wins and.Losses to help visualize as well
cat("The clutch win percentage in the month of March was", round(win_pct_march_clutch * 100, digits = 2)

## The clutch win percentage in the month of March was NaN % (in one game) with 0 Wins and 0 Losses. The
cat("The clutch win percentage in the month of April was", round(win_pct_april_clutch * 100, digits = 2)

## The clutch win percentage in the month of April was 50 % with 3 Wins and 3 Losses. The clutch win per
cat("The clutch win percentage in the month of May was", round(win_pct_may_clutch * 100, digits = 2),"%

## The clutch win percentage in the month of May was 0 % with 0 Wins and 8 Losses. The clutch win percen
cat("The clutch win percentage in the month of June was", round(win_pct_june_clutch * 100, digits = 2),

## The clutch win percentage in the month of June was 25 % with 2 Wins and 6 Losses. The clutch win perc
cat("The clutch win percentage in the month of July was", round(win_pct_july_clutch * 100, digits = 2),

## The clutch win percentage in the month of July was 16.67 % with 1 Wins and 5 Losses. The clutch win p
cat("The clutch win percentage in the month of August was", round(win_pct_august_clutch * 100, digits =

## The clutch win percentage in the month of August was 0 % with 0 Wins and 4 Losses. The clutch win per
cat("The clutch win percentage in the month of September was", round(win_pct_september_clutch * 100, dig

## The clutch win percentage in the month of September was 60 % with 3 Wins and 2 Losses. The clutch win
cat("The clutch win percentage in the month of October was", round(win_pct_october_clutch * 100, digits

## The clutch win percentage in the month of October was 100 % (in one game) with 1 Wins and 0 Losses. T
```

As we can see by this, during their bad months of May-August, Hader wasn't in a lot of the losses from June-August and overall Hader did help them in clutch situations but still couldn't overcome it enough to help his team win in these clutch situations since he didn't have losses outside of 1, the offense just didn't back him up.

Conclusion

It is really baffling to see at first how this Padres team with such a good team with great batters and pitchers could be predicted to do so well, and yet barely be above .500 even thought they did well in most basic statistical categories. We now know that it was because of having bad monthly performances, which a large contributing to that was their inability to win in close and clutch games. This might be the biggest flop in recent sports history of a team who was predicted to be contenders, to be barely .500 and for most of the season until late September, they were under .500. Every other recent flop in sports history has an obvious reason why they lost, whether it was injuries or players taking a step back, here it was something you don't see often with them just being historically unclutch.