

# Technical Assesment

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```
#install.packages("readr")
#install.packages("tidyverse")
#library(readr)
#library(tidyverse)
dat <- read.csv("shots_data.csv")
```

Let us divide the data set into two teams : team A and Team B

```
dat_A <- subset(dat, dat[1] == "Team A")
dat_B <- subset(dat, dat[1] == "Team B")
```

I would like to categorize the data set into 3 categories : corner 3s , non corner 3s, and 2 points based on the respective teams.

##Team A

```
Corner_A <- subset(dat_A, dat_A[3] <= 7.8
& (dat_A[2] < -22 | dat_A[2] > 22))

two_point_A <- subset(dat_A, (dat_A[3] <= 23.75
& dat_A[2] >= -22)&(dat_A[3] <= 23.75 & dat_A[2] <= 22))

Non_Corner_A <- subset(dat_A, (dat_A[3] > 7.8
& (dat_A[2] < -22 | dat_A[2] > 22)) | (dat_A[3] > 23.75
& (dat_A[2] > -22 | dat_A[2] < 22)))
```

##Team B

```
Corner_B <- subset(dat_B, dat_B[3] <= 7.8 &
(dat_B[2] < -22 | dat_B[2] > 22))

two_point_B <- subset(dat_B, (dat_B[3] <= 23.75
& dat_B[2] >= -22)&(dat_B[3] <= 23.75 & dat_B[2] <= 22))

Non_Corner_B <- subset(dat_B, (dat_B[3] > 7.8
& (dat_B[2] < -22 | dat_B[2] > 22)) | (dat_B[3] > 23.75
& (dat_B[2] > -22 | dat_B[2] < 22)))
```

## Field Goals made And Field Goal Attempted

### Corner 3s FGM and FGA for each Team

```
# TEAM A
Corner_A_FGM <- subset(Corner_A, Corner_A[4] == 1)
Corner_A_FGM <- sum(Corner_A_FGM[4])
Corner_A_FGA <- 18

sum(dat_A[4]==1) + sum(dat_A[4]==0)
```

```
## [1] 280
```

```
# TEAM B
Corner_B_FGM <- subset(Corner_B, Corner_B[4] == 1)
Corner_B_FGM <- sum(Corner_B_FGM[4])
Corner_B_FGA <- 11
```

### Non Corner 3s FGM and FGA for each Team

```
# TEAM A
Non_Corner_A_FGM <- subset(Non_Corner_A, Non_Corner_A[4] == 1)
Non_Corner_A_FGM <- sum(Non_Corner_A_FGM[4])
Non_Corner_A_FGA <- 30

# TEAM B
Non_Corner_B_FGM <- subset(Non_Corner_B, Non_Corner_B[4] == 1)
Non_Corner_B_FGM <- sum(Non_Corner_B_FGM[4])
Non_Corner_B_FGA <- 32
```

### two point FGM and FGA for each Team

```
# TEAM A
two_point_A_FGM <- subset(two_point_A, two_point_A[4] == 1)
two_point_A_FGM <- sum(two_point_A_FGM[4])
two_point_A_FGA <- 232

# TEAM B
two_point_B_FGM <- subset(two_point_B, two_point_B[4] == 1)
two_point_B_FGM <- sum(two_point_B_FGM[4])
two_point_B_FGA <- 181
```

### Effective Field Goal Percentage of Team shots within the zone

```

# TEAM A
Corner_A_eFG <- Corner_A_FGM /Corner_A_FGA
Non_Corner_A_eFG <- Non_Corner_A_FGM /Non_Corner_A_FGA
two_point_A_eFG <- two_point_A_FGM/two_point_A_FGA

# TEAM B
Corner_B_eFG <- Corner_B_FGM/Corner_B_FGA
Non_Corner_B_eFG <- Non_Corner_B_FGM /Non_Corner_B_FGA
two_point_B_eFG <-two_point_B_FGM/two_point_B_FGA

#TEAM EFGs

Team_A_eFG <- (((Corner_A_FGM+Non_Corner_A_FGM+two_point_A_FGM)
+ 0.5*
(Corner_A_FGM+Non_Corner_A_FGM))
/280)*100

Team_B_eFG <- (((Corner_B_FGM+Non_Corner_B_FGM+two_point_B_FGM)
+0.5*
(Corner_B_FGM+Non_Corner_B_FGM))
/224)*100

```

Team A Effective Percentage Shot within a Zone:

Corner 3: 0.500

Non\_Corner 3: 0.266

Two Point : 0.466

Team A eFG is 47.68%

Team B Effective Percentage Shot within a Zone:

Corner 3: 0.364

Non\_Corner 3: 0.

Two Point : 0.448

Team B eFG is 43.53%

## Shot Distribution

```

# TEAM A
Corner_A_FGA/280

```

```
## [1] 0.06428571
```

```
Non_Corner_A_FGA/280
```

```
## [1] 0.1071429
```

```
two_point_A_FGA/280
```

```
## [1] 0.8285714
```

```
# TEAM B
```

```
Corner_B_FGA/224
```

```
## [1] 0.04910714
```

```
Non_Corner_B_FGA/224
```

```
## [1] 0.1428571
```

```
two_point_B_FGA/224
```

```
## [1] 0.8080357
```

Team A Shot distribution:

Corner 3: 0.064

Non\_Corner 3: 0.107

Two Point : 0.829

Team B Shot distribution:

Corner 3: 0.049

Non\_Corner 3: 0.143

Two Point : 0.808