SLG Trend

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Use the latest 2017 version of baseball archieve at http://www.seanlahman.com/baseball-archive/statistics/

I only want to use the batting data from 2007 and 2017.

```
Bat.17 <- subset(Batting, yearID == 2007 | yearID == 2017)
```

Before I can start my analysis, I need to define what a single and slugging percetange is in my data set.

```
Bat.17$X1B <- with(Bat.17, H - X2B - X3B - HR)
Bat.17$SLG <- with(Bat.17,
                   (X1B + 2 * X2B + 3 * X3B + 4 * HR) / AB)
```

Right now, my data has names of players on different rows based on their season. I am going to split the data into 2007 and 2017 season and then merge them by playerID so that each player has only one row.

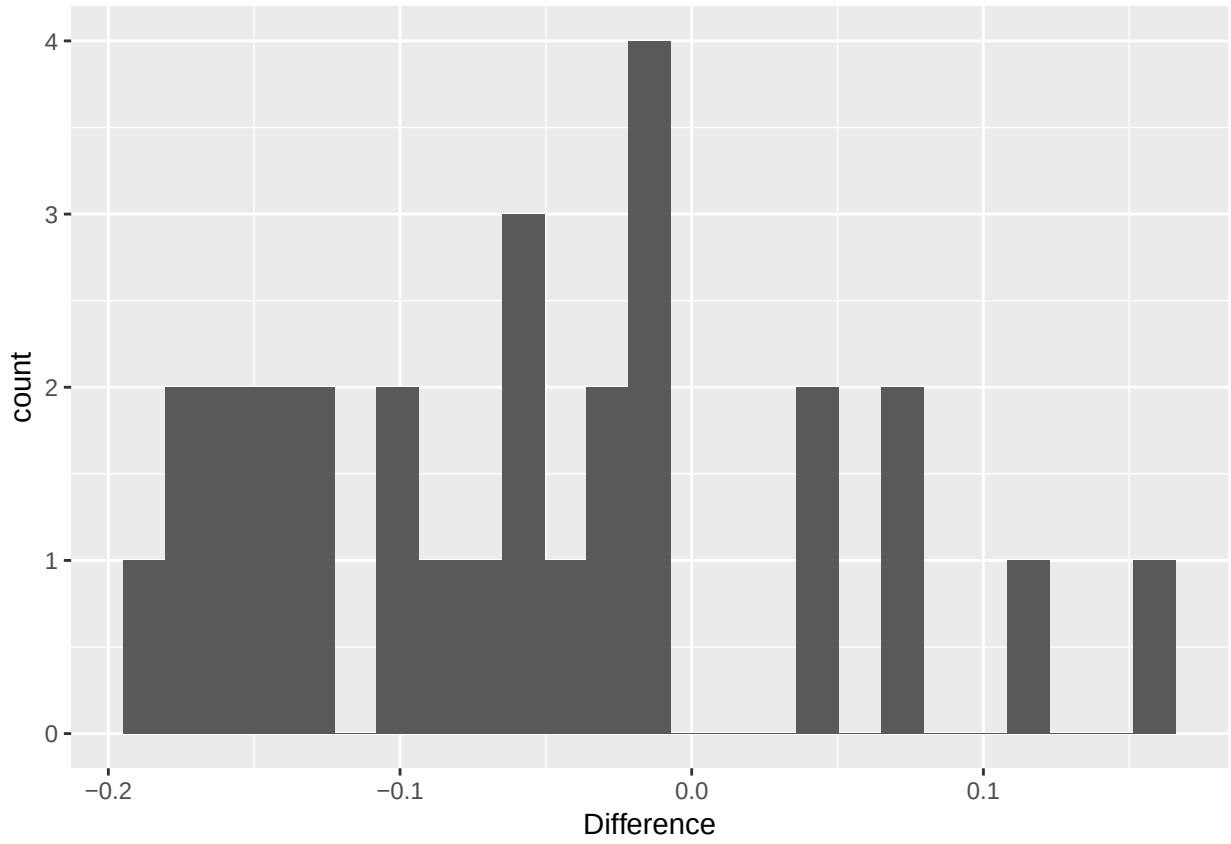
```
Bat07 <- subset(Bat.17, yearID==2007)
Bat17 <- subset(Bat.17, yearID==2017)
merged.Bat <- merge(Bat07, Bat17, by="playerID")
```

I want to make sure that I only have players that had at least 300 At Bats in both seasons.

```
min.bat <- subset(merged.Bat,
                  AB.x >= 300 & AB.y >=300)
```

I wanted to find the difference between 2007 and 2017 WHIP values and created a histogram to visually show the distrubtion.

```
min.bat$Difference <- with(min.bat, SLG.y - SLG.x)
ggplot(min.bat) + geom_histogram(aes(x=Difference), bins = 25)
```




```
mean(min.bat$Difference)
```

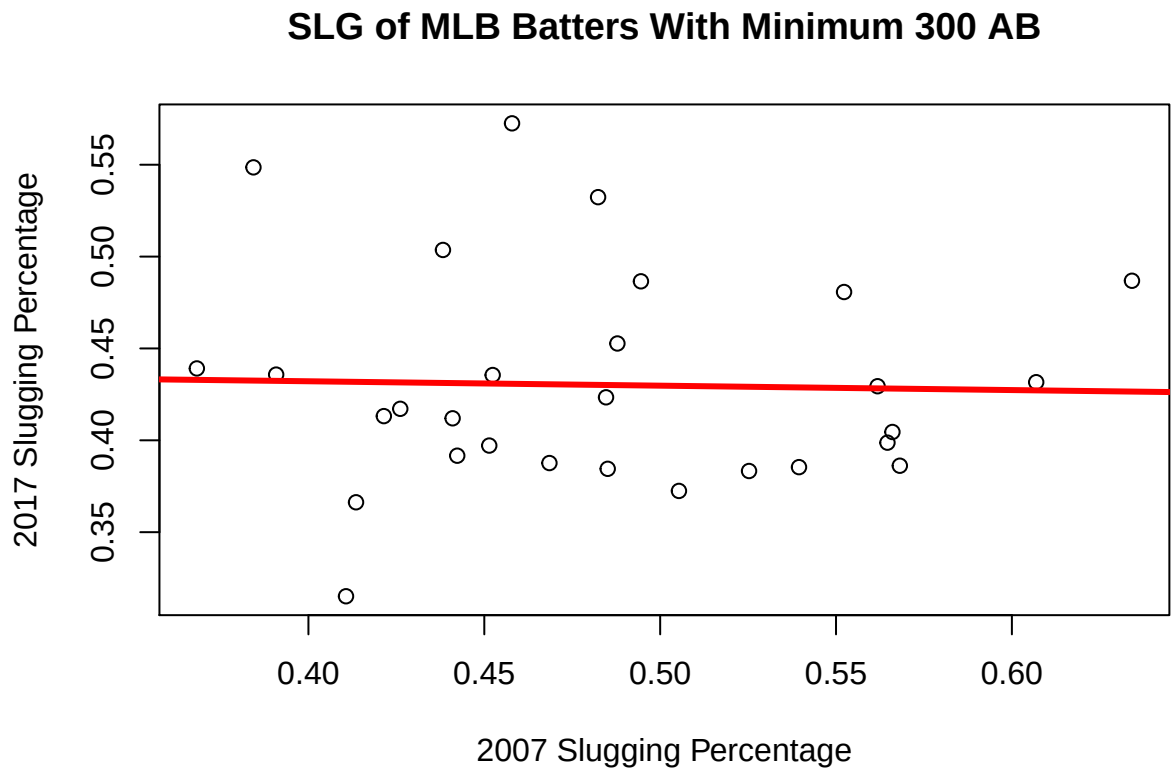
```
## [1] -0.05350326
```

```
summary(min.bat$Difference)
```

```
##      Min.   1st Qu.    Median      Mean   3rd Qu.      Max.
## -0.181970 -0.132889 -0.054268 -0.053503 -0.008265  0.164196
```

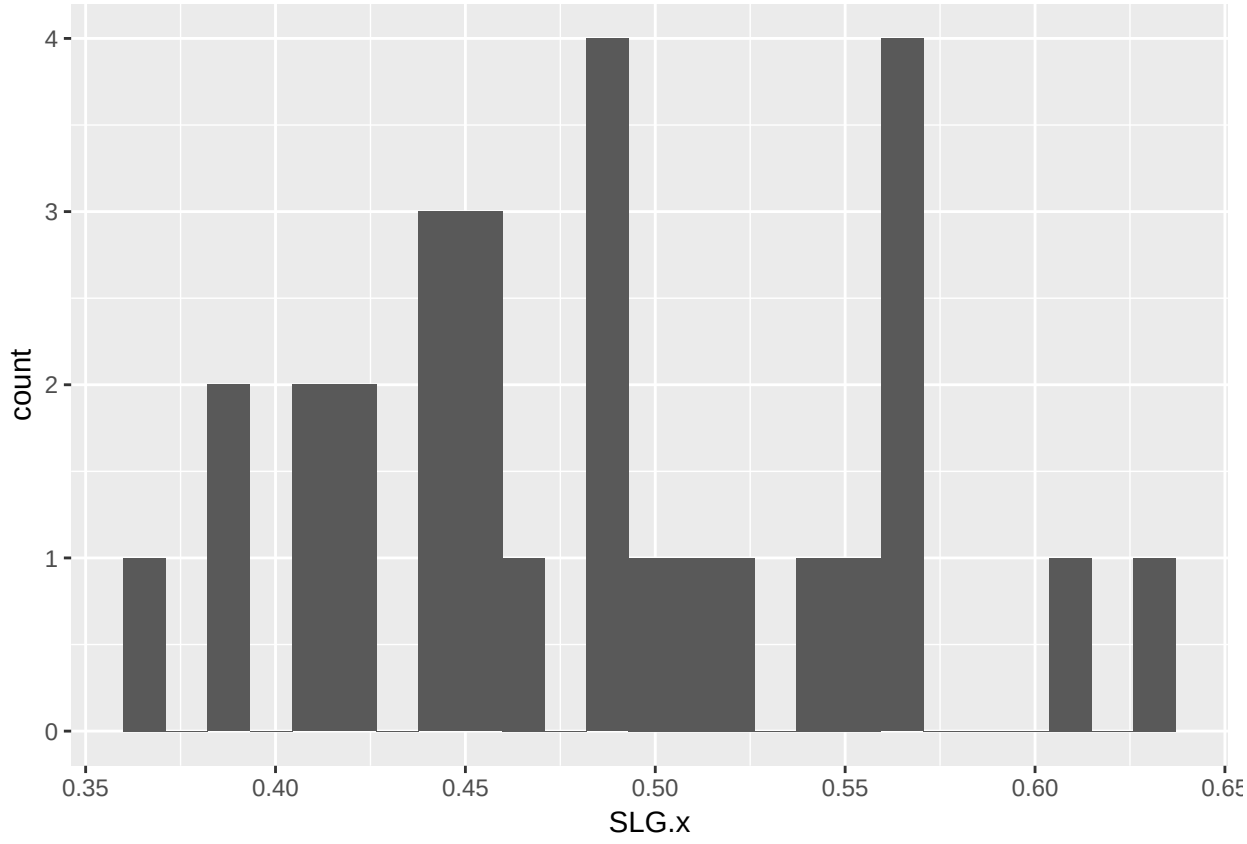
I wanted to create a plot the Slugging Percentage of 2007 verus 2017.

```
with(min.bat,
     plot(SLG.x, SLG.y,
          xlab="2007 Slugging Percentage", ylab="2017 Slugging Percentage",
          main="SLG of MLB Batters With Minimum 300 AB"))
fit <- lm(SLG.y ~ SLG.x, data=min.bat)
abline(fit, lwd=3, col="red")
```



Additionally, here is a histogram to demonstrate the distrubtion of Slugging Percentage in 2007 and 2017.

```
ggplot(min.bat) + geom_histogram(aes(x= SLG.x), bins =25)
```



```
ggplot(min.bat) + geom_histogram(aes(x= SLG.y), bins = 25)
```