Math564_Pilot

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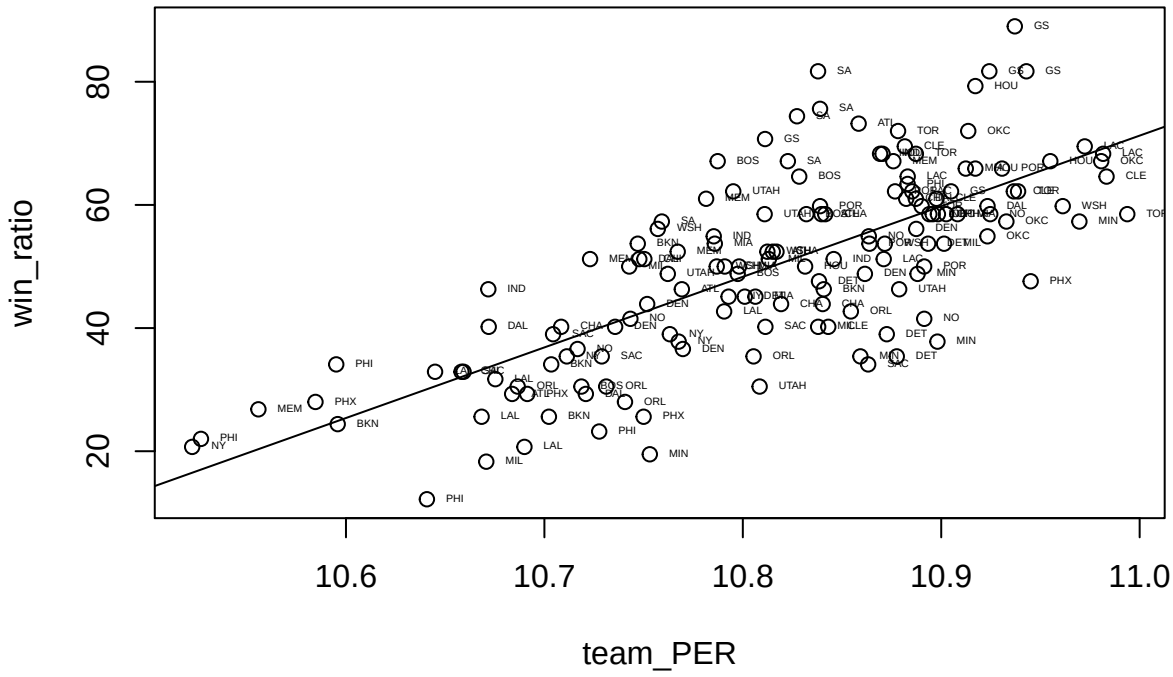
```
raw <- read.csv('/home/chenjie/Desktop/Math564Project/draft_table.csv')
```

```
md_total <-lm(raw$win_ratio~ raw$team_PER,data = raw)
summary(md_total)
```

```
##
## Call:
## lm(formula = raw$win_ratio ~ raw$team_PER, data = raw)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -23.4482  -6.5737  -0.5568   6.4960  29.0296
##
## Coefficients:
##               Estimate Std. Error t value Pr(>|t|)
## (Intercept)  -1189.923     94.186  -12.63   <2e-16 ***
## raw$team_PER   114.652      8.709   13.16   <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 10.46 on 148 degrees of freedom
## Multiple R-squared:  0.5394, Adjusted R-squared:  0.5363
## F-statistic: 173.3 on 1 and 148 DF,  p-value: < 2.2e-16
```

```
plot(raw$team_PER,raw$win_ratio,xlab = 'team_PER', ylab = 'win_ratio', main = '2014 - 2017 Win_Ration a
```

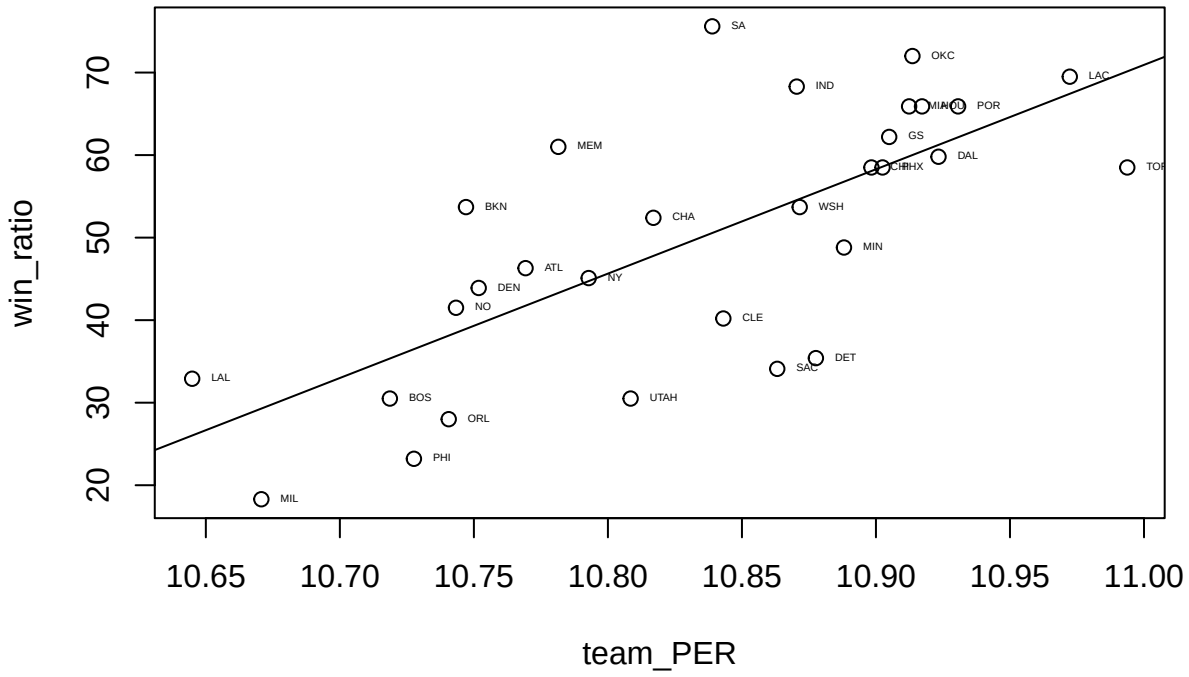



```
## integer(0)
```

```
data14<- raw[raw$season ==2014,]
md14 <-lm(data14$win_ratio~ data14$team_PER,data = data14)
summary(md14)
```

```
##
## Call:
## lm(formula = data14$win_ratio ~ data14$team_PER, data = data14)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -20.052  -9.589   1.248   5.234  25.039
##
## Coefficients:
##                 Estimate Std. Error t value Pr(>|t|)
## (Intercept)     -1320.26     251.49  -5.250 1.40e-05 ***
## data14$team_PER   126.47      23.21   5.449 8.15e-06 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 11.17 on 28 degrees of freedom
## Multiple R-squared:  0.5146, Adjusted R-squared:  0.4973
## F-statistic: 29.69 on 1 and 28 DF,  p-value: 8.146e-06
```

```
plot(data14$team_PER,data14$win_ratio,xlab = 'team_PER', ylab = 'win_ratio', main = '2014 Win_Ration aga
```

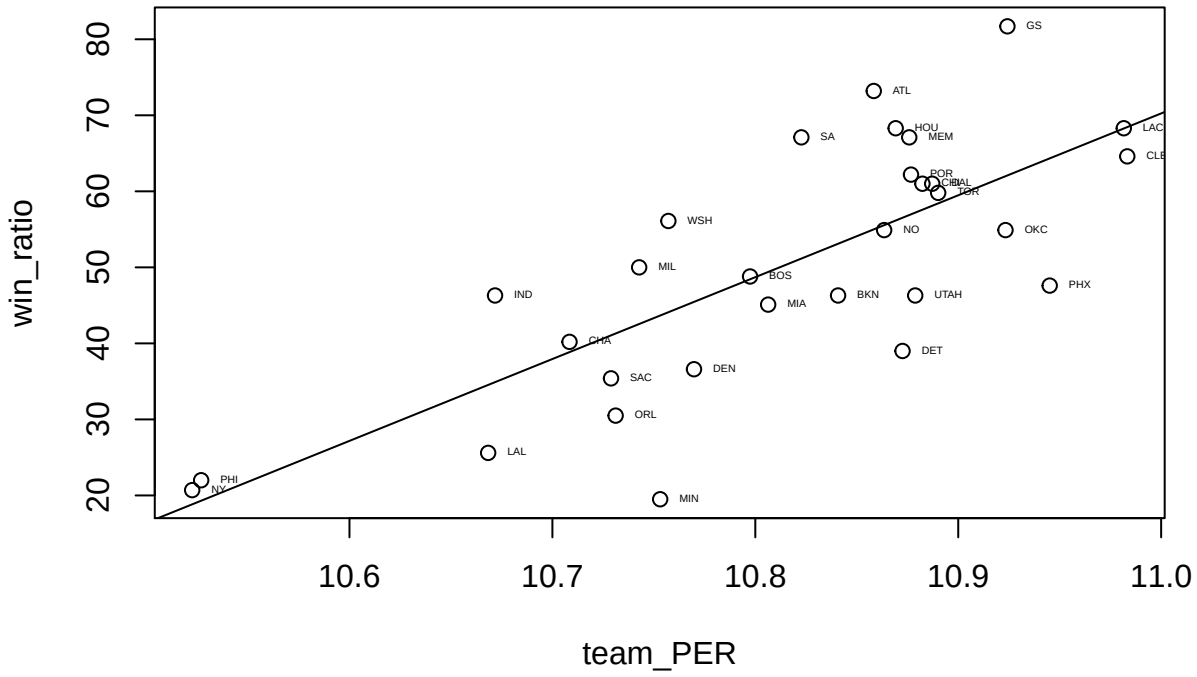



```
## integer(0)
```

```
data15<- raw[raw$season ==2015,]
md15 <-lm(data15$win_ratio~ data15$team_PER,data = data15)
summary(md15)
```

```
##
## Call:
## lm(formula = data15$win_ratio ~ data15$team_PER, data = data15)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -24.1629  -7.0156   0.8578   6.8966  19.6114
##
## Coefficients:
##                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)     -1114.23     190.14  -5.860 2.67e-06 ***
## data15$team_PER   107.68      17.59   6.123 1.31e-06 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 10.92 on 28 degrees of freedom
## Multiple R-squared:  0.5725, Adjusted R-squared:  0.5572
## F-statistic: 37.49 on 1 and 28 DF,  p-value: 1.315e-06
```

```
plot(data15$team_PER,data15$win_ratio,xlab = 'team_PER', ylab = 'win_ratio', main = '2015 Win_Ration aga
```

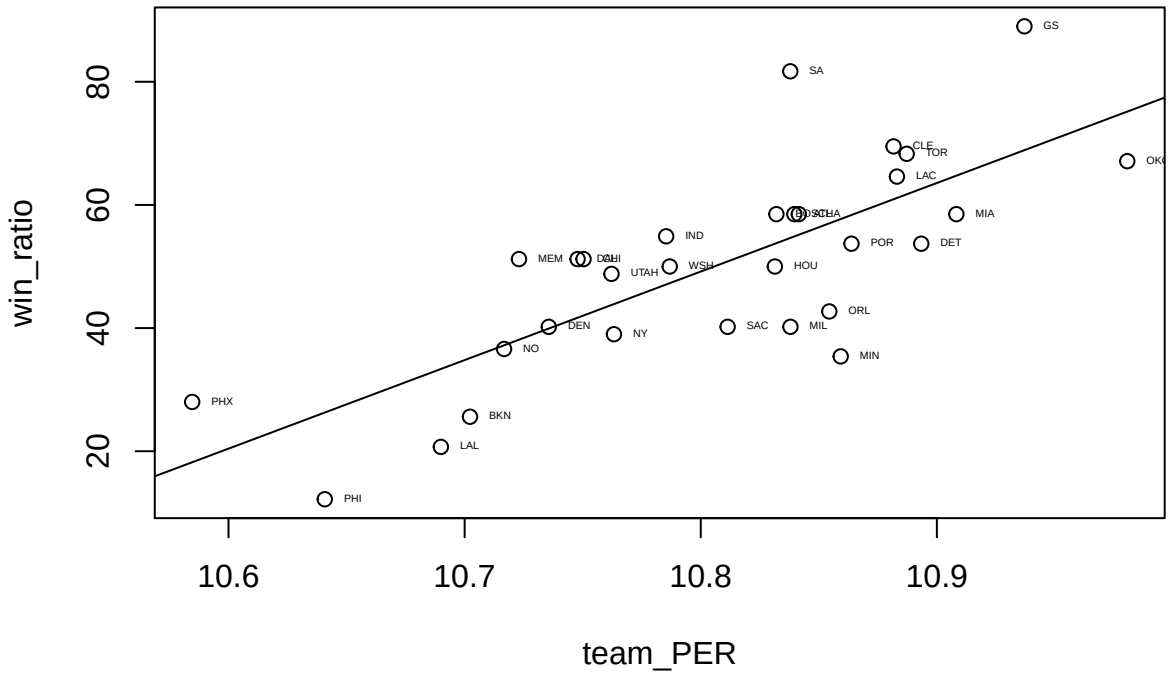



```
## integer(0)
```

```
data16<- raw[raw$season ==2016,]
md16 <-lm(data16$win_ratio~ data16$team_PER,data = data16)
summary(md16)
```

```
##
## Call:
## lm(formula = data16$win_ratio ~ data16$team_PER, data = data16)
##
## Residuals:
##     Min      1Q  Median      3Q     Max
## -22.300  -8.694   1.495   7.517  27.069
##
## Coefficients:
##                 Estimate Std. Error t value Pr(>|t|)
## (Intercept)     -1503.95     254.37  -5.912 2.32e-06 ***
## data16$team_PER   143.81      23.54   6.109 1.37e-06 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 11.28 on 28 degrees of freedom
## Multiple R-squared:  0.5713, Adjusted R-squared:  0.556
## F-statistic: 37.32 on 1 and 28 DF,  p-value: 1.365e-06
```

```
plot(data16$team_PER,data16$win_ratio,xlab = 'team_PER', ylab = 'win_ratio', main = '2016 Win_Ration aga
```

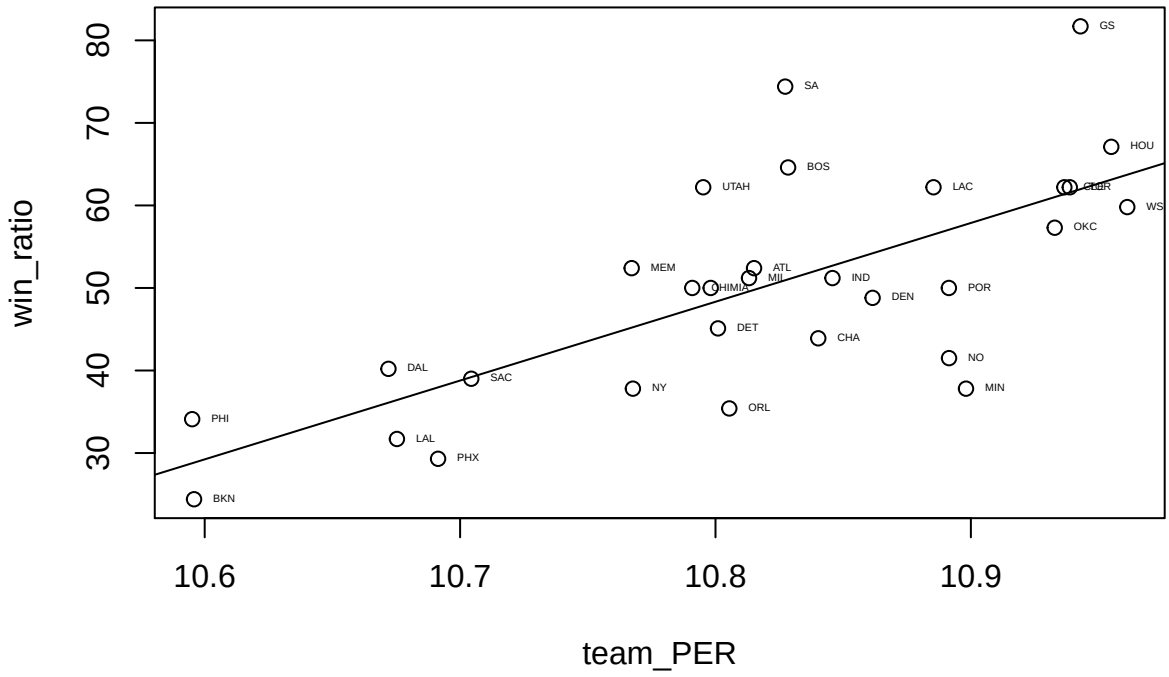



```
## integer(0)
```

```
data17<- raw[raw$season ==2017,]
md17 <-lm(data17$win_ratio~ data17$team_PER,data = data17)
summary(md17)
```

```
##
## Call:
## lm(formula = data17$win_ratio ~ data17$team_PER, data = data17)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -19.8934  -5.2305   0.2146   4.0683  23.4661
##
## Coefficients:
##                  Estimate Std. Error t value Pr(>|t|)
## (Intercept)      -982.88     193.49  -5.080 2.23e-05 ***
## data17$team_PER    95.48      17.89   5.338 1.10e-05 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 9.776 on 28 degrees of freedom
## Multiple R-squared:  0.5044, Adjusted R-squared:  0.4867
## F-statistic:  28.5 on 1 and 28 DF,  p-value: 1.101e-05
```

```
plot(data17$team_PER,data17$win_ratio,xlab = 'team_PER', ylab = 'win_ratio', main = '2017 Win_Ration aga
```


2017 Win_Ration against team_PER
win_ratio
30
40
50
60
70
80
10.6
10.7
10.8
10.9
team_PER
GS
SA
HOU
BOS
UTAH
LAC
WS
OKC
MEM
ATL
MIL
IND
POR
DEN
DET
CHA
NO
DAL
SAC
NY
MIN
ORL
PHI
LAL
PHX
BKN

```
## integer(0)
```