

# My first R markdown assignment

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## Question 1

```
#### Read in data
```

```
FCI = read_csv("C:/Users/sinax006/Desktop/epsy-8252-master/data/fci-2015.csv")
```

```
## Parsed with column specification:
```

```
## cols(
##   team = col_character(),
##   league = col_character(),
##   fci = col_double(),
##   salary = col_double()
## )
```

```
head(FCI)
```

```
## # A tibble: 6 x 4
```

```
##   team                league  fci  salary
##   <chr>              <chr> <dbl>  <dbl>
## 1 Arizona Diamondbacks MLB    127. 2773298
## 2 Atlanta Braves      MLB    174. 3484949
## 3 Baltimore Orioles   MLB    163. 3553100
## 4 Boston Red Sox      MLB    351. 5679006
## 5 Chicago Cubs        MLB    301. 3606269
## 6 Chicago White Sox   MLB    208. 4115667
```

## Question 2

```
## # A tibble: 6 x 8
```

```
##   team                league  fci  salary  mlb  nba  nfl  nhl
##   <chr>              <chr> <dbl>  <dbl> <dbl> <dbl> <dbl> <dbl>
## 1 Arizona Diamondbacks MLB    127. 2773298    1    0    0    0
## 2 Atlanta Braves      MLB    174. 3484949    1    0    0    0
## 3 Baltimore Orioles   MLB    163. 3553100    1    0    0    0
## 4 Boston Red Sox      MLB    351. 5679006    1    0    0    0
## 5 Chicago Cubs        MLB    301. 3606269    1    0    0    0
## 6 Chicago White Sox   MLB    208. 4115667    1    0    0    0
```

## Question 3

```
## # A tibble: 4 x 5
##   term      estimate std.error statistic  p.value
##   <chr>      <dbl>     <dbl>     <dbl>   <dbl>
## 1 (Intercept)    212.      14.9      14.2 2.77e-27
## 2 nba           122.      21.1       5.76 6.77e- 8
## 3 nfl           269.      20.8      12.9 2.14e-24
## 4 nhl           150.      21.1       7.10 9.96e-11
```

## Question 4

- The Fan Cost Index(FCI) for NBA league is \$122 more annually, on average, than MLB league.
- The Fan Cost Index(FCI) for NFL league is \$269 more annually, on average, than MLB league.
- The Fan cost Index(FCI) for NHL league is \$150 more annually, on average, than MLB league.
- The average Fan Cost Index(FCI) is \$212 for MLB league.

## Question 5

A well formatted table of Models coefficient tidy() output

Predictor	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>
(Intercept)	211.89	14.93	14.19	0
nba	121.64	21.11	5.76	0
nfl	269.00	20.78	12.95	0
nhl	149.95	21.11	7.10	0

## Question 6

Scatter plot of the FCI and league

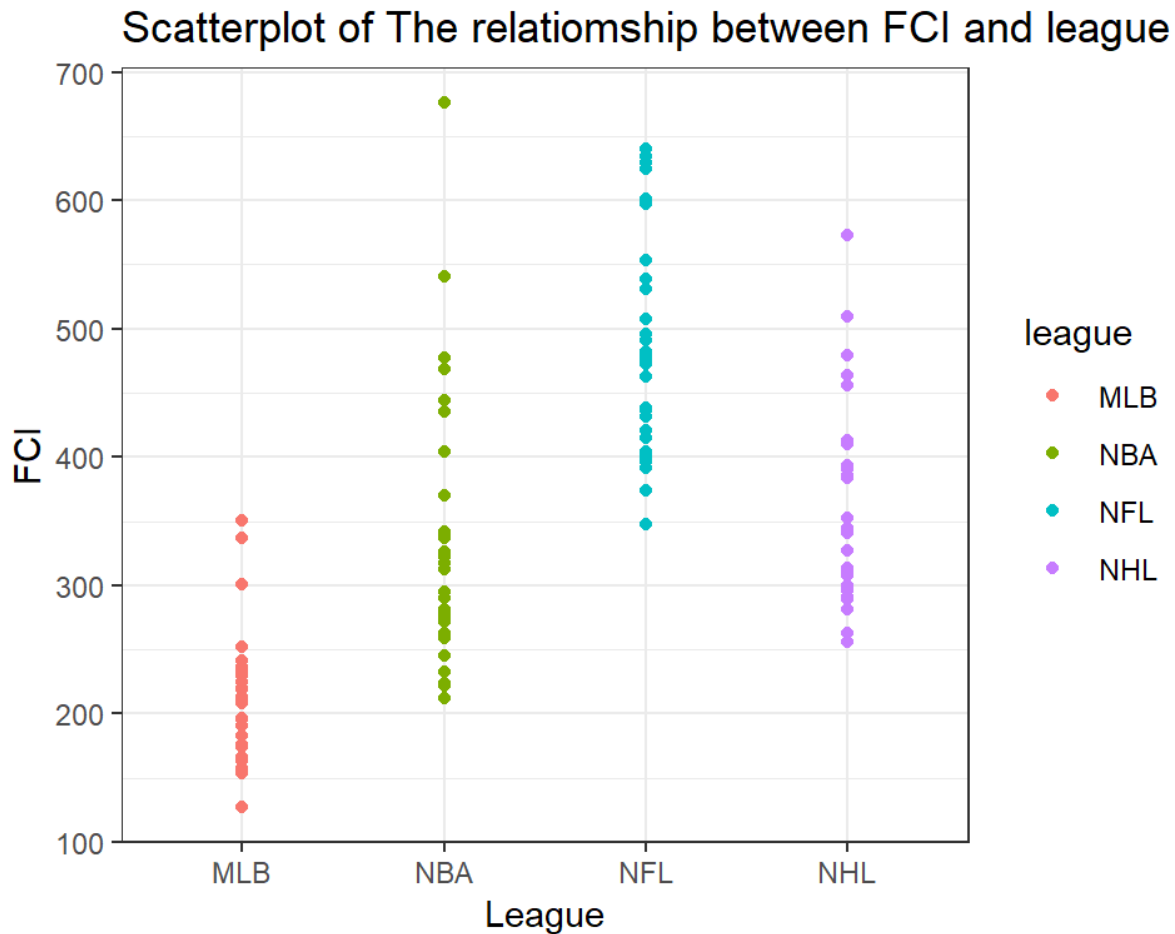


Figure 1:Scatterplot of The relationship between FCI and league

## Question 7

Using a display equation

$$Y_i = \beta_0 + \beta_1(NBA_i) + \beta_1(NFL_i) + \beta_1(NHL_i) + \epsilon_i$$

$$FCI_i = 212 + 122(NBA_i) + 269(NFL_i) + 150(NHL_i)$$

## Question 8

The estimated coefficient  $\beta_{NHL}$  is 149.949

## Question 9

```
FCI %>%
  mutate(y_hat=212+122*nba+269*nfl+150*nhl,errors=fci-y_hat,sq.errors=errors^2)%>%
  summarize(SSE=sum(sq.errors))
```

```
## # A tibble: 1 x 1
##       SSE
##   <dbl>
## 1 788891.
```

## Quesion 10

here are some inline citations

R is used for statistical programming (Fox (2009) and Algina, Keselman, & Penfield (2005))

## References

Algina, J., Keselman, H. J., & Penfield, R. D. (2005). An alternative to Cohen's standardized mean difference effect size: A robust parameter and confidence interval in the two independent groups case. *Psychological Methods*, 10(3), 317–328.

Fox, J. (2009). *A mathematical primer for social statistics*. Thousand Oaks, CA: Sage.