Fatal Accidents Correlation Test
Stats 441 Final Project
4/3/2018

Load the Dataset from csv file
NOTE: Make sure to replace the path variable with your own path to the file

```r
library(readr)
airline_safety<-read.csv("C:/Users/Vlad/Desktop/Statistics Classes/Math 541/airline-
safety.csv",header=T)
```

Get the number of ASK based on Trillions
```r
airline_safety$ASKperBillion = airline_safety[, "avail_seat_km_per_week"]*52*15/1000000000
```

add columns to dataset for 85 to 99 (per trillion)
```r
airline_safety$Fatal_Accidents_85_99_trillion = airline_safety$fatal_accidents_85_99 /
airline_safety$ASKperTrillion
```

**add columns to dataset for 00 to 14 (per trillion)**
```r
airline_safety$Fatal_Accidents_00_14_trillion = airline_safety$fatal_accidents_00_14 /
airline_safety$ASKperTrillion
```

 # Make the plot for 'per trillion'
 # the data for the columns needed is originally stored as a list
 # must be converted to numeric vector to be used in plot function

```r
fatal_acc_tril_85_99 =
as.numeric(as.character(unlist(airline_safety$Fatal_Accidents_85_99_trillion)))
fatal_acc_tril_00_14 =
as.numeric(as.character(unlist(airline_safety$Fatal_Accidents_00_14_trillion)))
plot(fatal_acc_tril_85_99, fatal_acc_tril_00_14, xlab="1985-99", ylab="2000-14", main = "Fatal
Accidents per Trillion")
abline(lm(fatal_acc_tril_00_14 ~ fatal_acc_tril_85_99))
```


Fatal Accidents per Trillion
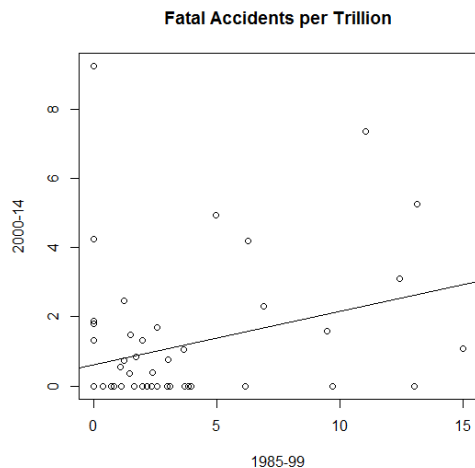
Find the correlation coefficient for the correlation between the two year groups for 'per trillion'

```
> cor(fatal_acc_tril_00_14, fatal_acc_tril_85_99)
[1] 0.3110593
```

The scatterplot and correlation coefficient show no correlation between the two year groups.