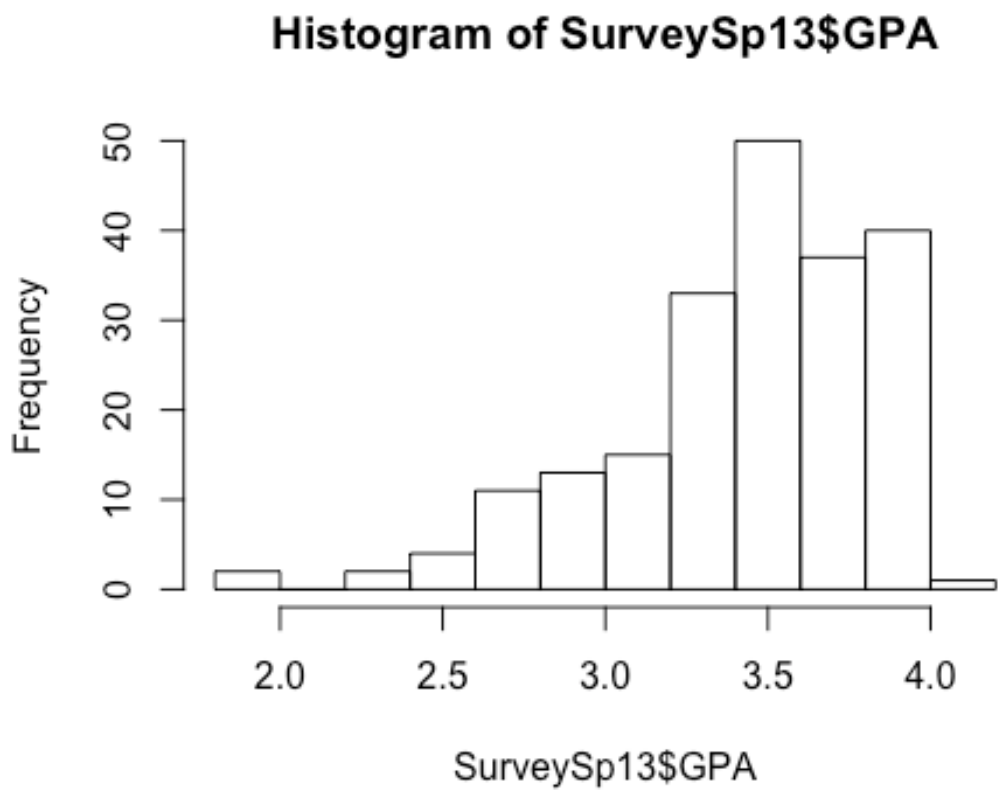
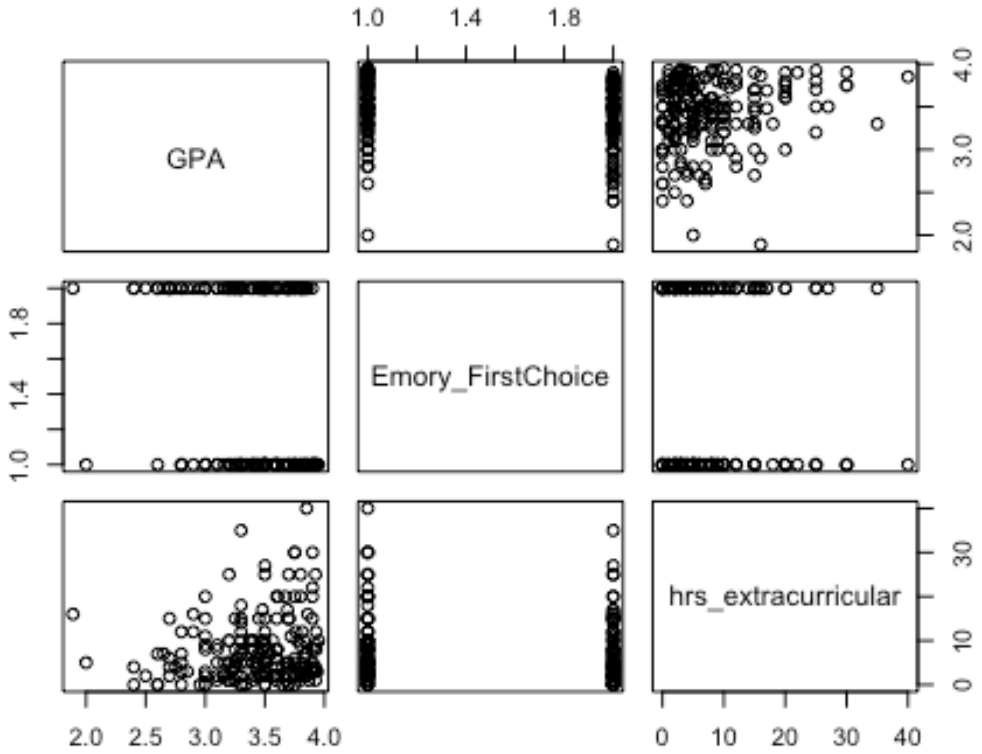
extra_credit.R

Sat Apr 15 19:29:31 2017

```
#extra credit

SurveySp13 <- read.csv("SurveySp13.csv", header = TRUE)

hist(SurveySp13$GPA)
```




```
cleanedSurvey <-subset(SurveySp13,SurveySp13$GPA<4.0)

#Examining relationship between Emory FirstChoice, hrs extracurricular and GP
A
pairs(GPA~Emory_FirstChoice+hrs_extracurricular,data=cleanedSurvey)
```




```
#Calculating a linear model
m4<-lm(GPA~Emory_FirstChoice+hrs_extracurricular,data=cleanedSurvey)

summary(m4)

##
## Call:
## lm(formula = GPA ~ Emory_FirstChoice + hrs_extracurricular, data = cleaned
Survey)
##
## Residuals:
##      Min       1Q   Median       3Q      Max
## -1.50473 -0.18918  0.05934  0.29085  0.54800
##
## Coefficients:
##                       Estimate Std. Error t value Pr(>|t|)
## (Intercept)           3.470174   0.046926  73.949  < 2e-16 ***
## Emory_FirstChoiceYes -0.188908   0.053170  -3.553 0.000477 ***
## hrs_extracurricular   0.006911   0.003615   1.912 0.057363 .
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.3748 on 197 degrees of freedom
```

```
## Multiple R-squared:  0.08024,    Adjusted R-squared:  0.0709
## F-statistic: 8.593 on 2 and 197 DF,  p-value: 0.0002642

#viewing results
#Finding confidence interval
confint(m4)

##                               2.5 %      97.5 %
## (Intercept)           3.3776318612  3.56271670
## Emory_FirstChoiceYes -0.2937626424 -0.08405350
## hrs_extracurricular  -0.0002181709  0.01403948

#1. What is the estimated linear regression equation? ŷ = 3.47 - 0.188908(Emo
ry_FirstChoiceYes) + 0.006911(hrs_extracurricular)
#2. The intercept is 3.47 - at 0 hours of extracurriculars and 0 Emory_FirstC
hoiceYes the GPA is 3.47. The confidence interval is (3.3776318612, 3.5627167
0) which means it is very different from 0.
#3  The slope is -0.188908 an the confidence interval is (-0.0002181709, 0.01
403948)
#4  The slope is 0.006911 and the confidence interval is (-0.2937626424, -0.0
8405350)
#5  Yes.
```