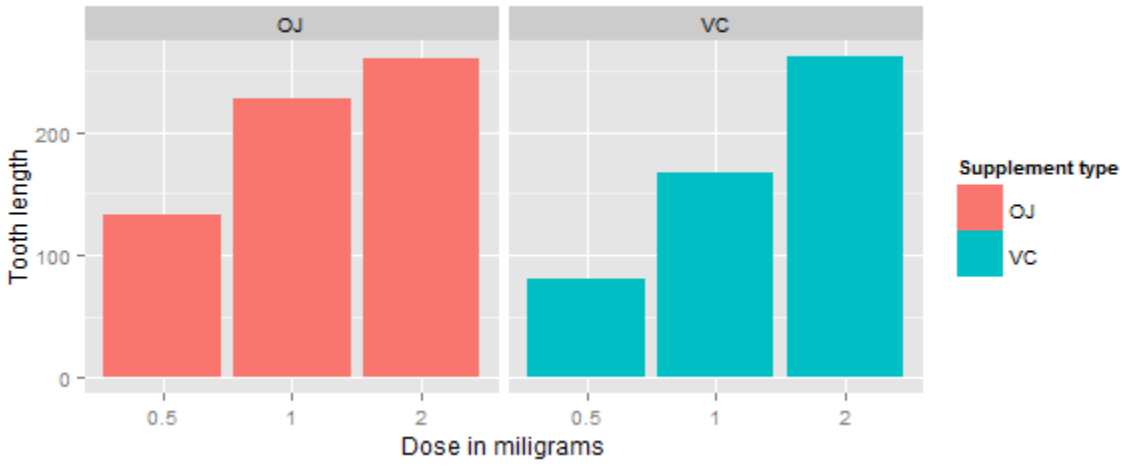
```
## Eric Glass
## Project 1, Part 2
## R code followed by plots & data results and assumptions

## ------------------------------------------------------------------------
library(datasets)
library(ggplot2)
ggplot(data=ToothGrowth, aes(x=as.factor(dose), y=len, fill=supp)) +
        geom_bar(stat="identity",) +
        facet_grid(. ~ supp) +
        xlab("Dose in miligrams") +
        ylab("Tooth length") +
        guides(fill=guide_legend(title="Supplement type"))



## ------------------------------------------------------------------------
-
fit <- lm(len ~ dose + supp, data=ToothGrowth)
summary(fit)



## ------------------------------------------------------------------------
-
confint(fit)
```




```
Call:
lm(formula = len ~ dose + supp, data = ToothGrowth)

Residuals:
   Min     1Q Median     3Q    Max
-6.600 -3.700  0.373  2.116  8.800

Coefficients:
            Estimate Std. Error t value Pr(>|t|)
(Intercept)   9.2725     1.2824   7.231 1.31e-09 ***
dose          9.7636     0.8768  11.135 6.31e-16 ***
suppVC       -3.7000     1.0936  -3.383   0.0013 **
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1

Residual standard error: 4.236 on 57 degrees of freedom
Multiple R-squared:  0.7038,   Adjusted R-squared:  0.6934
F-statistic: 67.72 on 2 and 57 DF,  p-value: 8.716e-16

confint(fit)
                2.5 %    97.5 %
(Intercept)  6.704608 11.840392
dose         8.007741 11.519402
suppVC      -5.889905 -1.510095
```

assumptions:

data set: 60 observations, length of of teeth in each of 10 guinea pigs at each of 3 dose levels of Vitamin C (0.5, 1 and 2 mg) with each of 2 delivery methods (OJ or ascorbic acid)