# Statistical Inference Course Project

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*Monday, January 12, 2015*

## Part 2: Basic inferential data analysis

### Simple inferential data analysis

Now in the second part of the project, we analyze the ToothGrowth data in the R datasets package and build a simple inferential data analysis.

### Setting up required environment in R

```
# Load libraries
library(ggplot2)
library(knitr)

# Changing locale time to English
Sys.setlocale("LC_TIME", "english")
```

### Data

The data we use are ToothGrowth, which are the in the R datasets package. These data contain information about the effect of vitamin C on tooth growth in guinea pigs.

The response is the length of odontoblasts (teeth) in each of 10 guinea pigs at each of three dose levels of Vitamin C (0.5, 1, and 2 mg) with each of two delivery methods (orange juice or ascorbic acid).

Format

A data frame with 60 observations on 3 variables.

[,1] len numeric Tooth length

[,2] supp factor Supplement type (VC or OJ).

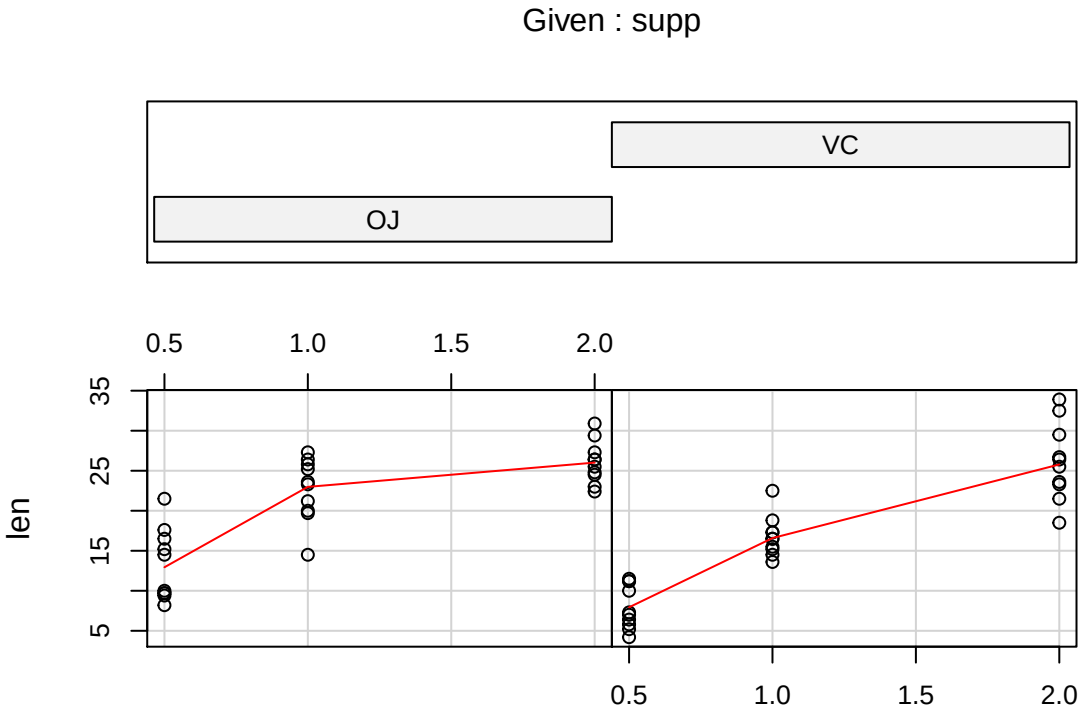
[,3] dose numeric Dose in milligrams.

Source

C. I. Bliss (1952) The Statistics of Bioassay. Academic Press.

### Exploratory data analysis

```
require(graphics)
coplot(len ~ dose | supp, data = ToothGrowth, panel = panel.smooth,
       xlab = "ToothGrowth data: length vs dose, given type of supplement")
```




ToothGrowth data: length vs dose, given type of supplement

## Basic summary of the data

## Inferential data analysis

## Conclusions