Outline

1. Really important notation:
   - \( n \) the number of individuals
   - \( x \) the generic name of a variable (variables can be named anything)
   - \( x_i \) the value of variable \( x \) on the \( i \)th individual
   - \( x_{(i)} \) the \( i \)th smallest value of the variable \( x \) on the individuals

2. Numerical summaries of center of a distribution (mean, median, trimmed mean)

3. Resistance (to outliers)

4. Numerical summaries of spread of a distribution (variance, standard deviation)

5. Quantiles

6. Boxplots

Homework

1. Read Section 1.3,4.
2. Do problems 1.8,12,16,17,18. (Due Monday, February 9)

Useful R

```r
> attach(timetonohitter)
> histogram(Inter.arrival.Time,type='density',
+ br=c(0,500,1000,1500,2000,3500,3000,3500,4000,4500))
> summary(anything)
> mean(ud$Cash)
> median(ud$Cash)
> mean(ud$Cash,trim=.1)
> var(ud$Cash)
> sd(ud$Cash)
> fivenum(ud$Cash)
> boxplot(ud$Cash)
> bwplot(ud$Cash)
> quantile(ud$Cash)
```

Data

- Number of games between no-hitters in Major League Baseball: [http://www.calvin.edu/~stob/data/timetonohitter.csv](http://www.calvin.edu/~stob/data/timetonohitter.csv)
- Classroom data collected the first day for several sections of statistics: [http://www.calvin.edu/~stob/data/uselessdata.csv](http://www.calvin.edu/~stob/data/uselessdata.csv)