**<https://github.com/boboppie/coursera-course-statistics_one>**

**LECTURE 2 IN STATISTICS ONE (ANDREW)**

**Descriptive statistics vs inferential statistics:**

* Descriptive statistics: procedures used to summarize, organize and simplify data
* Inferential statistics: techniques that allow for generalizations about population parameter based on sample statistics

SEGMENT 1: HISTOGRAMS

* Distribution
* Normal distribution
* Non-normal distribution
  + Skew
  + kurtosis

SEGMENT 2: SUMMARY STATISTICS

Four “moments” of the mean:

* Central tendency:
  + Mean
  + Median (middle score)
  + Mode is the score that occurs more often
* Variability: diversity of scores in a distribution
  + Standard deviation(SD): average deviation from the mean in a distribution
  + Variance: SD2 aka Mean Squares (MS)
* Skew: the tails
* Kurtosis: the peak

SEGMENT 3: TOOLS FOR INFERENTIAL STATISITICS

* Z-scores: standardized unit of measurement
  + Z =(X-M)/SD
* Percentile rank: percentage of scores that fall at or below a given score
* Probability of an event(E):
  + P(E) =
* Probability and the normal distribution
  + P(X>100.06) = .50
  + P(X>100.77) = .159
* Inferential statistics: