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

**LECTURE 14 - ANOVA**

**Segment 1: General Linear Model (GLM)**

* GLM is a math framework used in statistical analysis, includes multiple regression and ANOVA
  + Assume that is Linear and Additive.
* Simple regression Y = B0 + B1X1 + e
* Multiple regression Y = B0 + B1X1 + B2X2 + B3X3 + e
* ANOVA: 🡪 clean procedure and cleaner results, for discrete variables
  + One-way: Categorical predictors (e.g. X1: gender)
  + Factorial: Combination of categorical predictors (gender, race, interaction…)

If only 2 means, then use: independent t-test or dependent t-test

If more than 2 means, then use ANOVA:: between groups and repeated measures

In ANOVA we get the F-test, family of F distributions (depend on N and groups)

**Segment 2: One-way ANOVA**

* F ratio
  + F = systematic variance / unsystematic variance
  + F = between-groups variance / within-groups variance
  + F= MSA/MSS/A

**Segment 3: Factorial ANOVA**

* 2 independent variables and 1 dependent variables
  + Main effect
  + Interaction effect
  + Simple effect

