Stat303: Statistical Methods

Homework 10 (08/06/2009)

Instructor: Jin, Ick Hoon

1.
- $df = (c-1)(r-1)$, where c(column) and r(row) are the dimension of the two-way table. To find the critical value, check χ^2 table. Firstly find the df, then, go to the corresponding probability, say, 0.05.

2.
- Check the assumptions on the "flowchart".
- The null for χ^2 test is:(1) row and column variables are independent or all the distributions are the same. (2) all the proportions are equal,i.e. $\pi_1 = \pi_2 = \cdots = \pi_k$.

3.
- Expected count for a cell = $(column\ \ total \times row\ \ total)/n$
- Portion of the χ^2 test statistic for a cell = $\frac{(observed\ \ count - expected\ \ count)^2}{expected\ \ count}$.

4. Use the "2-way Chi Squared" applet on STAT30X.

5.
- df for numerator = I-1 = number of groups -1.
- df for denominator = N-I, where N is the total sample size (add $number\ of\ observations\ per\ group$ together).
- F statistic = MSG/MSE
- Critical value F_α with corresponding dfs can be found on F-table.
- Reject H_0, if F statistic $>$ F critical value.

7. Use the "1-way ANOVA" applet on STAT30X.

8. Use the "1-way ANOVA" applet on STAT30X.