Final Exam Equations

Chi Square:

$$X^2 = \sum \frac{(fo - fe)^2}{fe}$$

 $f_e = [(row\ total)(column\ total)]/n$

where,

f_o =observed frequencies (actual)

 f_e = expected frequencies

Lambda:

$$\lambda = \frac{L - M}{L}$$

where,

L = # of errors predicting w/o independent variable M = # of errors predicting with independent variable

Gamma:

$$\gamma = \frac{N_S - N_D}{N_S + N_D}$$

where: N_s = "same" pairs, # of

 N_D = "inverse" pairs, # of

Pearson's Correlation Coefficient:

$$\mathcal{H} = \frac{\sum (x_i - \overline{x})(y_i - \overline{y})}{\sqrt{\sum (x_i - \overline{x})^2 \sum (y_i - \overline{y})^2}}$$

Regression equation:

$$y = a + bx$$

$$a = y$$
-intercept

b = slope

Regression Coefficient:

$$b = \frac{\sum \left[(x_i - \overline{x})(y_i - \overline{y}) \right]}{\sum (x_i - \overline{x})^2}$$

$$a = \overline{y} - b(\overline{x})$$