BE.104 Spring
Problem Set 3
Sherley
<u>**Due in class Thursday, March 10, 2005**</u>

See Table III from the Feb. 25, 2005 issue of *Mortality Morbidity Weekly Report* (Vol 54, p. 191).
http://www.cdc.gov/mmwr/mmwr_wk.html

1) Generate a frequency histogram for all deaths (i.e., "All Ages" entries) in the listed cities. What should you do with the "U"'s?

2) Describe the distribution.

3) Suggest at least 3 distinct classes of "processes or factors" that might yield this distribution.
    Justify your answers.
    Will a similar distribution occur next week?

4) Generate a new distribution based on the log(X), where X = the number of deaths for each city. Describe the log-transformed distribution. How would you now describe the original data set? How might this transformation be useful to you if you were comparing death rates among U.S. cities to those among European cities?

5) Re-evaluate the frequency distribution for all deaths (i.e., "All Ages" entries) in the listed cities for its "Poisson-ness".

6) What level of confidence do you have that NYC's higher number of deaths (1926) is not simply due to chance and error?

7) Is there a significant relationship between number of deaths and population size for U.S. cities?

8) Is there anything going on in NYC regarding the risk of dying?

(T-statistic table can be found on page 419 of Schork and Remington; Table A-5)
You may use whatever software packages you have available to complete the assignment, but know how to perform the required calculations and what any presented parameters MEAN (no pun intended).

Statistical Packages Online

Here are web sites that will allow you to generate histograms and calculate distribution parameters. (Of course, these can be done with Excel or other common statistical packages as well.)

To create frequency plots, etc.:
http://dostat.stat.sc.edu/webstat/3.0.1.0/

To calculate distribution parameters:
http://bardeen.physics.csbsju.edu/stats/

Others sources of information and statistical operations
http://www.graphpad.com/quickcalcs/index.cfm
http://faculty.vassar.edu/lowry/t_ind_stats.html