# SAS

The last of the great mainframe stats packages

# It almost seemed like there was one for every major university

- **DATATEXT**: Harvard
- **SPSS**: University of Chicago
- **BMDP**: University of California at Los Angeles
- **SAS**: University of North Carolina at Chapel Hill
- **OMNITAB**: Pennsylvania State University

# We will run SAS from the command line

- The X-windows version is okay if you are the only person on the machine or if you are one of several users on a strong unix machine.

- Data, programs and output are all plain text files.

- We will use emacs, which is far superior to the built-in SAS editor.

- The transition to SAS for Windows will be easy and painless. Some day.

# SAS File Types Include

- Raw data file
- Program file
- Log file
- List file

- Data set
- Library

# Four Types of Plain Text File

- **Raw Data File**: A file consisting of rows and columns of numbers; or maybe some of the columns have letters (character data) instead of numbers. The rows represent observations and the columns represent variables.

- **Program File**: A file consisting of commands that the SAS software tries to follow. You create this file with a text editor like emacs. The command file contains a reference to the raw data file (in the infile statement), so SAS knows where to find the data. Program files have names like reading1.sas.

- **Log File**: This file is produced by every SAS run, whether it is successful of unsuccessful. It contains a listing of the command file, as well any error messages or warnings. The name of the log file is automatically generated by SAS; it combines the first part of the command file's name with the extension .log. So for example, when SAS executes the commands in reading1.sas, it writes a log file named reading1.log.

- **List File**: The list file contains the output of the statistical procedures requested by the command file. The list file has the extension .lst --- so, for example, running SAS on the command file reading1.sas will (if there are no errors) produce reading1.lst as well as reading1.log.

# Work Flow

- Obtain or create the raw data file.  It will be a plain text file in your (working) unix/linux directory.  It must have unix line breaks.

- Open 2 unix windows.  Arrange your desktop so you can click back and forth.

- In one window, `emacs hw8.sas`. Type in your program or edit the existing program.

- In the other window at the unix prompt

  1. `sas hw8` and go to Step 2.
  2. `less hw8.log`

     a)  If no errors or warnings, `less hw8.lst`. If you are not satisfied, click on the emacs window and edit the program.  Then click on the window with the unix prompt and go to Step 1.

     b)  If errors or warnings, click on the emacs window and edit the program.  Then click on the window with the unix prompt and go to Step 1.

  3. Transfer the log and list file to a local computer for printing.