Introduction to SAS[1]

The last of the great mainframe stats packages

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[1]This slide show is an open-source document. See last slide for copyright information.

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
- **S**: AT&T Bell labs

SAS *versus* R

- R is like a motorcycle.
- SAS is like a military Humvee.
- Except it doesn't break down.

SAS File Types

- Raw data file
- Program file
- Log file
- Output file

- Data set (Now seems to be called Data Table)
- Library

We work with these files

- **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. The program 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 program file, as well any error messages or warnings. It will have a name like `reading1.log` or `reading1-log.html`.
- **Output File**: The list file contains the output of the statistical procedures requested by the program file. Output files have names like `reading1-Results.pdf`, `reading1-Results.rtf`, or `reading1-Results.html`.

SAS University Edition

- This is new.
- It seems to be the full version.
- It's free of charge to anybody with a university email address.

`http://www.sas.com/en_us/software/university-edition.html`

Features of SAS University Edition

- SAS lives in a virtual linux machine.
- You interact with it through a browser interface called SAS Studio.
- With SAS running in the virtual machine, you point your browser to a localhost address.
- This way, it is really platform independent.
- You get your data into SAS via a shared folder, shared between the virtual linux machine and your physical machine.

More comments

- Its a big download – around 1.8 GB.
- Actually its two downloads.
- First, download the virtualization software, free from Oracle or VMWare.
- The SAS download site has good instructions. Follow them *carefully*, because details matter.
- Once you connect to localhost, see the FAQ.
- The FAQ is actually a well-organized manual.

Possible problems

- Slow or flaky internet connection. If it does not work the first time, try again.
- The virtual machine requires 1GB of RAM.
- Trouble with older operating systems?
- Not available in the computer labs.

- You can use SAS on `tuzo` instead if you wish.

Important Rule

- You may not use a classmate's SAS to do your work for this course.
- It's too easy to see each others program code.
- You must have your own installation.
- If two people use the same installation of SAS University Edition, they will both get zero for the assignment.

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http://www.utstat.toronto.edu/~brunner/oldclass/441s16