# General Remarks on SAS

1. SAS programs are made up of statements. All SAS statements end with a semicolon (;).

2. The statements in a SAS program are organized into DATA steps and PROC steps. A program may contain any number of DATA steps and PROC steps.

3. DATA steps are used to create or modify SAS data sets. The DATA step can contain arbitrarily many statements. The first statement in a DATA step always begins with the word DATA. This marks the beginning of a new data step.

4. PROC steps perform some statistical procedure. A PROC step analyzes an existing SAS data set (created by an earlier DATA step). PROC steps contain one or more statements. The first statement in a PROC step always begins with the word PROC. This marks the beginning of a new PROC step.

5. SAS variable names can be up to 32 characters long. The first character must be a letter (A, B, C, ..., Z) or underscore (_). Subsequent characters can be letters, numeric digits (0, 1, ..., 9), or underscores. You can use upper or lowercase letters. Blanks cannot appear in SAS names. Special characters, except for the underscore, are not allowed.

6. By and large, SAS ignores things like spacing and indentation, so you can arrange your SAS programs in whatever way you find to be the most readable. For example, all of the following are equivalent to SAS:

```
proc plot ;
   plot sand * silt  sand * clay ;

proc plot;
plot sand*silt sand*clay;

proc plot ; plot sand * silt  sand*clay;
```

7. SAS ignores the distinction between upper and lower case, so use whichever you prefer. (An exception: file names appearing in quotes used in FILENAME statements and elsewhere should be given exactly as required by your operating system (WINDOWS, MAC, or LINUX).)