

Data Analysis with SAS

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Handout #1-1: Introduction for using SAS/PC for Windows

Introduction

To have SAS perform an analysis or manipulate data, you must write a SAS program. Each SAS program consists of essentially two parts. Data steps and Procedures (called **PROC**'s). A data step creates and manipulates SAS data sets, and a SAS procedure performs some operations or functions on a SAS dataset. To use SAS/PC, you will need to be at a PC where SAS/PC is installed. You should highlight the SAS icon on the Windows layout. A partitioned set of windows will appear. Your first interest is to highlight the **Program Editor** window that is where you will enter your SAS code. The other two windows are the **Output window** and the **Log window** which is useful for debugging your SAS code. The best way to learn SAS is just getting started.

Getting started

Following is a simple exercise for the simple linear regression to regress the dependent variable FINAL score on the independent variable MIDTERM score from a statistics class. Enter the attached SAS code into the **Program Editor**, then put **submit** in the local menu box in the left upper corner then click on the p icon or more simply press **F8** key on your keyboard. This will execute your SAS program. You can verify that your program ran correctly by viewing the **Log** window. If no error is apparent, check the **Output** window (Note that if a window does not appear on your current screen, go to the **window** menu and choose the window of interest or simply press **F5** for **Program Editor**, **F6** for **Log**, and **F7** for **Output** window). I recommend that you activate **tile horizontally** under the **window** menu right after you launched SAS. If the output appears correct, you may be finished. If there are errors or output missing, you may need to recall the SAS code to make any changes (for older versions of SAS). You can do this by highlighting the **Program Editor** and pressing **F4**. To see the summary of the shortcuts, press **F9**. The outline of the results will appear in the partitioned window on the left of the screen. Now you should save the SAS code from the **Program Editor** into a file on a diskette. To do this highlight **Program Editor**, go to **file** menu and choose **save as**. Then, type in a file name of your choice with the extension 'sas'. To save the output, do the same steps with extension 'lst' for the file name. You may want to save the data as an excel file. You can do this by choosing **Export Data** under **file** menu, and then follow the instruction.

```

***Example starts here***cut-and-paste from here*****;
/* Example SAS for a Simple Regression */
/* put all the comments you want in between these brackets */

Option linesize=80 pagesize=60;
Title 'Regression on Midterm Grade';
Data Grade;
  input midterm final;
  cards;
68 75
49 63
60 57
68 88
97 88
82 79
59 82
50 73
73 90
39 62
71 70
95 96
61 76
72 75
87 85
40 40
66 74
58 70
58 75
77 72
;

Proc REG Simple;
  Model final=midterm / P;
  Output out=Grade P=Pred R=resid;
Proc Plot;
  Plot final*midterm='*' pred*midterm='p' /overlay;
  Plot resid*pred='R' / vref=0;
Run;
*****end of example*****;

```