SAS Overview

The Interface

- Editor Window
- Log Window
- Results Window
- Explorer Window
- Output Window

The Language

- Data step define the data set
- Proc step says what procedure to use
- Localized statements and options
- Global statements and options

Steps of a Program

- Start with a data or proc step
- End at the next data, proc or run statement
- Give names to data sets and variables in the data set
- Submit the program via Run menu or tool bar icons to run the program and generate results

Output Delivery System (ODS)

- Determines format for outputs (e.g. html, rtf, listing)
- Can be used to control which graphics and tables are generated
- Can be used to control styles

Changes from 9.2 to 9.3

 The default for the Output Delivery System is to generate results in html.

Graphics are turned on by default (so ods graphics on;

is not needed)

The Data Step

It will include:

- a name for the data set
- names and types for the input variables
- a data source
- and any additional processing code

Data Sources

Data sources we will consider:

- raw data entered manually
- a data file
- an existing SAS data set

Data Step Examples

- bodyfat data set defined manually
- slimmingclub data read in as list input
- slimmingclub2 data set read in as column input and using informats
- addition of a variable to the slimmingclub data set
- creating a new data set from the existing bodyfat data set

The Proc Step

Base syntax:

```
proc procname data=datasetname;
run;
```

Additional Statements

Add a statement:

```
proc procname data=datasetname;
  statementname <variables>;
run;
```

Add More Statements...

Include more statements:

```
proc procname data=datasetname;
  statementname1 <variables1>;
  statementname2 <variables2>;
  ...
run;
```

Add Options

Add options to statements:

```
proc procname data=datasetname c procopts>;
  statementname1 <variables1> </ s1options>;
  statementname2 <variables2> </ s2options>;
  ...
run;
```

A Few Common Statements

- var –variables to be used in the procedure
- **class** –classification variables
- where –subsetting data
- by –operation based on a variable

Examples

- Using var and where in proc print
- Sorting data by team and obtaining basic descriptive stats by team
- Adding an option to a scatter plot to plot groups individually
- Adding a linear regression line to the plot

Proc Results in Separate html Files

Global code we can use:

```
ods html close;
ods preferences;
ods html newfile=proc;
```

Writing to an rtf File

General form:

```
ods rtf file='filename.rtf';
<code to generate results for report>
ods rtf close;
```

The Help System

• Example: proc reg

• Example: proc sgplot