

SAS Macro #1

An Introduction

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What is it

SAS macros provide

- ▶ facilities to customize codes
- ▶ tools to create user-defined *pseudo* subroutines/functions
- ▶ ways to develop user-friendly utilities (such as utility giving number of observations of a SAS data set among others)



Why use it

Why one would use SAS macros?

- ▶ (#1 important reason) Hold variable values across data steps and procedure steps.
- ▶ Save time/effort by replacing repetitive codes (data steps, procedure steps, stand-alone statements, etc.) using macro facility.
- ▶ To extensively customize error checking and quality assurance (of codes).



Special Characters

- ▶ The percent sign (%) is to execute
 - ▶ macro statements
 - ▶ macro (variables and function) definitions
 - ▶ macro functions
- ▶ The ampersand (&) is to reference macro variable



Macro Statement Syntax

- ▶ Macro definitions are enclosed within %MACRO and %MEND and are executed using the percent sign (%) followed immediately by macro name.
- ▶ Some macro statements can also be used in open codes (i.e., beyond macro definitions), such as %LET, %GLOBAL or %PUT.



Macro Variable References

- ▶ Statements that create macro variables:
 - ▶ %LET x = someCharValue;
 - ▶ %DO i = 1 %TO &x;
 - ▶ CALL SYMPUT (in data step)
- ▶ The ampersand (&) references the macro variable:
 - ▶ &SomeMacVar
 - ▶ &&var&i
 - ▶ &&&var
 - ▶ SAS makes multiple passes in resolution of macro references, && is to be resolved to &

