SAS® Macro Language 1: Essentials

Course code: MC1V2

This course focuses on using the SAS macro facility to design, write, and debug macro programs, with an emphasis on understanding how programs that contain macro code are processed.

Who is the course for

Experienced SAS programmers who are familiar with simple SQL queries and well-versed in DATA step processing and who want to write reusable, dynamic programs and automate repetitive processing in SAS

What we teach you

- Perform text substitution in SAS code
- Use macro variables and macro functions
- Automate and customize the production of SAS code
- Conditionally or iteratively construct SAS code
- Write self-modifying, data-driven programs

Required skills

Before attending this course, you should have knowledge equivalent to having completed the SAS Programming 1: Essentials and SAS Programming 2: Data Manipulation Techniques courses. Specifically, you should be able to do the following:

- Write simple SQL queries using the SELECT statement.
- Read from and write to SAS tables using a DATA step.
- Use DATA step programming statements, including IF-THEN/ELSE, DO WHILE, DO UNTIL, and iterative DO.
- Use SAS data set options, including DROP=, KEEP=, and OBS=.
- Use character functions, including SUBSTR, SCAN, and UPCASE.
- Read subsets from tables using the WHERE statement.
- Create and use SAS date values and constants.
- Use Base SAS procedures such as SORT, PRINT, CONTENTS, MEANS, and FREQ.

Course outline

Introduction

- Why SAS macro?
- Setting up for this course

SAS Macro Facility

- Program flow
- Creating and using macro variables

Storing and Processing Text

- Macro functions
- Using SQL to create macro variables
- Using the DATA step to create macro variables
- Indirect references to macro variables

Working with Macro Programs

- Defining and calling a macro
- Macro variable scope
- Conditional processing
- Iterative processing

GOPAS Praha
Kodaňská 1441/46
101 00 Praha 10
Tel.: +420 234 064 900-3
info@gopas.cz

GOPAS Brno
Nové sady 996/25
602 00 Brno
Tel.: +420 542 422 111
info@gopas.cz

GOPAS Bratislava
Dr. Vladimíra Clementisa 10
Bratislava, 821 02
Tel.: +421 248 282 701-2
info@gopas.sk

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Developing Macro Applications

- Storing macros
- Generating data-dependent code
- Validating parameters and documenting macros

GOPAS Praha
Kodaňská 1441/46
101 00 Praha 10
Tel.: +420 234 064 900-3
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Tel.: +420 542 422 111
info@gopas.cz

GOPAS Bratislava
Dr. Vladimíra Clementisa 10
Bratislava, 821 02
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info@gopas.sk

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