

# 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

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# SAS® Macro Language 1: Essentials

## Developing Macro Applications

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

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