destiny
Business & Technology Consulting [SM]
Education Solutions

Programming I SAS® Essentials

Course Length: 3 days **CEUs** 1.8
Format: Hands on Training

AUDIENCE

This course is designed for those who want to write SAS programs to accomplish typical data-processing tasks. This course will show attendees how to read data into SAS, perform simple manipulation and write basic reports.

BENEFITS

This course concentrates on how to:
- Read and write raw data files and SAS data sets
- Explore and summarize data by generating frequency tables and descriptive statistics
- Create SAS data variables, recode and compute data values
- Subset and combine multiple SAS files
- Produce publishable listing and summary reports in standard text, HTML, XML and RTF form
- Create publishable graphs in Active X form

PREREQUISITES

You should have a basic understanding of computers and computer systems. You can acquire this skill by completing the Introduction to Programming Concepts Using SAS Software course.

COURSE TOPICS

SAS System Basics
- Accessing the SAS System
- Navigating within the SAS windows including the editor, log, and output windows
- Creating and executing SAS programs in batch and interactive mode
- Understanding errors in the SAS log
- Exploring program output
- Understanding SAS data set and library structure
- Creating DATA and PROC steps
- Understanding SAS syntax and SAS naming conventions
- Working with temporary and permanent SAS data sets

Creating Reports
- Using the REPORT Procedure
- Creating reports in a WYSIWYG interactive environment without code
- Creating reports in a batch environment with code and NOWD
- Using COLUMN, DEFINE, and COMPUTE statements for structure
- Using ODS to generate HTML, RTF and XML reports.
- Using Report options such as WIDTH=, FOR MAT=, DISPLAY, GROUP, HEADLINE and HEADSKIP
- Summarizing and Sorting reports
- Adding titles, footnotes and labels to reports

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- Using the PRINT procedure
- Selecting report columns with the VAR statement
- Grouping reports with the BY statement
- Summing report columns with the SUM statement
- Producing frequency tables using the FREQ procedure

Creating Graphs

- Producing vertical and horizontal bar charts with the GCHART procedure, VBAR and HBAR statements
- Understanding chart variables
- Using RUN-group processing for multiple graphs in the same session
- Understanding options to tailor graphs, such as DISCRETE, SUMVAR=, and TYPE=

Reading SAS Data Sets

- Reading data sets with the SET statement
- Restricting data set size by selecting variables with DROP= and KEEP= options
- Using IF-THEN/ELSE logic processing
- Understanding the difference between subsetting IF and WHERE clause processing to restrict observations

Creating SAS Data Sets

- Reading raw data using list, column and pointer input s Naming variables
- Understanding how to read any type of data using SAS informats
- Using INFILE and INPUT statements to read raw data
- Examining the structure of a SAS data set and its variables' attributes using the CONTENTS procedure
- Creating new variables using SAS functions and assignment statements

Recoding and Reorganizing Data

- Using SAS formats to recode data values for better presentation in reports and analysis
- Using the FORMAT procedure to create user defined value label
- Reordering rows of data with the SORT procedure

Summarizing Your Data

- Calculating descriptive statistics with the MEANS and SUMMARY procedures
- Grouping data using the CLASS statement
- Analyzing data values using the VAR statement and appropriate functions such as SUM, MEAN, MEDIAN and more
- Generating one-way and multi-way frequency tables using the FREQ procedure
- Using the TABLES statement in the FREQ procedure to specify analysis structure

Combining SAS Data Sets

- Concatenating SAS data sets using the SET statement
- Merging multiple SAS data sets on common key variables
- Using the SQL procedure
- Comparing methods of merging (joining) data sets