Character Functions: The Language of SAS

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Learning Overview:

In this module you will learn how to transform character data using a variety of useful functions including:

SUBSTR, SCAN, TRIM, COMPRESS, LEFT, RIGHT, CATX, INDEX, FIND, UPCASE, LOWCASE, PROPCASE and TRANWRD

Each function is introduced in standard syntax form, illustrating both the required arguments and any optional arguments which are available with an explanation of their purpose.

This is followed by an example of each function in action using data from a simple dataset.

There are also mini quizzes and comprehensive exercises throughout to help assess and reinforce your learning.

Learning Outcomes:

By the end of this module you will be able to describe how functions are used to perform character transformation.

Pre-requisites:

This module is aimed at those who are new to the Language of SAS.

You should already have:

- Knowledge of your computer system
- Basic computer literacy
- Some previous programming experience, although this is not essential

For the hands-on practice activities in the course, you will need access to an environment that runs the programming Language of SAS. On our courses, we signpost you to some of the free tools available.

Check out the link below to review system requirements:

- [SAS® OnDemand for Academics](#)

Reference Modules:

The following reference modules are included to support your learning:

Introduction to SAS Programming

Learning Objective: Explain what the Language of SAS is used for and by whom.

- Explanation about SAS and who uses it
- Data Access
- Data Management
- Data Analysis
- Data Presentation

Basic Concepts

Learning Objective: Explain how the Language of SAS is used to access, manage, analyse and present data.

- What is a dataset, a database and a relational database?
- Libraries, LIBREFS, LIBNAME statement
- Referencing a dataset
- The Data Step procedure
- Basic Procedures including PROC MEANS and PROC PRINT

Investigating SAS datasets

Learning Objective: Define how to investigate datasets in the Language of SAS using two types of Procedure.

- The PRINT procedure
- Metadata, the CONTENTS procedure
- Types of data

Programming Concepts

Learning Objective: Describe the key programming concepts within the Language of SAS.

- Program components – Data Steps and Procedures
- Programming language is made up of statements, expressions, functions & call routines, options, formats, and informats
- Managing Syntax errors
- Naming conventions

Data Step Processing

Learning Objective: Explain how the two phases of Data Step Processing work to create new datasets and variables.

- *Data Step syntax: The DATA and SET Statements*
- Creating Datasets
- Creating Variables
- Data Step processing, i.e. what goes on in the background when you submit your data step code.

Selecting Variables and Observations

Learning Objective: Define Variables and Observations to be read from and written to datasets.

- *KEEPing and DROPing Variables*
- The IF Statement
- The WHERE Statement
- FIRSTOBS= and OBS=
- IS NULL or IS MISSING
- BETWEEN–AND
- CONTAINS (?) and SOUNDS LIKE (=*)