

Advance SAS Certification Program

Duration- 48 Hours

Advance SAS Module I: SAS SQL Essential

Introduction

- Overview of SAS Foundation
- Course data files
- Introducing the Structured Query Language

Basic Queries

- Overview of the SQL procedure
- Specifying columns
- Specifying rows

Displaying Query Results

- Presenting data
- Summarizing data

SQL Joins

- Introduction to SQL joins
- Inner joins
- Outer joins
- Complex SQL joins

Subqueries

- Noncorrelated subqueries
- In-line views

Set Operators

- Introduction to set operators
- The UNION operator
- The OUTER UNION operator
- The EXCEPT operator
- The INTERSECT operator

Creating Tables and Views

- Creating tables with the SQL procedure
- Creating views with the SQL procedure

Advanced PROC SQL Features

- Dictionary tables and views
- Using SQL procedure options
- Interfacing PROC SQL with the macro language

Advance SAS Module II: Advance Techniques and Efficiencies

Introduction

- Overview of SAS Foundation
- Creating the course data

Efficient SAS Programming

- Identifying computer resources related to efficiency
- Controlling I/O Processing and Memory

SAS DATA step processing

- Controlling I/O
- Reducing the length of numeric variables
- Compressing SAS data sets
- Using SAS views

Accessing Observations

- Access methods
- Accessing observations by number
- Creating an index
- Using an index

DATA Step Arrays

- Introduction to lookup techniques
- One-dimensional arrays
- Multidimensional arrays
- Loading a multidimensional array from a SAS data set

DATA Step Hash and Hiter Objects

- Introduction
- Hash object methods
- Loading a hash object from a SAS data set
- DATA step hiter object

Combining Data Horizontally

- Data step merges and SQL procedure joins
- Using an index to combine data
- Combining summary and detail data
- Combining data conditionally

User-Defined Functions and Formats

- User-defined functions
- User-defined formats

Combining Raw Data Files Vertically

- Combining raw data files vertically

Advance SAS Module III: SAS Macro Language

Introduction

- Overview of SAS Foundation
- Course data files
- Purpose of the macro facility
- Program flow

Macro Variables

- Introduction to macro variables
- Automatic macro variables
- Macro variable references
- User-defined macro variables
- Delimiting macro variable references
- Macro functions

Macro Definitions

- Defining and calling a macro
- Macro parameters

DATA Step and SQL Interfaces

- Creating macro variables in the DATA step
- Indirect references to macro variables
- Creating macro variables in SQL

Macro Programs

- Conditional processing
- Parameter validation
- Iterative processing
- Global and local symbol tables