SAS

First things first...what is SAS?
What UNIX is to the IT industry, SAS can be described as the software around which the whole analytics industry was built.....well that may be an exaggeration, but SAS commands on overwhelming market share in the advanced analytics tools. As per anIDC report SAS has a 43% market share, more than double its nearest competitor. It has been around for more than 45 years and is now synonymous with Analytics.
That's all very well, but what does it do?
SAS originally stood for "Statistical Analysis System", which as the name suggests was used for Statistical analysis. Today it has evolved to become a ubiquitous Business Intelligence (BI) tool which is used for Data analysis, reporting, predictive modelling, data mining, econometric and time series analysis...pretty much anything and everything related to Data Analytics

Syllabus of SAS Base Programming Exam for SAS 9

Audience

A SAS Base programmer should have current SAS programming experience including the ability to import and export raw data files, manipulate and transform data, combine SAS data sets, create basic detail and summary reports using SAS procedures, and identify and correct data syntax and programming logic errors. Candidates should also be familiar with the enhancements and new functionality that are available in SAS 9.

Contents/Topics:

Accessing Data (4 Hours)

- Use FORMATTED, LIST and COLUMN input to read raw data files
- Use INFILE statement options to control processing when reading raw data files
- Use various components of an INPUT statement to process raw data files including column and line pointer controls, and trailing @ controls
- Combine SAS data sets using the DATA step

Creating Data Structures (2 Hours)

- Create temporary and permanent SAS data sets
- Create and manipulate SAS date values
- Use DATA Step statements to export data to standard and comma delimited raw data files
- Control which observations and variables in a SAS data set are processed and output

Managing Data (5 Hours)

- Investigate SAS data libraries using base SAS utility procedures
- Sort observations in a SAS data set
- Conditionally execute SAS statements
- Use assignment statements in the DATA step
- Modify variable attributes using options and statements in the DATA step
- Accumulate sub-totals and totals using DATA step statements
- Use SAS functions to manipulate character data, numeric data, and SAS date values
- Use SAS functions to convert character data to numeric and vice versa
- Process data using DO LOOPS
- Process data using SAS arrays
- Stacking/Interleaving/merging Data Sets in the DATA step
- Combining Data Sets Using a One-to-One/ One-to-Many Match Merge
- Merging Summary Statistics with the Original Data
- Changing Observations to Variables Using PROC TRANSPOSE
- Using SAS Automatic Variables

Generating Reports (4 Hours)

- Generate list reports using the PRINT and REPORT procedures
- Generate summary reports and frequency tables using base SAS procedures
- Enhance reports through the use of labels, SAS formats, user-defined formats, titles, footnotes and SAS System reporting options
- Generate HTML reports using ODS statements

Handling Errors (1 Hour)

- Identify and resolve programming logic errors
- Recognize and correct syntax errors
- Examine and resolve data errors

Syllabus of SAS Advanced Programming Exam for SAS 9

Audience

Successful candidates for the SAS Certified Advanced Programmer credential should have experience in programming and data management using SAS. They will be knowledgeable in using advanced DATA step programming statements and efficiency techniques to solve complex problems, writing and interpreting SAS SQL code, and creating and using the SAS MACRO facility. Candidates should also be familiar with the enhancements and new functionality that are available in SAS 9.

Test Content

Accessing Data Using SQL

- Generate detail reports by working with a single table or joining tables using PROC SQL and the appropriate options
- Generate summary reports by working with a single table or joining tables using PROC SQL and the appropriate options
- Construct sub queries within a PROC SQL step
- Compare solving a problem using the SQL procedure versus using traditional SAS programming techniques
- Access Dictionary Tables using the SQL procedure
- Demonstrate advanced PROC SQL skills by creating and updating tables, updating data values, macro interface/creating macro variables with SQL, defining integrity constraints, SQL views and SET operators

Macro Processing

- Creating and using user-defined and automatic macro variables within the SAS Macro Language
- Automate programs by defining and calling macros using the SAS Macro Language
- Understand the use of macro functions
- Recognize various system options that are available for macro debugging and displaying values of user-defined and automatic macro variables in the SAS log