

SAS Syllabus

Overview: SAS(Statistical Analysis Software or System) is one of the BI(Business intelligence tool) ,It is an integrated system of software products provided by SAS Institute.SAS was used for data management,predictive analysis,data visualization(i.e reporting).SAS is platform independent we can run SAS on any operating system ,with the help of the SAS we can perform various operations like Data management,Quality Improvement,Application Development,Data Extraction,Data Transformation and DataModification.

Course Objectives:

we learn about SAS-Statistical Analysis Software or System

The programmer can perform: Data entry, data retrieval, data management, and mining report writing and graphics, statistical and mathematical analysis, business planning, forecasting, and decision support, quality improvement, applications development, data warehousing (extract, transform, load), platform independent.

Pre-requisite / Target Audience: Pre-requisite / Target Audience:

This SAS course can be taken by any graduate who wants to build career in Information Technology. The subscriber needs to have working knowledge of Windows Operating System and it is easy to learn whoever even don't have knowledge on programming language .

Module 1: Introduction to Base SAS

In this module,we learn about what is SAS,how to develop the application and 5 types of windows like editor window,log window,output window,explorer window and results ,what is use of windows and we learn about what is report ,types of reports and data types in SAS.

- ❖ SAS Windows Environment
- ❖ Types Of Blocks
- ❖ Types Of Reports
- ❖ Data Types

Module 2: Types of Input Methods

In this module,We will learn about types of input methods,like what is list input method,what is the use of input methods and when we are going to use Input methods,and which input method is better to use.

List Input Method

- ❖ Named Input Method
- ❖ Column Input Method
- ❖ Format Input Method
- ❖ Absolute Input Method

- ❖ Mixed Input Method
- ❖ Advanced List Input Method

Module 3: Infile Options

In this module, we are going to learn about Infile options, Types of Infile Options and what is data sensitive delimiter and data separated delimiter, and when to use these delimiters in dataset.

- ❖ Dlm
- ❖ Dsd (Data separated delimiter or data sensitive delimiter)
- ❖ Flow Over
- ❖ Stop Over
- ❖ Miss Over
- ❖ Trunc Over
- ❖ First Obs
- ❖ Obs

Module 4: Nonstandard Data

In this Module, we will learn about to read and report non standard data, non standard values are date, time, date and time and what is informat technique, where to use informat technique in dataset and about format technique.

- ❖ Date
- ❖ Time
- ❖ Date And Time
- ❖ Informat Technique
- ❖ Format technique

Module 5: Types Of Transformations

In this module we learn about types of transformations like what is sorting transformation, and how to split the one dataset into multiple datasets and how to update and modify the dataset using transformation.

- ❖ Sorting Transformation
- ❖ Splitter Transformation
- ❖ Append Transformation
- ❖ Update Transformation
- ❖ Modify Transformation

Module 6: User Defined Libraries And SAS Access

In this module, we learn about what are libraries, types of libraries, and types of procedure, how to collect the datasets from source to SAS environment and how to import and export the data from external to SAS and SAS to external.

- ❖ Temporary Libraries
- ❖ Permanent Libraries
- ❖ Import Procedure
- ❖ Export Procedure

Module 7: Options

In this module, we will learn about types of options, what is global, dataset and statement options. what is the use of these options and where to use these options in dataset.

- ❖ Global Options
- ❖ Dataset Options
- ❖ Statement Options

Module 8: Operators

In this module, we learn about types of operators, and what is arithmetic, comparison and logical operators in Base SAS.

- ❖ Arithmetic Operators
- ❖ Comparison Operators
- ❖ Logical Operators

Module 9: Conditional Statements And Loops

In this module we learn about conditional statements and loops in SAS, to read the data on conditional base. And to filter the data in dataset.

- ❖ If Statement
- ❖ Where Statement
- ❖ Do While
- ❖ Do Until
- ❖ Do loop

Module 10: Functions

In this module, what is function and types of functions to check whether file exist or not and to perform arithmetic and statistical calculations and about string operations.

- ❖ Data Step Functions
- ❖ Arithmetic Functions
- ❖ Aggregate Functions
- ❖ String Functions
- ❖ Date And Time Functions

Module 11: Adding Process

In this module, we learn about how to append the two datasets ,and how to add two datasets in sorting order and sequential order.

- ❖ Appending Process
- ❖ Concatenation Process
- ❖ Interleaving Process

Module 12:Merge Process

In this module, we learn about how to combine two datasets using merge process, and types of merge process,how to combine datasets with relation variable and without relation.

- ❖ One to one merge without relation
- ❖ One to one merge with relation
- ❖ One to many merge with relation
- ❖ Many to one merge with relation
- ❖ Many to many merge with relation

Module 13:Introduction To Base SAS Using SQL

In this module, we learn about how to create a table in SAS using sql features,update delete and insert the data and to assign the constraints.what is view ,how to create a view and drop the view.

SQL FEATURES

- ❖ Creates Table
- ❖ Insert The Data
- ❖ Update The Data
- ❖ Modify The Table
- ❖ Delete The Data
- ❖ Drop The Table
- ❖ Create View
- ❖ Drop View
- ❖ Assign Constraint
- ❖ Delete the Constraint

Module 14:SQL Concepts

In this module, we will learn about ddl,dml and dcl in base SAS using sql.

- ❖ DDL
- ❖ DML
- ❖ DCL

Module 15:Data Conversions

In this module, we learn about data conversions and types of conversion like numeric to character and character to numeric, how to convert numeric data to character data.

- ❖ Numeric to Character
- ❖ Character to Character
- ❖ Character to Numeric
- ❖ Numeric to Numeric

Module 16:Sql Operators

In this module, we learn about types of operators in sql, how to report matching and nonmatching data in sql using operators, and types of operators in sql.

- ❖ Union
- ❖ Intersect
- ❖ Except

Module 17: Joins In Sql

In this module, we are going to learn about types of joins in sql, how to combine two tables using joins, what is simple join, inner and self join.

- ❖ Simple Join
- ❖ Inner Join
- ❖ Outer Join
- ❖ Natural Join
- ❖ Self Join
- ❖ Cross Join

Module 18: Functions In Sql

In this module, we will learn about types of function in sql, what is distinct function and coalesce function in sql, what is the use of functions.

- ❖ Sql Functions
- ❖ Arithmetic Functions
- ❖ Aggregate Functions
- ❖ String Functions
- ❖ Date And Time Functions

Module 19: Constraints

In this module, we will learn about types of constraints and how to assign user defined constraints and to check the structure of table. What is primary key, and what is foreign key, and about dimension and fact table.

- ❖ Types Of Constraints
- ❖ Unique

- ❖ Not Null
- ❖ Check
- ❖ Primary Key
- ❖ Foreign key

Module 20: Procedures (Base SAS)

In this module, we learn about types of procedures and how to assign user defined format and how to generate rank, how to convert data set horizontal to vertical and vertical to horizontal using transpose procedure and to generate reports using report procedure.

- ❖ Format Procedure
- ❖ Datasets Procedure
- ❖ Transpose Procedure
- ❖ Rank Procedure
- ❖ Frequency Procedure
- ❖ Means Procedure
- ❖ Report Procedure

Module 21: Graphs (Base SAS)

In this module, we generate the graphs using charts and plots and using gchart procedure and Gplot procedure. Here we generate horizontal and vertical charts and customization of graphs.

- ❖ Charts
- ❖ Plots

Module 22: Introduction To Base SAS Using Macros

In this module, we will discuss about types of macro variables, how to create a macro catalog and working with global and local macro variables.

Macro Concepts and macro variables

- ❖ System Defined Macro Variables
- ❖ User Defined Macro Variables
- ❖ Work With Macro Variables
- ❖ Macro Quoting Functions
- ❖ Macro Options
- ❖ Macro Expressions
- ❖ Macro Interface functions.

Module 23: Macro Quoting Functions and Macro Functions

In this module, we will discuss about macro quoting functions and types of quoting functions, these quoting functions mask the special characters at compile and execution time.

- ❖ % str
- ❖ % nrstr
- ❖ %bquote
- ❖ %nrquote
- ❖ %Length
- ❖ %Ucase
- ❖ %Lowcase
- ❖ %Scan function
- ❖ %Substr function

Module 24: Macro Options

In this module, we are going to learn about macro options, what are macro options and types of macro options, what is the use of macro options.

- ❖ Merror
- ❖ Serror
- ❖ Mprint
- ❖ Mprintnest

Module 25: Macro Expressions and Interface Functions

In this module, we will discuss about the macro expressions and types of macro expression. What are interface functions and what is the use of interface functions in macros.

- ❖ Arithmetic expressions
- ❖ Logical expressions
- ❖ Text expressions
- ❖ Data Step Interface Functions
- ❖ Macro Interface Functions