

# SAS

## PART -I

### BASE SAS

- ❖ Introduction To Sas System & Architecture
- ❖ History And Various Modules
- ❖ Features
- ❖ Variables & Sas Syntax Rules
- ❖ Sas Data Sets
- ❖ Data Set Options
- ❖ Operators
- ❖ If - Then Else Statement
- ❖ Where Statement
- ❖ Creating & Redefining Variables
- ❖ Reading Raw Data
- ❖ Infile Statement With Options
- ❖ Multiple Observations and Multiple Datasets.
- ❖ Input Styles
- ❖ SAS Functions
- ❖ Select Statement
- ❖ Do Loops
- ❖ Leave and Continue Statements
- ❖ Output Statement & Put Statement
- ❖ Stop And Error Statements
- ❖ Array Statement
- ❖ Modifying And Combining Data Sets
- ❖ Updating Master Data Set
- ❖ Key Board Macros & Add Abbreviations
- ❖ Display Manager Commands

### BASE SAS PROCEDURES

- ❖ Proc Sort



- ❖ Proc Print
- ❖ Proc Means
- ❖ Proc Freq
- ❖ Proc Plot
- ❖ Proc Chart
- ❖ Proc Compare
- ❖ Proc Copy
- ❖ Proc Summary
- ❖ Proc Append
- ❖ Proc Datasets
- ❖ Proc Contents
- ❖ Proc Delete
- ❖ Proc Format

## **SAS/REPORTS**

- ❖ Frequency Report
- ❖ One-Way Frequency Report
- ❖ Cross Tabular Frequency Report
- ❖ Summary Statistics
- ❖ Creating A List Report
- ❖ Define Statement
- ❖ Order Usage and Group
- ❖ Printing Grand Totals
- ❖ Rbreak Statement
- ❖ Tabulate Procedure
- ❖ One-Dimensional Tables
- ❖ Two-Dimensional Tables
- ❖ Obtaining A Total
- ❖ Analysis Variables with options
- ❖ Summary Statistics

## **SAS/ODS**

- ❖ Creating Rtf File
- ❖ Creating Html File
- ❖ Creating Pdf File
- ❖ Creating Xml File

# **PART -II**

## **Introduction To SAS/SQL**



**Gilsoft Technologies**

- ❖ Features & Uses
- ❖ Terminology
- ❖ Data Types, Key Words, & Operators
- ❖ Functions, Predicates & Functions
- ❖ Formatting Output
- ❖ Group By Clause, Order By Clause & Having Clause
- ❖ Case Expression and Conditional Logic.
- ❖ Creating ,Populating & Deleting Tables
- ❖ Sub Queries
- ❖ Alter Table Statement
- ❖ Renaming A Table & Columns
- ❖ Changing Column's Length
- ❖ Joins & Views

## **SAS/ACCESS**

- ❖ Import & Export Procedures
- ❖ Importing data from Ms-Access & Ms-Excel
- ❖ Importing data from Oracle database
- ❖ DbLoad Procedure

## **SAS/GRAPH**

- ❖ Gchart Procedure
- ❖ Vertical, Horizontal, Pie
- ❖ Donut
- ❖ Group,Subgroups
- ❖ Gplot Procedure
- ❖ Mutliple Plots & Overlay
- ❖ Symbol Statement
- ❖ Title and Footnote Statements
- ❖ Goptions

## **SAS/MACROS**

- ❖ Macro Concepts
- ❖ Macros And Macro Variables
- ❖ Creating Macro Variables
- ❖ Using Macro Variables
- ❖ Creating Modular Code With Macros



- ❖ **Invoking A Macro**
- ❖ **Adding Parameters To Macros**
- ❖ **Macros With Conditional Logic**
- ❖ **Using Various Procedures In Macros**
- ❖ **Automatic Variables**
- ❖ **Macro Functions**
- ❖ **Including External Macros**

## **SAS/STAT**

- ❖ **Proc Univariate**
- ❖ **Proc Corr**
- ❖ **Proc Reg**
- ❖ **Proc Anova**
- ❖ **Proc Rank**
- ❖ **Proc Transpose**

# **PART-III (CLINICAL TRIALS)**

- ❖ **The Statistical Programmer's Working Environment**
- ❖ **Pharmaceutical Industry Vocabulary**
- ❖ **Statistical Programmer Work Description**
- ❖ **The Drug/Device Development Process**
- ❖ **Classifying Clinical Trial Data**
- ❖ **Introduction to Clinical Trials & Definition**
- ❖ **Phases of Clinical trials**
  1. *Phase I*
  2. *Phase II*
  3. *Phase III*
  4. *Phase IV*



- ❖ **What's involved in a clinical trial?**
- ❖ **What is CRF? (Case Report Form).**
- ❖ **What is ACRF (Annotated CRF), why we need to Annotate?**
- ❖ **What is mean by Protocol?**
- ❖ **Protocol synopsis**
  
- ❖ **Primary objective(s)**
- ❖ **Secondary objective(s)**
- ❖ **Study design**
- ❖ **Randomization**
- ❖ **Types of Blinding (Single Blind, Double Blind, Triple Blind)**
- ❖ **Placebo Effects**
- ❖ **Inclusion criteria**
- ❖ **Exclusion criteria**
- ❖ **Premature patient withdrawal**
- ❖ **Investigational and control drugs**
- ❖ **Treatment arms**
- ❖ **Study drug discontinuation**
- ❖ **Clinical Data Interchange Standard Consortium (CDISC)**
- ❖ **Standard Data Tabulation Model (SDTM)**
- ❖ **SDTM Implementation Guide and Its Versions**
- ❖ **SDTM Fundamentals**
- ❖ **Working on Clinical Trial data like Demographics, Medical History, Adverse Events etc.**