

## SAS - Intro. → DATA & PROC steps.

SAS → Statistical Analysis system. → SAS Institute.

SAS → {  
Mine data  
Retrieve data from different sources  
Manage data  
Perform statistical analysis on it

### Types

→ Base SAS → Basic procedures & Data management

Stat SAS → Statistical Analysis

Graph SAS → Graphics & presentation

OR SAS → Operational Research

IML SAS → Interactive Matrix language

AF SAS → Application facility

QC SAS → Quality Control

INSIGHT SAS → Data mining

→ PH SAS → Clinical Trial Analysis

→ Enterprise miner → Data mining

Enterprise guide → GUI code editor & project manager

→ EBI SAS → BI application.

# Grid Manager SAS → SAS Grid Computing.

Set of solutions for Enterprise for below uses.

- Data entry, retrieval, management
- Report writing & graphics.
- Statistical & Mathematical analysis
- Business planning, forecasting, decision support.
- Operational research & project management tools.
- Quality Development.
- Application development.

→ Data step → programming language used to manipulate & manage data.

→ SAS procedure → Software Tools for analysis & Reporting.

Macro Facility → for reading the data.

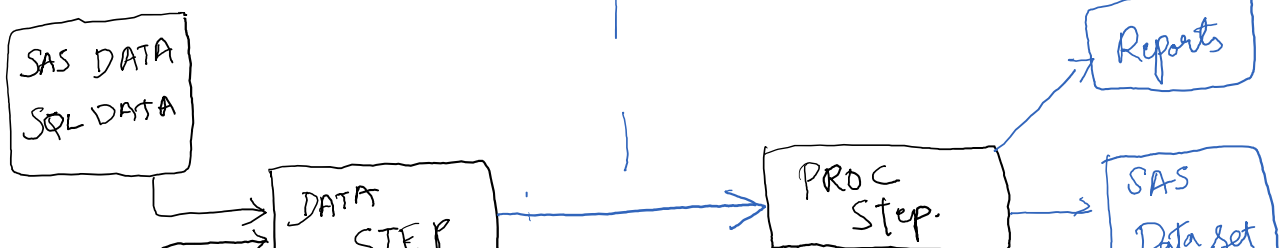
Data step debugger → Find logical errors in Data step.

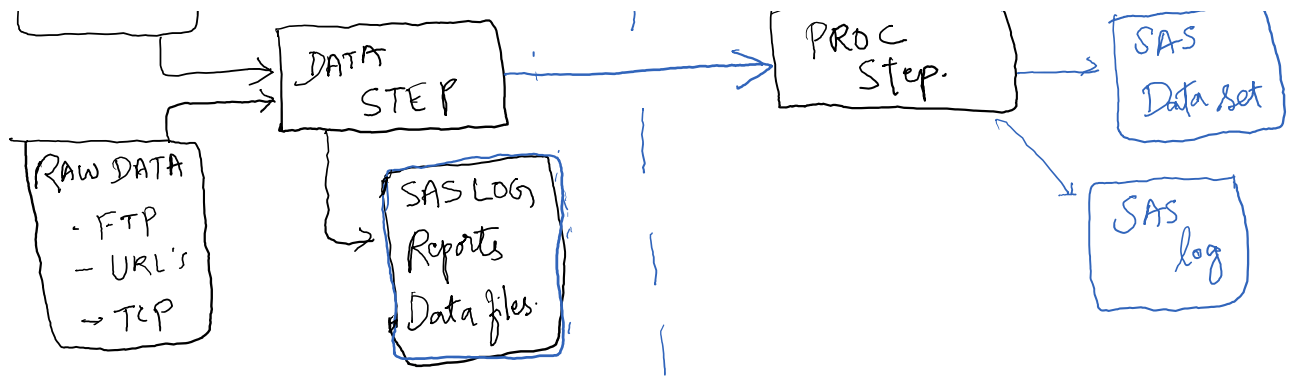
ODS = Output delivery system → o/p → HTML

SAS window environment → GUI for SAS programs.

## Data processing

High level view of Data processing





SAS processing is the way SAS reads & transforms data to give output of our choice. There are 2 steps in this → Data step & proc step.

Data step → Data step manipulates data.

Proc step → Analyse, produce op & manage SAS files.

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Data step → You write the procedure for what you want.

→ processing happens one line at a time

→ Tries to mimic human form of approach.

Proc step → You will get the end result.

→ Non-procedural approach → We just give the requirement

→ SQL retrieves data in the most efficient manner.

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### DATA step & Proc step

1) Multiple data sets: Data step allows to create multiple data sets in one single step. Proc requires several select clauses to create multiple data sets.

2) Reading data: Data step can be used to read data.

PROC SQL cannot read text files.

PROC SQL Cannot read text files

- 3) Control : Data step has better control. Compared to proc steps.
  - 4) Joining tables : Select proc table → Automatic joins large tables with small tables.
  - 5) Querying dictionary table : PROC step.
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