

SAS
SAS Institute Inc.
The Business of Better Decisions

What is SAS Solution ?

It is a software from SAS Institute which consists of four independent but integrated component


1. SAS Enterprise Miner
2. SAS/Warehouse Administrator™ Software
3. SAS Solution for OLAP
4. SAS/IntrNet™

SAS
SAS Institute Inc.
The Business of Better Decisions

SAS Enterprise Manager

Is a software that provide

1. Advanced, easy to use statistical analysis
2. A guided flexible, **SEMMA** methodology
3. Client/ Server enablement
4. Easy to use Graphical user interface (GUI)



SAS
SAS Institute Inc.
The Business of Better Decisions

The SEMMA Methodology

S Sample Node
E Explore Node
M Modify Node
M Model Node
A Assess Node


SAS
SAS Institute Inc.
The Business of Better Decisions

Sampling Node

Use Sample data can reduce the amount of process time

But be Sure of

The sample data are sufficiently representative of the whole, patterns that appears in the entire databases.



SAS
SAS Institute Inc.
The Business of Better Decisions

Sampling Methods Used by SAS

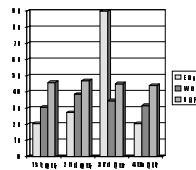
1. Random (Default)
2. Every n observation
3. Stratified observation
4. First n observation
5. Cluster

SAS
SAS Institute Inc.
The Business of Better Decisions

Exploring Node

SAS Miner is supported with numerous tools to explore data like

1. Graphical Display
2. Outlier Filter
3. Transformation



Exploring Cont....

- ✚ Distribution Explorer Node
- ✚ Multiplot Node
- ✚ Insight Node
- ✚ Associations Node
- ✚ Variable Selection Node

Modifying Node


In the distribution Node, there are two possible modifying methods

Modify Data Set attributes

Modify meta data sample

Modifying Cont....

- ✚ **Transform Variable Node**
Transform Variables to improve the fit of the model to the data
- ✚ **Filter outlier Node**
 1. Eliminate rare values
 2. Eliminate missing values
 3. Replace missing values with (Mean)

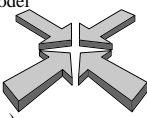


Modeling Node

Now is the time to choose the best Model

It uses

1. optimization methods
(Gradient, Newton, Quasi Newton,.....)
2. Statistical Significant tests
(Chi Square, F. Test,.....)




Assessment Node


Provide a common framework to compare models and predictions from any Analytical tool in Enterprise Miner

Cross Model Comparison

Main Criteria. Actual profits



Conclusion



1. SAS enterprise Miner fully integrates all steps of data mining process beginning with the sampling of the data to the degrees of sophisticated data analysis and modeling and the dissemination of the resulting information