



## SAS Enterprise Guide 4.3 – Just for you programmers

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**THE  
POWER  
TO KNOW®**

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# SAS Enterprise Guide 4.3

- Release Objectives
  - User productivity
  - Integration
  - Performance

# SAS Enterprise Guide 4.3 - Integration

- Release Objectives

- User productivity
- **Integration**
- Performance

- Key Features

- Rapid Predictive Modeling (RPM) Enterprise Miner integration
- Open WRS reports
- Send to JMP

# SAS Enterprise Guide 4.3 - Performance

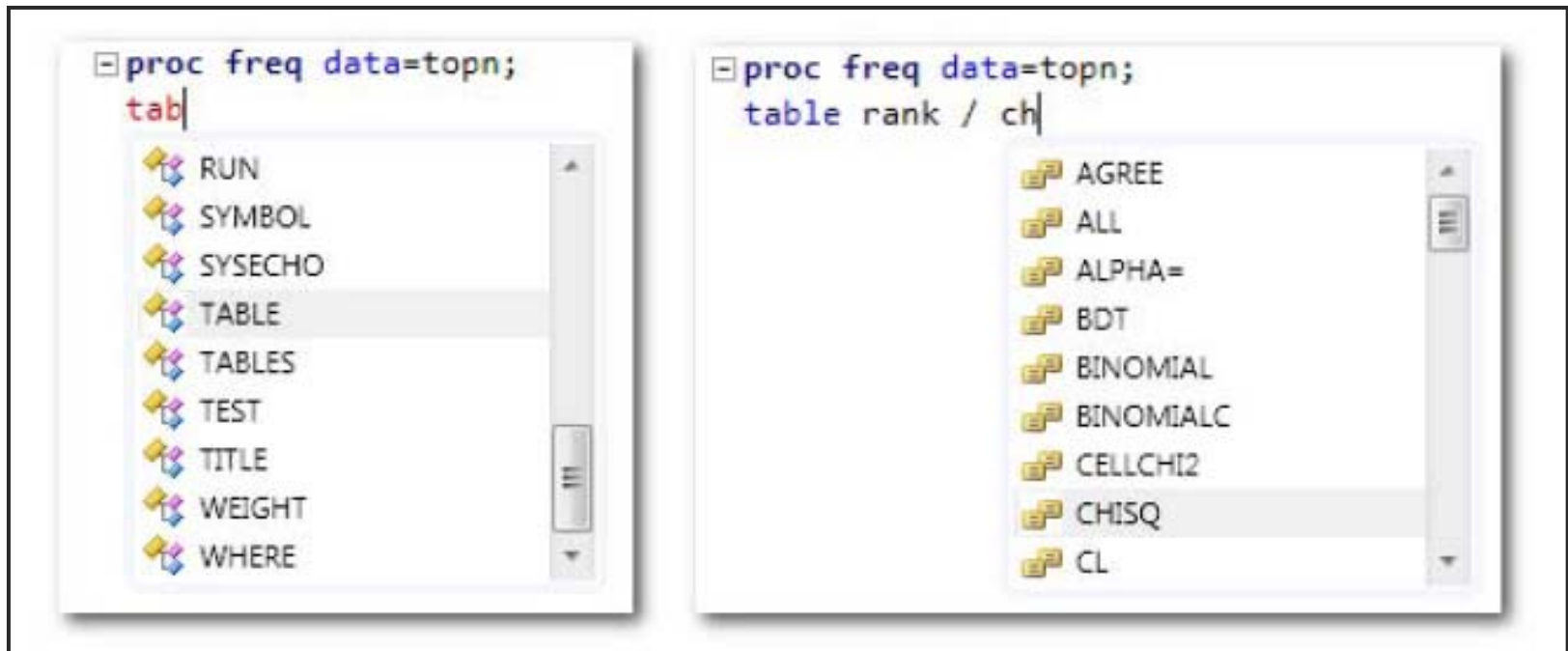
- Release Objectives
  - User productivity
  - Integration
  - **Performance**
- Key Features
  - Explicit SQL pass-through option
  - Integration for Grid enablement
  - In-database optimized syntax generation

# SAS Enterprise Guide 4.3 – User Productivity

- Release Objectives
  - **User productivity**
  - Integration
  - Performance
  
- Key Features
  - New program editor with auto complete and integrated syntax help
  - Code Analyzer to Process Flow
  - Process flow with Autoexe
  - Create Format from dataset Task
  - Create Map Task revamp
  - Enhancements to Tile Chart
  - Stored Process wizard UI enhancements
  - Add custom filter to Information Map Filters
  - Automatic chart option for OLAP

# User Productivity – The Editor

- New program editor with auto complete



# User Productivity – The Editor

- New program editor with integrated syntax help

```

/* Pass through the data and output the first N */
/* values for each category */
data topn;
  length rank 8;
  label rank="Rank";
  set topn;

```

**SET**

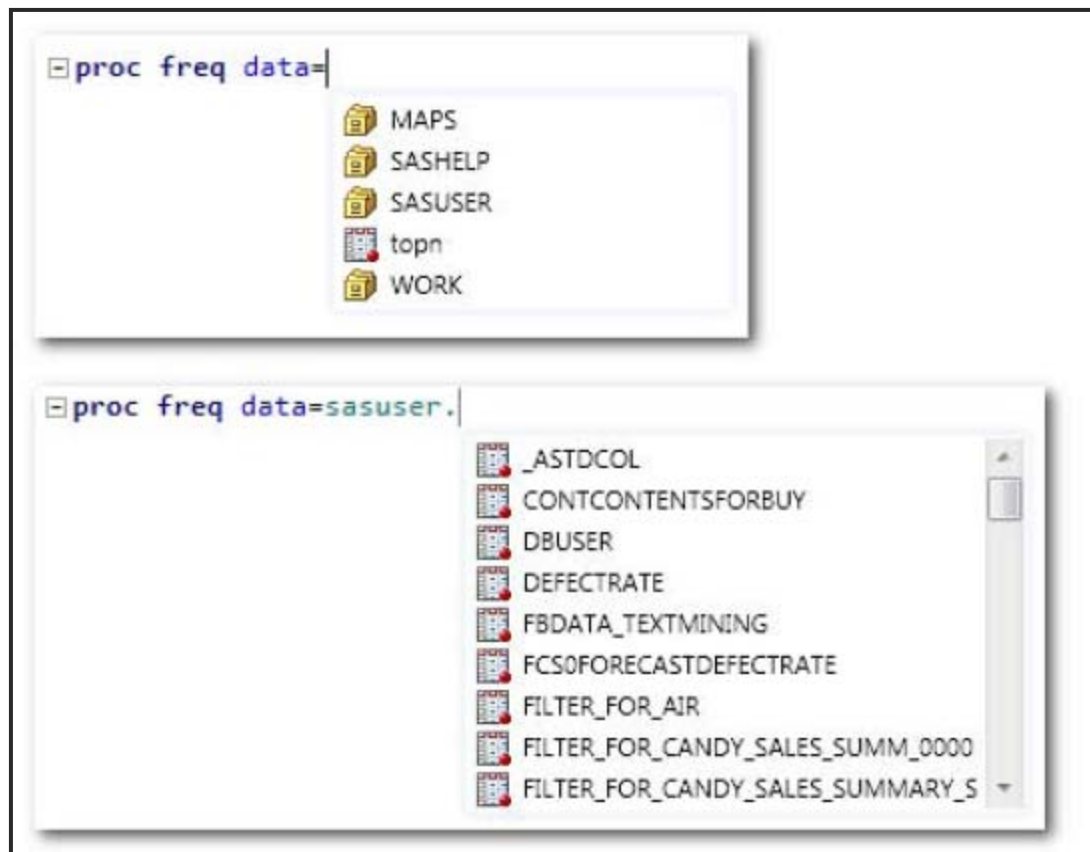
**Context:** [DATA STEP] SET statement

Syntax: SET <SAS-data-set(s) <(data-set-options(s) )>> <options>;

**ru** Reads an observation from one or more SAS data sets.

# User Productivity – The Editor

- Available libraries and data members





# User Productivity – The Editor

- Function completion

```

call symput(
by &category
if first.&c
rank+1;
if rank le
run;

```

**SYMPUT(argument-1, argument-2)**  
**argument-1:**

Specifies a character expression that identifies the macro variable that is assigned a value. If the macro variable does not exist, the routine creates it.

```

%scan(
by &c
if fi
rank+
if ra
run;

```

▲ 1 of 3 ▼ **SCAN(string, count<, charlist<, modifier(s)>>)**

**string:**

Specifies a character constant, variable, or expression.

# User Productivity – The Editor

- Parenthesis Matching

```
title "Top Models by MPG_City for each region of Origin";  
%let newVar = %sysfunc(%str("SAS (nested functions)"));
```

# User Productivity – The Editor

- Inline macro variables and macro functions

```

%macro swap(
    a /* first var in custom routine */,
    b /* var to swap */
);
/* more code here */
%mend;

%swap(
    swap(a, b)
    a:
        first var in custom routine

```

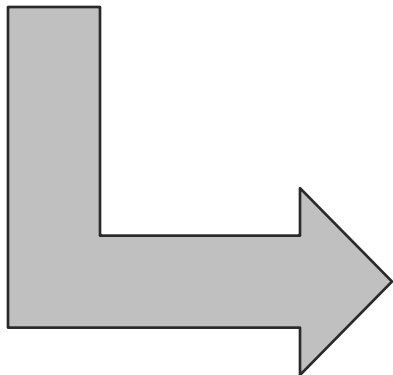
# User Productivity – The Editor

- Making your program pretty

```

data topn;
length rank 8; label rank="Rank";
set topn; by &category descending &measure;
if first.&category then rank=0; rank+1;
if rank le &n then output;
run;

```



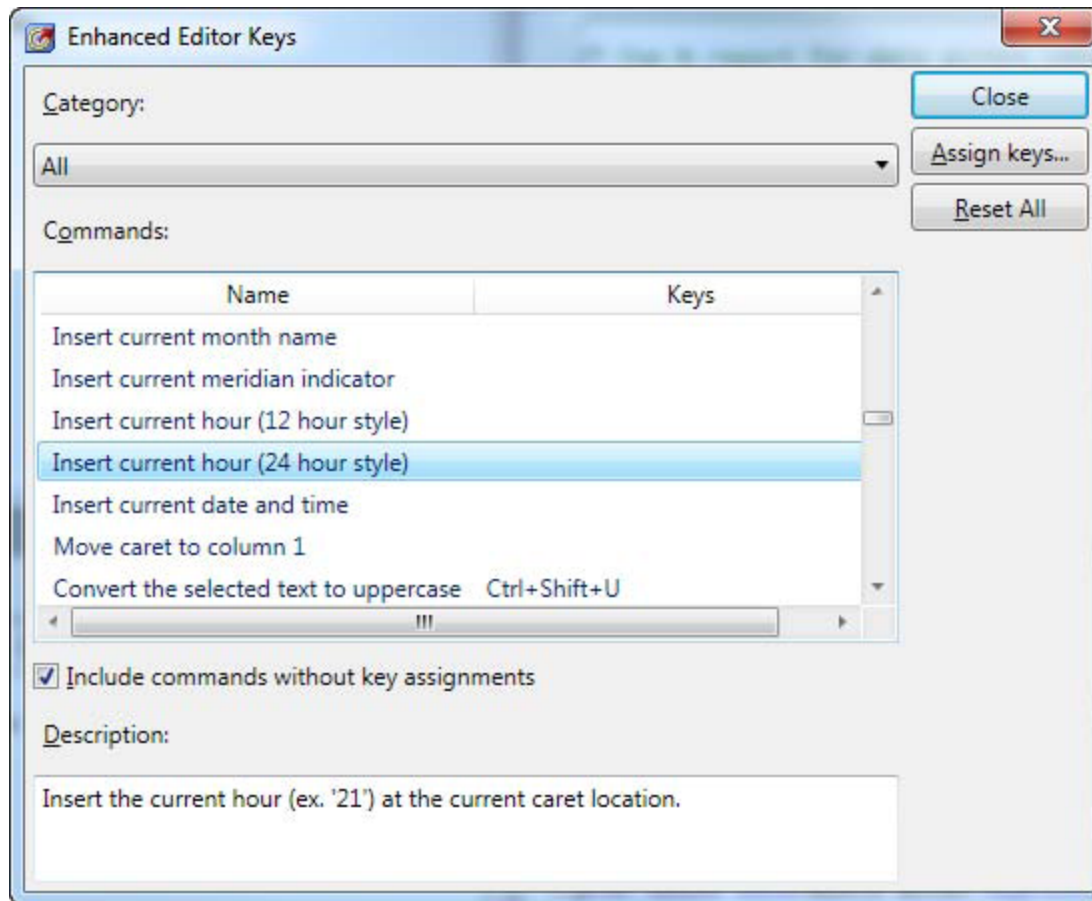
```

data topn;
  length rank 8;
  label rank="Rank";
  set topn;
  by &category descending &measure;
  if first.&category then
    rank=0;
  rank+1;
  if rank le &n then
    output;
run;

```

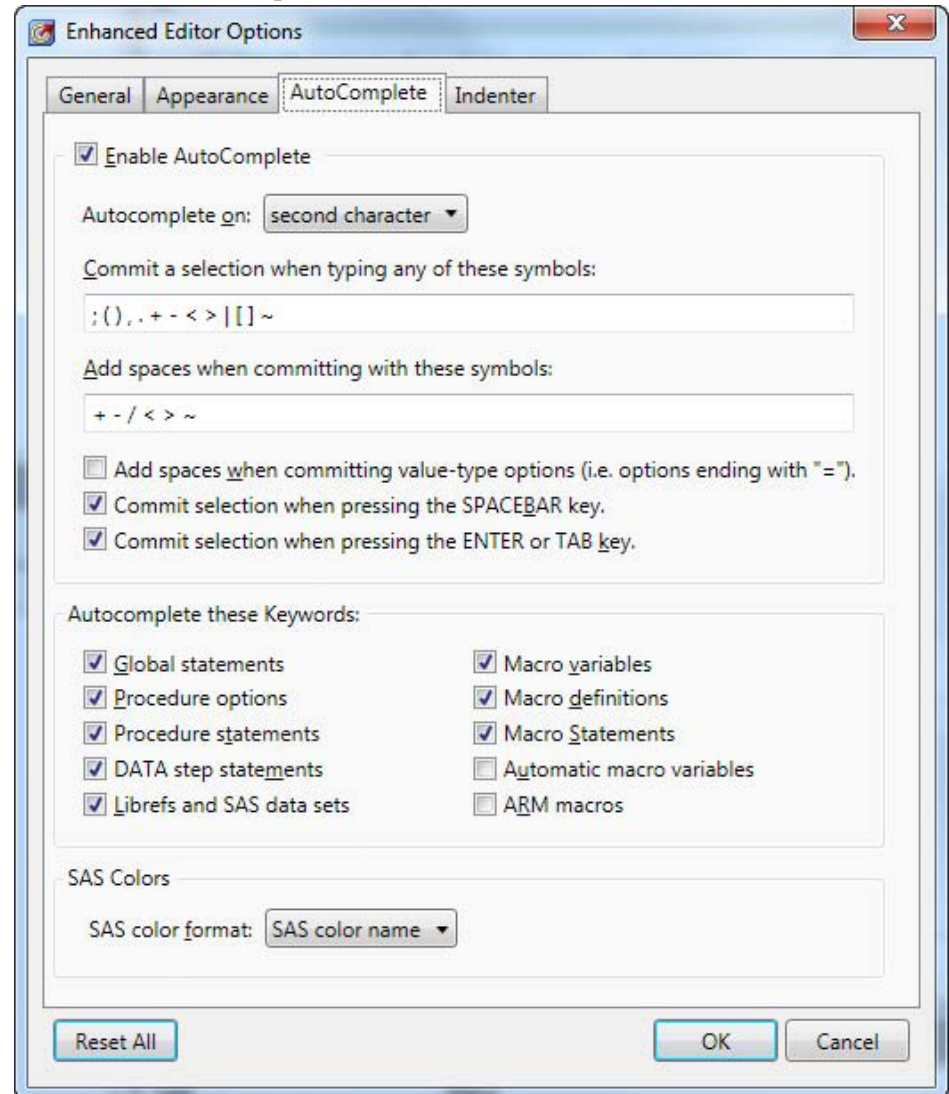
# User Productivity – Editor Keys

- Assigning keys to commands and macros



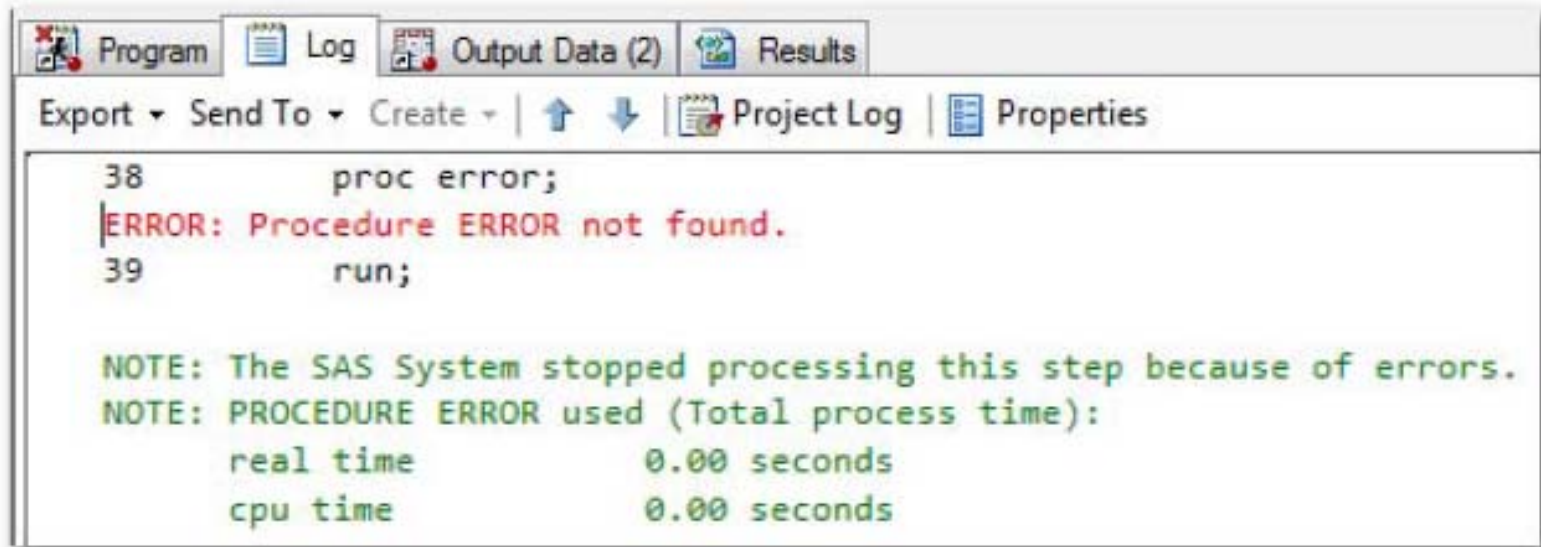
# User Productivity – Editor Options

- Controlling Options



# User Productivity – The Log

- Working with the SAS log



The screenshot shows the SAS Log window with the following content:

```

38      proc error;
|ERROR: Procedure ERROR not found.
39      run;

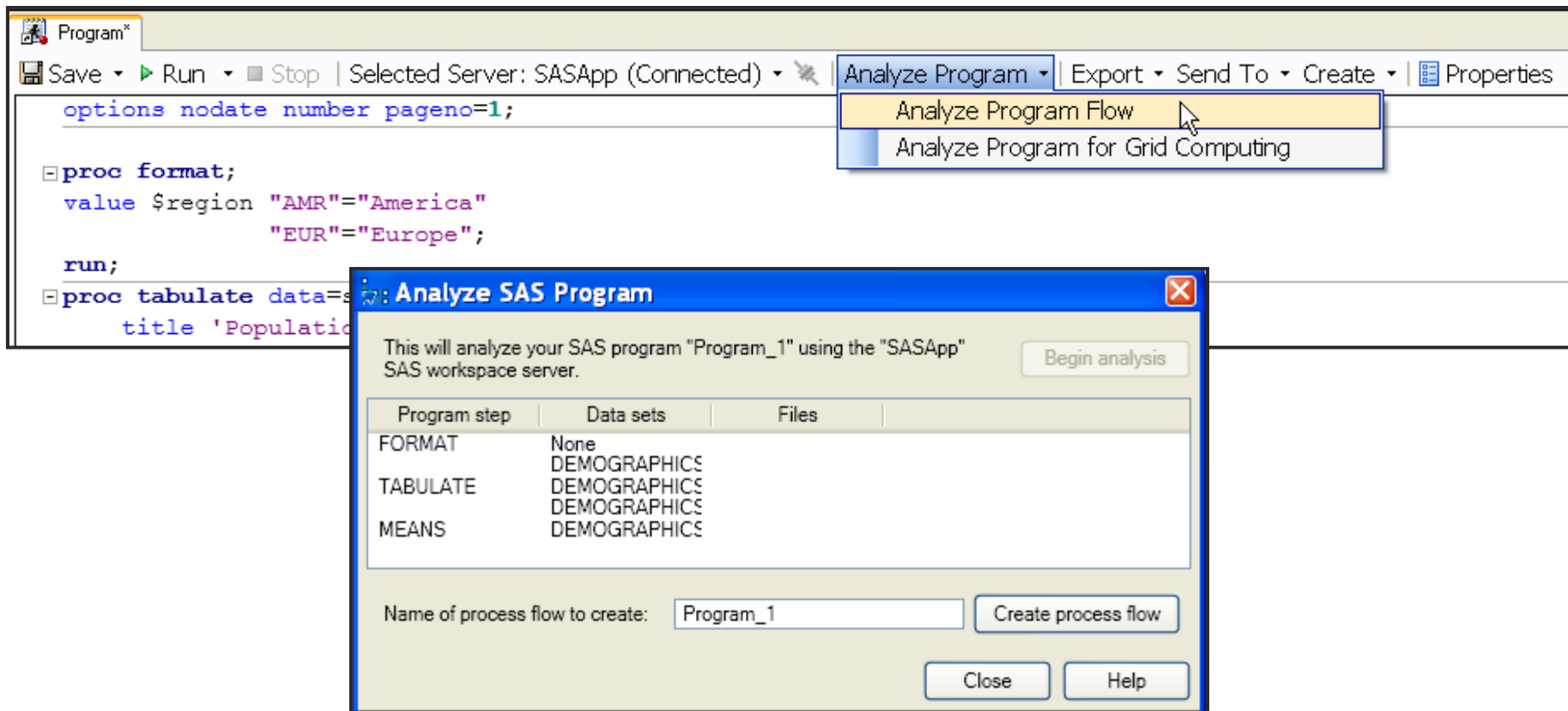
NOTE: The SAS System stopped processing this step because of errors.
NOTE: PROCEDURE ERROR used (Total process time):
      real time          0.00 seconds
      cpu time           0.00 seconds
  
```

At the top of the window, there are tabs for 'Program', 'Log', 'Output Data (2)', and 'Results'. Below the tabs is a toolbar with buttons for 'Export', 'Send To', 'Create', and navigation arrows. To the right of the toolbar are buttons for 'Project Log' and 'Properties'.

The Log window with buttons to move to the next and previous error or warning .

# User Productivity – Analyze Program

- Analyzing your SAS Program



The screenshot shows the SAS IDE interface. The menu bar includes 'Analyze Program', 'Export', 'Send To', 'Create', and 'Properties'. The 'Analyze Program' dropdown menu is open, showing 'Analyze Program Flow' and 'Analyze Program for Grid Computing'. The main editor window contains the following SAS code:

```

options nodate number pageno=1;

proc format;
value $region "AMR"="America"
              "EUR"="Europe";

run;

proc tabulate data=s
title 'Populatio

```

The 'Analyze SAS Program' dialog box is open, displaying the following information:

This will analyze your SAS program "Program\_1" using the "SASApp" SAS workspace server. Begin analysis

Program step	Data sets	Files
FORMAT	None	
TABULATE	DEMOGRAPHICS	
MEANS	DEMOGRAPHICS	

Name of process flow to create:  Create process flow

Close Help



# User Productivity - Autoexec

- Running a program or process flow as an autoexec
  - create a process flow named "autoexec"
  - can be run automatically whenever you open your project or be prompted to execute it
  - the autoexec process flow can contain any of the objects that can be contained in a process flow, including:
    - SAS programs
    - tasks
    - stored processes
    - custom tasks.

# User Productivity

- Organizing source files with relative paths
  - External file reference are now tracked as relative paths
  - Easier to move project file, data and programs for use within a different folder or machine

# User Productivity – New Tasks

- Create Format from a Data Set
- Map Chart creates a two-dimensional (choropleth) or three-dimensional (block and prism) color map
  - The Create Map Chart task no longer requires specially prepared data
- Scatter Plot Matrix creates a paneled graph of scatter plots for multiple combinations of variables.

# User Productivity – Enhanced Tasks

- SAS uses the sort functionality on the DBMS
- In the Filter and Sort task, you can now specify the task and output name
- The interface for the Random Sample task has been redesigned.
- The following tasks now support the DTQTR, DTMONTH, and DTDAY datetime intervals:
  - ARIMA Modeling and Forecasting, Basic Forecasting, Prepare Time Series Data, Regression Analysis with Autoregressive Errors

# Summary of major enhancements

- New Program Editor with automatic code suggestions, formatting and syntax prompts
- SAS Code Analyzer that turns a program into a Process Flow
- Running a program or process flow as an autoexec
- New Map Graph task
- New Create Format from Data task (is currently a custom task, will be standard)
- Send data to JMP
- New Stored Process wizard
- Query Builder supports explicit passthru

# Thank You!

# Questions?

## Resources:

- **SGF Paper - [SAS® Programmer's Paradise](#): New Goodies in SAS® Enterprise Guide® 4.3 ; Paper 137-2010**