



SAS Enterprise Guide 4.3 – Just for you programmers

**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

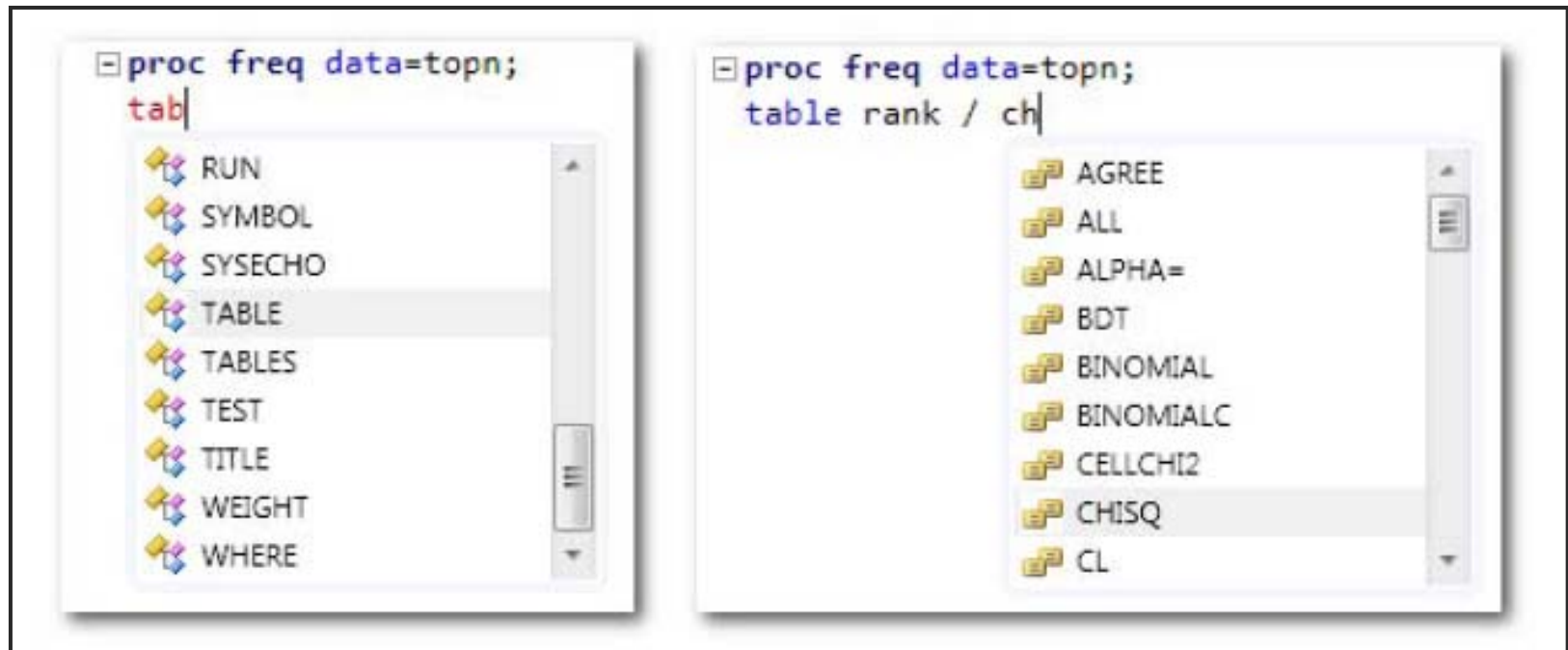
SAS Enterprise Guide 4.3 – User Productivity

- 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

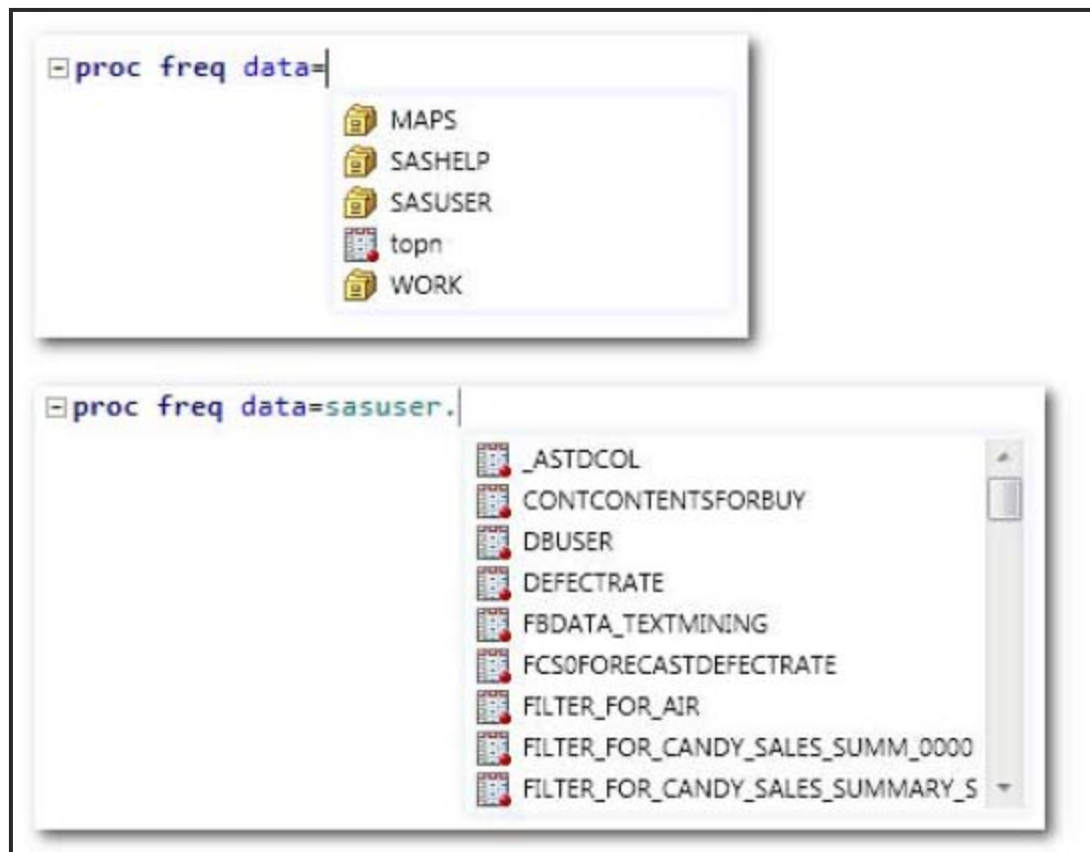
Context: [DATA STEP] SET statement

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.&
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;

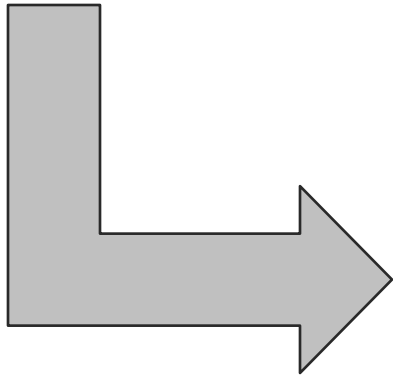
%swap(
    swap(a, b)
    a:
        first var in custom routine

```

User Productivity – The Editor

- Making your program pretty

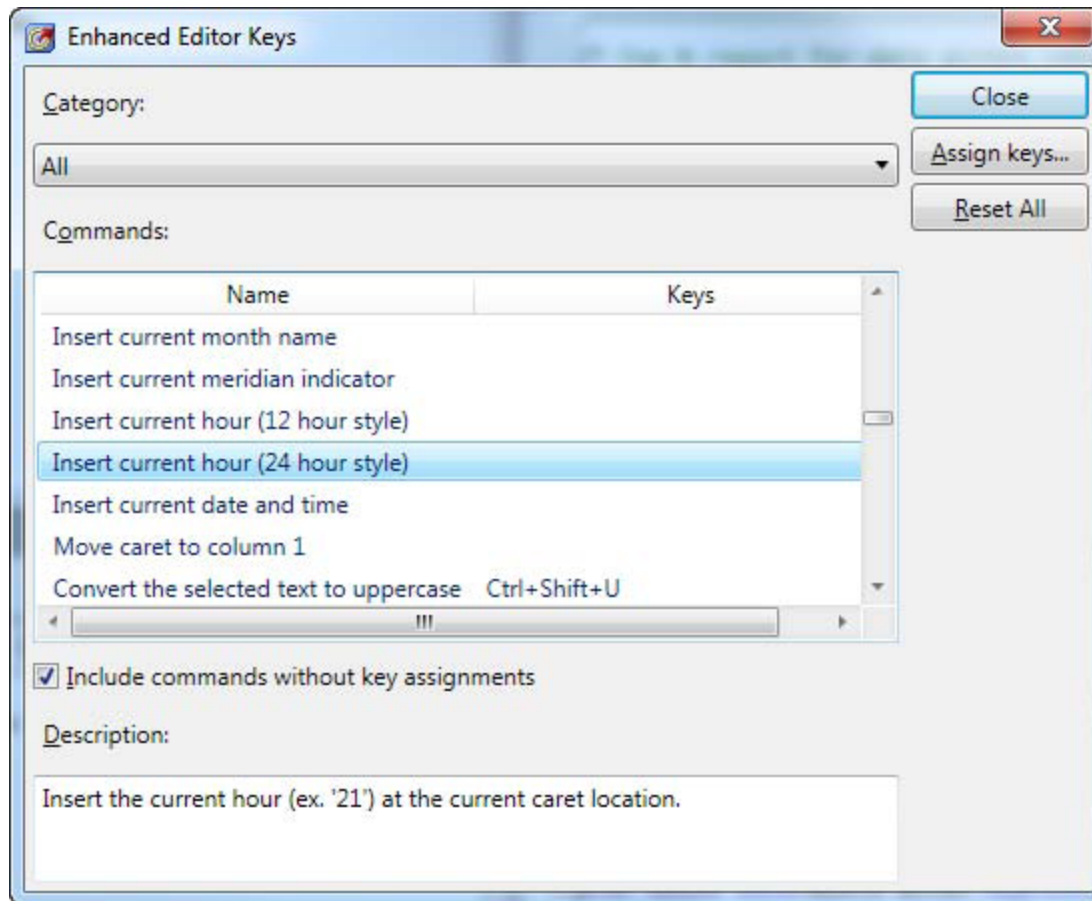
```
data topn;  
length rank 8; label rank="Rank";  
set topn; by &category descending &measure;  
if first.&category then rank=0; rank+1;  
if rank le &n then output;  
run;
```



```
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;
```

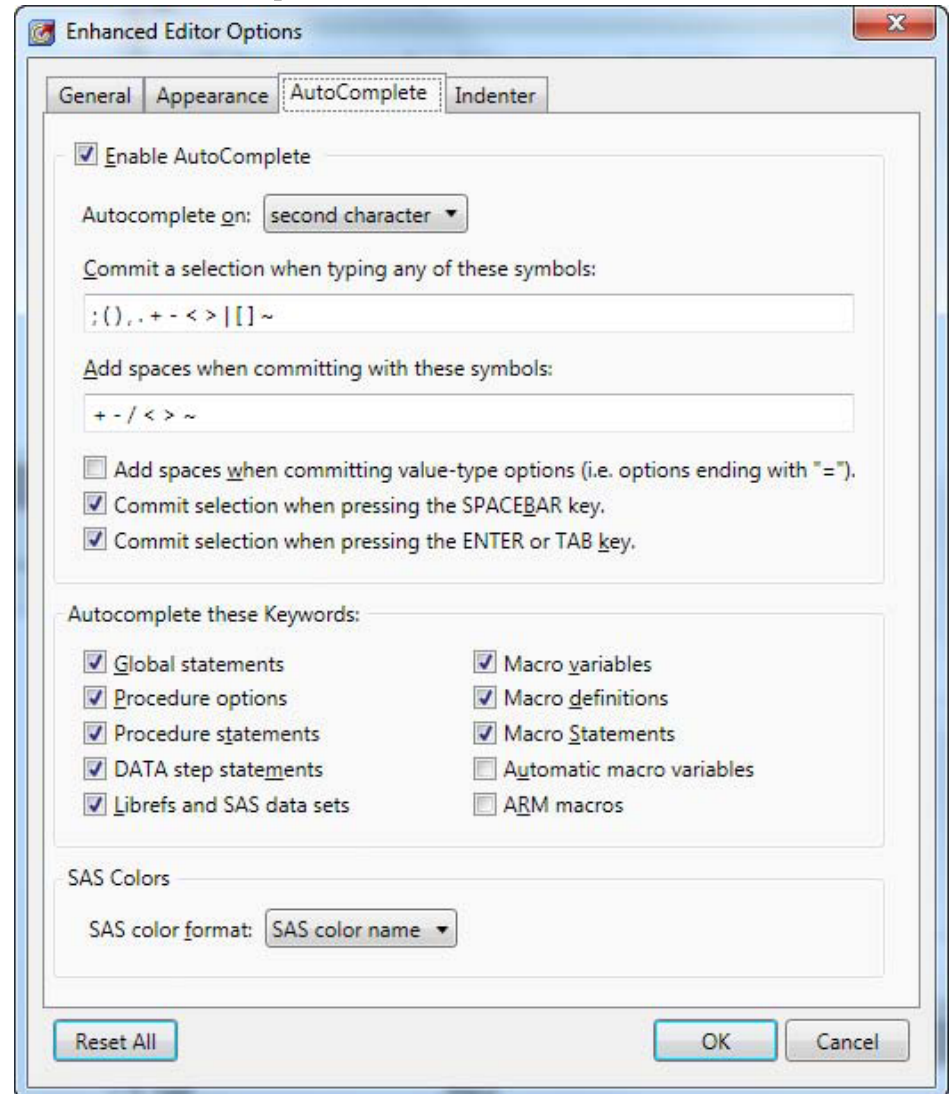
User Productivity – Editor Keys

- Assigning keys to commands and macros



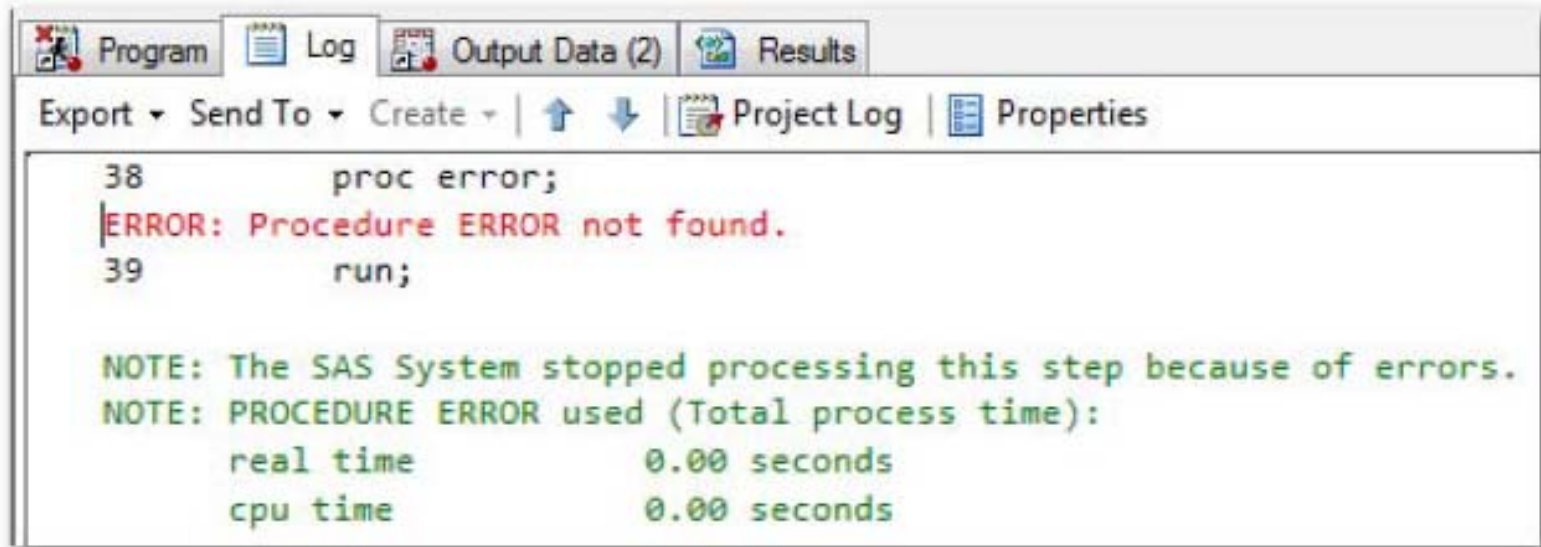
User Productivity – Editor Options

- 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;

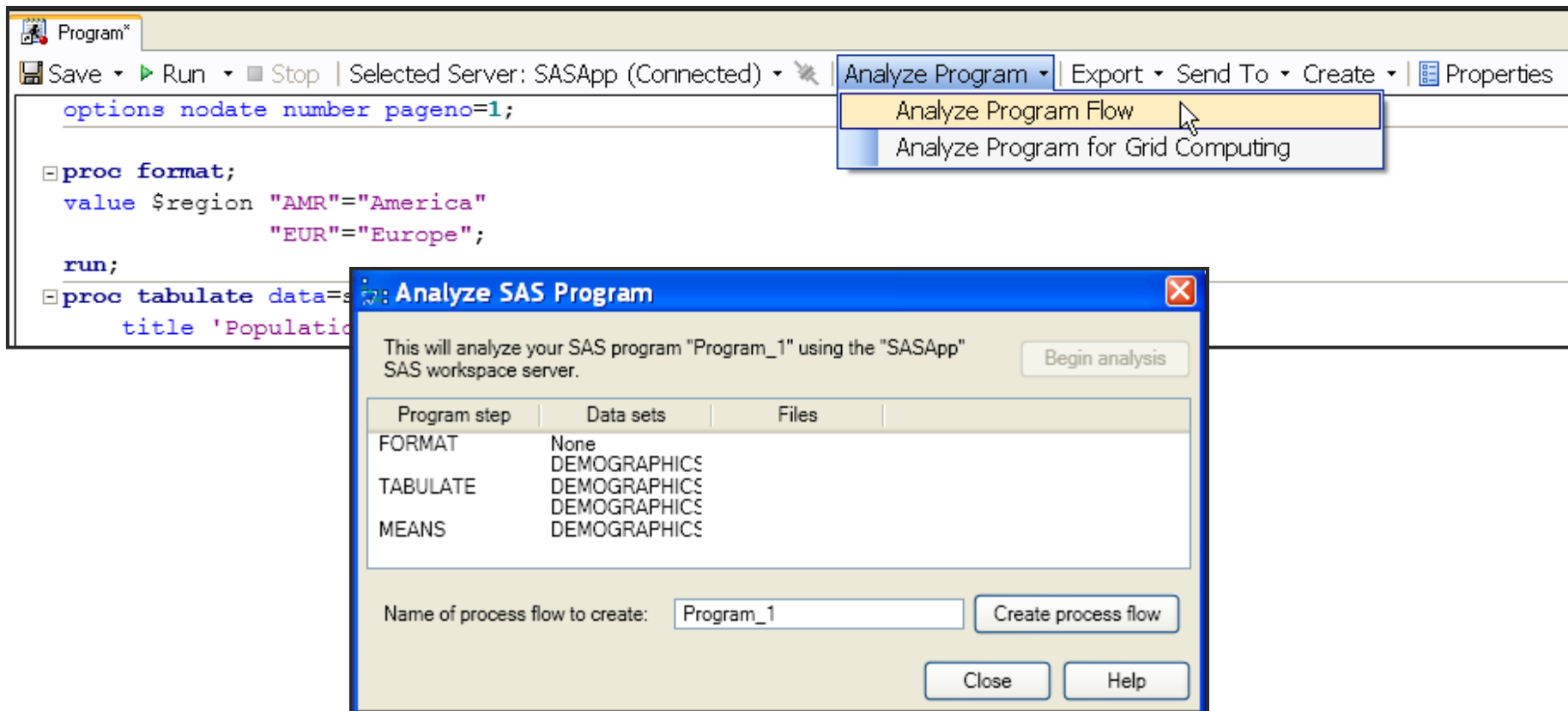
NOTE: The SAS System stopped processing this step because of errors.
NOTE: PROCEDURE ERROR used (Total process time):
      real time          0.00 seconds
      cpu time           0.00 seconds
  
```

At the top of the window, there are navigation buttons: 'Export', 'Send To', 'Create', and two arrows (up and down) for navigating between errors.

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 'Save', 'Run', 'Stop', 'Selected Server: SASApp (Connected)', 'Analyze Program', 'Export', 'Send To', 'Create', and 'Properties'. The 'Analyze Program' menu is open, showing 'Analyze Program Flow' and 'Analyze Program for Grid Computing'. Below the menu, a dialog box titled 'Analyze SAS Program' is displayed. The dialog contains the following text and table:

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**