Abstract

With SAS/ASSIST® software, getting started with the SAS System is easy, but it changes how you initiate new computer users. If you are responsible for training, this paper will show you how to help someone with no computer skills begin to use the SAS System with SAS/ASSIST software.

What SAS/ASSIST® software means for trainers?

With Release 6.06, SAS Institute provides a valuable tool to help new users get started with the SAS System: SAS/ASSIST software. This interface between the user and the SAS System is a task-oriented, menu-driven windowing system. The primary goal of SAS/ASSIST software is to provide the power of the SAS System without requiring knowledge of SAS language syntax. SAS/ASSIST software enables users to choose tasks they want to perform and guides them through different options. SAS code is generated based on these choices. New users of the SAS system can quickly become productive because there is no need to learn a new language; they simply point and select.

New computer users as well as users new to Release 6.06 benefit from starting with SAS/ASSIST software. The generation of SAS statements from user input is a useful training tool. Users are able to view the code generated by SAS/ASSIST software in response to requests. New users can view the code to familiarize themselves with SAS language structure and syntax. Version 5 users can view the generated programs and see how they differ from Version 5 code that accomplishes the same objective.

Features of SAS/ASSIST® software

For users unfamiliar with SAS software, features of SAS/ASSIST software introduce them to this language gently. Features include:

- user control through keyword selection
- selection lists, so there is little need for typing information, and therefore less room for error
- consistent use of colors
- standard legends that provide explicit instructions for secondary windows
- context-sensitive help
- control of the number of choices to be made through the use of layering
- action bars for general functions such as customizing output and filing programs
- automatic retention of important information (such as the last selected data set or graphics device) from one task to the next
- the ability to save, modify, and reexecute programs generated by SAS/ASSIST selections
- the savings of these programs to a catalog rather than to operating system-specific files.

Invoking SAS/ASSIST software is easy. Users simply begin a SAS display manager session and then, based on your site's installation of the software, they either select the ASSIST option from an action bar or issue the ASSIST command. You control which method is used to invoke the interface. Once in SAS/ASSIST software, users can make selections by moving the cursor and pressing the ENTER key, or if they have a mouse, they can point and click.

Here's a look at what users see when they first get into SAS/ASSIST software. Display 1 shows the Primary Menu.

Display 1 Primary Menu

Notice that users can choose from common data processing tasks labeled with keywords such as data management, report writing, graphics, and data analysis. If the users wants more detail on a particular choice, the help facility provides it. For example, if the user wants to know more about the Tutorial option, if they press the help function key, they get a brief description of what is learned by taking this tutorial.

For the new user, the Tutorial option is an excellent first choice. This online tutorial provides a brief introduction to the SAS System, general guidelines for using the SAS/ASSIST facility, and a description of the features and functions available through SAS/ASSIST software.

Starting with the Tutorial option

When the Tutorial option is selected, the user sees a secondary menu with six choices, as shown in Display 2.
The Overview option introduces the SAS System and explains how SAS/ASSIST software serves as a user interface. The user learns that the SAS System is a family of software products for organizing and analyzing data. This option explains how SAS/ASSIST is an environment for using the SAS System to perform activities such as

- retrieving and storing data
- manipulating and analyzing data
- writing reports
- creating graphic displays.

The Principles option explains the fundamentals of the SAS System. This option explains the concept of a SAS data set and that data must be in the form of a SAS data set in order to be processed by the SAS System. It also explains that a SAS data set must be referenced to write a report, produce a graphic, or analyze data.

Next, users learn how to create a data set. They also learn what types of variables the SAS System works with (character and numeric), as well as the naming conventions of data sets and variables. Storage of data sets is also introduced, both temporary and permanent storage.

Users learn that a SAS program is a group of step-by-step instructions that tells the computer to perform various tasks. The concept of a program and how it is used to analyze data and generate reports is crucial for the new user.

These are the major points emphasized in the Principles option. They lay the foundation so the new user can understand how the SAS System creates, stores, and processes data. For new users, this option is the most important in the tutorial.

The Directions option provides instruction on how to use SAS/ASSIST software. It starts with the basics, such as how to select a task from the Primary Menu. Additional options are explained; for example, what if the user does not see the desired task as a selection? Most secondary menus contain a Utilities option that lists tasks in areas which have not been given boxed fields of their own. Basically, the Directions option tells users how to move around within SAS/ASSIST software and make selections. Users are given a few tips for troubleshooting and some pointers if a program does not run properly.

The Customize option shows users how to customize SAS/ASSIST software. It explains how to modify applications by copying programs provided with the software and making the desired changes.

The Keys option instructs users how to set function keys. It also defines action bar items. An action bar is a listing of valid commands for a window from which a user can select the command to be executed.

After the Tutorial option

After users have completed the Tutorial option, they are ready to use SAS/ASSIST software. There are several options available through the Primary Menu, but the majority of applications and tasks are done through these four options:

- Data Management
- Report Writing
- Graphics
- Data Analysis.

Data Management is a powerful tool. From this option, users can edit or browse data; create data for plots, charts, calendars, and so forth; import data from a flat file; or enter data interactively. Other choices enable users to subset or copy data sets. Combining data sets is also possible; users select either to concatenate, merge, interleave, or match-merge data. Remember, the key here is that users are guided through selections -- they do not have to know syntax to achieve the desired results. Display 3 shows the Data Management Menu.

Report Writing enables users to present data in various ways. Users can choose to list data, create tables with frequency counts or cross tabulations, or design a customized report. Simple graphics, such as bar and pie charts, can also be created using base SAS software. Display 4 shows the Report Writing Menu.
The Graphics option gives users the choice between high or low resolution graphics. The high resolution choice generates graphics output that can be displayed on graphics devices supported by SAS/GRAPH software. Note that SAS/GRAPH software is required in order to generate high-resolution graphics. The low resolution choice generates output that is displayed in the display manager OUTPUT window. This output can also be directed to line printers. Display 5 shows the High Resolution Graphics Menu.

Data Analysis enables the user to run SAS procedures. Elementary Statistics are one choice: summary statistics, correlation, confidence intervals for means, or frequency tables. Or choose Regression, ANOVA, Multivariate Analysis, or Time Series Analysis. Display 6 shows the Data Analysis Menu.

Summary

For users who want to learn SAS syntax, SAS/ASSIST software is the place to start. SAS/ASSIST software generates reusable programs that can be customized based on the user's needs. As each SAS/ASSIST menu selection is made, a SAS program is built and documented automatically. From most SAS/ASSIST options, users have the ability to save the SAS programs and output generated as catalog entries. To view the program and resulting output, users select the Results option on the Primary Menu. Within each task, users can also preview the program through a special preview window. This window is accessed through the pull-down menu. And, because of the Multiple Vendor Architecture (MVA) found in Release 6.06, the SAS applications are all built the same way, allowing programs to run the same across all platforms. This saves training time because users do not have to learn operating system-specific information each time your site adds an application or machine.

In summary, an easy way to introduce new computer users to the SAS System is through SAS/ASSIST software. SAS/ASSIST software provides the interface new users need to perform simple or complicated tasks with the SAS System. The Primary Menu and secondary menus allow users to point and select without knowing SAS syntax.

The tutorial provides the necessary foundation to help users get started, introduces the SAS System, and explains how the software works with data. For some users, SAS/ASSIST may be all they ever need to use the SAS System. For others who want to go further, SAS/ASSIST software gives them a foundation.
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References
