

What is the SPSS environment?

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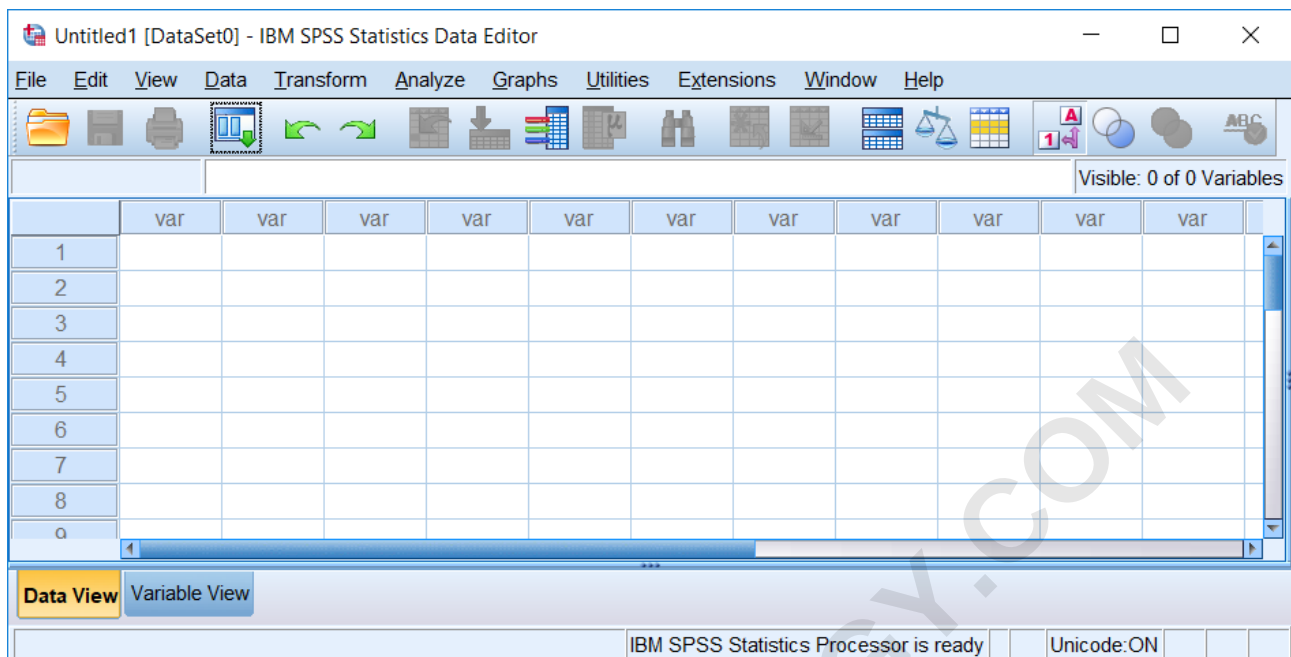
The SPSS environment is a software platform used for statistical analysis and data management. It provides a user-friendly interface and a wide range of tools and features to help researchers and analysts process, organize, and interpret large datasets. It also offers various statistical techniques and methods to perform advanced data analysis and generate visual representations of the results. The SPSS environment is widely used in fields such as social sciences, business, and healthcare to conduct research and make data-driven decisions. Overall, it is a powerful and comprehensive environment that supports data analysis and helps users gain valuable insights from their data.

The SPSS Environment

SPSS utilizes multiple types of windows, or screens, in its basic operations. Each window is associated with specific tasks and types of SPSS files. The windows include the Data Editor, Output Viewer, Syntax Editor, Pivot Table Editor, Chart Editor, and Text Output Editor. The following sections describe the basic purposes and functions of the three most common windows--the Data Editor, Output Viewer, and Syntax Editor--since these three windows are integral for most every action performed in the program. The other windows are relevant to more specific types of tasks.

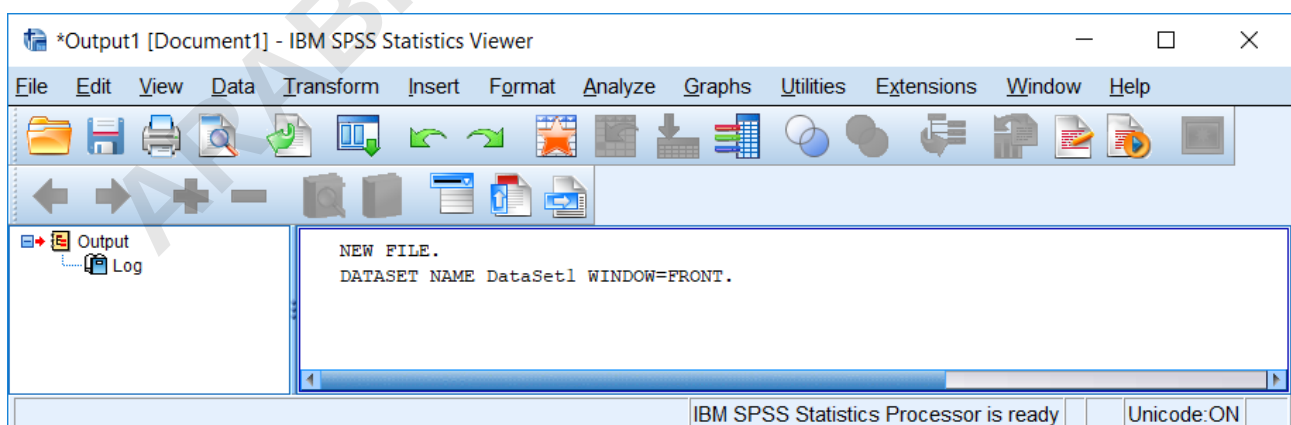
Data Editor

The Data Editor window is the default window and opens when SPSS starts. This window displays the content of any open data files and provides drop-down menus that allow you to modify and analyze data. The data are displayed in a spreadsheet format where columns represent variables and rows represent cases. The spreadsheet format includes two tabs at the bottom labeled **Data View** and **Variable View**. The **Data View** tab displays the open data set: variables appear in columns, and cases appear in rows. The **Variable View** tab displays information about variables in the open data (but not the data themselves), such as variable names, types, and labels, etc. The tab that is currently displayed will be yellow in color.



Output Viewer

When you perform any command in SPSS, the Output Viewer window opens automatically and displays a log of the actions taken and the associated output. Primarily, the Output Viewer is where the results of statistical analysis are shown, but any command invoked through the drop-down menus or syntax will be printed to the Output Viewer. This includes opening, closing, or saving a data file. If an Output Viewer window is not open when a command is run, a new Output Viewer window will automatically be created.



The Output Viewer window is divided into two sections, or frames. The left frame contains an outline of the content in the Output Viewer. This outline is especially useful when you have run many SPSS commands and need to locate a particular section of output easily. The right frame

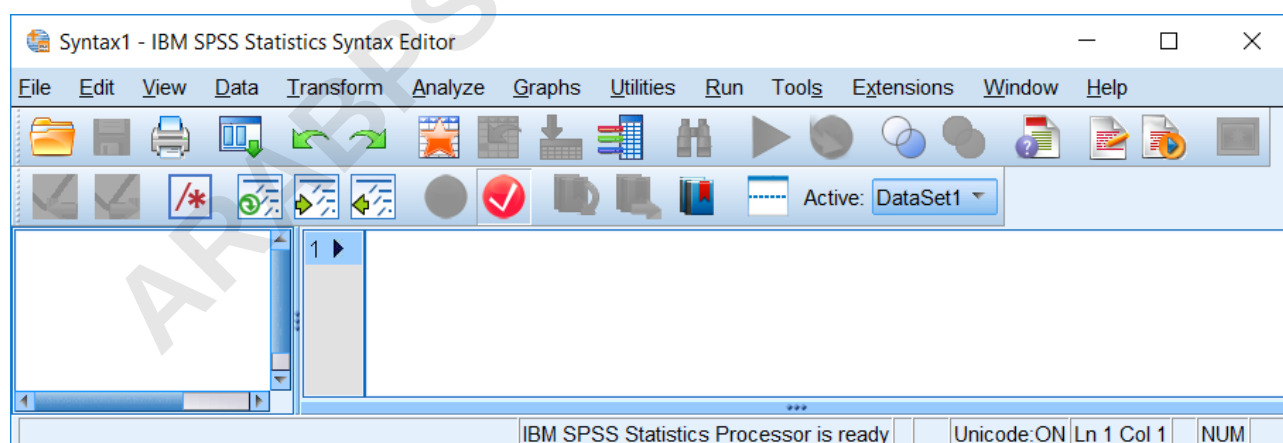
contains the actual output. Clicking on an item in the left frame will jump to that content in the right frame. Items that have been selected in the right frame are indicated by a red arrow and a box drawn around the content.

You can modify the contents in the Output Viewer by selecting items in the left or right frame and copying, pasting, or deleting them. To remove an item from the Output Viewer, click on its name in the left frame or click on the object itself in the right frame, then press the Delete key on your keyboard.

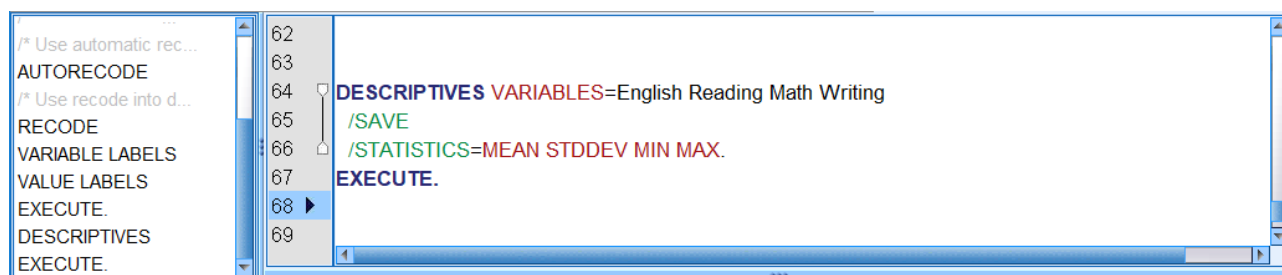
An Output Viewer window can be saved as a viewer file (*.spv) so that you can review it again without having to re-run the same commands in SPSS. To save an Output Viewer window, click **File > Save As**. Alternatively, you can export some or all of the contents in the Viewer window to a new document or image file by clicking **File > Export**. In general, you can export all content as a PDF (*.pdf), a PowerPoint file (*.ppt), an Excel file (*.xls or *.xlsx), a Word file (*.doc or *.docx), an HTML file (*.htm), or a text file (*.txt). Graphs can be saved as *.bmp, *.emf, *.eps, *.jpeg, *.png, or *.tif.

Syntax Editor

SPSS syntax is a programming language unique to SPSS that can be used as an alternative to the drop-down menus for data manipulation and statistical analyses. The Syntax Editor window is where users can write, debug, and execute SPSS syntax. To open a new Syntax Editor window, click **File > New > Syntax**.



The right panel of the Syntax Editor window is where your syntax is entered. The left panel of the Syntax Editor window shows an outline of the commands in your syntax, and can be used to navigate within your code. You can jump to a specific part of your code by clicking on the command in the left panel. This feature is useful for showing the start and end points of a command, especially if the command is longer than one line.



Syntax can be saved as an *.sps file by clicking **File > Save** or **File > Save As** within the Syntax Editor window.

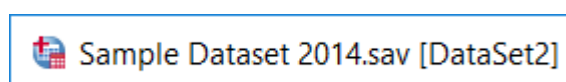
Active Windows

When working in SPSS, it's possible to have multiple windows of the same type open simultaneously. For example, you may open two different data files in SPSS, and therefore have two Data Editor windows open. Or, you may want to keep your exploratory data analysis and regression modeling syntax in separate syntax files, but you have both open in SPSS so that you can work on both tasks. When this happens, it's important to take note of which window is currently the *active window* for that window type.

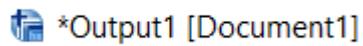
An **active window** is a window that is currently selected and on which any commands will be run. The active window can be identified by the small "+" sign in the upper left hand corner of the window.

If you have multiple windows of the same type open, it is important to know which of these is the active window because SPSS may direct specific information to the active window. For example, if you have more than one Output Viewer window open, and you run a command, SPSS will print the results of the command in the active Output Viewer window. Thus, if you want output to display in a specific output file, you will want to make sure that file is the active window. You may have multiple windows open during a session (e.g. multiple Output Viewer windows), but only the window that is currently selected is considered active.

Example of active *Data Editor* window.



Example of active *Output Viewer* window.



SPSS Toolbar Shortcuts

By default, the Data View window has the following shortcuts for common tasks.

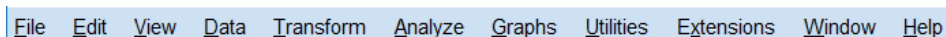
Icon	Tooltip	Description
	Open data document	Open a datafile. Equivalent to File > Open > Data .
	Save this document	Save the active dataset. Equivalent to File > Save or Ctrl + S.
	Print	Print the contents of the active data view window. Not recommended. Equivalent to File > Print .
	Recall recently used dialogs	Shows the list of most recently used dialog windows. Use when you need to re-run an analysis.
	Undo a user action	Equivalent to Edit > Undo (in the drop-down menus) or Ctrl + Z.
	Redo a user action	Equivalent to Edit > Redo (in the drop-down menus) or Ctrl + Y.
	Go to case	Jump to a specific case (row) in the active dataset. Equivalent to Edit > Go to Case .
	Go to variable	Jump to a specific variable (column) in the active dataset. Equivalent to Edit > Go to Variable .
	Variables	View the variable name, labels, type, measurement level, missing value codes, and value labels for all variables in the active window. Equivalent to Utilities > Variables .

Icon	Tooltip	Description
	Run descriptive statistics	Run descriptive statistics (using the Frequencies procedure) on the selected variable. The statistics shown are determined by the variable measurement level setting. Nominal and ordinal variables are summarized with a frequency table; scale variables are summarized using mean, median, standard deviation, range, minimum, and maximum. Only activates when a cell or column in the Data View window is selected. Equivalent to Analyze > Descriptive Statistics > Frequencies .
	Find	Search for a value or observation in the dataset, or search and replace a value or observation in the dataset. Only activates when a cell in the Data View window is selected. Equivalent to Edit > Find and Edit > Replace , or Ctrl + F and Ctrl + H, respectively.
	Insert cases	Insert a case between two existing cases. Equivalent to Edit > Insert Cases .
	Insert variable	Insert a new variable between two existing variables. By default, new variables created this way are scale numeric variables. Equivalent to Edit > Insert Variable .
	Split file	Stratify your analyses based on a categorical variable. For example, if the variable <i>Gender</i> is selected in Split File, running descriptive statistics on any other variables will produce descriptives for males and females separately. Equivalent to Data > Split File .
	Select cases	Extract a set of cases to a new datafile based on some criteria, or apply a filter variable. Equivalent to Data > Select Cases .
	Value labels	Toggle whether the raw data or the value label is displayed in the Data View window. Equivalent to View > Value Labels .
	Use variable sets	Select or unselect sets of variables to show in the active window. Multiple sets can be selected at a time. Equivalent to Utilities > Use Variable Sets . Note that you must first define a variable set (Utilities > Define Variable Sets) in order for this to be useful.
	Show all variables	Shows all variables in the active dataset. Only activates if <i>Use Variable Sets</i> has been used. Equivalent to Utilities > Show All Variables .

Executing Commands in SPSS

SPSS offers two basic ways of working with your data: drop-down menus and syntax commands.

Drop-down menus: Users who are new to SPSS typically learn the software by using drop-down menus. These are the menus that you see across the toolbar at the top of the screen--e.g., **File**, **Edit**, **View**, **Data**, etc. These menus provide the options you need for performing specific actions on your data. Clicking on any one of the menus will produce a list of menu items. You may then select a specific menu item from the list to perform specific actions.



Syntax Commands: Advanced users can interact with SPSS by writing their own syntax. Syntax is a command-driven language that tells SPSS what actions to perform on the data. Using syntax commands (rather than drop-down menus) is preferable for several reasons:

Syntax allows users to write commands that are not available via drop-down menus. Syntax provides a useful log of what steps you have taken while working with your data. Syntax allows you to easily edit your commands, in any order, rather than having to re-select each drop-down command if you decide to change some part of your analysis. Syntax allows you to consistently reproduce your commands, which is important for validating your methods.

Overall, syntax offers more flexibility, a clearer record, and greater ease in making changes and re-running commands. It does take some practice to learn to write the basic command language, but once you learn the language the benefits of working with data in this way will become very clear.

To use syntax, click **File > New > Syntax**. This opens a new Syntax Editor window where you can write and execute syntax commands.

