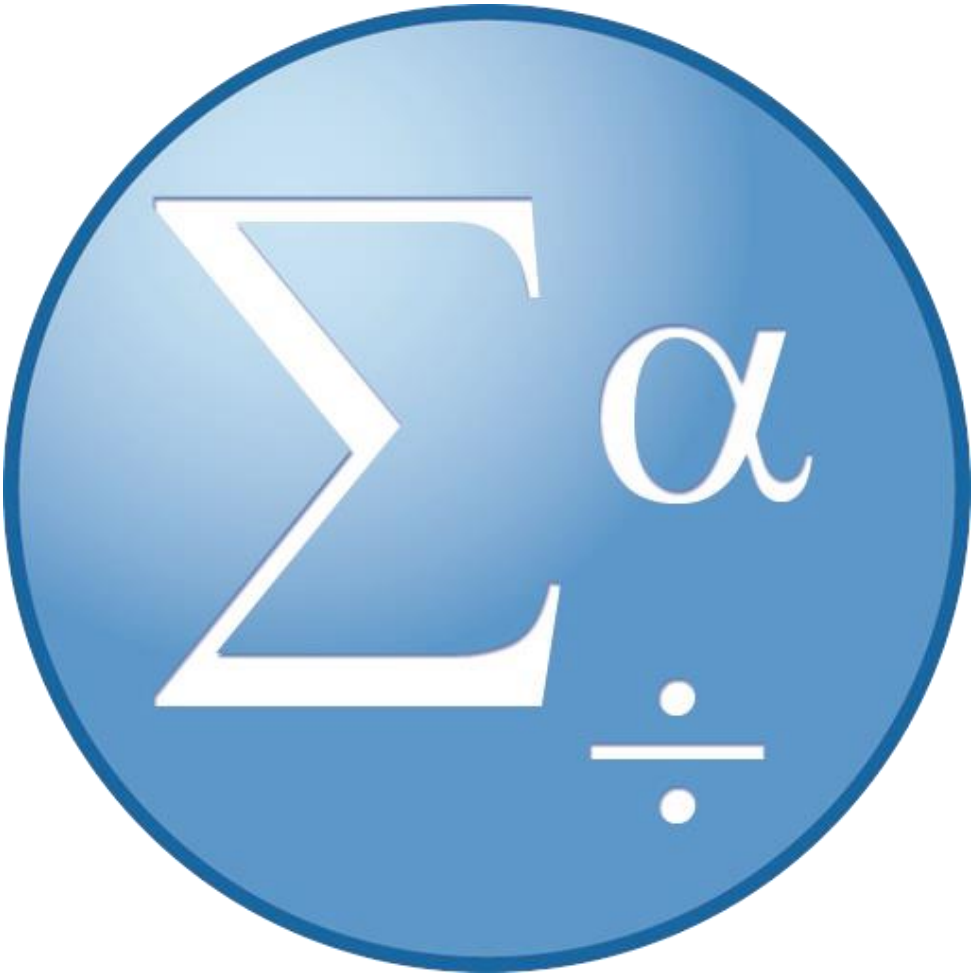
SPSS Syntax basics



Why Use Syntax?

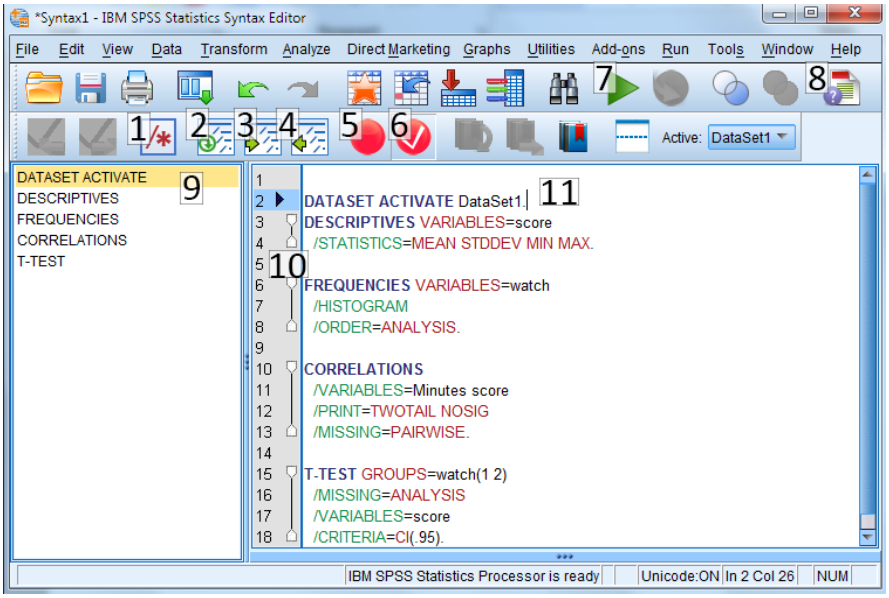
Whenever you perform any task in the SPSS command windows, a command syntax language is being performed behind the scenes. Writing this language yourself allows you to skip the lengthy dialogue windows and communicate directly with the software. You can also save this file to repeat tests with the same or different variables instead of remembering lengthy and complicated dialogue window navigation. Syntax may sound scary but it's intuitive and simple, SPSS will even assist you on your on writing and interpreting the language.

The Syntax Editor window

The command syntax window in SPSS is like any other window in the program: it needs to be saved separately and has a separate file extension (.sps).

Navigating the syntax window

1. Toggle Comment Section
2. Auto Indent Syntax
3. Indent Syntax
4. Outdent Syntax
5. Toggle Breakpoint
6. Honor Breakpoint
7. Run Selection
8. Syntax Help
9. Navigation Pane
10. Line Numbers and Command Spans
11. Syntax writing area



The Syntax window has three sections:

1. The left navigation pane shows all the commands used in the syntax window, clicking on the command in the navigation pane will jump you to that section in the syntax window.
2. The middle gray section contains a line of numbers A pointer shows the current selection as well as brackets showing how many lines a particular command occupies
3. The right (and largest) pane contains the actual syntax command to be executed, they are also color coded for easy reading.

Creating a new syntax file

1. In the toolbar Go to *File > New > Syntax*
2. The syntax window will appear

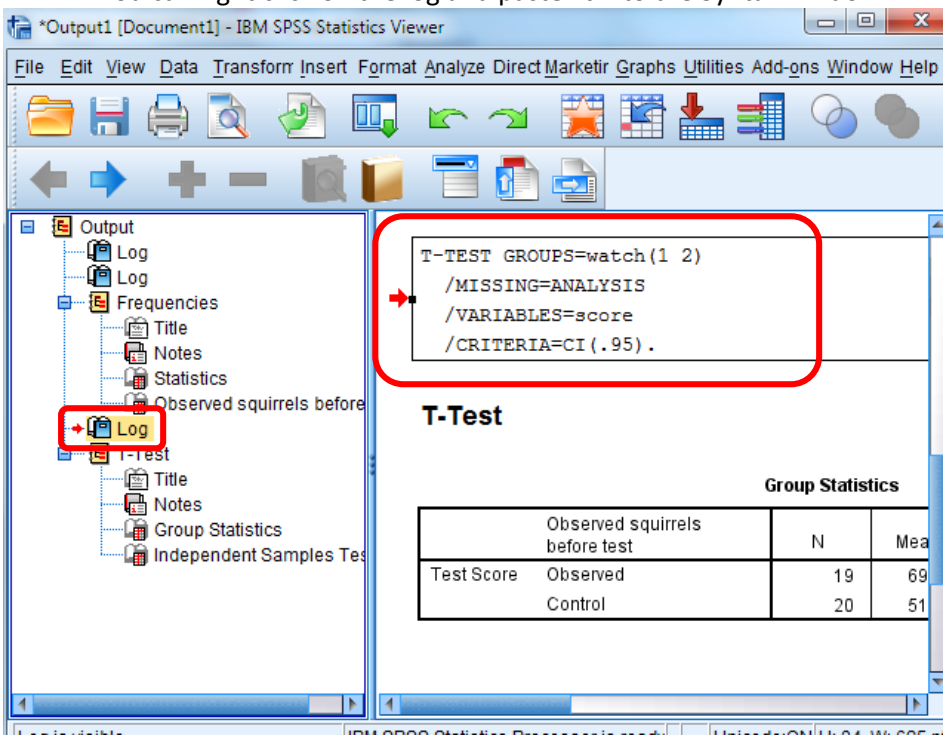
Generating Data

A good way to get to familiarize yourself with syntax in SPSS is to have the program generate it for you so you can understand how dialogue window options translate to the command syntax language. There

are two ways to generate syntax, either run a command and copy the syntax from the output window, or create syntax from almost any dialogue window.

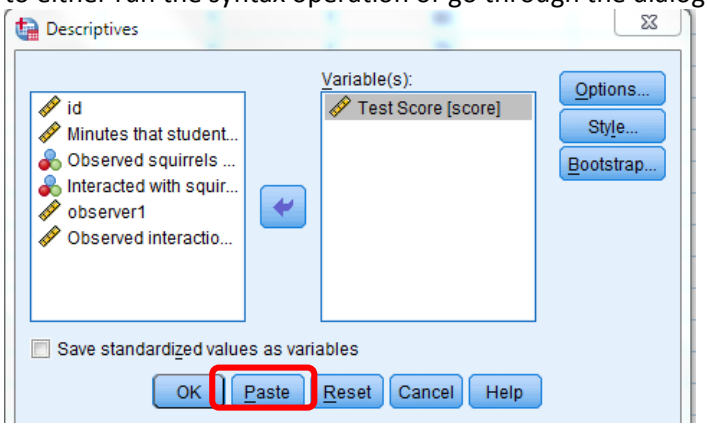
Copying syntax from the output window

- The syntax information for each command is in *Log* in the output window
- You can right click on the log and paste it into the Syntax window



Generating Syntax data from dialogue window

Whenever you are using a tool in the SPSS dialogue window there will almost always be a button in the middle labeled *Paste,* selecting this button will create syntax in the syntax window, and open a syntax window if you haven't created one yet. Selecting *Paste* only creates syntax, to actually complete your objective you will have to either run the syntax operation or go through the dialogue window again.



Understanding the color formatting:

Let's look at some simple syntax to break down what we are looking at:

```
DESCRIPTIVES VARIABLES=score
  /STATISTICS=MEAN.
```

This command line is running an average of the variable: *score.* If we were to complete this is through a dialogue window you would first go to *Analyze > Descriptive Statistics > Descriptives > Options > Mean > Okay* and then you would move over the variable *score* to the analyze box. This process is a bit lengthy and difficult to remember for such a simple test. This is why Syntax is overall a better alternative.

- The main command is dark blue
- Sub-commands are green
- Keywords are red
- Variable names and controls are black
- Comments are in gray

Syntax Vocabulary:

Under the Help menu in the toolbar there is an option labeled *Command Syntax Reference* This will open a .pdf that lists every command, their subcommands, formatting options, examples, what it does, and how to use it.

Writing the language:

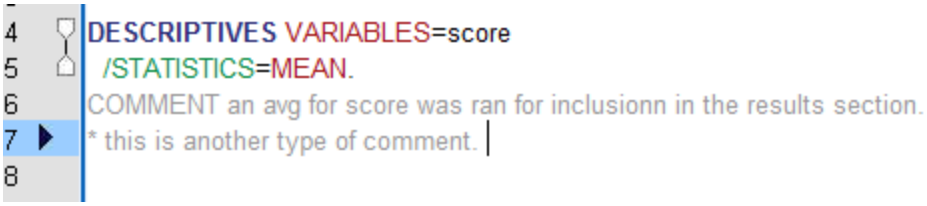
Syntax can be incredibly simple or extremely complex (enough to write an entire program). These tips will help make writing command syntax a bit easier.

- When looking at syntax you will notice that it appears all in uppercase. This is only a tradition carried on from previous editions of SPSS and it is not a requirement. You can write your syntax in either lowercase, uppercase, or both.
- Every command syntax sequence must end with a period. This is necessary because commands can begin anywhere on a line and continue on to occupy many lines. Without the period to terminate the command, SPSS would not understand when to end or being a new or current command.
- As you create more syntax, you'll discover that forward slashes and equal signs are not always needed; however, these are organizational tools and reduces ambiguity when SPSS interprets your language; always use them and you won't have to worry about errors from SPSS not understanding your vocabulary.
- You can name your variables the same as commands (format, report, etc.) but not logical operations like (and, or, etc.) SPSS will let you know if you try to use these "reserved" terms

Comments

Inserting comments can help organize your syntax for future use, an example would be if you wanted to explain why you ran a particular test. Here are some tips on using comments

- Comments are a type of command so they must be ended with a period
- The comment command is either initiated with COMMENT or *



- You can also insert a comment in the middle of a command line by starting it with /* and ending it with */

```
11  CORRELATIONS
12    /VARIABLES=score Minutes
13  /*I chose these variables because I think they will make a cute line graph!*/
14    /PRINT=TWOTAIL NOSIG
15    /MISSING=PAIRWISE.
```

Running a syntax execution:

If you click anywhere in your command line or highlight multiple commands and press  your commands will now appear as output

Saving your syntax for future use:

Saving syntax is much like saving any other window in SPSS, because the syntax window is a .sps file it will have to be saved separately from the data editor window and the output window. When you open your .sps file for later use, make sure you also open the corresponding data editor window or else the syntax window will have no data to run commands from.