2.1.2.2 Exercise - Frequencies

[16 November 2010]

Exemplar: Pre-course survey of interests and experience.

Documentation: Questionnaire

File: myclass3.sav

Task 1: Produce a frequency count (with barchart) for mode of travel [**v24**]

Task 2: Produce a frequency count for satisfaction with the NHS [**v14**]

SPSS commands used

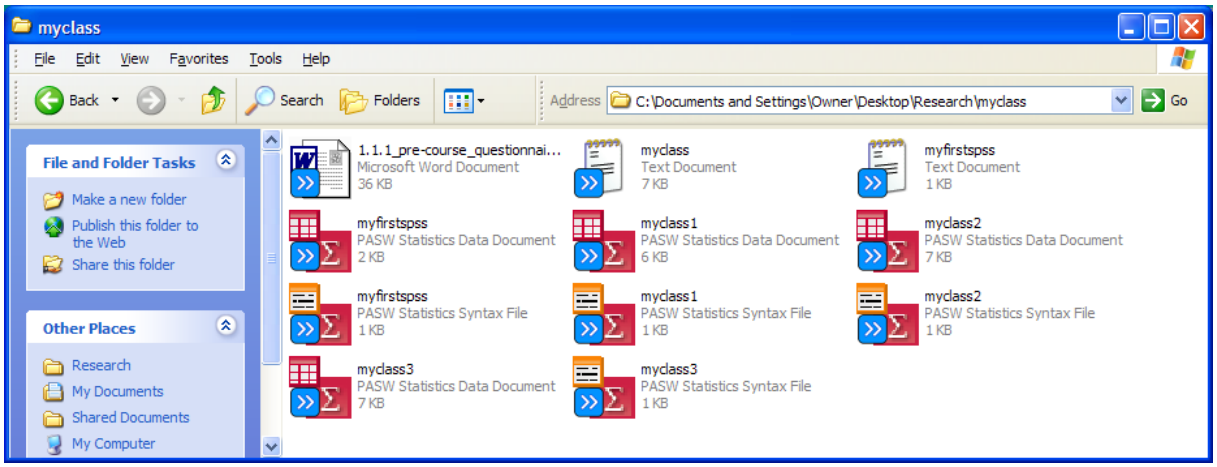
```
TITLE ~ ~ ~ ~

FREQUENCIES ~ ~ ~ ~
        / BARCHART
        / STATISTICS ~ ~ ~ ~
        / FORMAT ~ ~ ~ ~
```

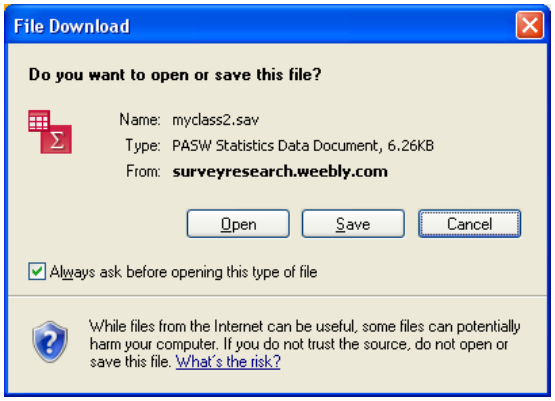
If you do not already have the pre-course questionnaire or the latest saved file **myclass3.sav** , download and save them now in a folder on your computer called **myclass** or copied to a floppy or CD. The files are small enough to go on floppy **a:**, but files from other surveys are too large and will need to be kept in a folder on your computer, burned to a CD or stored on a remote server. If you don't have SPSS on your computer, you should still be able to follow the tutorial even if you can't replicate the exercise.

Open your folder **myclass**

If you have done the earlier exercises, the folder will not be empty: your **myclass** folder should already have some files in it.

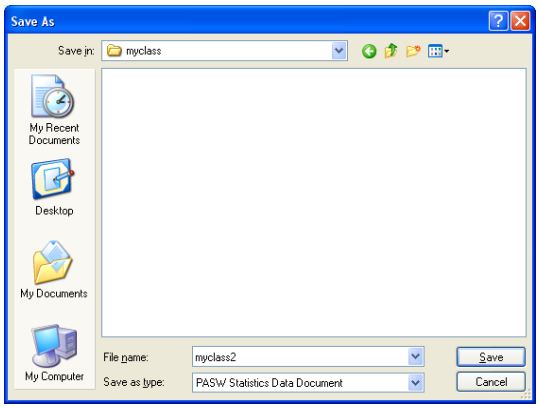


The following example uses my version of the the cumulative data from previous waves of students. If you did the full set of exercises from **1.4 Extending your data dictionary**, you can just double-click on file **myclass3.sav** which you should have created in a previous session. If not you need to download file myclass3.sav from this site and save it in your **myclass** folder.

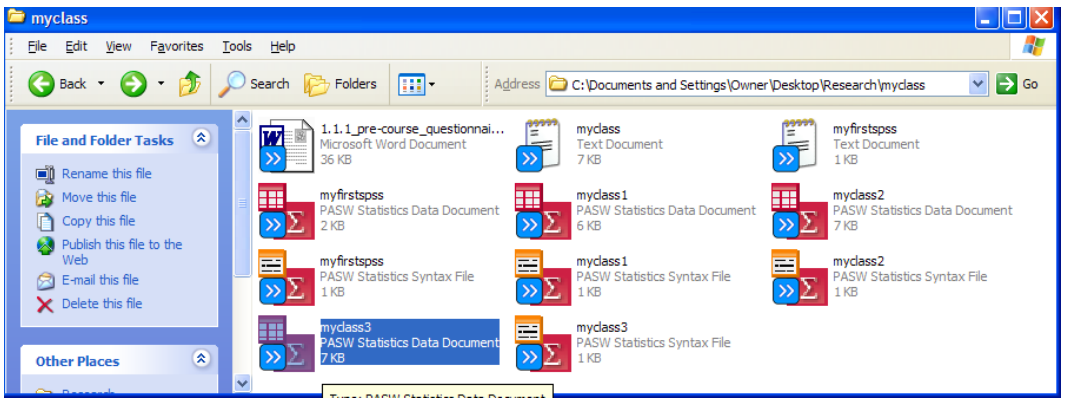


Click on Save[1]

. . . and navigate to your **myclass** folder. (If there are already any SPSS saved files in it, their icons will display)



Click on Save again. If you've followed all the previous exercises, your folder **myclass** should now look like this:

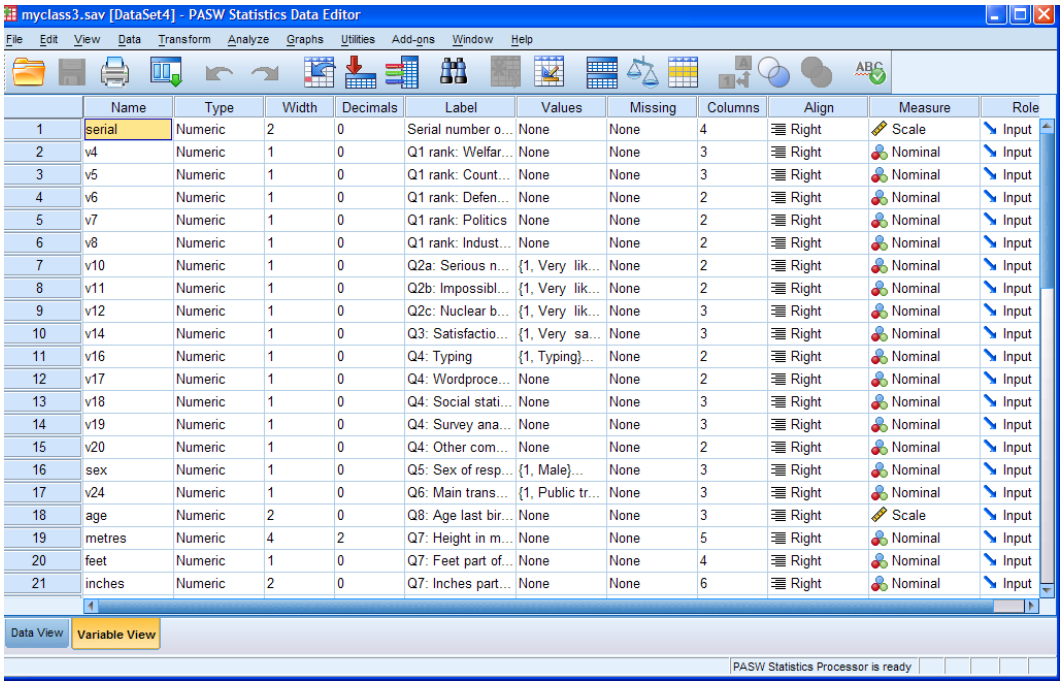


Double click on **myclass3.sav** and wait (...and wait, and wait: SPSS 15 is much quicker!).
SPSS opens the saved file and displays it in the Data Editor.
SPSS automatically generates the following syntax and displays in in the output file:

```
GET
  FILE='C:\Documents and Settings\Owner\Desktop\Research\myclass\myclass3.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
```

[1] If you click on Open **myclass3.sav** will not download, but SPSS will open a blank data editor and syntax editor. It's not yet clear to me if there's a workaround for this, so stick to the instructions above

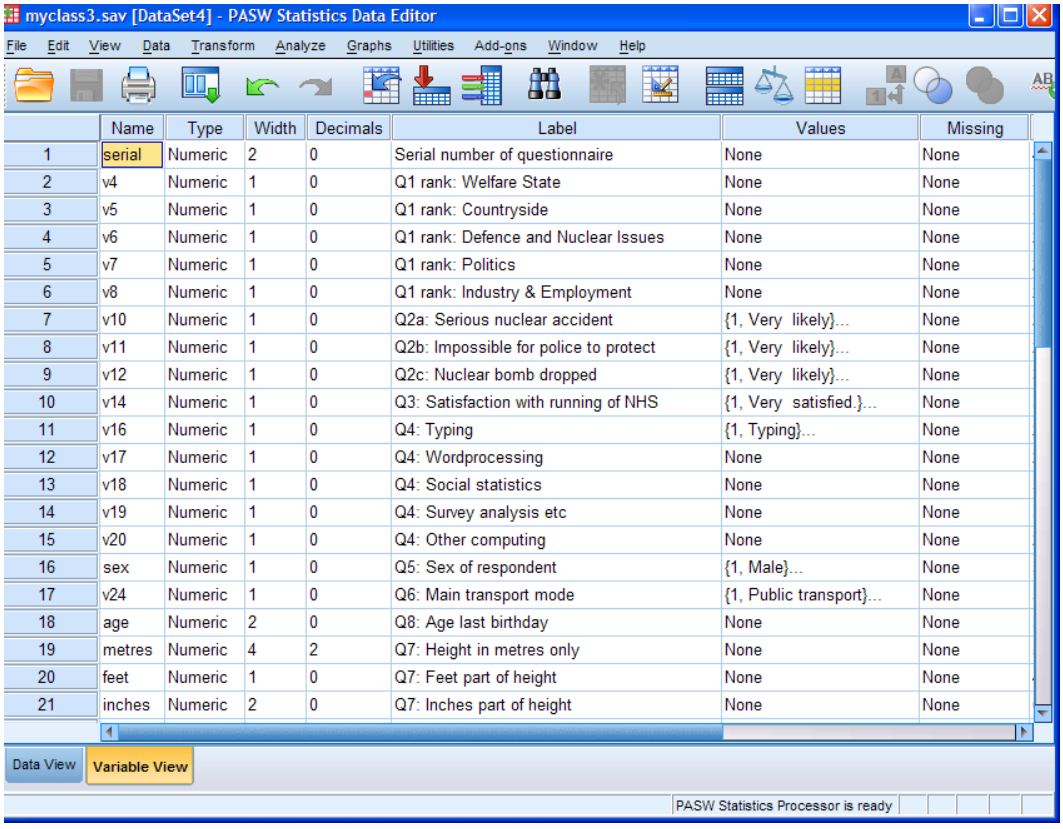
If the data editor opens in Data View switch to Variable View.



	Name	Type	Width	Decimals	Label	Values	Missing	Columns	Align	Measure	Role
1	serial	Numeric	2	0	Serial number o...	None	None	4	Right	Scale	Input
2	v4	Numeric	1	0	Q1 rank: Welfar...	None	None	3	Right	Nominal	Input
3	v5	Numeric	1	0	Q1 rank: Count...	None	None	3	Right	Nominal	Input
4	v6	Numeric	1	0	Q1 rank: Defen...	None	None	2	Right	Nominal	Input
5	v7	Numeric	1	0	Q1 rank: Politics	None	None	2	Right	Nominal	Input
6	v8	Numeric	1	0	Q1 rank: Indust...	None	None	2	Right	Nominal	Input
7	v10	Numeric	1	0	Q2a: Serious n...	{1, Very lik...	None	2	Right	Nominal	Input
8	v11	Numeric	1	0	Q2b: Impossibl...	{1, Very lik...	None	2	Right	Nominal	Input
9	v12	Numeric	1	0	Q2c: Nuclear b...	{1, Very lik...	None	3	Right	Nominal	Input
10	v14	Numeric	1	0	Q3: Satisfactio...	{1, Very sa...	None	3	Right	Nominal	Input
11	v16	Numeric	1	0	Q4: Typing	{1, Typing}...	None	2	Right	Nominal	Input
12	v17	Numeric	1	0	Q4: Wordproce...	None	None	2	Right	Nominal	Input
13	v18	Numeric	1	0	Q4: Social stati...	None	None	3	Right	Nominal	Input
14	v19	Numeric	1	0	Q4: Survey ana...	None	None	3	Right	Nominal	Input
15	v20	Numeric	1	0	Q4: Other com...	None	None	2	Right	Nominal	Input
16	sex	Numeric	1	0	Q5: Sex of resp...	{1, Male}...	None	3	Right	Nominal	Input
17	v24	Numeric	1	0	Q6: Main trans...	{1, Public tr...	None	3	Right	Nominal	Input
18	age	Numeric	2	0	Q8: Age last bir...	None	None	3	Right	Scale	Input
19	metres	Numeric	4	2	Q7: Height in m...	None	None	5	Right	Nominal	Input
20	feet	Numeric	1	0	Q7: Feet part of...	None	None	4	Right	Nominal	Input
21	inches	Numeric	2	0	Q7: Inches part...	None	None	6	Right	Nominal	Input

Don't worry about the levels of measurement being displayed above as as **nominal** instead of **ordinal** for the variables we need: we can change them later inside the Data Editor.

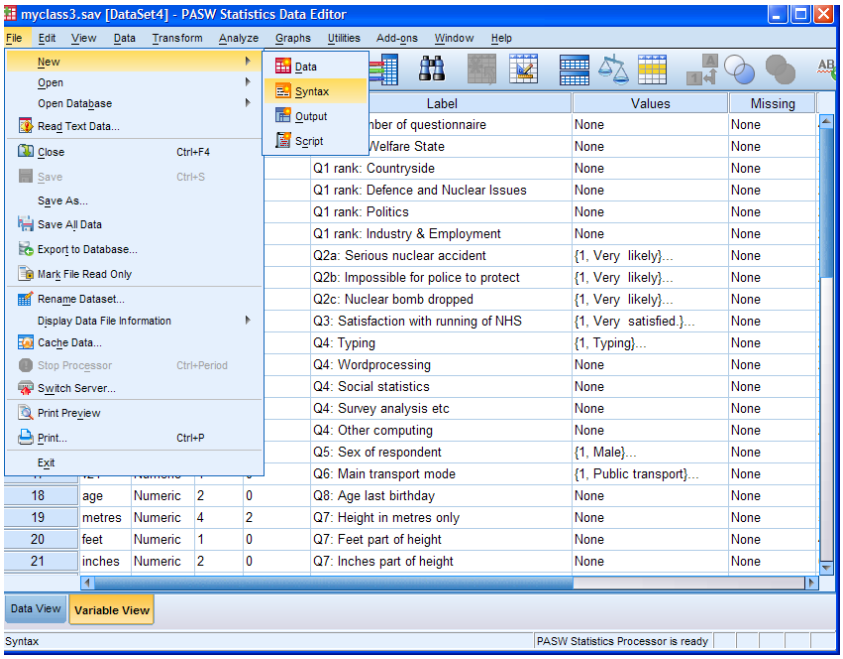
We don't really need all the columns displayed, and some of the information under **Labels** is masked. I always adjust the column widths so that I can see what I'm doing. Hold the left mouse button down over the separators between the column headers (**Labels**, **Values**, **Missing**) and slide them to the left or to the right until the display is to your liking:



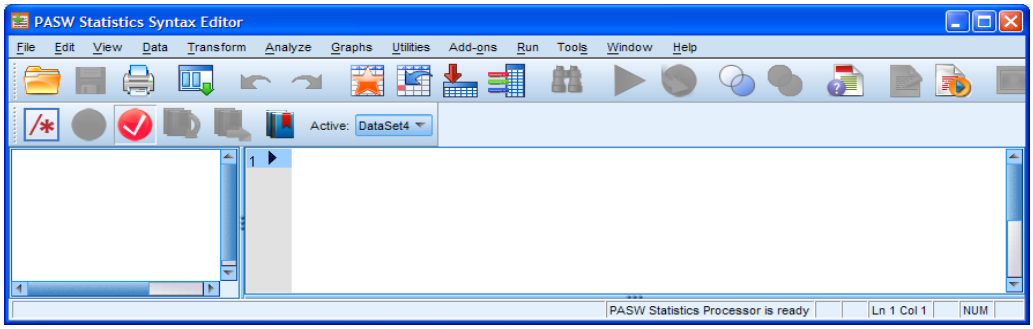
	Name	Type	Width	Decimals	Label	Values	Missing
1	serial	Numeric	2	0	Serial number of questionnaire	None	None
2	v4	Numeric	1	0	Q1 rank: Welfare State	None	None
3	v5	Numeric	1	0	Q1 rank: Countryside	None	None
4	v6	Numeric	1	0	Q1 rank: Defence and Nuclear Issues	None	None
5	v7	Numeric	1	0	Q1 rank: Politics	None	None
6	v8	Numeric	1	0	Q1 rank: Industry & Employment	None	None
7	v10	Numeric	1	0	Q2a: Serious nuclear accident	{1, Very likely}...	None
8	v11	Numeric	1	0	Q2b: Impossible for police to protect	{1, Very likely}...	None
9	v12	Numeric	1	0	Q2c: Nuclear bomb dropped	{1, Very likely}...	None
10	v14	Numeric	1	0	Q3: Satisfaction with running of NHS	{1, Very satisfied.}...	None
11	v16	Numeric	1	0	Q4: Typing	{1, Typing}...	None
12	v17	Numeric	1	0	Q4: Wordprocessing	None	None
13	v18	Numeric	1	0	Q4: Social statistics	None	None
14	v19	Numeric	1	0	Q4: Survey analysis etc	None	None
15	v20	Numeric	1	0	Q4: Other computing	None	None
16	sex	Numeric	1	0	Q5: Sex of respondent	{1, Male}...	None
17	v24	Numeric	1	0	Q6: Main transport mode	{1, Public transport}...	None
18	age	Numeric	2	0	Q8: Age last birthday	None	None
19	metres	Numeric	4	2	Q7: Height in metres only	None	None
20	feet	Numeric	1	0	Q7: Feet part of height	None	None
21	inches	Numeric	2	0	Q7: Inches part of height	None	None

Frequencies exercise:

Click on File > New > Syntax



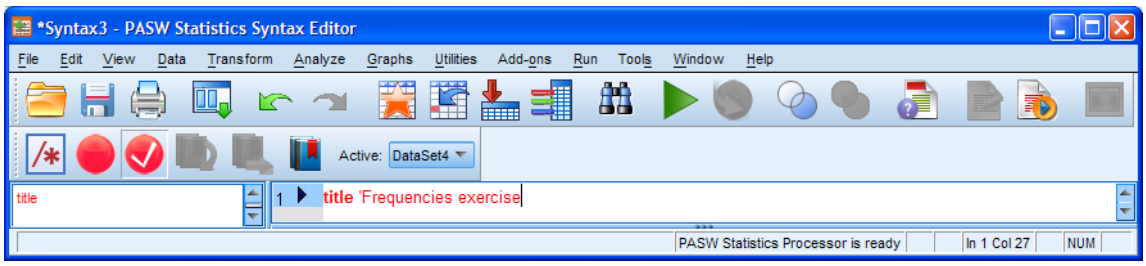
. . . to open a blank syntax editor:



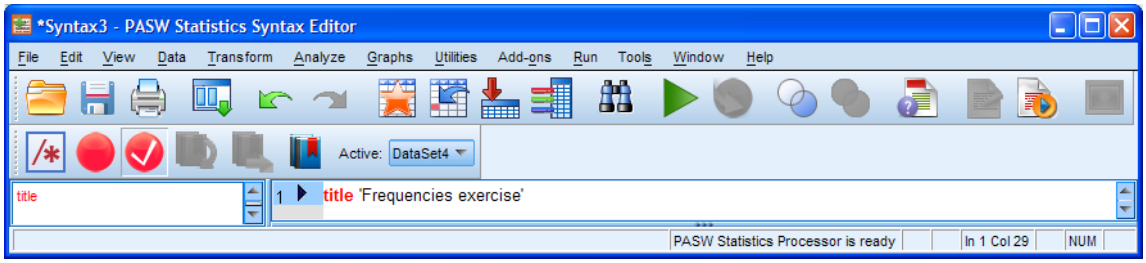
Now write a **TITLE** command (any text, but don't forget the primes) and two separate **FREQUENCIES** commands, the first to tabulate **v24** (mode of travel) and the second to tabulate **v14** (Satisfaction with the running of the NHS) together with a **BARCHART** and the **MODE**. Do them one at a time.

Start in column 1 and don't forget the full stop. If you make a mistake, or the command isn't ended with a full stop, SPSS will display the command in **red**.

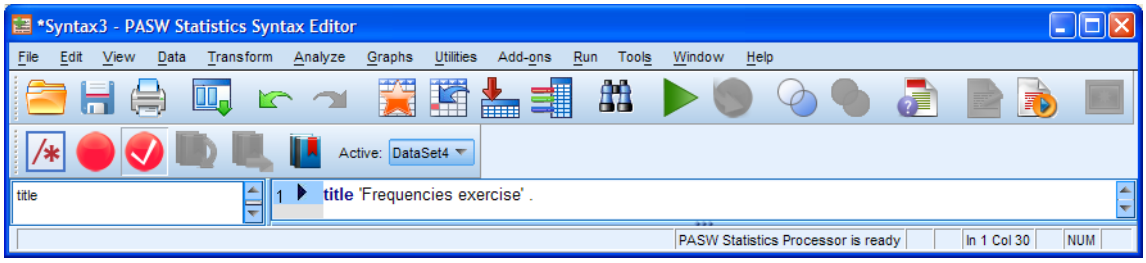
```
title     'Frequencies exercise' .
```



In the example above, the final prime is missing.



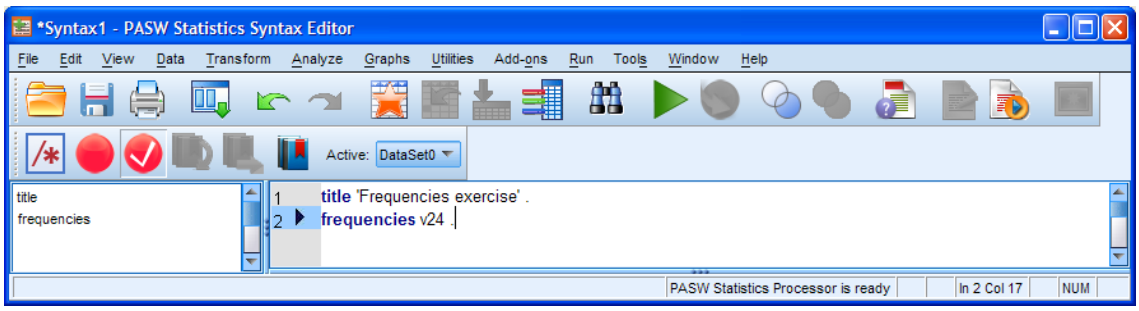
Oops! Now what? Ah, there's no full stop (period) to end the command.



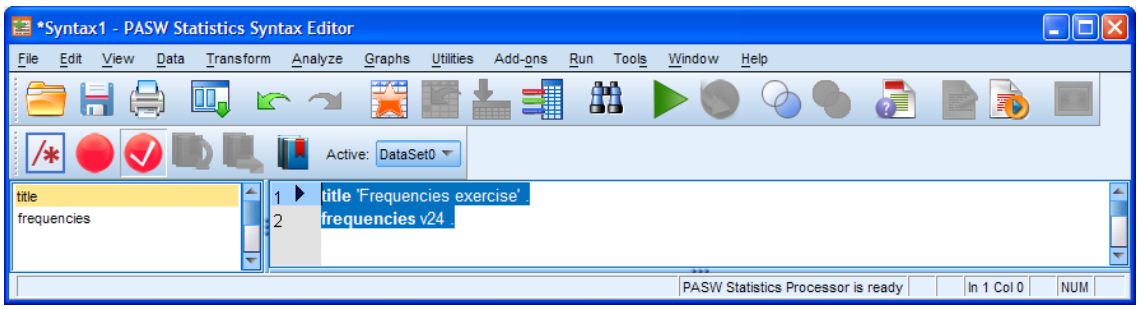
When the syntax is OK SPSS displays the command word colour-coded in **dark blue**.

Now write your first **FREQUENCIES** command

frequencies v24 .



To run both commands, highlight both rows:



. . . and click on the green ▶ (or press **[CTRL] + R**)

Your **TITLE** command is added to the output file:

```
GET
  FILE='C:\Documents and Settings\Owner\Desktop\Research\myclass\myclass3.sav'.
DATASET NAME DataSet1 WINDOW=FRONT.
title 'Frequencies exercise' .
```

. . . and also the following information . .

```
>> Frequencies exercise

frequencies v24 .
```

Frequencies

```
DataSet1] C:\Documents and ettings\Owner\Desktop\Research\myclass\myclass3.sav
```

. . . and tables:

Statistics

v24

N	Valid	169
	Missing	0

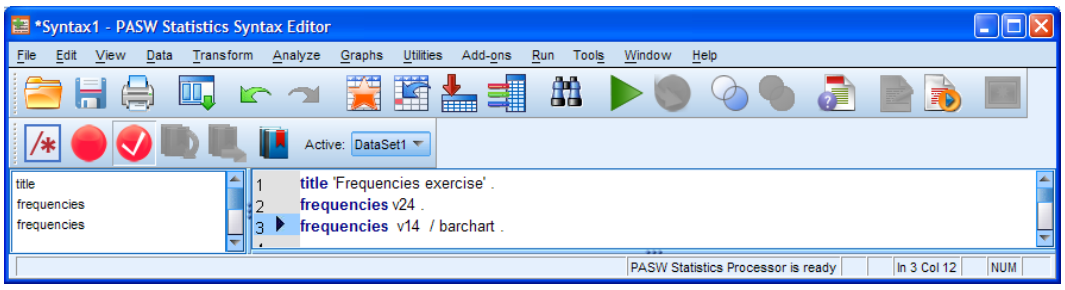
v24

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Public transport	115	68.0	68.0	68.0
	Car	26	15.4	15.4	83.4
	Motor cycle or cycle	15	8.9	8.9	92.3
	Walk	13	7.7	7.7	100.0
	Total	169	100.0	100.0	

[NB: The above tables display only the variable **name** (**v24**) and the value **labels**. You can change the settings in SPSS to print, for **variables**, names only, names and labels, or labels only, and for **values**, values only, values and labels, or labels only. You can experiment[2] and decide which format suits you best, but this will do for now.]

For your second command:

frequencies v14 / barchart .



SPSS normally colour-codes the forward slash and the sub-command in **green**. If you spell a variable name wrong, you won't find out until you run the file and get an error message!

Click on the green ▶ (or press **[CTRL] + R**)

[2] If you feel confident, from the data editor, click on Edit > Options: when the Options window opens, click on the Output Labels tab. You can't break SPSS and there are some other interesting tabs in there.

If you have made a mistake, SPSS will send you one or more error messages, but it's sometimes difficult to work out what actually caused the error. Go back to the syntax file, find and correct any errors and run the job again, and again.... !

As before, your syntax is repeated in the output file together with related information, and your results look like this:

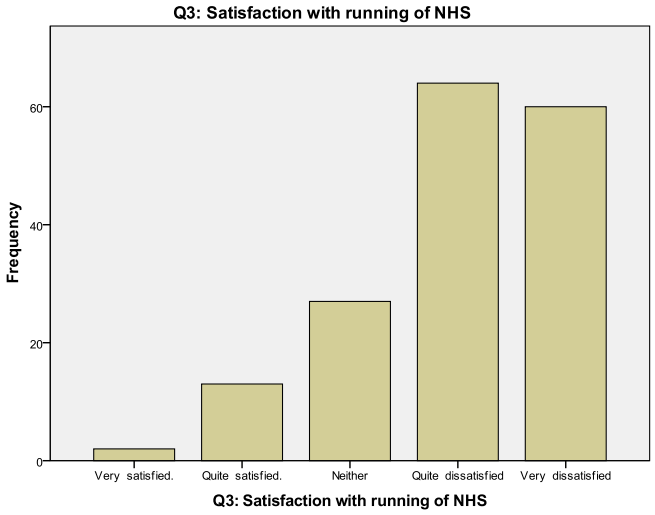
Statistics

v14

N	Valid	166
	Missing	3

v14

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very satisfied.	2	1.2	1.2	1.2
	Quite satisfied.	13	7.7	7.8	9.0
	Neither	27	16.0	16.3	25.3
	Quite dissatisfied	64	37.9	38.6	63.9
	Very dissatisfied	60	35.5	36.1	100.0
	Total	166	98.2	100.0	
Missing	System	3	1.8		
Total		169	100.0		



Even if it worked, do it again anyway, or try analysing a few other variables. Whatever you do, **don't** run **FREQUENCIES** on **age**!

End of session.

Next session: **2.1.2.3 Question examples for nominal and ordinal variables**
(This will use data from a real survey in the British Social Attitudes series.)

[Back to Block 2 menu]