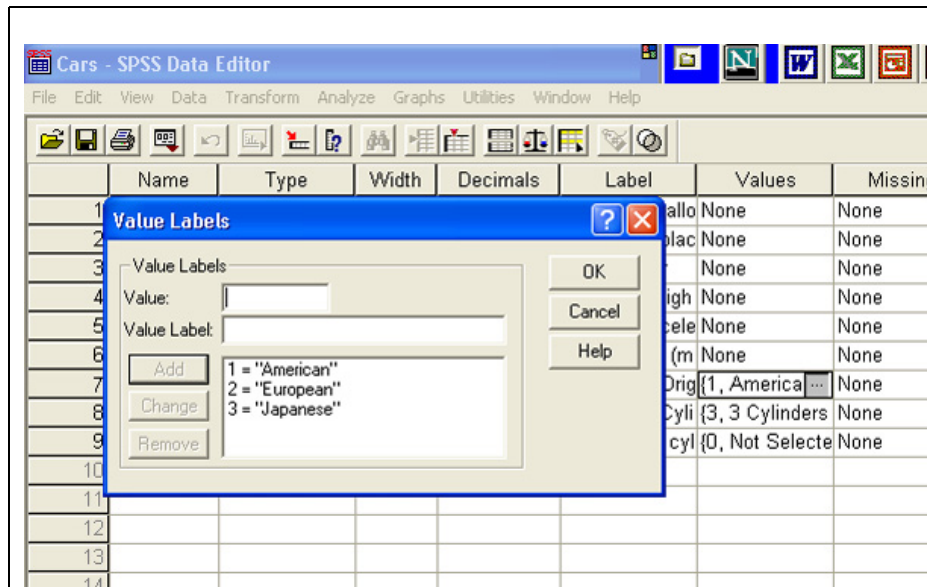


SPSS Tutorial # Four

In this tutorial we will perform an independent-samples t test. We will work with the SPSS Cars data file. Our task will be to compare the mean miles per gallon for American cars with the mean miles per gallon for Japanese cars. The null hypothesis says that our two samples of cars (the dependent variable is miles per gallon) come from the same population. In other words, there is no difference in mpg between American and Japanese cars.



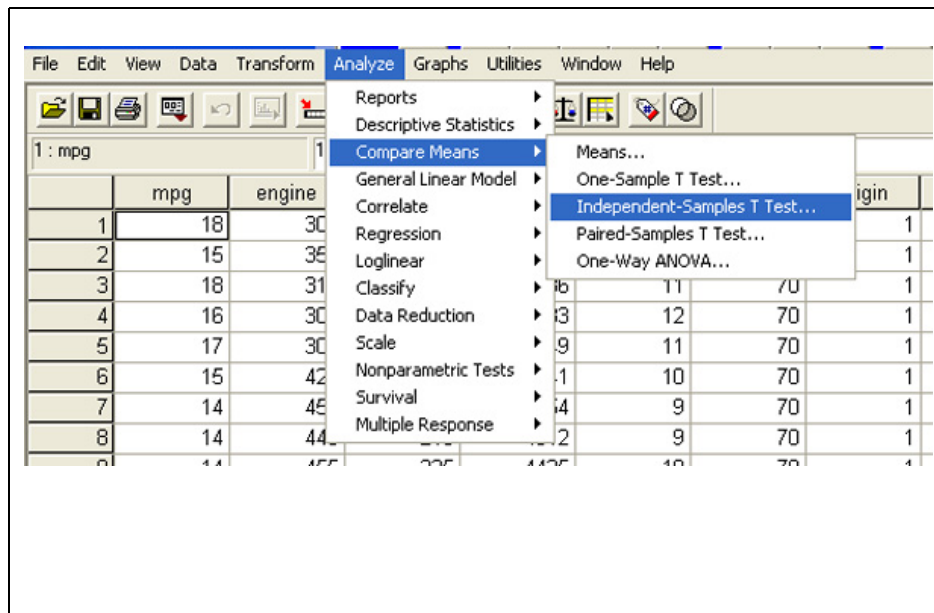
Open the Cars data file (see tutorial 1-3). View the data in Variable View mode. Under the Values column for (Country of) Origin row (row 7) look at the value labels assigned to American (1), European (2), and Japanese (3) cars.

Click on OK then return to the Data view shown below...

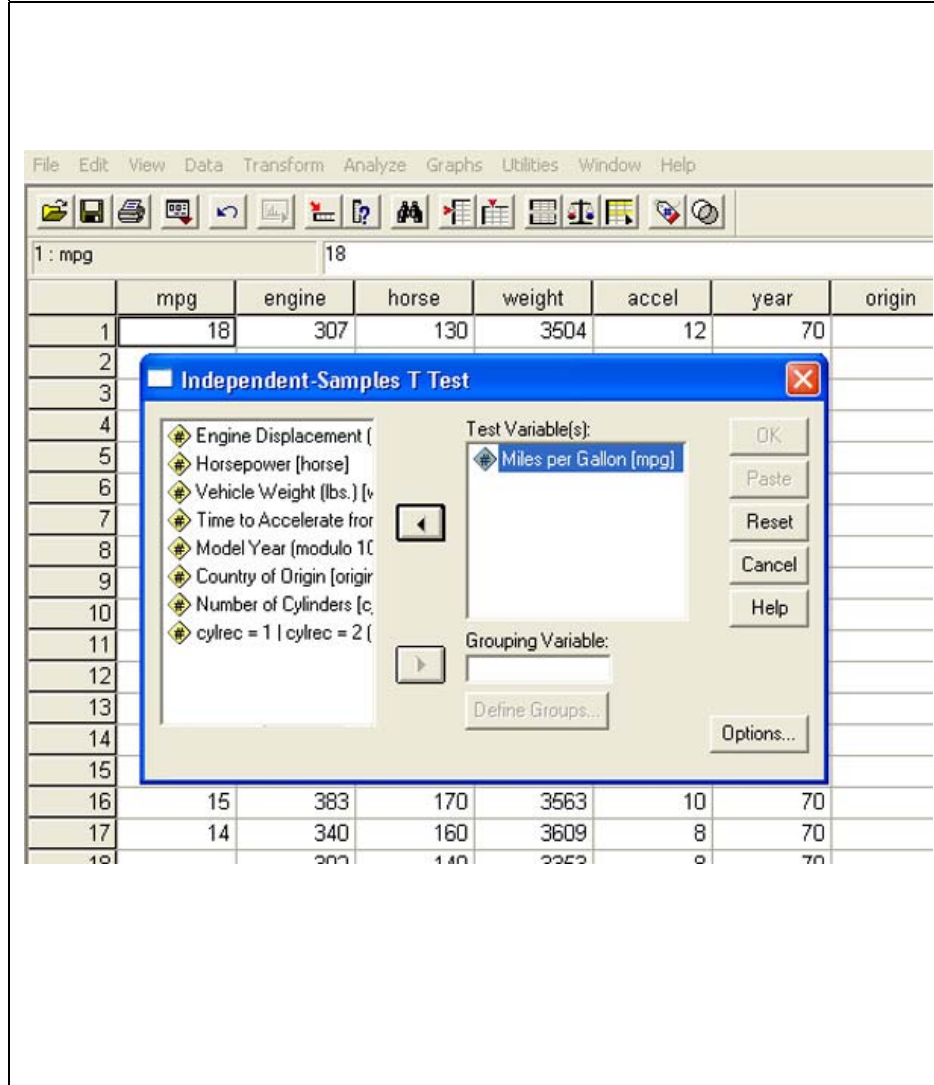
The screenshot shows the Data Editor window with the 'Data View' of the 'Cars' data file. The table has columns for 'mpg', 'engine', 'horse', 'weight', 'accel', 'year', 'origin', 'cylinder', and 'filter_\$'. The data is as follows:

	mpg	engine	horse	weight	accel	year	origin	cylinder	filter_\$
1	18	307	130	3504	12	70	1	8	0
2	15	350	165	3693	12	70	1	8	0
3	18	318	150	3436	11	70	1	8	0
4	16	304	150	3433	12	70	1	8	0
5	17	302	140	3449	11	70	1	8	0
6	15	429	198	4341	10	70	1	8	0
7	14	454	220	4354	9	70	1	8	0
8	14	440	215	4312	9	70	1	8	0
9	14	455	225	4425	10	70	1	8	0
10	15	390	190	3850	9	70	1	8	0
11	.	133	115	3090	18	70	2	4	1
12	.	350	165	4142	12	70	1	8	0
13	.	351	153	4034	11	70	1	8	0
14	.	383	175	4166	11	70	1	8	0
15	.	360	175	3850	11	70	1	8	0
16	15	383	170	3563	10	70	1	8	0

Continue below...



Click on Analyze,
choose...
Compare Means, then
choose Independent-
Samples T Test...



Choose the Miles per
Gallon (mpg) variable
and move it to the Test
Variable(s): window...

File Edit View Data Transform Analyze Graphs Utilities Window Help

1 : mpg 18

	mpg	engine	horse	weight	accel	year	origin
1	18	307	130	3504	12	70	1
2							1
3							1
4							1
5							1
6							1
7							1
8							1
9							1
10							1
11							2
12							1
13							1
14							1
15							1
16	15	383	170	3563	10	70	1
17	14	340	160	3609	8	70	1

Independent-Samples T Test

Test Variable(s):
Miles per Gallon [mpg]

Grouping Variable:
[]

Define Groups... Options...

Click on Country of Origin (origin) and move it into the Grouping Variable window using the > button...

File Edit View Data Transform Analyze Graphs Utilities Window Help

1 : mpg 18

	mpg	engine	horse	weight	accel	year	origin
1	18	307	130	3504	12	70	
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16	15	383	170	3563	10	70	
17	14	340	160	3609	8	70	

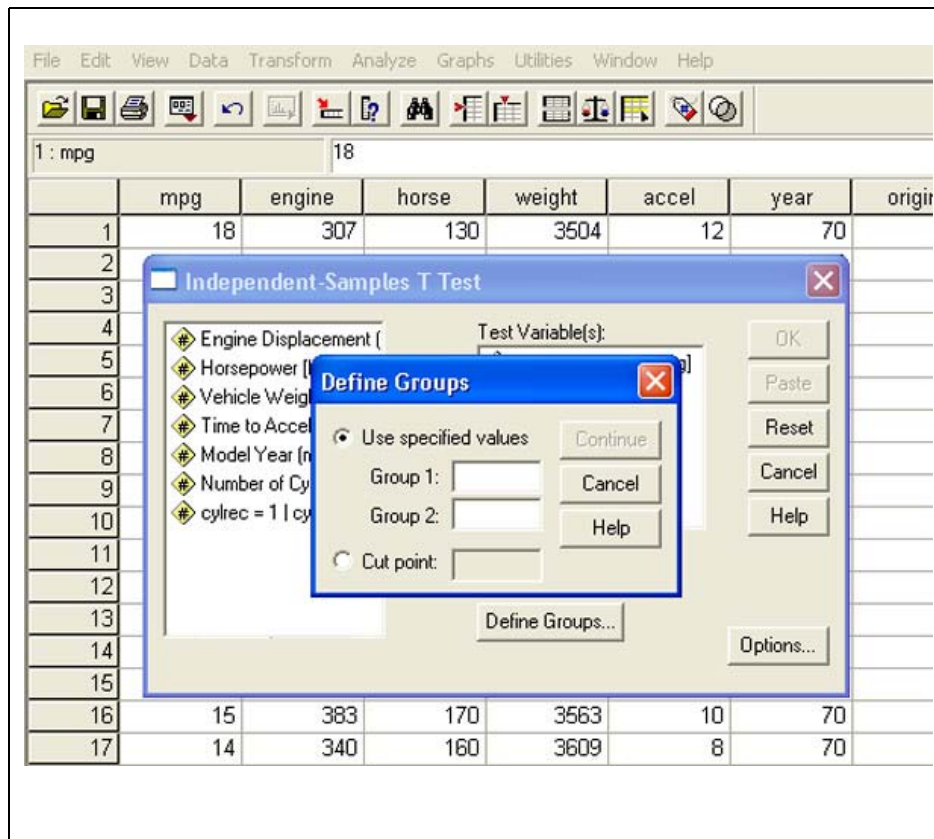
Independent-Samples T Test

Test Variable(s):
Miles per Gallon [mpg]

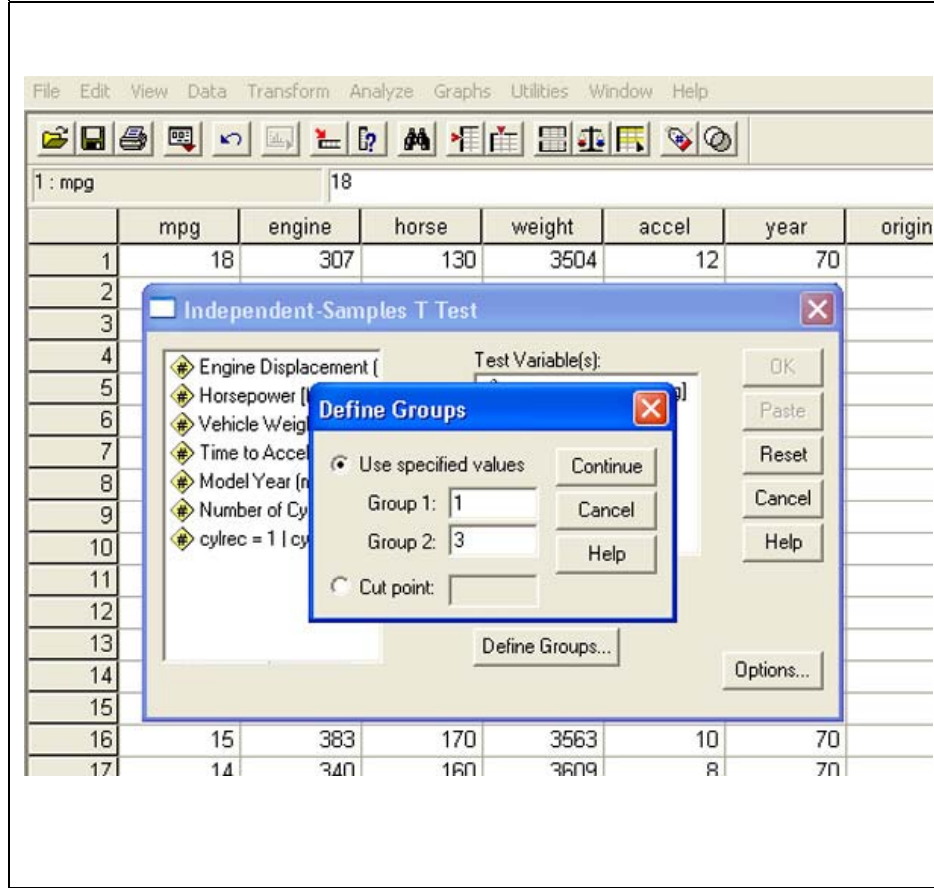
Grouping Variable:
origin(?)

Define Groups... Options...

Notice the variable name origin (?) appears in the Grouping Variable window.

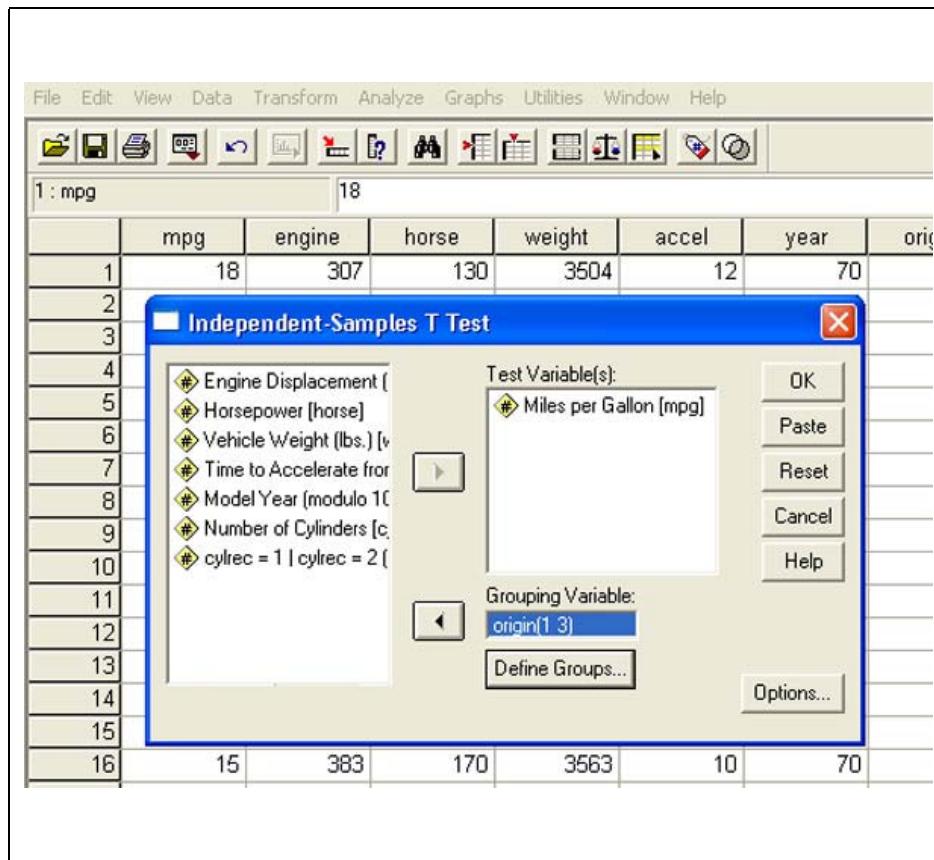


Click on Define Groups...to bring up this dialog box.



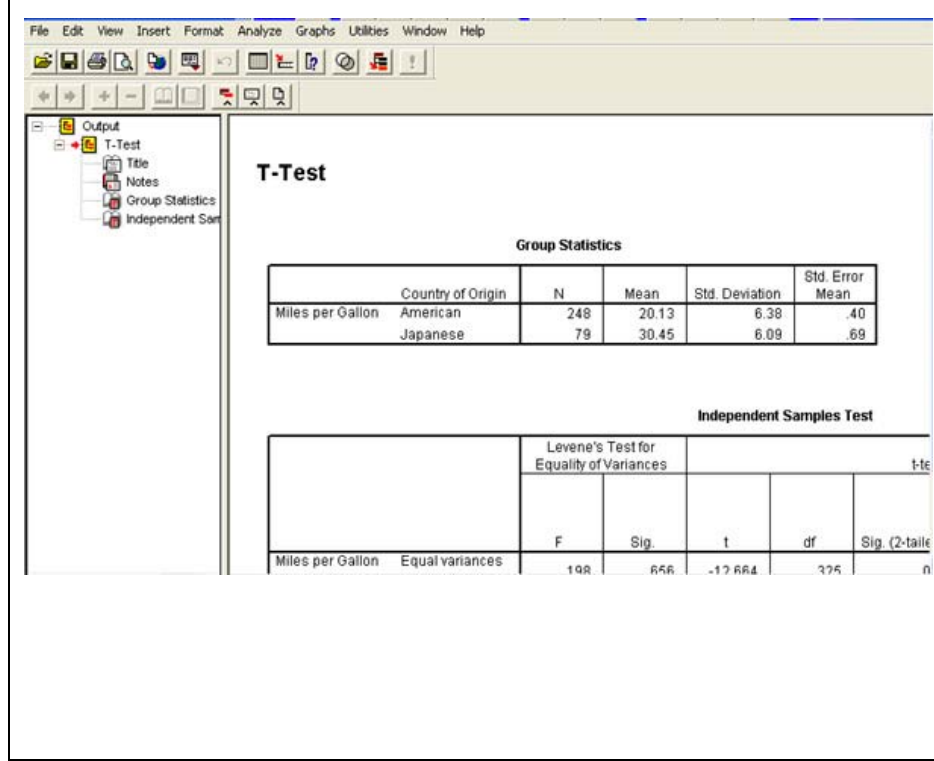
We need to tell SPSS what groups we want to compare. The Value Labels for American and Japanese cars are 1 and 3, respectively. Put these values in as shown...

Click Continue...



Now notice that the Grouping Variable: window says origin (1 3). This tells SPSS that you want to compare countries of origin with values of 1 (American) and 3 (Japanese)...

Click OK...



This will open the Output1 - SPSS Viewer window with the results of our data analysis. Your output should look something like this...