

# Minitab macros: what they are, how you use them and where to put them.

## What are Minitab Macros?

Minitab macros are collections of Minitab code that allow the user to implement in a single command procedures and techniques which would otherwise require many separate Minitab commands to be entered. A macro has a name which is the means by which the user invokes the macro.

The code for a macro is held in a file, which needs to be saved in the right place on your disk. The files containing macros specially written for the course can be downloaded from the appropriate page. Once they have been saved in the right place they can be run by typing the correct command in the Session Window.

The steps you need to take to do this will now be explained in more detail. In order to be definite the explanation will be in terms of the macro called **sampmns** needed for question 3.

## Where to save the macro file

When you click on the link to the macro for question 3 from the main page for Week 6 you will obtain the usual Windows dialogue box asking where a file with name **sampmns.mac** should be saved. You must save the file with this name and by far the best place is the default macro directory. This is a sub-directory (called MACROS) of the main Minitab directory. The main Minitab directory is where you chose to save Minitab when you installed it. If you installed to C:\MTBWIN, then C:\MTBWIN\MACROS is the default macros directory. If you installed to d:\Program files\Minitab, then the default macro directory is d:\Program files\Minitab\macros. In what follows it will be assumed that you have managed to copy the macros to this directory. If you cannot manage to find this directory, or you do not have access to it, there is an alternative which is described in Appendix 1 to this note.

## How to run the macro

In order to run the macro you need to click in the Session Window, next to the Minitab command prompt, i.e. the 'MTB >' which appears in this window.

It is possible that the command language is not enabled in your installation and that no 'MTB >' appears in the Session Window. If this is so, refer to Appendix 2 in this note.

Now type

```
%sampmns 15.6 2.3 25 2000 c6
```

and the macro will run. There are several comments which should be made.

- 1) Note the '%' sign at the start of the command. If you do not enter this Minitab thinks you are entering an ordinary Minitab command, not a request to run a

macro, and as there is no Minitab command called `sampmns`, you will get an error message.

- 2) Several numbers have been entered after the command `%sampmns` : those shown are just examples chosen for illustration and different values can be entered. In order to understand what these numbers are, you need to be told what **sampmns** actually does.
- 3) **sampmns** is a macro which repeatedly selects a sample from a Normal population, calculates its mean and stores all the sample means in a column. If Minitab is to do this, then it is clear that the user must provide the following information
  - i. the mean and SD of the Normal population
  - ii. the size of each sample
  - iii. how many samples are to be drawn
  - iv. which column should hold the resulting means

In the above example, the first two numbers (15.6 and 2.3) tell Minitab to sample from a Normal population with mean 15.6 and SD 2.3. The next number tells Minitab to select samples of size 25 and the next number tells Minitab to draw 2000 such samples in total. The last item, `c6`, indicates the column where these 2000 sample means will be stored. Any legitimate items can be entered (so, e.g. a negative SD, a fractional sample size or a final item that is not a column or column name will give errors).

The list of four numbers and a column name is technically known as the 'argument list' of the macro. Different macros, which will be doing different things, will obviously require different argument lists.

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### Appendix 1: what to do if you cannot find or access the default macro directory

In this case you can save the macro anywhere on your disk. For definiteness it will be assumed that you have chosen to save it in `C:\TEMP\`: the changes to what follows if you use another location should be obvious. The disadvantage is that it is now more cumbersome to invoke the macro. Instead of just typing, e.g.,

```
%sampmns 15.6 2.3 25 2000 c6
```

in the Session Window, you need to type

```
%c:\temp\sampmns 15.6 2.3 25 2000 c6
```

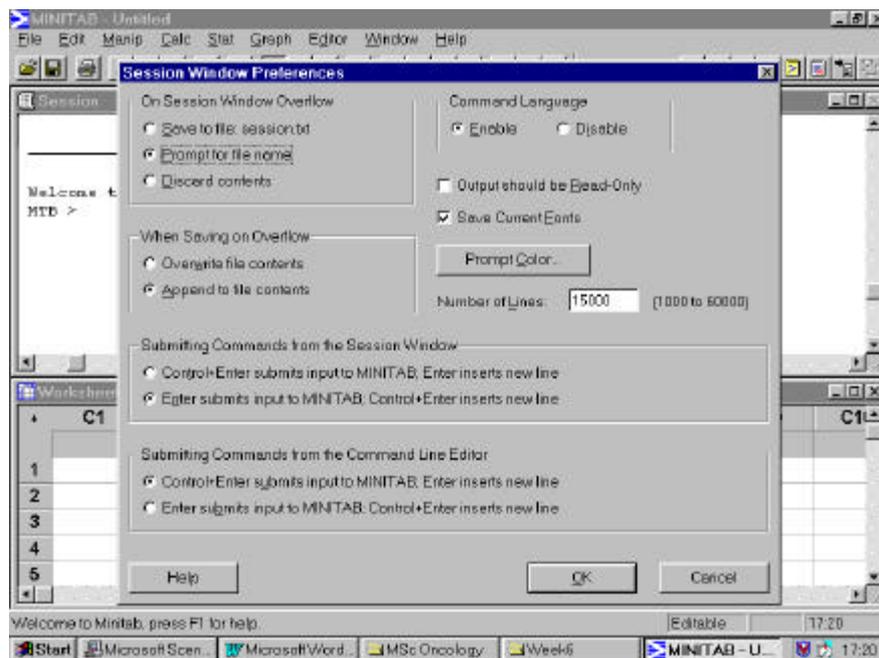
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## Appendix 2: the Session Window and the Minitab command language

Before using the Session Window you must ensure that the command language is enabled. If when you start Minitab the last thing in the Session Window is the command prompt

MTB >

then the command language is enabled. If the prompt is absent then you should enable the command language. To do this click on **Edit** then **Preferences...** then choose **Session Window** and click on **Select**. The dialogue box than shows



and you should ensure that **Enable** in the top right is selected. Then click on **OK** and then **Save**.