# No ifs and buts

**Stephen Wells finds a way of replacing the IF function and offers some handy Excel hints.**

Richard Appleton wants to know: 'Perhaps you could advise how I can apply a multiple "IF" statement to a spreadsheet I am working on, or indeed if you think there's a better way. I have a list of items, which I have called Product A, Product B, and so on, and referenced 1 to 10. I want to be able to enter one of the numbers in, say, cell B2, and have the product it relates to displayed in B3. So, if I enter "4" in cell B2, "Product D" will appear in cell B3.

'Let's assume that the product list is contained in the cell range G1:H10.

'In cell B3, I have entered a formula like this:

```
IF(B2=G1,H1,IF(B2=G2,H2,
IF(B2=G3,H3........etc,J1)))
```

'This is fine for a small number of items, but I believe there's a limitation to the number of arguments you can have in a formula, and anyway, it would become impractical with more than half a dozen or so products.

'Is there a formula I can enter to say (in English): "Look up the number I have entered in cell B2 [against the list in cell range G1:G10] and show the relevant product [from the list of products in cell range H1:H10] in cell B3"?'

**The IF function** is used for logic tests, but to refer to lists, it's more efficient to use INDEX. In its simplest variation, this function takes three arguments: the range to look in, the row number, and the column number. So, for your example, you could enter in cell B3:

```
=INDEX(G1:H10,B2,2)
```

This means, look at the table in G1 to H10, use the row number from cell B2 (4) and display the answer in the second column (Product D).

However, if the reference numbers in G1 to G10 were typical product part numbers, they are unlikely to be entered in numerical order. To allow for this, it would be better to use the MATCH function for the second argument. I recommend that you enter the following formula:

```
=INDEX(G1:H10,MATCH(B2,G1:
G10,0),2)
```

The MATCH function has three arguments: a look-up value (in this case as entered in B2);, a look-up range (in this case G1 to G10), and a matching type. Zero means find an exactly equal value.

Now, the reference number 4, which Richard has entered in B2, doesn't have to be in the 4th position (as it would if just INDEX were used). It can be anywhere in the range G1 to G10.

■ **Excel macro buttons**
Last month I described how to create a new SmartIcon in Lotus 1-2-3 for running a macro. Here's how to do it in Excel. This example is in Excel 97 but other versions are similar.

Right-click on any toolbar and choose Customise. Choose Toolbars, New, and then name the toolbar. Choose Commands, Macros and drag the Custom Button, with the smiley face, onto the new small toolbar.

Leaving the Customise dialogue box displayed, right-click on the new button and choose Edit Button Image. This displays the Button Editor where it is easy to change the colours in the 16x16 pixel image frame [Fig 1]. This editing facility is a lot easier and faster to use than the Lotus 1-2-3 version.

You don't have to start from the



► **FIG 1 WITH THE CUSTOMISE DIALOGUE BOX OPEN, YOU CAN RUN THE BUTTON EDITOR IN EXCEL AND DESIGN YOUR OWN TOOL ICONS**

*The IF function is used for logic tests, but to refer to lists it's more efficient to use INDEX*

## ANOTHER VIRUS, ANOTHER PATCH

If you have Excel 97, you can utilise a built-in message which warns if a macro is attached to any workbook you open. You can turn this on under Tools, Options, General, Macro Virus Protection. The message doesn't tell you if the macro contains a virus, but just gives you an opportunity to weigh the risk. Now, an unhelpful bright spark has written some code which stops this warning running; so Microsoft is offering a patch to defeat this hack.

The patch works only if you have Office 97 Service Release 2 installed. In Excel, look under Help, About Microsoft Excel, and see if your version is Excel 97 SR-2. If it is, you can transfer the file Xl8p6pkg.exe from this month's cover CD in the *Hands On Spreadsheets Software* section, to your hard disk. It's included there to save you having to download it. Double-click the file and follow the instructions for installation.

You can obtain more information about it in the Knowledge Base article Q231304. If you have Excel 2000 however, you don't need this patch as the code is already built-in.

# Questions & *answers*

**Q** I have written a macro in VBA for Excel which copies a value from one cell to another, but it leaves an animated border around the copied cell. What is the equivalent command to pressing the Esc key?

RON FAIRWEATHER

**a** *After your final line of code and before the End Sub instruction, insert Application.CutCopyMode = False*

**Q** I understand there are programs which can recover corrupt Excel spreadsheets. Do you know of any?

MIGUEL VEREA

**a** *You can download a free demo of Excel Recovery from the www.ExcelRecovery.com website. It will not recover corrupted formulas (but will recover values of formulas), nor does it recover Visual Basic modules, charts, drawings or password protected files. Despite these limitations, however, it should be valuable to many people.*
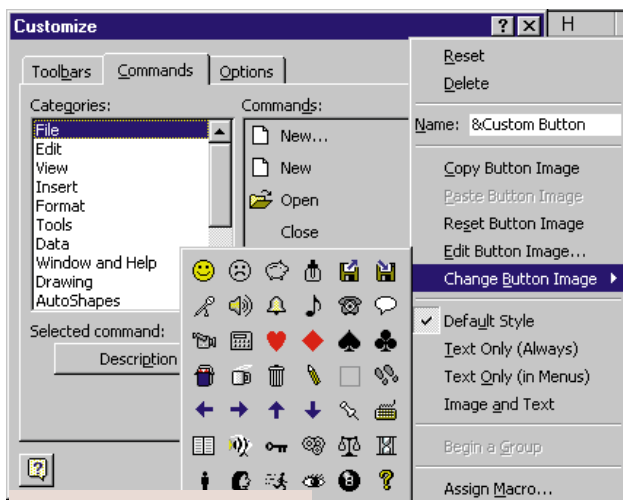
*Microsoft also says that the Excel Viewer 97 (meant to help people who don't have Excel to be able to look at Excel files) will often open workbooks which can't be opened by Excel. This viewer is often on PCW's cover CD-ROM or it can be downloaded from officeupdate.microsoft.com/*

**Q** Can you tell me where Excel 97 stores the custom toolbar buttons which you can design yourself? I have a number of buttons assigned to macros in a personal workbook, but I can't access them to back

them up or give them to anyone else.

PATRICK BOYLE

**a** *You will probably find your custom toolbar buttons in the file Patrick Boyle8.xlb in C:\Windows. You could also put them on a toolbar and attach them to a blank workbook using Tools, Customise, Toolbars, Attach and then distribute that file. Note that Read/Write permission is necessary before you can save customised toolbar settings in the Toolbar Settings (.xlb) file.*



▲**FIG 2** EXCEL ALSO OFFERS YOU A RANGE OF OTHER TOOL ICON DESIGNS TO USE AS IS OR TO USE AS A STARTING POINT



▲**FIG 3** IT'S JUST AS EASY TO CREATE A SINGLE CUSTOM BUTTON ON A WORKSHEET

smiley face. Choose Change Button Image on the right-click menu and you're offered more than 40 other designs [Fig 2]. When you close the Editor and the Customise box, your design will appear on the New Tool icon. To get it to start a macro, right-click on the icon, choose Customise, leave that box open but right-click on the icon again, and from the list of options choose Assign Macro. From the list of available macros, pick one. Close the
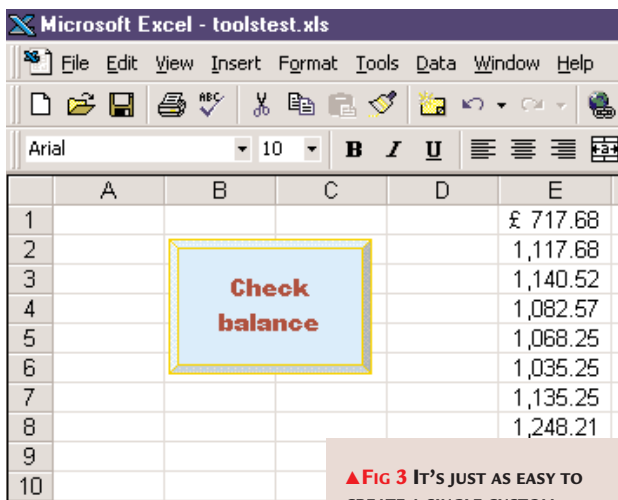
Customise dialogue box and resave your workbook. Clicking the new tool will then run the macro.

If you would prefer to have the new tool on an existing toolbar, open the Customise dialogue box and you can drag the icon from one toolbar to another.

■ **Spot on the sheet**
Excel makes it even easier to add a custom tool to a worksheet, with AutoShapes [Fig 3]. Display the Drawing toolbar, select AutoShapes, and choose one from the large selection. Draw a square on the worksheet with the fine cross which appears. Right-click

on this new object, choose Add Text and type in what is to appear on the button. You can format this text by selecting it and using the regular Formatting facilities. Right-click the button and select Format AutoShape. The number of options available depends on the style of the AutoShape. Right-click on the edge of the button, choose Assign Macro and select the one you wish the button to run.

## PCW CONTACTS

*Stephen Wells welcomes your comments on the Spreadsheets column. Contact him via the PCW editorial office or email spreadsheets@pcw.co.uk*
◆ *Please do not send attached files unless they have been requested.*

*Excel makes it even easier to add a custom tool to a worksheet, with AutoShape*