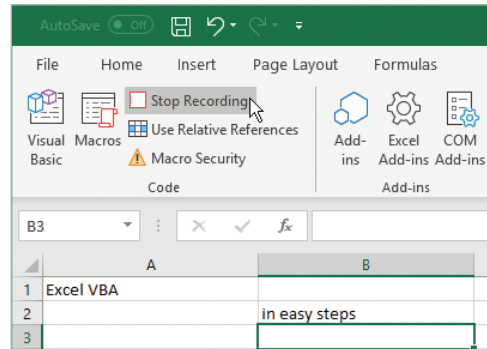# Referencing relatives

Excel has two macro recording modes that differ in the way they refer to cells on the worksheet. The default recording mode, used in the previous examples, refers to cells by their "absolute" position on the worksheet – cell A1, A2, A3, and so on. The alternative recording mode refers to cell locations by their position on the worksheet "relative" to other cells – offset by a specified number of rows and columns from another cell. The difference between the two recording modes is important, as macros that use absolute referencing always reference the same cell locations regardless of the currently selected cell, whereas macros that use relative referencing reference cells at locations offset from the selected cell:
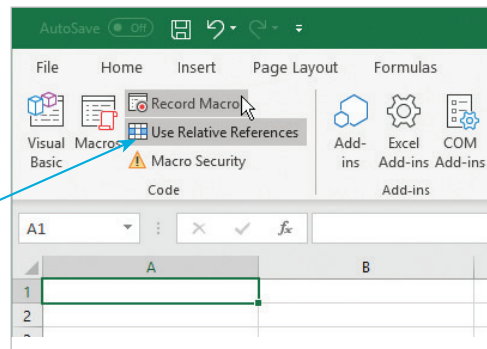
1 Clear all worksheet cells, then select cell **A1** and begin a macro named "AbsoluteBookTitle"

2 Type this book's topic, then select cell **B2** and type this book's series name

3 Hit **Enter**, then click **Stop Recording**

4 Clear all worksheet cells, then select cell **A1** and click the **Use Relative References** button in the Code group

5 Begin a macro named "RelativeBookTitle", then repeat Steps 2 and 3 to complete the macro

...cont'd

6 Click the **Visual Basic** button to open the Visual Basic Editor, then compare the VBA code of each macro

```
(General)                    RelativeBookTitle

    Sub AbsoluteBookTitle()
    ' AbsoluteBookTitle Macro
    ' Keyboard Shortcut: Ctrl+Shift+A

        ActiveCell.FormulaR1C1 = "Excel VBA"
        Range("B2").Select
        ActiveCell.FormulaR1C1 = "in easy steps"
        Range("B3").Select

    End Sub
    Sub RelativeBookTitle()
    ' RelativeBookTitle Macro
    ' Keyboard Shortcut: Ctrl+Shift+R

        ActiveCell.FormulaR1C1 = "Excel VBA"
        ActiveCell.Offset(1, 1).Range("A1").Select
        ActiveCell.FormulaR1C1 = "in easy steps"
        ActiveCell.Offset(1, 0).Range("A1").Select

    End Sub
```

Hot tip

Empty comment lines are removed from this screenshot to save space.

When selecting cell B2, absolute referencing refers to it by name, but relative referencing refers to it as offset by 1 row and 1 column from the initially selected cell. To compare performance:

7 Clear all cells, then select cell **A2** and run the macro named "AbsoluteBookTitle"

Hot tip

In this example, the macro using absolute referencing writes the book series name in the cell named **B2**, whereas the macro using relative referencing writes the book series name in cell **B3** – as it is offset by 1 row and 1 column from the initially selected cell.

8 Again, clear all cells, then once more select cell **A2** and run the macro named "RelativeBookTitle"