Lesson 3-20: Extract text from fixed width strings using the LEFT, RIGHT and MID functions

In Lesson 2-1: Split fixed width data using Text to Columns, you learned how to extract fixed width data using Excel’s Text to Columns feature. You are also able to use Excel 2013’s new Flash Fill feature (see sidebar facing page). While these methods work well, you’ll often need to extract data dynamically using a formula. In this lesson, you’ll use the LEFT, RIGHT and MID functions to do just that.

1. Open Best Selling Books-1 from your sample files folder.

   This worksheet lists some of the bestselling fiction books of all time:

   ![Table](image)

   For this lesson, the interesting data is in column E; the International Standard Book Number (ISBN-13).

   ISBN numbers are a good example of fixed width strings. At first they simply seem to be a jumble of numbers but they actually contain four discrete pieces of data:

   2. Use a LEFT function to extract the EAN from the ISBN code.

      You know that the leftmost three digits represent the EAN. The LEFT function extracts a given number of digits from the left part of a string.

      1. Click in cell F4.
         2. Click: Formulas → Function Library → Text → Left.
            3. Complete the dialog as follows:
               
               ![Dialog](image)
               
               4. Click the OK button.

               The EAN is extracted into cell F4.

   Allow for formatting characters when using the LEFT RIGHT and MID functions

   Consider a cell that contains the value 28 in cell A1 and has been formatted as currency using the dollar currency prefix. The cell would display the value:

   $28.00

   But the actual value in the cell (and displayed on the formula bar) would be:

   28

   If you were to extract the first character using the LEFT function

   =LEFT(A1, 1)

   ...you would extract 2 and not $ because the $ character is simply displayed as a result of the cell’s formatting and is not part of the value in the cell.

Best Selling Books-1
3 Use a RIGHT function to extract the Check Digit from the ISBN code.

You know that the rightmost single digit represents the Check Digit. The RIGHT function extracts a given number of digits from the right part of a string.

1. Click in cell I4.
2. Click: Formulas → Function Library → Text → Right.
3. Complete the dialog as follows:

```
Text: E4
Num_chars: 1
```
4. Click the OK button.

The Check Digit is extracted into cell I4.

4 Use a MID function to extract the Group from the ISBN code.

The MID function extracts text from within a string. You know that digit 4 is the Group Identifier that indicates the language that the book is written in. Because the ISBN has a dash between the third and fourth digits, you'll have to extract a single character from position five in the string.

1. Click in cell G4.
2. Click: Formulas → Function Library → Text → Mid.
3. Complete the dialog as follows:

```
Text: E4
Start_num: 5
Num_chars: 1
```
4. Click the OK button.

The Group is extracted into cell G4.

5 Use a MID function to extract the Publisher and Title code from the ISBN code.

This time, the correct arguments for the dialog will be:

6 Autofill the formulas in cells F4:I4 to cells F15:I15.

You can now see from the Group (country or language code) that *Le Petit Prince* was published in French and *Heidis Lehr- und Wanderj* was published in German.

7 Save your work as *Best Selling Books-2*.