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:

	A	B	C	D	E
3	Title	Author	Year	Copies (millions)	ISBN-13
4	A Tale of Two Cities	Charles Dickens	1859	200	978-0141439600
5	The Lord of the Rings	J.R.R. Tolkein	1954	150	978-0618640157
6	And Then There Were None	Agatha Christie	1939	100	978-0312330873

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:

	A	B	C	D	E
17	Anatomy of an ISBN Number				
18	Digits 1-3	EAN (European Article Number)			
19	Digit 4	Group Identifier (countryor language code)			
20	Digits 5-12	publisher prefix and title identifier			
21	Digit 13	Check digit (proves accuracy)			
22					

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:

Text	E4	=	"978-0141439600"
Num_chars	3	=	3

4. Click the OK button.

The EAN is extracted into cell F4.

note

Other ways to split delimited data

Flash Fill

This new Excel 2013 feature is covered comprehensively in Session 2 of the *Essential Skills* book in this series.

It is the simplest way to split delimited data.

You can read lessons from the 2013 Essential Skills course free online at the **ExcelCentral.com** web site.

Using Text to Columns

Excel's *Text to Columns* tool was covered in: *Lesson 2-1: Split fixed width data using Text to Columns.*

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	= "978-0141439600"
Num_chars	1	= 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	= "978-0141439600"
Start_num	5	= 5
Num_chars	1	= 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:

Text	E4	= "978-0141439600"
Start_num	6	= 6
Num_chars	8	= 8

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.*