

CHAPTER 12

SORTING DATA**INFocus**

Microsoft Excel allows you to **sort** worksheet data alphabetically, numerically or chronologically. You can sort your data by columns, starting from the highest value working down to the lowest (descending), or from the lowest value working up to the highest (ascending). **Sorting** data can help to analyse trends in sales, or target areas in business, and also to make comparisons between data.

In this session you will:

- ✓ gain an understanding of sorting and lists in **Microsoft Excel**
- ✓ learn how to sort alphabetical data in a list
- ✓ learn how to sort numbers
- ✓ learn how to sort on more than one column
- ✓ learn how to sort numbered lists
- ✓ learn how to sort a list by rows.

UNDERSTANDING LISTS

Microsoft Excel is quite often used to create **lists** – such as lists of customer contacts, lists of items in inventory, lists of employees, lists of upcoming events, and the like. To cater for just such lists

Microsoft Excel allows you to perform sort operations so that all of the data in the list can be rearranged in a more desirable and logical fashion.

Lists – The Key to Understanding Sorting

To understand how Microsoft Excel performs a sorting operation you first need to grasp the concept of a **list** in Microsoft Excel.

Unlike many other Excel operations you seldom have to specifically tell Excel the dimensions and range co-ordinates of a list. In fact, Excel actually works this out for itself most of the time. When you make a cell active Excel looks at all of the adjacent cells – up, down, left and right. It considers all of the cells around the active cell to be part of a list range as long as the cells have something in them.

So in Excel a list is automatically defined as the area around the active cell that contains data. The boundary of the list range is defined as soon as an empty cell is encountered. Take the following screen shot:

	A	B	C	D	E	F	G	H	I	J	K
2	Staff Listing										
3											
4	No	First Name	Last Name	Position	Office	E-Mail	Telephone		Salary Level	Started	Servi
5	AU000008	Amanda	Bennet	Banking and Finance Service Leader	Melbourne	abennet@alpheiusge.com.au	61 3 9844 0009		6	22/05/2000	
6	FR000008	Katerina	Castalova	Banking and Finance Service Leader	Paris	kcatalova@alpheiusge.fr	33 1 35 66 02 63		6	9/08/1999	
7	US000008	Mary-Lou	Dawson	Banking and Finance Service Leader	New York	mdawson@alpheiusge.com	1 718 387 5219		6	6/09/1999	
8	NZ0000008	Brian	Houson	Banking and Finance Service Leader	Auckland	bhouson@alpheiusge.com.nz	64 9 344 0208		6	10/01/2000	
9	IR0000008	Eireann	McCafferty	Banking and Finance Service Leader	Dublin	emccafferty@alpheiusge.ie	353 1 873 6565		6	24/04/2000	
10	FR000010	Victor	Brounson	Building Services Service Leader	Paris	vbrounson@alpheiusge.fr	33 1 35 66 02 65		6	22/05/2000	
11	IR0000010	Paddy	Deegan	Building Services Service Leader	Dublin	pdeegan@alpheiusge.ie	353 1 873 6567		6	9/08/1999	
12	NZ0000010	Nora	Mita	Building Services Service Leader	Auckland	nmita@alpheiusge.com.nz	64 9 344 0210		6	6/09/1999	
13	US000010	Marianne	Morris	Building Services Service Leader	New York	mmorris@alpheiusge.com	1 718 387 5221		6	10/01/2000	
14	AU000010	Neville	Smith	Building Services Service Leader	Melbourne	nsmith@alpheiusge.com.au	61 3 9844 0011		6	24/04/2000	
15	IR0000011	Kira	Convery	Careers and Education Service Leader	Dublin	kconvery@alpheiusge.ie	353 1 873 6568		6	22/05/2000	
16	AU000011	Petra	Henricks	Careers and Education Service Leader	Melbourne	phenricks@alpheiusge.com.au	61 3 9844 0012		6	9/08/1999	
17	FR000011	Xanthea	Maurice	Careers and Education Service Leader	Paris	xmaurice@alpheiusge.fr	33 1 35 66 02 66		6	6/09/1999	
18	NZ0000011	Kris	Tamahori	Careers and Education Service Leader	Auckland	ktamahori@alpheiusge.com.nz	64 9 344 0211		6	10/01/2000	
19	US000011	Crystal	Waters	Careers and Education Service Leader	New York	cwaters@alpheiusge.com	1 718 387 5222		6	24/04/2000	
20	IR0000013	Tara	Connoly	Communications Product Leader	Dublin	tconnoly@alpheiusge.ie	353 1 873 6570		5	22/05/2000	
21	AU000013	Jerry	Hancock	Communications Product Leader	Melbourne	jhancock@alpheiusge.com.au	61 3 9844 0014		5	9/08/1999	
22	US000013	Harry	Lovice	Communications Product Leader	New York	hlovice@alpheiusge.com	1 718 387 5224		5	6/09/1999	
23	NZ0000013	Arthur	Maohori	Communications Product Leader	Auckland	amaohori@alpheiusge.com.nz	64 9 344 0213		5	10/01/2000	
24											
25											
26											
27											
28											

In this screen shot the active cell is **C4**. Excel therefore deems the list to be the one bounded by empty cells – in other words, the list is made up of all of the non-empty cells. The list extends to the left as far as column **A**, and to the right as far as column **G**. It doesn't go up any more rows because **C3** is an empty cell. It goes down as far as row **23**, the last non-empty cell in the column. So the list range is automatically defined as **A4** to **G23**.

You can make any cell in this list the active cell and the list range will be the same. The curious thing is that you don't have to select or highlight the range – it's sort of invisibly highlighted for you already.

Sorting a List

Once a list is available to Excel, the data in it can be **sorted**. The data is usually sorted down a **column**, known in database jargon as a **field**. Data is sorted alpha-numerically, meaning that alphabetical characters are sorted first, and then numbers. If there are only alphabetical characters in it then the list will be sorted alphabetically from left to right. If there are only numbers the list will be sorted numerically. If there is mixed data the list will be sorted by alphabetical characters and then by numbers.

Lists can be sorted in **ascending** order (from lowest to highest) and in **descending** order (from highest to lowest).

PERFORMING AN ALPHABETICAL SORT

The most common use for sorting is to rearrange the data in a **list** in a specific order. A list is simply a grouping of data without any empty columns or rows. In a **list**, a **single column** can

be sorted by placing the cell pointer anywhere in the column that you wish to sort and choosing the **Sort & Filter** command in the **Editing** group.

Try This Yourself:

Open File


Before starting this exercise you **MUST** open the file *E827 Sorting_1.xlsx...*

1 Click on the **Sorting Text** worksheet tab and spend a few moments studying the data – it is a list of employees

2 Click on **C4** to select the cell – this is the **Last Name** column of the listing

3 Click on the **Home** tab in the **Ribbon**, click on **Sort & Filter**  in the **Editing** group and select **Sort A to Z**

The data in the list will now be sorted alphabetically by last name in ascending order...

4 Click on **Sort & Filter**  in the **Editing** group and select **Sort Z to A**, to sort the data in descending order

5 Repeat the above steps and sort the list by **Position**, by **Office**, and finally by **E-Mail**

	A	B	C	D	E	
1	Alpheius Leader Listing					
2	Staff Listing					
3						
4	No	First Name	Last Name	Position	Office	E-Mail
5	NZ0000001	Peter	Reynolds	Enterprise Leader	Auckland	preynolds@
6	NZ0000002	Mary	Campbell	Effective People Leader	Auckland	mcampbell@
7	NZ0000003	Helen	Kai	Monies Leader	Auckland	hkai@alpei
8	NZ0000004	Norris	Maunga	Forward Thinking Leader	Auckland	nmaunga@a
9	NZ0000005	Vivian	Smith	Enterprise Opportunities Leader	Auckland	vsmith@alpl
10	NZ0000006	Grace	Goodson	Communications Service Leader	Auckland	ggoodson@s
11	NZ0000007	Kate	Rualowy	Insurance Service Leader	Auckland	krualowy@a
12	NZ0000008	Brian	Houson	Banking and Finance Service Leader	Auckland	bhouson@al


2

	A	B	C	D	E	
1	Alpheius Leader Listing					
2	Staff Listing					
3						
4	No	First Name	Last Name	Position	Office	E-Mail
5	AU0000016	Nellie	Adams	Vehicles Product Leader	Melbourne	nadams@alp
6	FR0000009	Nerida	Arameus	Legal Service Leader	Paris	naramesus@
7	US0000009	Alfred	Beadel	Legal Service Leader	New York	abeadel@al
8	AU0000008	Amanda	Bennet	Banking and Finance Service Leader	Melbourne	abennet@al
9	NZ0000016	Hine	Boramori	Vehicles Product Leader	Auckland	hboramori@
10	FR0000010	Victor	Brounson	Building Services Service Leader	Paris	vbrounson@
11	AU0000014	Victor	Brown	Electronics Product Leader	Melbourne	vbrown@alp
12	IR0000015	Michelle	Cahalan	Computer Products Product Leader	Dublin	mcahalan@e
13	IR0000017	Nora	Caissie	Life Style Product Leader	Dublin	ncaissie@al
14	NZ0000002	Mary	Campbell	Effective People Leader	Auckland	mcampbell@
15	FR0000008	Katerina	Castalova	Banking and Finance Service Leader	Paris	kcastalova@
16	FR0000013	Hugo	Castille	Communications Product Leader	Paris	hcastille@al
17	US0000004	August	Charles	Forward Thinking Leader	New York	acharles@al
18	AU0000012	Vivienne	Clark	Health Services Service Leader	Melbourne	vclark@alph

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For Your Reference...

To **alphabetically sort data** in a list:

1. Click in the column to sort
2. Click on **Sort & Filter**  in the **Editing** group and select either **Sort A to Z** to sort in ascending order or **Sort Z to A** to sort in descending order

Handy to Know...

- When you choose to sort, Excel searches in all directions from the active cell. The end of the list is deemed to be the first blank cell encountered in all directions: up, down, left, and right.
- Excel assumes that the first row of the **list** contains the column heading or **field**.

SORTING ON MORE THAN ONE COLUMN

Excel allows you to select **multiple columns** to sort by, thereby enabling you to analyse data according to different categories. Each column is sorted in order one at a time. The listing is sorted

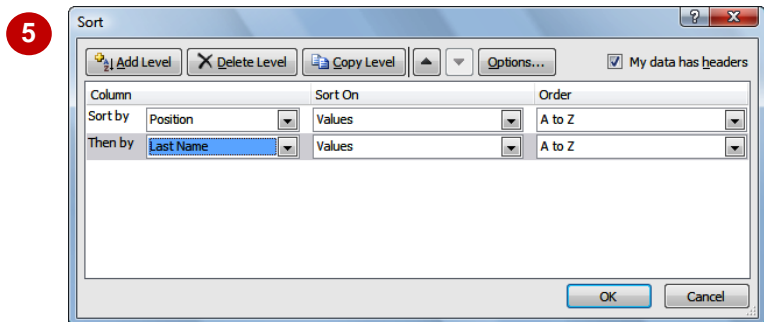
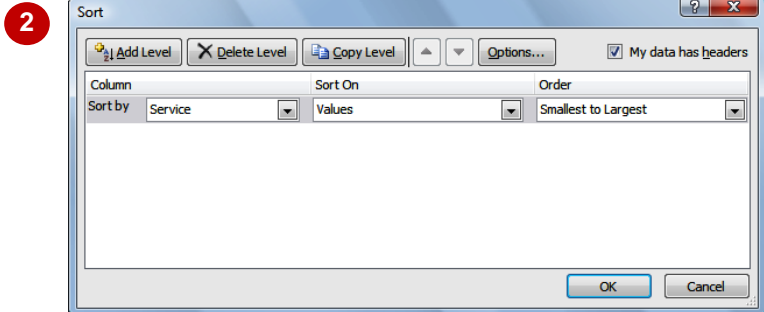
by the first column, then by the second column, and so on. For example, a staff listing can be sorted first by **Position**, then by **Last Name** so that each position contains an alphabetical sub-listing.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file *E827 Sorting_3.xlsx...*

- 1 Click on **A4** to position the active cell within the list
- 2 On the **Home** tab, click on **Sort & Filter** in the **Editing** group and select **Custom Sort** to see the **Sort** dialog box
- 3 Click on the drop arrow for **Sort by** to see a list of the field (column) names, then click on **Position**
- 4 Click on **[Add Level]** to add another level in the dialog box
- 5 Click on the drop arrow for **Then by** and click on **Last Name**
- 6 Click on **[OK]** to see the list sorted by **Position** then by **Last Name**



6

No	First Name	Last Name	Position	Office	E-Mail
5	AU000008	Amanda Bennet	Banking and Finance Service Leader	Melbourne	abennet
6	FR000008	Katerina Castalova	Banking and Finance Service Leader	Paris	kcastalov
7	US000008	Mary-Lou Dawson	Banking and Finance Service Leader	New York	mdawson
8	NZ000008	Brian Houson	Banking and Finance Service Leader	Auckland	bhouson
9	IR000008	Eireann McCafferty	Banking and Finance Service Leader	Dublin	emccaffe
10	FR000010	Victor Brounson	Building Services Service Leader	Paris	vbrounso
11	IR0000010	Paddy Deegan	Building Services Service Leader	Dublin	pdeegan
12	NZ0000010	Nora Mita	Building Services Service Leader	Auckland	nmita@
13	US000010	Marianne Morris	Building Services Service Leader	New York	mmorris
14	AU000010	Neville Smith	Building Services Service Leader	Melbourne	nsmith@
15	IR0000011	Kira Convery	Careers and Education Service Leader	Dublin	kconven
16	AU000011	Petra Henricks	Careers and Education Service Leader	Melbourne	phenrick
17	FR000011	Xanthea Maurice	Careers and Education Service Leader	Paris	xmaurice
18	NZ0000011	Kris Tamahori	Careers and Education Service Leader	Auckland	ktamahor
19	US000011	Crystal Waters	Careers and Education Service Leader	New York	cwaters@
20	FR000013	Hugo Castille	Communications Product Leader	Paris	hcastille
21	IR0000013	Tara Connoly	Communications Product Leader	Dublin	tconnoly
22	AU000013	Jerry Hancock	Communications Product Leader	Melbourne	jhancock
23	US000013	Harry Lovice	Communications Product Leader	New York	hlovice@

For Your Reference...

To **sort** on **more than one column**:

1. Click on **Sort & Filter** in the **Editing** group on the **Home** tab and select **Custom Sort**
2. Specify the columns to sort the list on

Handy to Know...

- Be careful when sorting large lists that go beyond the boundaries of the screen. You should ensure that there are no blank rows or columns that can result in you omitting some of the data.

SORTING NUMBERED LISTS


Microsoft Excel 2010 allows you to sort any kind of data in the worksheet and it is smart enough to determine the type of sort to perform. Things get a little messy however, when there are **lists of**



numbers that may also contain subtotals and totals. The problem with these sorts is that Excel can't distinguish between your data and the totals – the totals therefore also get sorted.

Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file E827 Sorting_4.xlsx...

- 1 Click on the **Sorting Numbers** worksheet tab and examine the data
- 2 Click on **C5** which represents the first value in sales figures for the month of **February**
- 3 On the **Home** tab, click on **Sort & Filter**  in the **Editing** group and select **Sort Smallest to Largest** to sort the data

Everything has worked fine because the totals at the bottom of the list are the largest values (being totals!)...
- 4 Click on **Sort & Filter**  in the **Editing** group and select **Sort Largest to Smallest** – you now have a mess because the *Total* formulas have been sorted out of position
- 5 Click on **Undo**  on the **Quick Access Toolbar** to undo the last sort

	A	B	C	D	E	F	G	H
1	Alpehius Global Enterprises							
2	Sales Revenue							
3								
4	Revenue	Jan	Feb	Mar	Apr	May	Jun	Total
5	Auckland	1,050,254	1,547,000	1,488,369	1,523,124	1,358,654	1,557,147	8,524,548
6	Dublin	1,524,294	1,685,548	1,599,854	1,789,552	1,542,963	1,896,159	10,038,370
7	Melbourne	3,521,487	2,985,448	2,741,221	2,521,447	2,255,665	2,558,666	16,583,934
8	New York	2,531,225	2,621,889	2,453,999	2,547,441	1,977,558	2,477,332	14,609,444
9	Paris	550,998	850,554	818,874	837,228	746,664	856,887	4,661,205
10	Berlin	838,223	926,778	879,114	983,225	848,999	1,042,224	5,518,563
11	Moscow	1,936,882	1,641,554	1,507,774	1,386,448	1,240,885	1,406,992	9,120,535
12	Total	11,953,363	12,258,771	11,489,205	11,588,465	9,971,388	11,795,407	69,056,599
13								
14								

2

	A	B	C	D	E	F	G	H
1	Alpehius Global Enterprises							
2	Sales Revenue							
3								
4	Revenue	Jan	Feb	Mar	Apr	May	Jun	Total
5	Paris	550,998	850,554	818,874	837,228	746,664	856,887	4,661,205
6	Berlin	838,223	926,778	879,114	983,225	848,999	1,042,224	5,518,563
7	Auckland	1,050,254	1,547,000	1,488,369	1,523,124	1,358,654	1,557,147	8,524,548
8	Moscow	1,936,882	1,641,554	1,507,774	1,386,448	1,240,885	1,406,992	9,120,535
9	Dublin	1,524,294	1,685,548	1,599,854	1,789,552	1,542,963	1,896,159	10,038,370
10	New York	2,531,225	2,621,889	2,453,999	2,547,441	1,977,558	2,477,332	14,609,444
11	Melbourne	3,521,487	2,985,448	2,741,221	2,521,447	2,255,665	2,558,666	16,583,934
12	Total	11,953,363	12,258,771	11,489,205	11,588,465	9,971,388	11,795,407	69,056,599
13								
14								


3

	A	B	C	D	E	F	G	H
1	Alpehius Global Enterprises							
2	Sales Revenue							
3								
4	Revenue	Jan	Feb	Mar	Apr	May	Jun	Total
5	Total	-	-	-	-	-	-	-
6	Melbourne	3,521,487	2,985,448	2,741,221	2,521,447	2,255,665	2,558,666	16,583,934
7	New York	2,531,225	2,621,889	2,453,999	2,547,441	1,977,558	2,477,332	14,609,444
8	Dublin	1,524,294	1,685,548	1,599,854	1,789,552	1,542,963	1,896,159	10,038,370
9	Moscow	1,936,882	1,641,554	1,507,774	1,386,448	1,240,885	1,406,992	9,120,535
10	Auckland	1,050,254	1,547,000	1,488,369	1,523,124	1,358,654	1,557,147	8,524,548
11	Berlin	838,223	926,778	879,114	983,225	848,999	1,042,224	5,518,563
12	Paris	550,998	850,554	818,874	837,228	746,664	856,887	4,661,205
13								
14								

4

For Your Reference...

To **sort** a **numbered list**:

1. Click in the column to sort
2. Click on **Sort & Filter**  in the **Editing** group and select either **Sort Smallest to Largest** or **Sort Largest to Smallest**

Handy to Know...

- One way to avoid the hassle of having totals at the bottom of a list included in a sort, is to place a blank row between the data and the totals. Excel will then assume that the list finishes at the row before the blank row.

SORTING BY ROWS




Most of us are used to sorting vertically down a column, rearranging data from highest to lowest, or lowest to highest. Excel also allows you to **sort by rows**, from left to right. This takes a little more

care to set up and is fraught with potential problems. However, once you have mastered it you will find it handy to use in your worksheets.

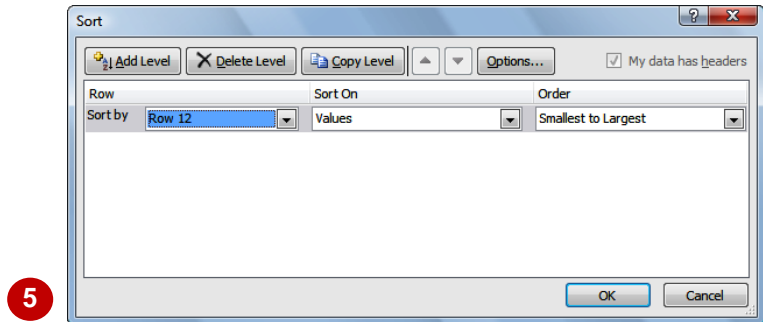
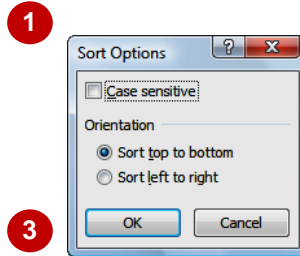
Try This Yourself:

Same File

Continue using the previous file with this exercise, or open the file *E827 Sorting_5.xlsx...*

- 1 Click on **B4**, hold down  and click on cell **G12** to select the range **B4:G12**
- 2 On the **Home** tab, click on **Sort & Filter**  in the **Editing** group and select **Custom Sort** to display the **Sort** dialog box
- 3 Click on **[Options]** to see the **Sort Options** dialog box
- 4 Click on **Sort left to right**, then click on **[OK]** to return to the **Sort** dialog box
- 5 Click on the drop arrow  for **Sort by** and click on **Row 12**
- 6 Click on **[OK]** to see the table totals (Row 12) sorted from lowest to highest


	A	B	C	D	E	F	G	H
1	Alpheus Global Enterprises							
2	Sales Revenue							
3								
4	Revenue	Jan	Feb	Mar	Apr	May	Jun	Total
5	Paris	550,998	850,554	818,874	837,228	746,664	856,887	4,661,205
6	Berlin	838,223	926,778	879,114	983,225	848,999	1,042,224	5,518,563
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8	Moscow	1,936,882	1,641,554	1,507,774	1,386,448	1,240,885	1,406,992	9,120,535
9	Dublin	1,524,294	1,685,548	1,599,854	1,789,552	1,542,963	1,896,159	10,038,370
10	New York	2,531,225	2,621,889	2,453,999	2,547,441	1,977,558	2,477,332	14,609,444
11	Melbourne	3,521,487	2,985,448	2,741,221	2,521,447	2,255,665	2,558,666	16,583,934
12	Total	11,953,363	12,258,771	11,489,205	11,588,465	9,971,388	11,795,407	69,056,599
13								
14								



	A	B	C	D	E	F	G	H
1	Alpheus Global Enterprises							
2	Sales Revenue							
3								
4	Revenue	May	Mar	Apr	Jun	Jan	Feb	Total
5	Paris	746,664	818,874	837,228	856,887	550,998	850,554	4,661,205
6	Berlin	848,999	879,114	983,225	1,042,224	838,223	926,778	5,518,563
7	Auckland	1,358,654	1,488,369	1,523,124	1,557,147	1,050,254	1,547,000	8,524,548
8	Moscow	1,240,885	1,507,774	1,386,448	1,406,992	1,936,882	1,641,554	9,120,535
9	Dublin	1,542,963	1,599,854	1,789,552	1,896,159	1,524,294	1,685,548	10,038,370
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11	Melbourne	2,255,665	2,741,221	2,521,447	2,558,666	3,521,487	2,985,448	16,583,934
12	Total	9,971,388	11,489,205	11,588,465	11,795,407	11,953,363	12,258,771	69,056,599
13								
14								

For Your Reference...

To **sort by rows**:

1. Click on **Sort & Filter**  in the **Editing** group on the **Home** tab and select **Custom Sort** and click on **[Options]**
2. Click on **Sort left to right**, then click on **[OK]**
3. Choose the row to sort and click **[OK]**

Handy to Know...

- When sorting by rows, select the cells that you want to sort, remembering to include the *column* headings and to exclude the *row* headings and *totals* column.

