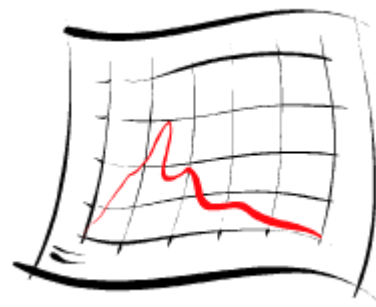# ⊞ Using Microsoft Excel

Working with Lists

Excel has a lot of features that make it perfect for working with large lists and manipulating columns of data. Using Excel you can sort lists, filter lists and subtotal lists. You can also import lists from other sources and have the information converted in to Excel rows and columns.

David Letterman's
TOP TEN REJECTED DISNEY MOVIE TITLES

10	"101 Snoop Doggy Doggs"
9	"Beauty and the Baldwin Brother"
8	"Minnie's Battle with Helium Addiction"
7	"Newt!: The Musical"
6	"Old Yeller Hops the White House Fence"
5	"Barry White and the Seven Dwarfs"
4	"Mickey the Dismissed Juror"
3	"Fievel Visits a Gay Disco"
2	"The Parent Trap '95, Starring Lyle and Erik Menendez"
1	"Swiss Family Buttafuoco"

Australian Demographic Statistics

PRELIMINARY DATA	Population at end Sep qtr 2003 '000	Change over previous year '000	%
New South Wales	6 699.3	54.1	0.8
Victoria	4 933.6	64.6	1.3
Queensland	3 817.0	86.1	2.3
South Australia	1 529.4	9	0.6
Western Australia	1 959.7	29.5	1.5
Tasmania	478.4	5.2	1.1
Northern Territory	198.6	0.3	0.2
Australian Capital Territory	322.6	1	0.3
Australia(a)	19 941.3	249.8	1.3

Selecting lists

Any area containing no blank rows or columns will be recognised by Excel as a list. When you want to manipulate a list, Excel will assume that the list continues until a blank row or column is found. For that reason it is usually not necessary to select an entire list. It is normally sufficient to select a single cell and let Excel determine the boundaries of the list, since it will usually find the whole list fine - *as long as the list contains no blank rows or columns*. In fact, you are usually better off if you don't try to manually select the list since you may accidentally miss some of it.

In the following exercise, we will see how well Excel can detect a region.

Exercise 1.   Selecting a region

1) Open your **Grades.xls** file.
2) Click on a cell anywhere inside the main table (for example **D10**).

Because there are no blank rows or columns within this table, Excel will recognise it as being one region.

3) From the **Edit** menu select **Go To...** (or press **[Ctrl][G]**). The find dialog will appear as shown to the left.

4) Click the **Special** button. The Go To Special dialog will appear as shown to the right.

5) From the special options, click **Current region**.
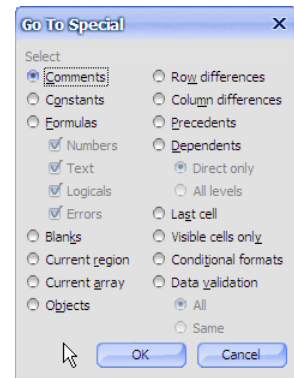
6) Click **OK**. The whole table should now be selected.

When you are working with lists, Excel will automatically select the surrounding region in a similar way.

Tip   When you need to select a region you can also use the keyboard shortcut – **[Ctrl][*]** (or **[Ctrl][Shift][8]**). Try it now!

Student	Term 1	Term 2	Term 3	Term 4	Year Total	Pass/Fail	Grade
Jean Picard	15	12	14	17	58	Pass	C
John Archer	18	14	17	16	65	Pass	B
James Kirk	23	22	19	21	85	Pass	A
Chris Pike	8	11	7	6	32	Fail	F
Jeff Sinclair	19	19	18	14	70	Pass	B
Katheryn Janeway	13	12	10	12	47	Fail	D
Ben Cisco	16	22	20	19	77	Pass	B
John Sherridan	22	20	24	21	87	Pass	A
Lita Alexander	23	21	28	21	93	Pass	A
Class Average	17.44	17.00	17.44	16.33	68.22	Pass	B
Highest Mark	23	22	28	21	93		
Lowest Mark	8	11	7	6	32		
Number of Students	9						

Manipulating Lists

Exercise 2.   Sort a list using toolbar icons

1) Open the file **Music Charts.xls**

This list contains five columns. Each column contains a heading.

Excel will assume that the first row in the list contains column headings and will not move them during the sorting process.

ARIA Top Selling Singles 2002				
Pos.	TITLE	Artist	Company	Cat No
1	WITHOUT ME	Eminem	UMA	497731
2	WHENEVER, WHEREVER	Shakira	EPI/SONY	672196.
3	A LITTLE LESS CONVERSATION	Elvis Vs JXL	RCA/BMG	7432194357
4	DILEMMA	Nelly featuring Kelly Rowland	UMA	19447
5	THE KETCHUP SONG (ASEREJE)	Las Ketchup	COL/SONY	673209.
6	A THOUSAND MILES	Vanessa Carlton	A&M/UMA	497711
7	NOT PRETTY ENOUGH	Kasey Chambers	CAP/EMI	550410
8	COMPLICATED	Avril Lavigne	ARI/BMG	7432194577
9	HERO	Enrique Iglesias	INR/UMA	497634
10	KISS KISS	Holly Valance	ERM/UMA	ERM000
11	MURDER ON THE DANCEFLOOR	Sophie Ellis Bextor	PDR/UMA	570494
12	UNDERNEATH YOUR CLOTHES	Shakira	EPI/SONY	672530.
13	HEY BABY	DJ Ötzi	SHOCK	TRAX003C(

2) The first step in sorting the list is to click on a cell inside the column we want to sort by. In this instance, we want to sort the list in order of artists so click on a cell anywhere in the Artist column (column **C**).

3) On the Excel standard toolbar, there are two icons for sorting a list.

ᴬ↓Z	Sort the list in ascending order
ᶻ↓A	Sort the list in descending order

4) Click the **Sort Ascending** icon ᴬ↓Z. The list will be sorted in alphabetical order by Artist.

5) Click the **Sort Descending** icon ᶻ↓A to sort the list in the other direction.

6) Click in other columns and use the sort icons to try sorting the list by different columns.

7) Click in the Pos. column (column **A**), and click the **Sort Ascending** icon ᴬ↓Z so that the list will once again be sorted by position from top to bottom.

Exercise 3.   Sorting a list using the sort options

Excel provides additional options for sorting a list that aren't available on the toolbar.

1) Click anywhere inside the music charts list.
2) From the **Data** menu choose **Sort**.
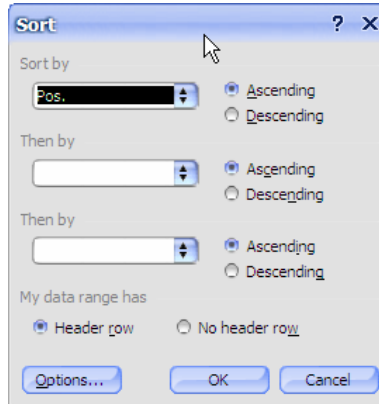
The first options allow you to sort a list by more than one column. For example, if you choose to sort a list by artist, you may also want songs by the same artist to be sorted by their titles. You can do this by specifying more than one **Sort b**y column (You can also do this when sorting with the icons by sorting first by the **Title** column and then the **Artist** column).

3) Click on the first **Sort by** box. A list of the column headings in your table will appear. Choose **Artist** in the list. Make sure that **Ascending** is selected next to the list.
4) Below that **Sort By** list is a **Then by** list. Choose **TITLE** from that list.
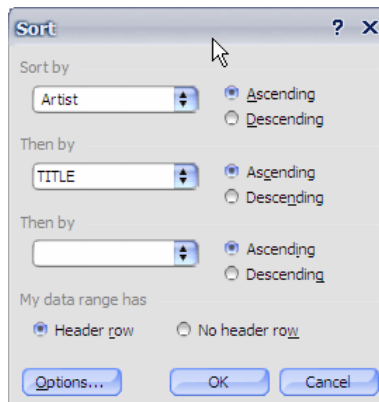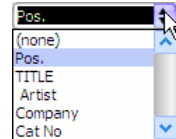
5) Click OK to complete the sort.

Note   At the bottom of the Sort window is an option about header rows. If your list has more than one column, Excel will assume the first row contains headings. If there is only one column it won't. You can use this option to specify to excel whether there are headings or not.

Exercise 4.   Filtering a list

Filtering a list allows you to temporarily hide rows in the list so that only certain information will be visible when the list is viewed of printed. For example, you may want to filter the list so that only the top 10 songs or showing or filter the list so that only songs by a certain artist are showing.

Like sorting, when filtering a list, Excel will automatically select a region so it is only necessary to select a single cell within the list.

1) Select a cell inside your Music Charts list.
2) From the **Data** menu choose **Filter** and then **Auto Filter**.

Some arrows will appear next to each column heading. These arrows can be used to filter the list.
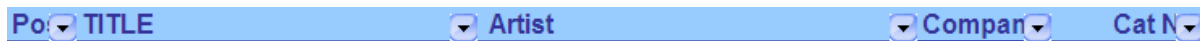
3) Click the arrow to the right of the **Artist** heading. A list of the artists in the list will appear.
4) Select **Britney Spears**. The list will be filtered to show only songs from this artist. Also, the arrow next to artist will turn blue to indicate that this column has been filtered.
5) Click the **Artist** arrow again and select **(All)**. The whole list will be displayed once again.
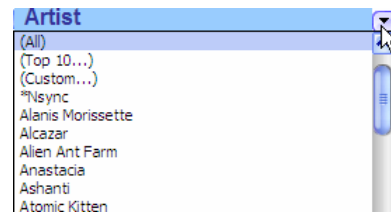
Note   Filtering more than one column at a time will reduce the number of results you will get.

6) Click the arrow next to **Pos**. Choose **(Top 10...)**.
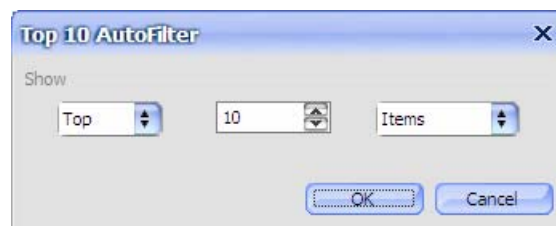
7) If we leave the options as they are we will get the songs with position numbers 91 to 100 since they are the highest numbers. We actually want the lowest numbers (1 to 10). Change the **Top** option to **Bottom**. Leave the number as **10** and leave **Items** as it is (this can be changed to get the top 10% instead of top 10 items).
8) Click **OK** to complete the filter.

The top 10 items will now be shown. They may not be in the right order but at least you know how to sort them now right?

You can continue working with the table without any problems while the filter arrows are showing but if you want to remove them, they are turned off the same way they are turned on.

9) From the **Data** menu choose **Filter** and then **Auto Filter**.

The arrows will be turned off and any current filters will be removed.

Exercise 5.   Subtotals

Excel can automatically create totals and subtotals for information in your list. This is best done if the list is already sorted by the column you want it grouped by. E.g. in our music charts table, we will use subtotals to count the number of songs for each artist so make sure your list is still sorted in order of artist.

1) Click anywhere within the list. Remember Excel can automatically select the boundaries of the region if you select a single cell within the region.
2) Make sure the list is still sorted in order of artist.
3) From the **Data** menu choose **Subtotals**.
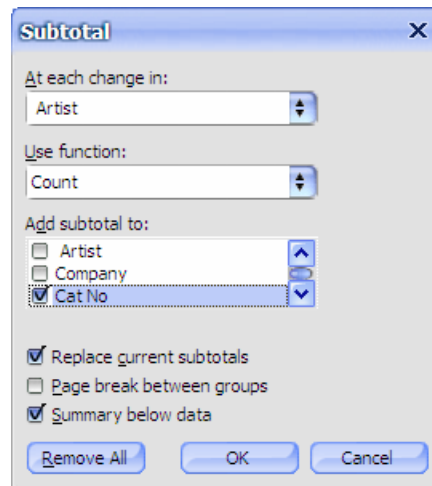
4) Make sure the options are as shown above. I.e. **At each change in:** should be set to **Artist** since that is the column we want to total. **Use function:** should be **Count** since we want to count the songs for each artist. **Add subtotal to:** should be **Cat No** since that's the column we want to the totals to appear under.
5) Click **OK** to complete the subtotal.

Note the numbers **1-3** to the left of the sheet (circled in the above picture). These are a type of filter.

   6) Click the number **2** button. The list will be filtered so you see the subtotals without the individual songs.

   7) Click the number **1** button and you will only see the grand total.

   8) Click the number **3** button and you will see all records and totals.

Next to each subtotal you will also see a – sign (shown to the right).

   9) Click on a – sign and the songs next to it will be hidden with only the subtotal remaining. The – sign will become a **+** sign.

   10) Click the **+** sign to show the songs again.

When you no longer want the subtotals you can remove them from the subtotals options

   11) From the **Data** menu choose **Subtotals**.

   12) Click the [Remove All] button to remove the subtotals. Your table will now be back to normal.

Exercise 6.   Using a form for data entry

Creating and editing a list involves a lot of typing. Some people are quite comfortable working with large amounts of information in a list layout. Others, however, find it a lot easier to work with the information with the help of a form. Excel can automatically create a data entry form based on the column headings in the list.

1) Click on a cell within the list so Excel can select the region.
2) From the **Data** menu select **Form**.

A form appears that allows you to view the information from the list one record at a time.

To move to the next record, click **Find Next**, press your ↓ key or click the ▾ on the scrollbar. You can also press the **Page Down** key to move 10 records at a time.

To move to the previous record, click **Find Prev**, press your ↑ key or click the ▴ on the scrollbar. You can also press the **Page Up** key to move 10 records at a time.

3) Move through the records to find the song A LITTLE LESS CONVERSATION by Elvis Vs JXL.
4) Change the artist name to Elvis Vs Junkie XL.
5) Click on Close and this change will be made on the sheet.
6) From the **Data** menu select **Form**.
7) Click **Criteria**. This allows you to use filters within the form.
8) In the **Artist** field, type shakira.
9) Browse through the records. Only songs by Shakira will show.
10) Click **Criteria** again.
11) Click **Clear** to clear the criteria.
12) Browse through the records and they will all be showing again.
13) Click **New**.
14) Add the details for a new song (you can make it up).
15) Click **Close** and the song will be added to the bottom of the list, using the formatting from the list.