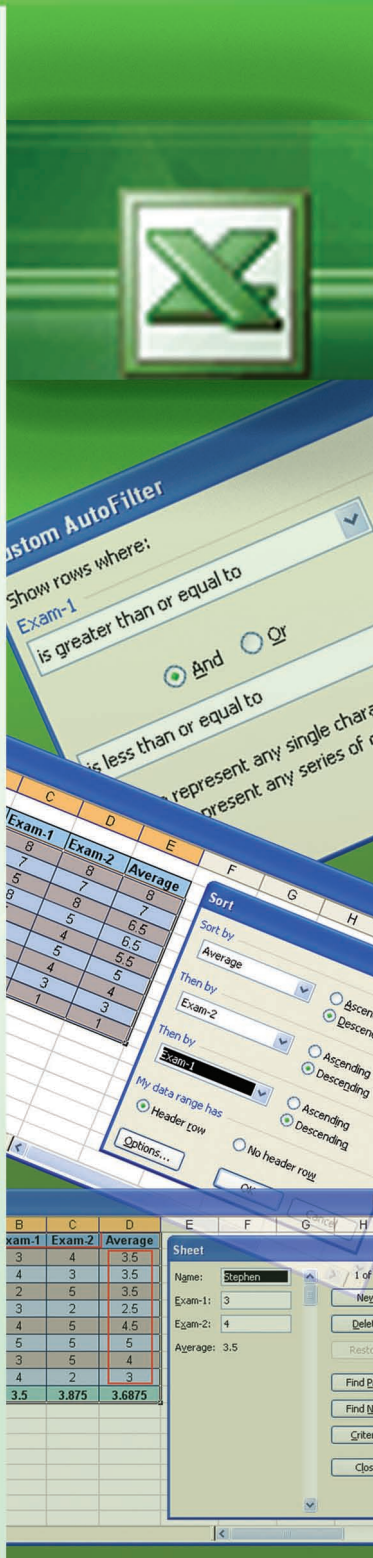


CHAPTER 6

SORTING AND FILTERING

- ✓ Preparing Lists
- ✓ Sorting
- ✓ Filtering



Microsoft Office
Excel 2003

In most cases, the vision and prestige of your company is much more important than the money you spend. If you don't spend some money and time for data processing, or for technology, it will most probably cost much more. The smallest mistake that you may make can ruin your company's image. Especially when working with huge lists and lots of numbers, fast and accurate results need some investments.

6.1 PREPARING LISTS

Microsoft Excel is perfect when you have huge lists with lots of numbers and calculations. It has many fast and easy to use tools to analyze and process the data. Sorting and Filtering are two examples of this.

A simple example that shows the advantage of sorting is the telephone guide. In telephone guides for many cities, you have hundreds of thousands of names. Can you imagine what would happen if the names in these guides were not in order? You would need to search, sometimes for many days, to find a single name. But since the names are in order you easily find a name in minutes.

For a good analysis of data, first you need to prepare well organized data lists. This is called a **Database**. There are some rules when preparing lists.

1. Before you start any other operation, perhaps the most important part is to think carefully and decide the titles of the list. After you start collecting data, it can be very difficult to add another field to your list. The same type of information must be entered to each column. For example; for a travel agency's records, you may assign name, date of reservation, hotel, suite type, payment type, and total price as column titles.
3. It is better to prepare single purpose clear titles. Try avoiding mixed columns. For example, if you store hotel name and suit type in the same column, you might have difficulty later.
4. Try to avoid blank rows and columns.

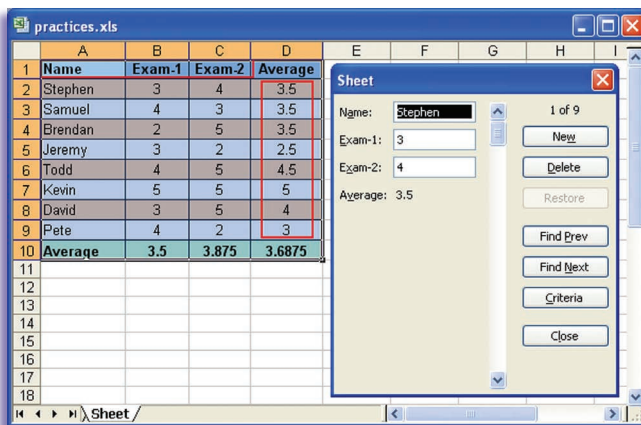


FIGURE 6.1 Viewing a table on Data form

6.2.1 DATA FORMS HOW TO ACCESS

Microsoft Excel has a built-in **Data Form** feature that allows you to add, find, edit, and delete records quickly and easily. Data Form is a custom dialog box that is created by Excel from the data in your list.

The **Data Form** displays all of your column labels in a single dialog box, with a blank space beside each label for you to fill in data for the column. You can enter new data, find rows based on cell contents, update existing data, and delete rows from the list.

Use a Data Form when a simple form listing the columns is sufficient and you do not need more complex or custom features. A data form can make data entry easier than typing across the columns when you have a wide list with more columns than will fit on the screen at once.

First, select the range of the data to which you want to apply Data Form. When you click **Form** on the Data menu, Excel will display a dialog box as in Figure 6.1. You can

- Enter new data in your data range using the **New** button.
- Delete data in your data range using the **Delete** button.
- Find data in order using the **Find Prev** or **Find Next** buttons.
- You can also use your own criteria using the **Criteria** button. After that, you use the **Find Prev** or **Find Next** buttons.
- Edit the data and **Restore**.

6.2.2 Using a Form to Find Specific List Information

There are many ways to find data in Excel, but data form offers a quick way to **search data** with many conditions. In Data Form, there is a **Criteria** button that allows you to find a record using different criteria.

After you click the **Criteria** button, it will open a window with empty text boxes. Type what information you know about the searching data into these boxes and click the **Find Next** button. The first record with your information will be shown in the Data Form. You can use Find Next and Prev to go through the records, to search for more records satisfying your criteria.

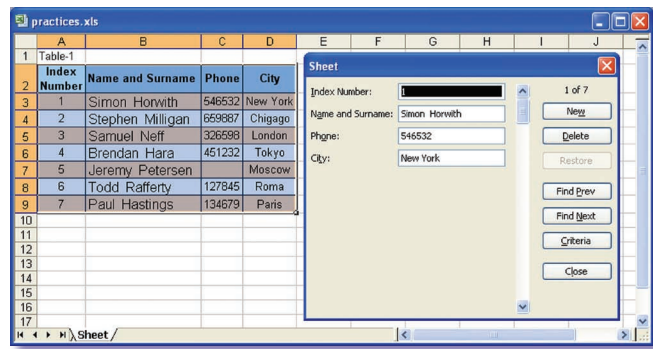


FIGURE 6.2 Finding a record on Data Form

6.3 SORTING

Sorting means putting or arranging items in order, according to some criteria. Sorting is commonly used with lists. In many conditions, you prepare lists and put them in order. Microsoft Excel provides an easy feature to put the items in order; the **Sort** dialog box.

- You can click on a cell in the range that you want to sort. Excel will automatically determine the extent of the list. If you don't want to include an entire list and want to sort only a part of it, after selecting the range of cells which you want to sort, click the **Sort** command from **Data** menu to display the Sort dialog box.
- Click on the **Sort by** down arrow to select the column you want to sort.
- Click on the Ascending or Descending radio button.



FIGURE 6.3 Sort Buttons

- If you want to use more than one criterion, you can use **Then by** to sort using more criteria.
- Click **Header row** to exclude the first row from the sort, if your list has column labels in the uppermost row. Click **No header row** to include also the first row in the sort, if the list doesn't have column labels in the uppermost row.

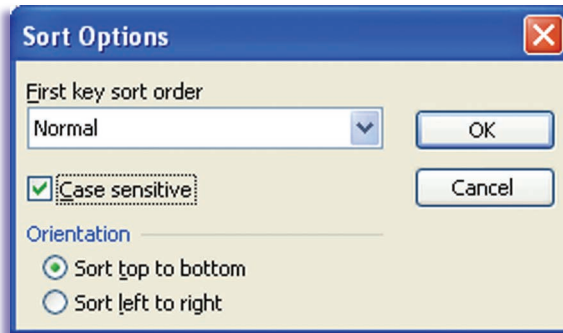


FIGURE 6.4 Adjusting Sort Options

You can also use the Standard toolbar **Sort ascending** or **Sort descending** buttons, to do all of the process above with a single click. However, it does not always give the desired result. For accurate results, it is better to use the **Sort** window.

The **Options** button lets you specify a custom sort order, such as Low, Medium, High, or Jan, Feb, Mar, so forth. For the column selected in the Sort by box, you can also specify a case-sensitive sort and sort either from top to bottom or from left to right.

Example 6.1: Look at the Figure 6.5

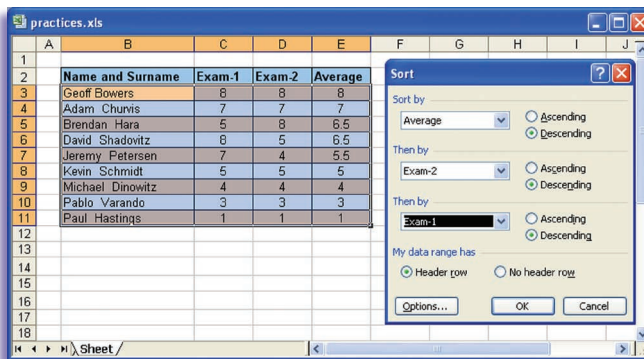


FIGURE 6.5 Sorting data in the table by 'Average' then by 'Exam-2' then by 'Exam-1'

- Data is first sorted by 'Average', and then sorted by 'Exam-2' and 'Exam-1'.
- If you sort data by 'Average', then by 'Exam-1' and then by 'Exam-2', David and Brendan will swap order

6.4.1 FILTERING

Filtering is a quick and easy way to find and work with a subset in a data list. A filtered list displays only the rows that meet the criteria you specify for a column. Microsoft Excel provides two commands for filtering lists:

- **AutoFilter**, which includes filter by selection, for simple criteria
- **Advanced Filter**, for more complex criteria

Filtering does not rearrange a list. Filtering temporarily hides rows which don't meet the criteria. When Excel filters rows, you can edit, format, chart, and print your subset list without rearranging or moving it.

6.4.2 AUTOFILTER

When you use the **AutoFilter** command, arrows appear to the right of the column labels in the filtered list. AutoFilter puts all the different column items together, and you select the one to be listed.

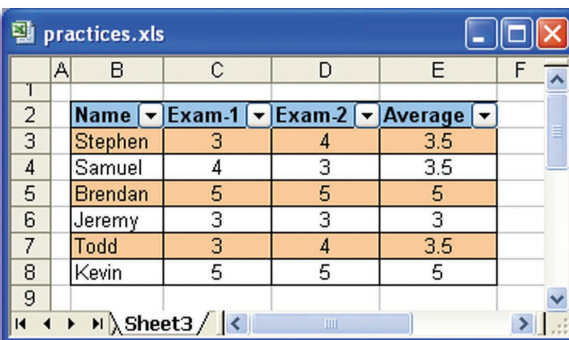


FIGURE 6.6 Unfiltered data

You can use **Custom AutoFilter** to display rows with more complicated filtering conditions. Custom AutoFilter lets you display rows that meet more than one condition for a column. For example, you want to apply conditional filter for the average column to show only the students whose average is between 3 and 4. Select **Custom** from the drop down menu and write as in Figure 6.8.

When you press the OK button, it will display conditional filtered data as in Figure 6.9.

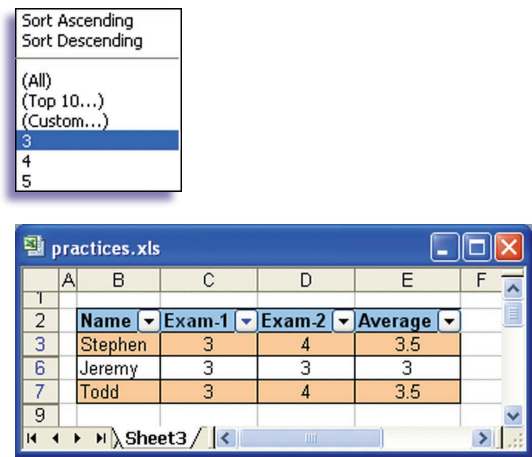


FIGURE 6.7 Filtered to show only the students whose Exam1 is equal to 3

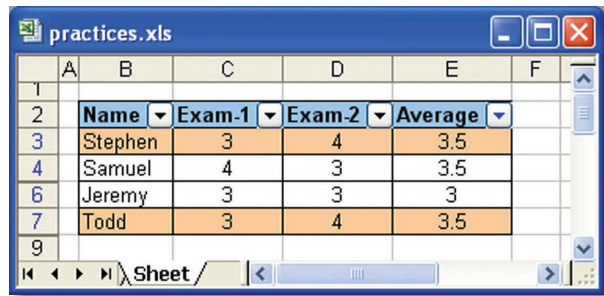


FIGURE 6.9 Custom AutoFilter

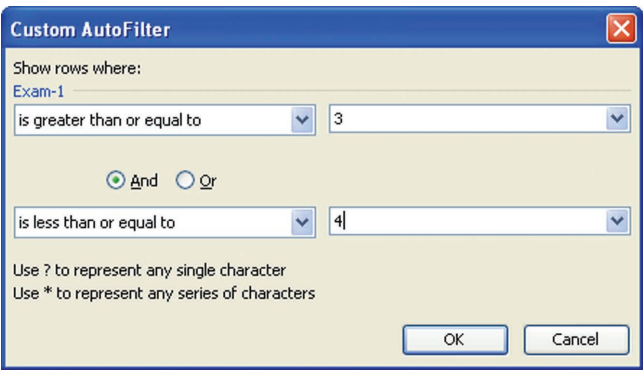


FIGURE 6.8 Custom Auto filter

6.4.3 ADVANCED FILTER

The **Advanced Filter** command can filter a list in place like the AutoFilter command, but it does not display drop-down lists for the columns. Instead, you type the criteria by which you want to filter in a separate criteria range above the list. A criteria range allows for more complex criteria to be filtered.

Use	To Find
? (question mark)	Any single character. For example, sm?th finds "smith" and "smyth"
* (asterisk)	Any number of characters. For example, *east finds "Northeast" and "Southeast"
~ (tilde)	A question mark, asterisk, or tilde. For example, fy91~? finds "fy91?"

The following wildcard characters can be used as comparison criteria for filters when searching and replacing content.

Example 6.2:

You want to apply a conditional filter using **Advanced filter**. You can write a condition for each column, after that, you can apply these conditions to your main range of data.

Advanced Filter can copy the result of filtering onto another location. First select the **Copy to another location** radio button to activate the **Copy to** combobox, then select the location where the result will be copied.

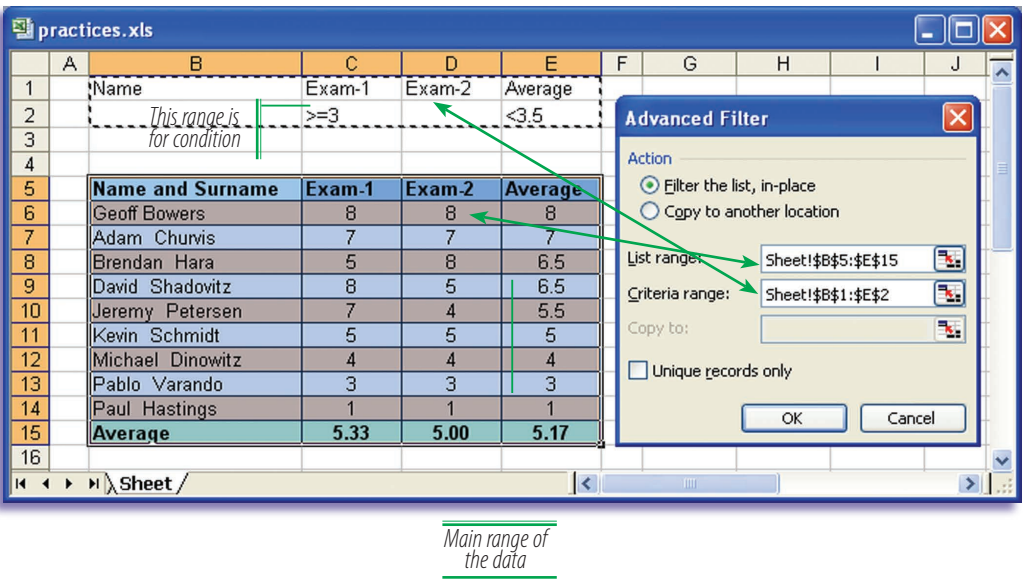




FIGURE 6.10 Using Advanced Filter

CHAPTER 6


in BRIEF

In this chapter you have reached the heart of Excel. Preparing custom lists is one of most important events in business analysis and reporting.

Data Form will help you to create tables via form. It makes filing, modifying, or searching tasks simple. To access this form, go to **Form** on the **Data** menu.


After you create a list, you can sort your list in ascending or descending order. You can do it simply by clicking the  or  icons from the **Standard Toolbar** or you can apply advanced criteria from the **Sort Dialog Box** on the **Data** menu. This option lets you specify custom sorting orders meeting up to three criteria.

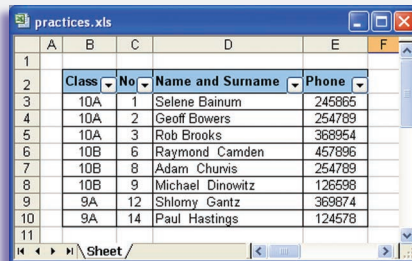
You can make a custom list from a general one. Let us suppose that you are running a company. You gathered all your annual sales information in a table. You can make a table of sales for specific customers. Sales which are above a specific value can be another table. You can extend these examples according to your needs.

If you are new to Microsoft Excel, the best way to filter data is with **Auto Filter**. You apply it by clicking in the sequence **Data**, **Filter**, and **Auto Filter**. When applied, all the column titles will have an arrow  symbol on the right side of each cell. by clicking on it, you will access a list of the items in the column and your selection will be the criteria for the column. You can apply more than one criterion at a time by applying a filter to other columns.

You may need filters that are more complex for your use. In this case, you may apply the **Advanced Filter** option, which is the second option in the **Filter** sub-menu.

QUESTIONS

- What is the meaning of this button? 
 - Sort ascending
 - Sort descending
 - Enter formula
 - Autosum
- Which of the followings is **true** for filtering data?
 - Filtering data deletes the row(s) which meet criteria.
 - Filtering data moves the row(s) which meet criteria.
 - Filtering data hides the row(s) which meet criteria.
 - Filtering data displays the row(s) which meet criteria.
- You applied AutoFilter to the table in Figure 6.11. Then from column 'No', you applied a custom filter as shown in Figure 6.12. How many students will be displayed?
- Which of the followings is used to arrange selected cells in an order (alphabetically or numerically)?
 - Data / Sort
 - Data / Form
 - Data / Table
 - Data / Filter
- means putting or arranging items in order, according to some criteria.
 - Listing
 - Auto filtering
 - Filtering
 - Sorting
- You have a list which contains all students' information from all classes. But, you want to see only one class. Which Excel feature should you use?
 - Validation
 - Auto filter
 - Conditional formatting
 - Auto series



	A	B	C	D	E	F
1						
2		Class	No	Name and Surname	Phone	
3		10A	1	Selene Bainum	245865	
4		10A	2	Geoff Bowers	254789	
5		10A	3	Rob Brooks	368964	
6		10B	6	Raymond Camden	457896	
7		10B	8	Adam Churvis	254789	
8		10B	9	Michael Dinowitz	126598	
9		9A	12	Shlomy Gantz	369874	
10		9A	14	Paul Hastings	124578	
11						

FIGURE 6.11

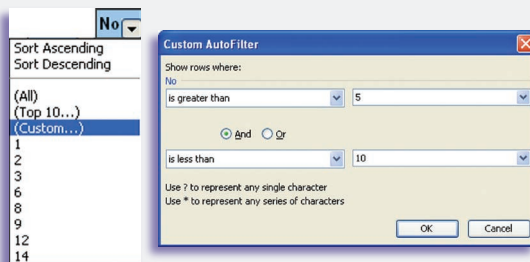
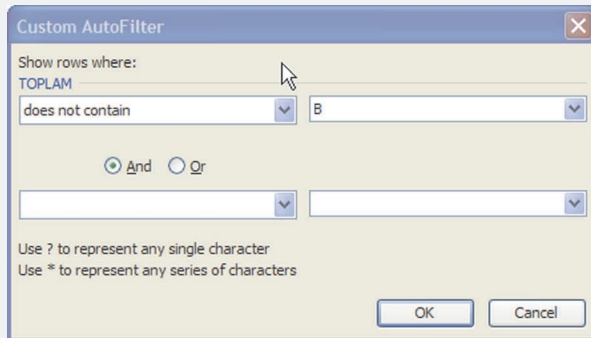


FIGURE 6.12

- A) 5 B) 2 C) 3 D) 4

- Which of the following is a way to sort numbers in decreasing order?
 - Select all numbers and click Sort ascending or Sort descending from the Formatting toolbar.
 - Select all numbers and click Sort from the Data menu and click on Descending order.
 - Select all numbers and click Sort from the Data menu, then check, Sort left to right from Sort Options.
 - All of them
- is a quick and easy way to find and work with a subset in a data list.
 - Sorting
 - Filtering
 - Spelling
 - Subtotals

9. Which one of the following is **not true** about sorting in ascending order?
- A. Numbers are sorted from the smallest negative number to the largest positive number.
 - B. When you sort text, Excel sorts left to right, character by character.
 - C. In logical values, FALSE is placed before TRUE.
 - D. Blanks are always placed first.
10. In Figure 6.11 you add the custom formula to column B as follows. Which rows are visible?



- A. 3, 4, 5
- B. 3, 4, 5, 9 10
- C. 9, 10
- D. 6, 7, 8

PRACTICE

- 1- Create a table including your friends' names, surnames, birth dates, addresses, etc. Copy this table onto two more sheets. On the second sheet sort the friends' table so that you can have their birthdays in order. On the third sheet you can rearrange your friends according to their addresses.
- 2- Collect different price lists from the companies in your town. For the same device create a custom list as shown below, and sort the list according to the price in ascending order so that you can have a good reference of cheaper prices.

	A	B	C	D
1	Video Card	company	price_\$	price_local
2				
3				
4				
5				
6				
7				

- 3- Create the table in the following figure and then make the following arrangements on the table by using Auto Filter. Determine the most successful salesperson who carries out the best sale. Also determine the top 3 salespersons.

	A	B	C
1	SalesPerson	region	sales
2	David	east	1500
3	Micahel	west	1800
4	Eric	east	1300
5	Bruce	central	2100
6	Kate	west	1400
7	David	south	1700
8	Kate	south	1600
9	Eric	east	1400
10	David	west	1300
11	Micahel	south	1500
12	Bruce	central	1500
13	Eric	central	1800

4. For Figure 6.11, write a criterion to list students from class 10.