Click **Add**.

1. In the **Name** box, type a name for the view

2. Under **Include in view**, select the options you want.

Tip   When you display a view, Microsoft Excel switches to the sheet that was active when you created the view. Because Excel lists all views in the workbook in the **Custom Views** dialog box, include the active sheet name in the name of a view to make it easier to identify.

11.6 Linking with Work Books

Workbooks can be linked to permit consolidation of values from supporting workbooks to a master workbook. For example, you may maintain workbooks for different stores, operating divisions, or sales regions. Similarly, different worksheets within a single workbook can be used to accomplish the same result. The revenue and expense data computed in each of the divisional or regional worksheets can be combined to provide an overall view of how the top entity is performing. This section presents both approaches: the consolidation of workbooks and the consolidation of different worksheets within a single workbook.

Excel also lets you link worksheets to non-Excel documents. This feature makes use of the built-in dynamic data exchange (DDE) and object linking and embedding (OLE) capabilities that are part of most current Windows applications.

For example, Microsoft Word 2000 features an Excel button on its toolbar. Clicking this button lets users embed (or insert) a full-featured worksheet within the body of a document. You can also copy worksheet data or charts to the Windows clipboard and then paste the contents into a Word document. This same capability exists with other Microsoft Office 2000 programs such as Microsoft Access and PowerPoint.

One of the advantages to pasting a linked object, i.e., paragraph, table, or chart, is that changes to the source file are reflected in the pasted object. The dynamic linking eliminates the need for you to make a change in two places. To achieve the linkage, copy a selected passage to the Windows clipboard, position the

cursor within your worksheet, then use Edit|Paste Special and pick Paste or Paste link to finish the job. Once the object is pasted, you can double-click it to edit the source.

Establishing Workbook Links

You can point to values in supporting workbooks as if they were part of the current workbook. This is done by specifying a supporting workbook name and sheet and a cell or range of cells. For example, the expression

='C:\MSOFFICE\FILES\[ATSALES.XLS]SHEET1'!B3

points to the value in cell B3 of Sheet1 of the ATSALES workbook. Note that the disk drive and directory are also included. The drive and directory can be dropped if the workbook is in the same folder as the current one. In addition to using cell coordinates, you can use cell or range names. Names, such as GrandTotal, are assigned by selecting one or more cells and then using Insert|Name|Define.

Consolidation

Consolidating values from multiple workbooks is a fast way to derive the sum, product, standard deviation, or some other relationship between two or more identically structured worksheets. It combines, or consolidates, all numeric entries in a selected range. A detailed consolidation of each division's sales and expenses is a good example. Consolidation differs from linking. Linking extracts data from one or more supporting workbooks. Consolidation combines values using a function such as Sum, Count, Average, Max, Min, Product, etc. Perform the following consolidation activity to see how it works.

1. Open the Excel program with blank Book1 displayed.

2. Select B3 and display the Consolidate dialog box: [B3] <Alt, D, N>.

3. Use the following procedure for each of the six designated workbooks. Be sure that the Sum function is displayed in the Function box. The filenames and formula entries are listed below.
ATSALES.XLS!B3:F18
NCSALES.XLS!B3:F18
NESALES.XLS!B3:F18

PASALES.XLS!B3:F18
SESALES2.XLS!B3:F18
SWSALES.XLS!B3:F18

a. Use the Browse button and double-click on the specified workbook name.
b. Type the rest of each formula and click Add.
c. Repeat steps a and b for the rest of the workbooks.

4. Exit Excel without saving: <Alt+F4> and click No to exit without saving.

Tip: If you want to use other functions, such as Average, Min, or Max, you can easily return to the Consolidate dialog box, change the function setting, and click OK. The new results are calculated and displayed. You can also display the titles in the top row and leftmost column by including them in the cell range and clicking an X in the Top Row and Left Column check boxes.

11.7 About Formula Arrays

An array formula can perform multiple calculations and then return either a single result or multiple results. Array formulas act on two or more sets of values known as array arguments. Each array argument must have the same number of rows and columns. You create array formulas in the same way that you create other formulas, except you press CTRL+SHIFT+ENTER to enter the formula.

Calculate a single result Sometimes Microsoft Excel must perform several calculations to generate a single result. For example, the following worksheet shows that a company has regional offices in Europe and North America and that each region has three product divisions. To find the average revenue per product division for Europe in 1992, you would need to use an array formula.

Cell C16 contains the array formula

=AVERAGE(IF(C5:C14="Europe",D5:D14)), which finds the cells in the range C5:C14 that contain the text "Europe" and then averages the corresponding cells in the range D5:D14.

Calculate multiple results To calculate multiple results with an array formula, you must enter the array into a range of cells that has the same number of rows and columns as the array arguments. In the following example, given a series of

three sales figures (in row 5) for a series of three months (in row 3), the TREND function determines the straight-line values for the sales figures. To display all of the results of the formula, it is entered into three cells in row 6 (C6:E6).

When you enter the formula =TREND (C5:E5,C3:E3) as an array formula, it produces three separate results, based on the three sales figures and the three months.

Use constant values   You can also use an array formula to calculate single or multiple results for a series of values that have not yet been entered on the worksheet. Array formulas accept constants in the same way that non array formulas do, but you must enter the array constants in a certain format. For example, given the same three sales figures in the preceding example, you can project the sales figures for the next two months.

Use the formula =TREND(C5:E5,,{4,5}) to project the fourth and fifth values in the monthly sequence based on the first three values.

11.8 Short Summary

- ♣ A chart provides a visual representation of the values contained on a worksheet.

- ♣ Unlike traditional databases, Microsoft Excel saves each instance of the template rather than just using the template as an entry point for adding information directly to the database.

- ♣ When you display a view, Microsoft Excel switches to the sheet that was active when you created the view. Because Excel lists all views in the workbook in the Custom Views dialog box, include the active sheet name in the name of a view to make it easier to identify.

- ♣ Workbooks can be linked to permit consolidation of values from supporting workbooks to a master workbook.

- ♣ An array formula can perform multiple calculations and then return either a single result or multiple results.

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