



Microsoft Excel 2003 – The Basics of Summarizing Data

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- When summarizing data from multiple worksheets, there is a simple way of referencing a range of cells. A **range name** is a method of referencing a range of cells with a text name. The cells can be adjacent or non-adjacent and each range must have a unique name.

Activity 1: Create and Apply a Name for a Range of Cells

1. Open the **Functions.xls** workbook located in the “Excel Summarizing Basics Files” folder on the desktop.
 2. Click on the “**Birds**” worksheet.
 3. **Select cells D7 through D20.**
 4. Click in the **Name Box**.
 5. Type *Bird_Cost*
 6. **Press Enter.**
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1. Click on the “**Cats**” worksheet.
 2. **Select cells D7 through D20.**
 3. Click in the **Name Box**.
 4. Type *Cat_Cost*
 5. **Press Enter.**
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1. Click on the “**Dogs**” worksheet.
 2. **Select cells D7 through D20.**
 3. Click in the **Name Box**.
 4. Type *Dog_Cost*
 5. **Press Enter.**

- Now that you have created a couple of named ranges, you can use these named ranges in a formula to calculate a summary on a single worksheet. An example formula would be : =SUM(Bird_Cost,Cat_Cost,Dog_Cost)

Activity 1B: Calculating with Named Rages

1. Click on the “**Summary**” worksheet and **select cell B7**.
 2. To the left of the formula bar, click the **Insert Function button**. The “Insert Function” dialog will appear.
 3. In the “Select a function” list, select “**SUM**” and **click OK**.
 4. In the Number 1 text box, type **Bird_Cost**
 5. In the Number 2 text box, type **Cat_Cost**
 6. In the Number 3 text box, type **Dog_Cost**
 7. **Click OK**. The total cost of animals sold in the first quarter should be \$14,500.
 8. Select cell B7 on the “Summary” worksheet and notice the formula.
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1. Click on the **Store 62** worksheet.
 2. **Select cells B7 through D9**.
 3. Click the **Name Box**.
 4. Type **Q1animal_sales**
 5. **Press Enter**.
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6. Click on the “**Summary**” worksheet and select cell B8.
 7. To the left of the formula bar, click the **Insert Function button**. The “Insert Function” dialog will appear.
 8. In the “Select a function” list, select “**SUM**” and **click OK**.
 9. In the Number 1 text box, type **Q1animal_sales**
 10. **Click OK**. The total sales of animals sold in the first quarter should be \$13,293.
The gross profit for the store in the first quarter should be -\$1,207.

Activity 1C: Deleting a name for a Range

1. Select the range in which you want to delete the name.
 2. **Select Insert>Name>Define**.
 3. In the Define Name dialog, **select the name** in the list.
 4. **Click the Delete button**.
 5. **Click OK**.
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- Instead of naming ranges on every worksheet, you can summarize data by using a **three-dimensional (3-D) cell reference** which is a cell reference that is in the same location on each worksheet. A 3-D reference contains a start point (the first worksheet), an end point (the last worksheet), and a cell reference. An example formula would be: =SUM(Birds:Dogs!E7:E20)

Activity 2: Calculating across worksheets

1. In the Funtion.xls workbook, select the “**Summary**” worksheet and **select cell B8**.

2. **Delete the value in the cell.**
 3. With cell B8 selected, **click the AutoSum button** in the Standard toolbar.
 4. Click on the **“Birds”** worksheet and **select the cell range E7 through E20.**
 5. **Hold down the Shift key** on the keyboard and click the **“Dogs”** worksheet.
 6. **Release the Shift key and press Enter.**
 7. Click back to the **“Summary”** worksheet. The total sales for the first quarter should be \$26,765 and the gross profit for the first quarter should be \$12,265.
 8. Click on cell B8 on the **“Summary”** worksheet and notice the formula.
- If you are summarizing data across multiple workbooks, you can consolidate your workbooks by creating a workspace. A **workspace** is an Excel file that contains the data about multiple workbooks, but does not contain the actual workbooks themselves. Workspace files are saved with the XLW extension in the same directory as the workbook files they are referencing. A single workspace file can open multiple workbook files in one step.

Activity 3: Creating a Workspace

1. Open the **Employee_Personal.xls, Employee_Benefits.xls, and Employee_Location.xls** files in the **“Excel Summarizing Basics Files”** folder on the desktop.
 2. **Choose Window>Arrange.**
 3. Select **Vertical.**
 4. **Click OK.**
 5. **Choose File>Save Workspace.**
 6. In the File Name text box, type **Workspace_EmployeeData.xlw**
 7. **Click Save.**
1. **Close all of the open files.**
 2. In Excel, choose **File>Open.**
 3. Select the **Workspace_EmployeeData.xlw.**
 4. **Click Open.** Notice the three workbooks in the window.
- To summarize data from multiple workbooks on a single worksheet, you will consolidate data. **Data consolidation** is the act of summarizing data from several ranges into a single range. You can consolidate data from ranges in the same worksheet, the same workbook, or from different workbooks.

Activity 4: Consolidating Data

1. Open the files **Hanover.xls, Monder.xls, and Jaen.xls, and Consolidation.xls** from the **“Excel Summarizing Basics Files”** folder on the desktop.
2. **Select Window>Arrange.**
3. **Select Tiled and click OK.**
4. **Maximize the Consolidation.xls workbook** by double clicking in the title bar of the Consolidation.xls window.
5. **Select the range C5 through C14.**
6. **Choose Data>Consolidate.**

7. In the Consolidate dialog box, next to the Reference text box, **click the Collapse Dialog button.**
8. Switch to the Monder.xls worksheet, **select the range C5 through C14 and press Enter.**
9. To add the specified reference to the All References section, **click the Add button.**
10. In the Consolidate dialog box, **click the Collapse Dialog button again.**
11. Switch to the Jaen.xls worksheet, **select the range C5 through C14 and press Enter.**
12. To add the specified reference to the All References section, **click the Add button.**
13. In the Consolidate dialog box, **click the Collapse Dialog button again.**
14. Switch to the Hanover.xls worksheet, **select the range C5 through C14 and press Enter.**
15. To add the specified reference to the All References section, **click the Add button.**
16. **Check the Create Links to Source Data check box.**
17. **Click OK.**

1. In the Consolidation.xls sheet, **expand all the hidden data** by clicking on the number 2 immediately below the Name Box.
2. **Select cell C5, C6, C7** and notice the formulas in the formula bar referencing the data on the Hanover, Jaen, and Monder workbooks.
3. **Click on the number 1** immediately below the Name Box to hide all the data.
4. **Click the individual plus (+) signs** in the left most column to open and close the consolidated data.

- To connect data stored on one worksheet or workbook to the data in another worksheet or workbook, you can link cells so you do not have to open other worksheets or workbooks in order to work on them. These **linked cells** will be updated automatically when you change the contents of the cell.

Activity 5: Linking Cells

- **Linking cells within a workbook.**
 1. Open the **MultisheetWorkbook_withlinks.xls** file from the “Excel Summarizing Basics Files” folder on the desktop.
 2. On **sheet1** of the workbook, **select cell B4.**
 3. **Choose Edit>Copy.**
 4. Select the **Summary** worksheet and **select cell B4.**
 5. From the Standard toolbar, choose the Paste Icon drop down arrow and **select Paste Link.**
 6. On **sheet1** of the workbook, **select cell B5.**
 7. **Choose Edit>Copy.**
 8. Select the **Summary** worksheet and select cell **B5.**
 9. From the Standard toolbar, choose the Paste Icon drop down arrow and **select Paste Link.**

10. On **sheet1** of the workbook, select cell **B6**.
11. **Choose Edit>Copy.**
12. Select the **Summary** worksheet and select cell **B6**.
13. From the Standard toolbar, choose the Paste Icon drop down arrow and **select Paste Link.**
14. On **sheet1** of the workbook, select cell **B7**.
15. **Choose Edit>Copy.**
16. Select the **Summary** worksheet and select cell **B7**.
17. From the Standard toolbar, choose the Paste Icon drop down arrow and **select Paste Link.**

1. On the **Summary** worksheet, select cell **B4** and notice the formula in the formula bar.
2. Select **sheet1** and change the value in cell B4 to **1000**.
3. Select the **summary** sheet and notice the value updated in cell B4.

- **Linking cells between multiple workbooks.**

1. Open the files **Finch.xls**, **Decker.xls**, and **Weckl.xls**, and **Summary.xls** from the “Excel Summarizing Basics Files” folder on the desktop.
2. Tile the windows by choosing **Window>Arrange**. **Choose Tiled and click OK.**
3. Select the **Summary.xls** workbook.
4. Select cell A5, and then type =
5. In the **Finch.xls** window, **select cell D15**.
6. To continue the formula, type +
7. In the **Decker.xls** window, **select cell D15 and then type +**
8. In the **Weckl.xls** window, **select cell D15**.
9. **Press Enter.**

1. In the **Finch.xls** window, **select cell D7**.
2. Type **200**
3. **Press Enter.**
4. Notice the change in the Summary.xls file, cell A5. Your new value should be \$9,148.60
5. Close the **Summary.xls** file and **Save** the changes.
6. In the **Finch.xls** window, select cell **D7**.
7. Type **4000**.
8. **Press Enter.**
9. Open the Summary.xls file from the “Excel Summarizing Basics Files” folder on the desktop.
10. Notice the change in the Summary.xls file, cell A5. Your new value should be \$12,948.60.
11. **Save** and close the Summary.xls file.

- If by chance the cells that contain the data you are linking to in the source workbook have moved, you need to update your links. To save time and effort, you can edit the existing links so that it directs you to the correct destination data.

Activity 6: Editing Links

1. Open the **Weckl.xls** workbook from the “Excel Summarizing Basics Files” folder on the desktop.
 2. Select cell **D1**.
 3. Replace the current name, **type Janet Covington**.
 4. Press **Enter**.
 5. **Choose File>Save As**.
 6. Save the file under a new name, type **Covington.xls**
 7. **Click Save**.
 8. **Close the File**.
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1. Open the **Summary.xls** workbook from the “Excel Summarizing Basics Files” folder on the desktop.
 2. In the dialog box that asks you if you want to update the links, **click the Update button**.
 3. **Choose Edit>Links**.
 4. In the Edit Links dialog, **select Weckl.xls**.
 5. **Click the Change Source button**.
 6. In the file list, select **Covington.xls**.
 7. **Click OK**.
 8. **Click Close**.
 9. **Save** and close the file. You have now updated your links.