

Named Ranges

In this chapter, we will be looking at naming cells and ranges in Excel. Naming cells and ranges can be very helpful because those cells or ranges can be referred to without reference to their actual cell address.

Practice Spreadsheet

Use this [workbook](#) for the chapter.

Note: This is the same workbook used in the Ranking chapter.

Taking Average Without Names

Shown in **Figure 8.1** is a list of employees and their information, including their ages, their college GPA, and their salaries. Their ages are shown in Column D. To calculate the average of their ages, which are not named, use the following steps:

| | A | B | C | D | |
|----|---|-----------------|--------------------------|------------|------------|
| 1 | | | | | |
| 2 | | Employee | Position | Age | Col |
| 3 | | Alice | Administrative Assistant | 49 | |
| 4 | | Bill | Marketing Manager | 25 | |
| 5 | | Carl | Plant Manager | 50 | |
| 6 | | Denise | | 36 | |
| 7 | | Edward | Finance Manager | 44 | |
| 8 | | Frank | | 52 | |
| 9 | | Gary | HR Manager | 24 | |
| 10 | | Hallie | Operations Manager | 31 | |
| 11 | | Isaac | | 45 | |
| 12 | | Jacqueline | Production Operator | 30 | |
| 13 | | Kent | Maintenance Supervisor | 37 | |
| 14 | | Leah | | 24 | |
| 15 | | Matt | Supply Chain Manager | 31 | |
| 16 | | Natalie | Quality Analyst | 40 | |
| 17 | | Owen | Buyer | 48 | |
| 18 | | | | | |

Figure 8.1

1. Select an empty cell, and type `=AVERAGE()` into the cell. (See **Figure 8.2**)
 - a. Excel will recognize this as a formula.
2. Select all of the cells under **Age**. (See **Figure 8.2**)
 - a. Excel will automatically fill in the cell range in the formula.
3. Press **Enter**.
 - a. Excel will calculate the average age of the employees.

| | A | B | C | D | E | |
|----|---|-----------------|--------------------------|------------|--------------------|---------------|
| 1 | | | | | | |
| 2 | | Employee | Position | Age | College GPA | Salary |
| 3 | | Alice | Administrative Assistant | 49 | 3.92 | \$36,000 |
| 4 | | Bill | Marketing Manager | 25 | 2.55 | \$52,000 |
| 5 | | Carl | Plant Manager | 50 | 3.57 | \$74,000 |
| 6 | | Denise | | 36 | 2.64 | \$48,000 |
| 7 | | Edward | Finance Manager | 44 | 3.62 | \$62,000 |
| 8 | | Frank | | 52 | 3.38 | \$59,000 |
| 9 | | Gary | HR Manager | 24 | 3.47 | \$48,000 |
| 10 | | Hallie | Operations Manager | 31 | 2.88 | \$51,000 |
| 11 | | Isaac | | 45 | 2.88 | \$58,000 |
| 12 | | Jacqueline | Production Operator | 30 | 3.93 | \$38,000 |
| 13 | | Kent | Maintenance Supervisor | 37 | 2.31 | \$55,000 |
| 14 | | Leah | | 24 | 3.66 | \$22,000 |
| 15 | | Matt | Supply Chain Manager | 31 | 3.65 | \$60,000 |
| 16 | | Natalie | Quality Analyst | 40 | 2.34 | \$46,000 |
| 17 | | Owen | Buyer | 48 | 3.33 | \$40,000 |

Figure 8.2

Naming a Cell

Notice when we did that, the average formula had to specify the range of cells needed to calculate the average. See **Figure 8.2**. Instead of doing this, we can name a cell or range. For example, look at Alice's age in **Figure 8.1**. To name this cell, use the following steps:

1. Select the cell you want to name.
 - a. In the top left of the formula bar, the cell's name comes up as D3. (See **Figure 8.3**)
2. Select the name, and type *alice_age*. (See **Figure 8.3**)

| | A | B | C | D | E |
|----|---|-----------------|--------------------------|------------|-----------|
| 1 | | | | | |
| 2 | | Employee | Position | Age | Co |
| 3 | | Alice | Administrative Assistant | 49 | |
| 4 | | Bill | Marketing Manager | 25 | |
| 5 | | Carl | Plant Manager | 50 | |
| 6 | | Denise | | 36 | |
| 7 | | Edward | Finance Manager | 44 | |
| 8 | | Frank | | 52 | |
| 9 | | Gary | HR Manager | 24 | |
| 10 | | Hallie | Operations Manager | 31 | |
| 11 | | Isaac | | 45 | |
| 12 | | Jacqueline | Production Operator | 30 | |
| 13 | | Kent | Maintenance Supervisor | 37 | |
| 14 | | Leah | | 24 | |
| 15 | | Matt | Supply Chain Manager | 31 | |
| 16 | | Natalie | Quality Analyst | 40 | |
| 17 | | Owen | Buyer | 48 | |

Figure 8.3

3. Press **Enter** to save the name.

You can't use spaces or special characters in a named range. It's a good idea to use an underscore in place of a space when you name a cell or range.

Referencing a Named Cell

Now, when you select a new cell, you can reference this named cell by typing the name rather than selecting the cell manually. To do this, use the following steps:

1. Select a new cell, and type the equals sign =.
 - a. Excel will automatically recognize this as a formula.
2. Start to type *alice_age*.
 - a. Excel will bring up a list of suggestions, including the name of this cell. (See **Figure 8.4**)

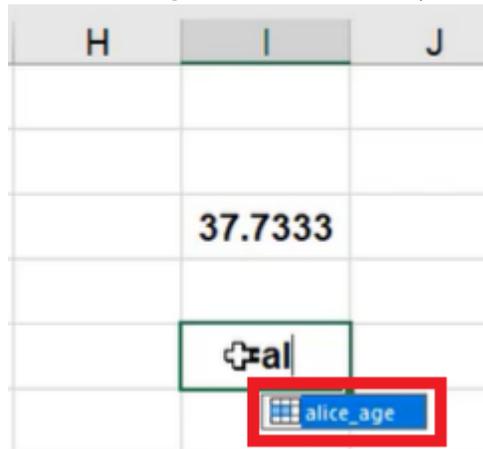


Figure 8.4

3. Press **Tab** to allow Excel to autofill *alice_age* into this cell.
4. Press **Enter**.
 - a. Excel will input the data found in the cell named *alice_age*, which in this case is 49.

If you want to use the data in the named cell in a calculation, use the following steps:

1. Select a cell, and type the equals sign =.
2. Select the cell named **alice_age**.
 - a. Excel will automatically recognize that cell as "alice_age." (See **Figure 8.5**)
3. Type *5.
4. Press **Enter**.
 - a. Excel will calculate 49 times 5.

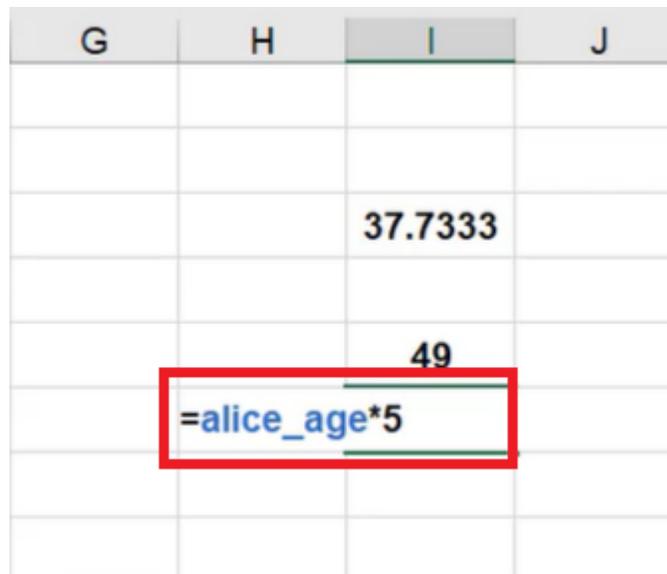


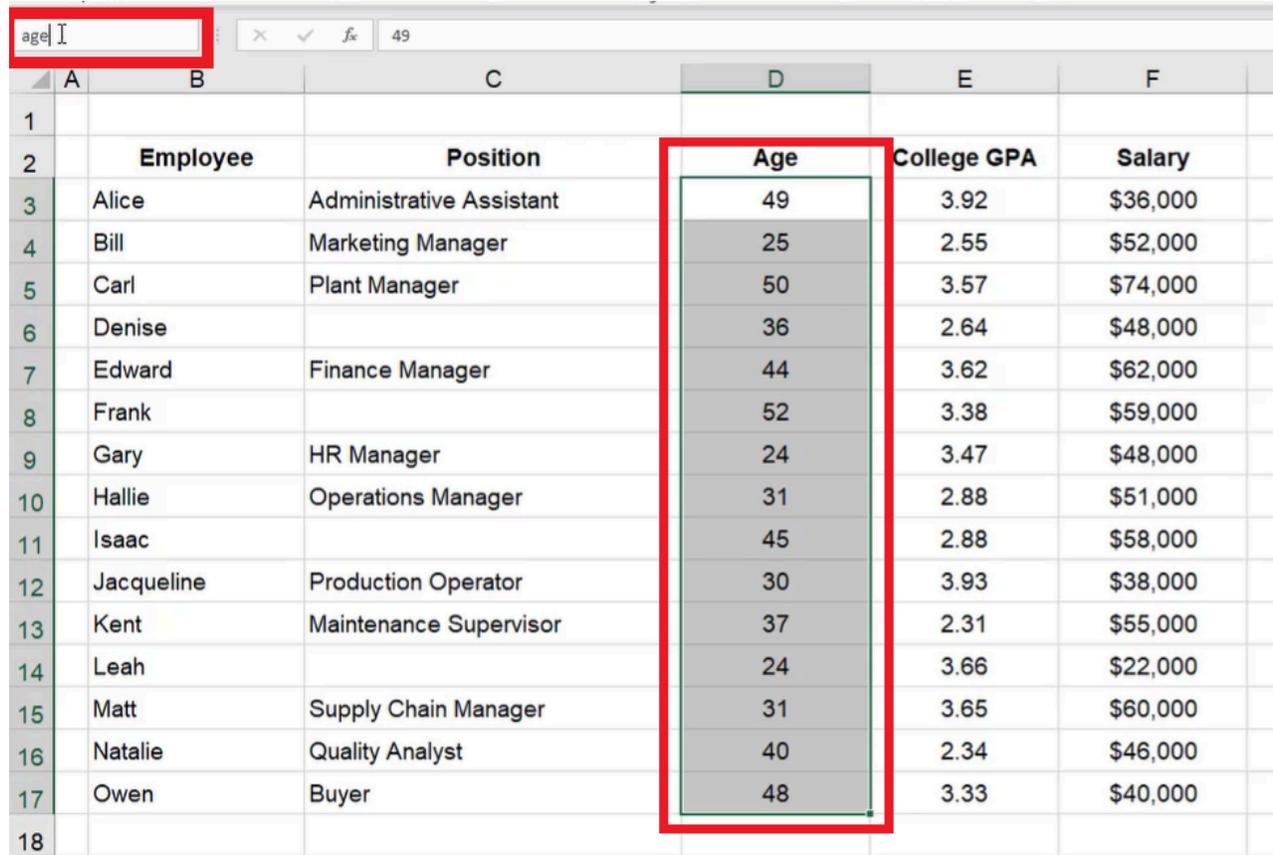
Figure 8.5

This can be helpful because the name of the cell allows you to refer to a cell without even knowing exactly where it is.

Naming a Range

You can also name an entire array of cells, or in other words, an entire range. To practice naming a range, use the following steps:

1. Select all of the data under **Age**. (See **Figure 8.6**)
2. Select name in the top left of the formula bar. (See **Figure 8.6**)
3. Type *age*. (See **Figure 8.6**)
4. Press **Enter** to save the name.



The screenshot shows an Excel spreadsheet with a table of employee data. The columns are labeled Employee, Position, Age, College GPA, and Salary. The rows are numbered 1 through 18. The 'Age' column is highlighted with a red border, and the name 'age' is entered in the formula bar.

| | A | B | C | D | E | F |
|----|---|-----------------|--------------------------|------------|--------------------|---------------|
| 1 | | | | | | |
| 2 | | Employee | Position | Age | College GPA | Salary |
| 3 | | Alice | Administrative Assistant | 49 | 3.92 | \$36,000 |
| 4 | | Bill | Marketing Manager | 25 | 2.55 | \$52,000 |
| 5 | | Carl | Plant Manager | 50 | 3.57 | \$74,000 |
| 6 | | Denise | | 36 | 2.64 | \$48,000 |
| 7 | | Edward | Finance Manager | 44 | 3.62 | \$62,000 |
| 8 | | Frank | | 52 | 3.38 | \$59,000 |
| 9 | | Gary | HR Manager | 24 | 3.47 | \$48,000 |
| 10 | | Hallie | Operations Manager | 31 | 2.88 | \$51,000 |
| 11 | | Isaac | | 45 | 2.88 | \$58,000 |
| 12 | | Jacqueline | Production Operator | 30 | 3.93 | \$38,000 |
| 13 | | Kent | Maintenance Supervisor | 37 | 2.31 | \$55,000 |
| 14 | | Leah | | 24 | 3.66 | \$22,000 |
| 15 | | Matt | Supply Chain Manager | 31 | 3.65 | \$60,000 |
| 16 | | Natalie | Quality Analyst | 40 | 2.34 | \$46,000 |
| 17 | | Owen | Buyer | 48 | 3.33 | \$40,000 |
| 18 | | | | | | |

Figure 8.6

Use the same process for the data in the other categories. The data under **College GPA** should be named *gpa*, the data under **Salary** should be named *salary*, the data under **Employee** should be named *names*, and the data under **Position** should be named *job*.

Calculating Average of a Named Range

Once a range of numbers has been named, it can be referenced by name rather than having to select the entire set of data every time. To do this to the set of data under Age, use the following steps:

1. Select a new cell, and type `=AVERAGE(`
 - a. Excel will recognize this as a formula.
2. Instead of selecting all of the data under Age, simply type `age`. (See **Figure 8.7**)
3. Make sure to close the parentheses. (See **Figure 8.7**)
4. Press **Enter**.
 - a. Excel will calculate the average age of the employees.

The image shows an Excel spreadsheet with columns G through K. The following table represents the data shown in the spreadsheet:

| G | H | I | J | K |
|---|---|----------------------------|---|---|
| | | | | |
| | | 37.7333 | | |
| | | 49 | | |
| | | 245 | | |
| | | <code>=AVERAGE(age)</code> | | |
| | | | | |
| | | | | |

Figure 8.7

Referencing Named Ranges Across Worksheets

Naming cells and ranges allow you to do formulas much more quickly. It is especially helpful with calculations that exist on other worksheets. To do this, use the following steps:

1. Add a new worksheet.
2. Select a cell, and type `=AVERAGE(gpa)`. (See **Figure 8.8**)

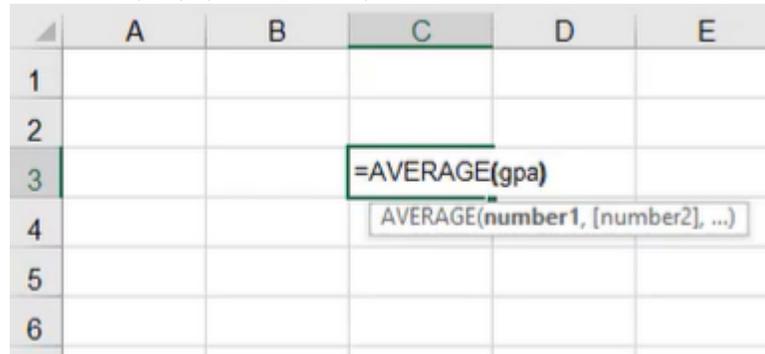


Figure 8.8

- a. Excel will recognize the name of the range.
 - b. Make sure to close the parentheses.
3. Press **Enter**.
 - a. Excel will calculate the average GPA of the employees.

When you have a named range, you no longer have to flip back to a different worksheet to reference that range; all you need to do is type the name into the formula.

This will also work for totals. To calculate the total of the employees' salaries across worksheets, use the following steps:

1. Select an empty cell in the new worksheet.
2. Type `=SUM(salary)`. (See **Figure 8.9**)

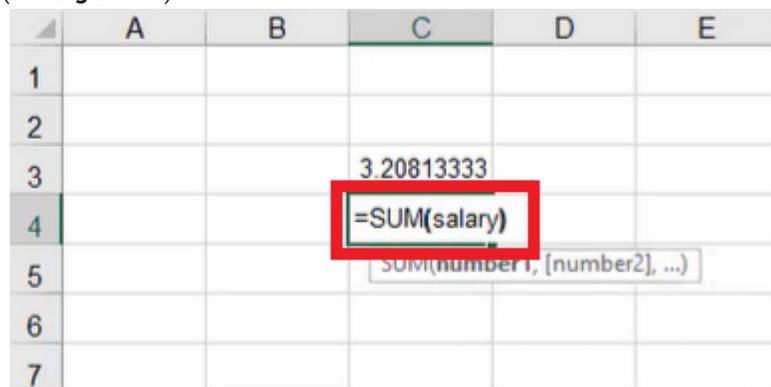


Figure 8.9

- a. Excel will recognize the name of the range.
 - b. Make sure to close the parentheses.
3. Press **Enter**.
 - a. Excel will calculate the total of the employees' salaries.

Once you've created these named ranges, you can always see which ones they are by selecting the drop-down list in the top left of the formula bar, the same place that allows you to name the range. (See **Figure 8.10**)

If you select any of the names on this list, it will take you to the location in the workbook of that named range.

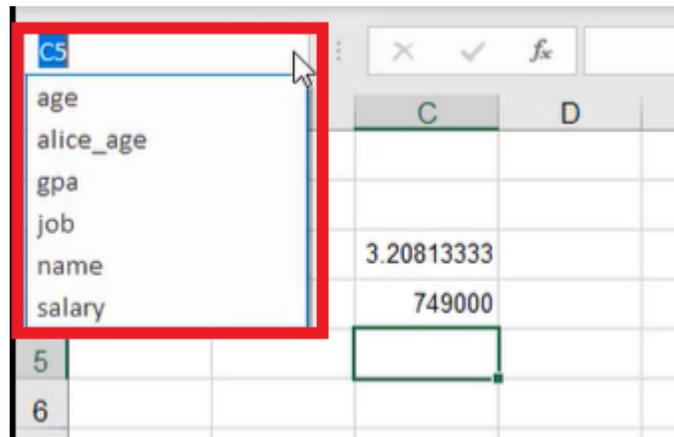


Figure 8.10

Renaming Named Ranges

Let's say that we wanted to rename **alice_age** so that it was simply named **alice**. This can be done using the same steps as when we first renamed the cell. But once the cell is renamed again, both versions of the name show up in the drop-down list. See **Figure 8.11**. Even though the cell is renamed, the use of either of the names in a formula will still work. There are now two named ranges that refer to that same cell.

| | Employee | Position |
|----|------------|--------------------------|
| | | Administrative Assistant |
| | | Marketing Manager |
| 5 | Carl | Plant Manager |
| 6 | Denise | |
| 7 | Edward | Finance Manager |
| 8 | Frank | |
| 9 | Gary | HR Manager |
| 10 | Hallie | Operations Manager |
| 11 | Isaac | |
| 12 | Jacqueline | Production Operator |
| 13 | Kent | Maintenance Supervisor |
| 14 | Leah | |
| 15 | Matt | Supply Chain Manager |
| 16 | Natalie | Quality Analyst |
| 17 | Owen | Buyer |

Figure 8.11

Removing Range Names

If you don't want duplicate names, you can remove or delete a name that you no longer need. To remove **alice_age**, use the following steps:

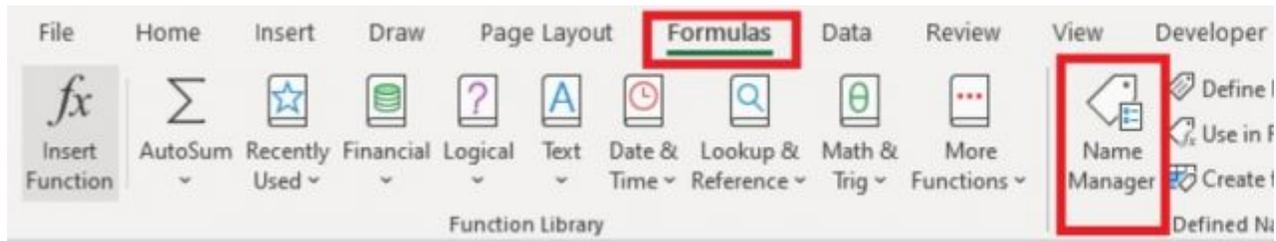


Figure 8.12

1. Select the **Formulas** tab on the toolbar. (See **Figure 8.12**)
2. Select **Name Manager**. (See **Figure 8.12**)
 - a. This will bring up a dialogue box that gives you the details of every named range that exists in the sheet. (See **Figure 8.13**)
 - b. Selecting a name will bring up its value if it has one, which cell it refers to, and its scope.
3. Select **alice_age**. (See **Figure 8.13**)

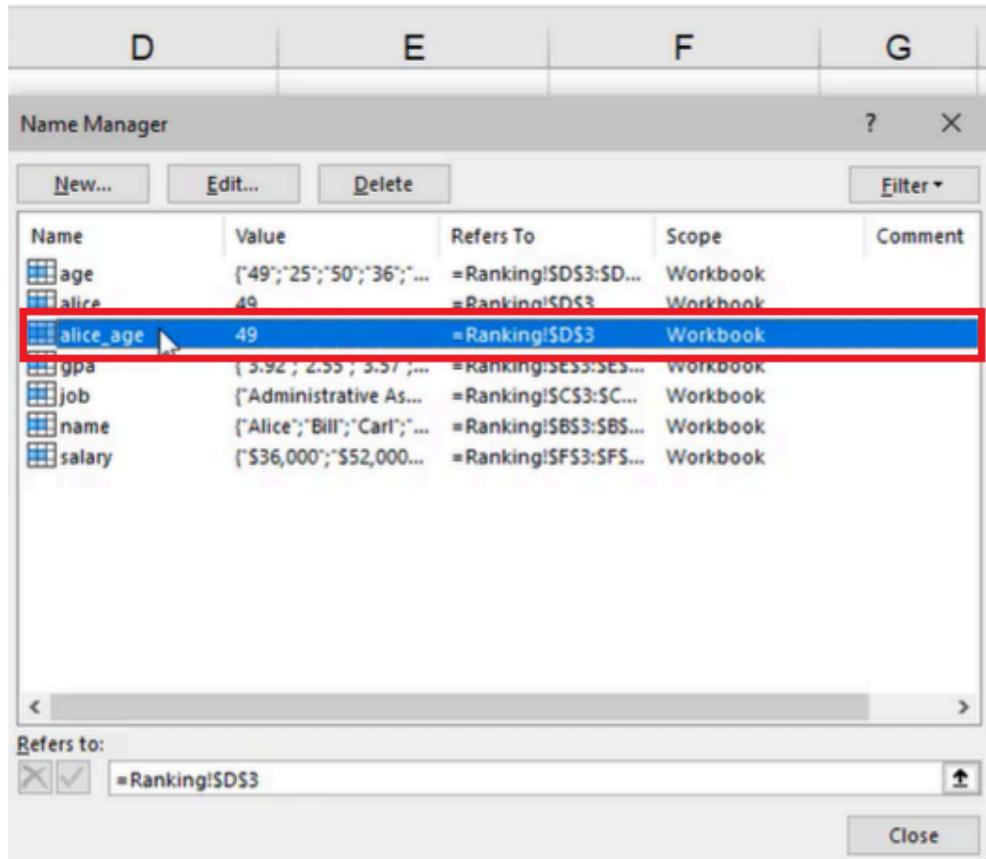


Figure 8.13

4. Select **Delete**. (See **Figure 8.14**)
5. When the pop-up message appears, select **OK**. (See **Figure 8.14**)
 - a. When you select **Done**, any cells that had a formula that used the deleted name will now have errors in them, because Excel no longer recognizes that name.

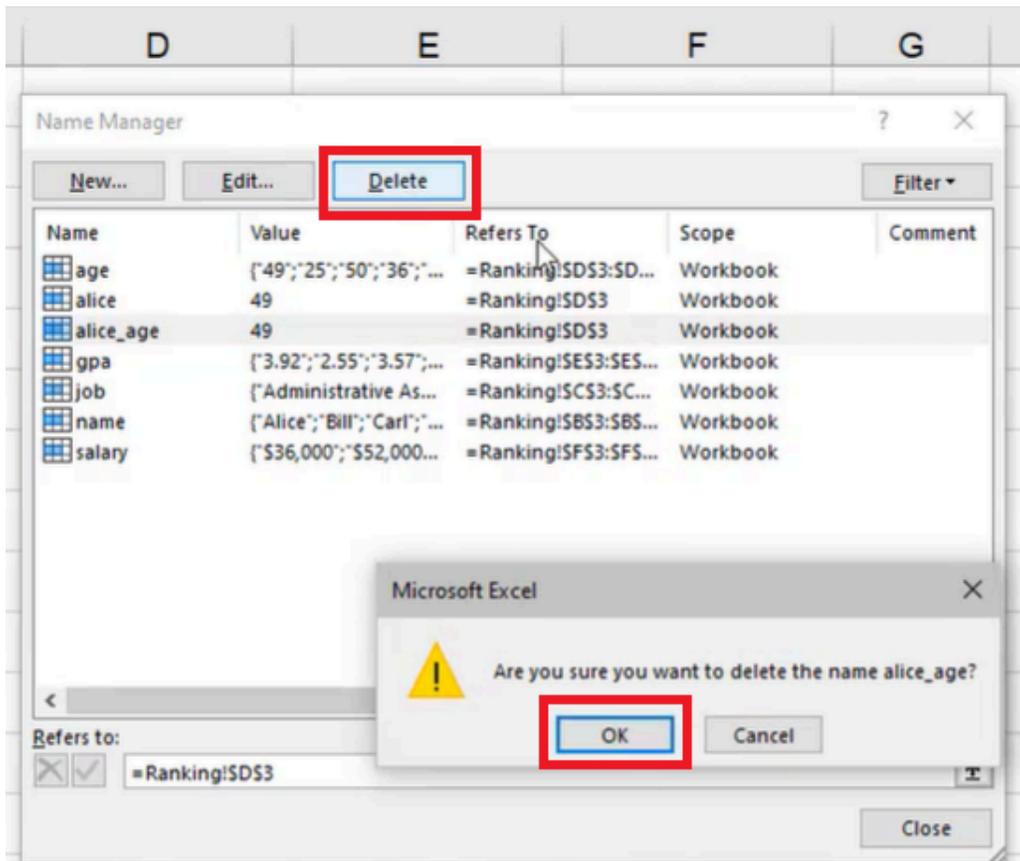


Figure 8.14

When you make edits or remove names of ranges, make sure you are aware of what formulas might be impacted.

Changing Ranges

Sometimes if you add more data after naming a range, you will want to add this data to the named range. Let's say that we added a new employee to the data. To add another cell to the range named **age**, use the following steps:

1. Select the **Formulas** tab on the toolbar. (See **Figure 8.12**)
2. Select **Name Manager**. (See **Figure 8.12**)
 - a. This will bring up a dialogue box that gives you the details of every named range that exists in the sheet. (See **Figure 8.13**)
3. Select **age**.
 - a. Information about what this named range refers to will show up. (See **Figure 8.15**)

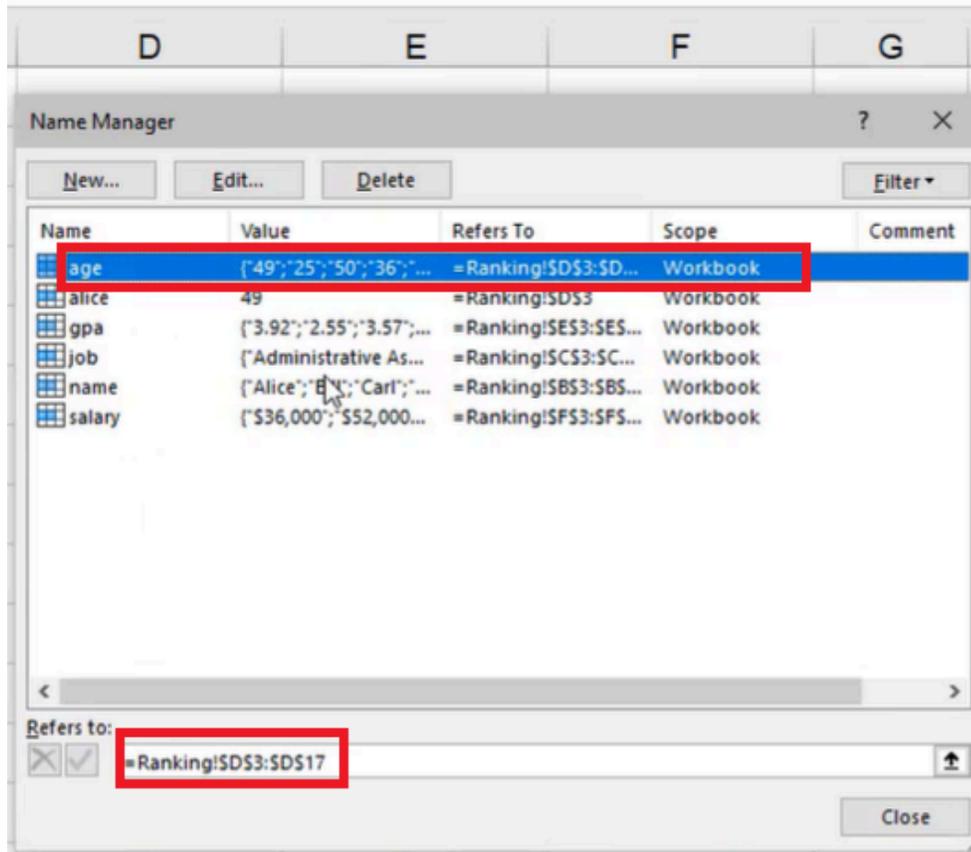


Figure 8.15

4. In the box under **Refers to:**, change **17** to **18**. (See **Figure 8.16**)
5. Select the **green checkmark**. (See **Figure 8.16**)
 - a. The range will be updated.

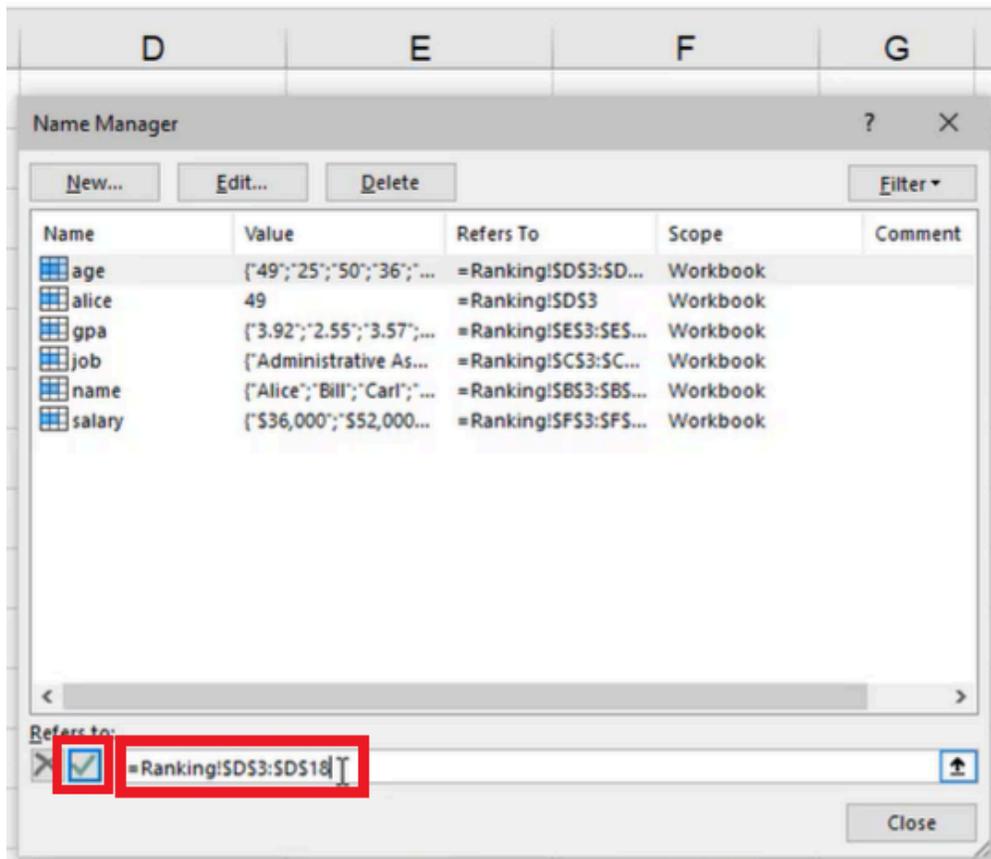


Figure 8.16

This dialogue box allows you to make all those types of edits in one place across all named ranges in your workbook.

Named ranges can be very useful, especially when your spreadsheets are large and have lots of information with lots of different sheets, making it difficult to remember where the cells you want to reference are located. It can also make creating formulas a lot easier, simplifying the problem-solving process by seeing exactly what you're referring to in the formula using a named range, instead of having to reference every unique cell or range in each formula.

When completed, your practice worksheet should look like the following:

| | Employee | Position | Age | College GPA | Salary |
|----|------------|--------------------------|-----|-------------|----------|
| 1 | | | | | |
| 2 | | | | | |
| 3 | Alice | Administrative Assistant | 49 | 3.92 | \$36,000 |
| 4 | Bill | Marketing Manager | 25 | 2.55 | \$52,000 |
| 5 | Carl | Plant Manager | 50 | 3.57 | \$74,000 |
| 6 | Denise | | 36 | 2.64 | \$48,000 |
| 7 | Edward | Finance Manager | 44 | 3.62 | \$62,000 |
| 8 | Frank | | 52 | 3.38 | \$59,000 |
| 9 | Gary | HR Manager | 24 | 3.47 | \$48,000 |
| 10 | Hallie | Operations Manager | 31 | 2.88 | \$51,000 |
| 11 | Isaac | | 45 | 2.88 | \$58,000 |
| 12 | Jacqueline | Production Operator | 30 | 3.93 | \$38,000 |
| 13 | Kent | Maintenance Supervisor | 37 | 2.31 | \$55,000 |
| 14 | Leah | | 24 | 3.66 | \$22,000 |
| 15 | Matt | Supply Chain Manager | 31 | 3.65 | \$60,000 |
| 16 | Natalie | Quality Analyst | 40 | 2.34 | \$46,000 |
| 17 | Owen | Buyer | 48 | 3.33 | \$40,000 |
| 18 | New hire | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |
| 23 | | | | | |

Figure 8.17

Supplemental Resource



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Access it online or download it at https://books.byui.edu/bus_115_business_app/named_ranges.