

Intermediate Excel Tips and Tricks

Database Tips (Exercise 1)

Rules for a List

- Keep all records together – no blank rows/columns in the data
- Be consistent with the data fields
- Each column heading must be named
- Blank row between the title and the column heading

Sort a Single Level

1. Click in one cell of the column to sort
2. On the **Home** tab, in the **Editing** group, click the **Sort & Filter** button.
3. Select **Sort A to Z** or **Sort Z to A** button

Sort the records of a list by the entries in two or more fields

1. Select any cell in the list
2. **Home** tab, **Editing** group, **Sort & Filter**, click **Custom Sort**
3. Click the **Sort By** drop-down list, select the first sort field
4. Click the **Add Level** button to sort another level
5. Optionally, change the sort order for any sort field (**Ascending** or **Descending**). Click **OK**

Filter a List

1. Right-click in the cell you want to filter by
2. Select **Filter**, **Filter by Selected Cell's Value**

Subtotals

1. Sort the column to be grouped together
2. Click **Data** tab, **Outline** group, **Subtotal**
3. Set the **At each change in** box so it matches the column sorted
4. Set the **Add subtotal to:** to a column that has numbers in it. Click **OK**
5. To look at the subtotals, click on the number **2** in the top left corner **Outlining Toolbar**

Remove Subtotals

1. Click on the **Data** tab, in the **Outline** group, select **Subtotal**
2. Click on **Remove All** button

Add Select Visible Cells to the Quick Access Toolbar

1. At the far right of the Quick Access Toolbar, click **Customize Quick Access Toolbar**
2. Select **More Commands**, Select **All Commands**
3. Scroll down and click on **Select Visible Cells**. Click the **Add** button.



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Use Select Visible Cells Feature

1. Highlight all cells that you want to copy (some cells may be hidden and you do not want to copy those cells), Click **Select Visible Cells** from the Quick Access Toolbar.
2. Right-click the selected area, **Copy**
3. Move to the cell you would like to paste the cells, right-click and select **Paste**



Working with the Table Feature

Create a Table with the Default Table Style

1. Place the cursor in the data you want to convert to a table
2. Select **Insert, Tables, Table**
3. If using header columns, check the box for **“My table has headers”**. Click **OK**

NUM	FIRST	LAST	EMP#	DIVISION	DEPT	DATE of HIRE	BE	HRS	HOURLY RATE	GROSS PAY
1	Sara	Kling	GW29	Germany	Water Rides	24-Dec-86	R	35.5	\$12.50	\$443.75
2	Sean	Willis	GBW09	Great Britain	Water Rides	5-Jul-85	D	35.5	\$13.30	\$472.15
3	Colleen	Abel	CW58	Canada	Water Rides	26-Jul-90	DRH	42	\$16.75	\$703.50
4	Teri	Binga	AW55	Australia	Water Rides	7-Jun-88	RH	40	\$8.75	\$350.00
5	Frank	Culbert	GBC07	Great Britain	Children's Rides	12-Jun-83	DRH	40	\$12.60	\$504.00
6	Kristen	DeVinney	GBS45	Great Britain	Shows	5-Jun-87	D	35	\$24.00	\$840.00
7	Theresa	Califano	CW19	Canada	Water Rides	26-Feb-89	RH	35	\$12.10	\$423.50

Activate the Total Row in a table

1. Place the cursor within your table
2. On the **Design** Tab, in the **Table Style Options** group, select **Total Row**
3. The sum total will appear in the last column by default, but you can click in any cell in the total row, and choose a function from the drop-down list in the cell. If the last column contains text, the function for the total field will be a **Count** of the number of records.

Remove the table feature from the data

1. Remove the Filter (if one is set)
Data, Sort & Filter, Clear
2. Turn off the Total Row (if checked)
Design, Table Style Options, uncheck the **Total Row**
3. Clear the Table Style
Design, Table Styles, click the **More** button, **Clear**
4. Select **Design, Tools, Convert to Range**. Click **Yes** to convert the table to a normal range

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Insert and Delete Table Rows and Columns

Inserting rows or columns in a table will only add within the table. The easiest way to insert is to click the column to the right of your data or the row below the data and start typing. If you have data to the right of, or below the table, that data is not affected.

To insert within the table:

1. Place your cursor in your data range.
2. Right click in a cell of the row or column where you want to insert.
3. Select **Insert**

a. **Table Columns to the Left**

or

b. **Table Rows Above**

Tip: If the table includes a total row, you can insert a new row at the bottom but above the total row by selecting the bottom-right table cell and pressing **Tab**.

PivotTables

Creating a PivotTable

A PivotTable must include the following:
(Row(s) Source, Column Source and a Data Source)

The insert tab allows you to easily insert a PivotTable. When PivotTables are inserted, the right pane of your spreadsheet will be the Drop Zone. The Drop Zone allows you to easily drop fields in the columns, rows and value fields.

How to Create a PivotTable

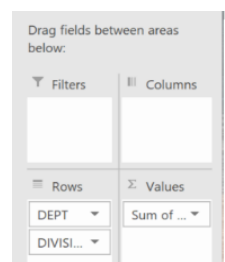
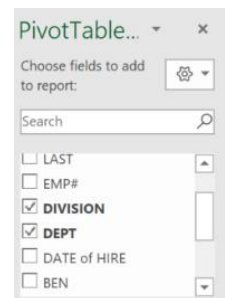
1. Place your cursor in your data range.
2. On the **Insert** tab, **Tables** group, select **PivotTable**. Click **OK**.
3. In the **PivotTable Field** list pane, drag and drop the fields you want in your pivot table to the appropriate drop zone or check the box and Excel will select where to place the PivotTable Fields.

Sort and Filter a PivotTable

1. Click on a Row or Column Label filter drop-down arrow.
2. Choose your **sort** options or check the boxes for the data you want to filter.

Set Number Formats in a Pivot Table

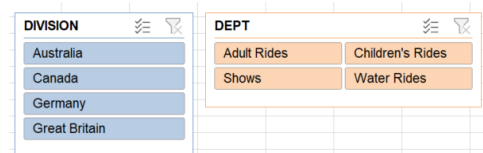
1. Right-click in a cell containing a number, select **Number Format**
2. Select the number format to set.



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PivotTable Slicers

The Slicers feature enables you to slice data and include only the elements you want in PivotTables & PivotCharts. It allows you to add and remove elements from the table display so that you can compare and evaluate data from different perspectives. Also use Slicers with multiple PivotTables & PivotCharts to showcase your data consistently in a variety of scenarios.



Insert a Slicer

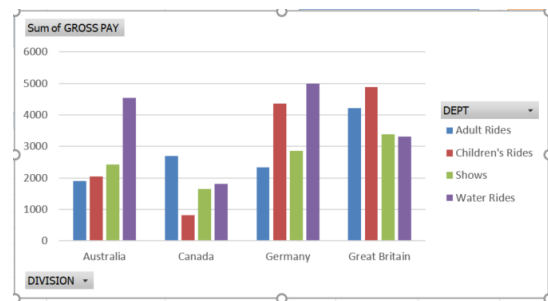
1. Click in the **PivotTable Field List** pane, select an item.
2. Select **Insert, Filter, Slicer**.
3. In the **Insert Slicers** dialog box, select an item and click **OK**.
4. In the Slicer that appears, click each item to observe the change in the corresponding item.
5. To select multiple items, hold **Ctrl** while selecting each additional item.

Create a PivotChart

1. Place your cursor in your PivotTable.
2. On the **PivotTable Tools Analyze** tab, **Tools** group, select **PivotChart**.
3. Choose a Chart layout.

Format a PivotChart

1. Click in your PivotChart.
2. A **PivotChart Tools** Ribbon will display additional tabs. (**Design**, **Format** and **Analyze** tabs)



Update a PivotTable or PivotChart Report

1. Click in the original Database or list
2. Make the necessary changes to the data
3. Click on the PivotTable or PivotChart
4. Click the **Refresh** button on the **PivotTable Tools, Analyze** tab, or right-click and select **Refresh**.

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Naming Ranges (Exercise 2)

Name a Range using the Name Box

1. Select the range of cells
2. Click in the **Name box**
3. Type a name for the range and press **Enter**.



Name a range using the adjacent label

1. Select the range of cells along with the column headings and row headings for the range
2. On the **Formulas** tab, in the **Defined Names** group, click **Create From Selection**
3. Place a checkmark in **Top Row** and **Left Column** if the named range is for both columns and rows. Click **OK**.

Change the Name or Range using the Menu

1. On the **Formulas** tab, in the **Defined Names** group, click **Name Manager**
2. Click on the range name, select **Edit**
3. Type a new name for the range in the **Name** box, or change the cell reference in the **Refers to** box
4. Click **OK**

Bring separate items into a Single Column (Concatenate)

1. Click in the cell to join the items
2. Type = to create a formula
3. Select the cell reference for first cell to join together.
4. Type **&** between each cell reference
5. Use **""** to add words to the cells
6. Example: **=A1&""&B1**

Using the Flash Fill Feature

This powerful new feature allows you to separate data similar to the Text to Columns feature but is easier to use.

Flash Fill to Separate First and Last Name

1. If you already have First and Last Name in a column, enter the first name in the column next to this column for the first person.
2. Start typing the next first name for the second person. Flash Fill will show a list of suggested names.
3. If it looks good, press **Enter** to accept the list or press **ESC** to remove the name.

First Name
Annik
Harry
Josh
Jonathan
Doug
Ron
Colin

Tip – Instead of typing the second name, on the **Data** tab, in the **Data Tools** group, click **Flash Fill**.

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The If Function

Construct an IF Statement

The IF function tests the results of an expression (logical test) and then performs one action if the expression is true, and another if it is false.

IF(logical_test, value_if_true, value_if_false)

1. Select the cell to contain the IF function.
2. Type **=IF**, then press (
3. Enter the logical test, then press ,
4. Enter the action to take if the condition is true, then ,
5. Enter the action to take if the condition is false.
6. Press **)** to end the formula.
7. Press **Enter**.

SumIf Statement

SUMIF –used to sum the values in a range that meet criteria that you specify.

For example, sum if column D contains the word “life”, you would sum column B only for those cells that contain the word “life”

Countif Statement

Countif – counts the number of cells specified by a given set of conditions or criteria.

For example **=COUNTIFS(\$A\$3:\$S\$27,"Life")** will count how many times the word Life is listed in the cell range A3:S27.

Combine the IF AND Statement

IF AND – is used if you need two conditions to be met

One common use for the AND function is to expand the usefulness of other functions that perform logical tests. For example, the IF function performs a logical test and then returns one value if the test evaluates to TRUE and another value if the test evaluates to FALSE. By using the AND function as the logical_test argument of the IF function, you can test many different conditions instead of just one.

Example: **=IF(OR(E8>=40,AND(B8>=11,C8>=11,D8>=11)),100,"")**

In the above example AND is used to make sure that B8, C8, and D8 are all greater than 11.

Combine the IF OR Statement

IF OR – is used if you need either of two conditions to be met

Example: **=IF(OR(E8>=40,AND(B8>=11,C8>=11,D8>=11)),100,"")**

In the above example, OR is used to add the number 100 to cell F8 if E8 is greater than or equal to 40, or if B8, C8, and D8 are all greater than 11.

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Lookup Basics & Reference Functions

VLOOKUP

There are two types of lookup functions. The setup of the table, and the direction of the lookup determine which lookup function is appropriate. VLOOKUP- searches vertically through the first column of the lookup table. HLOOKUP- searches horizontally through the first row of a lookup table.

=vlookup(lookup value, table array, column index number,[range lookup])

1. Select cell to contain the lookup value. Type **=vlookup(**
2. Enter value or cell reference containing the value to look up, then press **,**
3. Select or enter the range of cells containing the table and press **F4** (the table becomes an Absolute reference), then press **,**
4. Enter the column number from which to pull the answer
5. Type **, False** for an exact match or leave blank for a close match
6. Press **)** to complete the formula
7. Press **Enter**

Match Function

Match returns the relative position of an item in an array that matches a specified value in a specified order.

Using the Match function with a vlookup eliminates the need to count columns.

In the example below, **vlookup** will look for the ninth column, which is the Annual Cost of Tickets. Replace the *Column Number* in the vlookup function with the **Match** function. The match function will look to “match” the *Annual Cost of Tickets* reference in cell D29 from the column headings in

	A	B	C	D	E	F	G	H	I
1	Emp #	First	Last	Address	City	State	Zip	Annual Trips	Annual Cost of Tickets
2	123	George	Smith	104 Lonsdale Blvd.	Chekov	MN	55411	1	\$ 600
3	124	Gerald	Lincoln	4545 Washington Ave.	Grand Portage	MN	56649	2	\$ 1,200
4	125	Harold	Williams	55 Sugar Lane	Duluth	MN	55701	2	\$ 1,686
5	126	Howard	Wyatt	100 Front Blvd.	Cloquet	MN	55655	1	\$ 600
6	127	Jimmy	Howard	206 E. Park Bend	Minneapolis	MN	55439	2	\$ 1,200
24									
25	Sales by Rep								
26	Emp #				125				
27	Salesperson								
28	Amt Sold				=VLOOKUP(E26,trips,9,FALSE)				
29	Annual Cost of Tickets				=VLOOKUP(E26,trips,MATCH(D29,A1:J1,0),FALSE)				
30									

A1:J1. This is the column that will be used in the vlookup example.

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Data Validation (Exercise 3)

Data Validation

Excel provides a data management feature called data validation that enables the user to create rules for the type of data that will be accepted in a data field. Input and error messages can be defined to provide meaningful information to the user.

1. Select the range of cells for which to define the validation rules
2. On the **Data** tab, in the **Data Tools** group, click the **Data Validation** drop down list and choose **Data Validation**
3. Click one of the three tabs and change the necessary settings.
Settings- Specify the type of data the cell will accept.
Input Message- Specify a message to appear when the cell is selected.
Error Alert- Specify a message that appears if invalid data is entered.

Use a Different Worksheet w/Valid Data

If you are referencing a cell in another worksheet, make sure you create a named range for the data.

Create Named Range

1. Create a named range by selecting the cells to be used in your valid data list.
2. Click in the name box in the formula bar, name that range, and then press **Enter**. Pressing **Enter** saves the Named Range.

Note: Don't include spaces in name. (i.e. **GradeComments**.)

Create Data Validation Settings

On the sheet you want to use the valid data, select all the cells you want to apply this list to, or select the column selector to select the entire column.

1. Click on **Data** tab, **Data Tools** group, select **Data Validation**. From the **Allow** drop down, select **List**.
2. In the source field, type **=NamedRange**.
(i.e. **=GradeComments**)