



Introduction to Excel Part 2

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About the speaker:

David H. Ringstrom, CPA, is an author and nationally recognized instructor who teaches scores of webinars each year. His Excel courses are based on over 25 years of consulting and teaching experience. His mantra is “Either you work Excel, or it works you.” David offers spreadsheet and database consulting services nationwide.



Excel Versions

I'll be teaching from the Microsoft 365 version of Excel, and noting any differences or limitations in the legacy versions of Excel. References to Excel 2013+, Excel 2016+, and so on mean a feature is available in all subsequent versions, including Microsoft 365.

The Future of Excel

Microsoft 365 (Formerly Office 365)

Subscription-based version of Microsoft Office, which includes Excel. Use the software on multiple devices, new calculation engine, services and more features are rolling out that will dramatically set this version apart from past Excel versions.
www.microsoft365.com

Legacy Versions

Perpetual Licenses

Pay once for the software to use on a single computer. No new features added until you buy a new license. Includes

Excel 2019
Excel 2016
Excel 2013
Excel 2010
Excel 2007 and earlier

1 File Home Insert Page Layout

2 Cut Copy

Paste Format Painter

Calibri

B I U

I demonstrate each technique at least twice, first by way of numbered steps in PowerPoint, and then in Excel.

The following articles written by David Ringstrom include PDF of today's presentation along with an example workbook that contains most examples I'll teach from as well as related articles.

Email ask@davidringstrom.com if you haven't received the handouts.

Excel Tips, Data Entry Shortcuts

Related Articles Car Payme



Duplicating Excel Worksheets

1 Select Format on the Home Menu.

2 Move or Copy Sheet...

3

4

5 The worksheet has been duplicated.

6 Alternative: Right-click the worksheet tab.

7

	A	B	C
1	Interest Rate	5.25%	
2	Term	48	
3	Principal	30,000.00	
4	Payment	(\$694.28)	

	A	B	C	D
1	Interest Rate	5.25%		
2	Term	48		
3	Principal	30,000.00		
4	Payment	(\$694.28)		
5				
6	Payment #	Date	Interest	Princi
7	1	1/1/2018	131.25	5
8	2	1/2/2018	128.79	5
9	3	1/3/2018	126.31	5
10	4	1/4/2018	123.83	5
11	5	1/5/2018		
12	6	1/6/2018		
13	7	1/7/2018		
14	8	1/8/2018		
15	9	1/9/2018		
16	10	1/10/2018		
17	11	1/11/2018		
18	12	1/12/2018	105.55	
19				
20				
21				
22	16	1/4/2019	93.15	



Introduction to Pasting

1 Select cells A1:E54.

2 Click the Home tab.

3 Click the Copy button.

4 A marquee border appears.

5 Select cell G1.

6 Click the Paste button.

7 A copy of the data has been pasted.

8 Optional: press Escape to clear the clipboard. Excel has a propensity to clear the clipboard when you carry out most Excel commands that don't involve pasting data, which can mean you may have to select and copy it again.

Interest R.	5.25%
Term	48
Principa	#####
Payment	(\$694.28)

Balance
29,436.97
28,871.47
28,303.51
27,733.05

34	1/10/2020	44.01	650.28
35	1/11/2020	41.16	653.12
36	1/12/2020	38.30	655.98
37	1/1/2021	35.43	658.85
38	1/2/2021	32.55	661.73
39	1/3/2021	29.66	664.62
40	1/4/2021	26.75	667.53
41	1/5/2021	23.83	670.45
42	1/6/2021	20.90	673.39
43	1/7/2021	17.95	676.33

Interest Rate	5.25%
Term	48
Principal	30,000.00



Other Paste Options

1 A Paste Options command appears after each Paste action.

2 Choose Values and Number Formatting to convert formulas to static values.

3 The Paste Options menu is visible after a paste action.

4 The Paste Special... option is highlighted in the Paste Options menu.

5 The Paste Special dialog box offers a variety of pasting options. You can revisit the Paste Options dialog box without copying again, such as to first paste Column Widths, and then to paste Formulas, Values, and/or Formatting.

Paste Special Dialog Box Options:

- Paste:**
 - ☒ All
 - ☐ Formulas
 - ☐ Values
 - ☐ Formats
 - ☐ Comments
 - ☐ Validation
 - ☐ All using Source theme
 - ☐ All except borders
 - ☐ Column widths
 - ☐ Formulas and number formats
 - ☐ Values and number formats
 - ☐ All merging conditional formats
- Operation:**
 - ☒ None
 - ☐ Add
 - ☐ Subtract
 - ☐ Multiply
 - ☐ Divide
- ☐ Skip blanks
- ☐ Transpose
-
-
-

Interest	Principal	Balance
44.01	650.28	Paste
29.66	664.62	123
26.75	667.53	123
23.83		123
20.90		
17.95	676.33	3,420.31
14.99	679.29	2,747.01
12.02	682.26	2,064.75
9.03	685.25	1,379.50
6.04	688.25	691.26
3.02	691.26	0.00

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Inserting/Deleting Rows/Columns

1 Select rows 1:3.

2 Select Insert from the Home menu.

3 Insert Sheet Rows

4 New rows have been inserted. You can insert columns in the same fashion.

5 Alternative: Right-click on your selection.

6 Insert

7 Select Delete from the Home menu.

8 Delete Sheet Rows

9 Click Undo (or press Ctrl-Z) if you change your mind. You can generally undo your last 100 actions in a workbook, however certain actions like inserting/deleting worksheets preempt your ability to Undo past actions.

Payment #	Date	Interest	Principal	Payment
1	1/1/2018	131.25	5	
2	1/2/2018	128.79	5	
3	1/3/2018	126.31	5	
4	1/4/2018	123.83	5	



Merge Cells

1 Type Amortization Schedule in cell A1, and then select cells A1:E1.

2 Home

3 Merge & Center

4 Cells A1:E1 are now merged into a single cell. Merged cells sometimes solve one problem and create others, such as prompts indicating a certain action cannot be carried out on a merged cell.

5 Merge & Center

6 Unmerge Cells

Payment #	Date	Interest	Principal	Balance
1	1/1/2018	131.25	563.03	29,436.97



Print Headers/Footers

1 Page Layout

2 Print Titles

3 Header/Footer

4 Rows to repeat at top: 1:6

5 Print Preview

6 2 of 2

7 Printer

Rows 1:6 now appear at the top of page 2 and any subsequent pages that get added if you expand the schedule.

Payment #	Date	Int
42	6/1/2021	
43	7/1/2021	
47	11/1/2021	
48	12/1/2021	

Interest Rate 5.25%

Term 72

Principal 30,000.00

Payment (\$486.63)



Introduction to Find

1 Choose Find & Select on the Home menu (or press Ctrl-F).

2 Find...

3 Find what: 1/1/2021

4 Find Next

5 Excel either activates the next cell that contains the requested value...

6 ...or reports that the value couldn't be found.

7 Click the Options button to display these fields. Users sometimes forget clicking either checkbox previously.

8 Use an asterisk as a wildcard for partial matches.

9 Click Find All to see all matches. Each match is a hyperlink.

Find and Replace

Find what: 1/1/21

Find and Replace

Find what: */1/2021

Find All

Book Sheet Name Cell

Car Payment.xlsx	Car Payment	\$B\$46
Car Payment.xlsx	Car Payment	\$B\$47
Car Payment.xlsx	Car Payment	\$B\$48

12 cell(s) found



Introduction to Replace

1 Find & Replace button on the ribbon.

2 Find... and Replace... options in the ribbon.

3 Find what: A4

4 Replace with: A5

5 Replace All button

6 All matches are replaced within the worksheet when only a single cell is selected. In this case references begging with A4, such as A41 would also be replaced.

7 Click Undo if it's immediately apparent that a replace has gone awry.

8 To limit your exposure select a range of cells first before you initiate the Replace command.

	A	B	C
10	1	1/1/2018	131.25
11	2	2/1/2018	128.79
12	3	3/1/2018	126.31
13	4	4/1/2018	123.83
14	5	5/1/2018	121.33
15	6	6/1/2018	118.83
16	7	7/1/2018	116.31
17	8	8/1/2018	113.78
18	9	9/1/2018	111.24
19	10	10/1/2018	108.69
20	11	11/1/2018	106.13
21	12	12/1/2018	103.55
22	13	1/1/2019	100.97
23	14	2/1/2019	98.37
24			
25			
26			
27			
28	19	7/1/2019	85.22
29	20	8/1/2019	82.56
30	21	9/1/2019	79.88
31	22	10/1/2019	77.19



Trace Dependents

Step 1: Select any cell, no matter if filled or blank.

Step 2: Click the **Formulas** tab in the ribbon.

Step 3: Click **Trace Dependents** in the Formula Auditing group.

Step 4: Excel adds blue arrows to show the cells that reference cell B3. Choose **Remove Arrows** on the Formulas menu to erase the arrows.

Step 5: This prompt appears if a cell isn't presently referenced by any other cell.

Microsoft Excel

The Trace Dependents command found no formulas that refer to the active cell.

OK

Payment #	Date	Interest	Principal	Balance
1	1/1/2018	131.25	355.38	29,644.62
2	2/1/2018	129.70	356.94	29,287.68
3	3/1/2018	128.13	358.50	28,929.17
4	4/1/2018	126.57	360.07	28,569.11



Trace Precedents

1 Select any cell that contains a formula.

Payment #	Date	Interest	Principal
1	1/1/2018	131.25	
2	2/1/2018	129.70	
3	3/1/2018	128.13	
4	4/1/2018	126.57	

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4 Excel adds blue arrows to show the cells that C7 references. Choose Remove Arrows on the Formulas menu to erase the arrows.

Payment #	Date	Interest	Principal	Balance
1	1/1/2018	131.25	355.38	29,644.62
2	2/1/2018	129.70	356.94	29,287.68
3	3/1/2018	128.13	358.50	28,929.17
4	4/1/2018	126.57	360.07	28,569.11

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2 Formulas

3 Trace Precedents

Trace Dependents

Remove Arrows

Formula Auditing

5 This prompt appears if a cell doesn't contain a formula that references other worksheet cells.

Microsoft Excel

The Trace Precedents command requires that the active cell contain a formula which includes valid references.

OK

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Spell Checking Spreadsheets

Excel Spell Check Process:

1. Click the **Review** tab in the ribbon.
2. Click the **Spelling** button (ABC icon).
3. Click the **Change** button to replace the misspelled word.
4. Click the **OK** button in the completion message box.
5. Excel performs a spell check, not a grammar check, so you'll still need to look over your work closely.

	A	B	C
1	Interest Rat	5.25%	
2	Term	72	
3	Principle	30,000.00	
4	Payment	(\$486.63)	
5			
6	Payment #	Date	Interest
7	1	6/1/2018	123.41
8	2	7/1/2018	121.82
9	3	8/1/2018	120.22
10	4	9/1/2018	118.62
11	5	10/1/2018	117.01
12	6	11/1/2018	115.39
13	7	12/1/2018	113.77
14	8	1/1/2019	112.14
15	9	2/1/2019	110.50
16	10	3/1/2019	108.85
17	11	4/1/2019	107.20
18	12		
19	13		
20	14		
21	15		
22	16		

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Text to Columns Feature - Addresses

Panel 1: Select the data you wish to separate into columns.

	A	B
1	Des Moines, IA 50301	
2	Augusta, ME 04330	
3	Baton Rouge, LA 70801	
4	Carson City, NV 89701	
5	Jefferson City, MO 65101	
6	Hartford, CT 06101	
7		
8		
9		
10		

Panel 2: Text to Columns Introduction - Excel

Formulas | **Data** | Review | View | Developer

Sort | Filter | Clear | Reapply | Advanced | **Text to Columns**

Sort & Filter | Data Tools

Panel 3: Convert Text to Columns Wizard - Step 1 of 3

The Text Wizard has determined that your data is Delimited.
If this is correct, choose Next, or choose the data type that best describes your data.

Original data type
Choose the file type that best describes your data:

☒ **Delimited** - Characters such as commas or tabs separate each field.
☐ Fixed width - Fields are aligned in columns with spaces between each field.

Preview of selected data:

1	Des Moines, IA 50301
2	Augusta, ME 04330
3	Baton Rouge, LA 70801
4	Carson City, NV 89701
5	Jefferson City, MO 65101

Cancel < Back **Next >** Finish

Panel 4: Convert Text to Columns Wizard - Step 2 of 3

This screen lets you set the delimiters your data contains. You can see how your text is affected in the preview below.

Delimiters

☒ Tab
☐ Semicolon
☒ **Comma**
☐ Space
☐ Other:

☐ Treat consecutive delimiters as one

Text qualifier:

Preview:

1	Des Moines, IA 50301
2	Augusta, ME 04330
3	Baton Rouge, LA 70801
4	Carson City, NV 89701
5	Jefferson City, MO 65101

Cancel < Back **Next >** **Finish**



Text to Columns Feature - Addresses

Step 8: Select the data you wish to separate into columns.

Step 9: Click the **Data** tab in the ribbon.

Step 10: Click the **Text to Columns** button in the **Data Tools** group.

Convert Text to Columns Wizard - Step 1 of 3

The Text Wizard has determined that your data is Delimited. If this is correct, choose Next, or choose the data type that best describes your data.

Original data type: Choose the file type that best describes your data:

- ☐ Delimited - Characters such as commas or tabs
- ☒ Fixed width - Fields are aligned in columns with spaces

Preview of selected data:

1	IA 50301
2	ME 04330
3	LA 70801
4	NV 89701
5	MO 65101

Step 11: Select **Fixed width**.

Step 12: Click **Next >**.

Convert Text to Columns Wizard - Step 2 of 3

This screen lets you set field widths (column breaks). Lines with arrows signify a column break.

To CREATE a break line, click at the desired position.
To DELETE a break line, double click on the line.
To MOVE a break line, click and drag it.

Data preview:

IA	50301
ME	04330
LA	70801
NV	89701

Step 13: Click **Next >**.

Convert Text to Columns Wizard - Step 3 of 3

This screen lets you select each column's data format.

Column data format:

- ☐ General
- ☒ Text
- ☐ Date (MDY)
- ☐ Delimited

Step 14: Select the ZIP code column.

Destination: Data preview:

GenText
IA 50301
ME 04330
LA 70801

Step 15: Select **Text**.

Step 16: Click **Finish**.

Final Result:

	A	B	C
1	Des Moines	IA	50301
2	Augusta	ME	4330
3	Baton Rouge	LA	70801
4	Carson City	NV	89701
5	Jefferson City	MO	65101
6	Hartford	CT	6101
7			
8			
9			
10			



Flash Fill Introduction (Excel 2013+)

1 Type SSN and press Enter to go to the next row.

3 Flash fill options.

Flash Fill only works on one column at a time.

2 Type the digit of the next SSN. Excel will offer a list, press Enter to fill the column.

Alternatively you could type the first SSN in cell B2 click Flash Fill on the Data menu.

Flash Fill sometimes misinterprets punctuated names.



Introduction to Charts

1 Select any cell within the data you wish to chart.

	A	B	C	D
1	Fruit Sales	January	February	March
2	Apples	327	192	397
3	Oranges	466	449	370

2 Choose Column Charts from the Insert menu.

3 Choose a Column Chart type (e.g., 2-D Column).

4 The chart appears.

	A	B	C	D	E	F	G	H	I
1	Fruit Sales	January	February	March		Chart Title			
2	Apples	327	192	397					
3	Oranges	466	449	370					

5 Add a new month.

	A	B	C	D	E
1	Fruit Sales	January	February	March	April
2	Apples	327	192	397	400
3	Oranges	466	449	370	500

6 Click on the Plot Area.

7 Drag the Fill Handle to the right to include the new data.

	A	B	C	D	E	F	G	H	I
1	Fruit Sales	January	February	March	April				
2	Apples	327	192	397	400				
3	Oranges	466	449	370	500				



Recommended Charts (Excel 2013+)

Step 1: Select any cell within the data that you wish to chart.

Step 2: Click the **Insert** tab on the ribbon.

Step 3: Click the **Recommended Charts** button in the **Insert** tab.

Step 4: Double-click to add a recommended chart to your worksheet.

More options appear here.

Worksheet Data:

	A	B	C	D	E	F	G	H	I
1	Fruit Sales	January	February	March	April	May			
2	Apples	327	192	397	464	500			
3	Oranges	466	449	370	385	482			

Chart Title: Apples vs. Oranges

Chart Type: Clustered Column

Legend: Apples (Blue), Oranges (Red)

Chart Description: A clustered column chart is used to compare values across a few categories. Use it when the order of categories is not important.



Conditional Formatting – Duplicates

1 Select the cells to test for duplicates.

2 Select Conditional Formatting from Home menu.

3 Highlight Cells Rules

4 Duplicate Values...

5 OK

Alternatively choose Unique.

Invoice Numbers	Total
11871	\$ 74.92
11871	\$ 83.29
11344	\$ 96.34
11334	\$ 61.27
11908	\$ 67.38
11760	\$ 61.66
11961	\$ 95.72
11318	\$ 69.41
11334	\$ 86.76
11766	\$ 72.88
11468	\$ 69.90
11173	\$ 68.37
11306	\$ 54.00
11905	\$ 63.27
11653	\$ 57.74
11660	\$ 54.92

Remove Conditional Formatting

1 Choose Conditional Formatting on the Home Menu.

2 Clear Rules

3 Clear Rules from Entire Sheet

4 Conditional Formatting is removed.

	A	B	C
1	Invoice Numbers	Total	
2	11760	\$ 90.03	
3	11105	\$ 77.63	
4	11173	\$ 74.92	
5	11871	\$ 83.29	
6	11344	\$ 96.34	
7	11334	\$ 61.27	
8	11908	\$ 67.38	
9	11760	\$ 61.66	
10	11961	\$ 95.72	
11	11318	\$ 69.41	
12	11334	\$ 86.76	
13	11766	\$ 72.88	
14	11468	\$ 69.90	
15	11173	\$ 68.37	
16	11306	\$ 54.00	
17	11905	\$ 63.27	
18	11653	\$ 57.74	
19	11660	\$ 54.92	

Duplicates



Introduction to Sorting Lists

1 Select any cell within the column that you wish to sort. You do not need to select the entire list unless it contains blank rows.

2 Click here to sort in Descending order.

3 Click here to sort in Descending order.

4 You can sort on up to 64 levels.

5 You can sort various criteria.

6 Additional sorting options appear here.

7 OK

8 OK

9 OK

10 OK

Product	Cases Sold	Total Sales
Oranges	6168	61680
Apples	6079	85106
Apples	1565	21910
Kiwi	9967	99670
Bananas	9842	98420

Sort

Sort by: Total Sales

Sort On: Cell Color

Order: No Cell Color, On Top

Additional sorting options appear here.

OK



Initiating a Pivot Table

1 Select any cell within your list.

2 Insert

3 PivotTable

4 OK

Create PivotTable

Choose the data that you want to analyze

☒ Select a table or range

Table/Range: Fruit Sales!\$A\$1:\$F\$51

☐ Use an external data source

Choose Connection...

Connection name:

☐ Use this workbook's Data Model

Choose where you want the PivotTable report to be placed

☒ New Worksheet

☐ Existing Worksheet

Location:

Choose whether you want to analyze multiple tables

☐ Add this data to the Data Model

Region	City	Vendor	Product	Cases Sold	Total Sales
North GA	Atlanta	Fruit R Us	Oranges	6168	61680
North GA	Atlanta	Fruit R Us			85106
North GA	Atlanta	Fruit R Us			66638
North GA	Atlanta	Fruit R Us			75548
North GA	Atlanta	Fruit R Us			29940
North GA	Atlanta	Bob's Fruit			93816
North GA	Atlanta	Bob's Fruit			21910
North GA	Atlanta	Bob's Fruit			99670
North GA	Atlanta	Bob's Fruit			98420
North GA	Atlanta	Bob's Fruit			89930
North GA	Atlanta	Bob's Fruit			54263
North GA	Atlanta	Bob's Fruit			107856
North GA	Atlanta	Bob's Fruit			71747
North GA	Atlanta	Bob's Fruit			126630
North GA	Atlanta	Bob's Fruit			11557
North GA	Atlanta	Bob's Fruit			72061
North GA	Atlanta	Bob's Fruit			31260
North GA	Atlanta	Bob's Fruit			43121
North GA	Atlanta	Bob's Fruit			81521
North GA	Atlanta	Bob's Fruit			93405
North GA	Atlanta	Bob's Fruit			89810



Pivot Table Interfaces

1 The 'PivotTable Analyze' and 'Design' tabs and the Field List appear when you move your cursor inside of the pivot table.

2 Your report will appear within this blank pivot table canvas.

3 If the PivotTable Field list isn't onscreen, right-click on the pivot table and choose Show Field List, or choose Field List from the Analyze (or Options) menu.

4 Use the PivotTable Field list to add/remove fields from your pivot table.

The screenshot shows the Excel interface with a PivotTable named 'PivotTable1' selected. The 'PivotTable Analyze' and 'Design' tabs are visible in the ribbon. A right-click context menu is open over the PivotTable, with 'Show Field List' highlighted. The 'PivotTable Fields' task pane is also visible on the right side of the screen, showing a list of fields to add to the report: Region, City, Vendor, Product, and Cases Sold. The task pane also includes sections for Filters, Columns, Rows, and Values, and a 'Defer Layout Update' checkbox.



Adding Fields to a Pivot Table

1 Select Product, which Excel places in the Rows section.

2 One of each product from the Fruit Sales list appears.

3 Cases sold by product appears.

4 Cases sold by product appears.

Row Labels	Sum of Cases Sold
Apples	48236
Bananas	63093
Kiwi	53671
Mixed Berries	43733
Oranges	58854
Grand Total	267587



Recommended Pivot Tables (Excel 2013+)

1 Select any cell within the list.

2 Insert

3 Recommended PivotTables

4 Select any suggestion as a starting point. You can add/remove fields from the resulting pivot table as needed.

5 OK

Recommended PivotTables

Sum of Cases Sold by Region

Row Labels	Sum of Cases Sold
Mid GA	56088
North GA	173289
South GA	38210
Grand Total	267587

Sum of Total Sales by Region

Row Labels	Sum of Total Sales
Mid GA	691787
North GA	2108437
South GA	449414
Grand Total	3249638

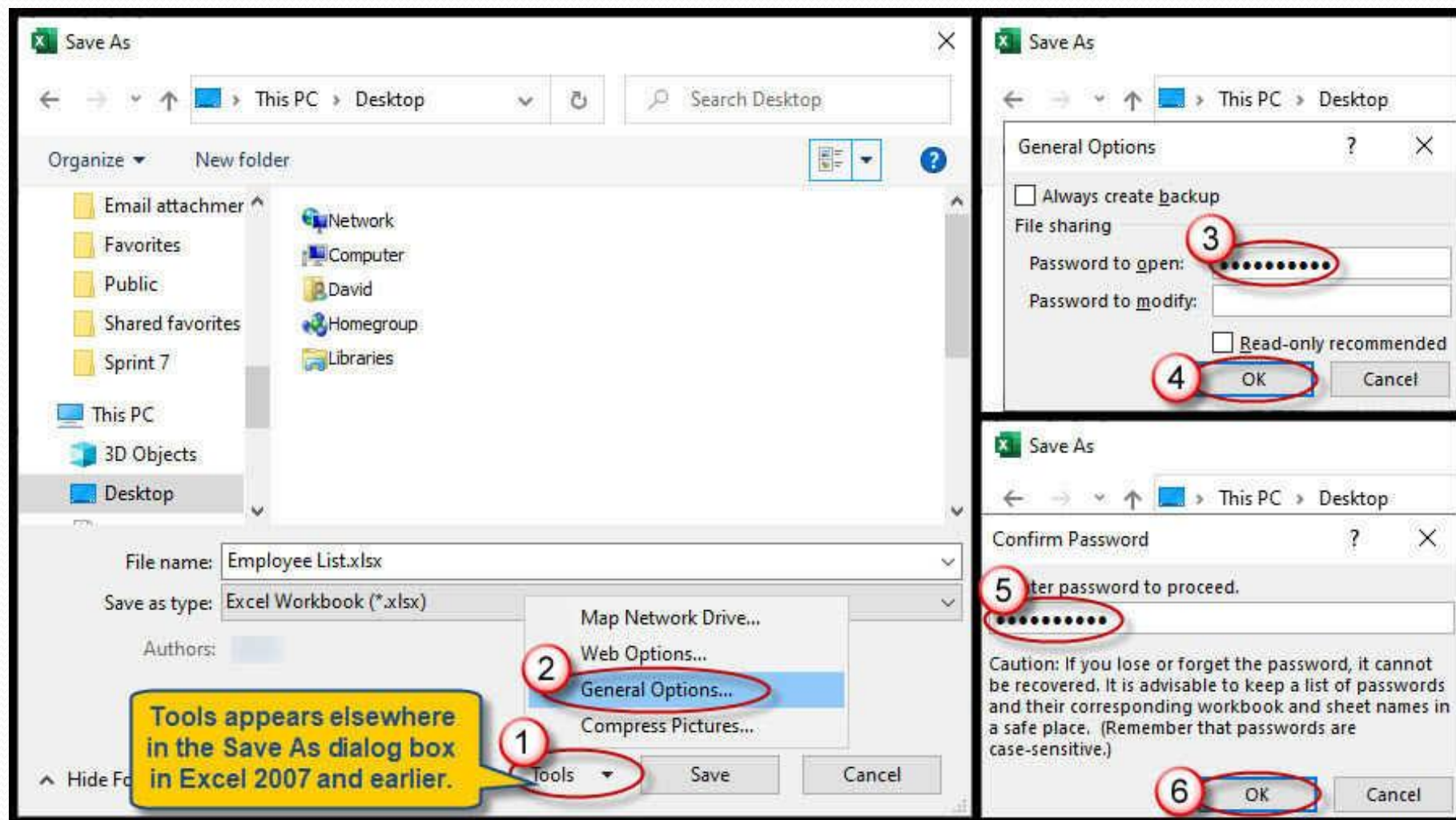
Sum of Total Sales, Sum of Cases Sold by Product

Row Labels	Sum of Total Sales	Sum of Cases Sold
Apples	614847	482
Bananas	756649	630
Kiwi	643277	536
Mixed Berries	518888	437
Oranges	715977	588
Grand Total	3249638	267587

Blank PivotTable [Change Source Data...](#)



Password Protect the Workbook





Recovering Unsaved Workbooks

1 File

2 Info

3 Manage Workbook

4 Recover Unsaved Workbooks
Browse recent unsaved files

This button is labeled Manage Versions in Excel 2010/2013.

5 In Excel 2010 and later workbooks that you purposefully or accidentally closed without saving linger in the UnsavedFiles folder for a couple of days before being automatically deleted.

Open

Local Microsoft Office UnsavedFiles

Search UnsavedFiles

Organize New folder

Name	Type
Book1((Unsaved-305303883094888131)).xlsb	Microsoft Excel Bina...
Book2((Unsaved-305304181607614520)).xlsb	Microsoft Excel Bina...
Book1((Unsaved-305306383689677913)).xlsb	Microsoft Excel Bina...
Book2((Unsaved-305308302630131204)).xlsb	Microsoft Excel Bina...
Book1((Unsaved-305309932553347118)).xlsb	Microsoft Excel Bina...
Book2((Unsaved-305310230667460907)).xlsb	Microsoft Excel Bina...

File name: All Excel Files (*.xl*;*.*xl*;*.*xlsm*)

Tools Open Cancel

Thank you for attending!

I'm happy to hear from you. In particular let me know if you did not receive the handouts for this presentation.

David Ringstrom, CPA



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www.linkedin.com/in/davidringstrom

Is there something you were hoping to learn today but didn't?
Please let me know. You can ask me anything about Excel.