

Course Manual:

Excel Intermediate



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1. Group work - Multi-sheet

1.1. Non-continuous selection

- ▶ Click on a selection tab, hold the **CTRL button** down and add the desired sheets with a click on the **tab** per sheet.

1.2. Continuous selection

- ▶ Click on the tab of the first sheet of the selection, hold the key **↑ (Shift/Maj.) pressed down** and then **click on the last sheet** of the selection.

1.3. Select all the sheets

- ▶ Click with the right button on a sheet tab, then click **Select all sheets** in the pop-up menu.



The tabs in the selection will appear in white. The message **[Group]** will appear in the title bar. To disable a working group, click on a tab that does not belong to the working group. If all the tabs are part of it, click on one of them, except the first one.

1.4. Select multiple sheets (create a group)

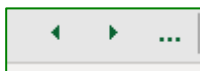
Creating a group will allow changes to be applied to multiple sheets of the same workbook at the same time. The way of doing things will be somewhat different depending on whether the sheets are in continuous selection or not.

1.5. Change the color of a tab

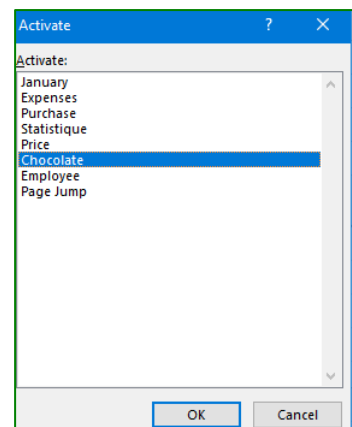
From the **pop-up** menu obtained **by clicking with the right button** on the tab of the sheet to be changed, select the **Tab Color** option.

1.6. Moving from one sheet to another in a workbook

- ▶ If **the tab** or **"the sheet"** you are looking for is visible on the tab row, just click on it.
- ▶ If the workbook contains several sheets, **not all tabs may be visible**, you can click on one of the scroll buttons to the left of the tabs



- ▶ Or right click this scroll buttons, the box will display all existing sheets in this workbook, select the desired sheet.

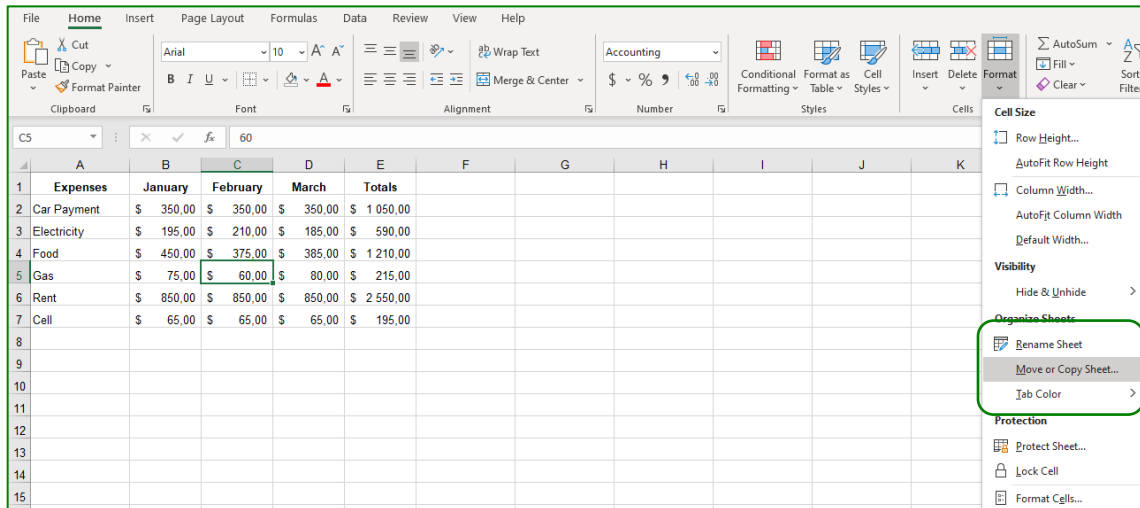


1.7. Move a sheet or copy a spreadsheet

It is possible to copy or move sheets in the same workbook or to another workbook.

You can also copy a full spreadsheet in one workbook or another workbook. This way of working is the most effective, because the spreadsheet will respect the layout, i.e. the headers and foot of the page.

1. To do so, from the **Home** tab, click on the **Format** icon ➔ **Move Or copy sheet**. Or right click on the sheet.

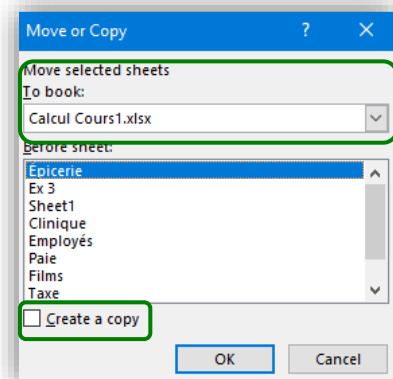


2. In the **To book** area, click on the destination workbook.
3. To move or copy selected sheets in a new workbook, click (new book).
4. In the **Before Sheet** area, click on the sheet in front of which you want to insert the moved (or copied) sheet.
5. To copy the sheets instead of moving them, **activate** the checkbox **Create a copy**.



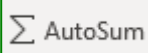
To move sheets inside the current workbook, you can drag the selected sheets onto the row of sheet tabs. To copy sheets, hold the CTRL button down and drag them; Release the mouse button before releasing the CTRL button.

To copy sheets, hold the CTRL button down and slide; release the mouse button before releasing the CTRL button.



2. Get a sum of several sheets

You want to get the sum of the totals of each sheet of a workbook, for example: compiling sales of 12 months, **How to Do it?**

1. Open the file « **Summary** », sheet « **Summary** »
2. **Activate** cell **B4**
3. Click the ➔ **Automatic Sum** button  on the **Home** tab or the **Formulas** tab
4. Select sheet "**January**", click in cell **B4** which represents the **sum** of **piano** sales for the month of "**January**"
5. Hold the **SHIFT** key down and click in sheet "**December**" to select **the January to December sheets** from the workbook
6. Validate with the **Enter** button
7. **The answer in cell B4 is 104,980 ➔ =SUM(jan:dec!B4)**
8. **Copy** the formula from **B4** to **B9**
9. **Repeat** the same operation in **B12** and **copy** the formula in **B 13** and **B14**

MUSJOMAC PLUS

ANNUAL SALES AND EXPENSES FOR 2016

SALES	AMOUNT
Acoustic guitar	17 500,00 \$
Piano	SUM(number1; [number2]; ...)
Flute	7 500,00 \$
Electric guitar	8 500,00 \$
Violin	6 500,00 \$
Trumpet	5 000,00 \$
Total sales	54 750,00 \$
EXPENSES	AMOUNT
Instrument parts	2 750,00 \$
Labour	7 500,00 \$
Transport	1 750,00 \$
Total expenses	12 000,00 \$

MUSJOMAC PLUS

ANNUAL SALES AND EXPENSES FOR 2016

SALES	AMOUNT
Acoustic guitar	104 980,00 \$
Piano	
Flute	
Electric guitar	
Violin	
Trumpet	
Total sales	104 980,00 \$
EXPENSES	AMOUNT
Instrument parts	
Labour	
Transport	
Total expenses	- \$

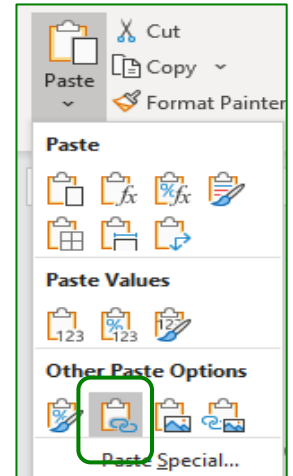
3. Copy - paste with link

You can **link multiple sheets** or workbooks with **copying - Paste with link**, how to do it?

3.1. EXERCISE 1: Paste with link

You want to **copy sub-totals** from a spreadsheet to a new sheet, however, you want the **values** to be **linked** i.e. that the changes are made simultaneously, **How to do it?**

1. Open the file "**Paste Link** sheet "**Compilation**"
2. Copy cells **B14 to E14** from Sheet → **Montreal**
3. Select cell **B5** from sheet → **Compilation**
4. From **the Home Tab** → **Group Clipboard** → **Paste Special** choose → **Paste link**
5. **Repeat the steps** to insert the totals from sheet "**St.Bruno**" into sheet **Compilation**
6. **Here is the result. Do not save and close.**



4		Quarter 1	Quarter 2	Quarter 3	Quarter 4
5	Place Versailles	7927	6657	6942	7320
6	Promenade St-Bruno	9021	9484	9569	8805



Now let's copy the same data, but in another way to better understand the absolute reference.

3.2. EXERCISE 2 Paste with link, absolute reference

1. Open file "**Paste Link**", sheet "**Montreal**"
2. Activate cell **B14**, and **click "Copy"**
3. Select cell **B5** from sheet → **Compilation**
4. From **the Home Tab** → **Group Clipboard** → **Paste Special** choose → **Paste link**
5. Confirm
6. **Here is the answer:**



Name of the sheet	
=Montreal!\$B\$14	<div>\$ sign in front of B Means always column B</div> <div>\$ sign in front of 14 Means always row 14</div> <div>So always cell B14 of the Montreal sheet</div>
Absolute reference	

7. **Change** the **value** of cell **E5** of the Montreal sheet, which is **330**, to **1100**, note that your result has been changed on the sheet "Link"
8. **Save and close**

3.3. Formatting - Multi-sheet

You can format of all your sheets (tabs) of a workbook in a single operation.

Select all the sheets and from the "Page Layout" tab, make all the changes: **Orientation, header and footer, etc.**

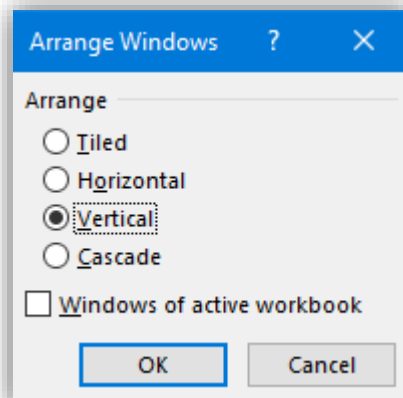
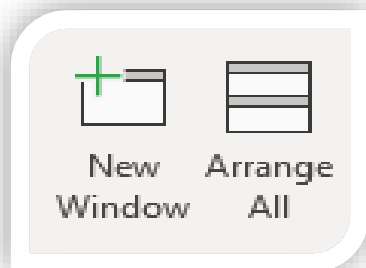
You cannot do this by going through the preview before printing.

Do not forget to leave the working group after this operation.

3.4. View multiple sheets on the screen

Often, we would like to view more than one sheet on the **screen, how to do it?**

1. Make sure you have only one open workbook
2. From the **View** tab, click "**New Window**"
3. Now click **Arrange All**, Choose "**Vertical**"



4. If you want a third sheet, repeat step 2 and 3

Note:

4. Consolidation

So far, you have worked and grouped data using multiple sheets. Now you're going **to work with multiple workbooks** while incorporating links between workbooks.

Excel offers the command "**Consolidate**" which allows you to make summaries, Example: "**Sum**", "**Average**" and others...from the **Consolidate** function. There are **2 types of consolidation, by Position and by Category**

4.1. Consolidation by Category

Unlike the Position Consolidate method, there is no need to **respect the structure of the sheets or workbooks** you want to consolidate. **Notice that the 3 workbooks have the same products, but they are not positioned in the same places.**

4.2. EXERCISE - Consolidation by category

1. Open the following files: "**Cat Laval**", "**Cat Montreal**", "**Cat Dorval**" and "**Cat Chocolate_TT**"
2. **Activate** cell **A4** of the target **workbook**, i.e. "**Cat Chocolate TT**"
3. Open the dialog box → **Consolidate** → **Data Tab** → Select the "**Sum**" function in the drop-down list → **Function**
4. Click the button → **Reference**
5. **Activate the Cat Montreal** workbook from → **View Tab** → **Switch Windows**
6. **Select data: A4 to F13**
7. Click **add**
8. Click the **Reference** button again
9. **Repeat steps 5 to 9** to enter data **A4 to F13** data from file → **Cat Dorval** and **Cat Laval** in the dialog box → **Consolidate**

2	Laval	2	Place Vers	2	Dorval
3	PRODUCTS	3	PRODUCTS	3	PRODUCTS
4	Almond Black	4	Black Rock	4	Truffe
5	Amandine	5	Coconut	5	Almond Black
6	Black and Mint	6	Almond Black	6	Black and Mint
7	Black Rock	7	Black and Mint	7	Black Rock
8	Coconut	8	Truffe	8	Coconut
9	Fruity Night	9	Stuffed Heart	9	Fruity Night
10	Hazelnut	10	Fruity Night	10	Hazelnut
11	Stuffed Heart	11	Amandine	11	Stuffed Heart
12	Truffe	12	Hazelnut	12	Amandine
13	TOTAL	13	TOTAL	13	TOTAL

Consolidate ? X

Function:
Sum

Reference:
\\Users\murie\Desktop\Excel Anglais\EXCEL INTERMÉDIAIRE\Excel Intermédiaire\Multi-feuilles\ [Browse...]

All references:
 \\Users\murie\Desktop\Excel Anglais\EXCEL INTERMÉDIAIRE\Excel Intermédiaire\Multi-feuilles\C
 \\Users\murie\Desktop\Excel Anglais\EXCEL INTERMÉDIAIRE\Excel Intermédiaire\Multi-feuilles\C
 \\Users\murie\Desktop\Excel Anglais\EXCEL INTERMÉDIAIRE\Excel Intermédiaire\Multi-feuilles\C [Add] [Delete]

Use labels in
☐ Top row
☒ Left column
☒ Create links to source data

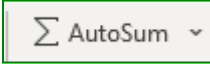
OK Close

10. Check the **left column** box
11. Check the **Create links to source data** box
12. Click **OK**
13. **Expand column A**
14. Click in the **+** located to the cell **Coconut (Row 24)**, click in the cell representing Dorval, Laval and Montreal. Observe the answer in the formula bar
15. **Save and close**


RESULT OF THE EXERCISE

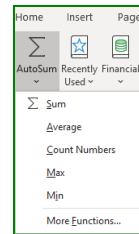
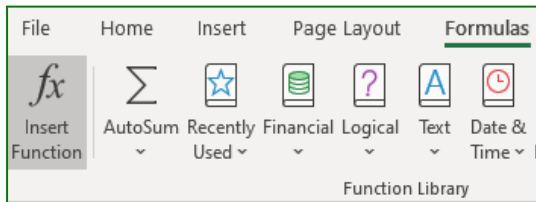
2	Montreal, Laval and Dorval					
3	PRODUCTS	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Total
4						
8	Truffe	3928	3328	3612	3568	14436
12	Almond Black	2505	3341	3206	2063	11115
16	Black and Mint	2148	2960	2980	3287	11375
20	Black Rock	1445	1961	1826	3105	8337
24	Coconut	1752	1511	1376	2591	7230
28	Fruity Night	3254	1736	1826	2207	9023
32	Hazelnut	3599	2609	2156	3827	12191
36	Stuffed Heart	3059	3689	2276	3245	12269
40	Amandine	3152	3073	3331	3177	12733
44	TOTAL	25950	22761	23616	27070	99397

5. Using a function

FUNCTIONS ➔ SUM  : HOW TO USE THEM?

Functions are programmed computational operations. They allow complex calculations to be made. All functions are identified by keywords.

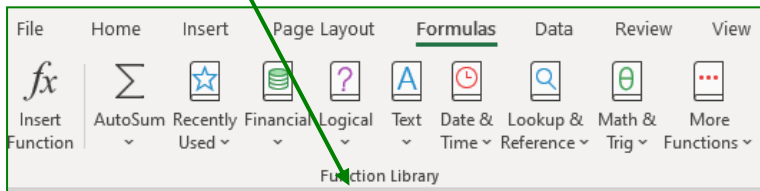
To insert a **function**, press  button called "**Automatic Sum or Sigma Icon**". This option gives you access to the more commonly used functions: **automatic sum, average, minimum, maximum, counter**, the option "**More functions**" will open the dialog "**Insert function**".



5.1. New method with new versions

From **THE FORMULAS TAB**

In the **Function Library Group**, click into the desired **function**, the **Function Arguments** window will appear.



5.2. Formula Assistant

THIS EXERCISE AIMS TO HELP YOU WITH THE USE OF FUNCTIONS AND ASSISTANT FUNCTIONS

1. Type in the text below:

	A	B
1	Participants	Exam 1
2	Corinne Paris	74
3	Pierrette Paquin	70
4	Andre Dupuis	69
5		
6	Ave=AVERAGE(B2:B4)	
7		AVERAGE(number1

2. Activate cell **B6** to get the average of "exam 1"

3. Type = , type AVERAGE, type parenthesis " (" + the cells containing the results of "**Exam 1**"
=AVERAGE(B2:B4), **the result is "71"**
4. If you want to get the "**Maximum**" rating, **you would type "MAX"** or for the "**Minimum**" rating, you will **type "MIN"**

6. RELATIVE OR ABSOLUTE ADDRESSES

6.1. Relative address:

- ▶ Whose formula adjusts during a copy.

6.2. Absolute address:

- ▶ Fixed address, it does not change during a copy.

6.3. Mixed address:

- ▶ Relative column and absolute line: **B\$2**. Row 2 stays fixed, while the column adjusts when copying. In our case below, by copying the formula to the right, Excel calculates the timelines of each row from the deadlines located only in row 2 for each column.
- ▶ Absolute column and relative row: **\$A3**. Column A remains fixed while the row adjusts when copying. In our case below, by copying the formula down, Excel calculates the timelines of each row from the dates located only in column A.

6.4. F4 key, to get absolute reference

- ▶ The cell chosen to perform the formula remains the same. Excel returns to the same column and row when copying.

EXAMPLE OF RELATIVE ADDRESSES:

	A	B	C	D
1	Quantity	Description	Price	Total
2	20	Cell	200	=A2*C2
3	25	Dvd	275	=A3*C3
4	15	Radio	95	=A4*C4

EXAMPLE OF ABSOLUTE ADDRESSES:

	A	B	C	D
1	Description	Price	Gst	Qst
2			5%	9,975%
3	Cell	200	=B3*\$C\$2	=B3*\$D\$2
4	Dvd	275	=B4*\$C\$2	=B4*\$D\$2
5	Radio	95	=B5*\$C\$2	=B5*\$D\$2

EXAMPLE OF MIXED ADDRESSES:

	A	B	C	D	E
1	Billing date	DEADLINE 1	DEADLINE 2	DEADLINE 3	DEADLINE 4
2		30	60	90	360
3	2020/09-15	=A3+B\$2	=A3+C\$2	=A3+D\$2	=A3+E\$2
4	2020-10-24	=A4+B\$2	=A4+C\$2	=A4+D\$2	=A4+E\$2
5	2020/10-29	=A5+B\$2	=A5+C\$2	=A5+D\$2	=A5+E\$2

7. INSERT DATE

7.1. Option 1: STATIC DATE, Date that will not be updated

- ▶ Activate the destination cell to insert the date of the day
- ▶ Press the "CTRL" button, then the "semicolon key" ";"
- ▶ Today's date appears. "CTRL + ;"

7.2. Option 2: Date to be updated

Insert a date that will be updated for future use of the workbook. How do I do that?

Activate the destination cell, **type:** The sign = and type **TODAY**, add an opening and closing parenthesis (). Confirm with **Enter**↵

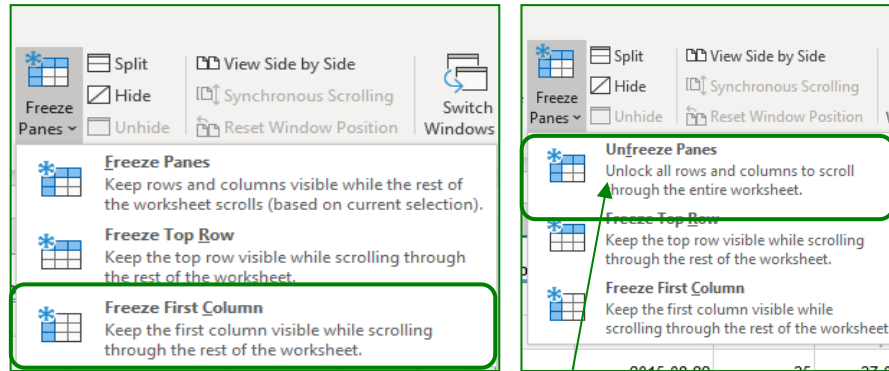
=TODAY()

8. Management of long Excel tables

8.1. Freeze – Unfreeze the panes

This feature allows you to control the display of a large table. For example, it allows data to be inserted into cells far from a title row or title column.

1. Open the "Calculation Intermediate" file, "Montreal AP" sheet
2. To **unhide** a sheet: **Home tab** → **Number group** → **Format** → **Visibility** → **Hide and Unhide** → **Unhide Sheet**
3. To insert value "250" into cell **P11** while making sure to insert the value into the "Fruity Night" row
4. Select a cell in the table, in the **View** tab → **Window** Group → **Freeze Panes** → Choose **Freeze first column**



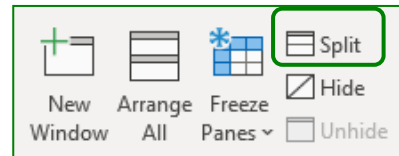
5. Move through the table with the horizontal slide up to the **"December"** column, and select cell P16, enter the value **"250"** in the cell.

LET'S DO SIMILAR WITH "EMPLOYEE" SHEET

6. Select a cell in the table, in the **View** tab ► **Window** Group ► **Freeze Panes** ► Choose **Freeze Top Row**
7. If you have made an error, choose ► **Unfreeze Panes** of the **View** Tab ► icon ► **Freeze panes**

8.2. Split and remove splitting

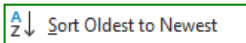
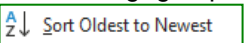
- Now select **Column H**, in the **View** tab ► choose ► **Split**
- Compare **"Quarter 1"** with **"Quarter 3."** Notice that the table is now **divided in 2**.
- Then remove the split, in the **View** tab ► Deselecting ► **Split**

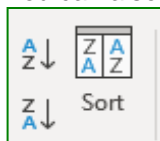


9. Sorting data

Unlike filtering, which momentarily hides lines containing unselected data, the sorting function reorganizes data from the selected range according to the "Smallest to largest or Largest to smallest" selection criteria.

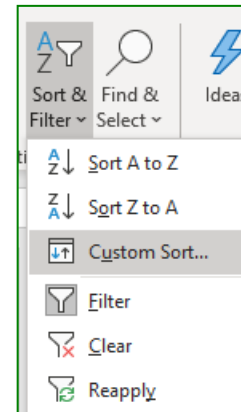
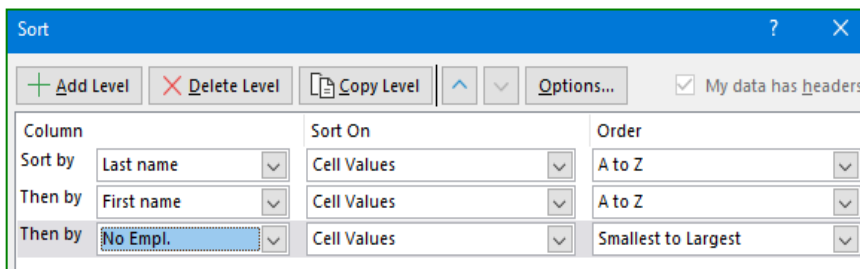
HOW DO I DO THAT?

1. Open the **"Calculation intermediate"** file, **"Sub-Total"** sheet
2. Activate a single cell of the column that you want to get sorted.
3. From the Home tab, click ► Sort and filter from the Editing group then on to sort in  ascending order, or on to sort in  descending order
4. You can also sort from the Data tab



9.1. Sorting over several items

- ▶ Activate a cell in the table
- ▶ In the **Home** tab, click on → **Sort and Filter** from the **Editing** Group
- ▶ Choose "**Custom sort** "
- ▶ Sort by → Choose → Example: Last name
- ▶ In the **Sort** dialog box, click → Add Level → then by → "First Name"
- ▶ Add a third level: → Then by → "#No."
- ▶ Click OK

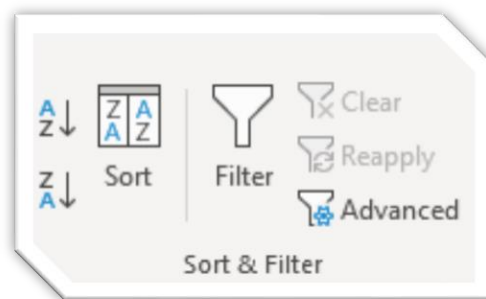


10. Filtering data in a range or table

Data filtering is a quick and easy way to search for and manipulate a subset of data from a cell range or table. For example, you can filter to show only the values you specify, to view the higher or lower values, or to quickly display duplicate values.

Once you've filtered data in a cell range or in a table, you can either reapply a filter for up-to-date results, or erase a filter to review all the data.

To use filtering without delay, select at least one cell in a range or excel table, then click the **Filter** button (**Data** tab, **Sort & Filter** group).





Filtered data only shows row that meet the specified criteria and hides those you don't want to see. Once the data is filtered, you can copy, edit, format, graph and print without reorganizing or moving it.

You can also filter the data in multiple columns. Filters are additive, i.e. each additional filter is based on the active filter, further reducing the subset of data displayed.

10.1. The three types of filters

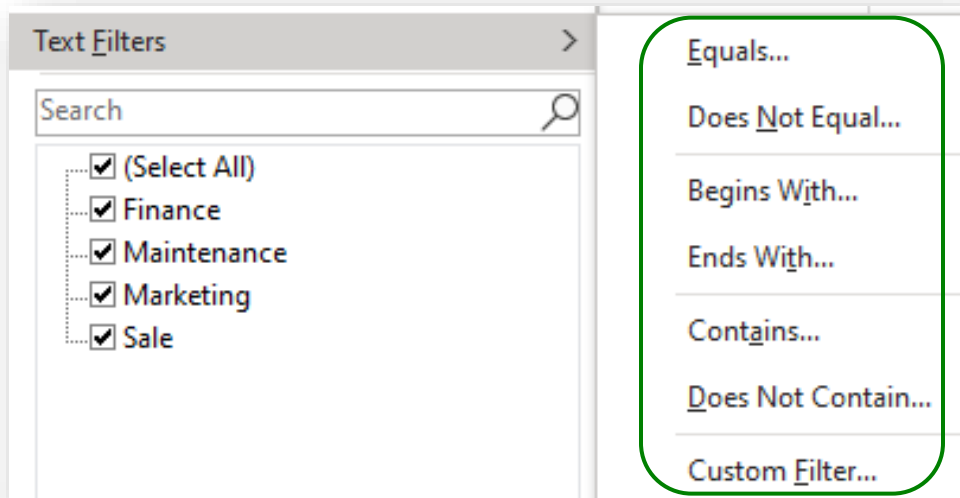
- ▶ Text
- ▶ Number
- ▶ Date


10.2. To undo a filter or reapply the filter

- ▶ A drop-down filtering list  indicates that filtering is enabled, but not applied.
- ▶ A Filter button  indicates that a filter is being applied. If you want to undo the filter, the option Clear Filter is in the drop-down menu.
- ▶ Data has been added, deleted or modified in the cell range or table column.
- ▶ **Reapplying the filter** means that it will filter again with our last command.

10.3. Filter text

Selecting values from a list and searching are the fastest filtering methods. When you click the arrow in a column that is filtered, all the values in that column appear in a list. The following illustration shows three methods of rapid data filtering.




- ▶ Use the **Search** area to enter text or numbers to search for.
- ▶ Select and deselect checkboxes to see the values in the data column.
- ▶ Use the advanced criteria to find values that meet specific criteria.
- ▶ Select a range containing alphanumeric data.
- ▶ Under the **Data** tab, in the **Sort & Filter** group, click **Filter**.
- ▶ Click on the arrow  in the column header.
- ▶ In this list, click or unclick the checkbox of one or more text values to filter.

10.4. Criterion: Custom filter.

- ▶ In the area on the right of the **Custom Automatic Filter** dialog box, type text or select the appropriate text value from the list.
- ▶ To filter the table column or selection so that both criteria are checked, select **And**.
- ▶ To filter the table column or selection so that one or both criteria are checked, select **Or**.

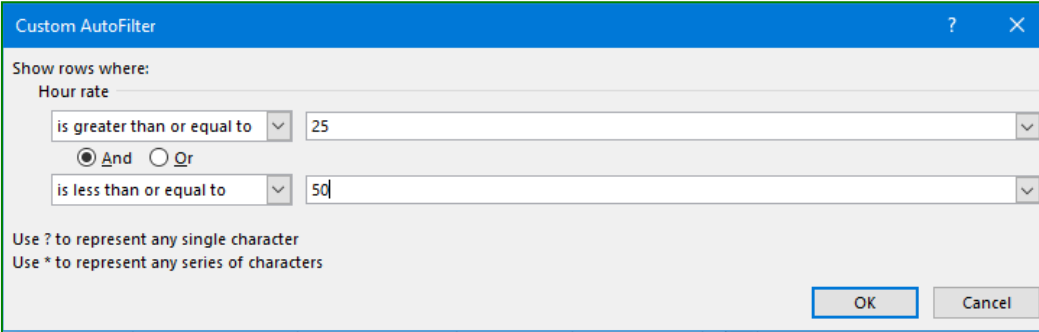
10.5. To filter numbers

1. Take one of the following actions:
 2. Select a range containing digital data.
 3. Under the **Data** tab, in the **Sort & Filter** group, click **Filter**.
- ▶ Make sure the active cell is in a table column containing digital data.
 - ▶ Click on the arrow  in the column header.
 - ▶ In this list, select or deselect the numbers to be checked.
 - ▶ The list can contain up to 10,000 numbers. If it contains a lot of numbers, turn off the checkbox (**Select All**) at the top and select the numbers on which the filter should be applied.
 - ▶ To filter the data by above-average numbers, click **Above average** or **Below Average**.

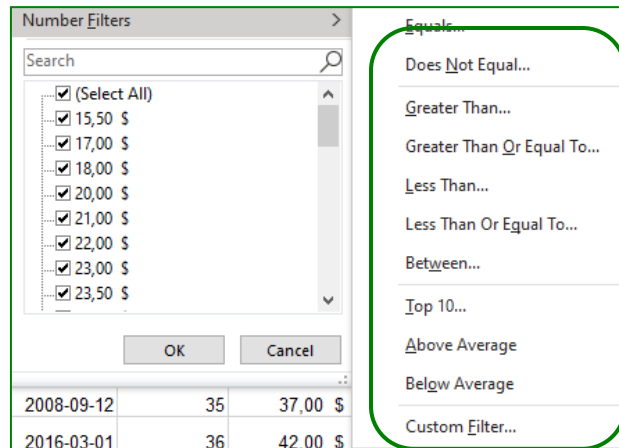
10.6. Criterion: Custom filter. (Numbers)

FOR EXAMPLE, TO FILTER THE NUMBERS ACCORDING TO UPPER AND LOWER LIMITS, CLICK BETWEEN.


- ▶ In the area or areas displayed on the right of the Custom Automatic Filter dialog box, type numbers or select them from the list.
for example, to filter the numbers between 25 and 50

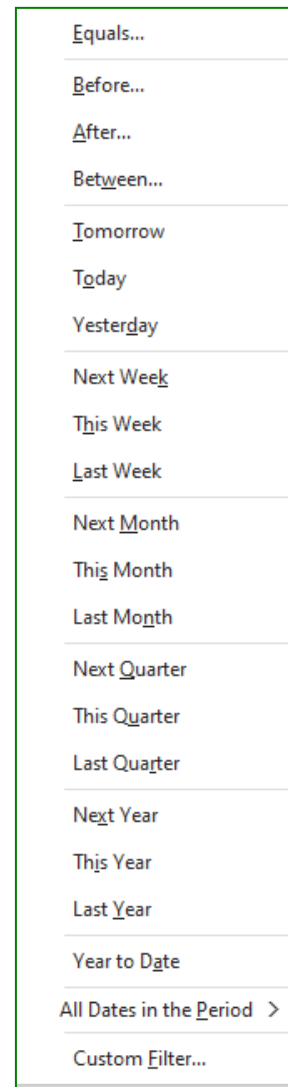


- ▶ You can also add one or more filtering criteria.



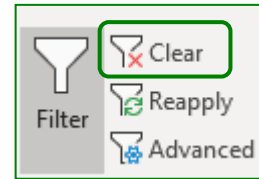
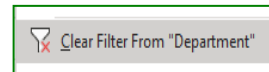
10.7. Filter dates or times

1. Take one of the following actions:
2. Under the **Data** tab, in the **Sort & Filter** group, click **Filter**.
3. Make sure the active cell is in a table column with dates or times.
4. Click on the arrow  in the column header.
5. Point to **Date Filters** and do one of the following:
 - ▶ Click on one of the comparison operators (**Equals**, **Before**, **After** or **Between**) or on **Custom Filter**.
 - ▶ In the area on the right of the **Custom Automatic Filter** dialog box, enter a date or time, select a date or time from the list, or click the **Calendar** button to search for a date and enter it.
 - ▶ For example, to filter all dates according to the date of the day, select **Today** or to filter based on the following month, select **Next Month**.
 - ▶ The menu **All dates of the Period**, such as **January** or **Quarter2**, filter by period, regardless of the year. This type of filtering can be useful, especially when comparing sales by period over several years.
 - ▶ **This Year** and **Year to date** orders differ in the way future dates are processed. **This Year** returns future dates for the current year, while **Year to Date** only returns dates up to and including the current date.



10.8. Delete filters

1. To view all the data, click **Clear** from the **Data** tab
2. Or if you want to erase the Montreal filter only and keep the other filters (other columns), In the column city, press ➔ **Clear the filter "Department"**
3. To **remove** all filtering arrows, click on **FILTER** from the **Data** tab



10.9. Advanced filter

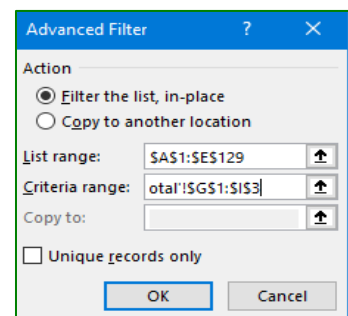
Sometimes, you cannot do what you need with regular filter. We will have to use a ➔ **Advanced Filter**.

Also use ➔ **Advanced Filter** to create a list of unique items, or to extract specific items to a different worksheet.

1. Open "**Calculation Intermediate**" file, "**Sub-total**" sheet

Department	Salary	City
Maintenance	>40000	Laval
Finance	<40000	Laval

2. Once the criteria area is created, (See above) you can start the filter.
3. Make sure the list is continuous and contains unique column labels.
4. Place the cell pointer anywhere in the list.
5. Choose the Data tab ➔ **Sort & FILTER** ➔ **SELECT ADVANCED**. The following dialog box appears:
6. Make sure the "List range" area covers the full extent of the list you want to analyze.



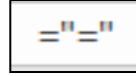
7. Enter the address of your search criteria in the "Criteria range" area.
8. See your result including **Laval** and **Lavaltrie**

Last name	First name	City	Department	Salary
Poulin	Benoit	Laval	Maintenance	51 300 \$
Chang	Michael	Laval	Maintenance	42 000 \$
Henault	Ginette	Laval	Maintenance	44 250 \$
Paradis	Rene	Laval	Maintenance	41 500 \$
Karif	Sylvia	Lavaltrie	Maintenance	54 900 \$
Doyon	Maurice	Laval	Finance	39 000 \$
Brière	Marie	Lavaltrie	Maintenance	61 000 \$
Jobin	Chantal	Lavaltrie	Finance	38 500 \$
Tremblay	David	Lavaltrie	Maintenance	56 100 \$

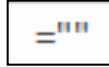
10.10. See the exception Rule → Advanced Filter

10.10.1. Empty field, non-empty field in advanced filter

To filter out fields with **empty content**, type in the criterion area:



To filter out **non-empty** content: type

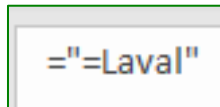


10.10.2. Other exceptions

The following criteria allow you to find **Laval employees**, working in finance with a salary of **less than 40,000** and in **maintenance earning more than 40,000**

Department	Salary	City
Maintenance	>40000	=Laval
Finance	<40000	=Laval

If we don't pay attention to Laval, we'll also get "**Lavaltrie**"

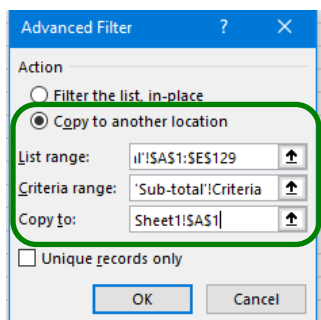


To filter out → **Laval only** content: type

10.11. Copy to another sheet.

Normally, you choose the **COMMAND DATA, SORT & FILTER, ADVANCED** when the sheet containing the list to be analyzed is active. *Excel* then allows you to copy to another location in the same sheet records that meet the stated criteria. You can "bypass" *Excel* with the following procedure if you want the search result to appear on a different sheet.

1. Place the cell pointer on the sheet where you want the search result to be displayed.
2. Choose the **COMMAND DATA, SORT & FILTER, ADVANCED**
3. Choose "Copy to another location."



4. Select your data → **List range**

5. Select ➔ **Criteria range**

6. **Copy to** ➔ Click in your cell, click the  button to validate your order.

Be careful when defining the destination address as *Excel* will crush the contents of the cells it needs to perform its extraction.

If you indicate the address of a single cell as a destination, *Excel* will start its list at that address and use all the columns and rows it needs to copy the selected records. If you indicate a limited field, you need to set a field with enough columns to contain the list. If there are not enough rows to hold all the selected records, a message will notify you.

11. Put in table form

All these changes are interesting but require a lot of time (and sometimes imagination), so why not let Excel do some work for us.

1. Select the cell or cell range in the table to which you want to apply a table format.
2. In the **Home** tab, click **Format as Table**.
3. Click on the desired table style.
4. Select a cell in your data.
5. Select **Home**, **Styles** Group, **Format as Table**.
6. Choose a style for your table.



7. In the **Format as Table** dialog Box, set the cell range.
8. Check this option if your chart has headers.
9. Select OK.

You can also adjust the layout of the table by choosing the Table Style Options for elements of the table, such as **Header Row**, **Total Row**, **First Column**, **Last Column**, **Banded Rows** and **Banded Columns** or **Filter Button**.

When you use the **Format as Table** option, Excel automatically converts your data range into a table. If you no longer want to manipulate your data in a table, you can **Convert to Range**, while keeping the format. You'll find this option in the **Design** tab

FileHomeInsertPage LayoutFormulasDataReviewViewHelpTable Design

Table Name:Table1

Summarize with PivotTable

Remove Duplicates

Convert to Range

Insert Slicer

Export

Refresh

Table Style Options

Quick Styles

Properties

Tools

External Table Data

Table Styles

E510

	B	C	D	E	F	G	H
1	Product	Category	Farm	Amount sold (kg)	Unit price	Total sale	
2	Fine Herbs	Biological	Boisclair Farm	10	55,12 \$	551,20 \$	
3	Vegetables	Biological	Santé Plus	8	14,84 \$	118,72 \$	
4	Vegetables	Biological	Santé Plus	10	27,03 \$	270,30 \$	
5	Vegetables	Biological	Santé Plus	10	26,50 \$	265,00 \$	
6	Vegetables	Biological	Boisclair Farm	11	31,80 \$	349,80 \$	
7	Fruits	In transition	Boisclair Farm	5	26,50 \$	132,50 \$	
8	Fruits	In transition	Boisclair Farm	8	55,12 \$	440,96 \$	
9	Herbs	In transition	Santé Plus	6	33,92 \$	203,52 \$	
10	Fine Herbs	In transition	Boisclair Farm	9	34,98 \$	314,82 \$	
11	Fine Herbs	Regular	Boisclair Farm	8	26,50 \$	212,00 \$	
12	Fine Herbs	Regular	Boisclair Farm	12	63,60 \$	763,20 \$	

11.1. Be careful to convert to range

Once you've converted your table to a range and made a change (Example: Sorting on another column), formulas already inserted in the table will no longer be sorted.

We're going to have to start all your formulas over again.

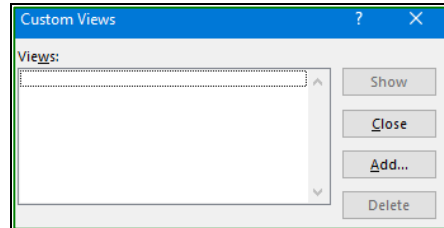
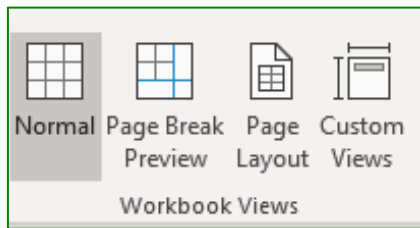
Note:

12. Custom Views

When you work a spreadsheet, you want to view this sheet in different ways. For example, the sheet includes several columns with sub-totals, and you need to view or print sub-totals only. **How do I do that?**

12.1. How to Create a Custom View

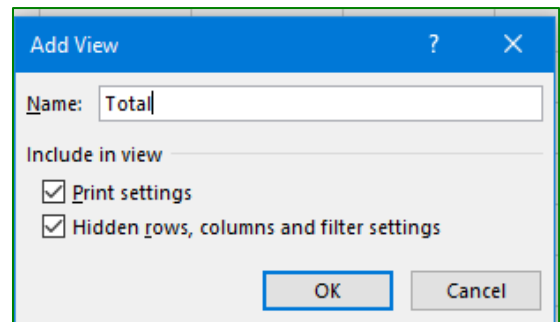
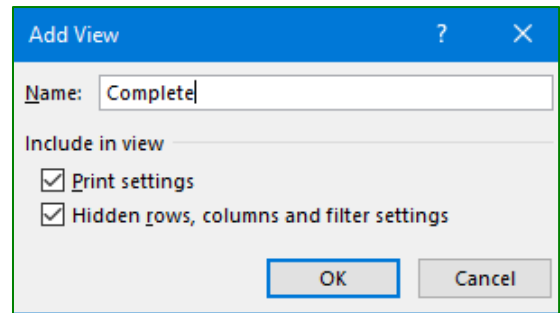
1. From ➔ **View** tab ➔ **Custom Views**



2. Click the button ➔ **Add**.
3. Enter the name you want to give to the display in the text box ➔ **Name**
4. In ➔ **Include in view**, make sure you have the checkmark in the following 2 options: ➔ **Print settings** and **Hidden rows, columns and filter settings**
5. Click **OK**

12.2. EXERCICE: Custom views

1. Open the file "**Calculation Intermediate**" ➔ sheet "**Montreal AP**"
2. Select cell **A1**
3. From the **View** tab, then "**Custom Views**" ➔ click **Add**
4. Type "**complete**"
5. Make sure you have the 2 boxes checked in the window
6. Click **OK**
7. Hide columns "**B C D F G H J L N O P**"
8. From the **View** tab, then "**Custom Views**" ➔ click **Add** ➔ Type "**Total**"
9. Click **OK**
10. To get the "**complete**" view you've created, from the ➔ **Custom Views** menu bar ➔ choose the "**complete**" view of the dialog box or to get totals view only, choose "**Total**"
11. This option will allow you to view or print totals and sub-totals in the future without having to hide columns.



13. Insert sub-totals

IMPORTANT MESSAGE

The **Subtotal** command appears grayed out if you are using a Microsoft Excel table. To add subtotals to a table, you must first convert the table to a range.

Subtotals are calculated with a synthesis function, such as **Sum** or **Average**, using the SUBTOTAL function. You can view several types of synthesis functions for each column.

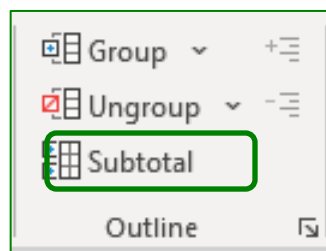
If the workbook is set up to automatically calculate the formulas, the **SubTotal** command automatically recalculates the subtotal and total values as soon as you change the data. The **Subtotal** command also displays a data synthesis function, details "in outline mode" to allow you to view or hide the row details of each sub-total.

13.1. Insert subtotals

1. Type in the text below

	A	B	C
1	Number	Department	Income Week
2	MR-1246	Maintenance	985,00 \$
3	MR-1248	Maintenance	1 075,00 \$
4	MR-1249	Maintenance	1 025,00 \$
5	MR-1250	Maintenance	995,00 \$
6	MR-1245	Finance	1 350,00 \$
7	MR-1247	Finance	1 150,00 \$
8	MR-1251	Sale	1 100,00 \$
9	MR-1252	Sale	950,00 \$

2. Select a single cell in the **Department** column
3. To sort the column that contains the data to be grouped, you must sort the **data**
4. In the group **Sort & Filter**, click **Sort A to Z** or **Sort Z to A**.
5. Under the **Data** tab, in the **Outline** group, click **Subtotal**



6. The **Subtotal** dialog box /appears.

7. In the area ➔ **At each change in**, click on the column for which you want to calculate the subtotal. In the example above, you need to select **Department**.
8. In the **Use function** area, click on the synthesis function you want to use to calculate subtotals. In the example above, you need to select **Sum**.
9. In the **Add subtotal to**, activate the checkbox of each column containing the values for which you want to calculate the subtotal. In the example above, you need to select **Weekly income**.
10. To set an automatic page break after each sub-total, activate the checkbox **Page break between groups**.
11. To specify a summary line above the row of details, deactivate the checkbox **Summary below data**. To specify a summary line below the detail list, activate the checkbox **Summary below data**. In the example above, you need to deactivate the checkbox.
12. You have the possibility, as an option, to reuse the **SubTotal** command several times, up to seven consecutive times, to add other subtotals with different synthesis functions. To prevent the existing subtotals from being crushed, deactivate the checkbox **Replace current subtotals**.
13. Click **Ok** and here is your **result**:
14. To see subtotals only, click on the number **2** at the top left

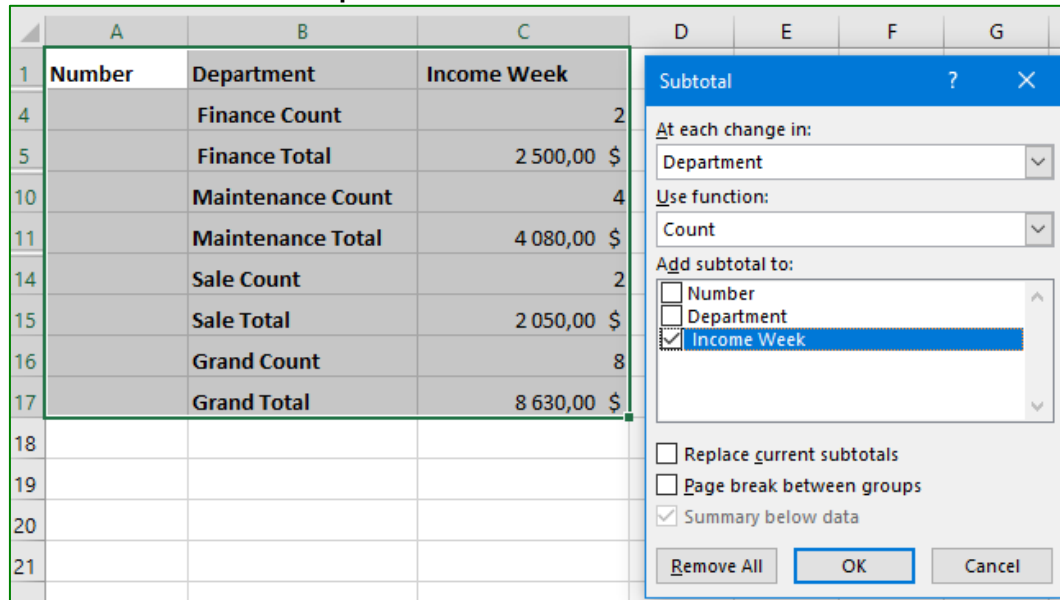
1	2	3	A	B	C
1			Number	Department	Income Week
2			MR-1245	Finance	1 350,00 \$
3			MR-1247	Finance	1 150,00 \$
4				Finance Total	2 500,00 \$
5			MR-1246	Maintenance	985,00 \$
6			MR-1248	Maintenance	1 075,00 \$
7			MR-1249	Maintenance	1 025,00 \$
8			MR-1250	Maintenance	995,00 \$
9				Maintenance Total	4 080,00 \$
10			MR-1251	Sale	1 100,00 \$
11			MR-1252	Sale	950,00 \$
12				Sale Total	2 050,00 \$
13				Grand Total	8 630,00 \$

13.2. Use more than one function in subtotals

Example: to obtain the number of people per department while keeping the sum of salaries per department.

1. Click **Subtotal**
2. In the area ➔ **At each change in**, we keep **Department**.
3. In the area **Use function**, choose **Count**.

4. Deactivate the checkbox **Replace current subtotals**.



13.3. Delete subtotals

- ▶ Select a cell in the range that contains subtotals.
- ▶ Under the **Data** tab, in the **Outline** group, click **SubTotal**.
- ▶ In the **Subtotal Dialog** box, click **Remove All**.

14. Data validation

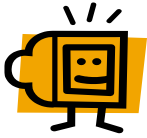
Data validation controls the type of data and values that users enter into a cell. For example, you may want to restrict data entry to a certain range of dates, limit the choices available by using a list, or make sure that only whole numbers have entered.

This article describes how data validation works in Excel and presents the different techniques available. It does not address cell protection, that is, the feature that allows you to "lock" or hide certain cells in a spreadsheet to prevent data from being changed or replaced.

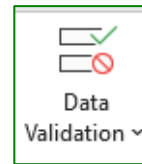
14.1. What is validation?

Data validation is an Excel feature that sets restrictions on the type and values of data allowed in a cell. You can set up data validation to prevent users from entering data that is not valid. If you prefer, you can allow users to enter invalid data but notify them when they type it into cells. You also have the ability to display messages detailing the type of input expected for cells, as well as instructions to help users correct errors.

If users ignore this message and type invalid data into the cell, such as a two or five digit number, you can display an error message.



Data validation commands are located under the Data tab in the Data Tools group.



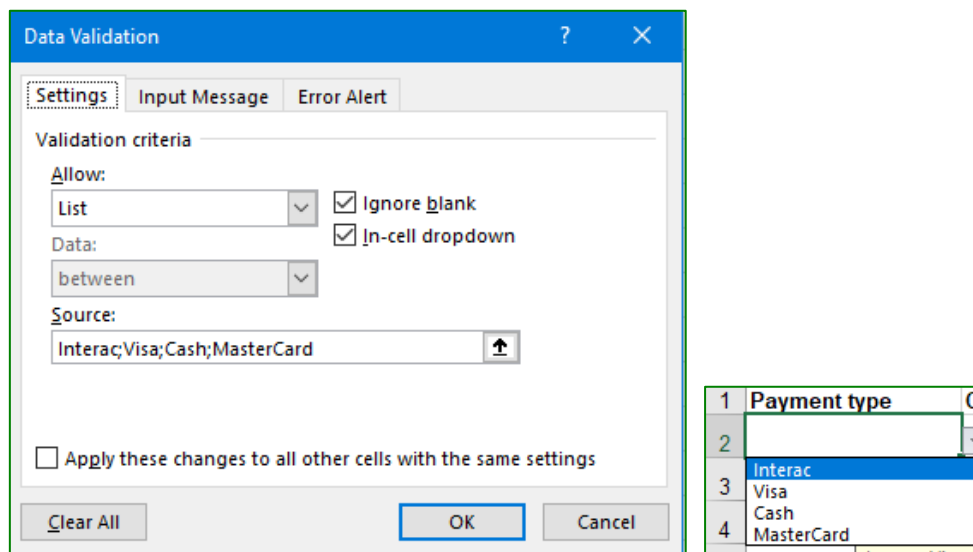
14.2. When to use data validation?

Data validation is particularly useful when sharing a workbook with others in your organization, for which you want the data entered to be accurate and consistent.

You can use data validation to perform, among other things, the following tasks:

14.3. Limit data with a list

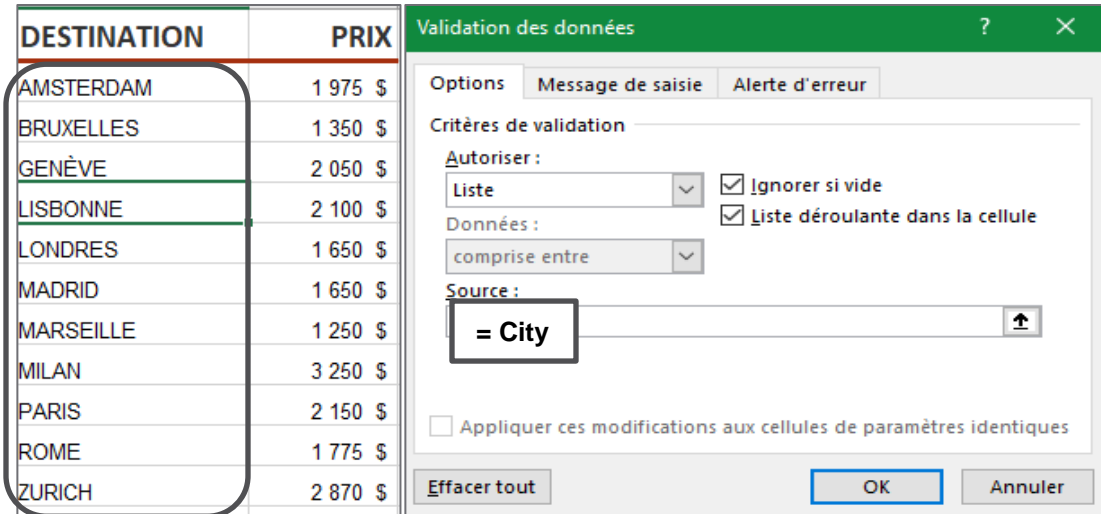
HERE'S AN EXAMPLE TO LIMIT THE LIST AMONG A SELECTED ONE SUCH AS:



1. In a new sheet ➔ in **Calculation Intermediate** workbook, insert the column **Payment Type** into **A1**.
2. Select cell **A2** or the entire **A2:A10** range, then go to the **Data Validation** box
3. Select ➔**List** ➔ in **Validation criteria** ➔ **Allow**
4. Type in **SOURCES**:
5. Interac;Visa;Cash;MasterCard.
6. Click **OK**
7. Watch the drop-down menu in the cell

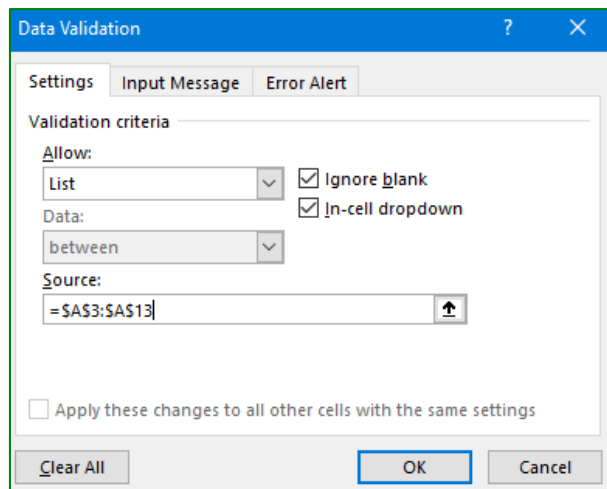
14.4. Limit data with a list (Method 2)

1. Select data (In this example: Cities)
2. Name your list (In this example: CITY)
3. In **"Date Validation"** and then **"Sources"**, type **"="** and then the name you gave to the list



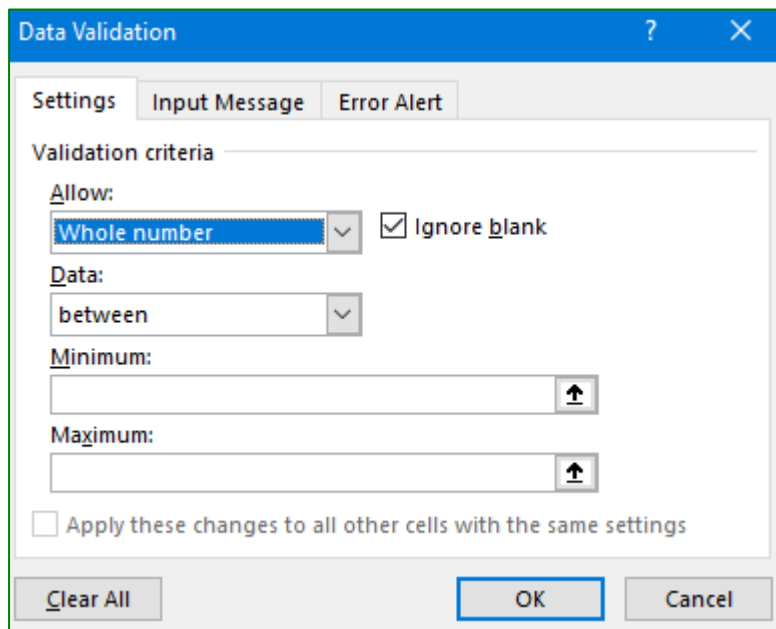
14.5. Limit data with a list (Method 3)

1. Select cells to insert validation
2. In **"Sources,"** click on the reference and select the data



14.6. Limit numbers outside of a specified range

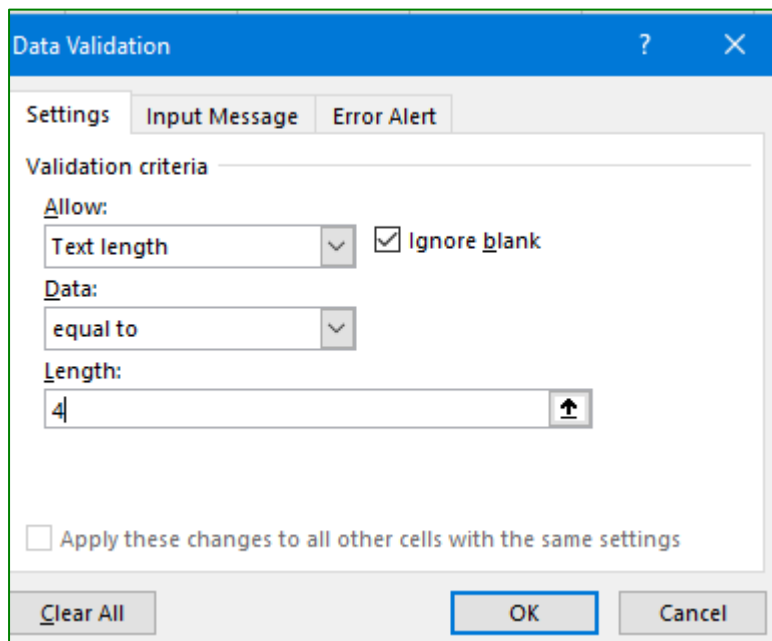
In a particular cell, you can specify a minimum or maximum limit



The screenshot shows the 'Data Validation' dialog box with the 'Settings' tab selected. Under 'Validation criteria', the 'Allow' dropdown is set to 'Whole number'. The 'Ignore blank' checkbox is checked. The 'Data' dropdown is set to 'between'. The 'Minimum' and 'Maximum' input fields are empty, each with an upward arrow icon to its right. At the bottom, there is an unchecked checkbox labeled 'Apply these changes to all other cells with the same settings', and three buttons: 'Clear All', 'OK', and 'Cancel'.

14.7. Limit the number of text characters

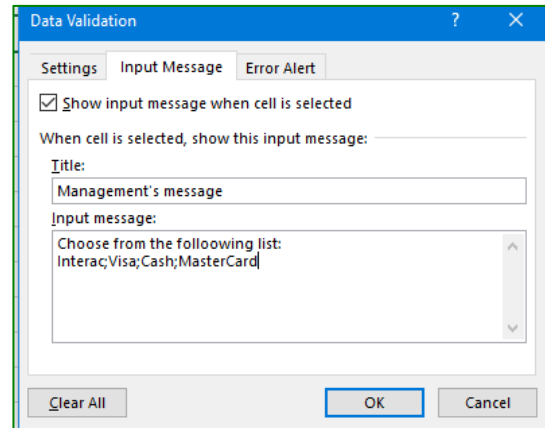
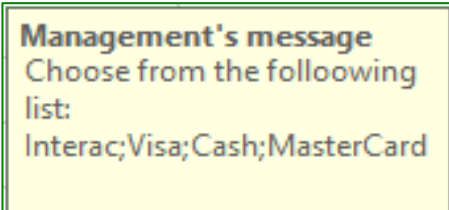
You can limit the authorized text in a cell to 10 characters or less. Similarly, you can set the specific length of the number or text so that it corresponds to the length, **example:** Maximum of 4 characters.



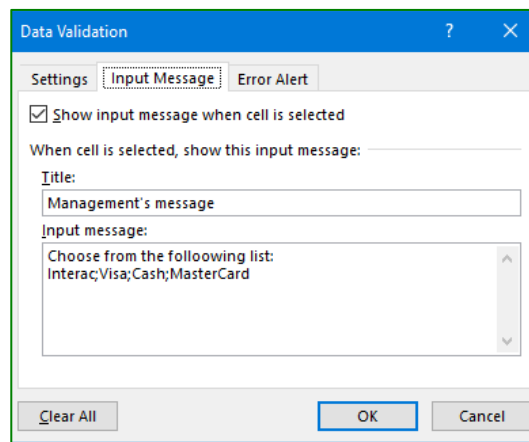
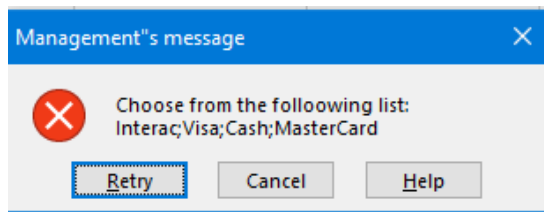
The screenshot shows the 'Data Validation' dialog box with the 'Settings' tab selected. Under 'Validation criteria', the 'Allow' dropdown is set to 'Text length'. The 'Ignore blank' checkbox is checked. The 'Data' dropdown is set to 'equal to'. The 'Length' input field contains the number '4', with an upward arrow icon to its right. At the bottom, there is an unchecked checkbox labeled 'Apply these changes to all other cells with the same settings', and three buttons: 'Clear All', 'OK', and 'Cancel'.

14.8. Data validation messages




What users see when they enter invalid data into a cell depends on how you set up data validation. You can choose to display an *input message* when the user selects the cell. Input messages are generally used to offer users advice on the type of data that can be entered into the cell. You can move this message if you wish. It then remains displayed until you move to another cell or press Esc.



14.9. View an error message for invalid data.



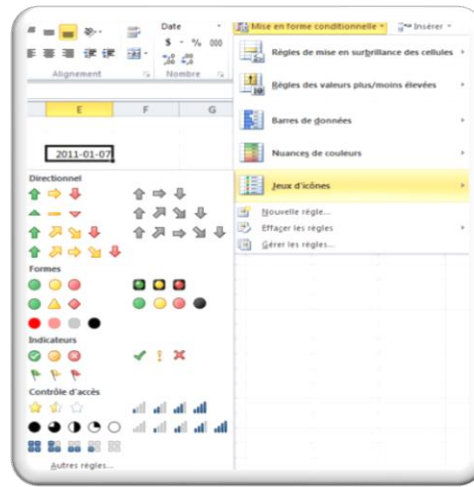
14.10. There are 3 types of error message:

Icon	Type	Use to
	Stop	Prevent users from entering invalid data into a cell. A Stop Alert offers two options: Retry or Cancel .
	Warning	Warns users that the data entered is not valid, without preventing them from entering it. When a Warning message appears, users can click Yes to accept the invalid entry, no to change the invalid entry, or Cancel to delete the invalid entry.
	Information	Informs users that the data entered is not valid, without preventing them from entering it. This type of error message is the most flexible. When an Information message appears, users can click OK to accept the value or Cancel to opt out.

15. Conditional formatting

Conditional formatting can be used to visually annotate data for presentation or analysis purposes. To easily detect exceptions and identify important data trends, several conditional formatting rules can be applied and managed that apply to visual formatting in the form of color gradients, data bars and icons.

- ▶ Color Scales
- ▶ Icon sets
- ▶ Search for duplicates, etc.



By applying conditional formatting to your data, you can quickly identify deviations within a range of values.

Place the mouse pointer above the color scale icons to get an overview of the data with conditional formatting.

PRODUCTS	January	February	March	April	May	June
Black Rock	200	201	202	203	204	205
Coconut	150	308	152	153	154	155
Almond Black	304	206	302	303	304	305
Black and Mint	250	504	252	253	254	204
Truffe	500	501	502	303	504	255

This chart shows temperature data with a conditional formatting that uses a color scale to differentiate high, medium and low values. The following procedure uses this data.

15.1. How to create a conditional formatting – Color scales

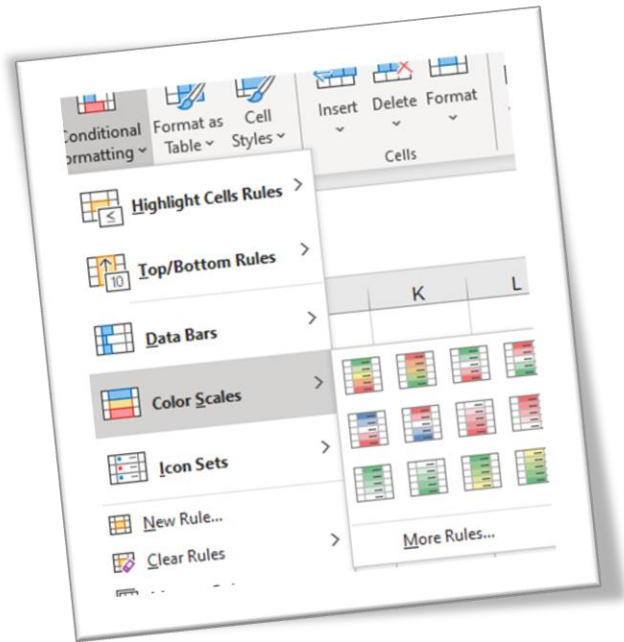
Select the data you want to apply conditional formatting to

January	February	March	April	May
200	201	202	203	204
150	308	152	153	154
304	206	302	303	304
250	504	252	253	254
500	501	502	303	504
350	351	352	353	354

Apply conditional formatting

Under the **Home** tab, in the **Styles** group, click the arrow next to **Conditional Formatting**, then on **Color Scales**.

Place the mouse pointer above the color scale icons to get an overview of the data with conditional formatting.




15.2. Conditional formatting – Quick analysis

Select the data you want to apply conditional formatting to

January	February	March	April	May	June	July	August
200	201	202	203	204	205	206	207
150	308	152	153	154	155	156	157
304	206	302	303	304	305	306	307
250	504	252	253	254	204	256	257
500	501	502	303	504	255	308	307
350	351						
175	500						
325	326						
410	411						



If you click ➔ **Quick analysis** ➔  you will get this box to help you with Conditional formatting

Under the **Home** tab, in the **Styles** group, click the arrow next to **Conditional Formatting**, then on **Color Scales**.

15.3. Icon sets

Open the **Chart** sheet of the **Calcul_Intermediate** workbook and select all exam notes.

Apply conditional formatting **Icon sets/Indicators** (Circled) to your selection.



Manage the rules in order to put in **green** all notes **above or equal to 70**, in **yellow** the notes between **70 and 60** and in **red** the notes below 60. Watch the result, then clear all the rules

Edit the Rule Description:

Format all cells based on their values:

Format Style: Icon Sets Reverse Icon Order

Icon Style: ✖ ! ✔ ☐ Show Icon Only

Display each icon according to these rules:

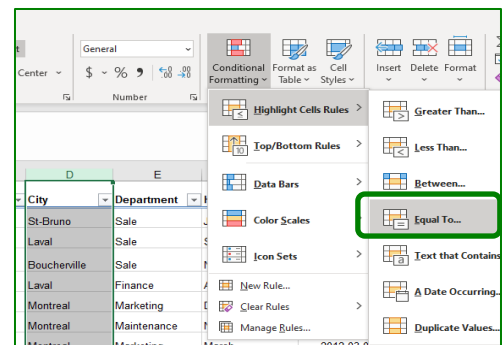
Icon	when value is	Value	Type
✔	>=	70	Number
!	>=	60	Number
✖			

OK Cancel

Exam 1	Exam 2	Exam 3	Exam 4
✔ 74	! 65	✔ 73	✔ 81
✔ 70	✔ 74	! 63	! 67
! 69	! 63	✔ 70	✔ 74
! 66	✖ 56	! 64	✖ 59
✖ 52	! 60	✖ 58	✖ 55
! 61	! 68	! 66	✔ 75

15.4. Simple Conditional formatting

1. Open the **Employees** sheet of the **Calculation Intermediate** workbook and select **column D**.
2. Under the **Home** tab, in the **Styles** group, click the arrow next to **Conditional Formatting**, then on **Equal to**.
3. Type **Laval**
4. Click **OK**



City	Department	Holiday (Month)	Hiring date	Number hours	Hour rate
St-Bruno	Sale	July	2010-10-26	35	38,50
Laval	Sale	September	2016-12-01	40	31,00
Boucherville	Sale				
Laval	Finance				
Montreal	Marketing				
Montreal	Maintenance				

Equal To ? ✖

Format cells that are **EQUAL TO:**

Laval ↑ with Light Red Fill with Dark Red Text

OK Cancel

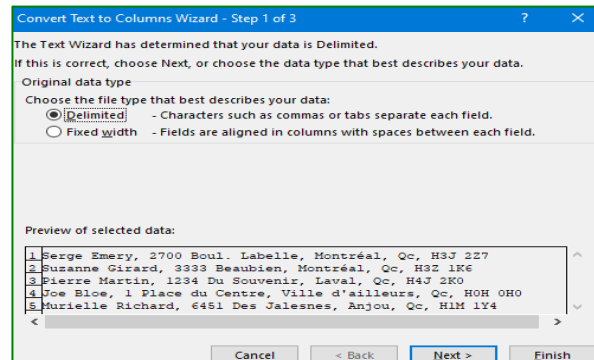
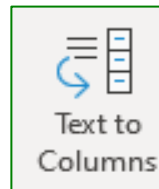
16. Convert

This function allows us to separate the text of a cell into several columns. Or for example, to convert a date that is in TEXT format into a DATE format

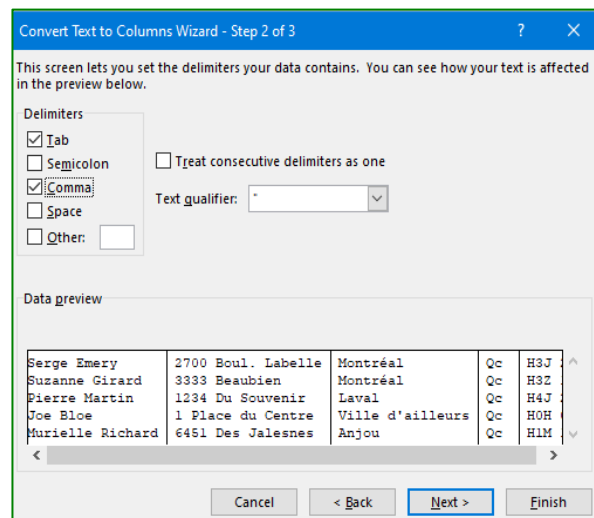


16.1. Convert text

1. Open Calculation Intermediate workbook ➔ sheet **Convert**
2. Select **A1 to A5**
3. From the **Data** tab
4. Click in **Convert** (Text to Columns)
5. Choose **Delimited** in **Step 1 of 3**

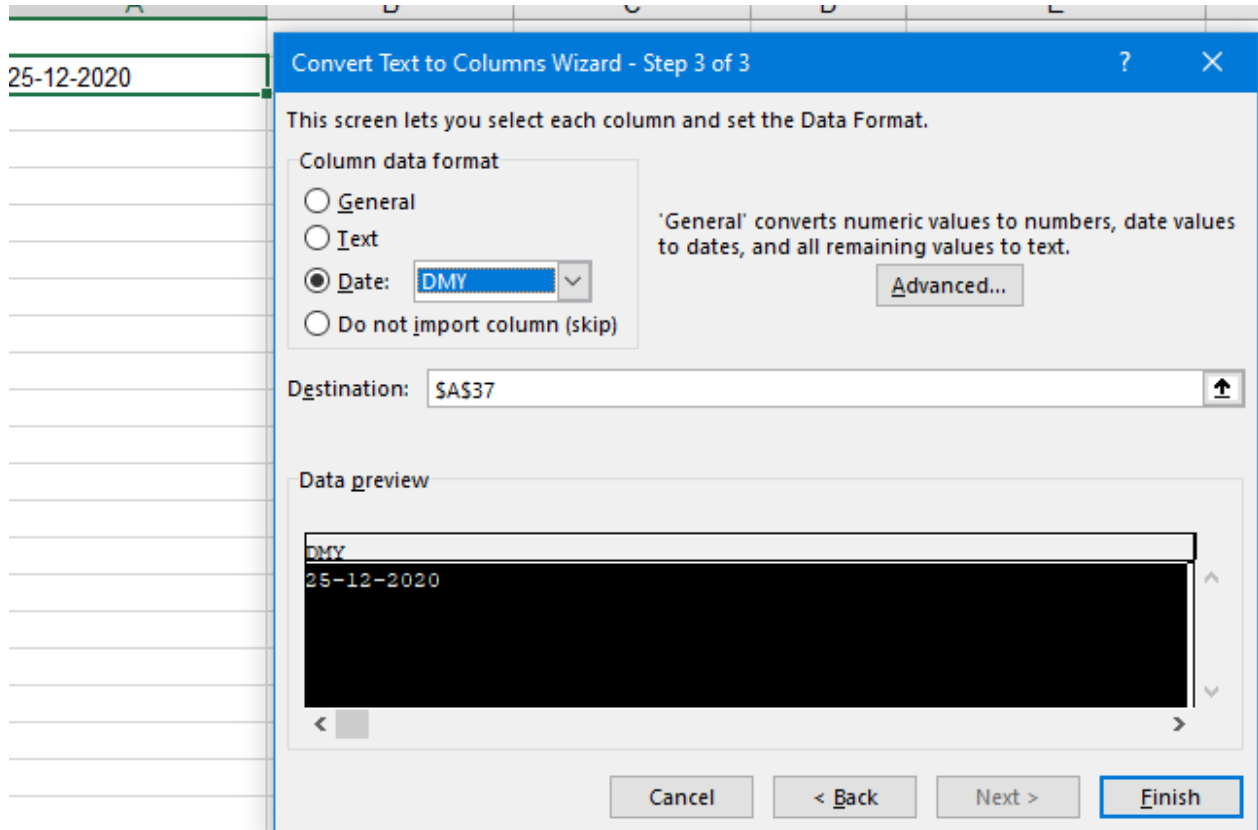


6. Go to **Step 2 out of 3**
7. Choose the **comma**
8. View the result in the **Data preview**
9. Click **Finish**



16.2. Convert a date, but in TEXT format

1. Type a date like this: (DD-MM-YYYY), 25-12-2020
2. Notice that EXCEL does not recognize this date
3. Click **Convert**
4. Immediately move to **Step 3 of 3**
5. Choose: **DATE**
6. Choose from the drop-down list the date format we typed: **DMY**
7. Click **Finish**

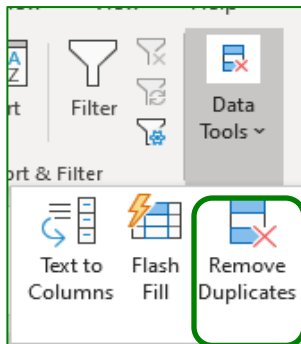


Note:

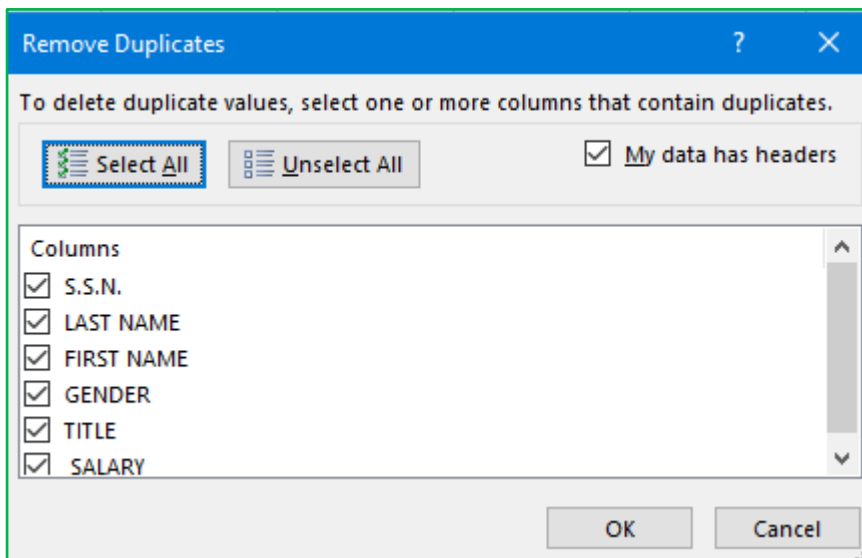
17. Removing duplicates

If there are rows with identical data, Excel can find and delete them.

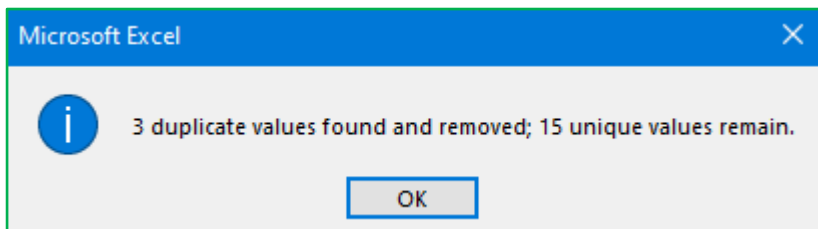
1. Positioning yourself in the table
2. In the **Data** tab, use **"Remove duplicates"**



3. Select fields to be verified and click OK



4. A message will indicate the number of duplicates found and their removal



18. Error value

ERROR VALUE	CAUSE	SOLUTION
#VALUE!	The type of argument or operator is wrong	Check if you have entered the correct formula or operator and make sure the cells contain values and not text.
#DIV/0	Excel tries to divide a value by zero or an empty cell	Make sure the divider is not an empty cell or does not contain zero as a value
#NAME?	Excel cannot recognize the text of the formula	Check the spelling of the range names or make sure they have not been deleted. Check to see if the name of the function is written correctly.
#REF!	One of the cell references in the formula is not valid	Check the existence of the cell to which the formula refers.
#NUM!	The argument in the formula is wrong	Make sure the argument is appropriate.
#N/A	Value is not available for a function or formula	Make sure the argument is appropriate.

19. Charts

A chart is a visual element that facilitates the understanding of numerical or statistical data. It quickly illustrates trends, compares data with each other, and highlights the relationships between elements.

A chart has many elements. Some of them are displayed by default, others can be added as needed. You can change the view of elements in a chart by moving them to other locations in the chart, resizing them, or changing the layout. You can also remove chart items you do not want to see.

19.1. Creating a chart

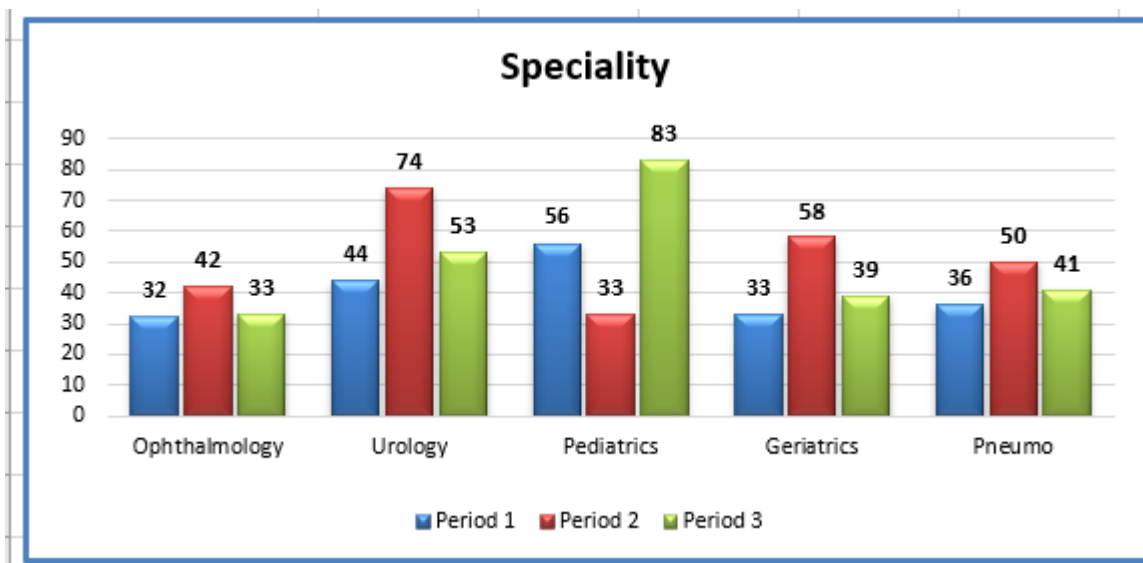
A chart is generated from the data on a spreadsheet.
Open workbook "**Calculation intermediate**", sheet "**Clinical**"

	A	B	C	D
1	Speciality	Period 1	Period 2	Period 3
2	Ophthalmology	32	42	33
3	Urology	44	74	53
4	Pediatrics	56	33	83
5	Geriatrics	33	58	39
6	Pneumo	36	50	41

The selection of data is very important. Generally, the first column and row of a data range are used to describe the "X" axis (abscissa) and the legend. Excel interprets it very well when the first column and the first row of the block are text. **Empty rows or columns should not be included.** If a non-continuous range is to be used, make sure that each range represents at least one set of data.

To avoid having too large scales, it is best not to take columns and rows with totals.

The easiest way to produce a chart after selecting the data is to press the **F11 button**. The result (below) will appear in a new window.



19.2. Know the elements of a chart

A chart has many elements. Some of these items appear by default, while others can be added as needed. You can change the view of the graphic elements by moving them inside the chart, resize them, or change their layout. You can also remove graphic items you don't want to see.

1. Chart area (chart area: whole chart and constituent elements.) of the chart.
2. Plot area (plot area: in a 2D chart, area bounded by axes, and which includes all data sets. In a 3D chart, an area defined by the axes, which includes all data sets, category names, graduation labels and axis titles.) of the chart.

3. Data points (data points: individual values plotted in a chart and represented by bars, columns, lines, sectors, rings, points and various other forms called data markers. Data markers of the same color constitute a data series.) data series (data series: linked data points, plotted in a chart. Each of the data series in a chart has a unique color or pattern and is represented in a graphic legend. You can plot one or more series of data in a chart. The pie charts have only one series of data.) traced in the chart.
4. Axes (axis: line bordering the plot area of the chart and serving as a reference for measurement. The ordinate axis (Y) is generally vertical and contains data. The abscissa axis (X) is usually the horizontal axis and contains categories.) horizontal (abscissa) and vertical (ordinate) along which the data is traced in the chart.
5. Legend (legend: area identifying patterns or colors assigned to data series or categories in a chart.) of the chart.
6. Title (titles in charts: descriptive text automatically aligned to an axis or centered at the top of a chart.) of the chart and axis that can be used in the chart.
7. Data label (data label: a label that provides additional information about a data marker representing a data point or value from a spreadsheet cell.) to identify the details of a data point in a data series.

19.3. Changing a basic chart to suit needs

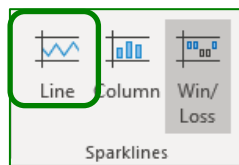
Once you've created a chart, you can edit any of its elements. For example, you can change the way axes are displayed, add a title, view or hide the caption, or show more graphics.

TO EDIT A CHART, YOU CAN DO ONE OR MORE OF THE FOLLOWING:

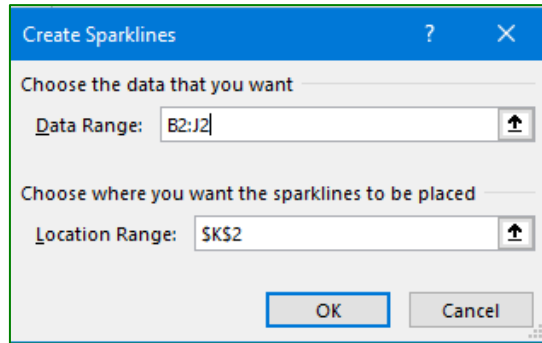
- ▶ **Change the axes display of the chart** You can specify the scale of the axes and adjust the interval between the values or categories displayed. To make your chart more readable, you can also add tick marks (tick marks and tick labels: tick marks are small measurement lines that look like the divisions of a ruler and are located on an axis. Tick mark labels identify abscissa, ordinate or chart series.) to an axis and specify the interval at which they should appear.
- ▶ **Add titles and data tags to a chart** To clarify the information presented in your chart, you can add a title, axis titles and data tags.
- ▶ **Add a legend or a data table.** You can view or hide a legend, move it, or change its elements. In some charts, you can also view a data table that displays legend symbols (legend symbols: symbols in legends that show patterns and colors assigned to a chart's data series (or categories). Legend symbols appear on the left of the legend elements. The layout assigned to a legend symbol is also applied to the data mark associated with it.) and the values presented in the chart.

19.4. New 2010 "Sparkline"

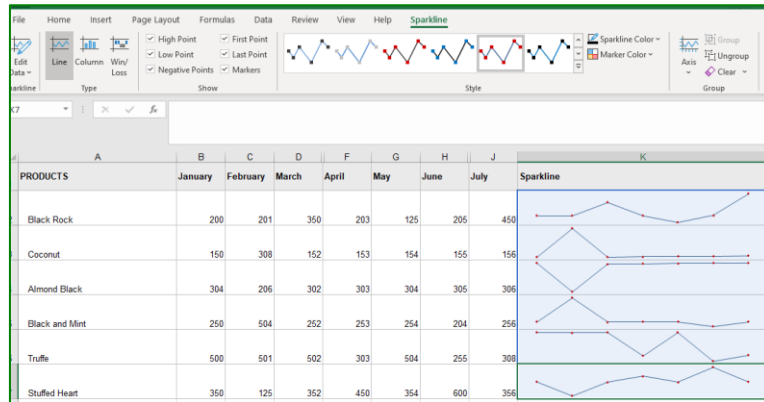
1. Open file: **Calculation Intermediate**, sheet « **Sparkline** »
2. Select cell → **K2**
3. From the **Insert** Tab - **Sparkline** - choose "**Line**"



4. Location Range: select **from B2 to J12** and click OK



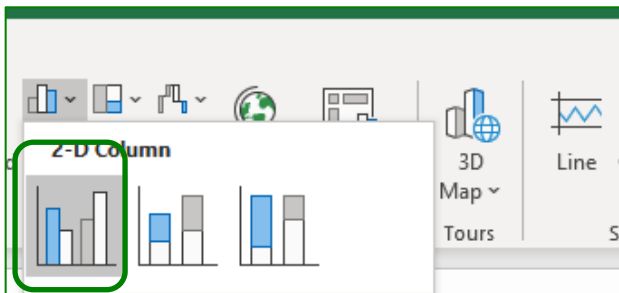
5. Copy from cell K2 to K8
6. See your result



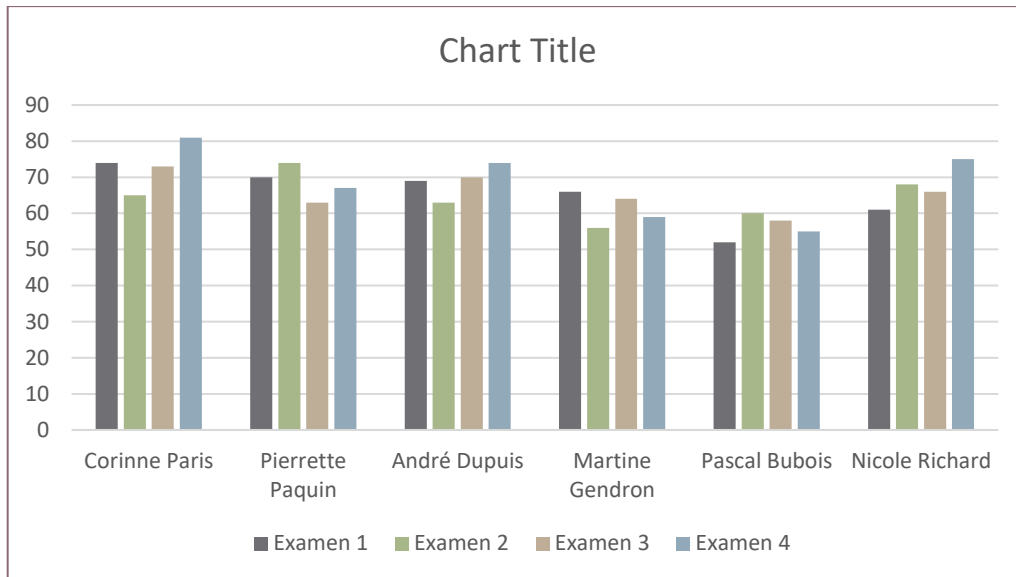
19.5. Other options - Chart

The purpose of this exercise is to demonstrate how to create a **chart** integrated into an **Excel** spreadsheet.

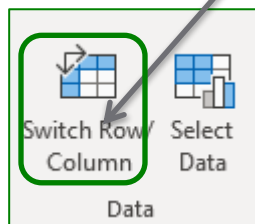
1. To **generate** your chart, you need to select data. **Excel** accepts continuous or discontinuous selections for charts. The first row and column may contain text.
2. Open file: "**Calculation Intermediate**", Select cells "**A2 to E8**" of the **GRAPHIC** sheet
3. Click on → **Column** → of the **Insert** Tab



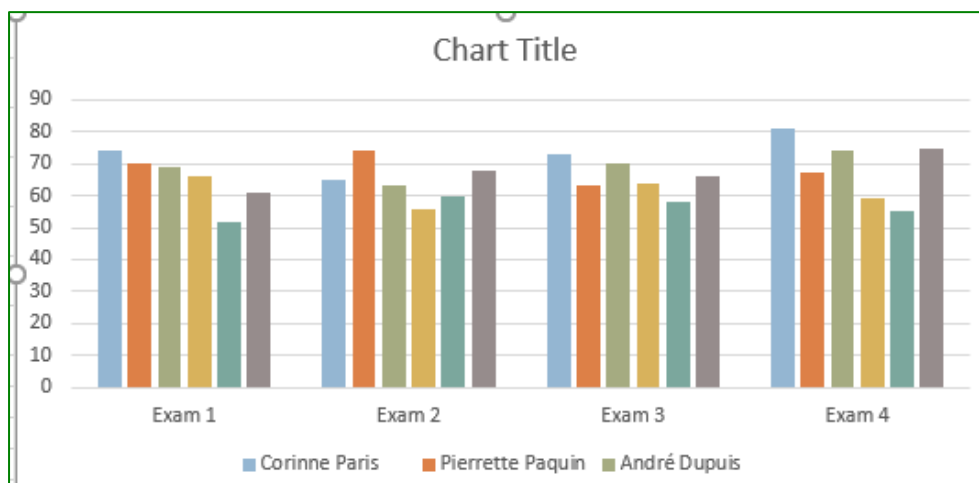
4. Choose the first **option** of the chart: **2-D column**
Here's the result



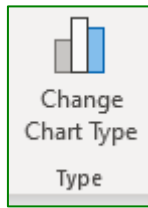
5. Click in **Switch Row/Column**, from the Design tab to change the look of the chart based on the data



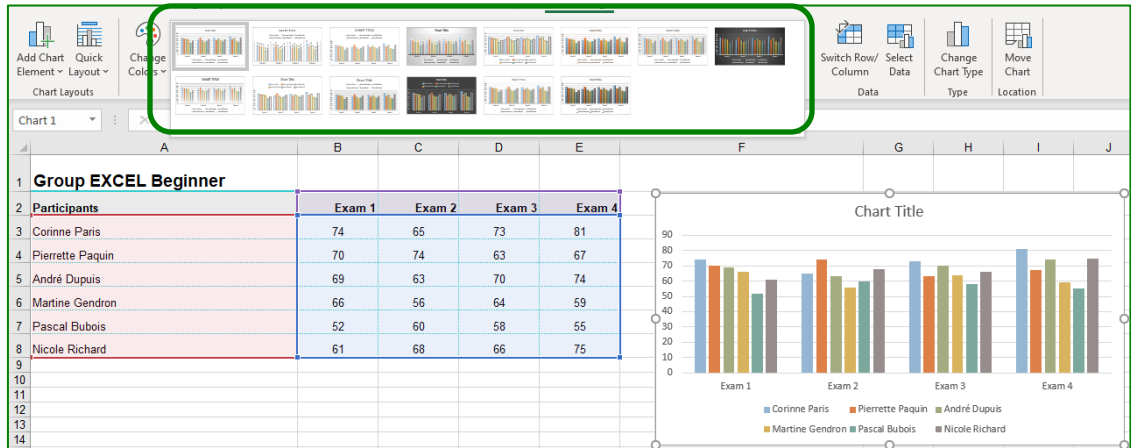
See the result and the difference in your chart (Next page)



6. To change the type of chart



7. To change the format of the chart, make sure to drop the cursor in the chart, then from the **Creation** tab, **Chart Styles**, choose a **style**:



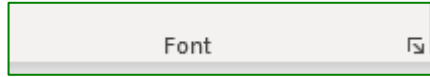
20. LIST OF SYMBOLS, CUSTOM FORMAT OF NUMBERS

ORDER FORMAT / CELL / NUMBERS / CUSTOM CATEGORY

Symbol	Meaning
0	Always displays a number. If there is no number at this location, display a 0. For example, code 0.00 always shows two decimal places.
#	Shows a number only if there is one. Doesn't show anything if there isn't one.
?	Like code 0 but displays a space instead of non-significant zeros.
,	The comma serves as a decimal separator. Can be defined as a point in the Windows configuration panel.
%	Converts the number into a percentage by multiplying by 100 and adding the sign.
\$	Shows the currency symbol.
()	Shows parentheses.
Space	The space is used to separate the thousands. Can be modified for a comma in the Windows configuration panel.
—	The underscore leaves a space of 1 character. Can be used to align numbers both in the column and on the decimal symbol.
j/m/aa jj-mmm-aaaa	Date format posted for January 5, 1985 - 5/1/85 Date format posted for January 5, 1985 - 05-Jan-1985
jj/mm/aa	Date format: posts 01/01/00 for January or 12/12/00 for December.
mmm	Shows the abbreviated names of the month (Jan to Dec).
mmmm	Shows the full name of the month (January to December).
aa yyyy	Shows the double-digit year Shows the four-digit year
H	Shows hours without zero (1 to 23).
HH	Shows hours with zero (01 to 23).
hh:mm	Shows hours and minutes
[]	Shows hours above 24 or minutes and seconds above 60. For example, [h]:mm gives 72:00 if the cell contains the value 3.
[color]	Shows according to the specified color. The available colors are black, blue, cyan, green, magenta, red, white or yellow. Example: [red].
"text"	Shows the text specified in quotation marks. For example: # ##0" haba" shows 1 234 hob if the value 1234 is entered in the cell.

21. Cell protection

By default, all cells in a sheet are locked. You will find this option in the → **Home** tab → Group **Font** → button



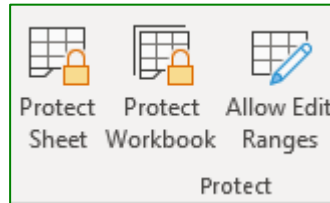
launching the dialog box → Tab → **Protection**.

It is important to protect cells in order to avoid mistakenly removing sometimes complex formulas. **This is done in two steps.** First, you must **unlock every cell** you want to access, only the cells that have been unlocked will be accessible. The second step is to protect the **sheet** with or without a password. You can do this step in → **Review** tab → **Protect Sheet**.

21.1. STEP 2: Sheet protection

HOW TO PROTECT THE SHEET

1. From → **Review** tab → **Protect Sheet**.
2. Activate options you do not want to protect.
3. Enter a **password** (you can leave this area empty)
4. Click **OK**
5. Protection can also be found in "**Format**" of the "**Cells**" group



21.2. To disable protection

If you want to change the contents of a locked cell or hidden formulas, you should disable the protection of the sheet. Select → **Unprotect Sheet** → **Review** tab

<p>Unprotect Sheet</p>			<p>Don't forget to protect the sheet again if you make changes.</p>
------------------------	--	--	---

Unprotect Sheet is also found by right clicking in a sheet

22. Shortcut on the keyboard

CTRL + X	CUT
CTRL + ESCAPE	VIEW START MENU
CTRL + C	COPY
CTRL + V	PASTE
CTRL + Z	CANCEL AN OPERATION
CTRL + A	SELECT EVERYTHING
CTRL + P	PRINT ACTIVE SHEET
CTRL + END	GO TO THE END OF THE SHEET
CTRL + HOME OR ⌘	GO TO THE BEGINNING OF THE SHEET
ALT + ENTER	PRESSING ALT AND ENTER ⇨ ALLOWS YOU TO WRITE IN THE SAME CELL BUT ON THE NEXT LINE - (AUTOMATIC LINE BREAK)
CTRL	KEEPING CTRL DOWN ⇨ ALLOWS YOU TO SELECT MORE THAN ONE ROW OR COLUMN AT A TIME
SHIFT	KEEPING SHIFT DOWN ⇨ ALLOWS YOU TO SELECT MORE LINES OR COLUMNS (IN BLOCK)
ESC	CLOSES A WINDOW IN AN APPLICATION, ALSO: END HIGHLIGHTED TEXT OR CELLS
F1	DISPLAYS HELP
F 2	REACH THE END OF THE CELL (TO CONTINUE WRITING TEXT)
F 4	REPEAT THE LAST OPERATION⇨ALSO: ABSOLUTE REFERENCE
F 5	GO TO ONE OR MORE CELLS
F 7	SPELL CHECK
F 11	GRAPHIC INSERTION (SHORTCUT)
F 12	SAVE-UNDER
CTRL - F1	OFFICE RIBBON

23. Exercise 1 – Paste with link

Open workbook "School statistics link" , in the "Multi-sheet" folder
1. Insert the average into the 3 sheets for groups A-B and C
2. Compile the result of groups A B and C in the "Summary" sheet, using "Paste link"
3. Hide the "Summary" sheet

24. Exercise 2 - Paste with link

Open the " Chocolate " workbook in the "Multi-Sheet" folder	
1.	Insert the sum into the 4 sheets for quarters 1 - 2 - 3 - 4 <u>In a single operation</u> <ul style="list-style-type: none"> ◆ Compile the data with link in the "Annual summary" sheet
2.	Compile quarterly results in the " Annual summary " sheet, using " Paste link "
3.	Format all sheets <ul style="list-style-type: none"> ◆ Format: Landscape ◆ Align horizontally and vertically ◆ File name on the left, date in the center, sheet name on the right ◆ Change the titles of row 2 to read: Sale for the year 2020 instead of: Place Versailles ◆ Tab color on the sheet created on all sheets ◆ Protect the "Annual summary" sheet in writing

25. Review 1

Open the " Exercise " workbook	
1.	" Employees " sheet: Lines are hidden, please re-post them
2.	Freeze the panes
3.	Filters to be performed in the " Employees " sheet <ul style="list-style-type: none"> ◆ Filter the list of employees hired in October Your answer: _____ Clear your filter ◆ Filter the list of employees whose last name begins with the letter F and the letter G Your answer: _____ Clear your filter ◆ Filter the list of employees who were hired between: January 1 2019 and July 31 2019 Your answer: _____ Clear your filter ◆ Filter the list of employees earning between 1 000 and 1 500 per week

26. Review 2 - Formula

Open the " Exercise " workbook
Insert formulas into sheets " Employees " and " Supermarket "
Insert the formula into the first cell " B3 " of the sheet Deadline Cells in green that represents the due date and copy it into the other cells

27. Exercise 1 - Sub-totals

Open the " Exercise " workbook
1. Sheet: "Employees" <ul style="list-style-type: none"> ◆ We want to see the sum of salaries per department ◆ And the number of employees per department

28. Exercise 2 - Sub-totals

Open the " Exercise " workbook
1. Sheet: "Supermarket" <ul style="list-style-type: none"> ◆ We want to see the sum of sales per Farm ◆ And the sum of sales per product
2. Sheet: "Boutique" <ul style="list-style-type: none"> ◆ Sum of sales per year ◆ And the sum of sales per season

29. Exercise 1 - Conditional formatting

Open the " Exercise " workbook
1. Sheet: "Employees" <ul style="list-style-type: none"> ◆ Conditional formatting If the person lives in: Montreal (Please do not use the same color) if the salary is more than 1 000
2. Sheet: "Boutique" <ul style="list-style-type: none"> ◆ Conditional formatting if the category is: Girl ◆ Column F (Sales), choose: Color scales

30. Exercise – Custom sort

Open the "**Exercise**" workbook

1. Sheet: **"Employees"**, column: **First name**
 - ◆ Sort by font color Filter first by colors:
Blue - Green - Red - Automatic
 - ◆ Make sure each color is also in alphabetical order

31. Exercise - Custom Views

Open the "**Exercise**" workbook

1. Sheet: **"RV"**
 - ◆ Layout: Landscape
 - ◆ Make sure the sheet is adjusted to a page in width
 - ◆ Footer to be created (Your choice)
 - ◆ Create a custom view, name it: **Complete**

2. Create a new custom view to get a list of patients who will undergo surgery next month
 - ◆ Hide a few columns
 - ◆ This sheet must be in **"Portrait"** mode
 - ◆ Header: List of surgical patients for next month
 - ◆ Create a custom view, name it: **Surgery**

3. Create a new custom view to get the doctor's patient list: **Lori Price**
 - ◆ Hide the columns: B - E and H
 - ◆ This sheet must be in "Portrait" mode
 - ◆ Header: List of patients in "Gynecology" for next week
 - ◆ Create a custom view, name it: Lori Price

4. Create a new custom view to get a list of SL patients
 - ◆ Hide the columns: B - E - H
 - ◆ This sheet must be in "Portrait" mode
 - ◆ Size: 8 1/2 X 14 (Legal)
 - ◆ Header: List of upcoming appointments in Saint-Luc (SL)
 - ◆ Create a custom view, name it: SL

32. Exercise - Validation

Open the " Exercise " workbook	
1.	Sheet: " RV " <ul style="list-style-type: none"> ◆ Column: Sex ◆ Message: Enter F for Female or M for Men
2.	Sheet: " Employees " <ul style="list-style-type: none"> ◆ Limit value to 4 digits ◆ Title: Message from Management Message: Enter a 4-digit number
3.	Sheet: " Boutique " <ul style="list-style-type: none"> ◆ Season: Spring - Summer - Autumn - Winter ◆ Category: Girl - Women - Boy - men

33. Exercise - Advanced Filter

Open the " Exercise " workbook	
1.	Filters to be applied in the " Boutique " sheet <ul style="list-style-type: none"> ◆ Filter the women list for the Spring season ◆ And the men list for the Fall season
2.	Repeat the same exercise by copying your data into a new sheet
3.	Rename the sheet: " Advanced Filter "

34. Exercise - Chart

Open the " Summary " workbook in the "Multi Sheets" folder	
2.	Sheet: " Jan " <ul style="list-style-type: none"> ◆ Select cells from A3 to B9 ◆ Create a "3D Section" chart (Pie) ◆ Insert a Title to your chart ◆ Insert percentage value ◆ Make changes and explore