# EXCEL

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# INTRODUCTION

Excel is a spreadsheet program that allows you to store, organize, and analyze information.

When you open Excel for the first time, the Excel Start Screen will appear. From here, you'll be able to create a new workbook, choose a template, and access your recently edited workbooks.

From the Excel Start Screen, locate and select Blank workbook to access the Excel interface.

# TO CREATE A NEW BLANK WORKBOOK:

- Select the File tab. Backstage view will appear.
- Select New, then click Blank workbook.
- A new blank workbook will appear.

# TO OPEN AN EXISTING WORKBOOK:

- Navigate to Backstage view, then click Open.
- Select Computer, then click Browse. You can also choose OneDrive to open files stored on your OneDrive.
- The Open dialog box will appear. Locate and select your workbook, then click Open.

# TO SAVE A WORKBOOK:

- Locate and select the Save command on the Quick Access Toolbar.
- If you're saving the file for the first time, the Save As pane will appear in Backstage view.
- You'll then need to choose where to save the file and give it a file name. To save the workbook to your computer, select Computer, then click Browse. You can also click Drive to save the file to your Drive.
- Enter a file name for the workbook, then click Save.

# TO SHARE A WORKBOOK:

- Click the File tab to access Backstage view, then click Share.
- Excel will return to Normal view and open the Share panel on the right side of the window. From here, you can invite people to share your document,see a list of who has access to the document, and set whether they can edit or only view the documents

**UNDERSTANDING CEL**L: Every worksheet is made up of thousands of rectangles, which are called cells. A cell is the intersection of a row and a column. In other words, it's where a row and column meet.

**TO SELECT A CELL**: To input or edit cell content, you'll first need to select the cell.

- Click a cell to select it.
- A border will appear around the selected cell, and the column heading and row heading will be highlighted.

**TO SELECT A CELL RANGE:** Sometimes you may want to select a larger group of cells, or a cell range.

- Click and drag the mouse until all of the adjoining cells you want to select are highlighted.
- Release the mouse to select the desired cell range

## TO MODIFY COLUMN WIDTH:

- Position the mouse over the column line in the column heading so the cursor becomes a double arrow.
- Click and drag the mouse to increase or decrease the column width.
- Release the mouse. The column width will be changed.

## TO MODIFY ROW HEIGHT:

- Position the cursor over the row line so the cursor becomes a double arrow
- Click and drag the mouse to increase or decrease the row height.
- Release the mouse. The height of the selected row will be changed.

# TO MODIFY ALL ROWS AND COLUMN

Instead of resizing rows and columns individually, you can modify the height and width of every row and column at the same time. This method allows you to set a uniform size for every row and column in your worksheet.

- Locate and click the Select All button just below the name box to select every cell in the worksheet.

# TO MODIFY ALL ROWS AND COLUMN

- Position the mouse over a row line so the cursor becomes a double arrow.
- Click and drag the mouse to increase or decrease the row height, then release the mouse when you are satisfied. The row height will be changed for the entire worksheet.

# FORMATTING CELLS

All cell content uses the same formatting by default, which can make it difficult to read a workbook with a lot of information.

**TO CHANGE FONT SIZE:**

- Select the cell(s) you want to modify.
- On the Home tab, click the drop-down arrow next to the Font Size command, then select the desired font size.
- The text will change to the selected font size.

# FORMATTING CELLS

## TO CHANGE FONT:

- Select the cell(s) you want to modify.
- On the Home tab, click the drop-down arrow next to the Font command, then select the desired font.
- The text will change to the selected font.

# TO CHANGE FONT COLOUR

- Select the cell(s) you want to modify.
- On the Home tab, click the drop-down arrow next to the Font Color command, then select the desired font color.
- The text will change to the selected font color.

# TO USE THE BOLD, ITALIC AND UNDERLINE COMMAND

- Select the cell(s) you want to modify.
- Click the Bold (B), Italic (*I*), or Underline (U) command on the Home tab.
- The selected style will be applied to the text.

# UNDERSTANDING NUMBERS FORMAT

Number formats tell your spreadsheet exactly what type of data you're using, like percentages (%), currency ($), times, dates, and so on.Number formats not only make your spreadsheet easier to read, but they also make it easier to use. When you apply a number format, you're telling your spreadsheet exactly what types of values are stored in a cell

# APPLYING NUMBER FORMAT

- Go to the Home tab, click the Number Format drop-do
  menu in the Number group, and select the desired for
- Click one of the quick number-formatting commands
  the drop-down menu.

You can also select the desired cells and press Ctrl+1 on y
keyboard to access additional number-formatting option

# WORKING WITH MULTIPLE WORKSHEETS

Every workbook contains at least one worksheet by default. When working with a large amount of data, you can create multiple worksheets to help organize your workbook and make it easier to find content. You can also group worksheets to quickly add information to multiple worksheets at the same time.

## TO INSERT A WORKSHEET:

- Locate and select the New sheet button near the bottom-right corner of the Excel window.
- A new blank worksheet will appear.

# USING FIND AND REPLACE

When working with a lot of data in Excel, it can be difficult and time consuming to locate specific information. You can easily search your workbook using the Find feature.

**TO FIND CELL CONTENT:**

- From the Home tab, click the Find and Select command, then select Find from the drop-down menu.
- The Find and Replace dialog box will appear. Enter the content you want to find.

# USING FIND AND REPLACE

- Click Find Next. If the content is found, the cell containing that content will be selected.
- Click Find Next to find more instances or Find All to see every instance of the search term.
- When you are finished, click Close to exit the Find and Replace dialog box.

# CHECKING SPELLING

## TO USE SPELL CHECK:

- From the Review tab, click the Spelling command.
- The Spelling dialog box will appear. For each spelling error in your worksheet, it will try to offer suggestions for the correct spelling.

# CHECKING SPELLING

- Choose a suggestion, then click Change to correct the error
- A dialog box will appear after reviewing all spelling errors. Click OK to close spell check.

If there are no appropriate suggestions, you can also enter the correct spelling manually.

# PAGE LAYOUT AND PRINTING

There may be times when you want to print a workbook to view and share your data offline. Once you've chosen your page layout settings, it's easy to preview and print a workbook from Excel using the Print pane.

## TO ACCESS THE PRINT PANE:

- Select the File tab. Backstage view will appear.
- Select Print. The Print pane will appear.

## TO PRINT A WORKBOOK:

- Navigate to the Print pane, then select the desired printer.
- Enter the number of copies you want to print.
- Click Print.

# INTRODUCTION TO FORMULAS

**MATHEMATICAL OPERATORS:** Excel uses standard operators for formulas: a plus sign for addition (+), minus sign for subtraction (-), asterisk for multiplication (*), forward slash for division (/), and caret (^) for exponents.

All formulas in Excel must begin with an equals sign (=). This is because the cell contains, or is equal to, the formula and the value it calculates.

# UNDERSTANDING CELL REFERENCE

While you can create simple formulas in Excel using numbers (for example, =2+2 or =5*5), most of the time you will use cell addresses to create a formula. This is known as making a cell reference. Using cell references will ensure that your formulas are always accurate because you can change the value of referenced cells without having to rewrite the formula.

- Cell A3 adds the values of cells A1 and A2 by making cell references:
- When you press Enter, the formula calculates and displays the answer in cell A3
- If the values in the referenced cells change, the formula automatically recalculates:

By combining a mathematical operator with cell references, you can create a variety of simple formulas in Excel.

# TO CREATE A FORMULA

- Select the cell that will contain the formula.
- Type the equals sign (=). Notice how it appears in both the cell and the formula bar.
- Type the cell address of the cell you want to reference first in the formula:
- Type the mathematical operator you want to use.
- Type the cell address of the cell you want to reference second in the formula.
- Press Enter on your keyboard. The formula will be calculated, and the value will be displayed in the cell.

If the result of a formula is too large to be displayed in a cell, it may appear as pound signs (###) instead of a value. This means the column is not wide enough to display the cell content. Simply increase the column width to show the cell content.

# TO CREATE A FORMULA USING POINT AND CLICK METHOD

Instead of typing cell addresses manually, you can point and click the cells you want to include in your formula. This method can save a lot of time and effort when creating formulas.

- Select the cell that will contain the formula.
- Type the equals sign (=).
- Select the cell you want to reference first in the formula.
- Type the mathematical operator you want to use.
- Select the cell you want to reference second in the formula.
- Press Enter on your keyboard. The formula will be calculated, and the value will be displayed in the cell.

# TO EDIT A FORMULA

- Select the cell containing the formula you want to edit.
- Click the formula bar to edit the formula. You can also double-click the cell to view and edit the formula directly within the cell.
- A border will appear around any referenced cells
- When you're finished, press Enter on your keyboard or select the Enter command in the formula bar.

# TO EDIT A FORMULA

- The formula will be updated, and the new value will be displayed in the cell.

If you change your mind, you can press the Esc key on your keyboard or click the Cancel command in the formula bar to avoid accidentally making changes to your formula.

# RELATIVE AND ABSOLUTE CELL REFERENCES

There are two types of cell references: relative and absolute. Relative and absolute references behave differently when copied and filled to other cells. Relative references change when a formula is copied to another cell. Absolute references, on the other hand, remain constant no matter where they are copied.

# RELATIVE AND ABSOLUTE CELL REFERENCES

**RELATIVE REFERENCES:** By default, all cell references are relative references. When copied across multiple cells, they change based on the relative position of rows and columns

# TO CREATE AND COPY A FORMULA USING RELATIVE REFERENCES

- Select the cell that will contain the formula.
- Enter the formula to calculate the desired value.
- Press Enter on your keyboard. The formula will be calculated, and the result will be displayed in the cell.
- Locate the fill handle in the bottom-right corner of the desired cell.

- Click and drag the fill handle over the cells you want to fill.
- Release the mouse. The formula will be copied to the selected cells with relative references, displaying the result in each cell.

You can double-click the filled cells to check their formulas for accuracy. The relative cell references should be different for each cell, depending on their rows.

# ABSOLUTE REFERENCE

There may be a time when you don't want a cell reference to change when copied to other cells. Unlike relative references, absolute references do not change when copied or filled. You can use an absolute reference to keep a row and/or column constant.

An absolute reference is designated in a formula by the addition of a dollar sign ($). It can precede the column reference, the row reference, or both.

# CREATE AND COPY A FORMULA USING ABSOLUTE REFERENCE

- Select the cell that will contain the formula.
- Enter the formula to calculate the desired value.
- Press Enter on your keyboard. The formula will calculate, and the result will display in the cell.
- Locate the fill handle in the bottom-right corner of the desired cell.
- Click and drag the fill handle over the cells you want to fill.

# CREATE AND COPY A FORMULA USING ABSOLUTE REFERENCE

- Release the mouse. The formula will be copied to the selected cells with an absolute reference, and the values will be calculated in each cell.

You can double-click the filled cells to check their formulas for accuracy. The absolute reference should be the same for each cell, while the other references are relative to the cell's row.

# BASICS TIPS FOR WORKING WITH DATA

Excel workbooks are designed to store a lot of information. Whether you're working with 20 cells or 20,000, Excel has several features to help you organize your data and find what you need.

## FREEZING ROWS AND COLUMNS

You may want to see certain rows or columns all the time in your worksheet, especially header cells. By freezing rows or columns in place, you'll be able to scroll through your content while continuing to view the frozen cells.

# BASICS TIPS FOR WORKING WITH DATA

## SORTING DATA:

You can quickly reorganize a worksheet by sorting your data. Content can be sorted alphabetically and numerically

# FILTERING DATA

Filters can be used to narrow down the data in your worksheet, allowing you to view only the information you need.

SUMMARIZING DATA: The Subtotal command allows you to quickly summarize data.

# FILTERING DATA

**USING FIND AND REPLACE:** When working with a lot of data, it can be difficult and time consuming to locate specific information. You can easily search your workbook using the FIND FEATURE,which also allows you to modify content using the Replace feature.

# FREEZE PANE AND VIEW OPTION

**TO FREEZE ROW**: You may want to see certain rows or columns all the time in your worksheet, especially header cells. By freezing rows or columns in place, you'll be able to scroll through your content while continuing to view the frozen cells.

- Select the row below the row(s) you want to freeze. E.g we want to freeze rows 1 and 2, so we'll select row 3.
- On the View tab, select the Freeze Panes command, then choose Freeze Panes from the drop-down menu.
- The rows will be frozen in place, as indicated by the gray line. You can scroll down the worksheet while continuing to view the frozen rows at the top.

# TO FREEZE COLUMN

- Select the column to the right of the column(s) you want to freeze.Example, we want to freeze column A, so we'll select column B.
- On the View tab, select the Freeze Panes command, then choose Freeze Panes from the drop-down menu.

- The column will be frozen in place, as indicated by the gray line. You can scroll across the worksheet while continuing to view the frozen column on the left.
- If you only need to freeze the top row (row 1) or first column (column A) in the worksheet, you can simply select Freeze Top Row or Freeze First Column from the drop-down menu.

# OTHER VIEW OPTION

If your workbook contains a lot of content, it can sometimes be difficult to compare different sections. Excel includes additional options to make your workbooks easier to view and compare. For example, you can choose to open a new window for your workbook or split a worksheet into separate panes.

Excel allows you to open multiple windows for a single workbook at the same time.

# TO OPEN A NEW WINDOW FOR THE CURRENT WORKBOOK:

- Click the View tab on the Ribbon, then select the New Window command.
- A new window for the workbook will appear.
- You can now compare different worksheets from the same workbook across windows

If you have several windows open at the same time, you can use the Arrange All command to rearrange them quickly

# TYPES OF SORTING

When sorting data, it's important to first decide if you want the sort to apply to the entire worksheet or just a cell range. Sort sheet organizes all of the data in your worksheet by one column. Related information across each row is kept together when the sort is applied.  Sort range sorts the data in a range of cells, which can be helpful when working with a sheet that contains several tables. Sorting a range will not affect other content in the worksheet.

# TO SORT SHEET:

- Select a cell in the column you want to sort
- Select the Data tab on the Ribbon, then click the A-Z command to sort A to Z, or the Z-A command to sort Z to A.
- The worksheet will be sorted by the selected column

# TO SORT RANGE:

- Select the cell range you want to sort. E.g we'll select cell range G2:H6.
- Select the Data tab on the Ribbon, then click the Sort command.
- The Sort dialog box will appear. Choose the column you want to sort.
- Decide the sorting order (either ascending or descending).
- Once you're satisfied with your selection, click OK.
- The cell range will be sorted by the selected column.

# TO FILTER DATA

- In other for filtering to work perfectly, your worksheet should a header row which is use to identify the name of each column.
- Select the Data tab, then click the Filter command.
- A drop-down arrow will appear in the header cell for each column.
- Click the drop-down arrow for the column you want to filter

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# TO FILTER DATA

- The Filter menu will appear.
- Uncheck the box next to Select All to quickly deselect all data.
- Check the boxes next to the data you want to filter, then click OK.
- The data will be filtered, temporarily hiding any content that doesn't match the criteria.

# GROUPS AND SUBTOTALS

## TO GROUP ROWS AND COLUMNS:

- Select the rows or columns you want to group. E.g select columns B, C, and D
- Select the Data tab on the Ribbon, then click the Group command.
- The selected rows or columns will be grouped.

To ungroup data, select the grouped rows or columns, then click the Ungroup command.

# CREATING SUBTOTALS

The Subtotal command allows you to automatically create groups and use common functions like SUM, COUNT, and AVERAGE to help summarize your data.

## TO CREATE A SUBTOTAL:

- First, sort your worksheet by the data you want to subtotal
- Select the Data tab, then click the Subtotal command.

## TO CREATE A SUBTOTAL:

- The Subtotal dialog box will appear. Click the drop-down arrow for the At each change in: field to select the column you want to subtotal.
- Click the drop-down arrow for the Use function: field to select the function you want to use. E.g select COUNT to count the number of items in your sheet.
- In the Add subtotal to: field, select the column where you want the calculated subtotal to appear.

# TO REMOVE SUBTOTAL

Sometimes you may not want to keep subtotals in your worksheet, especially if you want to reorganize data in different ways. If you no longer want to use subtotaling, you will need remove it from your worksheet.

- Select the Data tab, then click the Subtotal command
- The Subtotal dialog box will appear. Click Remove All.

# TO REMOVE SUBTOTAL

- All worksheet data will be ungrouped, and the subtotals will be removed.

To remove all groups without deleting the subtotals, click the Ungroup command drop-down arrow, then choose Clear Outline.

# TO VIEW GROUPS BY LEVEL

When you create subtotals, your worksheet it is divided into different levels. You can switch among these levels to quickly control how much information is displayed in the worksheet by clicking the Level buttons to the left of the worksheet.

# TO VIEW GROUPS BY LEVEL

- Click the lowest level to display the least detail.
- Click the next level to expand the detail.
- Click the highest level to view and expand all of your worksheet data.

You can also use the Show Detail and Hide Detail buttons to show and hide the groups within the outline.

# TO FORMAT DATA AS A TABLE:

- Select the cells you want to format as a table. In our example, we'll select the cell range A2:D9
- From the Home tab, click the Format as Table command in the Styles group.
- Select a table style from the drop-down menu.

## TO FORMAT DATA AS A TABLE:

- A dialog box will appear, confirming the selected cell range for the table.
- If your table has headers, check the box next to My table has headers, then click OK.
- The cell range will be formatted in the selected table style.

# CHARTS

It can be difficult to interpret Excel workbooks that contain a lot of data. Charts allow you to illustrate your workbook data graphically.

It can be difficult to interpret Excel workbooks that contain a lot of data. Charts allow you to illustrate your workbook data graphically,

# TYPES OF CHARTS

- Column bars use vertical bars to represent data
- LINE charts are good for showing trends
- PIE charts makes it easy to compare proportion
- BAR charts use horizontal bars to represent data
- AREA charts are similar to LINE charts except that the areas under the are filled in.
- SURFACE Charts allow you to display data across a 3D landscape

# TO INSERT A CHART

- Select the **cells** you want to chart, including the **column titles** and **row labels**. These cells will be the source data for the chart.
- From the **Insert** tab, click the desired **Chart** command
- Choose the desired **chart type** from the drop-down menu.
- The Selected chart will be inserted into the worksheet.

If you're not sure which type of chart to use, the **Recommended Charts** command will suggest several charts based on the source data.

# CONDITIONAL FORMATTING

Conditional formatting allows you to automatically apply formatting such as **colors**, **icons**, and **data bars**, to one or more cells based on the **cell value**. To do this, you'll need to create a **conditional formatting rule**. For example, a conditional formatting rule might be: **If the value is less than 2000, color the cell red**. By applying this rule, you'd be able to quickly see which cells contain values less than 2000.

# TO CREATE A CONDITIONAL FORMATTING RULE

- Select the **desired cells** for the conditional formatting rule.
- From the **Home** tab, click the **Conditional Formatting** command. A drop-down menu will appear.
- Hover the mouse over the desired **conditional formatting type**, then select the **desired rule** from the menu that appears.
- A dialog box will appear. Enter the **desired value(s)** into the blank field.

# TO CREATE A CONDITIONAL FORMATTING RULE

- Select a **formatting style** from the drop-down menu. Example choose **Green Fill with Dark Green Text**, then click **OK**.
- The conditional formatting will be applied to the selected cells

You can apply multiple conditional formatting rules to a cell range or worksheet,this allows you to visualize different trends and patterns in your data.

# TO CREATE A CONDITIONAL FORMATTING RULE

- Select the **desired cells** for the conditional formatting rule.
- From the **Home** tab, click the **Conditional Formatting** command. A drop-down menu will appear.
- Hover the mouse over the desired **conditional formatting type**, then select the **desired rule** from the menu that appears.

- A dialog box will appear. Enter the **desired value(s)** into the blank field.
- Select a **formatting style** from the drop-down menu. Example choose **Green Fill with Dark Green Text**, then click **OK**.
- The conditional formatting will be applied to the selected cells. You can apply multiple conditional formatting rules to a cell range or worksheet,this allows you to visualize different trends and patterns in your data.

# PROTECTING WORKBOOK

By default, anyone with access to your workbook will be able to open, copy, and edit its content unless you **protect** it. There are several ways to protect a workbook, depending on your needs.

## TO PROTECT YOUR WORKBOOK:

- Click the **File** tab to access **Backstage view**
- From the **Info** pane, click the **Protect Workbook** command
- In the drop-down menu, choose the option that best suits your needs, E.g select **Mark as Final**.

# PROTECTING WORKBOOK

- Marking your workbook as final is a good way to discourage others from editing the workbook, while the other options give you even more control if needed.
- A dialog box will appear, prompting you to save. Click **OK**.
- Another dialog box will appear. Click **OK**.
- The workbook will be marked as final.