



# THE PRACTICAL EXCEL KEYBOARD SHORTCUTS & FORMULAS

**A systematic, visual workplace master guide**

From faster navigation to confident data analysis

**BUILT FOR**

Office executives • Sales teams • Analysts • Trainers • Students

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Practical Workplace Edition • 2026

START HERE

# How to Use This Book

PROMISE

You do not need to memorise everything. Learn one shortcut and one formula each day, then use them in a real file.

The 4-step XLD learning loop

| 1. SEE           | 2. TYPE           | 3. APPLY            | 4. REPEAT              |
|------------------|-------------------|---------------------|------------------------|
| Read the purpose | Enter it yourself | Use it on work data | Repeat without looking |

## Symbols used throughout

|               |                               |                                         |
|---------------|-------------------------------|-----------------------------------------|
| Ctrl + C      | Press the keys together       | Use the visual cue whenever it appears. |
| A2:A10        | A continuous cell range       | Use the visual cue whenever it appears. |
| \$A\$2        | Locked/absolute reference     | Use the visual cue whenever it appears. |
| [optional]    | An argument you may omit      | Use the visual cue whenever it appears. |
| ★ Coach's tip | A shortcut to better practice | Use the visual cue whenever it appears. |

### Compatibility note

Shortcuts are written for Microsoft Excel on Windows (Microsoft 365/Excel 2021+). Mac users usually replace Ctrl with Command, though some ribbon and function-key actions differ. Formula availability can vary by Excel version; newer dynamic-array functions are clearly identified.

## YOUR LEARNING MAP

# Contents

**PART 1****Keyboard confidence**

Navigation, selection, editing, formatting, tables, formulas, charts, PivotTables and ribbon control

**PART 2****Formula foundations**

References, operators, order of calculation and error handling

**PART 3****Essential formulas**

Math, logic, text, dates, lookup, dynamic arrays, statistics and finance

**PART 4****Workplace projects**

Sales MIS, attendance, ageing, incentive, dashboard and data-cleaning examples

**PART 5****Desk references**

Shortcut index, formula index, error decoder and 30-day practice plan

PART 1 • CHAPTER 1

# File & Workbook Control

Open, save, print and switch files without breaking concentration

MUSCLE MEMORY

Choose three shortcuts from this chapter. Use each at least five times today.

|            |                  |                                                |
|------------|------------------|------------------------------------------------|
| Ctrl + N   | New workbook     | Start a clean workbook.                        |
| Ctrl + O   | Open             | Open an existing workbook.                     |
| Ctrl + S   | Save             | Save current changes. ★ Use every few minutes. |
| F12        | Save As          | Save with a new name or location.              |
| Ctrl + P   | Print            | Open print preview and settings.               |
| Ctrl + W   | Close workbook   | Close the current file, not Excel.             |
| Alt + F4   | Exit Excel       | Close the Excel application.                   |
| Ctrl + Tab | Next workbook    | Move between open Excel files.                 |
| Ctrl + F6  | Next window      | Cycle through workbook windows.                |
| Alt + F, I | File information | Inspect, protect or manage the file.           |

PART 1 • CHAPTER 2

# Move Around at Speed

Jump through large datasets instead of scrolling

MUSCLE MEMORY

Choose three shortcuts from this chapter. Use each at least five times today.

|                      |                     |                                              |
|----------------------|---------------------|----------------------------------------------|
| Arrow keys           | One cell            | Move one cell in any direction.              |
| Ctrl + Arrow         | Data edge           | Jump to the edge of the current data region. |
| Home                 | Row start           | Move to column A in the current row.         |
| Ctrl + Home          | Sheet start         | Jump to cell A1.                             |
| Ctrl + End           | Last used cell      | Jump to Excel's last used cell.              |
| Page Up / Down       | One screen          | Move one screen vertically.                  |
| Alt + Page Up / Down | One screen sideways | Move one screen horizontally.                |
| Ctrl + G / F5        | Go To               | Jump to a named cell or range.               |
| Ctrl + Backspace     | Find active cell    | Bring the active cell into view.             |
| Ctrl + Page Up/Down  | Change sheet        | Move to previous or next worksheet.          |

PART 1 • CHAPTER 3

# Select Data Precisely

Select only what you need—rows, columns, blocks or special cells

MUSCLE MEMORY

Choose three shortcuts from this chapter. Use each at least five times today.

|                      |                      |                                                 |
|----------------------|----------------------|-------------------------------------------------|
| Shift + Arrow        | Extend selection     | Add one cell to the selection.                  |
| Ctrl + Shift + Arrow | Select to edge       | Select from active cell to data edge.           |
| Ctrl + A             | Current region / all | First press selects data; second selects sheet. |
| Ctrl + Space         | Select column        | Select the entire active column.                |
| Shift + Space        | Select row           | Select the entire active row.                   |
| Ctrl + Shift + Space | Select worksheet     | Select all cells.                               |
| Shift + Page Up/Down | Extend one screen    | Grow selection by a screen.                     |
| F8                   | Extend mode          | Extend with arrow keys without holding Shift.   |
| Shift + F8           | Add selection        | Add a separate range.                           |
| Alt + ;              | Visible cells only   | Exclude hidden/filtered cells from selection.   |

## PART 1 • CHAPTER 4

# Enter & Edit Data

Correct, copy and fill data with fewer mouse movements

**MUSCLE MEMORY**

Choose three shortcuts from this chapter. Use each at least five times today.

|                         |                         |                                                |
|-------------------------|-------------------------|------------------------------------------------|
| <b>F2</b>               | <b>Edit active cell</b> | Place cursor inside the cell.                  |
| <b>Delete</b>           | <b>Clear contents</b>   | Remove value/formula; keep formatting.         |
| <b>Ctrl + C</b>         | <b>Copy</b>             | Copy selected cells.                           |
| <b>Ctrl + X</b>         | <b>Cut</b>              | Move selected cells.                           |
| <b>Ctrl + V</b>         | <b>Paste</b>            | Paste copied content.                          |
| <b>Ctrl + Alt + V</b>   | <b>Paste Special</b>    | Choose values, formulas, formats or transpose. |
| <b>Ctrl + Z</b>         | <b>Undo</b>             | Reverse the last action.                       |
| <b>Ctrl + Y</b>         | <b>Redo / repeat</b>    | Restore or repeat the previous action.         |
| <b>Ctrl + D</b>         | <b>Fill Down</b>        | Copy the top cell down.                        |
| <b>Ctrl + R</b>         | <b>Fill Right</b>       | Copy the left cell right.                      |
| <b>Alt + Enter</b>      | <b>New line in cell</b> | Create a line break inside one cell.           |
| <b>Ctrl + Enter</b>     | <b>Fill selection</b>   | Enter the same value in all selected cells.    |
| <b>Ctrl + ;</b>         | <b>Today's date</b>     | Insert the current date as a value.            |
| <b>Ctrl + Shift + ;</b> | <b>Current time</b>     | Insert the current time as a value.            |
| <b>Ctrl + E</b>         | <b>Flash Fill</b>       | Detect a pattern and fill remaining rows.      |

PART 1 • CHAPTER 5

# Format Like a Professional

Apply consistent number and cell formats instantly

MUSCLE MEMORY

Choose three shortcuts from this chapter. Use each at least five times today.

|                   |                 |                                      |
|-------------------|-----------------|--------------------------------------|
| Ctrl + 1          | Format Cells    | Open all formatting options.         |
| Ctrl + B          | Bold            | Toggle bold.                         |
| Ctrl + I          | Italic          | Toggle italic.                       |
| Ctrl + U          | Underline       | Toggle underline.                    |
| Ctrl + 5          | Strikethrough   | Toggle strikethrough.                |
| Ctrl + Shift + ~  | General format  | Reset number format to General.      |
| Ctrl + Shift + !  | Number format   | Two decimals and thousand separator. |
| Ctrl + Shift + \$ | Currency format | Apply currency format.               |
| Ctrl + Shift + %  | Percentage      | Apply percentage format.             |
| Ctrl + Shift + #  | Date format     | Apply day-month-year date format.    |
| Ctrl + Shift + @  | Time format     | Apply time format.                   |
| Ctrl + Shift + ^  | Scientific      | Apply scientific notation.           |
| Alt + H, O, I     | AutoFit column  | Fit width to longest value.          |
| Alt + H, O, A     | AutoFit row     | Fit height to wrapped content.       |



PART 1 • CHAPTER 6

# Rows, Columns & Sheets

Build and manage workbook structure quickly

MUSCLE MEMORY

Choose three shortcuts from this chapter. Use each at least five times today.

|                  |                 |                                       |
|------------------|-----------------|---------------------------------------|
| Ctrl + +         | Insert          | Insert cells, rows or columns.        |
| Ctrl + -         | Delete          | Delete cells, rows or columns.        |
| Ctrl + 9         | Hide rows       | Hide selected rows.                   |
| Ctrl + Shift + 9 | Unhide rows     | Show hidden rows in selection.        |
| Ctrl + 0         | Hide columns    | Hide selected columns.                |
| Ctrl + Shift + 0 | Unhide columns  | May require Windows keyboard setting. |
| Shift + F11      | New worksheet   | Insert a new sheet.                   |
| Alt + H, O, R    | Rename sheet    | Rename the active sheet.              |
| Alt + H, D, S    | Delete sheet    | Delete the active worksheet.          |
| Alt + H, O, M    | Move/copy sheet | Open Move or Copy dialog.             |

PART 1 • CHAPTER 7

# Formulas & Recalculation

Write, inspect and calculate formulas confidently

MUSCLE MEMORY

Choose three shortcuts from this chapter. Use each at least five times today.

|                      |                      |                                                 |
|----------------------|----------------------|-------------------------------------------------|
| =                    | Start formula        | Every Excel formula begins with equals.         |
| Alt + =              | AutoSum              | Insert SUM for the nearby range.                |
| F4                   | Lock reference       | Cycle A1, \$A\$1, A\$1 and \$A1 while editing.  |
| Ctrl + `             | Show formulas        | Toggle formulas and results.                    |
| Ctrl + Shift + Enter | Legacy array formula | Commit older array formulas.                    |
| F9                   | Calculate all        | Recalculate all open workbooks.                 |
| Shift + F9           | Calculate sheet      | Recalculate active worksheet.                   |
| Ctrl + Alt + F9      | Force calculation    | Recalculate all formulas regardless of changes. |
| Ctrl + [             | Direct precedents    | Select cells used by the formula.               |
| Ctrl + ]             | Direct dependents    | Select formulas using the active cell.          |
| Shift + F3           | Insert Function      | Open function search/dialog.                    |
| F3                   | Paste name           | Insert a defined name into a formula.           |

PART 1 • CHAPTER 8

# Find, Replace & Clean

Locate values, formulas, comments and formatting

MUSCLE MEMORY

Choose three shortcuts from this chapter. Use each at least five times today.

|                   |                  |                                              |
|-------------------|------------------|----------------------------------------------|
| Ctrl + F          | Find             | Search current sheet or workbook.            |
| Ctrl + H          | Replace          | Find and replace text or values.             |
| Ctrl + G, Special | Go To Special    | Select blanks, formulas, constants and more. |
| Ctrl + K          | Hyperlink        | Insert or edit a link.                       |
| Shift + F2        | Note             | Add or edit a legacy note.                   |
| Alt + R, T, O     | Spelling         | Check spelling using the Review ribbon.      |
| Ctrl + Shift + L  | Filter toggle    | Add or remove filter arrows.                 |
| Alt + Down        | Open filter/list | Open filter menu or validation list.         |

PART 1 • CHAPTER 9

# Tables, Filters & Sorting

Turn raw lists into controlled, analysable data

MUSCLE MEMORY

Choose three shortcuts from this chapter. Use each at least five times today.

|                  |                 |                                          |
|------------------|-----------------|------------------------------------------|
| Ctrl + T         | Create table    | Convert a data range to an Excel Table.  |
| Ctrl + Shift + L | Toggle filters  | Add/remove filter arrows.                |
| Alt + Down       | Open filter     | Open active header's filter menu.        |
| Alt + A, S, A    | Sort A–Z        | Sort ascending.                          |
| Alt + A, S, D    | Sort Z–A        | Sort descending.                         |
| Alt + A, C       | Clear filter    | Clear filter from the active range.      |
| Alt + A, T       | Filter          | Toggle filter using Data ribbon.         |
| Tab              | Next table cell | Move right; last cell creates a new row. |
| Ctrl + Space     | Table column    | Select data column, then full column.    |
| Shift + Space    | Table row       | Select table row.                        |

PART 1 • CHAPTER 10

# Charts & Visual Analysis

Create and adjust visuals without hunting through menus

MUSCLE MEMORY

Choose three shortcuts from this chapter. Use each at least five times today.

|               |                    |                                            |
|---------------|--------------------|--------------------------------------------|
| Alt + F1      | Embedded chart     | Create a chart on the current sheet.       |
| F11           | Chart sheet        | Create chart on a separate sheet.          |
| Alt + N, V    | PivotChart         | Insert a PivotChart.                       |
| Alt + N, S, F | Sparklines         | Insert line sparklines.                    |
| Arrow keys    | Move chart element | Navigate selected chart elements.          |
| Ctrl + 1      | Format element     | Open formatting pane for selected element. |
| Delete        | Remove element     | Delete selected chart element.             |
| Alt + J, C    | Chart Design tab   | Open chart-specific ribbon commands.       |

PART 1 • CHAPTER 11

# PivotTable Power

Summarise thousands of rows into a management view

MUSCLE MEMORY

Choose three shortcuts from this chapter. Use each at least five times today.

|                 |                    |                                              |
|-----------------|--------------------|----------------------------------------------|
| Alt + N, V, T   | Insert PivotTable  | Create PivotTable from selected data.        |
| Alt + F5        | Refresh PivotTable | Refresh the active PivotTable.               |
| Ctrl + Alt + F5 | Refresh all        | Refresh all data connections/Pivots.         |
| Alt + J, T      | PivotTable Analyse | Open PivotTable-specific ribbon.             |
| Alt + Down      | Open field filter  | Filter selected Pivot field.                 |
| Spacebar        | Select item        | Select/check an item in some Pivot controls. |
| Shift + F10     | Context menu       | Open PivotTable right-click menu.            |

PART 1 • CHAPTER 12

# Ribbon & Dialog Control

Use Excel even when you cannot remember the menu location

MUSCLE MEMORY

Choose three shortcuts from this chapter. Use each at least five times today.

|                   |                  |                                      |
|-------------------|------------------|--------------------------------------|
| Alt               | Key Tips         | Display ribbon shortcut letters.     |
| Alt + Q           | Search / Tell Me | Search for an Excel command.         |
| Ctrl + F1         | Ribbon collapse  | Show or hide the ribbon.             |
| Tab / Shift + Tab | Next / previous  | Move between dialog controls.        |
| Spacebar          | Toggle option    | Select a checkbox or button.         |
| Enter             | Confirm          | Apply selected dialog choice.        |
| Esc               | Cancel / close   | Exit a menu or dialog.               |
| Shift + F10       | Context menu     | Open right-click menu from keyboard. |

PART 2

# Formula Foundations

## The anatomy of a formula

READ IT

=SUM(\$D\$2:D2) means: add values from the locked starting cell D2 up to the current row.

A formula is built from six parts

| PART        | EXAMPLE | MEANING                                  |
|-------------|---------|------------------------------------------|
| Equals sign | =       | Start a formula                          |
| Function    | SUM     | The calculation instruction              |
| Parentheses | ( )     | Hold function arguments                  |
| Reference   | D2      | Where the value lives                    |
| Operator    | *       | How values interact                      |
| Separator   | ,       | Separates arguments (may be ; by region) |

## Order of calculation: PEMDAS

Excel follows this order

| ORDER      | OPERATION                                                           | EXAMPLE        |
|------------|---------------------------------------------------------------------|----------------|
| 1          | Parentheses                                                         | =(10+5)*2 → 30 |
| 2          | Exponents                                                           | =3^2 → 9       |
| 3          | Multiplication / Division                                           | =12/3*2 → 8    |
| 4          | Addition / Subtraction                                              | =10+5-3 → 12   |
| BEST HABIT | Use parentheses whenever the intended order might be misunderstood. |                |



## PART 2 • FOUNDATIONS

# Cell References That Copy Correctly

## Relative, absolute and mixed references

| REFERENCE | WHAT MOVES?    | USE                                     |
|-----------|----------------|-----------------------------------------|
| A2        | Row and column | Normal copied calculations              |
| \$A\$2    | Nothing        | Fixed tax rate, target or exchange rate |
| A\$2      | Column only    | Heading rate fixed by row               |
| \$A2      | Row only       | Lookup column fixed                     |

## Practical discount calculation

| A                | B                                                           | C          |
|------------------|-------------------------------------------------------------|------------|
| Amount           | Discount Rate                                               | Discount   |
| ₹10,000          | 5%                                                          | =A3*\$B\$3 |
| ₹15,000          | 5%                                                          | =A4*\$B\$3 |
| <b>TYPE THIS</b> | Type =A3*\$B\$3, press F4 on B3 to lock it, then fill down. |            |

|                 |                                                                            |
|-----------------|----------------------------------------------------------------------------|
| <b>F4 CYCLE</b> | While editing a reference, press F4 repeatedly: A1 → \$A\$1 → A\$1 → \$A1. |
|-----------------|----------------------------------------------------------------------------|

## PART 3 • FORMULA GROUP 1

# Math & Totals

Build daily summaries, targets and rounded reports

## PRACTICE RULE

Type every example into Excel. Reading creates recognition; typing creates skill.

## SUM Adds numbers

|                   |                                      |
|-------------------|--------------------------------------|
| SYNTAX            | <b>=SUM(number1,[number2],...)</b>   |
| WORKPLACE EXAMPLE | =SUM(D2:D10) → Total sales in D2:D10 |

**Coach's note:** Ignores text and blank cells.

## SUMIF Adds values meeting one condition

|                   |                                                        |
|-------------------|--------------------------------------------------------|
| SYNTAX            | <b>=SUMIF(range,criteria,[sum_range])</b>              |
| WORKPLACE EXAMPLE | =SUMIF(B2:B20,"East",D2:D20) → East-region sales total |

**Coach's note:** Put text criteria in quotes.

## SUMIFS Adds values meeting multiple conditions

|                   |                                                          |
|-------------------|----------------------------------------------------------|
| SYNTAX            | <b>=SUMIFS(sum_range,criteria_range1,criteria1,...)</b>  |
| WORKPLACE EXAMPLE | =SUMIFS(D:D,B:B,"East",C:C,"Laptop") → East laptop sales |

**Coach's note:** SUMIFS starts with the sum range.

## PRODUCT Multiplies numbers

|                   |                                        |
|-------------------|----------------------------------------|
| SYNTAX            | <b>=PRODUCT(number1,[number2],...)</b> |
| WORKPLACE EXAMPLE | =PRODUCT(B2,C2) → Quantity × rate      |

**Coach's note:** The simpler =B2\*C2 is often clearer.

## PART 3 • GROUP 1

## Math &amp; Totals — continued

**ROUND** Rounds to chosen digits

|                      |                                     |
|----------------------|-------------------------------------|
| SYNTAX               | <b>=ROUND(number,num_digits)</b>    |
| WORKPLACE<br>EXAMPLE | =ROUND(E2,0) → ₹12,456.72 → ₹12,457 |

**Coach's note:** Use 0 for whole numbers; -2 for hundreds.

**ROUNDUP** Always rounds away from zero

|                      |                                    |
|----------------------|------------------------------------|
| SYNTAX               | <b>=ROUNDUP(number,num_digits)</b> |
| WORKPLACE<br>EXAMPLE | =ROUNDUP(12.01,0) → 13             |

**Coach's note:** Useful for required cartons or people.

**ROUNDDOWN** Always rounds toward zero

|                      |                                      |
|----------------------|--------------------------------------|
| SYNTAX               | <b>=ROUNDDOWN(number,num_digits)</b> |
| WORKPLACE<br>EXAMPLE | =ROUNDDOWN(12.99,0) → 12             |

**Coach's note:** Useful when only complete units count.

**INT** Rounds down to integer

|                      |                     |
|----------------------|---------------------|
| SYNTAX               | <b>=INT(number)</b> |
| WORKPLACE<br>EXAMPLE | =INT(9.8) → 9       |

**Coach's note:** Negative values round down, not toward zero.

PART 3 • GROUP 1

# Math & Totals — continued

| MOD Returns remainder |                                    |
|-----------------------|------------------------------------|
| SYNTAX                | =MOD(number,divisor)               |
| WORKPLACE EXAMPLE     | =MOD(A2,2) → 0 for even; 1 for odd |

**Coach's note:** Also useful for repeating schedules.

| SUBTOTAL Calculates visible rows |                                                     |
|----------------------------------|-----------------------------------------------------|
| SYNTAX                           | =SUBTOTAL(function_num,ref1,...)                    |
| WORKPLACE EXAMPLE                | =SUBTOTAL(9,D2:D100) → Visible filtered sales total |

**Coach's note:** Use 9 for SUM, 1 for AVERAGE, 3 for COUNTA.



PART 3 • FORMULA GROUP 2

# Counting & Statistics

Measure volume, averages and performance ranges

|               |                                                                                   |
|---------------|-----------------------------------------------------------------------------------|
| PRACTICE RULE | Type every example into Excel. Reading creates recognition; typing creates skill. |
|---------------|-----------------------------------------------------------------------------------|

|                            |                                             |
|----------------------------|---------------------------------------------|
| COUNT Counts numeric cells |                                             |
| SYNTAX                     | =COUNT(value1,...)                          |
| WORKPLACE EXAMPLE          | =COUNT(D2:D100) → Number of numeric entries |

**Coach's note:** Dates and times count because Excel stores them as numbers.

|                               |                                             |
|-------------------------------|---------------------------------------------|
| COUNTA Counts non-empty cells |                                             |
| SYNTAX                        | =COUNTA(value1,...)                         |
| WORKPLACE EXAMPLE             | =COUNTA(A2:A100) → Number of filled records |

**Coach's note:** Cells containing "" may still count.

|                               |                                          |
|-------------------------------|------------------------------------------|
| COUNTBLANK Counts blank cells |                                          |
| SYNTAX                        | =COUNTBLANK(range)                       |
| WORKPLACE EXAMPLE             | =COUNTBLANK(C2:C100) → Missing email IDs |

**Coach's note:** Useful for data-quality checks.

|                              |                                             |
|------------------------------|---------------------------------------------|
| COUNTIF Counts one condition |                                             |
| SYNTAX                       | =COUNTIF(range,criteria)                    |
| WORKPLACE EXAMPLE            | =COUNTIF(E2:E100,"Pending") → Pending cases |

**Coach's note:** Wildcards: \* any text, ? one character.

PART 3 • GROUP 2

# Counting & Statistics — continued

| COUNTIFS Counts multiple conditions |                                                          |
|-------------------------------------|----------------------------------------------------------|
| SYNTAX                              | =COUNTIFS(range1,criteria1,...)                          |
| WORKPLACE EXAMPLE                   | =COUNTIFS(B:B,"East",E:E,"Pending") → East pending cases |

**Coach's note:** All criteria ranges must be the same size.

| AVERAGE Arithmetic mean |                                          |
|-------------------------|------------------------------------------|
| SYNTAX                  | =AVERAGE(number1,...)                    |
| WORKPLACE EXAMPLE       | =AVERAGE(D2:D20) → Average monthly sales |

**Coach's note:** Blanks are ignored; zeros are included.

| AVERAGEIF Average for one condition |                                                 |
|-------------------------------------|-------------------------------------------------|
| SYNTAX                              | =AVERAGEIF(range,criteria,[average_range])      |
| WORKPLACE EXAMPLE                   | =AVERAGEIF(B:B,"East",D:D) → Average East sales |

**Coach's note:** Use AVERAGEIFS for multiple conditions.

| MIN Smallest value |                            |
|--------------------|----------------------------|
| SYNTAX             | =MIN(number1,...)          |
| WORKPLACE EXAMPLE  | =MIN(D2:D20) → Lowest sale |

**Coach's note:** Use MINIFS for a conditional minimum.

## PART 3 • GROUP 2

# Counting & Statistics — continued

## MAX Largest value

|                   |                             |
|-------------------|-----------------------------|
| SYNTAX            | =MAX(number1,...)           |
| WORKPLACE EXAMPLE | =MAX(D2:D20) → Highest sale |

**Coach's note:** Use MAXIFS for a conditional maximum.

## MEDIAN Middle value

|                   |                                                          |
|-------------------|----------------------------------------------------------|
| SYNTAX            | =MEDIAN(number1,...)                                     |
| WORKPLACE EXAMPLE | =MEDIAN(D2:D20) → Typical sale less affected by extremes |

**Coach's note:** Often more realistic than average for skewed data.

## RANK.EQ Ranks a value

|                   |                                                         |
|-------------------|---------------------------------------------------------|
| SYNTAX            | =RANK.EQ(number,ref,[order])                            |
| WORKPLACE EXAMPLE | =RANK.EQ(D2,\$D\$2:\$D\$20,0) → Sales rank: highest = 1 |

**Coach's note:** Use 1 for ascending order.

## LARGE Returns kth largest

|                   |                                       |
|-------------------|---------------------------------------|
| SYNTAX            | =LARGE(array,k)                       |
| WORKPLACE EXAMPLE | =LARGE(D2:D20,3) → Third-highest sale |

**Coach's note:** SMALL returns the kth smallest.

PART 3 • FORMULA GROUP 3

# Logical Decisions

Turn rules and policies into automatic outcomes

|               |                                                                                   |
|---------------|-----------------------------------------------------------------------------------|
| PRACTICE RULE | Type every example into Excel. Reading creates recognition; typing creates skill. |
|---------------|-----------------------------------------------------------------------------------|

|                               |                                                      |
|-------------------------------|------------------------------------------------------|
| IF Returns one of two results |                                                      |
| SYNTAX                        | =IF(logical_test,value_if_true,value_if_false)       |
| WORKPLACE EXAMPLE             | =IF(D2>=100000,"Achieved","Pending") → Target status |

**Coach's note:** Keep labels clear and short.

|                                       |                                                           |
|---------------------------------------|-----------------------------------------------------------|
| IFS Tests several conditions in order |                                                           |
| SYNTAX                                | =IFS(test1,result1,test2,result2,...)                     |
| WORKPLACE EXAMPLE                     | =IFS(D2>=100,"A",D2>=80,"B",TRUE,"C") → Performance grade |

**Coach's note:** Put the most demanding condition first.

|                                   |                                                                |
|-----------------------------------|----------------------------------------------------------------|
| AND TRUE only when all tests pass |                                                                |
| SYNTAX                            | =AND(logical1,logical2,...)                                    |
| WORKPLACE EXAMPLE                 | =AND(D2>=100000,E2>=90%) → Both target and collection achieved |

**Coach's note:** Often nested inside IF.

|                              |                                            |
|------------------------------|--------------------------------------------|
| OR TRUE when any test passes |                                            |
| SYNTAX                       | =OR(logical1,logical2,...)                 |
| WORKPLACE EXAMPLE            | =OR(C2="Urgent",D2>100000) → Priority flag |

**Coach's note:** Use for alternative qualifying rules.



PART 3 • GROUP 3

# Logical Decisions — continued

| NOT Reverses TRUE/FALSE |                                        |
|-------------------------|----------------------------------------|
| SYNTAX                  | =NOT(logical)                          |
| WORKPLACE EXAMPLE       | =NOT(E2="Closed") → Case is not closed |

**Coach's note:** Helpful in complex logical tests.

| IFERROR Replaces any error |                                          |
|----------------------------|------------------------------------------|
| SYNTAX                     | =IFERROR(value,value_if_error)           |
| WORKPLACE EXAMPLE          | =IFERROR(A2/B2,0) → 0 instead of #DIV/0! |

**Coach's note:** Do not hide errors before understanding them.

| IFNA Replaces only #N/A |                                                                         |
|-------------------------|-------------------------------------------------------------------------|
| SYNTAX                  | =IFNA(value,value_if_na)                                                |
| WORKPLACE EXAMPLE       | =IFNA(XLOOKUP(A2,F:F,G:G),"Not found") → Friendly missing-match message |

**Coach's note:** Safer than IFERROR for lookups.

## PART 3 • FORMULA GROUP 4

# Text Cleaning & Combining

Repair imported names, codes and messages

**PRACTICE RULE**

Type every example into Excel. Reading creates recognition; typing creates skill.

**TRIM** Removes extra spaces

## SYNTAX

**=TRIM(text)**

WORKPLACE  
EXAMPLE

=TRIM(A2) → " Piyush Joshi " → "Piyush Joshi"

**Coach's note:** It does not remove every nonprinting web character.

**CLEAN** Removes nonprinting characters

## SYNTAX

**=CLEAN(text)**

WORKPLACE  
EXAMPLE

=CLEAN(A2) → Cleaner imported text

**Coach's note:** Combine CLEAN and TRIM for copied web data.

**UPPER** Converts to uppercase

## SYNTAX

**=UPPER(text)**

WORKPLACE  
EXAMPLE

=UPPER(A2) → indore → INDORE

**Coach's note:** LOWER does the reverse.

**PROPER** Capitalises words

## SYNTAX

**=PROPER(text)**

WORKPLACE  
EXAMPLE

=PROPER(A2) → piyush joshi → Piyush Joshi

**Coach's note:** Review abbreviations such as NBFC.

## PART 3 • GROUP 4

# Text Cleaning & Combining — continued

## LEN Counts characters

|                   |                                    |
|-------------------|------------------------------------|
| SYNTAX            | =LEN(text)                         |
| WORKPLACE EXAMPLE | =LEN(A2) → Length of employee code |

**Coach's note:** Spaces are counted.

## LEFT Takes characters from left

|                   |                            |
|-------------------|----------------------------|
| SYNTAX            | =LEFT(text,[num_chars])    |
| WORKPLACE EXAMPLE | =LEFT(A2,3) → EMP102 → EMP |

**Coach's note:** Use TEXTBEFORE when delimiter-based extraction is easier.

## RIGHT Takes characters from right

|                   |                              |
|-------------------|------------------------------|
| SYNTAX            | =RIGHT(text,[num_chars])     |
| WORKPLACE EXAMPLE | =RIGHT(A2,3) → INV-245 → 245 |

**Coach's note:** Good for fixed-length codes.

## MID Takes characters from middle

|                   |                                       |
|-------------------|---------------------------------------|
| SYNTAX            | =MID(text,start_num,num_chars)        |
| WORKPLACE EXAMPLE | =MID(A2,5,4) → Extract year from code |

**Coach's note:** Start position begins at 1.

PART 3 • GROUP 4

# Text Cleaning & Combining — continued

| FIND Case-sensitive position |                                          |
|------------------------------|------------------------------------------|
| SYNTAX                       | =FIND(find_text,within_text,[start_num]) |
| WORKPLACE EXAMPLE            | =FIND("@",A2) → Position of @ in email   |

**Coach's note:** SEARCH is not case-sensitive and supports wildcards.

| SUBSTITUTE Replaces matching text |                                                       |
|-----------------------------------|-------------------------------------------------------|
| SYNTAX                            | =SUBSTITUTE(text,old_text,new_text,[instance_num])    |
| WORKPLACE EXAMPLE                 | =SUBSTITUTE(A2,"-","/") → Change date/code separators |

**Coach's note:** Instance number targets only a chosen occurrence.

| TEXTJOIN Joins values with separator |                                                  |
|--------------------------------------|--------------------------------------------------|
| SYNTAX                               | =TEXTJOIN(delimiter,ignore_empty,text1,...)      |
| WORKPLACE EXAMPLE                    | =TEXTJOIN(" - ",TRUE,A2:C2) → Name - City - Role |

**Coach's note:** Better than many & operators.

| CONCAT Joins text |                                |
|-------------------|--------------------------------|
| SYNTAX            | =CONCAT(text1,...)             |
| WORKPLACE EXAMPLE | =CONCAT(A2," ",B2) → Full name |

**Coach's note:** Use & for simple joins.

PART 3 • GROUP 4

# Text Cleaning & Combining — continued

| TEXT Displays a value in chosen format |                                                           |
|----------------------------------------|-----------------------------------------------------------|
| SYNTAX                                 | =TEXT(value,format_text)                                  |
| WORKPLACE EXAMPLE                      | = "As on "&TEXT(TODAY),"dd-mmm-yyyy") → As on 21-Jul-2026 |

**Coach's note:** TEXT returns text, not a numeric value.

| VALUE Converts numeric text to number |                            |
|---------------------------------------|----------------------------|
| SYNTAX                                | =VALUE(text)               |
| WORKPLACE EXAMPLE                     | =VALUE(A2) → "1250" → 1250 |

**Coach's note:** Useful when imported numbers will not sum.

PART 3 • FORMULA GROUP 5

# Dates & Time

Calculate age, tenure, deadlines and working days

PRACTICE RULE

Type every example into Excel. Reading creates recognition; typing creates skill.

| TODAY Current date |                                |
|--------------------|--------------------------------|
| SYNTAX             | = <b>TODAY()</b>               |
| WORKPLACE EXAMPLE  | =TODAY() → Current system date |

**Coach's note:** Recalculates when workbook opens.

| NOW Current date and time |                            |
|---------------------------|----------------------------|
| SYNTAX                    | = <b>NOW()</b>             |
| WORKPLACE EXAMPLE         | =NOW() → Current timestamp |

**Coach's note:** Format the cell to display time.

| DATE Builds a valid date |                                |
|--------------------------|--------------------------------|
| SYNTAX                   | = <b>DATE(year,month,day)</b>  |
| WORKPLACE EXAMPLE        | =DATE(2026,7,21) → 21-Jul-2026 |

**Coach's note:** Safer than typing ambiguous dates.

| YEAR / MONTH / DAY Extracts date components |                                    |
|---------------------------------------------|------------------------------------|
| SYNTAX                                      | = <b>YEAR(date)</b>                |
| WORKPLACE EXAMPLE                           | =YEAR(A2) → Year from joining date |

**Coach's note:** MONTH and DAY work similarly.

PART 3 • GROUP 5

# Dates & Time — continued

| DATEDIF Completed time between dates |                                                       |
|--------------------------------------|-------------------------------------------------------|
| SYNTAX                               | =DATEDIF(start_date,end_date,unit)                    |
| WORKPLACE EXAMPLE                    | =DATEDIF(B2,TODAY(),"Y") → Completed years of service |

**Coach's note:** Use "M" months, "D" days, "YM" leftover months.

| EDATE Moves by whole months |                                              |
|-----------------------------|----------------------------------------------|
| SYNTAX                      | =EDATE(start_date,months)                    |
| WORKPLACE EXAMPLE           | =EDATE(A2,12) → Renewal date after 12 months |

**Coach's note:** Use negative months for an earlier date.

| EOMONTH Returns month-end date |                                         |
|--------------------------------|-----------------------------------------|
| SYNTAX                         | =EOMONTH(start_date,months)             |
| WORKPLACE EXAMPLE              | =EOMONTH(TODAY(),0) → Current month end |

**Coach's note:** Excellent for MIS cut-off dates.

| WEEKDAY Returns weekday number |                                        |
|--------------------------------|----------------------------------------|
| SYNTAX                         | =WEEKDAY(serial_number,[return_type])  |
| WORKPLACE EXAMPLE              | =WEEKDAY(A2,2) → Monday=1 ... Sunday=7 |

**Coach's note:** Return type 2 is easiest for workweeks.

PART 3 • GROUP 5

# Dates & Time — continued

| NETWORKDAYS <small>Counts working days</small> |                                                                      |
|------------------------------------------------|----------------------------------------------------------------------|
| SYNTAX                                         | =NETWORKDAYS(start_date,end_date,[holidays])                         |
| WORKPLACE EXAMPLE                              | =NETWORKDAYS(A2,B2,\$H\$2:\$H\$15) → Working days excluding holidays |

**Coach's note:** Use NETWORKDAYS.INTL for custom weekends.

| WORKDAY <small>Returns deadline after workdays</small> |                                                           |
|--------------------------------------------------------|-----------------------------------------------------------|
| SYNTAX                                                 | =WORKDAY(start_date,days,[holidays])                      |
| WORKPLACE EXAMPLE                                      | =WORKDAY(A2,7,\$H\$2:\$H\$15) → Date seven workdays later |

**Coach's note:** Perfect for SLA due dates.

| TIME <small>Builds a time</small> |                           |
|-----------------------------------|---------------------------|
| SYNTAX                            | =TIME(hour,minute,second) |
| WORKPLACE EXAMPLE                 | =TIME(9,30,0) → 9:30 AM   |

**Coach's note:** Times are fractions of a day.



PART 3 • FORMULA GROUP 6

# Lookup & Reference

Bring the right result from another table

PRACTICE RULE

Type every example into Excel. Reading creates recognition; typing creates skill.

| XLOOKUP Modern flexible lookup |                                                                         |
|--------------------------------|-------------------------------------------------------------------------|
| SYNTAX                         | =XLOOKUP(lookup_value,lookup_array,return_array,[if_not_found])         |
| WORKPLACE EXAMPLE              | =XLOOKUP(A2,Master[ID],Master[Name],"Not found") → Employee name for ID |

**Coach's note:** Can look left or right; exact match is default.

| VLOOKUP Vertical lookup |                                                                      |
|-------------------------|----------------------------------------------------------------------|
| SYNTAX                  | =VLOOKUP(lookup_value,table_array,col_index_num,FALSE)               |
| WORKPLACE EXAMPLE       | =VLOOKUP(A2,\$F\$2:\$H\$100,3,FALSE) → Value from third table column |

**Coach's note:** Use FALSE for exact matches.

| HLOOKUP Horizontal lookup |                                                                  |
|---------------------------|------------------------------------------------------------------|
| SYNTAX                    | =HLOOKUP(lookup_value,table_array,row_index_num,FALSE)           |
| WORKPLACE EXAMPLE         | =HLOOKUP(B1,\$B\$5:\$M\$8,4,FALSE) → Value from fourth table row |

**Coach's note:** XLOOKUP usually replaces this.

| INDEX Returns value at position |                                                     |
|---------------------------------|-----------------------------------------------------|
| SYNTAX                          | =INDEX(array,row_num,[column_num])                  |
| WORKPLACE EXAMPLE               | =INDEX(C2:C100,MATCH(A2,B2:B100,0)) → Matched value |

**Coach's note:** Powerful when combined with MATCH.

PART 3 • GROUP 6

# Lookup & Reference — continued

| MATCH Returns position |                                           |
|------------------------|-------------------------------------------|
| SYNTAX                 | =MATCH(lookup_value,lookup_array,0)       |
| WORKPLACE EXAMPLE      | =MATCH(A2,B2:B100,0) → Row position of ID |

**Coach's note:** Use 0 for exact matching.

| XMATCH Modern MATCH |                                                 |
|---------------------|-------------------------------------------------|
| SYNTAX              | =XMATCH(lookup_value,lookup_array,[match_mode]) |
| WORKPLACE EXAMPLE   | =XMATCH(A2,B2:B100,0) → Exact position          |

**Coach's note:** Can search first-to-last or last-to-first.

| CHOOSE Returns item by index |                                                         |
|------------------------------|---------------------------------------------------------|
| SYNTAX                       | =CHOOSE(index_num,value1,value2,...)                    |
| WORKPLACE EXAMPLE            | =CHOOSE(A2,"Low","Medium","High") → Label for 1, 2 or 3 |

**Coach's note:** Useful for small fixed mappings.

| ADDRESS Creates cell address text |                              |
|-----------------------------------|------------------------------|
| SYNTAX                            | =ADDRESS(row_num,column_num) |
| WORKPLACE EXAMPLE                 | =ADDRESS(5,3) → \$C\$5       |

**Coach's note:** INDIRECT can turn address text into a reference.

PART 3 • GROUP 6

# Lookup & Reference — continued

| INDIRECT Builds reference from text |                                                           |
|-------------------------------------|-----------------------------------------------------------|
| SYNTAX                              | =INDIRECT(ref_text)                                       |
| WORKPLACE EXAMPLE                   | =SUM(INDIRECT(B2&"!D2:D20")) → Sum from sheet named in B2 |

**Coach's note:** Volatile; use carefully in large files.

| OFFSET Returns shifted reference |                                                      |
|----------------------------------|------------------------------------------------------|
| SYNTAX                           | =OFFSET(reference,rows,cols,[height],[width])        |
| WORKPLACE EXAMPLE                | =SUM(OFFSET(D2,0,0,B1,1)) → Dynamic range of B1 rows |

**Coach's note:** Volatile; tables or INDEX may perform better.



## PART 3 • FORMULA GROUP 7

# Dynamic Arrays — Microsoft 365

Create live lists that spill automatically

**PRACTICE RULE**

Type every example into Excel. Reading creates recognition; typing creates skill.

**FILTER** Returns matching rows

|                   |                                                                        |
|-------------------|------------------------------------------------------------------------|
| SYNTAX            | <b>=FILTER(array,include,[if_empty])</b>                               |
| WORKPLACE EXAMPLE | <b>=FILTER(A2:E100,E2:E100="Pending","None")</b> → All pending records |

**Coach's note:** Leave space below/right for spill results.

**SORT** Returns sorted copy

|                   |                                                                 |
|-------------------|-----------------------------------------------------------------|
| SYNTAX            | <b>=SORT(array,[sort_index],[sort_order])</b>                   |
| WORKPLACE EXAMPLE | <b>=SORT(A2:D100,4,-1)</b> → Rows sorted by column 4 descending |

**Coach's note:** Source data stays unchanged.

**SORTBY** Sorts by separate range

|                   |                                                               |
|-------------------|---------------------------------------------------------------|
| SYNTAX            | <b>=SORTBY(array,by_array1,[sort_order1],...)</b>             |
| WORKPLACE EXAMPLE | <b>=SORTBY(A2:D100,D2:D100,-1)</b> → Sales sorted high to low |

**Coach's note:** Supports multiple sort levels.

**UNIQUE** Returns distinct values

|                   |                                               |
|-------------------|-----------------------------------------------|
| SYNTAX            | <b>=UNIQUE(array,[by_col],[exactly_once])</b> |
| WORKPLACE EXAMPLE | <b>=UNIQUE(B2:B100)</b> → Unique region list  |

**Coach's note:** Combine with SORT for clean drop-down sources.

## PART 3 • GROUP 7

# Dynamic Arrays — Microsoft 365 — continued

## SEQUENCE Generates number sequence

|                   |                                                 |
|-------------------|-------------------------------------------------|
| SYNTAX            | <b>=SEQUENCE(rows,[columns],[start],[step])</b> |
| WORKPLACE EXAMPLE | =SEQUENCE(12,1,1,1) → 1 to 12                   |

**Coach's note:** Can generate dates when start is a date.

## TAKE Takes first/last rows

|                   |                                             |
|-------------------|---------------------------------------------|
| SYNTAX            | <b>=TAKE(array,rows,[columns])</b>          |
| WORKPLACE EXAMPLE | =TAKE(SORT(A2:D100,4,-1),5) → Top five rows |

**Coach's note:** Negative rows take from the bottom.

## DROP Removes first/last rows

|                   |                                            |
|-------------------|--------------------------------------------|
| SYNTAX            | <b>=DROP(array,rows,[columns])</b>         |
| WORKPLACE EXAMPLE | =DROP(A1:D100,1) → Data without header row |

**Coach's note:** Useful in reusable array pipelines.

## CHOOSECOLS Returns chosen columns

|                   |                                                 |
|-------------------|-------------------------------------------------|
| SYNTAX            | <b>=CHOOSECOLS(array,col_num1,...)</b>          |
| WORKPLACE EXAMPLE | =CHOOSECOLS(A2:F100,1,3,6) → Columns A, C and F |

**Coach's note:** Reorder by changing the index order.

PART 3 • GROUP 7

# Dynamic Arrays — Microsoft 365 — continued

| TEXTSPLIT Splits text into cells |                                                         |
|----------------------------------|---------------------------------------------------------|
| SYNTAX                           | =TEXTSPLIT(text,col_delimiter,[row_delimiter])          |
| WORKPLACE EXAMPLE                | =TEXTSPLIT(A2,"," ) → Comma-separated values in columns |

**Coach's note:** Use TEXTBEFORE/TEXTAFTER for one part.

| LET Names values inside formula |                                                        |
|---------------------------------|--------------------------------------------------------|
| SYNTAX                          | =LET(name1,value1,calculation)                         |
| WORKPLACE EXAMPLE               | =LET(s,D2:D100,SUM(s)) → Readable reusable calculation |

**Coach's note:** Improves clarity and can reduce repeated work.

## PART 3 • FORMULA GROUP 8

# Finance & Business

Calculate payments, growth and returns

**PRACTICE RULE**

Type every example into Excel. Reading creates recognition; typing creates skill.

**PMT** Periodic loan payment

## SYNTAX

**=PMT(rate,nper,pv,[fv],[type])**

WORKPLACE  
EXAMPLE

=PMT(10%/12,36,-500000) → Monthly EMI

**Coach's note:** Rate and periods must use matching units.

**PV** Present value

## SYNTAX

**=PV(rate,nper,pmt,[fv],[type])**

WORKPLACE  
EXAMPLE

=PV(8%/12,60,-10000) → Current value of payments

**Coach's note:** Cash paid and received use opposite signs.

**FV** Future value

## SYNTAX

**=FV(rate,nper,pmt,[pv],[type])**

WORKPLACE  
EXAMPLE

=FV(8%/12,60,-10000,0) → Value after 60 months

**Coach's note:** Use type 1 for payment at period start.

**RATE** Interest rate per period

## SYNTAX

**=RATE(nper,pmt,pv,[fv],[type])**

WORKPLACE  
EXAMPLE

=RATE(36,-16134,500000)\*12 → Approx annual loan rate

**Coach's note:** Iterative result may need a guess.

PART 3 • GROUP 8

# Finance & Business — continued

| NPV Net present value |                                                               |
|-----------------------|---------------------------------------------------------------|
| SYNTAX                | =NPV(rate,value1,...)                                         |
| WORKPLACE EXAMPLE     | =NPV(12%,C3:C7)+C2 → Project NPV including initial investment |

**Coach's note:** Initial cash flow at time 0 is added separately.

| IRR Internal rate of return |                           |
|-----------------------------|---------------------------|
| SYNTAX                      | =IRR(values,[guess])      |
| WORKPLACE EXAMPLE           | =IRR(C2:C7) → Project IRR |

**Coach's note:** Values must include at least one positive and one negative.

| CAGR (formula) Annualised growth rate |                                                  |
|---------------------------------------|--------------------------------------------------|
| SYNTAX                                | =(Ending/Beginning)^(1/Years)-1                  |
| WORKPLACE EXAMPLE                     | =(D6/D2)^(1/4)-1 → Annual growth over four years |

**Coach's note:** Format result as percentage.



PART 4 • WORKPLACE PROJECT 1

# Sales Target Tracker

Flag achievement and calculate incentive

What the finished sheet should show

| Employee | Sales     | Target    | Status   | Incentive |
|----------|-----------|-----------|----------|-----------|
| Aman     | ₹1,25,000 | ₹1,00,000 | Achieved | ₹6,250    |
| Riya     | ₹82,000   | ₹1,00,000 | Pending  | ₹0        |

## Build it

FORMULA 1

=IF(B2>=C2,"Achieved","Pending")

FORMULA 2

=IF(D2="Achieved",B2\*5%,0)

## On-ground workflow

1. Convert the raw range into an Excel Table (Ctrl + T).
2. Use clear headings and one record per row.
3. Enter the formula in the first row and fill down.
4. Filter exceptions and check a few results manually.
5. Protect formula columns before sharing.

COACH'S TIP

Use absolute references if the incentive rate is stored in a separate control cell.

## PART 4 • WORKPLACE PROJECT 2

# Attendance & Working Days

Count presence and calculate attendance percentage

**What the finished sheet should show**

| Employee | Present | Working Days | Attendance % | Result |
|----------|---------|--------------|--------------|--------|
| Aman     | 24      | 26           | 92.3%        | Good   |
| Riya     | 19      | 26           | 73.1%        | Review |

## Build it

**FORMULA 1**     =COUNTIF(B2:AA2,"P")

**FORMULA 2**     =Present/Working\_Days

**FORMULA 3**     =IF(D2>=90%,"Good","Review")

## On-ground workflow

1. Convert the raw range into an Excel Table (Ctrl + T).
2. Use clear headings and one record per row.
3. Enter the formula in the first row and fill down.
4. Filter exceptions and check a few results manually.
5. Protect formula columns before sharing.

**COACH'S TIP**     Keep one consistent code: P, A, WO and H.

PART 4 • WORKPLACE PROJECT 3

# Invoice Ageing

Classify overdue invoices into management buckets

What the finished sheet should show

| Invoice | Due Date    | Amount  | Age (Days) | Bucket |
|---------|-------------|---------|------------|--------|
| INV-101 | 01-Jul-2026 | ₹45,000 | 20         | 0–30   |
| INV-102 | 05-May-2026 | ₹75,000 | 77         | 61–90  |

## Build it

|           |                                                              |
|-----------|--------------------------------------------------------------|
| FORMULA 1 | =MAX(0,TODAY()-B2)                                           |
| FORMULA 2 | =IFS(D2<=30,"0–30",D2<=60,"31–60",D2<=90,"61–90",TRUE,"90+") |

## On-ground workflow

1. Convert the raw range into an Excel Table (Ctrl + T).
2. Use clear headings and one record per row.
3. Enter the formula in the first row and fill down.
4. Filter exceptions and check a few results manually.
5. Protect formula columns before sharing.

|             |                                                           |
|-------------|-----------------------------------------------------------|
| COACH’S TIP | Add conditional formatting: green, amber, orange and red. |
|-------------|-----------------------------------------------------------|

PART 4 • WORKPLACE PROJECT 4

# Data Cleaning Pipeline

Turn inconsistent imported text into usable master data

What the finished sheet should show

| Raw Name     | Clean Name   | Raw Mobile | Length | Check  |
|--------------|--------------|------------|--------|--------|
| piyush joshi | Piyush Joshi | 9876543210 | 10     | Valid  |
| AMAN SHARMA  | Aman Sharma  | 98765      | 5      | Review |

## Build it

|           |                             |
|-----------|-----------------------------|
| FORMULA 1 | =PROPER(TRIM(CLEAN(A2)))    |
| FORMULA 2 | =LEN(C2)                    |
| FORMULA 3 | =IF(D2=10,"Valid","Review") |

## On-ground workflow

1. Convert the raw range into an Excel Table (Ctrl + T).
2. Use clear headings and one record per row.
3. Enter the formula in the first row and fill down.
4. Filter exceptions and check a few results manually.
5. Protect formula columns before sharing.

|             |                                                                 |
|-------------|-----------------------------------------------------------------|
| COACH'S TIP | Never clean over the raw import. Keep a separate output column. |
|-------------|-----------------------------------------------------------------|

## PART 4 • WORKPLACE PROJECT 5

# Manager Dashboard Inputs

Create KPI cards from a structured sales table

**What the finished sheet should show**

| KPI                | Formula idea   | Output     |
|--------------------|----------------|------------|
| Total Sales        | SUM            | ₹18.4 lakh |
| Target Achievement | Sales / Target | 104%       |
| Top Performer      | XLOOKUP + MAX  | Riya       |
| Pending Cases      | COUNTIF        | 17         |

## Build it

**FORMULA 1**      =SUM(Sales[Amount])

**FORMULA 2**      =SUM(Sales[Amount])/SUM(Sales[Target])

**FORMULA 3**      =XLOOKUP(MAX(Sales[Amount]),Sales[Amount],Sales[Employee])

**FORMULA 4**      =COUNTIF(Sales[Status],"Pending")

## On-ground workflow

1. Convert the raw range into an Excel Table (Ctrl + T).
2. Use clear headings and one record per row.
3. Enter the formula in the first row and fill down.
4. Filter exceptions and check a few results manually.
5. Protect formula columns before sharing.

**COACH'S TIP**

Convert source data to a Table with Ctrl + T so formulas expand automatically.

## PART 5 • FIX, DON'T FEAR

## Excel Error Decoder

|                    |                                                |                                                                       |
|--------------------|------------------------------------------------|-----------------------------------------------------------------------|
| #DIV/0!            | A number is divided by zero or a blank cell    | Check denominator; use IF or IFERROR only after checking.             |
| #N/A               | A lookup cannot find a match                   | Clean spaces/types; confirm exact ID; use IFNA for friendly message.  |
| #VALUE!            | Wrong value type is used                       | Look for text stored where Excel expects a number.                    |
| #REF!              | A referenced cell/range was deleted            | Undo deletion or repair the broken reference.                         |
| #NAME?             | Excel does not recognise text/function/name    | Correct spelling and quote text criteria.                             |
| #NUM!              | Invalid numeric calculation                    | Check impossible inputs, dates and iterative finance formulas.        |
| #SPILL!            | Dynamic array output area is blocked           | Clear cells in the spill range; avoid merged cells.                   |
| #CALC!             | Array calculation cannot return a valid result | Check FILTER empty result and nested array logic.                     |
| #####              | Column is too narrow or date/time is negative  | Widen the column; check negative date/time.                           |
| Circular reference | Formula refers back to itself                  | Trace precedents and remove the loop unless iteration is intentional. |

## Five-minute formula audit

- Click the formula and press F2 to colour its references.
- Use Ctrl + ` to display all formulas.
- Check text-versus-number mismatch with ISTEXT/ISNUMBER.
- Use Formulas → Evaluate Formula for nested logic.
- Test the calculation on three known records before filling down.

PART 5 • PRINT THIS

# One-Page Shortcut Cheat Sheet

|                |                      |                |                  |
|----------------|----------------------|----------------|------------------|
| SAVE           | Ctrl + S             | FORMAT CELLS   | Ctrl + 1         |
| OPEN           | Ctrl + O             | CREATE TABLE   | Ctrl + T         |
| PRINT          | Ctrl + P             | FILTER         | Ctrl + Shift + L |
| UNDO           | Ctrl + Z             | FLASH FILL     | Ctrl + E         |
| COPY / PASTE   | Ctrl + C / V         | AUTOSUM        | Alt + =          |
| PASTE SPECIAL  | Ctrl + Alt + V       | LOCK REFERENCE | F4               |
| EDIT CELL      | F2                   | TODAY          | Ctrl + ;         |
| JUMP TO EDGE   | Ctrl + Arrow         | FIND / REPLACE | Ctrl + F / H     |
| SELECT TO EDGE | Ctrl + Shift + Arrow | NEW SHEET      | Shift + F11      |
| GO TO          | Ctrl + G             | NEXT SHEET     | Ctrl + Page Down |

DAILY  
CHALLENGE

Work for 15 minutes without touching the mouse. Use Alt + Q when you do not know a command.

## PART 5 • WHAT SHOULD I USE?

# Formula Selection Map

|                        |                    |                                                      |
|------------------------|--------------------|------------------------------------------------------|
| Add all values         | SUM                | Choose this when you need to add all values.         |
| Add with conditions    | SUMIF / SUMIFS     | Choose this when you need to add with conditions.    |
| Count records          | COUNT / COUNTA     | Choose this when you need to count records.          |
| Count with conditions  | COUNTIF / COUNTIFS | Choose this when you need to count with conditions.  |
| Make a decision        | IF / IFS           | Choose this when you need to make a decision.        |
| Test several rules     | AND / OR           | Choose this when you need to test several rules.     |
| Handle missing lookup  | IFNA               | Choose this when you need to handle missing lookup.  |
| Clean spaces           | TRIM + CLEAN       | Choose this when you need to clean spaces.           |
| Join text              | TEXTJOIN           | Choose this when you need to join text.              |
| Extract text           | LEFT / RIGHT / MID | Choose this when you need to extract text.           |
| Calculate tenure       | DATEDIF            | Choose this when you need to calculate tenure.       |
| Working-day deadline   | WORKDAY            | Choose this when you need to working-day deadline.   |
| Find a matching record | XLOOKUP            | Choose this when you need to find a matching record. |
| Legacy lookup          | VLOOKUP            | Choose this when you need to legacy lookup.          |
| Return matching list   | FILTER             | Choose this when you need to return matching list.   |
| Distinct list          | UNIQUE             | Choose this when you need to distinct list.          |
| Sorted live output     | SORT / SORTBY      | Choose this when you need to sorted live output.     |
| Loan EMI               | PMT                | Choose this when you need to loan emi.               |
| Project return         | NPV / IRR          | Choose this when you need to project return.         |
| Visible filtered total | SUBTOTAL           | Choose this when you need to visible filtered total. |



PART 5 • BUILD LASTING SKILL

# 30-Day Excel Practice Plan

## Week 1 — Control Excel

Focus: Navigation, selection, copy/paste, formatting  
**Outcome: Use 5 shortcuts every day.**

## Week 2 — Calculate

Focus: SUM, COUNT, AVERAGE, IF, SUMIFS  
**Outcome: Build a sales target sheet.**

## Week 3 — Clean & Lookup

Focus: TRIM, TEXT functions, XLOOKUP, dates  
**Outcome: Clean and combine two master lists.**

## Week 4 — Analyse & Present

Focus: Tables, filters, PivotTable, charts, dynamic arrays  
**Outcome: Create a one-page manager dashboard.**

|                |                                                                                                        |
|----------------|--------------------------------------------------------------------------------------------------------|
| SCORE YOURSELF | 1 = I recognise it • 2 = I can use it with help • 3 = I can use it independently • 4 = I can teach it. |
|----------------|--------------------------------------------------------------------------------------------------------|

FROM PIYUSH JOSHI

# Trainer's Closing Note

**Excel mastery is not about remembering hundreds of commands. It is about recognising a business problem, choosing the right tool, and checking the answer with common sense.**

Start small. Replace one repeated mouse action with a shortcut. Replace one manual calculation with a formula. Build one clean report that your manager can understand in ten seconds. These small improvements compound into confidence, speed and professional credibility.

**REMEMBER**

Learn. Apply. Excel.

## About the trainer

Piyush Joshi is the Founder and Coach at XLD Coaches, with 15+ years of experience across sales leadership, financial services and workplace capability development. His training approach connects Excel with real office decisions—not textbook theory.

### Suggested next learning path

- [Excel for Office Executives](#)
- [PivotTables & Management Reporting](#)
- [VLOOKUP to XLOOKUP](#)
- [Excel Dashboards](#)
- [AI-Assisted Excel Productivity](#)

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