INTERVIEW MINI-BOOK

FORMULAS TO DASHBOARDS

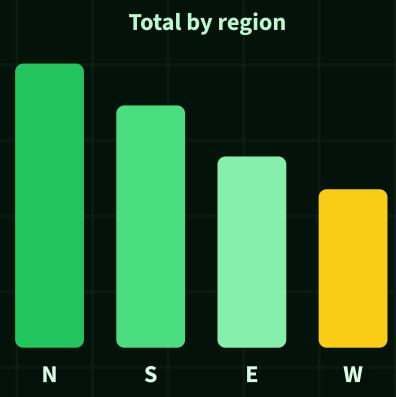
Excel

QUICK INTERVIEW EDITION

Interview Guide · From VLOOKUP to Power Query

Every Excel skill interviews test, in simple language: references, formulas, lookups, cleaning, pivots, dashboards, dynamic arrays and Power Query, with practical test tasks and answers.

	A	B	C	D	E	F
1	Region	Q1	Q2	Q3	Total	Rank
2	North	4,200	5,100	6,300	15,600	1
3	South	3,900	4,400	5,000	13,300	2
4	East	2,800	3,600	4,100	10,500	3
5	West	2,100	2,700	3,900	8,700	4



Sales_Report.xlsx

```
=XLOOKUP("North", A2:A5, E2:E5, "Not found")   → 15,600
=SUMIFS(E2:E5, A2:A5, "<>West")                  → 39,400
=IF(F2=1, "Hired", "Practise more")              → Hired
```

References · SUMIFS · XLOOKUP · INDEX-MATCH · Data Cleaning · PivotTables · Charts · Dashboards · FILTER · LET · Power Query · Macros

WRITTEN BY

Shreyash Tripathi

8 Chapters · Interview Q&A · Practical Tasks · Answers

Edition 2026

JOB-READY SERIES · INTERVIEW MINI-BOOK



Excel for Interviews

Quick Interview Edition

Learn the formula | Try it on data | Avoid the trap | Answer the question

WRITTEN BY

Shreyash Tripathi

Interview Mini-Book, 2026

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Preface

Almost every office job, from analyst and MIS to operations, finance and HR, asks one question in the interview: how good is your Excel? This small book teaches exactly what gets tested, from absolute and relative references to XLOOKUP, PivotTables, dashboards, dynamic arrays and Power Query, using one simple sales and employee dataset throughout.

It is written like a school textbook, only shorter: numbered chapters, simple language, a check with answers after every topic, Interview Corners with the questions you will actually be asked, practical tasks, and a full answer key at the end of every chapter. The last chapter is a complete interview question bank. Read one chapter a day and you will be interview-ready in about a week.

Shreyash Tripathi

Features of Every Chapter

🎯 **INTERVIEW CORNER**

Questions interviewers really ask, with model answers.

🔑 **KEY POINT**

The one thing to remember.

⚠️ **COMMON MISTAKE**

Traps that cost marks in interviews.

🖍️ **TRY IT**

A small task to do yourself right now.

✅ **CHECK YOUR PROGRESS**

Short questions with answers after every topic, plus practice questions and an answer key at the end of each chapter.

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CHAPTER 1

Excel Basics Every Interviewer Checks

"I know Excel," said the candidate. Then the interviewer pressed F4.

After studying this chapter, you will be able to

- Use the right words for workbook, sheet, cell and range, and spot numbers stored as text.
- Choose between relative, absolute and mixed references with confidence.
- Create named ranges and Tables, and read structured references.
- Sort, filter, freeze panes and work fast with keyboard shortcuts.
- Read operator precedence and fix the common error values.

Sharma ji runs a kirana store and keeps his daily sales in Excel. One day his total shows Rs 0 even though the sheet is full of numbers. The reason is a basic one, and basics are exactly what interviewers test first. Most Excel interviews start with "What is the difference between $A$1 and A$1?" before they ever reach pivot tables. Let us make sure you never fumble the easy questions.

1.1 Workbook, Sheet, Cell, Range and Data Types

A **workbook** is the whole file (.xlsx). It contains one or more **worksheets** (tabs). A **cell** is one box, named by column letter and row number, like `B3`. A **range** is a group of cells, written with a colon: `A2:D10`. A modern sheet has 1,048,576 rows and 16,384 columns (last column XFD).

Excel stores four main kinds of values: **numbers** (dates and times are numbers too), **text**, **logical** values (TRUE/FALSE) and **errors**. A date is just a serial number: 1 means 1 January 1900 on Windows Excel. That is why you can subtract two dates to get days.

Formatting changes how a value looks, not what it is. If A1 holds 0.5 and you format it as a percentage, it shows 50% but the value is still 0.5.

The "numbers stored as text" trap

Data copied from software or CSV files often arrives as text that looks like numbers. Signs: values are left-aligned, a small green triangle appears in the corner, and `SUM` returns 0 or ignores them. This is exactly what happened to Sharma ji.

Fix	How
Convert to Number	Select cells, click the warning icon, choose Convert to Number
VALUE function	`=VALUE(A2)` in a helper column
Multiply by 1	`=A2*1` or `=--A2`
Text to Columns	Data > Text to Columns > Finish

⚠️ **COMMON MISTAKE**

Typing a 16-digit card number or a 12-digit Aadhaar number as a number. Excel keeps only 15 significant digits, so the last digits turn into zeros. Store IDs, phone numbers and PIN codes with leading zeros as **text** (format the column as Text first, or type an apostrophe before the value).

✅ **CHECK YOUR PROGRESS 1.1**

1. **Why does =SUM(A2:A10) return 0 when the cells clearly show numbers?**
   Answer: The numbers are stored as text. SUM ignores text in a range. Convert them with VALUE, multiply by 1, or Convert to Number.
2. **If a cell shows 25%, what value does a formula see?**
   Answer: 0.25. Formatting only changes the display.

1.2 Relative, Absolute and Mixed References

When you copy a formula, Excel adjusts its references. The dollar sign `$` locks the part that follows it.

Reference	Type	On copying
A1	Relative	Both column and row change
$A$1	Absolute	Nothing changes
A$1	Mixed	Row 1 locked, column changes
$A1	Mixed	Column A locked, row changes

Press **F4** while editing a reference to cycle: A1 > $A$1 > A$1 > $A1 > A1.

Worked example 1: absolute ($A$1)

GST rate 18% sits in F1. Prices are in B2:B6. In C2 write the tax and copy down:

```
=B2*$F$1
```

In C3 it becomes `=B3*$F$1`. Without the dollars, C3 would read `=B3*F2`, which is blank, so tax becomes 0.

Worked example 2: mixed (A$1 and $A1)

Build a multiplication table. Put 1 to 9 in B1:J1 and 1 to 9 in A2:A10. In B2 type the formula below and copy it across and down the whole grid:

```
=$A2*B$1
```

`$A2` always reads column A (the row number changes), and `B$1` always reads row 1 (the column changes). One formula fills 81 cells correctly.

🔑 **KEY POINT**

Ask yourself: "When I copy this, should the column move? Should the row move?" Put a `$` before whatever must stay fixed.

✅ **CHECK YOUR PROGRESS 1.2**

1. **C2 has =A2+$B$1. What is it in D5 after copying?**
   Answer: =B5+$B$1. The relative part moves 1 column right and 3 rows down; $B$1 stays.
2. **Which key cycles reference types?**
   Answer: F4 (on Mac, Cmd+T or Fn+F4).

1.3 Named Ranges and Tables

A **named range** gives a cell or range a friendly name. Select F1, type `GST` in the Name Box (left of the formula bar) and press Enter. Now you can write:

```
=B2*GST
```

Names are absolute by default, so they copy safely. Manage them in Formulas > Name Manager (**Ctrl+F3**). Rules: no spaces, must start with a letter, underscore or backslash, and must not look like a cell address (`Q1` or `TAX2025` are not allowed; `Q1_Sales` is fine).

Tables (Ctrl+T)

Click inside your data and press **Ctrl+T** to convert it into a Table. Benefits: banded rows, filter buttons, automatic expansion when you add rows, and formulas that fill down by themselves. Rename the table in Table Design > Table Name, say `Sales`.

Tables use **structured references**, which read like English:

```
=SUM(Sales[Amount])
=[@Qty]*[@Price]
=COUNTA(Sales[#Data])
```

`Sales[Amount]` means the whole Amount column. `[@Qty]` means the Qty value in the current row. Add 50 new rows and `SUM(Sales[Amount])` still covers them all, with no range editing.

🎯 **INTERVIEW CORNER**

Q: Why would you convert a range to a Table before building a report? **A:** A Table grows automatically, so formulas, charts and pivot tables based on it pick up new rows. Structured references are also easier to read and audit than `$C$2:$C$500`.

✅ **CHECK YOUR PROGRESS 1.3**

1. **Is "Net Sales" a valid range name?**
   Answer: No, names cannot contain spaces. Use Net_Sales or NetSales.
2. **What does [@Price] mean inside a Table?**
   Answer: The Price value from the same row as the formula.

1.4 Sorting, Filtering and Freeze Panes

Sorting rearranges rows. For one column, use Data > A to Z. For more levels (Region first, then Sales largest to smallest), use Data > Sort > Add Level. Always select the whole data (or a single cell inside it), never one column alone, or that column gets sorted while the others stay put and your rows get scrambled.

Filtering hides rows that do not match. Toggle filter buttons with **Ctrl+Shift+L**. You can filter by values, colour, or conditions like "Number Filters > Greater Than 5000". Hidden rows are still there; `SUBTOTAL` and `AGGREGATE` can ignore them, but `SUM` does not.

```
=SUBTOTAL(109, C2:C500)
```

Function number 109 means SUM ignoring hidden rows.

Freeze Panes keeps headers visible while you scroll. View > Freeze Panes gives three options: Freeze Top Row, Freeze First Column, or Freeze Panes. The last one freezes everything above and to the left of the selected cell. Select **B2** to freeze row 1 and column A together.

> 😄 **FUNNY SIDE**
>
> Sorting only the Name column of an employee sheet is the fastest way to give the office boy the CEO's salary. Payroll will not find it funny.

> ✅ **CHECK YOUR PROGRESS 1.4**
>
> 1. **Which cell do you select to freeze the first two rows and first column?**
>   **Answer:** B3, then View > Freeze Panes > Freeze Panes.
> 2. **Why does SUM show the full total after filtering?**
>   **Answer:** SUM includes hidden rows. Use SUBTOTAL(109, range) for visible rows only.

1.5 Keyboard Shortcuts and Operator Precedence

Interviewers love watching you work without the mouse. These 25 shortcuts (Windows) cover most daily work.

Shortcut	Action	Shortcut	Action
Ctrl+C / X / V	Copy / cut / paste	Ctrl+Alt+V	Paste Special
Ctrl+Z / Ctrl+Y	Undo / redo	Ctrl+S	Save
Ctrl+F / Ctrl+H	Find / replace	F2	Edit active cell
F4	Toggle $ references	Ctrl+Arrow	Jump to edge of data
Ctrl+Shift+Arrow	Select to edge of data	Ctrl+Home / End	Go to A1 / last used cell
Ctrl+Space	Select column	Shift+Space	Select row
Ctrl+T	Create Table	Ctrl+Shift+L	Toggle filter
Alt+=	AutoSum	Ctrl+D / Ctrl+R	Fill down / right

Shortcut	Action	Shortcut	Action
Ctrl+Enter	Fill selection with entry	Alt+Enter	New line inside cell
Ctrl+;	Insert today's date	Ctrl+Shift+;	Insert current time
Ctrl+1	Format Cells	Ctrl+` (backtick)	Show formulas
Ctrl++ / Ctrl+-	Insert / delete cells	Ctrl+PgUp / PgDn	Previous / next sheet
Ctrl+F3	Name Manager		

Operator precedence decides what Excel calculates first. From highest to lowest:

Order	Operator	Meaning
1	: (colon), space, , (comma)	Reference operators
2	-	Negation (as in -5)
3	%	Percent
4	^	Power
5	* and /	Multiply, divide
6	+ and -	Add, subtract
7	&	Join text
8	= < > <= >= <>	Comparison

```
=10+5*2      returns 20, not 30
=(10+5)*2    returns 30
=-2^2        returns 4 in Excel (negation first)
=0-2^2       returns -4
```

💡 **DO YOU KNOW?**

`=-2^2` gives 4 in Excel but −4 in most programming languages and in school maths. Excel applies negation before the power. It is a favourite trick question.

✅ **CHECK YOUR PROGRESS 1.5**

1. **What does =2+3*4^2 return?**
   Answer: 50. Power first (16), then multiply (48), then add (50).
2. **Which shortcut selects from the current cell to the last filled cell below?**
   Answer: Ctrl+Shift+Down Arrow.

1.6 Common Error Values and How to Fix Them

Errors are messages, not insults. Read them and the fix is usually quick.

Error	Usual cause	Fix
#N/A	Lookup value not found (VLOOKUP, XLOOKUP, MATCH)	Check extra spaces (TRIM), text vs number mismatch; wrap in IFNA
#VALUE!	Wrong data type, e.g. ="Ten"+5	Clean text, convert numbers stored as text
#REF!	Referenced cell, row or sheet was deleted	Undo, or rewrite the reference; use Tables or INDEX/MATCH
#DIV/0!	Dividing by zero or a blank cell	Test the divisor first, or use IFERROR
#NAME?	Misspelled function, undefined name, or text without quotes	Fix spelling (=SUMM), add quotes, define the name
#SPILL!	Dynamic array result is blocked by non-empty or merged cells, or is inside a Table	Clear the spill range, unmerge cells, or move the formula outside the Table

```
=IFNA(XLOOKUP(E2, A2:A100, C2:C100), "Not found")
=IF(B2=0, 0, A2/B2)
=IFERROR(A2/B2, 0)
```

Version notes: `XLOOKUP` and dynamic arrays (and so `#SPILL!`) need Excel 2021 or Microsoft 365. `IFNA` works from Excel 2013. You may also see `#NUM!` (invalid number, e.g. `=SQRT(-1)`) and `#NULL!` (space between two ranges that do not intersect).

🔑 **KEY POINT**

Prefer IFNA over IFERROR for lookups. IFERROR hides every error, including a genuine typo that should have been fixed.

🎯 **INTERVIEW CORNER**

Q: Your VLOOKUP returns #N/A but you can see the value in the list. Why? **A:** Usually one side has a trailing space or the ID is a number on one side and text on the other. Use TRIM, or convert both to the same type. Also check that the last argument is FALSE for exact match.

🖍️ **TRY IT**

Type `=1/0`, `="abc"*2`, `=SUMM(1,2)` and `=SEQUENCE(5)` with something typed in the cell just below the last one. Read each error, then fix all four.

✅ **CHECK YOUR PROGRESS 1.6**

1. **You deleted column C and a formula now shows #REF!. What happened?**
   Answer: The formula pointed to a cell in column C. That cell no longer exists, so the reference is broken. Undo or rewrite the formula.
2. **What causes #NAME? in =IF(A2="Yes", Bonus, 0)?**
   Answer: Bonus is unquoted text and not a defined name. Write "Bonus" in quotes.

What Have We Learnt?

- A workbook holds sheets; sheets hold cells; a range is a block like A2:D10.
- Formatting changes appearance, not value. Left-aligned "numbers" are often text.
- $ locks what follows it: $A$1 fixed, A$1 row fixed, $A1 column fixed. F4 cycles them.
- Named ranges and Tables (Ctrl+T) make formulas readable and self-expanding.
- Sort the whole data, filter with Ctrl+Shift+L, freeze headers with Freeze Panes.
- Precedence: negation, %, ^, then * /, then + -, then &, then comparisons.
- Each error value points to a specific cause; IFNA is safer than IFERROR for lookups.

Practice

A. Multiple Choice Questions

1. Which reference keeps the row fixed but lets the column change?
   a. $A$1 b. A$1
   c. $A1 d. A1
2. What does =-3^2 return in Excel?
   a. -9 b. 9
   c. -6 d. #VALUE!
3. Which shortcut converts a range into a Table?
   a. Ctrl+L+T b. Ctrl+Shift+T
   c. Ctrl+T d. Alt+T
4. A formula =UNIQUE(A2:A50) shows #SPILL!. The most likely reason is
   a. The function is misspelled b. Cells in the output area are not empty
   c. A2:A50 has duplicates d. The divisor is zero

B. Practical Tasks

1. Make a 10 by 10 multiplication table using one formula copied across the grid.
2. Enter product, quantity and price for 6 kirana items. Convert to a Table named Stock, add an Amount column and a total using structured references.
3. In a column of employee IDs stored as text (e.g. '101), write a VLOOKUP using a numeric ID and fix the resulting #N/A.

Answer Key: Chapter 1

A. MCQ

1. (b) The $ before 1 locks the row only.
2. (b) Negation is applied before the power, so (-3)^2 = 9.
3. (c) Ctrl+T (Ctrl+L also works).
4. (b) A dynamic array needs empty cells to spill into.

B. Practical Tasks

1. Type 1 to 10 in B1:K1 and A2:A11. In B2 enter `=$A2*B$1` and copy to B2:K11.
2. Press Ctrl+T, rename the table to Stock, in the Amount column enter `=[@Qty]*[@Price]`, and for the total use `=SUM(Stock[Amount])`.
3. The lookup value is a number but the IDs are text, so they never match. Either convert the IDs (select, Convert to Number) or match as text: `=VLOOKUP(TEXT(E2,"0"), A2:C20, 3, FALSE)`.

CHAPTER 2

Essential Formulas

"I don't need formulas, I have a calculator." Said every intern, once, before the 5,000-row sheet arrived.

After studying this chapter, you will be able to

- Use SUM, AVERAGE, COUNT and their cousins without mixing them up.
- Write IF, nested IF and IFS formulas with AND, OR and NOT.
- Build COUNTIFS, SUMIFS and AVERAGEIFS with wildcards, cell references and dates.
- Clean and reshape text, round numbers and work with dates.
- Hide ugly errors safely with IFERROR and IFNA.

Every interview Excel test has the same flavour: "Here is an employee sheet. Tell me the total sales of the North region, the number of people who joined after April, and fix these messy names." You do not need 400 functions for this. You need about 40, used well. Throughout this chapter we use one small sheet, rows 2 to 101, from a company called Sharma Traders.

A: EmpID	B: Name	C: Dept	D: Region	E: JoinDate	F: Salary	G: Sales
E101	ravi kumar	Sales	North	15-Jan-2022	42000	310000
E102	Priya Nair	HR	South	03-Jun-2023	38000	
E103	Amit Shah	Sales	West	20-Apr-2024	35500	185000
E104	Sneha Rao	Sales	North	11-Aug-2021	51000	420000
E105	Rahul Verma	Finance	East	01-Oct-2024	47000	n/a

2.1 Counting and Totalling Basics

The first family is simple but interviewers love the small differences.

Function	What it does	Example
SUM	Adds numbers	=SUM(G2:G101)
AVERAGE	Mean of numbers (ignores blanks and text)	=AVERAGE(F2:F101)
MIN / MAX	Smallest / largest number	=MAX(F2:F101)
COUNT	Counts cells holding numbers (dates count, they are numbers)	=COUNT(G2:G101)
COUNTA	Counts non-empty cells of any type	=COUNTA(B2:B101)
COUNTBLANK	Counts empty cells	=COUNTBLANK(G2:G101)

In our five sample rows, column G has 3 numbers, 1 blank and 1 text "n/a". So COUNT gives 3, COUNTA gives 4 and COUNTBLANK gives 1. AVERAGE of G divides by 3, not 5, because blanks and text are skipped.

> 🔑 **KEY POINT**
>
> A blank cell and a zero are not the same. AVERAGE skips blanks but includes zeros. If someone types 0 for "no sales", the average drops. Also, COUNTBLANK counts a formula that returns "" as blank, while COUNTA counts that same cell as filled.

> ✅ **CHECK YOUR PROGRESS 2.1**
>
> 1. **How many employees have a name entered in B2:B101?**
>
>   **Answer:** =COUNTA(B2:B101). COUNT would return 0 because names are text.
>
> 2. **Why can =COUNT(E2:E101) count join dates?**
>
>   **Answer:** Excel stores dates as serial numbers (1 = 1-Jan-1900), so COUNT treats them as numbers.

2.2 Logic: IF, IFS, AND, OR, NOT

IF asks a yes/no question: **=IF(test, value_if_true, value_if_false)**.

```
=IF(G2⩾300000, "Target Met", "Below Target")
```

For more than two outcomes, the old way is nested IF. Order matters: check the biggest slab first.

```
=IF(G2⩾400000, "A", IF(G2⩾250000, "B", IF(G2⩾100000, "C", "D")))
```

The same thing with IFS (Excel 2019 or Microsoft 365) is easier to read. IFS has no "else" argument, so use TRUE as the last test. If no test is true, IFS returns #N/A.

```
=IFS(G2⩾400000, "A", G2⩾250000, "B", G2⩾100000, "C", TRUE, "D")
```

Combine conditions with AND (all must be true), OR (any one true) and NOT (flips TRUE and FALSE).

```
=IF(AND(C2="Sales", G2⩾300000), "Bonus", "No Bonus")
=IF(OR(D2="North", D2="East"), "Zone 1", "Zone 2")
=IF(NOT(C2="HR"), "Eligible", "Not Eligible")
```

> ⚠️ **COMMON MISTAKE**
>
> Writing nested slabs in the wrong order. =IF(G2>=100000,"C",IF(G2>=400000,"A",...)) gives "C" to Sneha's 4,20,000 because the first test is already true. Excel stops at the first TRUE. Go from highest to lowest (or lowest to highest with <).

> 🎯 **INTERVIEW CORNER**
>
> **Q:** Nested IF or IFS, which is better? **A:** Both give the same result. IFS is cleaner and avoids bracket counting, but needs Excel 2019 or 365. If the file will be opened in Excel 2016, use nested IF. For many slabs, a lookup table with XLOOKUP or VLOOKUP approximate match is even better.

CHECK YOUR PROGRESS 2.2

1. **What does =IFS(G2>500000,"Star") return when G2 is 2,00,000?**
   Answer: #N/A, because no condition is true and there is no TRUE fallback.
2. **Write a formula that shows "Check" when salary is below 40000 OR sales are blank.**
   Answer: =IF(OR(F2<40000, G2=""), "Check", "")

2.3 Conditional Totals: COUNTIF(S), SUMIF(S), AVERAGEIF(S)

These are the most asked functions in MIS and analyst tests. The singular versions take one condition; the S versions take many (Excel 2007 onwards).

```
=COUNTIF(D2:D101, "North")
=SUMIF(D2:D101, "North", G2:G101)
=AVERAGEIF(C2:C101, "Sales", F2:F101)
=SUMIFS(G2:G101, D2:D101, "North", C2:C101, "Sales")
=COUNTIFS(C2:C101, "Sales", G2:G101, "⩾300000")
```

KEY POINT

Argument order flips. SUMIF is (criteria_range, criteria, sum_range): the sum range comes LAST. SUMIFS and AVERAGEIFS are (sum_range, criteria_range1, criteria1, ...): the sum range comes FIRST. All ranges in an IFS function must be the same size.

Criteria tricks

Need	Criteria
Value in a cell (I1 holds "North")	=COUNTIF(D2:D101, I1)
Greater than or equal to a cell	=COUNTIF(G2:G101, ">="&I2)
Not equal to	=COUNTIF(C2:C101, "<>HR")
Non-blank / blank	"<>" and ""
Name contains "kumar"	=COUNTIF(B2:B101, "*kumar*")
IDs with exactly 4 characters starting E	=COUNTIF(A2:A101, "E???")
A real asterisk	"~*"

Wildcards: * means any number of characters, ? means exactly one. Criteria are not case-sensitive. The operator goes inside quotes and the cell joins with &. Writing ">=I2" compares with the text "I2", which is wrong.

Dates: employees who joined in FY 2024-25 (1 April 2024 to 31 March 2025):

```
=COUNTIFS(E2:E101, "⩾"&DATE(2024,4,1), E2:E101, "⩽"&DATE(2025,3,31))
```

Using the same range twice is allowed and is how you build a "between" condition. Using DATE avoids confusion between Indian dd-mm and American mm-dd formats.

FUNNY SIDE

A manager asked for "sales of everyone named Raj". COUNTIF with "*raj*" happily returned Rajesh, Rajni, Neeraj and Dheeraj. Wildcards are like a kirana uncle: ask for "something sweet" and you get everything from Parle-G to gulab jamun.

CHECK YOUR PROGRESS 2.3

1. **Total sales of the West region where sales exceed the value in I3.**
   Answer: =SUMIFS(G2:G101, D2:D101, "West", G2:G101, ">"&I3)
2. **Count employees whose sales cell is not empty.**
   Answer: =COUNTIF(G2:G101, "<>"). Note it also counts "n/a" because that cell is not empty.

2.4 Rounding and Text Functions

The ROUND family

Formula	Result	Note
=ROUND(1234.567, 2)	1234.57	Normal rounding
=ROUND(1234.567, -2)	1200	Negative digits round to tens, hundreds
=ROUNDUP(12.01, 0)	13	Always away from zero
=ROUNDDOWN(12.99, 0)	12	Always towards zero
=MROUND(37, 5)	35	Nearest multiple
=INT(-2.5) / =TRUNC(-2.5)	-3 / -2	INT goes down; TRUNC chops decimals

Formatting a cell to show 2 decimals does not change the stored value. ROUND does. This matters when totals look "off by one paisa".

Text functions

Formula (B2 = "ravi kumar")	Result
=LEFT(A2, 1) with A2 = "E101"	E
=RIGHT(A2, 3)	101
=MID("2024-INV-0087", 6, 3)	INV
=LEN(B2)	10
=PROPER(B2) / =UPPER(B2)	Ravi Kumar / RAVI KUMAR
=TRIM(" Amit Shah ")	Amit Shah
=SUBSTITUTE("98-765-43210", "-", "")	9876543210
=FIND(" ", B2)	5

FIND vs SEARCH: both return the position of text inside text. FIND is case-sensitive and does not allow wildcards. SEARCH ignores case and allows * and ?. Both return #VALUE! when nothing is found. First name and last name from "Ravi Kumar":

```
First: =LEFT(B2, FIND(" ", B2) - 1)
Last:  =MID(B2, FIND(" ", B2) + 1, LEN(B2))
```

TRIM removes spaces at both ends and reduces inside gaps to a single space. It does not remove the non-breaking space CHAR(160) that comes from web copy; use =TRIM(SUBSTITUTE(B2, CHAR(160), " ")).

Joining text: the & operator works everywhere. CONCAT and TEXTJOIN need Excel 2019 or 365. TEXTJOIN takes a delimiter and can skip empty cells.

```
=B2 & " (" & C2 & ")"                Ravi Kumar (Sales)
=CONCAT(A2, "-", D2)                  E101-North
=TEXTJOIN(", ", TRUE, B2:B6)          Ravi Kumar, Priya Nair, ...
```

TEXT turns a number or date into formatted text, useful inside sentences:

```
="Joined on " & TEXT(E2, "dd-mmm-yyyy")      Joined on 15-Jan-2022
="Salary: Rs " & TEXT(F2, "#,##0")             Salary: Rs 42,000
```

> 💡 **DO YOU KNOW?**
>
> The result of TEXT is text, not a number. You cannot SUM it. Keep the original number in one column and use TEXT only for labels and messages.

> ✅ **CHECK YOUR PROGRESS 2.4**
>
> 1. **=SEARCH("KUMAR", "ravi kumar") and =FIND("KUMAR", "ravi kumar") give what?**
>   **Answer:** SEARCH gives 6. FIND gives #VALUE! because it is case-sensitive.
> 2. **Round 2,48,760 to the nearest thousand.**
>   **Answer:** =ROUND(248760, -3) gives 249000.

2.5 Date Functions and Error Handling

Formula	Meaning
=TODAY()	Today's date; updates every time the sheet recalculates
=DATE(2025, 3, 31)	Builds a date from year, month, day
=YEAR(E2), =MONTH(E2), =DAY(E2)	Pull parts of a date (2022, 1, 15 for E101)
=EOMONTH(E2, 0)	Last day of the same month (31-Jan-2022)
=EOMONTH(E2, -1) + 1	First day of the same month
=DATEDIF(E2, TODAY(), "Y")	Completed years of service
=NETWORKDAYS(E2, TODAY(), H2:H20)	Working days (Mon to Fri), minus holidays listed in H2:H20

Formula	Meaning
=WEEKDAY(E2, 2)	Day number with Monday = 1 … Sunday = 7

Notes that win marks: WEEKDAY's default type 1 makes Sunday = 1. NETWORKDAYS counts both the start and end dates. For a Monday to Saturday week (common in Indian shops), use NETWORKDAYS.INTL(start, end, 11), where 11 means Sunday-only weekend. DATEDIF is an old hidden function: it works but does not appear in autocomplete, and it returns #NUM! if the start date is after the end date. Its units are "Y", "M", "D", "YM" (months after full years) and "MD" (days after full months).

```
=DATEDIF(E2, TODAY(), "Y") & " yrs " & DATEDIF(E2, TODAY(), "YM") & " months"
```

IFERROR and IFNA

IFERROR(value, value_if_error) replaces any error (#DIV/0!, #VALUE!, #N/A, #REF! and others) with something friendly. IFNA (Excel 2013 onwards) catches only #N/A, which is what lookups return when a value is missing.

```
=IFERROR(G2/F2, 0)
=IFNA(VLOOKUP(I1, A2:G101, 7, FALSE), "Not found")
```

🎯 **INTERVIEW CORNER**

Q: Why prefer IFNA over IFERROR around a lookup? **A:** IFERROR hides every error, including real mistakes like a deleted column (#REF!) or a typo (#NAME?). IFNA hides only the "not found" case, so genuine bugs still show up. Use the narrowest error handler that does the job.

🖍️ **TRY IT**

Type five join dates in E2:E6. In F2 write a formula that shows "Probation" if the person joined less than 180 days ago, else "Confirmed". Hint: =IF(TODAY()-E2<180, "Probation", "Confirmed"). Subtracting dates gives days.

✅ **CHECK YOUR PROGRESS 2.5**

1. **Find the last date of the month that is 2 months after E2.**
   Answer: =EOMONTH(E2, 2). Format the cell as a date, otherwise you see a serial number like 44651.
2. **What does =IFNA(10/0, "x") return?**
   Answer: #DIV/0!. IFNA only catches #N/A; use IFERROR here.

What Have We Learnt?

- COUNT counts numbers, COUNTA counts anything non-empty, COUNTBLANK counts empty cells; AVERAGE skips blanks but not zeros.
- Nested IF and IFS give tiered results; check slabs in the right order and give IFS a TRUE fallback.
- SUMIF puts sum_range last; SUMIFS and AVERAGEIFS put it first.
- Criteria use quotes for operators, & to join cell values, * and ? as wildcards, and DATE for safe date limits.
- ROUND changes the value, formatting does not; FIND is case-sensitive, SEARCH is not.
- TRIM, PROPER, SUBSTITUTE and TEXTJOIN clean and join messy text; TEXT formats numbers as labels.
- EOMONTH, DATEDIF, NETWORKDAYS and WEEKDAY handle HR and finance date work; IFNA is safer than IFERROR for lookups.

Practice

A. Multiple Choice Questions

1. A range holds 4 numbers, 2 text values and 3 empty cells. What does COUNTA return?
   a. 4
   b. 6
   c. 9
   d. 3

2. Which is the correct SUMIFS syntax?
   a. =SUMIFS(D2:D9, "North", G2:G9)
   b. =SUMIFS(G2:G9, D2:D9, "North")
   c. =SUMIFS(D2:D9, G2:G9, "North")
   d. =SUMIFS("North", D2:D9, G2:G9)

3. Which criteria counts sales greater than the value in K1?
   a. ">K1"
   b. >K1
   c. ">"&K1
   d. ">"+K1

4. With default settings, =WEEKDAY(date) returns 1 for which day?
   a. Monday
   b. Sunday
   c. Saturday
   d. It depends on the region

B. Practical Tasks

1. On the Sharma Traders sheet, find the average salary of Sales department employees in the North region.
2. Column B has names like " priya NAIR ". Produce "Priya Nair" in one formula, and then extract only the first name.
3. Show each employee's tenure as "X yrs Y months" and flag anyone with 3 or more completed years as "Loyalty Award".

Answer Key: Chapter 2

A. MCQ

1. (b) COUNTA counts the 4 numbers and 2 text values; empty cells are ignored.
2. (b) In SUMIFS the sum range comes first, then criteria range and criteria pairs.
3. (c) The operator sits in quotes and the cell reference is joined with &.
4. (b) Return type 1 (default) makes Sunday = 1 and Saturday = 7.

B. Practical Tasks

1. =AVERAGEIFS(F2:F101, C2:C101, "Sales", D2:D101, "North")
2. Full name: =PROPER(TRIM(B2)). First name: =LEFT(PROPER(TRIM(B2)), FIND(" ", TRIM(B2)) - 1). TRIM first, so FIND sees a single clean space.
3. Tenure in H2: =DATEDIF(E2, TODAY(), "Y") & " yrs " & DATEDIF(E2, TODAY(), "YM") & " months". Flag in I2: =IF(DATEDIF(E2, TODAY(), "Y")>=3, "Loyalty Award", ""). Fill both down to row 101.