DataImpala

Basic Microsoft Excel Cheatsheet

By Ahnaf Chowdhury

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With Easy, Clear Explanations)

🟨 1. Basic Math Functions

```
=SUM(A1:A5)
```

Adds numbers from A1 to A5.

➡️ Handy when you want a total.

```
=AVERAGE(A1:A5)
```

Calculates the average of the numbers.

➡️ Think of it as “what’s the typical value?”


```
=MIN(A1:A5)
```

Finds the smallest number in the group.

➡️ Useful to spot the lowest value.

```
=MAX(A1:A5)
```

Finds the biggest number.

➡️ Great for finding the highest score, price, etc.

```
=COUNT(A1:A5)
```

Counts how many cells in the range have numbers.

➡️ Text cells are ignored.

```
=COUNTA(A1:A5)
```

Counts everything that's not blank — numbers, text, anything.

```
=ROUND(A1, 2)
```

Rounds the number in A1 to 2 decimal places.

➡️ Good for clean financial reports.

```
=ABS(A1)
```

Gives the absolute value (removes minus sign).

➡️ Turns -10 into 10.

🔤 2. Text Functions

```
=CONCAT(A1, B1)
```

Joins A1 and B1 together.

➡️ Example: "John" + "Doe" = "JohnDoe"

```
=TEXTJOIN(" ", TRUE, A1, B1)
```

Joins text with spaces (or any separator).

➡️ More flexible than CONCAT.

```
=LEFT(A1, 3)
```

Pulls the first 3 characters from the text in A1.

➡️ For example, "Apple" becomes "App"

```
=RIGHT(A1, 2)
```

Pulls the last 2 characters.

```
=MID(A1, 2, 3)
```

Starts at the 2nd character, grabs 3 letters.

➡️ From “Banana” it gives “ana”

```
=LEN(A1)
```

Counts how many characters are in A1 (including spaces).

```
=TRIM(A1)
```

Removes extra spaces before and after text.

➡️ Fixes messy copy-pasted text.

```
=UPPER(A1)
```

Changes text to ALL CAPITALS

```
=LOWER(A1)
```

Makes text all small letters

```
=PROPER(A1)
```

Capitalizes the first letter of each word

➡️ “john smith” → “John Smith”

📅 3. Date & Time Functions

```
=TODAY()
```

Shows today’s date (updates automatically)

```
=NOW()
```

Shows today's date + current time

```
=DAY(A1)
```

Gets the day from a date

➡️ From 2025-04-18, it gives 18

```
=MONTH(A1)
```

Gives the month number

➡️ From 2025-04-18, it gives 4

```
=YEAR(A1)
```

Gives the year from a date

```
=DATEDIF(A1, B1, "d")
```

Counts days between two dates

➡️ You can also use "m" for months, "y" for years

🧠 4. Logical Functions

```
=IF(A1 > 50, "Pass", "Fail")
```

If A1 is more than 50, show “Pass”, otherwise show “Fail”

➡️ Used to make decisions inside a cell

```
=IFERROR(A1/B1, "Error")
```

If the formula causes an error (like dividing by 0), show “Error” instead.

➡️ Helps avoid confusing error messages

```
=AND(A1>0, B1>0)
```

Checks if both conditions are true.

➡️ Returns TRUE or FALSE

```
=OR(A1>0, B1>0)
```

Checks if at least one is true.

```
=NOT(A1>0)
```

Reverses TRUE or FALSE

➡️ If A1>0 is TRUE, NOT makes it FALSE

🔍 5. Lookup Functions

```
=VLOOKUP(lookup_value, table, column_number, FALSE)
```

Finds a value vertically in the first column of a table.

➡️ Common in data tables. "FALSE" means exact match.

```
=HLOOKUP(...)
```

Like VLOOKUP, but looks horizontally (across the top row).

```
=INDEX(range, row, column)
```

Gets a value from a specific row and column inside a range.

➡️ More flexible than VLOOKUP

```
=MATCH(value, range, 0)
```

Tells you the position of a value in a list.

➡️ Use it with INDEX for dynamic lookups.

📊 6. Data Tools

```
=UNIQUE(range)
```

Pulls out only the distinct values from a list

➡️ Available in newer Excel versions

```
=SORT(range)
```

Sorts a list or table alphabetically or by numbers

```
=FILTER(range, condition)
```

Returns rows that match a condition

➡️ Example: FILTER(A2:B10, B2:B10="HR")


```
=TRANSPOSE(range)
```

Flips a table — rows become columns, and vice versa

📌 7. Cell References

Symbol	Meaning
A1	Relative reference (changes when copied)
A1	Absolute reference (stays the same)
A$1 or $A1	Mixed reference (only row or column stays fixed)

➡️ Use $ when you want part of your formula to stay fixed when dragging.

✅ Summary Table

Function	What It Does
SUM	Adds numbers
AVERAGE	Finds the average
IF	Makes a decision
VLOOKUP	Finds data in a table
CONCAT	Joins text together
TODAY	Shows today's date
LEN	Counts characters
ROUND	Rounds numbers
UNIQUE	Shows only distinct values
INDEX+MATCH	Flexible data lookup

🔄 More Basic Excel Functions

```
=ISBLANK(A1)
```

Checks if a cell is empty.

Returns TRUE if A1 is blank, otherwise FALSE.

📌 Useful when cleaning data or detecting missing inputs.

```
=ISNUMBER(A1)
```

Returns TRUE if A1 contains a number.

Returns FALSE for text, blank cells, or errors.

📌 Helps check if a column meant for numbers has any wrong data.

```
=ISTEXT(A1)
```

Returns TRUE if the content is text, not a number.

📌 Helpful when verifying proper formatting.

```
=MOD(A1, 2)
```

Gives the remainder after dividing A1 by 2.

📌 Great for checking if a number is odd or even:

If **MOD(A1, 2)** = 0 → Even

If **MOD(A1, 2)** = 1 → Odd

```
=RANDBETWEEN(1, 100)
```

Generates a random whole number between 1 and 100.

📌 Handy for testing, simulations, or mock data.

```
=RAND()
```

Returns a random decimal between 0 and 1.

```
=REPT("⭐", 5)
```

Repeats a character or word a specific number of times.

📌 **Example:** =REPT("*", 10) creates a simple star rating bar.

```
=SUBSTITUTE(text, old, new)
```

Replaces one word/character with another inside a text string.

📌 **Example:**

```
=SUBSTITUTE("Hello World", "World", "Bangladesh")
```

Gives: Hello Bangladesh

```
=TEXT(value, "format")
```

Converts a number/date into a specific format.

📌 **Examples:**

```
=TEXT(TODAY(), "dd-mm-yyyy")
=TEXT(0.25, "0.0%")

=CELL("address", A1)
```

Returns the full address of a cell (like A1).

```
=ROW(A1) and =COLUMN(A1)
```

Returns the row number or column number of a cell.

ROW(A1) → 1

COLUMN(B5) → 2

📌 Great for advanced formulas or layout control.

```
=CHAR(65)
```

Converts a number to a character (based on ASCII code).

CHAR(65) gives A, CHAR(66) gives B

```
=CODE("A")
```

Opposite of CHAR(). It turns a character into its ASCII number.

CODE("A") gives 65