

Excel

According to research, more than 81% business use MS Excel

MS Excel is one of the crucial tools for the data analytics

Excel provide with all the features and functionalities jiski help use hum

- data cleaning Missing Values, Duplicate rows, Wrong Spell
- data transform Changing shape, format, structure
- data modeling blue print of how data will be stored
- data analysis Collecting data, Cleaning, and connected visualizing results

There are many useful features in ms excel
Power Query to transform data
Power Pivot for data modeling

Lastly, Pivot tables and charts ka use krke hum amazing dashboard create kr skte hai using 'Ms Excel'.

MS Excel

Introduction

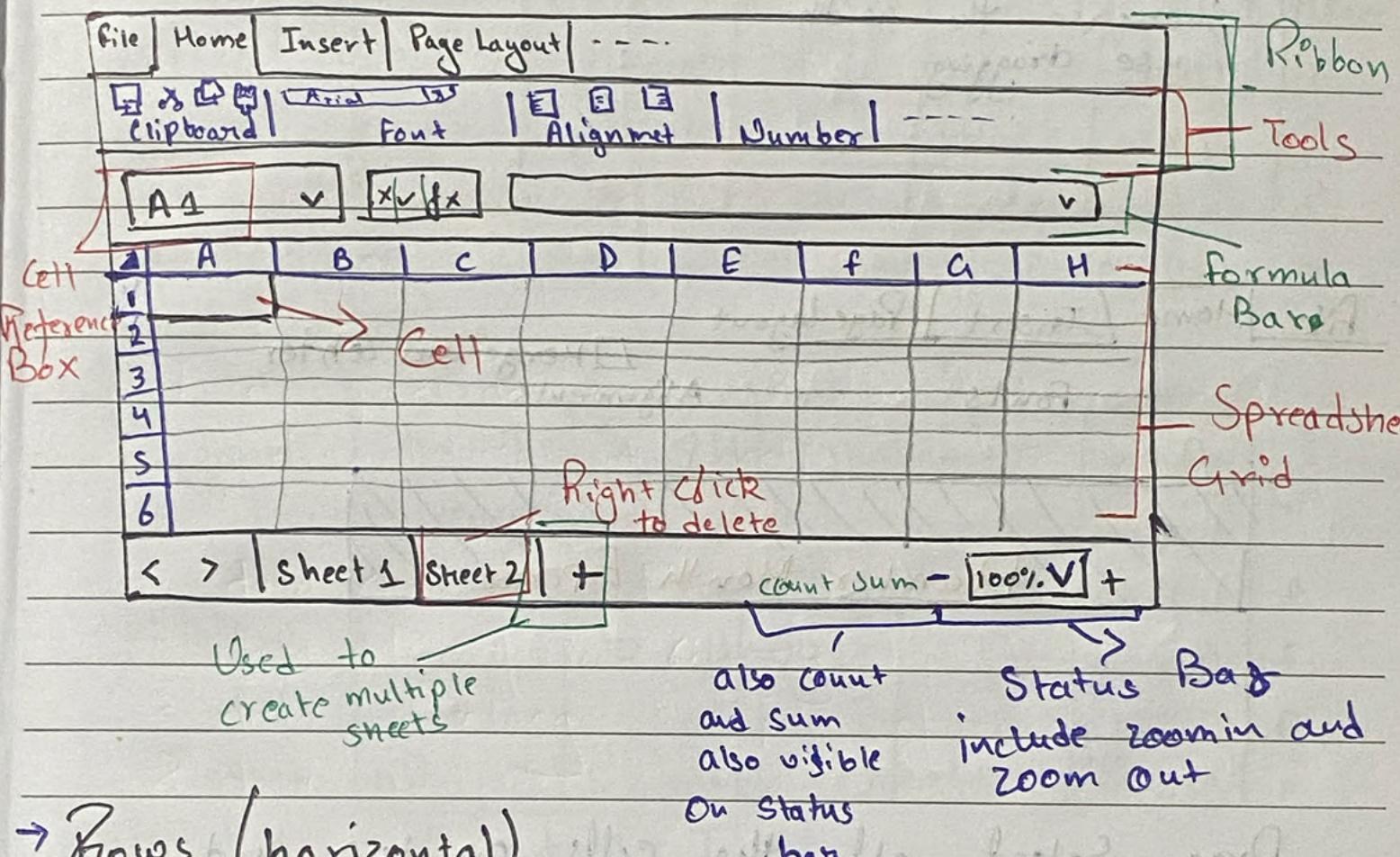
Microsoft Excel is a powerful spreadsheet application used to store, organize, calculate, analyze and visualize data.

It is a part of Microsoft Office Suite and is widely used in business, education, finance, data analysis and personal tasks.

Excel allows users to work with rows, columns, formulas, charts, tables and automation tools to make data-driven work faster and easier.

Start :-

Open Blank Workbook



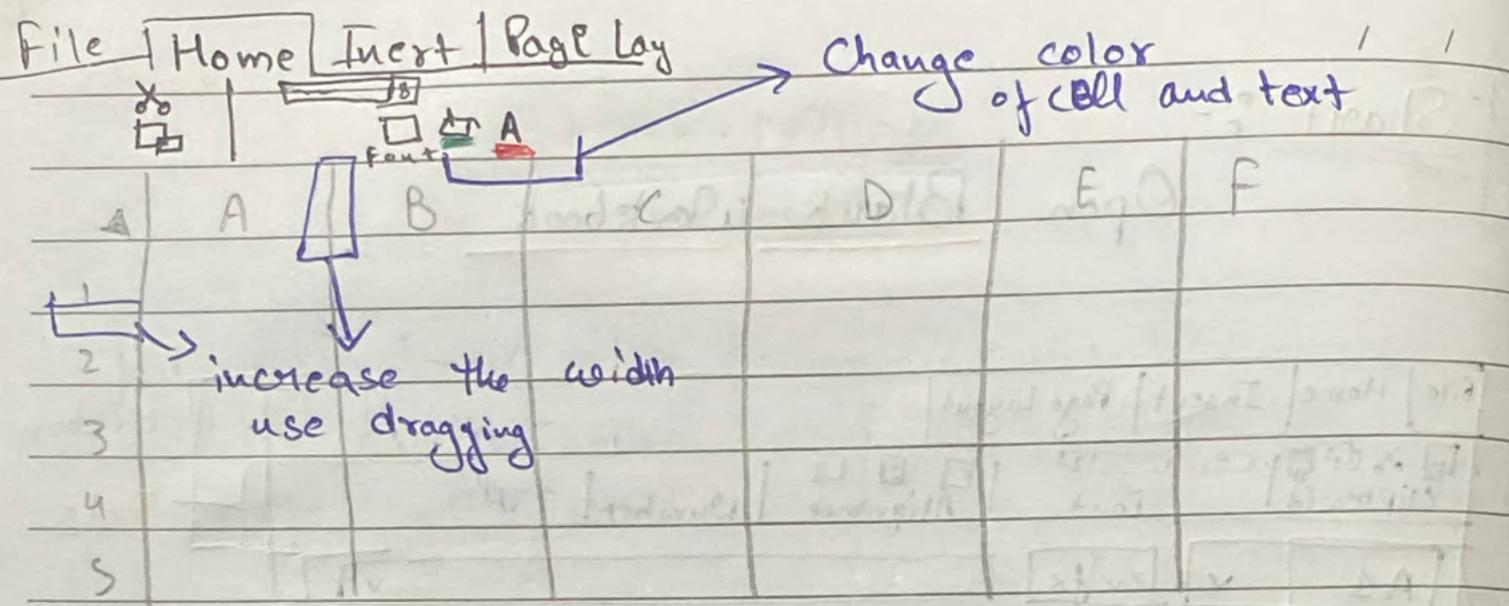
→ Rows (horizontal)

→ Columns (Vertical)

→ Cells (Individual boxes)

Data Entry can be started from
any cell

not necessary to start with first cell



File | Home | Insert | Page layout

Merge and center

A	B	C	D	E	F	
1	December Month Expense					
2						
3						
4						

Drag Select all the cells on top and
use Merge in Alignment inside Home

Change text size, bg, color

A3 Cell Preference box

A	B	C	D	E	F
1	January Month Expense				
2					Double Click to adjust
3	Date	Category	Sub-Category	Price	Payment Mode
4	1/1/26	Food	Zomato	320	VPI
5	2/1/26	Grocery	Blinkit	180	Cash

if selecting [Date], cell preference box no.

Select 3rd row and change color and font to make the header look different from content.

[Ctrl + Z] to undo.

Select all cells and create Table

using [Ctrl + T]

or just go in

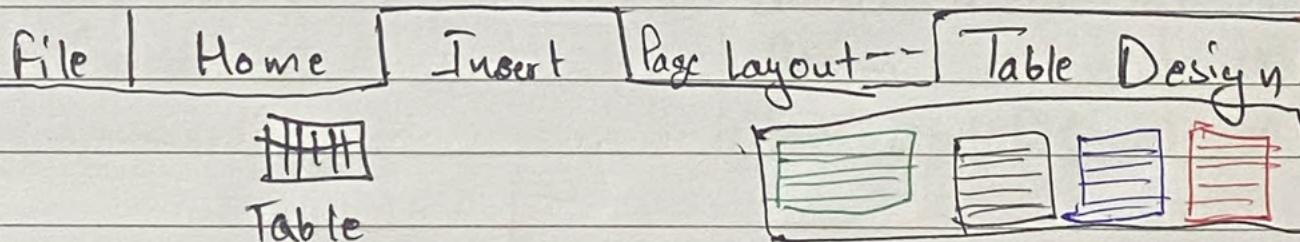


Table Styles to
change the table
design

[Ctrl + S] to save

Auto-Fill

In Excel

1
2

1
2

1
2
3
4
5

Select and
drag.

Do same for dates

Date
1 Dec
2 Dec
3 Dec



Date
1 Dec
2 Dec
3 Dec
4 Dec
5 Dec

Not Works in Web

Flash Fill

in Excel

Its like a brother of Auto fill

James

Ritik Sharma

Arav Menta

Kunal Verma

Priya Kapoor

Sanya Malhotra

Ritik

Arav

Kunal

Priya

Sanya

Same for Last

Name

inside [Home] inside

fill

for web inside [Data]

inside

[Data Tools]

Text To Column

in Excel

Delhi, IN

Inside [data] inside [Data tools]

Assam, IN

Text to column

Washington DC, US

using

Mumbai, IN

New York, US

Delhi

IN

Toronto, CA

Assam

IN

London, UK

Washington DC

US

Basic Formatting

Create a Table

Date	Category	Sub-Category	Amount
1 Dec	Bills	HouseRent	16000
2 Dec	Bills	Mobile	1640
3 Dec	Bills	Cylinder	1074

1. Change font size individually
2. Change font style individually
3. Use **B** I U
4. Borders of cell
5. Do with entire row
6. Give Alignments

7. Show Merge and Center
create this

Bills
Bills
Bills

then do

Bills

8. Add Currency, %, , ,

9. Use decimals

10. Change dates

11. Change Color of Cell

Sorting Data (in Excel)

So, data ko sort karna bhot important hota hai, according to your Priority, according to ur needs.

Excel provide different methods, different ways to sort the data.

Go with the dates first

Dates

1-1-26

2-1-26

3-1-26 →

Click on any date

4-1-26

5-1-26

Inside

Home

inside

Editing

Change asc → desc
desc → asc

Its for dates if we want to check
for text

Category		
Food	A to Z	Clothes
Clothes		Food
Grocery		Grocery

Amount	Sort	
16000		1074
1640	Ascending	1640
1074		7600
7600		16000

We can also do

Sorting based on colors

1. Do a single color

on - Top

on - Bottom

2. Multilevel

for different colors

3. Then for different columns

→ Category

→ Amount

Category	Amount
Bills	163
Bills	230
Clothes	180
Clothes	560

Filtering Data in Excel

Select Table or Just Table cell
then go on

[Data] inside Ribbon

or

[Home] ; [Editing] → [Sort and filter]

Go on Payment Mode

→ Only Cash

→ Both Cash, Upi

→ Select All

You can also see Sort there

For Amount :-

Number filters :-

Greater than

Smaller than

For Category :- Text Filters :-

Begins with
Ends with

for Date :- Date filters

- Tomorrow, Today, Yesterday
- Next week, This week

Filter by Color :- filter by color

- Specific color

Basics Formula / Functions

<u>ADDITION</u>	<u>SUBTRACTION</u>	<u>MULTIPLICATION</u>	<u>Division</u>
300	300	20	12
150	150	15	3

Select these

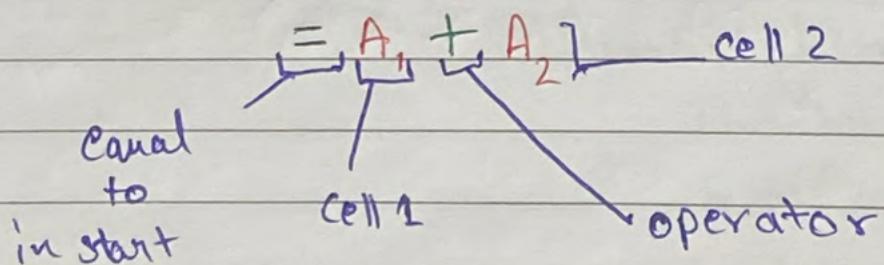
Average: 225 Count: 2 Sum: 450

can be shown in the status bar

We can also chose if we want minimum value , max value also

Addition :-

To simply perform the function.
 $= A_1 + A_2$



$$= \text{SUM}(A_1, A_2)$$

Subtraction :-

$$= A_1 - A_2$$

Multiplication :-

$$= A_1 * A_2$$

Division :-

$$= A_1 / A_2$$

	A	B	C	D	E	F
Cinema Hall						
1	Customer's Name	Food	Seats	Seat Price	Price	Total
2	Ayushi	250	3	350		

BODMAS - Brackets, Order, Divide, Multiply, Add, Subtract

$$\begin{aligned} \text{Total} \Rightarrow & = (\text{Seats} * \text{Seat Price}) + \text{Food} \\ & = (C_2 * D_2) + B_2 \\ & = 1270 \end{aligned}$$

Text functions in Excel

Prefix	FirstName	LastName
MR.	JON	YANG
MR.	EUGENE	HUANG
MR.	RUBEN	TORRES

Concatenate :- Add multiple columns together

- CONCATENATE (A₂, B₂, C₂)

first column
(Prefix)

first Name

Last Name

Output will be MR. JON YANG

So, to add spaces we do

= CONCATENATE (A₂, " ", B₂, " ", C₂)

Output will be MR. JON YANG

And if we double click on  it will automatically apply same function to the remaining rows

Lower :- = LOWER(B2) for lower case transformation

Output will be Jon.

Upper :- = UPPER(B2) to convert into upper case

Output will be JON

Proper :- = PROPER(B2) for proper used to convert , that each word starts with capital letter and remaining lowercase.

Output will be Jon

Length :- = LEN(B2) to get the characters length.

Output will be 3.

Left :- = LEFT(B2) give the leftmost of the word and the output is J,

But if we also want some characters like 3 from start

So, =LEFT(B2,3)

and the output will be ~~Arj~~ JAN

If input Arjun we will get Arj
we can use this for month JAN, FEB, MAR

Right :- =RIGHT(B2) output will be N

But if we use range here

=RIGHT(B2,3) and the output
will be JON

If input Arjun output will be jun

MID :- =MID(Text, Start value, no. of characters)

Input Arjun

=MID(B2,2,3)

Output will be rju

Find :- To find the index of ~~text~~ an character in the text.

= FIND (find_text, within_text)

= FIND ("O", B2)

For JON input, output would be 2

for input Arjun, output would be ~~invalid #VALUE~~

But it is case-sensitive

Search :- Same as find but its not
not case-sensitive

= SEARCH ("o", B2) its not matter
its "o" or "O"
it always gave the output 1

Replace :- = REPLACE (B2, 3, 2, "ya") → new changes

old text start
 of change limit
 or
 number
 of
 characters

Input = ~~Arjun~~

Arjun

Input Arjun

Output Arjan

If, AND, OR Functions

Conditions :- $= E2 > 28$

output will be in True or False

Full Name	Roles	Department	Gender	Age	Hiredate
Arjun Mehta	Python Dev	IT	Female	23	15-2-23
Neha Kapoor	Full Stack	QA	Male	32	30-8-21
Rohan Batra	Data Scientist	Manager	Other	28	10-11-19
Isha Narang	Full Stack	QA	Female	40	8-6-22
Devansh Khurana	Python Dev.	IT	Male	22	28-1-20

for $= E2 > 28$ output \Rightarrow False

if :- $= if (E2 > 30, "Bonus", "no bonus")$
Age condition if output
 else output

AND :-

= IF(AND(C2 = "IT", C2 = "India"), "Included", "Excluded")

And Condition 1st Condⁿ 2nd Condⁿ If Output
Else Output

both condition must satisfy

OR :-

= IF(OR(C2 = "IT", Gender = "Male"), "In", "Out")

OR condition 1st Condⁿ 2nd Condⁿ True
 False

works if one condition satisfies

Date & Time functions

~~Today :-~~

Today :- = today()

gives today's date

Now :- = now()

gives both date and time

current time

2-12-2023 16:10

Today	Now	Day	Month	Year
23-1-26	23-1-26 5:53			

Day :- = DAY(B2) 23

Month :- = MONTH(B2) 01

Year :- = YEAR(B2) 2026

Date :- = DATE(E₂, D₂, C₂)

Year Month

Date

C	D	E	
Day	Month	Year	02-12-2025
2	12	2025	

Hour :- = Hour(B₂)

Current Hour

Min :- = Minute(B₂)

Current Minutes

Sec :- = Second(B₂)

Current Seconds

Date + 3 Days :- = Now() + 3
= B₂ + 3

Date + 3 Months :- = EDATE(A₂, 3)

= EDATE(A₂, 3)

day No.of Months

Change the format if needed

from currency

~~Date + 3 Years :-~~ Just need to multiply months by 12.

= Date(B2, 3×12)
 |
 Months → for years
 |
 3 years

Sumif, Sumifs

Countif, Countifs

Sum :- $= \text{sum}([\text{Amount}])$

Selected column

Date	Category	Sub-Category	Amount	Payment Mode
01/01/25	Grocery	MTR	56	Cash
02/01/25	Food	Zomato	310	UPI
03/01/25	Essentials	Shampoo	180	Card
04/01/25	Food	Swiggy	253	UPI

or $= \text{sum}([D2, D3, D4])$

Selected Cells

Sumif :- what if we only want sum of
only "UPI"

$= \text{SUMIF}(\text{range}, \text{criteria}, [\text{sumrange}])$

Condition

Sum

$= \text{SUMIF}([\text{Payment Mode}], "UPI", [\text{Amount}])$

range

Kis column

specific

KisRe upper

Se lena hai

KisRe lie

Sum lgna

Kona hai

hai

(criteria)

Sumif :- Condition, Sum range

Sumifs :- Sumrange, cond1, cond2

Sumifs :- What if we want to do it
for multiple conditions

We want "UPI" se payment, at the
same time wo "food" ki category
ho.

Kiske andar se sum nikalna hai

$$= \text{SUMIFS}(\underbrace{\text{Sum_range}}_{\text{Category}}, \underbrace{\text{criteria_range1}}_{\text{Condition 1}}, \underbrace{\text{criteria1}}_{\text{UPI}}, \underbrace{\text{criteria_range2}}_{\text{Condition 2}}, \underbrace{\text{criteria2}}_{\text{Payment mode}})$$
$$= \text{SUMIFS}(\underbrace{[\text{Amount}]}_{\text{Sumrange}}, \underbrace{[\text{Payment Mode}]}_{\text{Criteria 1}}, \underbrace{"\text{UPI}"}_{\text{Criteria 1}}, \underbrace{[\text{Category}] " \text{food} "}_{\text{Criteria 2}})$$

Count :- $= \text{COUNT}([\text{Selected Column}])$

or $= \text{COUNT}(\underbrace{C_2, C_3, C_4}_{\text{Selected Cells}})$

Countif :- what if we only want count of "cash"

= Countif [Payment] "Cash"
 | |
 range Criteria

= COUNTIF (range, criteria)