

# Mastering Excel for Data Analysis

Google Sheets and LibreOffice Calc

**Brain Mentors Pvt Ltd**

# Agenda

Topic	Activities
Introduction	Real-world context for data cleanup and analysis
Conditional Formatting	Live demo with sample data
Advanced Formulas	Nested IF, COUNTIFS, TEXT, UNIQUE, etc.
Data Validation	Dropdowns, range limits, error prompts
Macros	Record & run simple macros (Google & Libre)
Hands-on Exercises	Practice + solve real-world task

# Sample Dataset (Student Performance Data)

Student Name	Subject	Score	Max Marks	Grade	Status	Comments
Ankit	Math	92	100			
Bhavna	Science	45	100			
Chetan	Math	33	100			
Divya	Science	88	100			
Esha	Math	67	100			

# Conditional Formatting

- Highlight important patterns in data automatically
  - Color code high/low scores
  - Highlight scores  $< 40$  as red
  - Use icon sets (LibreOffice) or color scale (Google)

# Conditional Formatting

## Google Sheets

1. Select Score column
2. Format → Conditional Formatting
3. Rule: Less than 40 → Red fill
4. Rule: Greater than or equal to 90 → Green fill

## LibreOffice Calc

1. Select Score column
2. Format → Conditional Formatting → Condition
3. Add rules for <40 and >=90

# Advanced Formulas

- Create dynamic, intelligent calculations
  - `=IF(C2<40, "Fail", "Pass")` → for Status
  - `=IFS(C2>=90, "A+", C2>=75, "A", C2>=60, "B", C2>=40, "C", C2<40, "F")` → for Grade
  - `=COUNTIFS(B2:B6, "Math", F2:F6, "Pass")` → Passed in Math
  - `=TEXT(TODAY(), "dd-mmm-yyyy")` → Format today's date
  - `=UNIQUE(A2:A6)` → List of unique students

# Data Validation

- Prevent wrong entries and reduce manual errors
  - Subject dropdown → only allow "Math", "Science"
  - Score must be between 0 and 100
  - Error message if wrong entry made

# Data Validation

## Google Sheets:

1. Select Subject column → Data → Data validation
2. Criteria → List of items → Math, Science
3. Select Score column → Between 0 and 100

## LibreOffice:

1. Select Subject column → Data → Validity
2. Criteria → List → Math, Science
3. Error Alert tab → Enter custom message



# Macros

Automate repeated tasks like formatting, calculations

## **Google Sheets:**

1. Extensions → Macros → Record Macro
2. Apply bold formatting to Grade column
3. Save and assign to a shortcut or menu

## **LibreOffice:**

1. Tools → Macros → Record Macro
2. Highlight Fail students and color them red
3. Stop → Save to "Standard" module

# Hands-on Tasks

- Apply conditional formatting to highlight all "F" grades in red
- Add dropdown to restrict Subject to “Math”, “Science”, “English”
- Add Grade using IFS logic
- Record a macro that formats entire sheet (bold header, borders, auto-size)