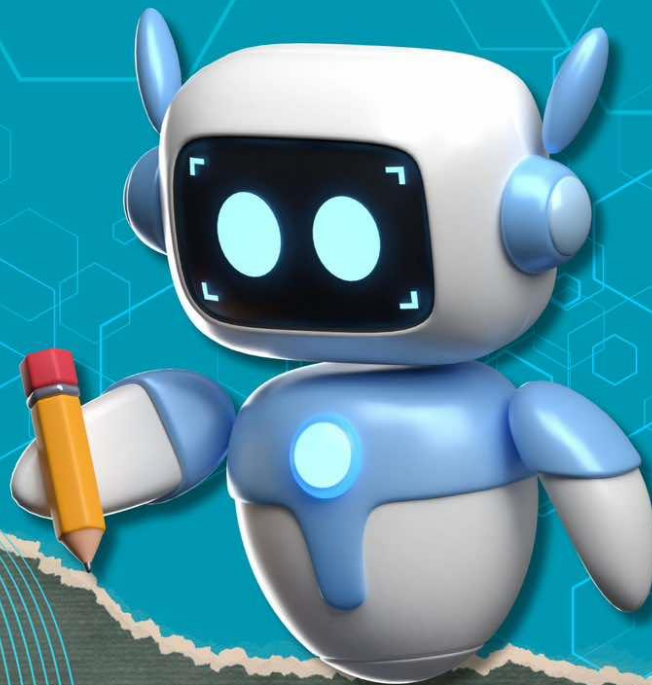# Excel- Lent:

Workshop on Basic Excel Functions and Grade Computation

M A N U A L

OBJECTIVES

At the end of the session, you should be able to do the following with the Microsoft excel:

1. Sort data in alphabetical order
2. Combine different texts/cells into a single cell
3. Delete space of a text in a cell using trim function
4. Compute the sum, product and average of data set
5. Use lookup function to determine the equivalent /description or value of a cell
6. Perform "if then" function
7. Perform logical "and/or" function
8. Determine the number of cells that are not empty using function "COUNTA" function
9. Determine the number of cells containing numerical value
10. Determine the number of cells containing specified criteria/content using "COUNTIF"
11. Apply other excel functions like Sorting, fixing a cell, freezing cells, applying borders, and cell colors.
12. Insert chart like bar, pie, etc.
13. Apply conditional formatting.

BASIC MATH FUNCTIONS:

1. **SUM**: Adds up a range of numbers.

   For example, =SUM(A1:A10) calculates the total of values from A1 to A10.

	Sheet View			Workbook Views		
A12	✓ : ✕ ✓ *fx*	=SUM(A1:A10)				

	A	B	C	D	E	F	G
1	12						
2	13						
3	14						
4	15						
5	14						
6	14						
7	12						
8	23						
9	19						
10	18						
11							
12	154						
13							

2. AVERAGE: Computes the average of a set of numbers.

Use =AVERAGE(B1:B10) for the average of values in B1 to B10.

3. MIN/MAX: Finds the smallest or largest value in a range.

For instance, =MIN(C1:C10) gives the lowest number in C1 to C10.

COUNTING FUNCTIONS

4. COUNT: Counts the number of cells with numeric values in a range, e.g., =COUNT(D1:D10).

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D12   ⋮ ✕ ✓ *fx* =COUNT(D1:D10)

	A	B	C	D	E	F	G	H	I	J	K
1				12							
2				13							
3				14							
4				15							
5				14							
6			A								
7				12							
8				23							
9				19							
10				18							
11											
12				9							
13											

5. COUNTA: Counts all non-empty cells, regardless of data type,

e.g. =COUNTA(F1:10).

	File	Home	Insert	Page Layout	Formulas	Data	Review	View

F12   ⋮ ✕ ✓ *fx* =COUNTA(F1:F10)

	A	B	C	D	E	F	G	H
1						abc		
2						25		
3						dog		
4						##		
5						15		
6								
7						21		
8						23		
9						@		
10						0		
11								
12						9		
13								

6. The COUNTIF function in Excel is used to count the number of cells in a range that meet a specific condition. The syntax for COUNTIF is:

> COUNTIF(range, criteria) where
> - **range**: The range of cells you want to count.
> - **criteria**: The condition that must be met for a cell to be counted. This can be a number, text, expression, or even a cell reference.

Example

> If you have a list of numbers in cells A1 to A10 and you want to count how many of those numbers are greater than 5, you would use:
>
> = COUNTIF(E1:10, ">5")

File	Home	Insert	Page Layout	Formulas	Data	Review	View

E11   ✕ ✓ *fx*   =COUNTIF(E1:E10,">5")

	A	B	C	D	E	F	G
1					1		
2					2		
3					3		
4					9		
5					8		
6					15		
7					6		
8					6		
9					12		
10					0		
11					6		

7. COUNTBLANK: Counts empty cells within a specified range,

> e.g. =COUNTBLANK(F1:F10).

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F12   ✕ ✓ *fx*   =COUNTBLANK(F1:F10)

	A	B	C	D	E	F	G	H	I	J	K	L
1						12						
2												
3						14						
4						15						
5						14						
6												
7						12						
8						23						
9												
10						18						
11												
12						3						

LOGICAL FUNCTIONS:

8. IF: Performs conditional tests.

For example, =IF(G2=>75, "Passed", "Failed") checks if G2 is greater than or equal to 75 and returns "Passed" or "Failed,   ".

	F	G	H	I	J	K	L
H2			=IF(G2>=75,"Passed","Failed")				
1							
2		76	Passed				
3		74	Failed				
4		75	Passed				
5		73	Failed				

	F	G	H	I	J	K	L
H3			=IF(G3>=75,"Passed","Failed")		Formula Bar		
1							
2		76	Passed				
3		74.999	Failed				
4		75	Passed				
5		73	Failed				

9. AND: Used with IF to evaluate multiple conditions.
=IF(AND(A1 > 100, B1 < 50), "Yes", "No") // Returns "Yes" if both conditions are true, and "No" if one condition is false.

	A	B	C	D	E	F	G
C1			=IF(AND(A1>100,B1<50),"Yes","No")				
1	120	24	Yes				
2	120	51	No				
3	100	50	No				

10. OR: Used with IF to evaluate multiple conditions.
=IF(OR(A1 > 100, B1 < 50), "Yes", "No") // Returns "Yes" if one or both conditions are true, and "No" if both conditions are false.

	File	Home	Insert	Page Layout	Formulas	Data	Review	View

C2 — fx — =IF(OR(A2>100,B2<50),"Yes","No")

	A	B	C	D	E	F	G
1	120	24	Yes				
2	120	51	Yes				
3	100	50	No				

Text Functions:

11. CONCATENATE/CONCAT: Joins multiple strings into one.

e.g, =CONCAT(A2, " ", B2. " ", C2) to combine A2, B2 and C2 with a space.

	File	Home	Insert	Page Layout	Formulas	Data	Review

D2 — fx — =CONCAT(A2," ", B2, " ",C2)

	A	B	C	D	E	F
1						
2	Roldan	Dindie	P	Roldan Dindie P		
3						

12. TRIM: Removes extra spaces from text, e.g., =TRIM(D2).

	File	Home	Insert	Page Layout	Formulas	Data	Review	View	Help

E2 — fx — =TRIM(D2)

	C	D	E
1			
2		Roldan Dindie P	Roldan Dindie P
3			

LOOKUP FUNCTION:

13. **LOOKUP**: looks up for a value in the first column of a table and returns a value in the same row from another column.
    G1 =LOOKUP(F1,A1:C6) looks for F1 in column A1 to A6 and returns the corresponding value from column C1 to C6.

| File | Home | Insert | Page Layout | Formulas | Data | Review | View | Help | Tell |

G1   X ✓ *fx*   =LOOKUP(F1,A1:C6)

	A	B	C	D	E	F	G	H
1	75	79.99	Good			91	Cum Laude	
2	80	84.99	Satisfactory			89	Very Satisfactoray	
3	85	89.99	Very Satisfactoray			95	Magna CumLaude	
4	90	94.99	Cum Laude			98	Suma Cumlaude	
5	95	97.99	Magna CumLaude			81	Satisfactory	
6	98	100	Suma Cumlaude			75	Good	

14. CONDITIONAL FORMATTING

How to Apply Conditional Formatting

1. **Select Your Data:**
   - Highlight the range of cells you want to format.

2. **Access Conditional Formatting:**
   - Go to the **Home** tab in the ribbon.
   - Click on **Conditional Formatting** in the Styles group.

3. **Choose a Rule Type:**
   - **Highlight Cell Rules:** Formats cells that meet criteria (e.g., greater than, less than, equal to).
   - **Top/Bottom Rules:** Formats the top or bottom values (e.g., top 10 items).
   - **Data Bars, Color Scales, Icon Sets:** Visual formats that show trends and comparisons.
   - **New Rule:** Create a custom rule using a formula.

4. **Set Your Conditions:**
   - For example, if you select **Highlight Cell Rules** > **Greater Than**, enter the value and choose the formatting style.

5. **Manage Rules:**
   - Click on **Manage Rules** to edit, delete, or prioritize your rules.

6. **Clear Rules:**
   - To remove conditional formatting, go to **Conditional Formatting** > **Clear Rules** and choose either from selected cells or the entire sheet.

Tips

- **Use Formulas:** In the **New Rule** option, you can use formulas for more complex
- **Apply to Multiple Ranges:** You can apply the same formatting rule to multiple non-contiguous ranges by holding down the Ctrl key while selecting ranges.
- **Preview Changes:** As you adjust your rules, Excel provides a preview so you can see how your formatting will look.

Example: Highlight Cells Greater Than a Certain Value

Scenario: You have a list of sales figures in column A, and you want to highlight any sales over $500.

1. **Open Excel:** Start by opening your Excel workbook.
2. **Enter Your Data:**
   - In column A, enter some sales figures:

A1: 300

A2: 700

A3: 450

A4: 600

A5: 200

3. **Select the Data Range:**
   - Highlight cells A1 to A5.
4. **Access Conditional Formatting:**
   - Go to the **Home** tab in the ribbon.
   - Click on **Conditional Formatting**.
5. **Choose a Rule Type:**
   - Select **Highlight Cells Rules** > **Greater Than**.
6. **Set the Condition:**
   - In the dialog box, enter 500 in the field.
   - Choose a formatting style (e.g., light red fill with dark red text).
7. **Click OK:**
   - Excel will highlight any cells in the selected range that are greater than 500.
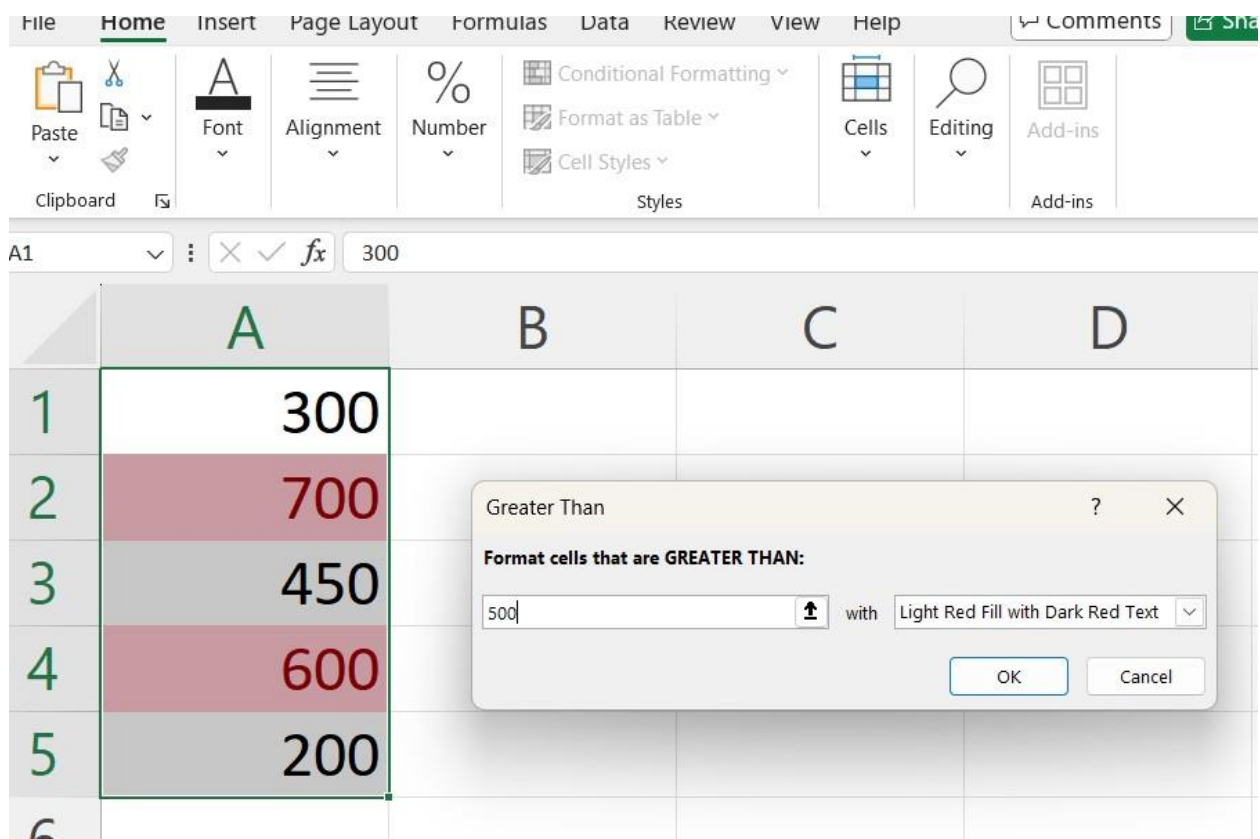
INSERTING GRAPH

Step-by-Step Guide to Insert a Chart

1. **Enter Your Data:**

    o First, make sure your data is organized. For example:

A1: Month   B1: Sales

A2: January B2: 500

A3: February B3: 700

A4: March   B4: 600

A5: April   B5: 800

2. **Select Your Data:**

    o Highlight the range you want to include in the chart (e.g., A1

).

3. **Insert a Chart:**

    o Go to the **Insert** tab in the ribbon.

    o In the **Charts** group, you'll see several chart options (Column, Line, Pie, Bar, etc.).

4. **Choose a Chart Type:**

    o Click on the chart type you want (e.g., **Column Chart**).

   o Hover over the different styles available and click on one to insert it.

5. **Customize Your Char**

   Once the chart appears, you can customize it:

    ▪ **Chart Title:** Click on the default title to edit it.

    ▪ **Chart Elements:** Click the plus sign (+) next to the chart to add or remove elements like data labels, gridlines, and legends.

    ▪ **Chart Styles:** Use the paintbrush icon to change the chart style and colors.

   6. Move or Resize the Chart:

    o Click and drag the chart to reposition it.
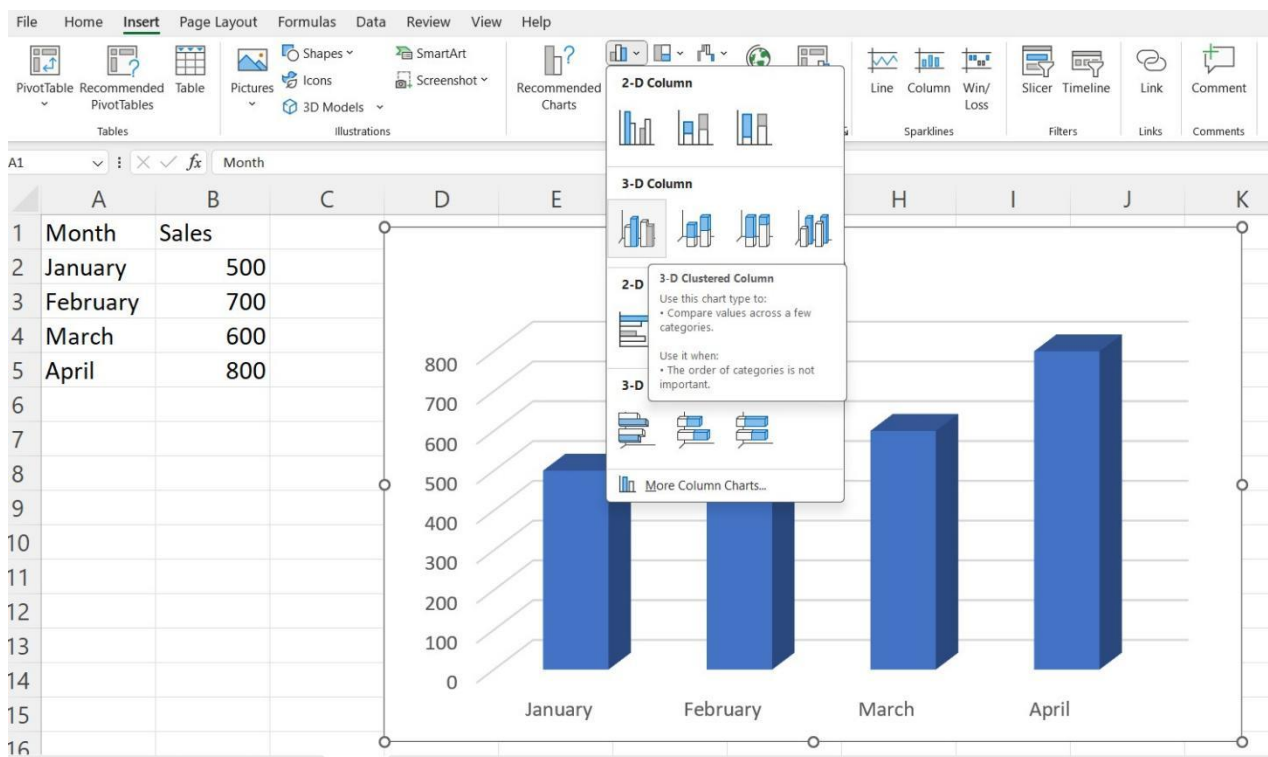
INSERTING BORDERS

Step-by-Step Guide to Add Borders

1. **Select Cells:**

   o **Highlight the range of cells where you want to add borders.**

2. **Access the Borders Tool:**

   o **Go to the Home tab in the ribbon.**

   o **In the Font group, you'll see a border icon (a square with four borders).**

3. **Choose a Border Option:**

   o **Click the arrow next to the border icon to open the border menu. You'll see several options:**

   - **Bottom Border**

   - **Top Border**

   - **Left Border**

   - **Right Border**

- **All Borders**
- **Outside Borders**
- **Thick Outside Border**
- **No Border**
- **Draw Borders: Allows you to draw custom borders.**

4. **Select Your Border Style:**
   - **If you want to customize further, choose More Borders at the bottom of the list. This opens the Format Cells dialog box.**
   - **Here, you can:**
     - **Choose different line styles and colors.**
     - **Select which borders to apply (top, bottom, left, right, etc.).**

5. **Apply and Confirm:**
   - **After making your selections, click OK to apply the borders to the selected cells.**

Example: Adding Borders to a Table

1. **Create Your Table:**
   - **Input some data in cells A1 to C4.**

2. **Select the Data Range:**
   - **Highlight A1 to C4.**

3. **Add All Borders:**
   - **Click the border icon and select All Borders to create a grid effect for your table.**

4. **Add a Thick Outside Border:**
   - **With the same range still selected, open the border menu again and choose Thick Outside Border for a more defined table outline.**