

1. What is the difference between 'Paste' and 'Paste Special' in Excel? Briefly explain with examples.

- . Paste and Paste special are used to insert copied data, but both work differently .

Paste:

Paste option copied everything from the selected cell such as value, formula, formatting, borders, and comments.

Shortcut key:- **Ctrl +v**

Paste special:

Paste special allows us to paste only selected parts of copied data as such as values only, formula only, formatting only, transpose(row - column).

Shortcut key:- **Ctrl + Alt+v**

2. Describe the functions and usefulness of 'Freeze Panes' and 'Split Panes' in Excel.

Freeze Panes:

Freeze Panes is used to lock row or column so that they remain visible while scrolling.commonly used for headings.

Split Panes:

Split panes is used to divides the worksheet into multiple section. Each section can be scrolled independently.

3. Explain the difference between inserting a new row and inserting a new column in Excel. Can you insert multiple rows or columns at once?

The primary difference is the orientation and location of the insertion.

When a new row is inserted, it is added horizontally above the currently selected row(s), pushing existing rows downwards. Rows are identified by numbers (1, 2, 3, etc.).

When a new column is inserted, it is added vertically to the left of the currently selected column(s), pushing existing columns to the right. Columns are identified by letters (A, B, C, etc.).

Yes, multiple rows or columns can be inserted at once. This is typically done by selecting the desired number of existing rows or columns before executing the insert command. For example, selecting three rows and then choosing "Insert" will add three new rows.

4. What are logical functions in Excel? Provide examples of at least two logical functions and their applications.

Logical functions in Excel are used to test conditions and return a value based on whether the result of the test is true or false.

They enable decision-making within a spreadsheet, allowing different actions or results depending on whether specific criteria are met.

IF Function:

Syntax: =IF(logical\_test, value\_if\_true, value\_if\_false)

This is the most common logical function. It checks if a condition is met, and returns one value if true, and another value if false. For example, =IF(A1>10, "Pass", "Fail") would display "Pass" if the value in cell A1 is greater than 10, and "Fail" otherwise.

AND Function:

Syntax: =AND(logical1, [logical2],

This function returns TRUE if all the conditions provided are true, and FALSE if even one condition is false. It is often nested within an IF statement to test multiple criteria simultaneously. For example, =IF(AND(A1>10, B1<20), "Valid", "Invalid") checks if both conditions are true.

5. Discuss the purpose of 'XLOOKUP' and how it differs from the traditional 'VLOOKUP' function.

The XLOOKUP function is a modern replacement for VLOOKUP, offering greater flexibility and functionality, such as searching in any direction, handling multiple columns, and providing a default value for no matches.

Purpose of XLOOKUP: The primary purpose of the XLOOKUP function in spreadsheet applications (like Microsoft Excel and Google Sheets) is to search for a value in one range (or array) and return a corresponding value from another range (or array). It is designed to be more versatile and robust than its predecessors, VLOOKUP and HLOOKUP.

Differences from VLOOKUP:

Lookup Direction: VLOOKUP can only search vertically from left to right. XLOOKUP can look up values to the left or right of the lookup column, and also supports horizontal lookups.

Return Array: VLOOKUP requires specifying a column index number, which can break the formula if columns are inserted or deleted. XLOOKUP uses a specific return array, making the formula more stable.

6. Create a worksheet titled 'Employee Data' with columns: Name, Age, Department.

Add 5 rows of data. Format as follows:

- Bold and center-align the header row
- Apply a fill color
- Auto-fit column width

## EMPLOYEE DATA

SNO.	NAME	AGE	DEPARTMENT
1	Reena	26	Sales
2	Pihu	22	Staff
3	Shayam	32	Accountant
4	Yash	37	Manager
5	Disha	30	Staff

7. Demonstrate how to insert and delete multiple rows and columns in Excel.

The diagram illustrates the effect of inserting a column in an Excel grid. It consists of two parts: 'BEFORE' and 'AFTER'.

**BEFORE:** A 3x4 grid of cells. The first column contains a light blue cell at the top and a red cell below it. The second column contains a dark grey cell at the top and a green cell below it. The third column contains a yellow cell at the top and a white cell below it. The fourth column contains a pink cell at the top and a white cell below it.

**AFTER:** The same 3x4 grid, but the second column has been split into two columns. The original second column's content (dark grey and green) now occupies the first half of the second column, while the original third column's content (yellow and white) now occupies the second half of the second column. The fourth column remains unchanged.

8. Use Excel's 'Find and Replace' feature to update department names in a sample table.

The screenshot shows an Excel spreadsheet with a 'Find and Replace' dialog box open. The dialog box has two tabs: 'Find' and 'Replace'. The 'Replace' tab is selected. In the 'Find what:' field, the text 'Hr' is entered. In the 'Replace with:' field, the text 'Human Resource' is entered. Below the dialog box is a table with two columns: 'NAME' and 'DEPARTMENT'. The table contains six rows of data. The first row is a header. The second row has 'Amit' in the NAME column and 'Sales' in the DEPARTMENT column. The third row has 'Rahul' in the NAME column and 'Hr' in the DEPARTMENT column. The fourth row has 'Reema' in the NAME column and 'Staff' in the DEPARTMENT column. The fifth row has 'Pooja' in the NAME column and 'Hr' in the DEPARTMENT column. The sixth row has 'Monu' in the NAME column and 'Staff' in the DEPARTMENT column. The 'Hr' entry in the third row is highlighted with a green border, indicating it is the target for replacement.

NAME	DEPARTMENT
Amit	Sales
Rahul	Hr
Reema	Staff
Pooja	Hr
Monu	Staff

9. Create a small numerical dataset and apply the following functions:

- AVERAGE
- MAX
- MIN

The screenshot shows an Excel spreadsheet with a table of numbers. The table has five columns labeled A through E. The first four columns have numerical values: Row 1 has 1; Row 2 has 2; Row 3 has 3; Row 4 has 4; Row 5 has 5; Row 6 has 6; Row 7 has 7; Row 8 has 8; Row 9 has 9; Row 10 has 10; Row 11 has 11. The fifth column, labeled 'E', contains the formula '=AVERAGE(C5:C10)'. The cell containing this formula is highlighted with a blue background and the text 'Average function' is displayed above it. The value '35' is shown in the cell E6, which is also highlighted with a green border.

	A	B	C	D	E
1					
2					
3					Average function
4			Numbers		
5					
6			10		35
7			20		
8			30		
9			40		
10			50		
11			60		

A screenshot of Microsoft Excel showing a formula bar with the text '=MAX(C4:C9)' and a table below it. The table has columns A through E and rows 1 through 10. Row 1 contains the word 'MAX' in cell D1. Row 3 contains the word 'Numbers' in cell C3. Rows 4 through 8 contain numerical values: 10, 20, 30, 40, 50, and 60 respectively. Row 9 is blank. Row 10 is also blank. Cell D6 contains the value '60', which is highlighted with a green border, indicating it is the result of the MAX function.

	A	B	C	D	E
1				MAX	
2					
3			Numbers		
4			10		
5			20		
6			30		60
7			40		
8			50		
9			60		
10					

A screenshot of Microsoft Excel showing a formula bar with the text '=MIN(C7:C12)' and a table below it. The table has columns A through E and rows 3 through 12. Row 4 contains the word 'MIN' in cell D4. Row 6 contains the word 'Numbers' in cell C6. Rows 7 through 11 contain numerical values: 10, 20, 30, 40, 50, and 60 respectively. Row 12 is blank. Cell D9 contains the value '10', which is highlighted with a green border, indicating it is the result of the MIN function.

	A	B	C	D	E
3					
4				MIN	
5					
6			Numbers		
7			10		
8			20		
9			30		10
10			40		
11			50		
12			60		

10. You're working with a dataset that contains missing values. As a Data Scientist, explain how you'd detect and handle missing data using Excel. Mention tools like:

- Go To Special
- ISBLANK
- COUNTBLANK

NAME	DEPARTMENT
Amit	Sales
Rahul	
	staff
Pooja	Hr
Reema	Staff

NAME	DEPARTMENT		
Amit	Sales	FALSE	FALSE
Rahul		FALSE	TRUE
	staff	TRUE	FALSE
Pooja	Hr	FALSE	FALSE
Reema	Staff	FALSE	FALSE

Font		Alignment	
<input type="button" value="fx"/>		<input type="button" value=""/>	
<input type="button" value="B"/>	<input type="button" value="C"/>	<input type="button" value="D"/>	<input type="button" value="E"/>

NAME	DEPARTMENT	
Amit	Sales	
Rahul		2
	staff	
Pooja	Hr	
Reema	Staff	