

Q1) What is the difference between 'Paste' and 'Paste Special' in Excel? Briefly explain with examples.

Ans1) Paste: Paste simply copies everything from the source — data, formulas, formatting, and comments.

Example:

If you copy a cell containing a formula =A1+B1, pasting it will paste the same formula.

Paste Special: Paste Special lets you choose *what exactly* to paste, such as only values, only formulas, only formats, etc.

Examples:

- Paste Values: Pastes only the result (e.g., 10 instead of =A1+B1)
- Paste Formats: Pastes only cell color, font, borders
- Paste Formulas: Pastes only formulas without formatting
- Paste Transpose: Switches rows into columns

Q2) Describe the functions and usefulness of 'Freeze Panes' and 'Split Panes' in Excel.

Ans2) Freeze Panes: Freeze Panes keeps selected rows or columns visible while you scroll through the worksheet.

Usefulness:

It helps you view headings while working with large data.

Example:

If you freeze the first row, column headings stay visible when scrolling down.

Split Panes: Split Panes divides the worksheet window into separate sections that can be scrolled independently.

Usefulness:

It allows you to compare different parts of the same worksheet at the same time.

Example:

You can split the sheet to view top and bottom data together.

Q3) Explain the difference between inserting a new row and inserting a new column in Excel. Can you insert multiple rows or columns at once?

Ans3) Inserting a New Row: When you insert a new row, Excel adds a horizontal line of cells and shifts existing rows downward.

Example:

If you insert a row at row 5, the old row 5 becomes row 6.

Inserting a New Column: When you insert a new column, Excel adds a vertical line of cells and shifts existing columns to the right.

Example:

If you insert a column at column B, the old column B becomes column C.

Yes, you can insert multiple rows or columns at once by select the number of rows or columns you want, right-click, and choose Insert.

Example:

Selecting 3 rows and inserting will add 3 new rows together.

Q4) What are logical functions in Excel? Provide examples of at least two logical functions and their applications.

Ans4) Logical functions are used to make decisions in Excel by testing conditions and returning results based on whether the condition is true or false.

Example 1: IF Function

IF checks a condition and returns one value if it is true and another if it is false.

Syntax:

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

Application: Used to decide results like pass/fail based on marks.

Example 2: AND Function

AND checks multiple conditions and returns TRUE only if all conditions are true.

Syntax:

=AND(A1>50, B1>50)

Application: Used when multiple criteria must be satisfied, such as eligibility checks.

Q5) Discuss the purpose of 'XLOOKUP' and how it differs from the traditional 'VLOOKUP' function.

Ans5) XLOOKUP is used to search for a value in a range and return a corresponding value from another range. It is a modern and more powerful replacement for VLOOKUP. XLOOKUP is more flexible, safer, and easier than VLOOKUP, and works even if data structure changes.

XLOOKUP is differ from VLOOKUP in following ways

| Feature | VLOOKUP | XLOOKUP |
|------------------------|--------------------------------|---|
| Search direction | Only left to right | Can search both left and right |
| Column reference | Uses column number | Uses column range |
| Default match | Approximate | Exact by default |
| Column insertion issue | Breaks if columns move | Does not break |
| Error handling | Needs IFERROR | Has built-in not found option |
| Example | =VLOOKUP(A2, A2:D10, 3, FALSE) | =XLOOKUP(A2, A2:A10, C2:C10, "Not Found") |

Q6) 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

Ans6)

The screenshot shows a Microsoft Excel spreadsheet titled "Employee_Data". The data is organized into three columns: Name, Age, and Department. The first six rows represent the data entries. The header row (Row 1) contains the column titles "Name", "Age", and "Department". The subsequent rows (Rows 2 to 6) provide specific data points: Arun (Age 40, Department HR), Anil (Age 35, IT), Varun (Age 30, Sales), Tarun (Age 25, HR), and Hunny (Age 20, IT). The entire header row is highlighted with a yellow background and black borders. The rest of the cells are white with black borders. The Excel ribbon is visible at the top, showing tabs like Home, Insert, Page Layout, Formulas, Data, Review, View, and Developer. Various toolbars and status bars are also present.

| Name | Age | Department |
|-------|-----|------------|
| Arun | 40 | HR |
| Anil | 35 | IT |
| Varun | 30 | Sales |
| Tarun | 25 | HR |
| Hunny | 20 | IT |

Q7) Demonstrate how to insert and delete multiple rows and columns in Excel.

Ans7) Inserting Multiple Rows:

Step1) Select the same number of rows where you want new rows.

Step2) Right-click on the selected rows.

Step3) Click **Insert**.

The screenshot shows two side-by-side views of an Excel spreadsheet titled "Employee Data". In the left view, rows 3 through 6 are highlighted in yellow. In the right view, after performing the steps, rows 6 through 9 are highlighted in yellow, indicating they have been inserted above the original data. The data consists of columns A (Name), B (Age), and C (Department). The original data is: Arun (40, HR), Anil (35, IT), Varun (30, Sales), Tarun (25, HR), and Hunny (20, IT). The inserted rows are: Anil (35, IT), Varun (30, Sales), Tarun (25, HR), and Hunny (20, IT).

Deleting Multiple Rows:

Step1) Select the rows you want to delete.

Step2) Right-click.

Step3) Click **Delete**.

The screenshot shows two side-by-side views of an Excel spreadsheet titled "Employee Data". In the left view, rows 3 through 6 are highlighted in yellow. A context menu is open over row 3, with the "Delete" option highlighted. In the right view, after performing the steps, rows 3 through 6 are no longer present in the sheet, leaving a blank gap in the data. The original data is: Arun (40, HR), Anil (35, IT), Varun (30, Sales), Tarun (25, HR), and Hunny (20, IT). The deleted rows are: Anil (35, IT), Varun (30, Sales), Tarun (25, HR), and Hunny (20, IT).

Q8) Use Excel's 'Find and Replace' feature to update department names in a sample table.

Ans8)

The image consists of two side-by-side screenshots of the Microsoft Excel application. Both screenshots show a table of employee data with columns for Name, Age, and Department. In the first screenshot, the 'Find & Replace' dialog box is open on the 'Replace' tab. The 'Find what' field contains 'HR' and the 'Replace with' field contains 'Human Resource'. The 'Within' dropdown is set to 'Sheet', and the 'Search' dropdown is set to 'By Rows'. The 'Replace' button is visible at the bottom. In the second screenshot, the same dialog box is shown, but the 'Replace All' button has been clicked, and the 'Replace' button is now highlighted. The table has been updated, with all instances of 'HR' in the 'Department' column replaced by 'Human Resource'.

Q9) Create a small numerical dataset and apply the following functions:

- AVERAGE
- MAX
- MIN

Ans9) Dataset: Marks:10,20,30,40,50

Average: =AVERAGE(A2:A6)

The image consists of two side-by-side screenshots of the Microsoft Excel application. Both screenshots show a dataset of marks in column A. In the first screenshot, the formula '=AVERAGE(A2:A6)' is entered into cell A7. The formula is highlighted with a blue selection bar. In the second screenshot, the formula has been evaluated, and the result '30' is displayed in cell A7. The rest of the sheet is blank with some rows and columns visible.

Max: =MAX(A2:A6)

The screenshot shows two side-by-side Excel spreadsheets. Both have identical data in columns A and D:

| | A | D |
|----|-------|-------------|
| 1 | Marks | |
| 2 | 10 | 30 |
| 3 | 20 | |
| 4 | 30 | |
| 5 | 40 | |
| 6 | 50 | |
| 7 | | =MAX(A2:A6) |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
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| 40 | | |
| 41 | | |

The formula `=MAX(A2:A6)` is entered in cell D7 of the left spreadsheet, and its result, 50, is displayed in cell D4 of the right spreadsheet.

Min: =MIN(A2:A6)

The screenshot shows two side-by-side Excel spreadsheets. Both have identical data in columns A and D:

| | A | D |
|----|-------|-------------|
| 1 | Marks | |
| 2 | 10 | 30 |
| 3 | 20 | |
| 4 | 30 | |
| 5 | 40 | |
| 6 | 50 | |
| 7 | | =MIN(A2:A6) |
| 8 | | |
| 9 | | |
| 10 | | |
| 11 | | |
| 12 | | |
| 13 | | |
| 14 | | |
| 15 | | |
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| 40 | | |
| 41 | | |

The formula `=MIN(A2:A6)` is entered in cell D7 of the left spreadsheet, and its result, 10, is displayed in cell D4 of the right spreadsheet.

Q10) 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

Ans10) Detecting missing values using following functions:

a) Go To Special

Purpose: Quickly locate all blank cells.

Steps:

Step 1) Select the dataset.

Step 2) Press Ctrl + G → click Special.

Step 3) Choose Blanks → click OK.

| Name | Age | Department | Marks |
|-------|-----|----------------|-------|
| Arun | 40 | Human Resource | 10 |
| Anil | 35 | IT | 20 |
| Varun | 30 | | 30 |
| Tarun | 25 | Human Resource | |
| Hunny | 20 | IT | 50 |

b) ISBLANK Function : =ISBLANK(cell)

Purpose: Checks whether a specific cell is empty.

Result:

- TRUE → Cell is blank
- FALSE → Cell contains data

| Name | Age | Department | Marks |
|-------|-----|----------------|-------|
| Arun | 40 | Human Resource | 10 |
| Anil | 35 | IT | 20 |
| Varun | 30 | | 30 |
| Tarun | 25 | Human Resource | |
| Hunny | 20 | IT | 50 |

c) COUNTBLANK Function : =COUNTBLANK(A1:A10)

Purpose: Counts the number of blank cells in a range.

Use:

Gives a quick summary of how much data is missing in a column.

The image shows two side-by-side screenshots of Microsoft Excel. Both screenshots have identical ribbon menus at the top: Home, Insert, Draw, Page Layout, Formulas, Data, Review, View, and Developer. The left screenshot shows a table with columns A through G. Row 1 contains headers: Name, Age, Department, and Marks. Rows 2 through 6 contain data: Arun (40, Human Resource, 10), Anil (35, IT, 20), Varun (30, 30), Tarun (25, Human Resource, 50), and Hunny (20, IT, 50). Cell F8 contains the formula '=COUNTBLANK(A1:D6)', which is highlighted with a green border. The result of the formula, '2', is displayed in cell F8. The right screenshot shows a similar table with rows 1 through 6. The formula '=COUNTBLANK(A1:D6)' is entered in cell F8, and the result '2' is displayed in cell F8. The background of the entire right-hand portion of the screenshot is yellow.

Handling missing Values using following ways:

a) Fill Missing Values

- Replace with 0, average, or median using formulas.
- Use Find & Replace for bulk filling.

b) Delete Missing Data

- If blanks are minimal or irrelevant, delete rows using Go To Special → Blanks

c) Flag Missing Data

- Add a column using ISBLANK to mark missing values for analysis.