

ASSIGNMENT

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

Ans:- i) Paste:-

- Definition: Simply copies the content exactly as it is from the source to the destination.
- Includes: Values, formulas, formatting, and comments.
- Example:
- Suppose cell A1 contains $=B1+C1$ with a blue fill color.
- If you copy A1 and paste it into D1, the formula and formatting are copied exactly.

ii) Paste Special:-

- Definition: Allows you to paste specific parts of the copied content, not everything.
- Options include:
- Values: Only the result of formulas.
- Formulas: Only the formulas without formatting.
- Formats: Only the cell formatting.
- Transpose: Switch rows to columns or vice versa.
- Multiply/Add/Subtract/Divide: Apply operations with copied numbers.
- Example:
- If A1 has $=B1+C1$ with a blue fill:
- Paste Special → Values into D1 → Only the result (number) is pasted; formatting and formula are ignored.
- Paste Special → Formats into D1 → Only the blue fill color is applied; the content remains unchanged.

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

Ans:- Freeze Panes vs Split Panes in Excel

1. Freeze Panes

Function: Locks specific rows or columns so they remain visible while scrolling.

Usefulness:

- Helpful for large datasets
- Keeps headers (row/column titles) visible at all times

Example:

- Freeze Top Row → Column headings stay visible while scrolling down
- Freeze First Column → Row labels stay visible while scrolling right

Use case:

If row 1 contains headings like Name, Roll No, Marks, freezing it helps read data easily while scrolling.

2. Split Panes

Function:

Divides the worksheet into multiple scrollable sections.

Usefulness:

- Allows viewing different parts of the same worksheet at once
- Each pane scrolls independently

Example:

- Split the sheet vertically to compare column A with column Z
- Split horizontally to view top and bottom data together

Use case:

Comparing data from different sections of a large worksheet simultaneously.

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?

Ans:- Difference Between Inserting a New Row and a New Column in Excel

1. Inserting a New Row

- Adds a horizontal row.
- The new row is inserted above the selected row.
- Existing rows shift downward.

Example:

If you insert a row at row 5, the new row appears at row 5, and old row 5 moves to row 6.

2. Inserting a New Column

- Adds a vertical column.
- The new column is inserted to the left of the selected column.
- Existing columns shift to the right.

Example:

If you insert a column at column C, the new column appears at column C, and old column C becomes D.

Can You Insert Multiple Rows or Columns at Once? Yes

- Select multiple rows → Right-click → Insert → same number of rows are added.
- Select multiple columns → Right-click → Insert → same number of columns are added.

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

Ans:- Logical Functions in Excel

Logical functions in Excel are used to test conditions and return results based on whether the condition is TRUE or FALSE. They help in decision-making and data analysis.

Examples of Logical Functions

1. IF Function

- **Purpose:** Performs a logical test and returns one value if TRUE and another if FALSE.

Syntax: =IF(condition, value_if_true, value_if_false)

Example:

=IF(A1 >= 40, "Pass", "Fail")

Application:

Used to decide results like Pass/Fail, Eligible/Not Eligible, Bonus/No Bonus.

2. AND Function

- **Purpose:** Returns TRUE only if all conditions are TRUE.

Syntax: =AND(condition1, condition2, ...)

Example: =AND(A1 >= 40, B1 >= 40)

Application: Used when multiple criteria must be satisfied, such as passing all subjects.

3. OR Function

- **Purpose:** Returns TRUE if any one condition is TRUE.

Example: =OR(A1 < 40, B1 < 40)

Application: Used to check if any condition fails, such as detecting errors or low scores.

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

Ans:-Purpose of XLOOKUP:-

- XLOOKUP is used to search a value in a range and return the corresponding result from another range.
- It helps in finding data accurately and easily from large datasets.
- XLOOKUP is designed to replace older functions like VLOOKUP and HLOOKUP.
- It allows flexible searching in any direction (left, right, up, or down).
- It reduces errors and makes formulas simpler and more reliable.

Difference between XLOOKUP and VLOOKUP:-

i) Search Direction

- XLOOKUP can search both left and right.
- VLOOKUP can search only from left to right.

ii) Column Index Requirement

- XLOOKUP does not require a column number.
- VLOOKUP requires a column index number.

iii) Exact Match

- XLOOKUP performs an exact match by default.
- VLOOKUP needs FALSE for an exact match.

iv) Error Handling

- XLOOKUP has built-in error handling (if not found).
- VLOOKUP needs IFERROR separately.

v) Impact of Column Insertion

- XLOOKUP does not break if columns are added or removed.
- VLOOKUP may give wrong results if columns change.

vi) Vertical and Horizontal Lookup

- XLOOKUP works for both vertical and horizontal lookups.
- VLOOKUP works only for vertical lookups.

vii) Multiple Match Handling

- XLOOKUP can return the first or last match.
- VLOOKUP returns only the first match.

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

	A	B	C	D	E	F	G	H	I	J	K
1	Name	Age	Department								
2	Amit	25	HR								
3	Neha	28	IT								
4	Rahul	30	Finance								
5	Priya	26	Marketing								
6	Karan	29	Operations								
7											
8											
9											
10											
11											
12											
13											

Q7:-Demonstrate how to insert and delete multiple rows and columns in Excel. (Provide screenshots before and after the changes.)

Ans:-Demonstrating How to Insert and Delete Multiple Rows and Columns in Excel

A. Insert Multiple Rows and Columns

Insert Multiple Rows

Steps:

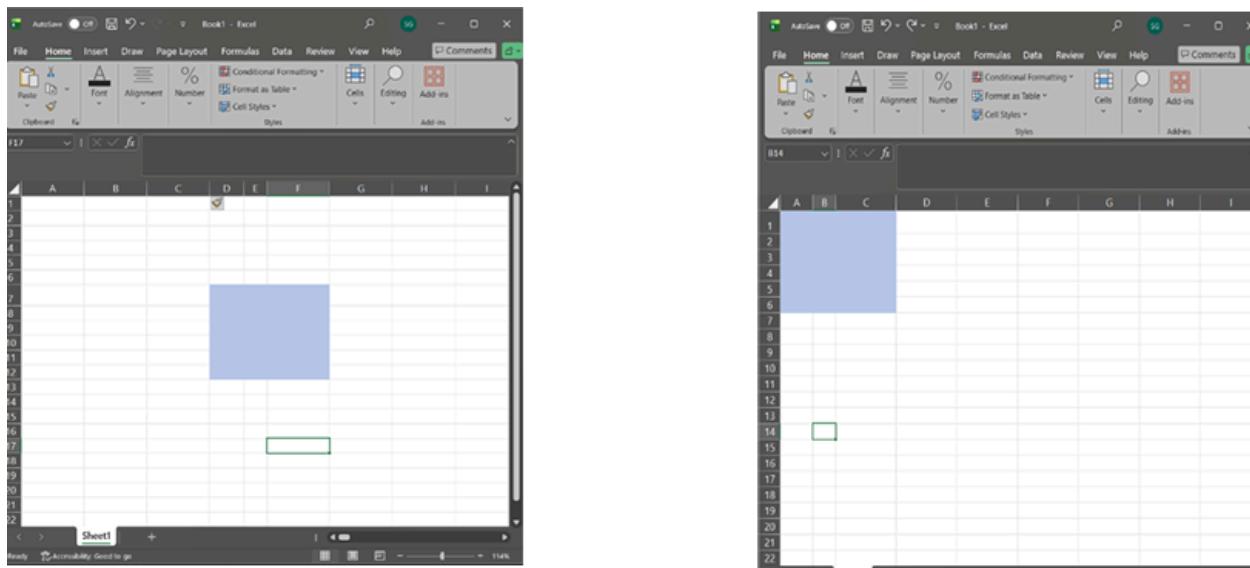
1. Select the same number of rows you want to insert (e.g., select rows 3–5).
2. Right-click on the selected rows.
3. Click Insert.
4. Excel inserts the same number of new rows above the selection.

Insert Multiple Columns

Steps:

1. Select the same number of columns you want to insert (e.g., select columns B–D).
2. Right-click on the selected columns.
3. Click Insert.
4. Excel inserts the new columns to the left of the selection.

Before & After (Insert)



Before

After

B. Delete Multiple Rows and Columns

Delete Multiple Rows

Steps:

1. Select the rows you want to delete (e.g., rows 6–8).
2. Right-click → Delete.

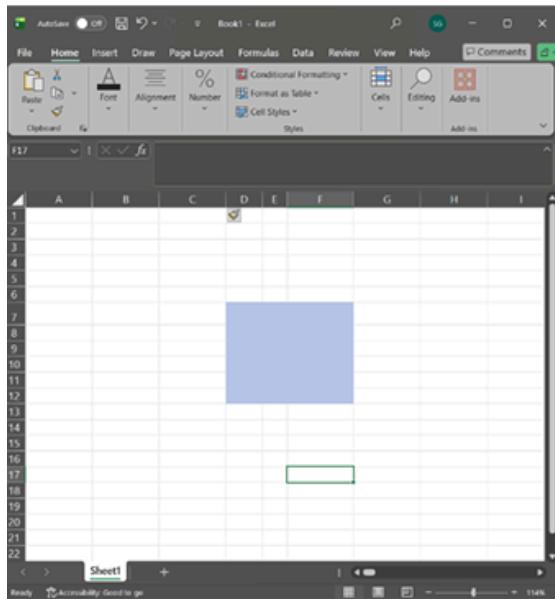
3. Selected rows are removed and remaining rows shift up.

Delete Multiple Columns

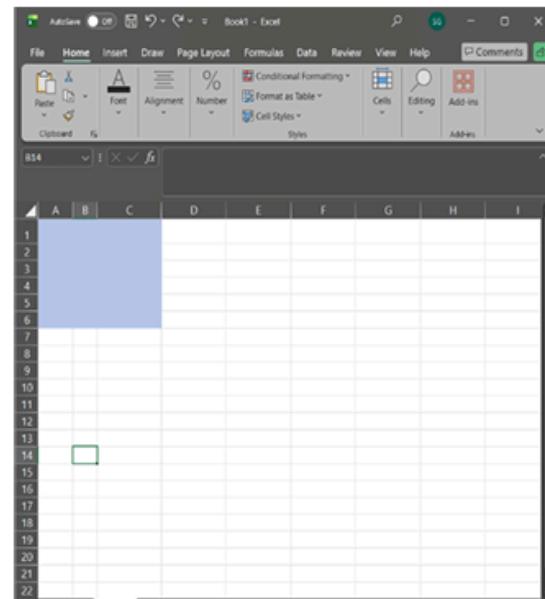
Steps:

1. Select the columns you want to delete (e.g., columns D–E).
2. Right-click → Delete.
3. Selected columns are removed and remaining columns shift left.

Before & After (Delete)



Before



After

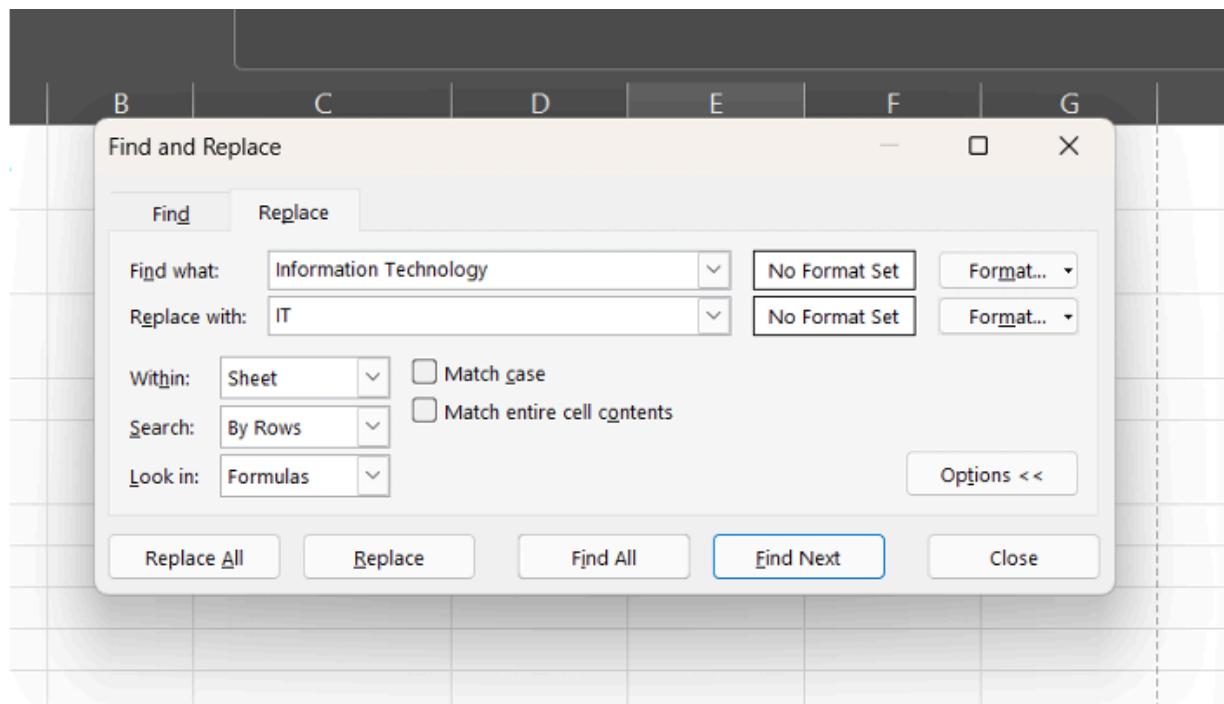
Q8:-Use Excel's 'Find and Replace' feature to update department names in a sample table. (Include a screenshot showing the replaced data.)

Ans : Using Excel's Find and Replace to Update Department Names
Screen Shot (Before Replace)

	A	B	C	D	E	F	G	H
1	Name	Age	Department					
2	Amit	25	Information Technology					
3	Neha	28	Information Technology					
4	Rahul	30	HR					
5	Priya	26	Information Technology					
6	Karan	29	HR					
7								
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17								
18								

Steps to Use Find and Replace

1. Select the Department column (or the entire table).
2. Press **Ctrl + H** → Find and Replace dialog box opens.
3. In Find what, type: IT
4. In Replace with, type: Information Technology Click
5. Replace All.
6. Excel confirms how many replacements were made.



Screenshot Showing Replaced Data

	A	B	C	D	E	F	G
1	Name	Age	Department				
2	Amit	25	IT				
3	Neha	28	IT				
4	Rahul	30	HR				
5	Priya	26	IT				
6	Karan	29	HR				
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Q9:-Create a small numerical dataset and apply the following functions:

- AVERAGE
- MAX
- MIN

(Include a screenshot showing the formulas and their results.)

Ans:-

Applying AVERAGE, MAX, and MIN Functions in Excel

Step 1: Create a Small Numerical Dataset

A (Values)

10
20
30
40
50

Step 2: Apply the Functions

Function	Formula Used	Result
AVERAGE	=AVERAGE(A1:A5)	30
MAX	=MAX(A1:A5)	50
MIN	=MIN(A1:A5)	10

Explanation

- AVERAGE calculates the mean of the numbers.
- MAX returns the highest value in the range.
- MIN returns the lowest value in the range.

Showing Formulas and Results

The screenshot shows a Microsoft Excel spreadsheet titled "Book1 - Excel". The ribbon is visible at the top with tabs like File, Home, Insert, Draw, Page Layout, Formulas, Data, Review, View, Help, Comments, and Add-ins. The "Home" tab is selected. The formula bar shows "D13". The main area contains the following data:

	A	B	C	D	E	F	G	H	I	J	K
1	Values :	10									
2		20									
3		30									
4		40									
5		50									
6	AVERAGE	30									
7	MAX	50									
8	MIN	10									
9											
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The cell D13 is currently selected, indicated by a green border.

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

(Include a screenshot showing how blanks are identified or processed.)

Ans:-Detecting and Handling Missing Data in Excel (as a Data Scientist)

When working with real-world datasets, missing values are common. In Excel, I would first detect missing data and then handle it appropriately using built-in tools and functions.

1. Detecting Missing Data

a) Go To Special

Purpose: Quickly identifies blank cells in a selected range.

Steps:

1. Select the dataset.
2. Press Ctrl + G → Click Special.
3. Choose Blanks → Click OK.
4. Excel highlights all blank cells.

Usefulness: Fast visual identification of missing values in large datasets.

b) ISBLANK Function

Purpose: Checks whether a specific cell is empty.

Syntax: =ISBLANK(A2)

Result:

- Returns TRUE if the cell is blank
- Returns FALSE if the cell has data

Application: Used to flag missing values or create conditional logic (e.g., marking rows with missing data).

c) COUNTBLANK Function

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

Syntax: =COUNTBLANK(A2:A20)

Application: Helps quantify how much data is missing before deciding how to handle it.

2. Handling Missing Data in Excel

After detecting missing values, I may:

- Delete rows with missing data (if very few and insignificant)
- Replace blanks using:
 - Mean/Median (for numerical data)
 - “Not Available” or “Unknown” (for categorical data)
- Use IF + ISBLANK to fill values conditionally

Example: =IF(ISBLANK(A2), AVERAGE(A:A), A2)

Screenshot Showing Blank Identification / Processing

A screenshot of Microsoft Excel showing a table of employee data. The table has columns for Employee ID, Name, Age, and Department. The data is as follows:

	Employee ID	Name	Age	Department
1	E001	Amit	25	IT
2	E002	Neha		HR
3	E003	Rahul	30	
4	E004	Priya	26	IT
5	E005	Karan		Finance
6	E006	Sneha	29	HR
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