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.

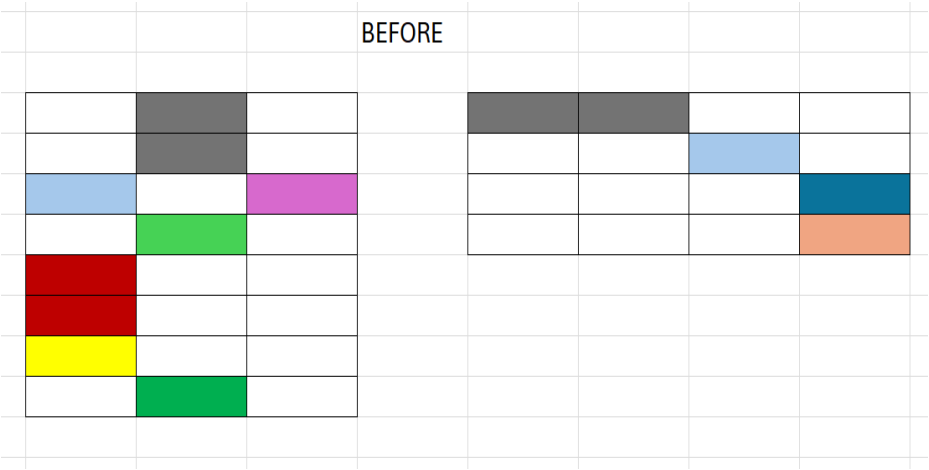
6. Create a worksheet titled 'Employee Data' with columns: Name, Age, Department. Add 5 rows of data. Format as follows:

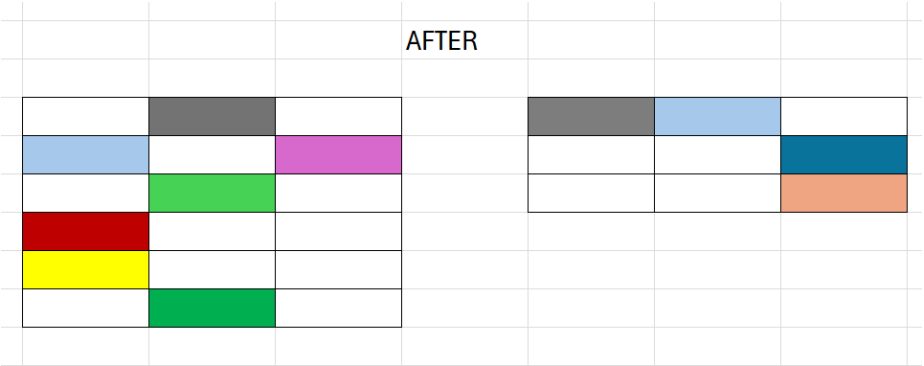
- Bold and center-align the header row
- Apply a fill color
- Auto-fit column width

EMPLOYEE DATA

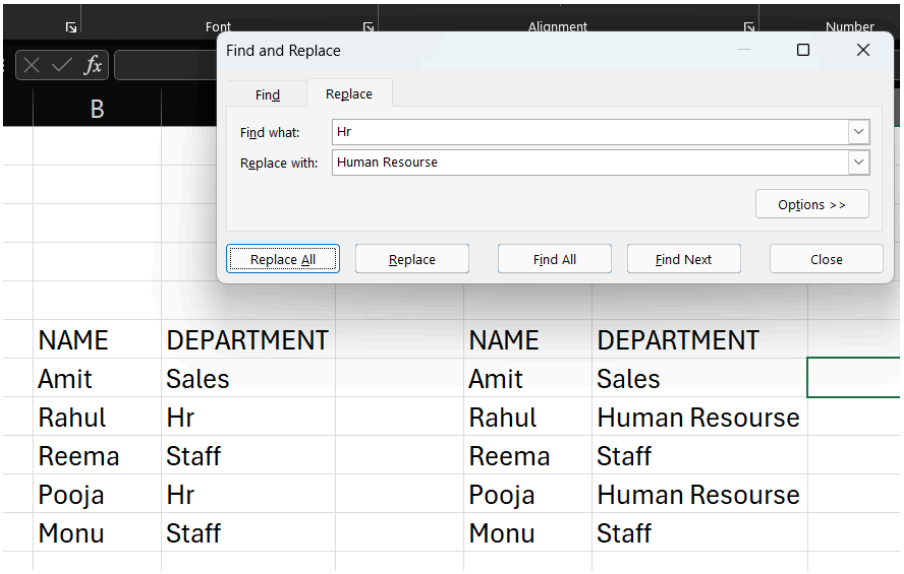
SNO.	NAME	AGE	DEPARTMENT
1	Reena	26	Sales
2	Pihu	22	Staff
3	Shayam	32	Accountant
4	Yash	37	Manager
5	Disha	30	Staff

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





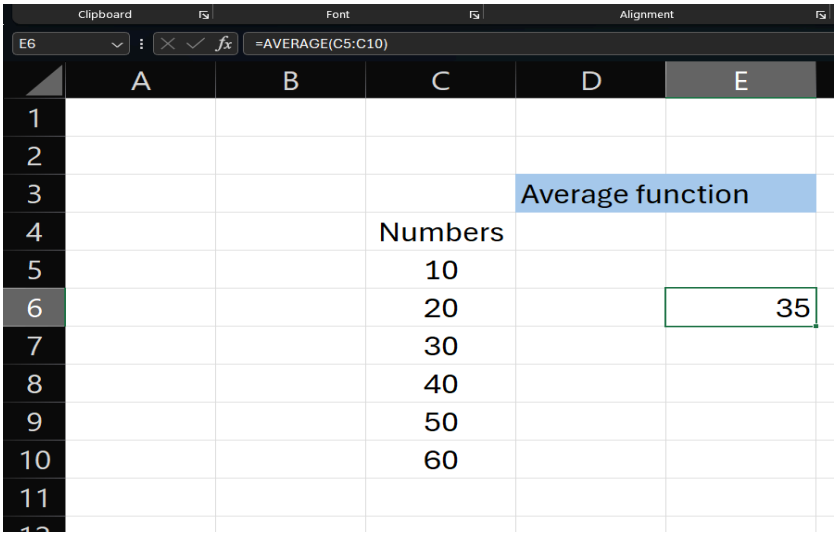
8. Use Excel's 'Find and Replace' feature to update department names in a sample table.

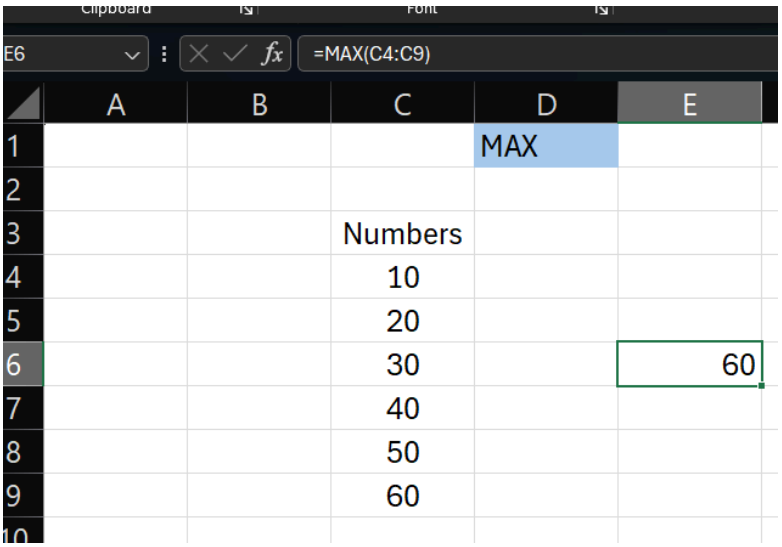


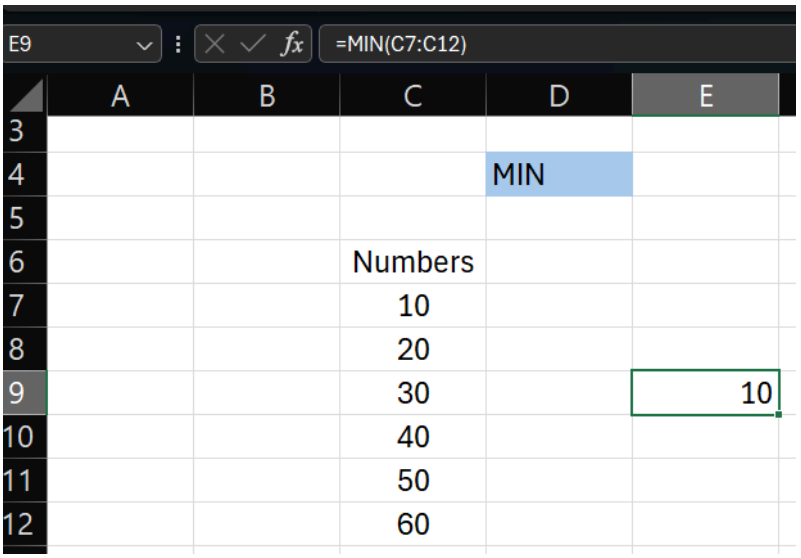
NAME	DEPARTMENT		NAME	DEPARTMENT
Amit	Sales		Amit	Sales
Rahul	Hr		Rahul	Human Resourse
Reema	Staff		Reema	Staff
Pooja	Hr		Pooja	Human Resourse
Monu	Staff		Monu	Staff

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

- AVERAGE
- MAX
- MIN





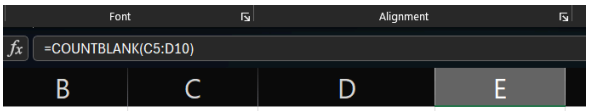


10.You're working with a dataset that contains missing values. As a Data Scientist, explain how you'd detect and handle missing data using Excel. Mention tools like:

- 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



NAME	DEPARTMENT	
Amit	Sales	
Rahul		2
	staff	
Pooja	Hr	
Reema	Staff	