Excel Part 1 Assignment

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

Ans:- Difference between 'Paste' and 'Paste Special' in excel:

Feature	Paste	Paste Special
Meaning	Paste everything exactly as copied	Lets you choose what to paste
What gets pasted	Values, formulas, formatting, comments	Only selected items(values, formulas, formats,etc)
User control	No control	Full control
Shortcut	Ctrl + V	Ctrl + Alt +V

1. Paste

- Copies everything from the copied cell.
- Includes formula + formatting + data.

Example:

If cell A1 = =B1 + C1, pasting into A2 will copy the formula, not the result.

2. Paste Special

- Allows you to paste specific elements only.

• Common options:

- Values → pastes only the result
- Formulas → pastes only formulas
- Formats → pastes only formatting
- Transpose → switches rows to columns

Example:

If A1 = =B1 + C1 gives result 50:

• Paste Special → Values pastes 50 (no formula)

• Paste Special → Formats pastes only cell color, font, etc.

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 and Difference from VLOOKUP in Excel**

Purpose of XLOOKUP

XLOOKUP is a modern lookup function used to search for a value in a range and return a corresponding value from another range. It is designed to replace older lookup functions like VLOOKUP and HLOOKUP with more flexibility and accuracy.

Difference Between XLOOKUP and VLOOKUP:-

Feature	**XLOOKUP**	**VLOOKUP**
Lookup direction	Can search left,right,up,or down	Can search only to the right
Column index	Use direct ranges(no index number)	Requires column index number
Error handling	Built-in error option	Needs IFERROR separately
Exact match	Default	Must specify FALSE
Column insertion issue	Not affected	Breaks if columns are added/deleted
Replacement	Modern & recommended	Traditional & limited

Example

VLOOKUP:
=VLOOKUP(A2, A2:D10, 3, FALSE)
→ Return value from the 3rd column only.

XLOOKUP:
=XLOOKUP(A2, A2:A10, C2:C10, "Not Found")
→ Directly returns value from the required column with error handling.

Applications of XLOOKUP

- Searching employee details
- Fetching marks or grades
- Matching IDs with records
- More reliable for dynamic datasets

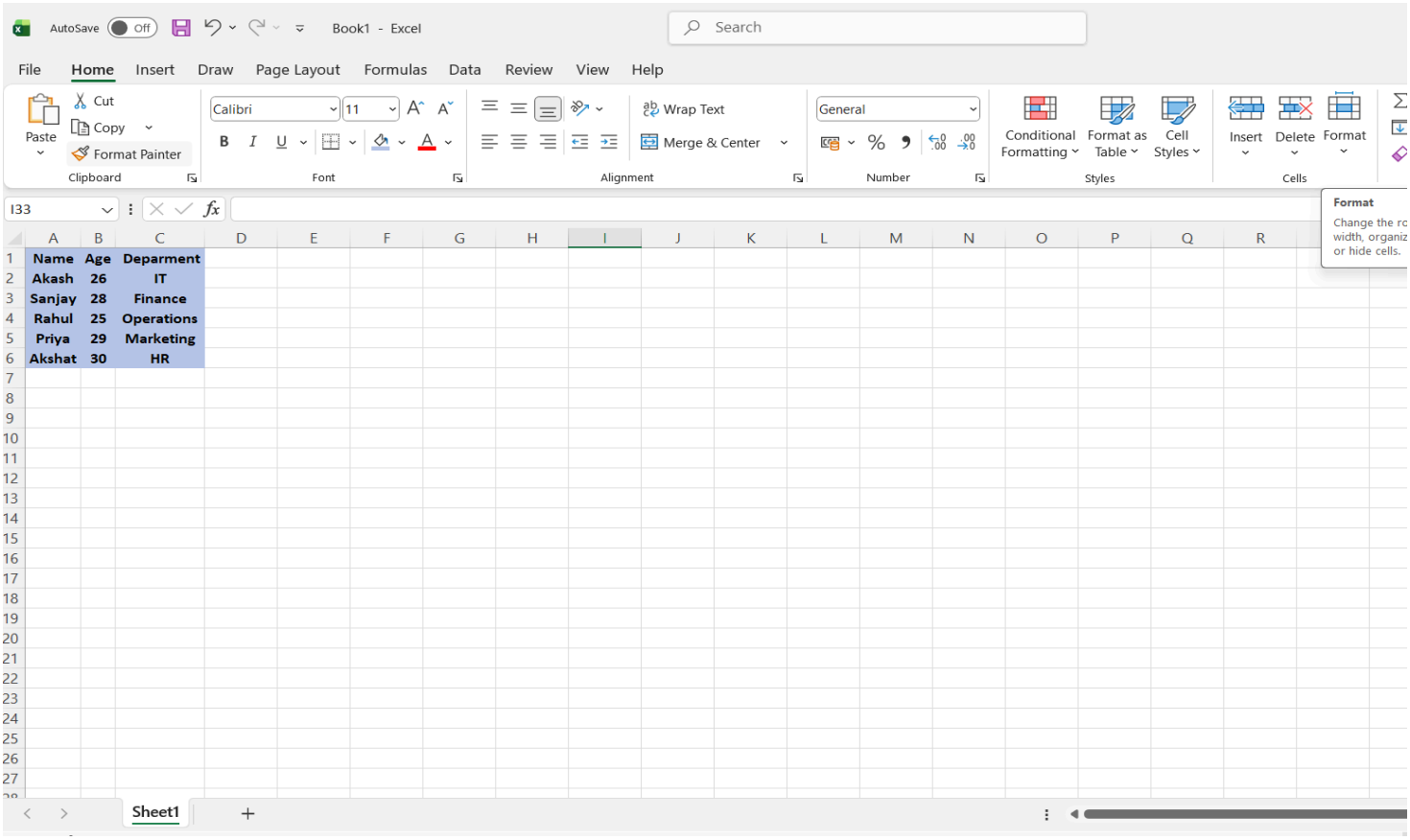
Q6. Create a worksheet titled ‘Employee Data’ with columns: Name,Age,Department. Add 5 rows of data.

Format as follows:

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

(Include a screenshot showing your formatted table.)

Ans:-



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)

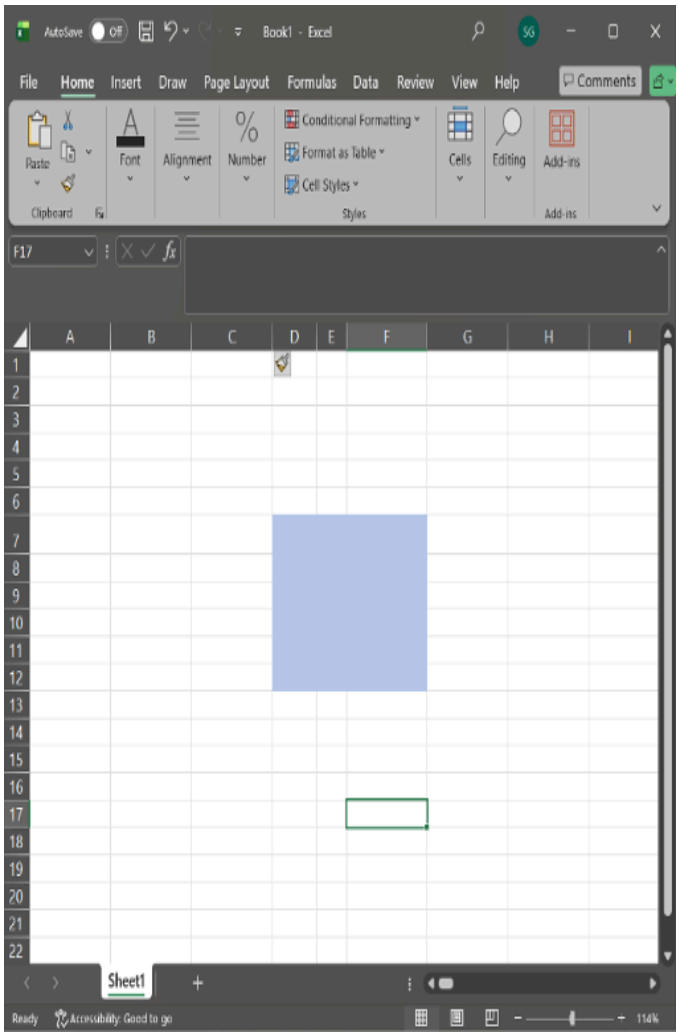
2. Right-click on the selected rows
3. Click insert
4. Excel inserts the same number of rows above the selection

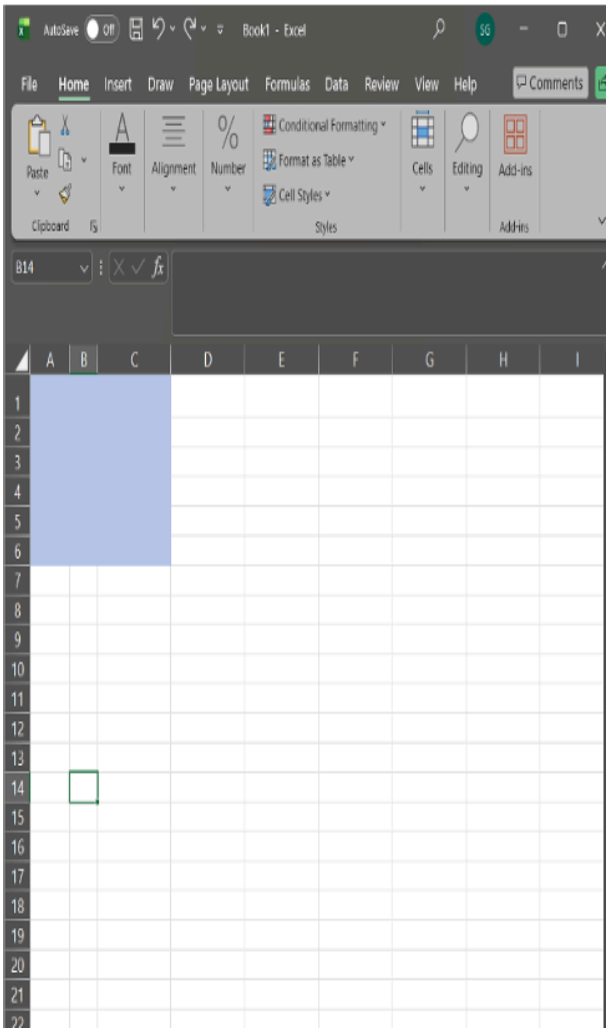
Insert Multiple columns

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:

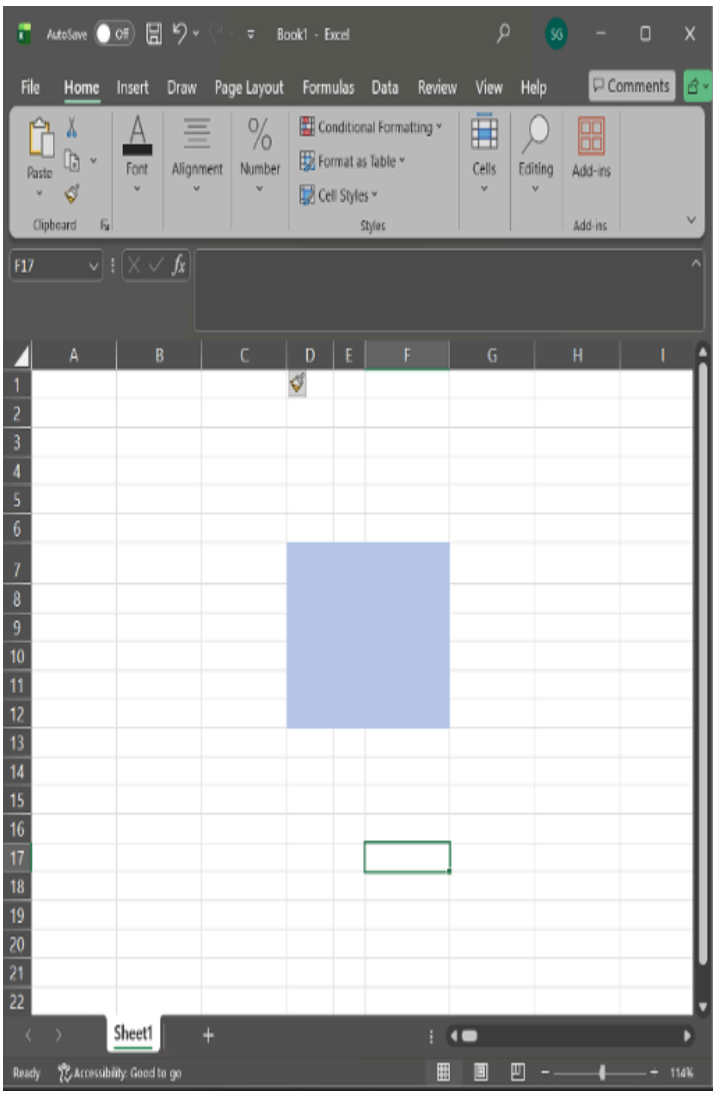
1. Select the rows you want to delete (e.g., rows 6-8)
2. Right-click → Delete
3. Selected rows are removed and remaining rows shift up

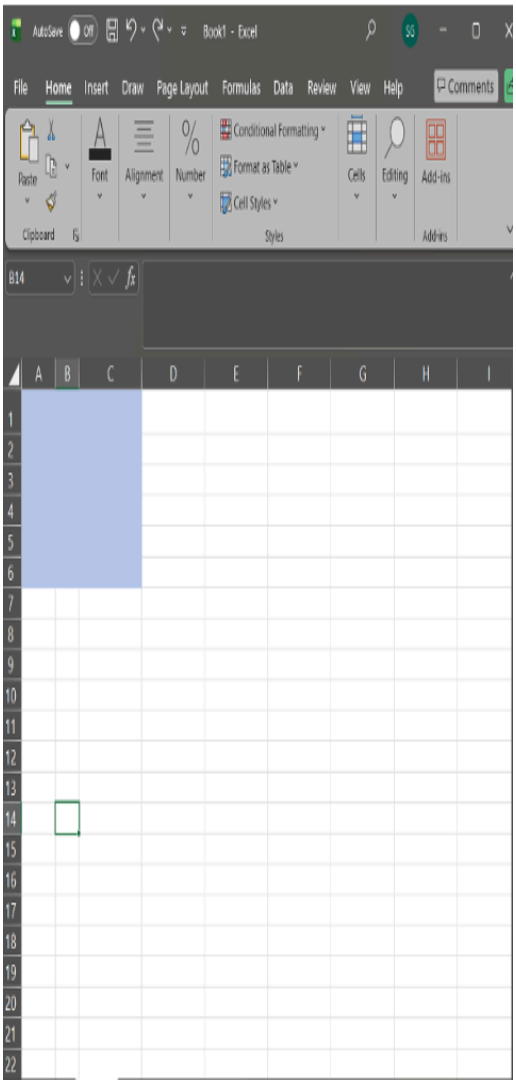
Delete Multiple Columns

Steps:

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

Before & After (Delete)



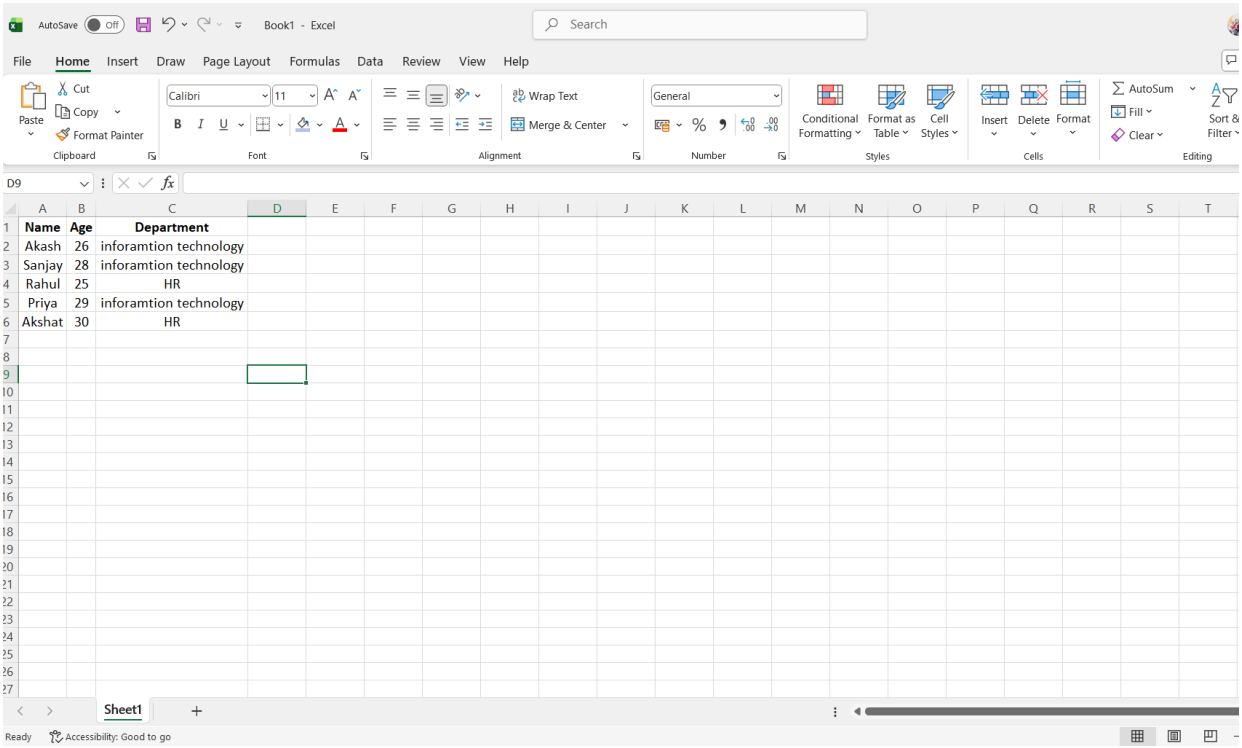


Before **After**

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

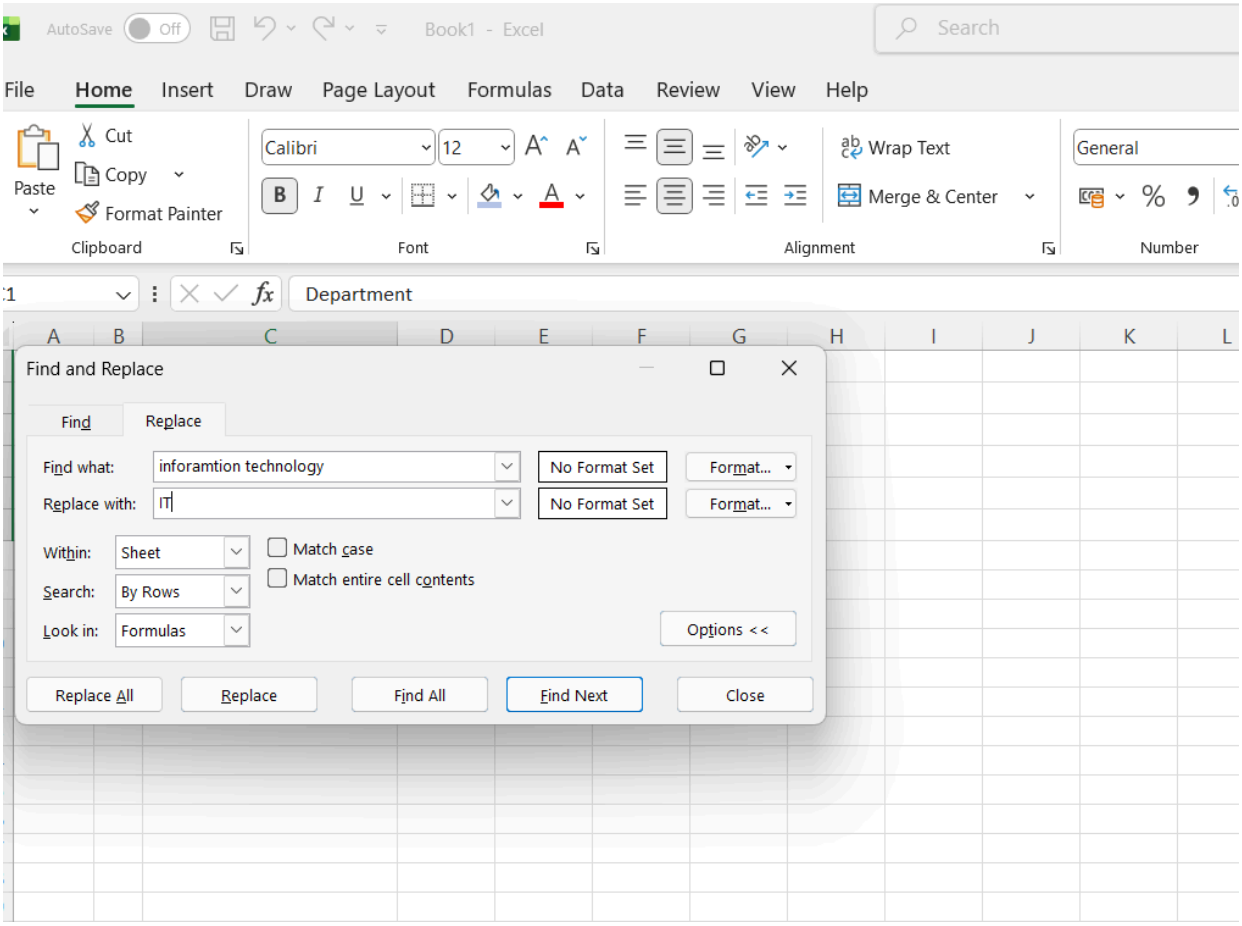
Ans:- **Using Excel's Find and Replace to Update Department Names**

Screen shot (before replace)

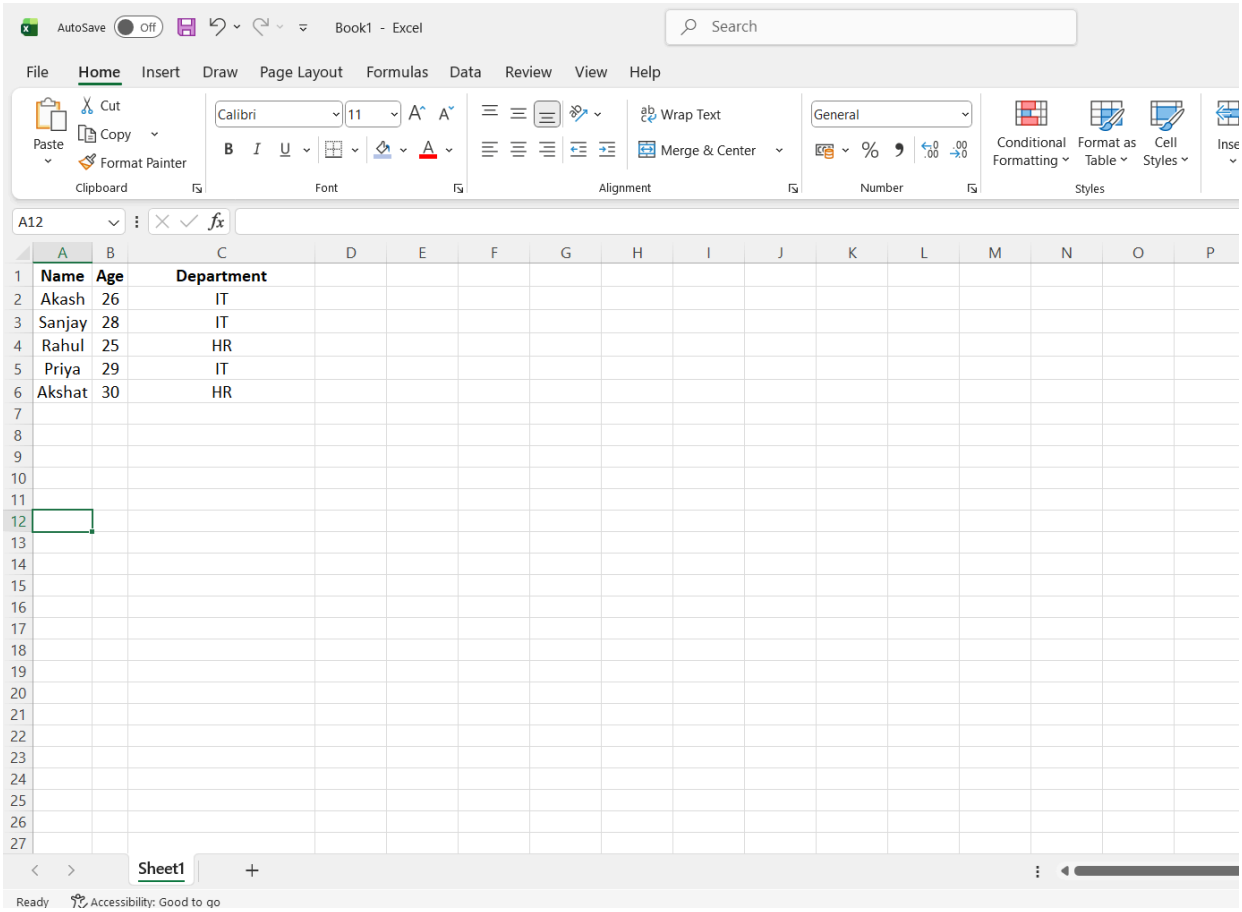


Steps to Use Find and Replace :-

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
5. Click Replace All.
6. Excel confirms how many replacements were made.



Screenshot Showing Replaced Data



9. 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

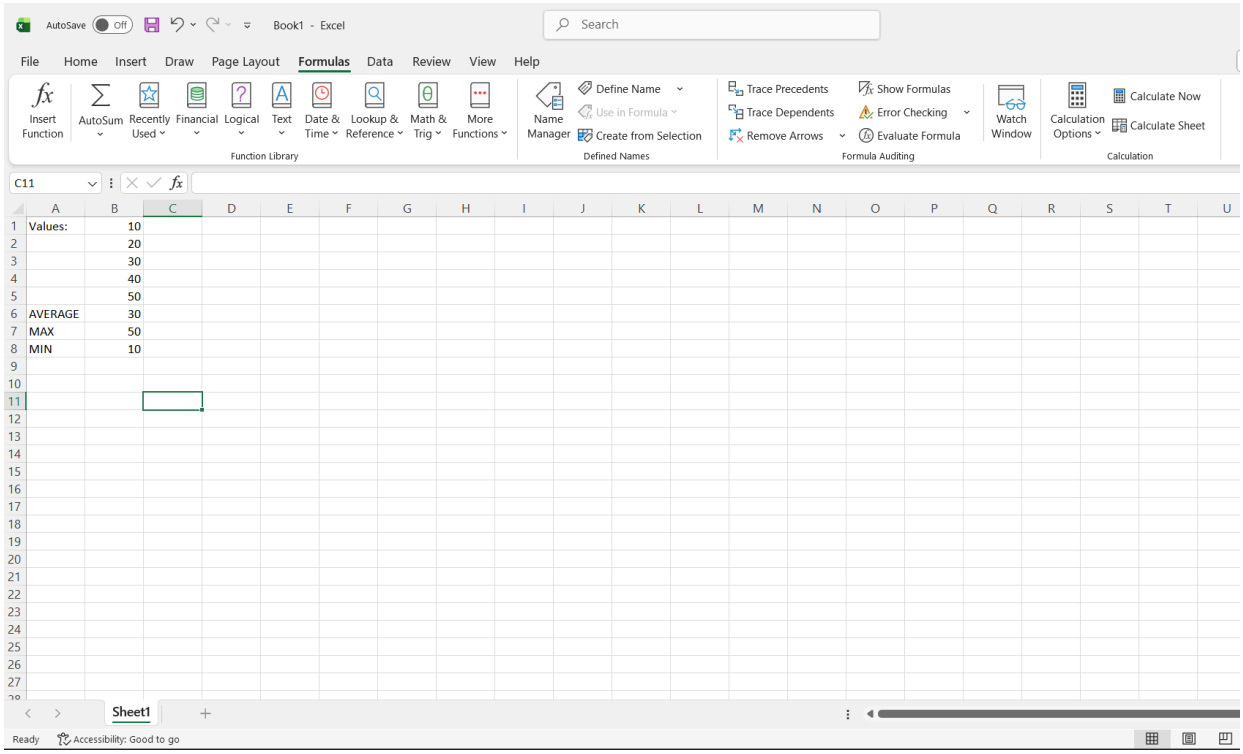
Explanation:

• AVERAGE calculates the mean of the numbers.

• MAX returns the highest value in the range.

• MIN returns the lowest value in the range.

Screenshot Showing Formulas and Results



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.

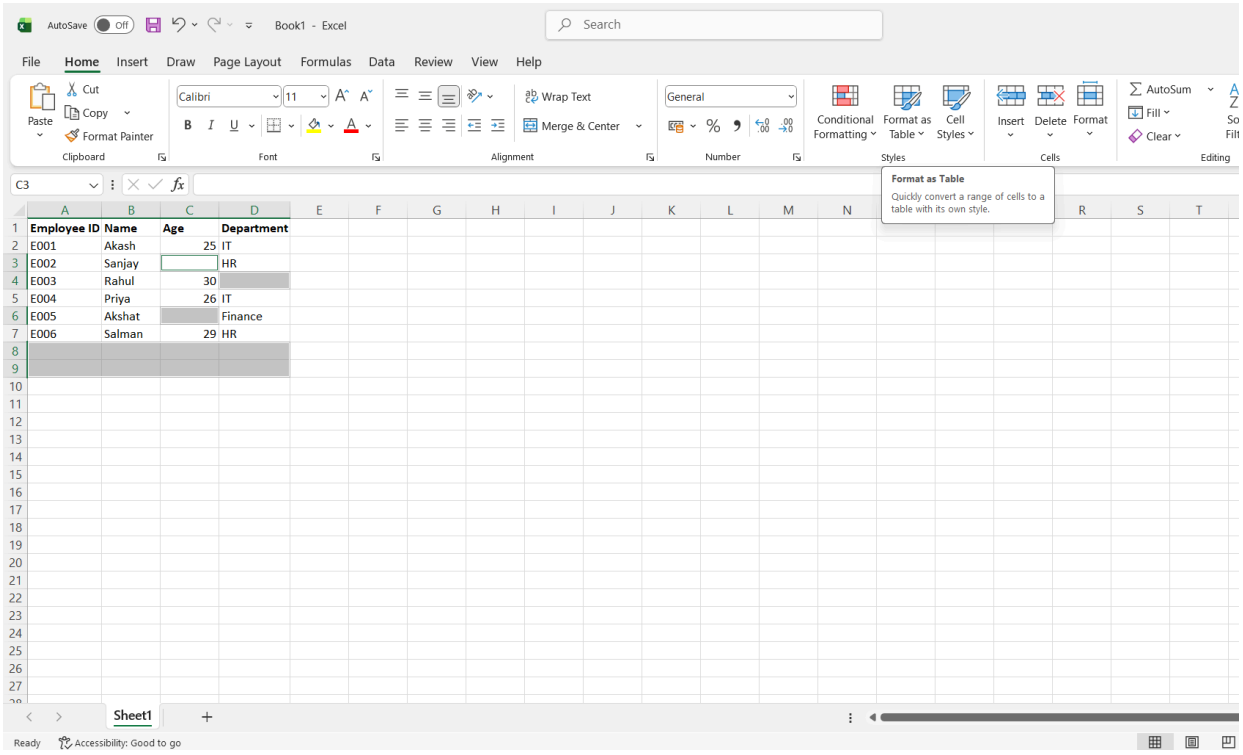
2. Handling Missing Data in Excel

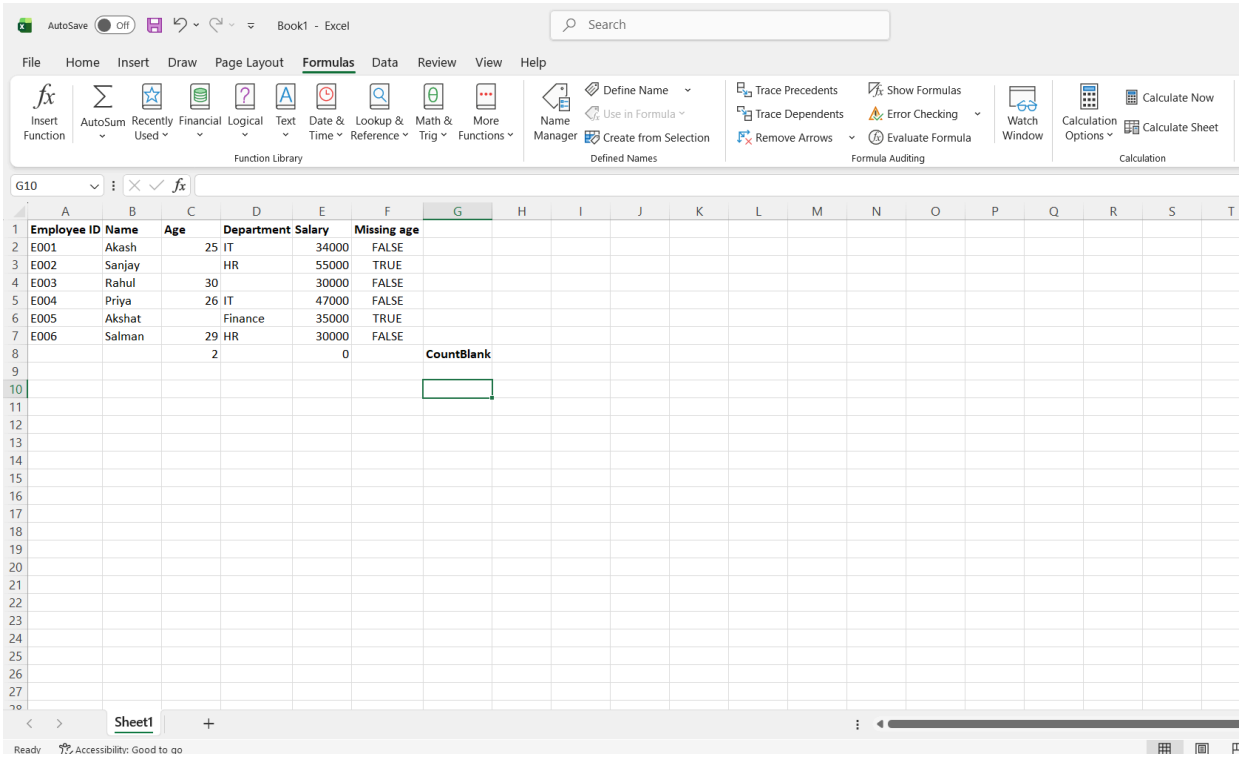
After detecting missing values, I may:

- Delete rows with missing data (if very few and insignificant)
- Replace blanks using:
    - o Mean/Median (for numerical data)
    - o “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	B	C	D	E	F	G
1	**Employee ID**	**Name**	**Age**	**Department**	**Salary**	**Missing age**	
2	E001	Akash	25	IT	34000	FALSE	
3	E002	Sanjay		HR	55000	TRUE	
4	E003	Rahul	30		30000	FALSE	
5	E004	Priya	26	IT	47000	FALSE	
6	E005	Akshat		Finance	35000	TRUE	
7	E006	Salman	29	HR	30000	FALSE	
8			2		0		**CountBlank**
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