Excel Part 1 | Assignment

1. 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	Pastes 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.

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2. 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.

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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?

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.

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4. 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.

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5. 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	Uses 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)
→ Returns 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

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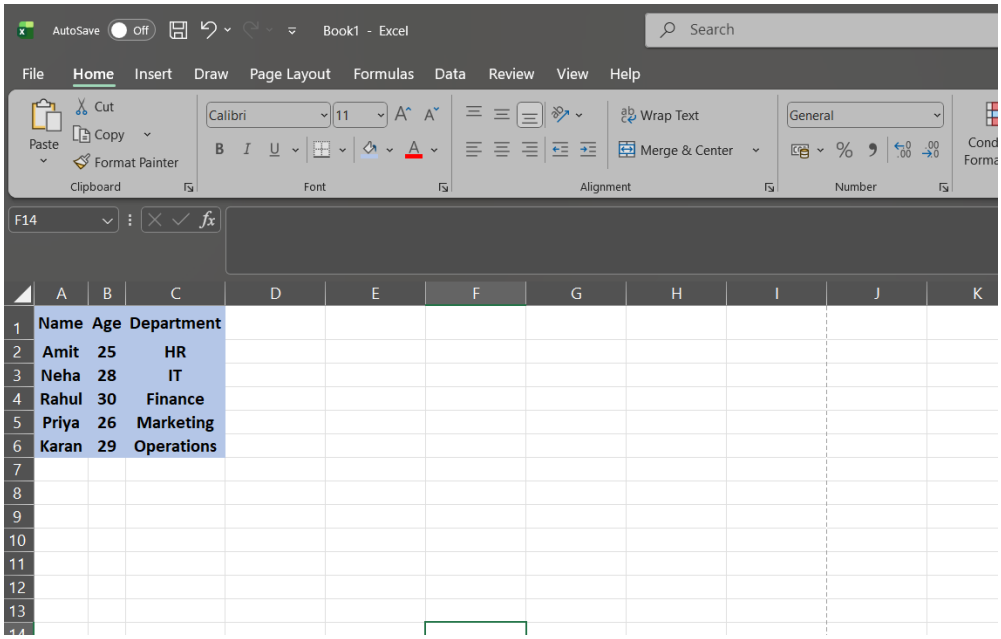
6. Create a worksheet titled 'Employee Data' with columns: Name, Age, Department. Add 5 rows of data. Format as follows:
   - Bold and center-align the header row
   - Apply a fill color
   - Auto-fit column width

   (Include a screenshot showing your formatted table.)

Ans :



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7. 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:

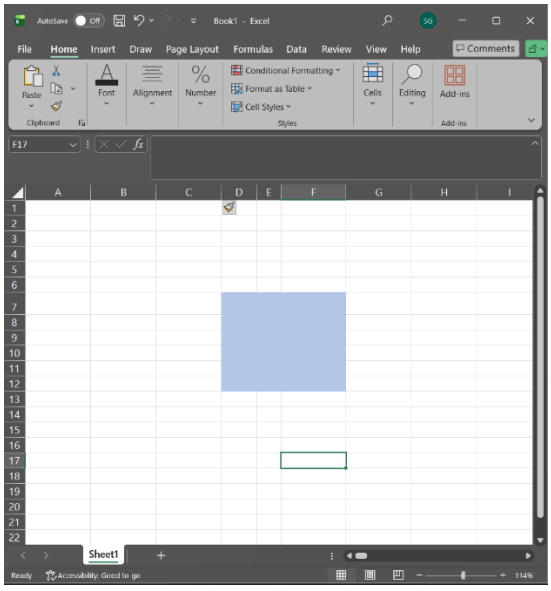
1. Select the **same number of rows** you want to insert (e.g., select rows 3–5).
2. Right-click on the selected rows.
3. Click **Insert**.
4. Excel inserts the same number of new rows **above** the selection.

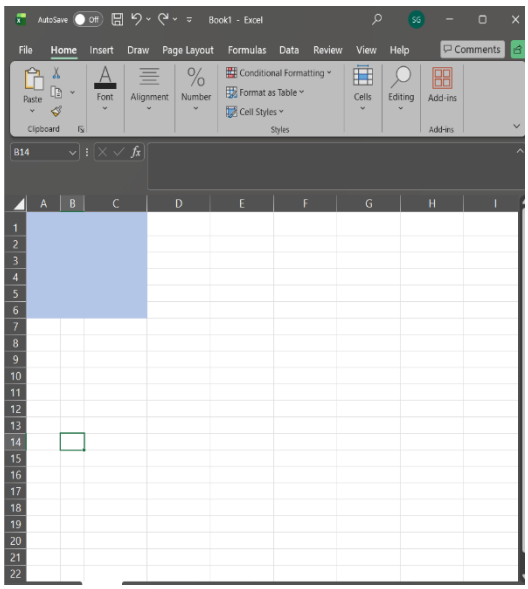
Insert Multiple Columns

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:

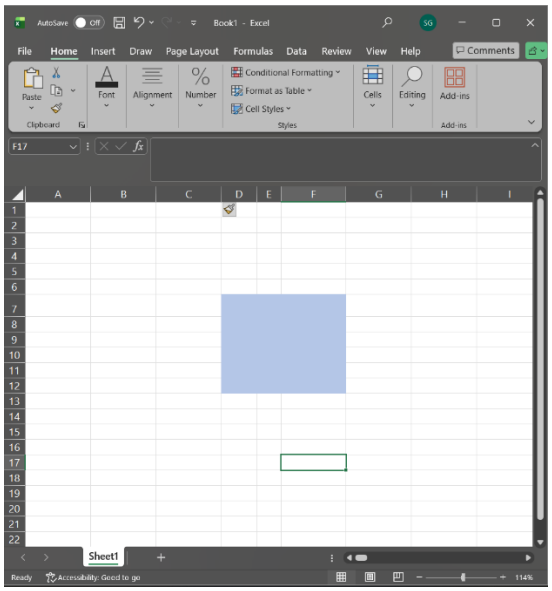
1. Select the rows you want to delete (e.g., rows 6–8).
2. Right-click → **Delete**.
3. Selected rows are removed and remaining rows shift **up**.

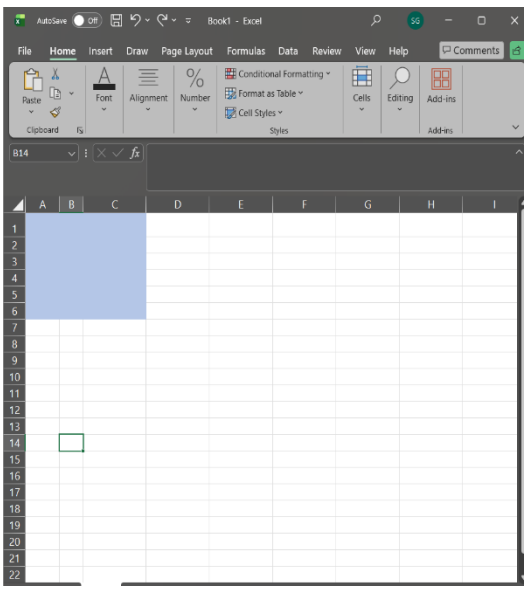
Delete Multiple Columns

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)



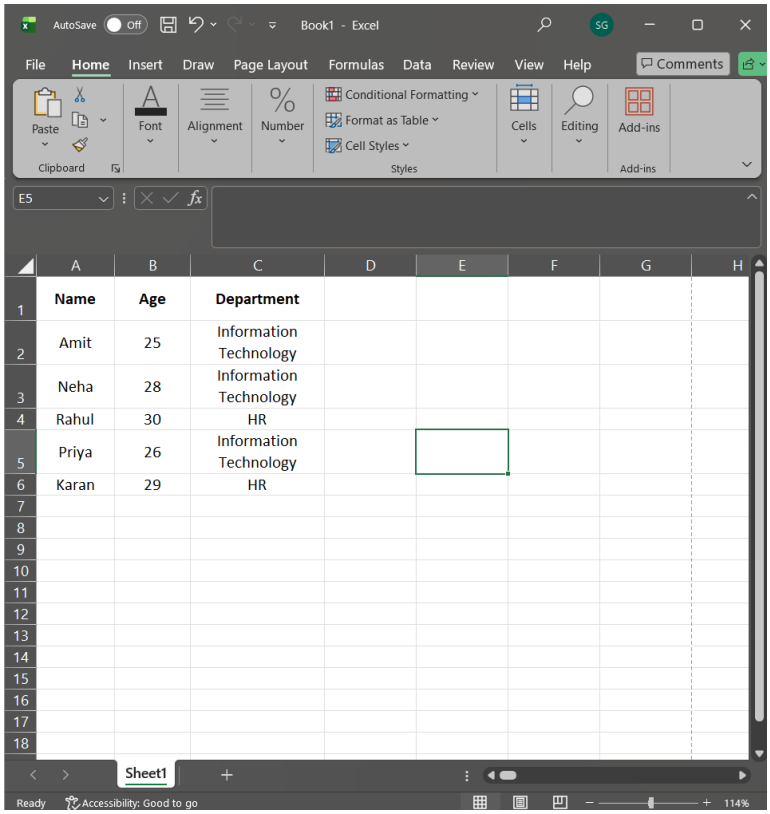


Before After

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

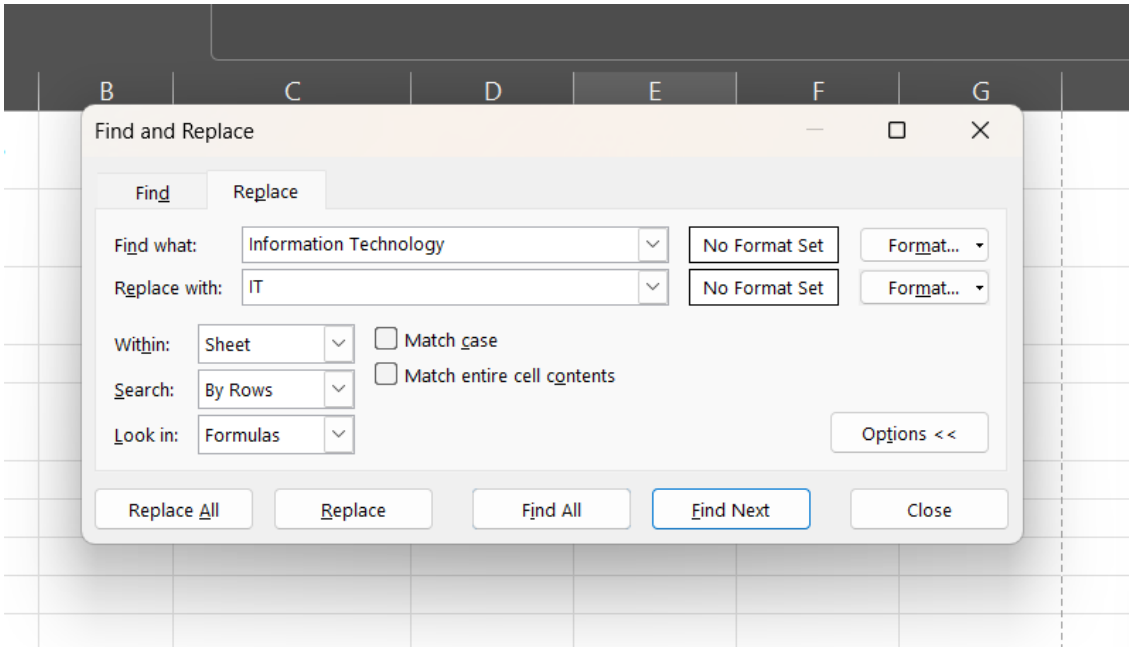
Ans : **Using Excel's Find and Replace to Update Department Names**

Screen Shot (Before Replace)

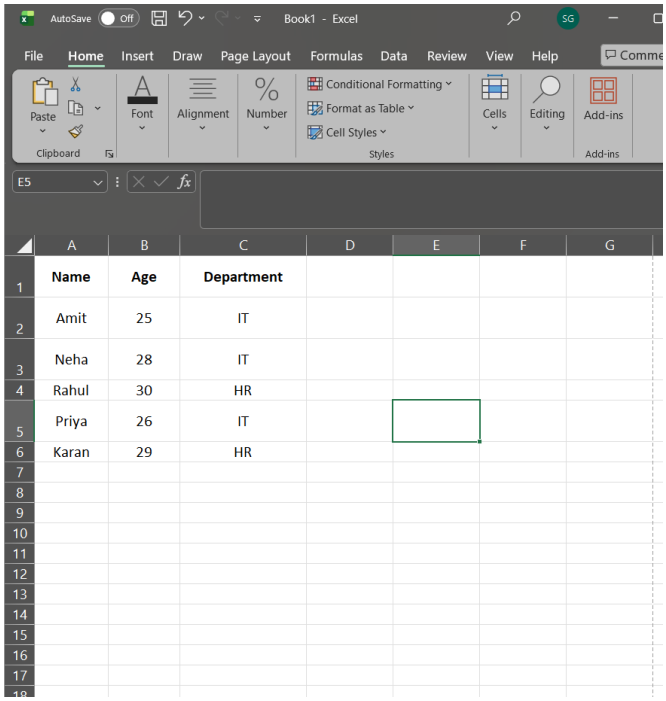


Steps to Use Find and Replace

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

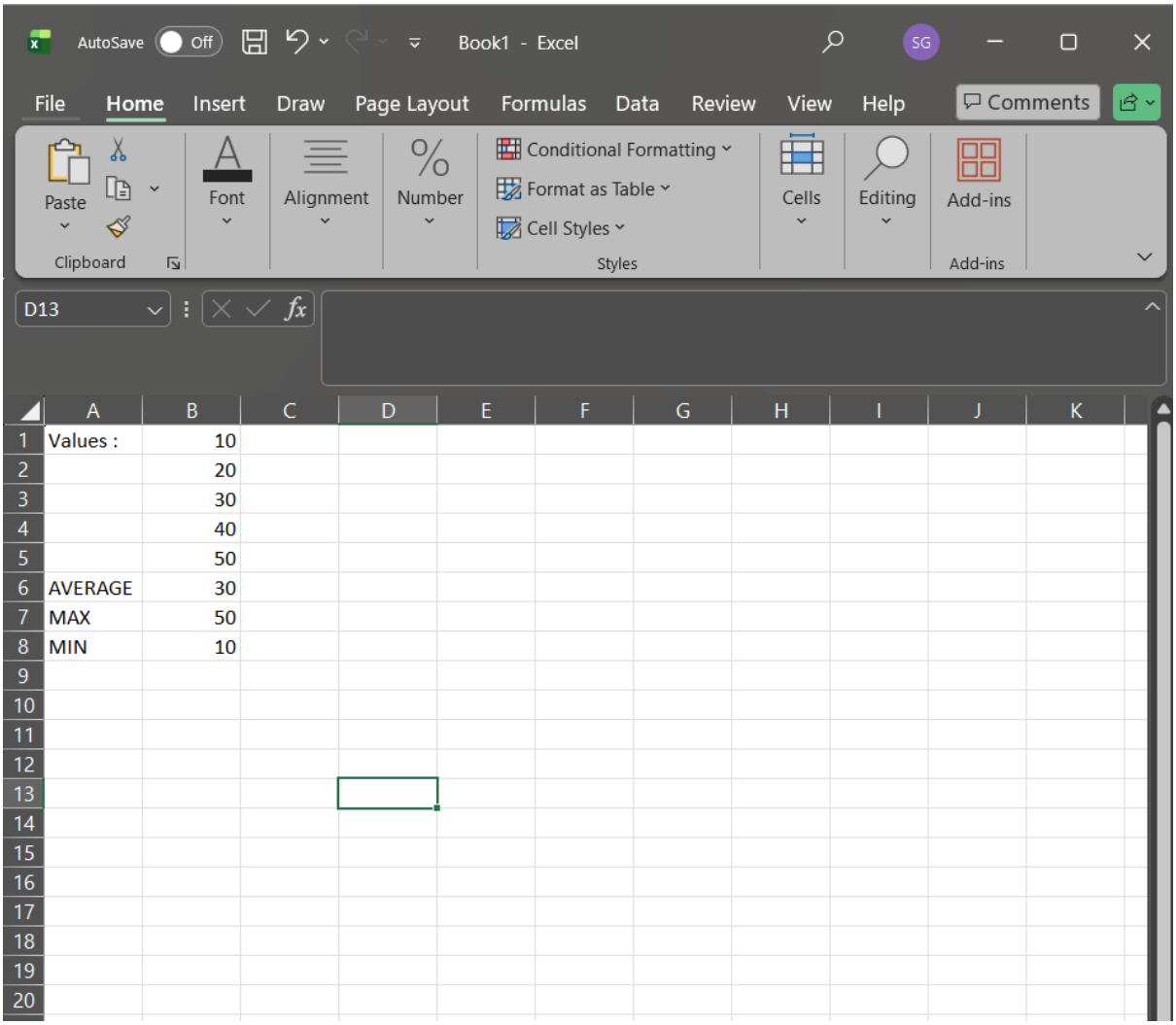
Step 2: Apply the Functions

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



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

    (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

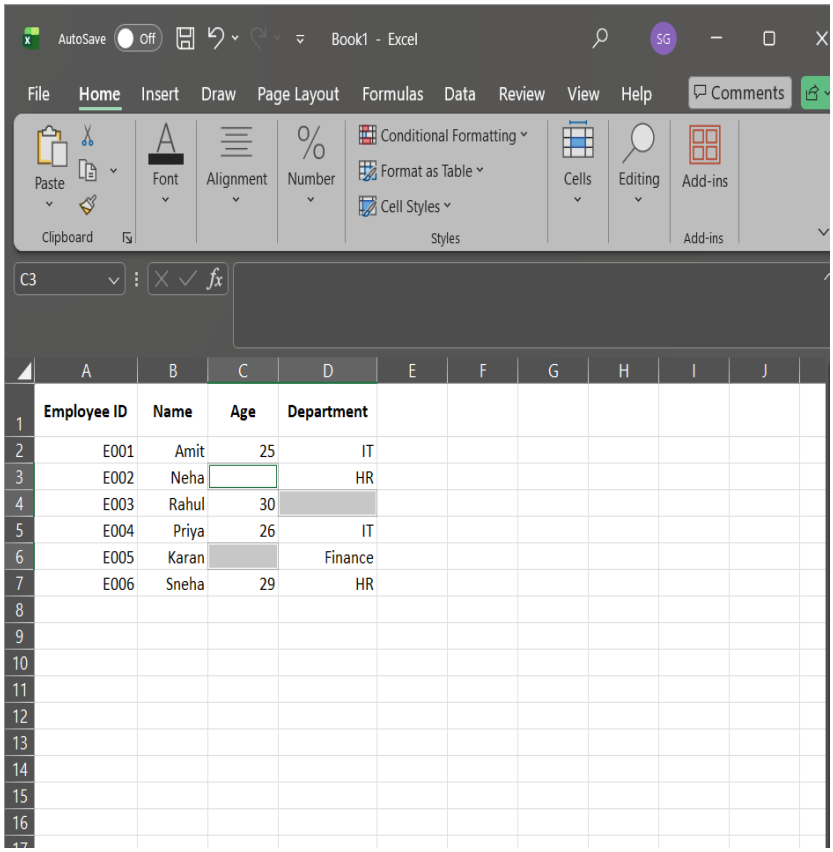
After detecting missing values, I may:

- **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	B	C	D	E	F	G	H	I	J
1	Employee ID	Name	Age	Department						
2	E001	Amit	25	IT						
3	E002	Neha		HR						
4	E003	Rahul	30							
5	E004	Priya	26	IT						
6	E005	Karan		Finance						
7	E006	Sneha	29	HR						
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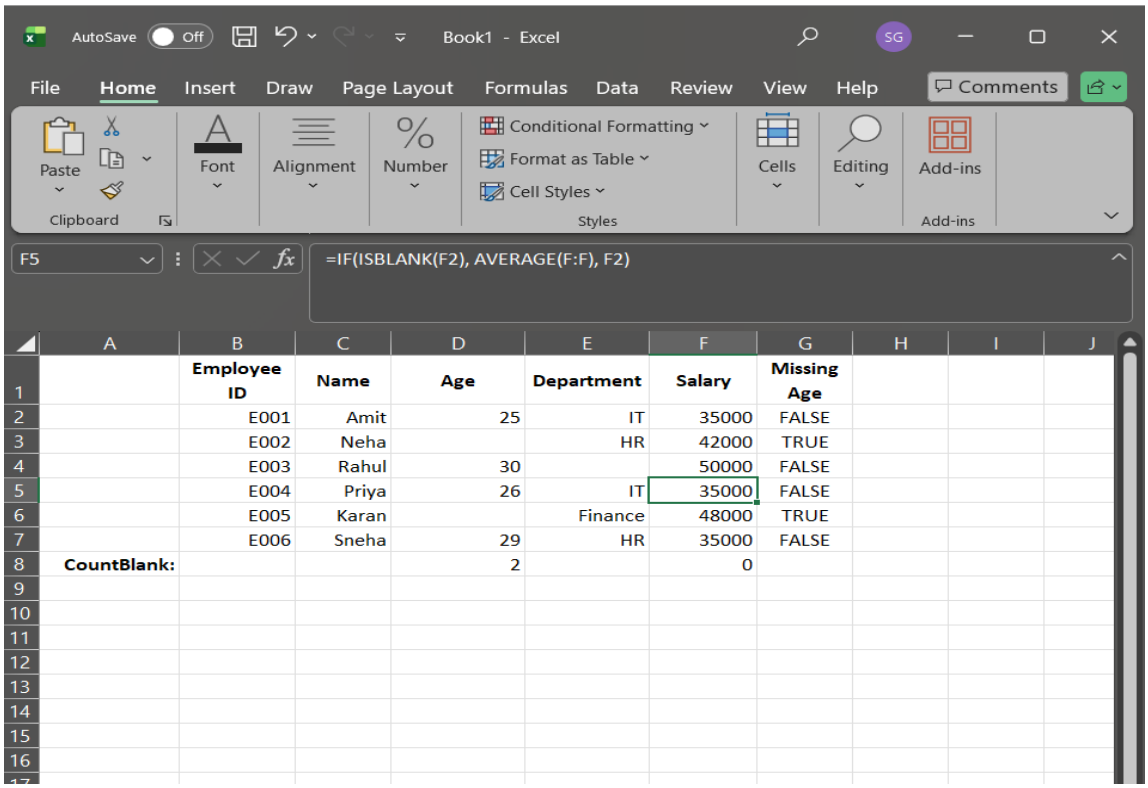

	A	B	C	D	E	F	G	H	I	J
1		Employee ID	Name	Age	Department	Salary	Missing Age			
2		E001	Amit	25	IT	35000	FALSE			
3		E002	Neha		HR	42000	TRUE			
4		E003	Rahul	30		50000	FALSE			
5		E004	Priya	26	IT	35000	FALSE			
6		E005	Karan		Finance	48000	TRUE			
7		E006	Sneha	29	HR	35000	FALSE			
8	CountBlank:			2		0				
9										
10										
11										
12										
13										
14										
15										
16										