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.

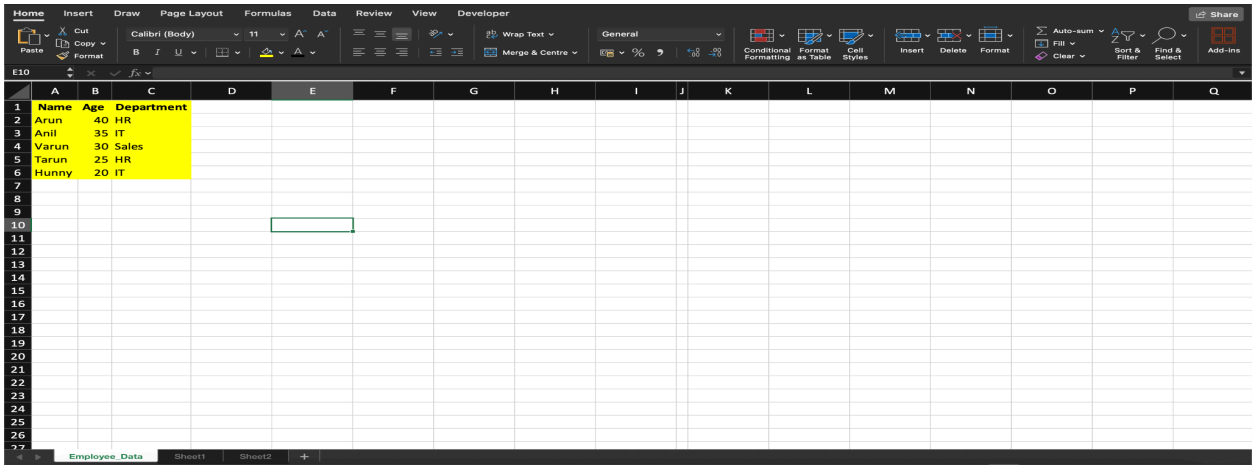
XLOOKUP is differ from VLOOKUP in following ways

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)



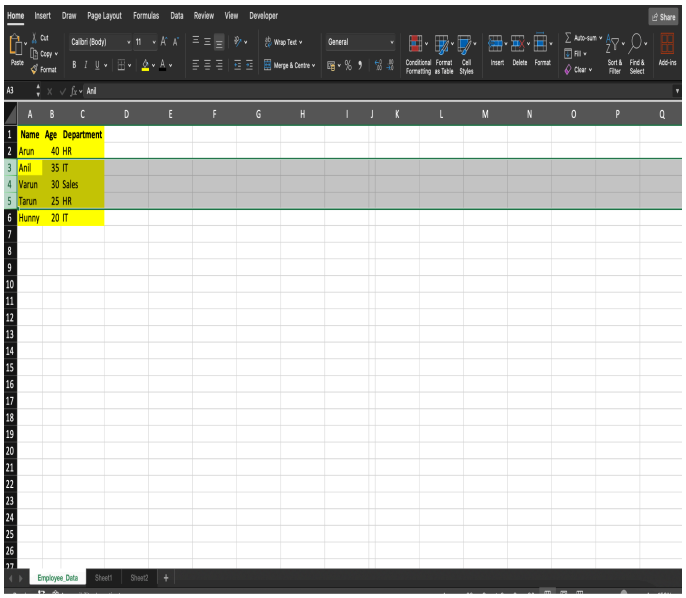
Q7) Demonstrate how to insert and delete multiple rows and columns in Excel.

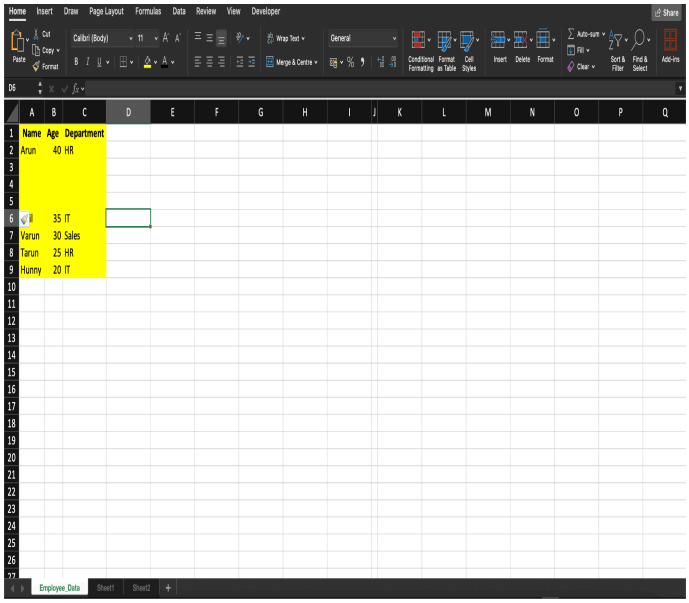
Ans7) Inserting Multiple Rows:

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

Step2) Right-click on the selected rows.

Step3) Click **Insert**.



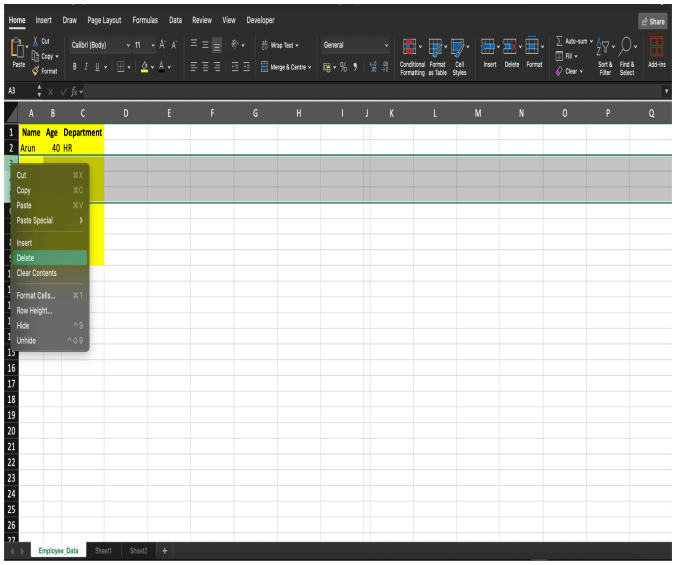


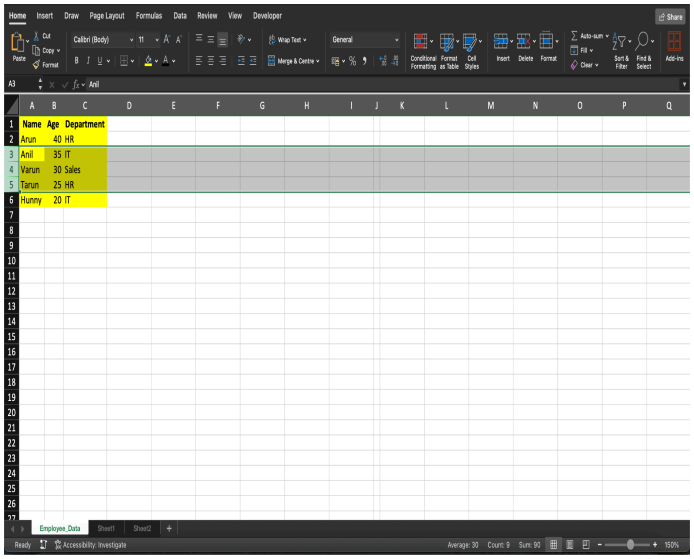
Deleting Multiple Rows:

Step1) Select the rows you want to delete.

Step2) Right-click.

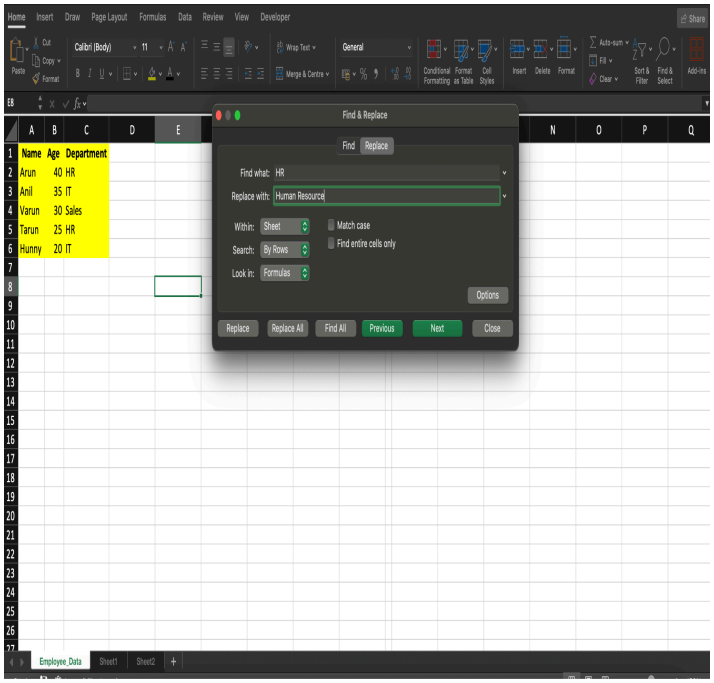
Step3) Click **Delete**.

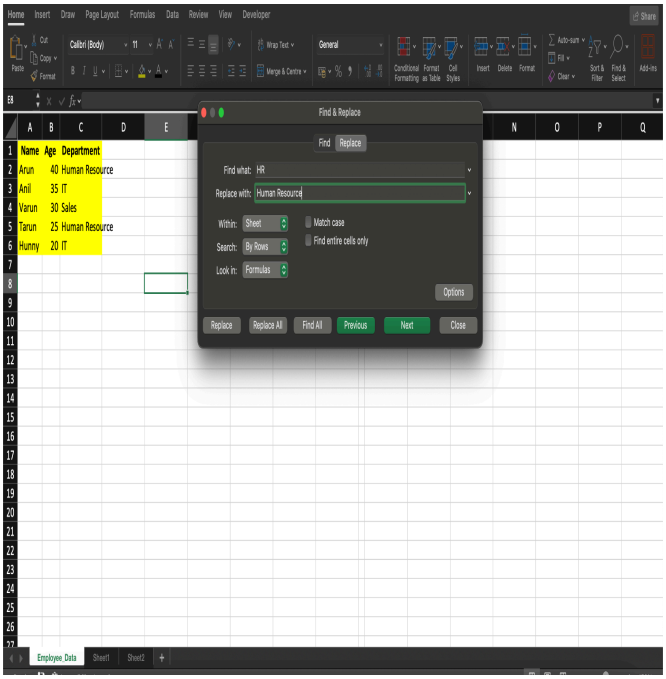




Q8) Use Excel's 'Find and Replace' feature to update department names in a sample table.

Ans8)



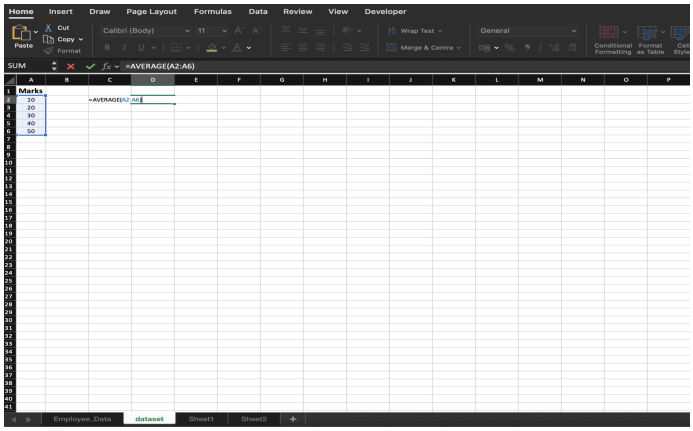


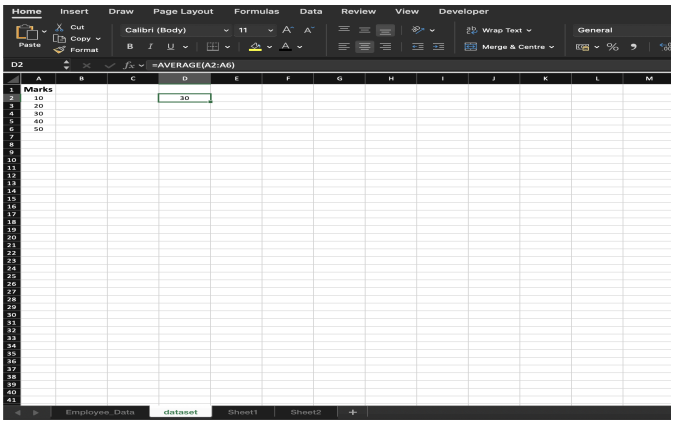
Q9) Create a small numerical dataset and apply the following functions:

- AVERAGE
- MAX
- MIN

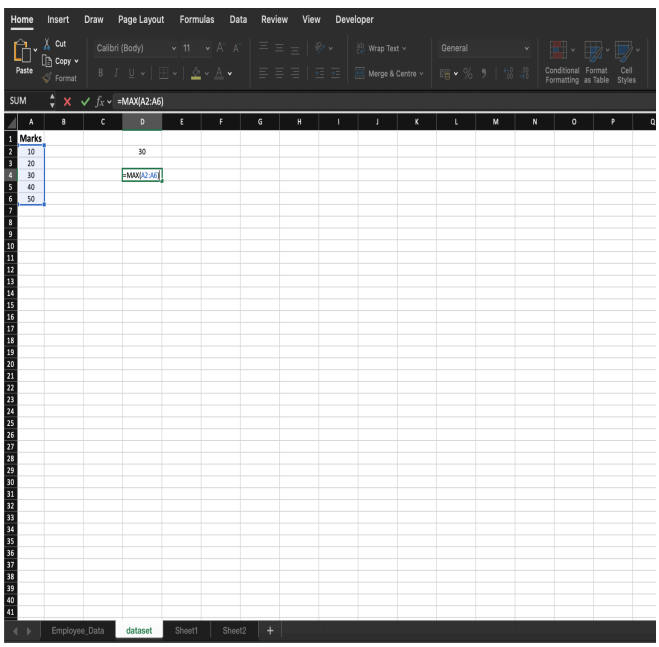
Ans9) Dataset: Marks:10,20,30,40,50

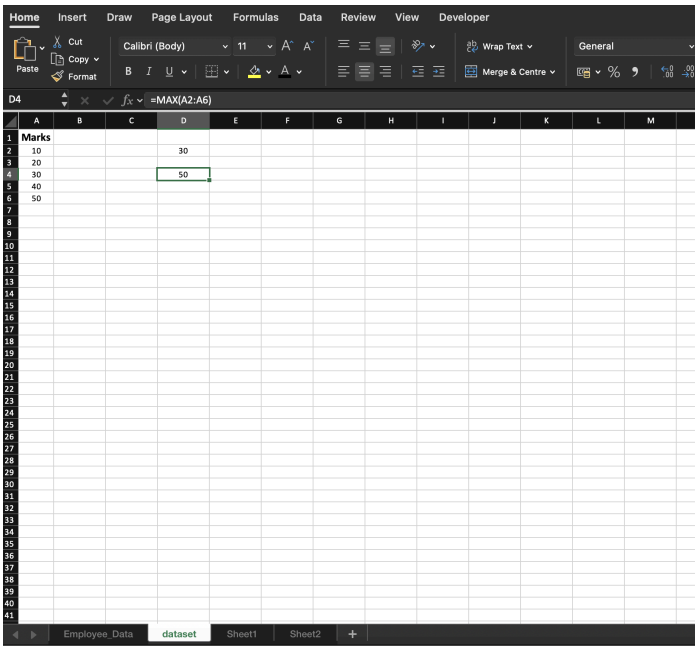
Average: =AVERAGE(A2:A6)



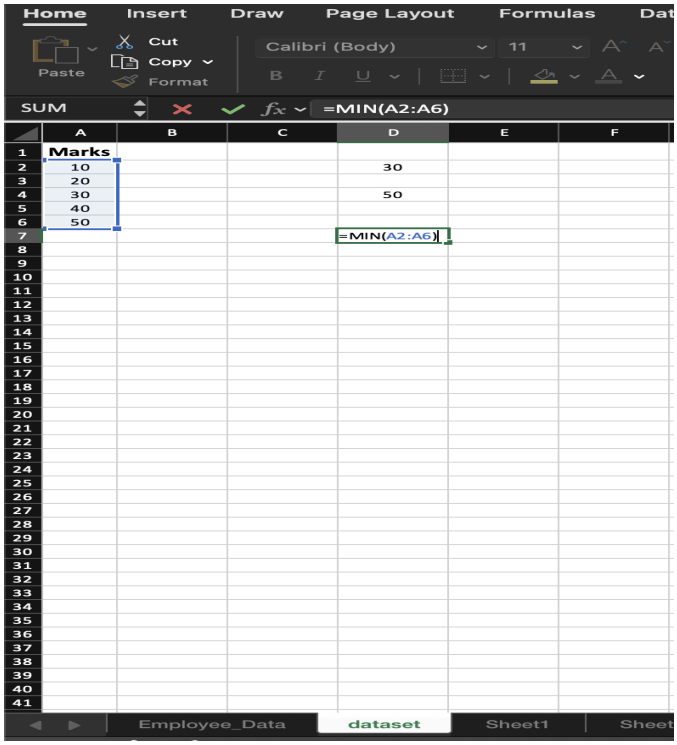


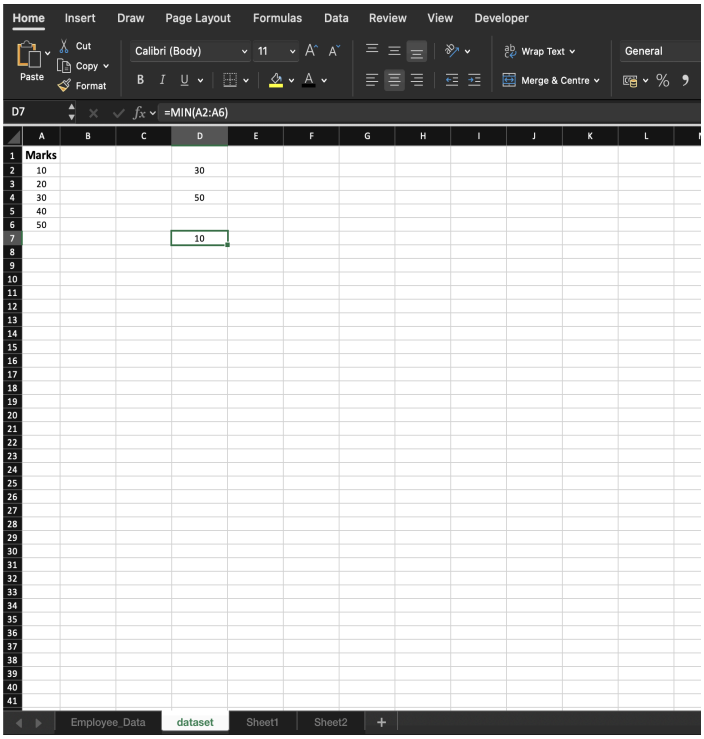
Max: =MAX(A2:A6)





Min: =MIN(A2:A6)





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

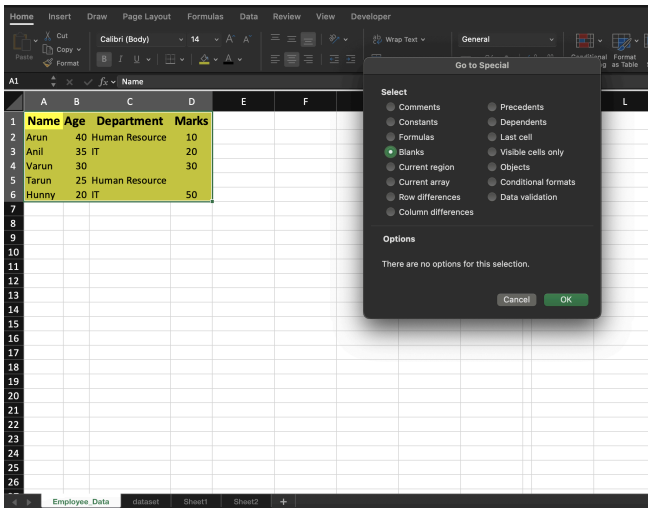
Purpose: Quickly locate all blank cells.

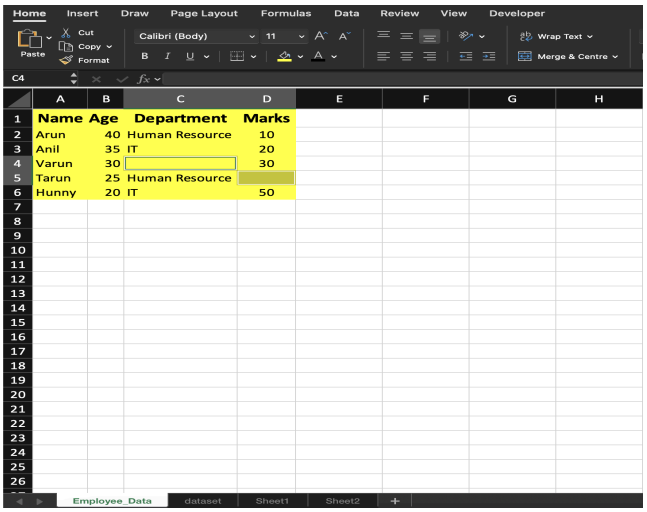
Steps:

Step 1) Select the dataset.

Step 2) Press Ctrl + G → click Special.

Step 3) Choose Blanks → click OK.



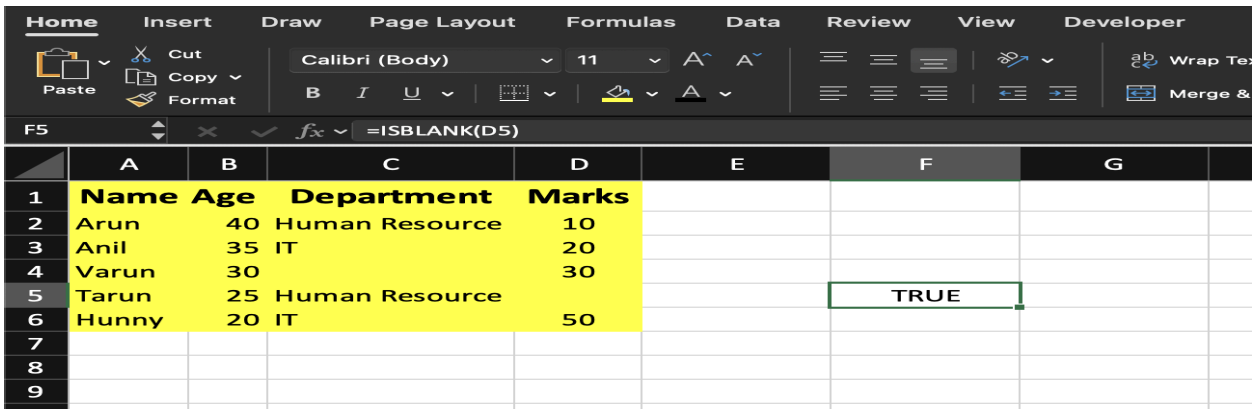


b) ISBLANK Function : `=ISBLANK(cell)`

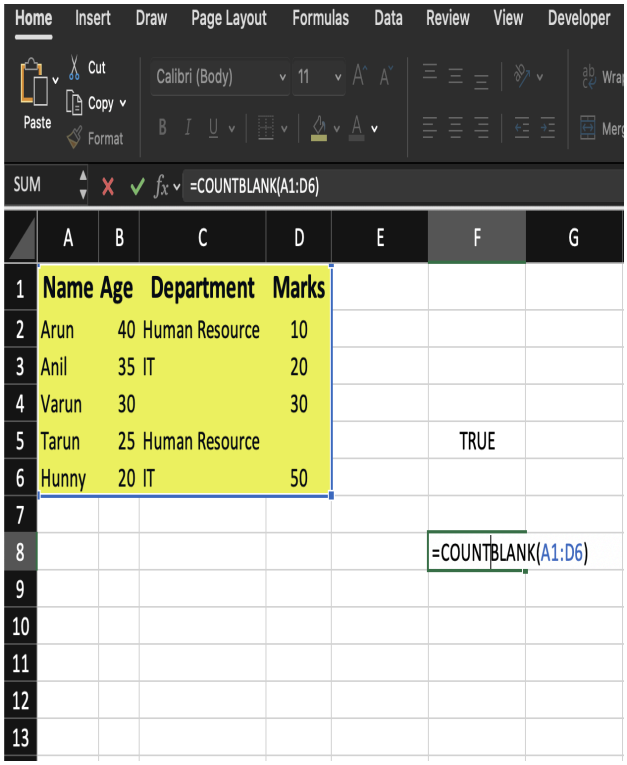
Purpose: Checks whether a specific cell is empty.

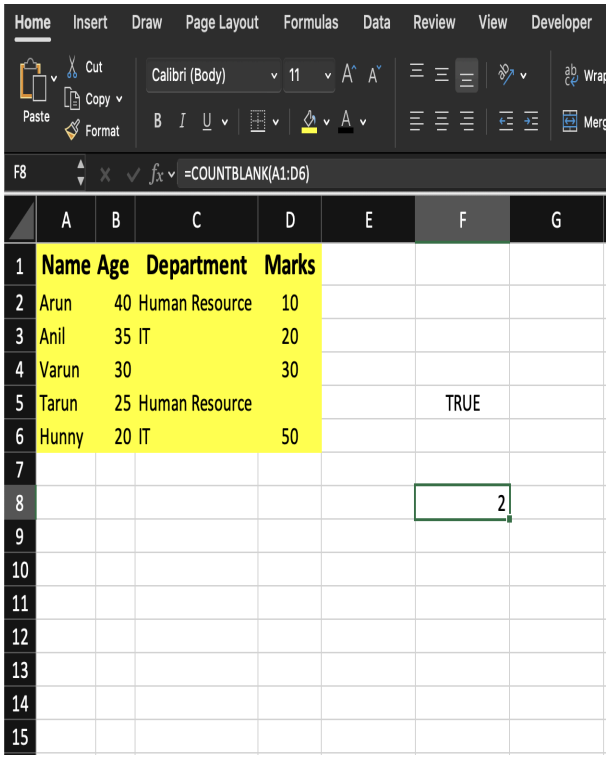
Result:

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



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.





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.