

## Q 1. Find and remove duplicate records from a student marks list .

### Input Data:

	A	B	C	D	E	F	G	H	I	J	K				
1															
2	<b>Employee Information</b>														
3															
4															
5															
6	<b>First Name</b>				<b>Middle Name</b>				<b>Last Name</b>				<b>Contact Number</b>		
7	ANKITA				DILIP				THANEKAR				9359643034		
8	MAYURI				MUKUND				GURAV				8055120797		
9	SANIYA				MUSTAFA				SHAIKH				8459500600		
10	RIYA				BAJIRAO				PATIL				8830885600		
11	GOUSIYA				BABUJI				SANADI				7350512468		
12	SNEHA				SUBHASH				NAIK				8446182121		
13	SAKSHI				ARUN				LOHAR				8806614775		
14	SAEED				MAJID				BAGWAN				8600646475		
15	ANKITA				DILIP				THANEKAR				9359643034		
16															

	A	B	C	D	E	F	G	H	I	J					
1															
2	<b>Employee Information</b>														
3															
4															
5															
6	<b>First Name</b>				<b>Middle Name</b>				<b>Last Name</b>				<b>Contact Number</b>		
7	ANKITA				DILIP				THANEKAR				9359643034		
8	MAYURI				MUKUND				GURAV				8055120797		
9	SANIYA				MUSTAFA				SHAIKH				8459500600		
10	RIYA				BAJIRAO				PATIL				8830885600		
11	GOUSIYA				BABUJI				SANADI				7350512468		
12	SNEHA				SUBHASH				NAIK				8446182121		
13	SAKSHI				ARUN				LOHAR				8806614775		
14	SAEED				MAJID				BAGWAN				8600646475		
15	ANKITA				DILIP				THANEKAR				9359643034		
16															

Remove Duplicates

To delete duplicate values, select one or more columns that contain duplicates.

Select All  Unselect All  My data has headers

Columns

Column D  Column E  Column F  Column G

OK Cancel

## Output:

Employee Information										
Before Remove Duplication				After Remove Duplication						
	First Name	Middle Name	Last Name	Contact Number		First Name	Middle Name	Last Name	Contact Number	
8	ANKITA	DILIP	THANEKAR	9359643034		ANKITA	DILIP	THANEKAR	9359643034	
9	MAYURI	MUKUND	GURAV	8055120797		MAYURI	MUKUND	GURAV	8055120797	
10	SANIYA	MUSTAFA	SHAIKH	8459500600		SANIYA	MUSTAFA	SHAIKH	8459500600	
11	RIYA	BAJIRAO	PATIL	8830885600		RIYA	BAJIRAO	PATIL	8830885600	
12	GOUSIYA	BABUJI	SANADI	7350512468		GOUSIYA	BABUJI	SANADI	7350512468	
13	SNEHA	SUBHASH	NAIK	8446182121		SNEHA	SUBHASH	NAIK	8446182121	
14	SAKSHI	ARUN	LOHAR	8806614775		SAKSHI	ARUN	LOHAR	8806614775	
15	SAEED	MAJID	BAGWAN	8600646475		SAEED	MAJID	BAGWAN	8600646475	
16	ANKITA	DILIP	THANEKAR	9359643034						

**Q 2. Use the TRIM () function to clean extra spaces in an employee dataset.**

## Input Data:

The screenshot shows a Microsoft Excel spreadsheet titled "Employee Information". The data is listed in column D, starting from row 5. The names are as follows:

		Employee Name
5	D	ANKITA THANEKAR
6		MAYURI GAVADE
7		SANIYA ,PATIL
8		RIYA "JADAV"
9		SIYA 'PARIT'
10		SNEHA SABALE
11		SAKSHI THOBARE
12		SAEED "THAKRE"
13		" Hello World "

	A	B	C	D	E	F	G	H	I	J	K	L	M
SUM													
2			Employee Information										
3													
4			Before Trim()		Trim() Function		After Trim()						
5			Employee Name		Trim() Function		Employee Name						
6			ANKITA THANEKAR				=TRIM(C7)						
7			MAYURI GAVADE										
8													
9			SANIYA ,PATIL										
10			RIYA "JADAV"										
11			SIYA 'PARIT'										
12			SNEHA SABALE										
13			SAKSHI THOBARE										
14			SAEED "THAKRE"										
15			" Hello World "										
16													
17													

## Output:

The screenshot shows an Excel spreadsheet titled "Employee Information". The spreadsheet has three main sections: "Before Trim()", "Trim() Function", and "After Trim()".

	Before Trim()	Trim() Function	After Trim()
Employee Name	ANKITA THANEKAR		ANKITA THANEKAR
	MAYURI GAVADE		MAYURI GAVADE
	SANIYA ,PATIL		SANIYA ,PATIL
	RIYA "JADAV"		RIYA "JADAV"
	SIYA 'PARIT'		SIYA 'PARIT'
	SNEHA SABALE		SNEHA SABALE
	SAKSHI THOBARE		SAKSHI THOBARE
	SAEED "THAKRE"		SAEED "THAKRE"
" Hello World "			" Hello World "

**Q 3. Split a column containing "FirstName LastName" into two columns using Text-to-Column.**

## Input Data:

The screenshot shows a Microsoft Excel spreadsheet with data in columns A and B. Column A contains student names, and column B contains student numbers. A context menu is open over the data in column A, with the 'Text to Columns' option selected. This has triggered the 'Convert Text to Columns Wizard - Step 1 of 3' dialog box.

**Convert Text to Columns Wizard - Step 1 of 3**

The Text Wizard has determined that your data is Delimited.

If this is correct, choose Next, or choose the data type that best describes your data.

Original data type

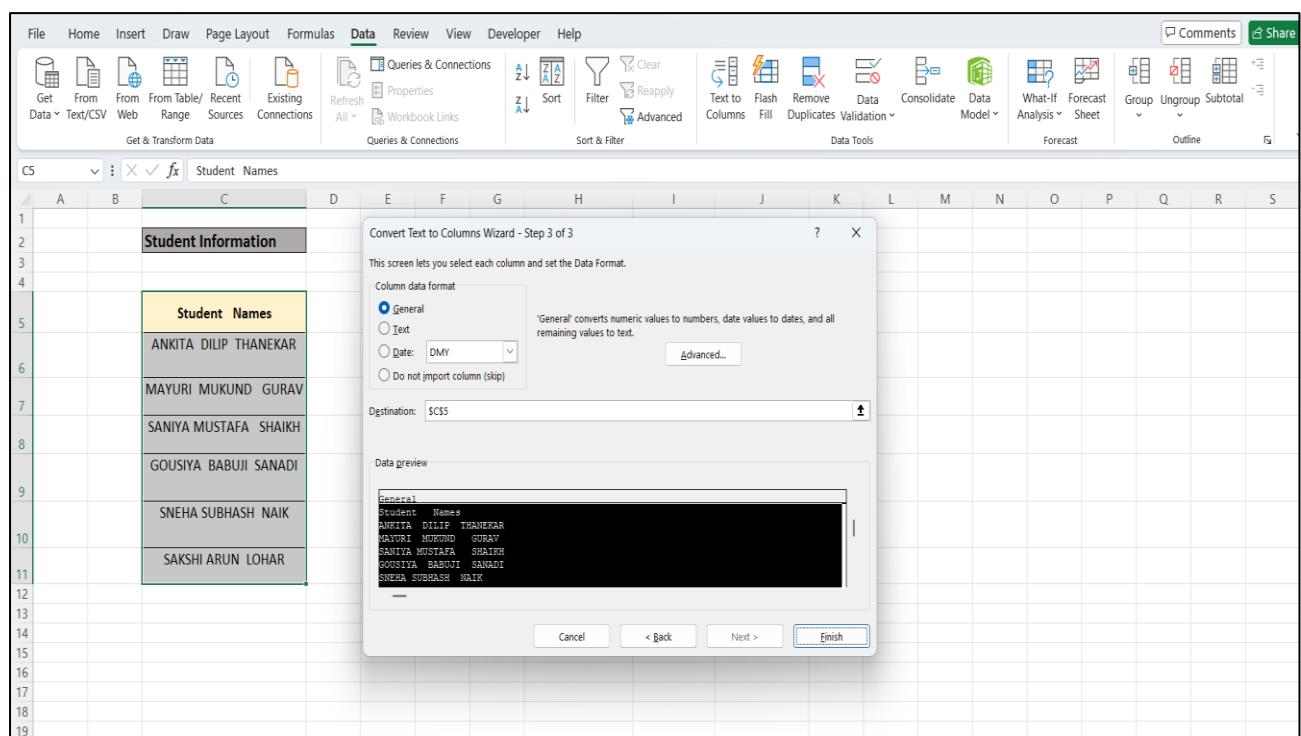
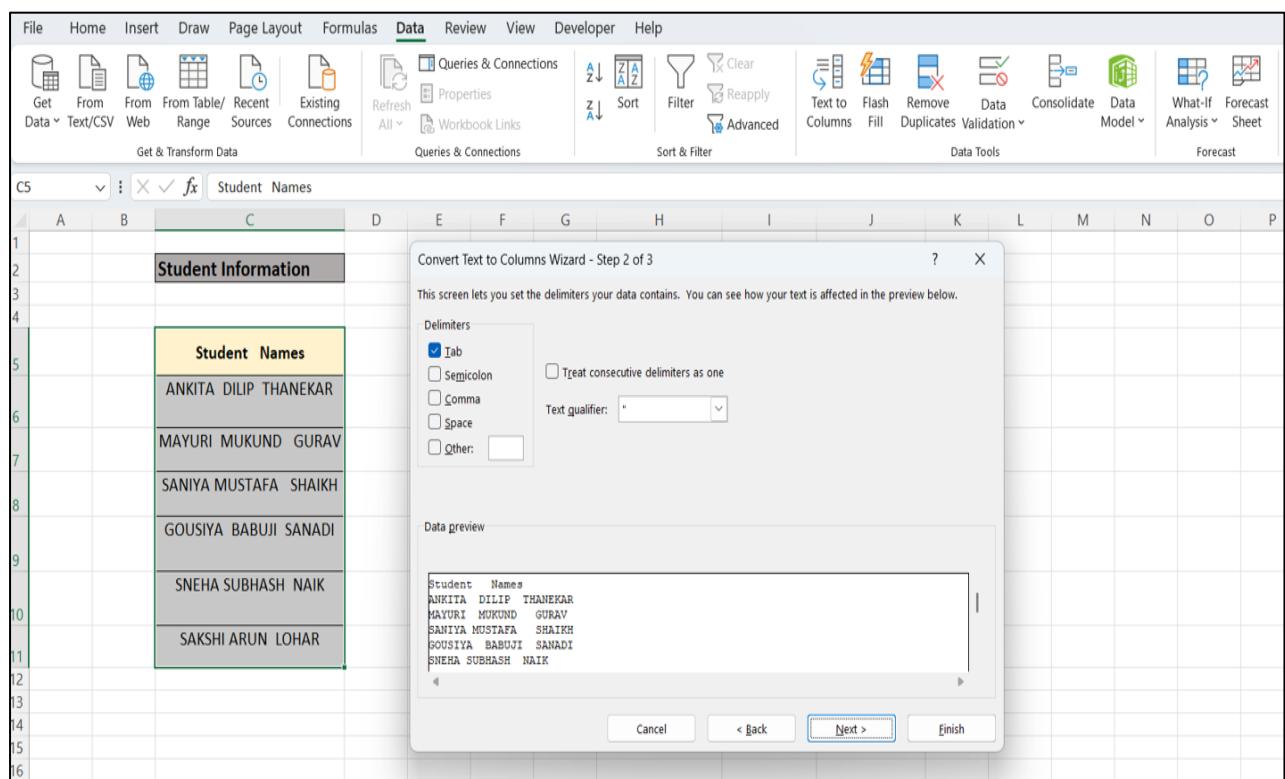
Choose the file type that best describes your data:

**Delimited** - Characters such as commas or tabs separate each field.  
 **Fixed width** - Fields are aligned in columns with spaces between each field.

Preview of selected data:

	Student	Names
5	ANKITA	DILIP THANEKAR
6	MAYURI	MUKUND GURAV
7	SANIYA	MUSTAFA SHAIKH
8	GOUSIYA	BABUJI SANADI
9	SNEHA	SUBHASH NAIK
10	SAKSHI	ARUN LOHAR

Cancel < Back Next > Finish



## Output:

The screenshot shows a Microsoft Excel spreadsheet titled "Student information". The data consists of two columns: "Student Names" and "Text To Columns". The "Text To Columns" column is highlighted with a yellow background. The data is as follows:

	Student Names	Student Name	Middle Name	Last Name
5	ANKITA DILIP THANEKAR	ANKITA	DILIP	THANEKAR
6	MAYURI MUKUND GURAV	MAYURI	MUKUND	GURAV
7	SANIYA MUSTAFA SHAIKH	SANIYA	MUSTAFA	SHAIKH
8	GOUSIYA BABUJI SANADI	GOUSIYA	BABUJI	SANADI
9	SNEHA SUBHASH NAIK	SNEHA	SUBHASH	NAIK
10	SAKSHI ARUN LOHAR	SAKSHI	ARUN	LOHAR

## Q 4. Create a salary sheet and use VLOOKUP to fetch employee department details.

### Input Data:

Employee Information				
	Emp ID	Employee Name	Salary (₹)	Department
5	EMP001	Rahul Sharma	45,000	HR Executive
6	EMP002	Priya Singh	55,000	IT
7	EMP003	Amit Verma	38,000	Marketing
8	EMP004	Sneha Patil	50,000	Sales
9	EMP005	Ankit Gupta	42,000	Finance
10	EMP006	Neha Reddy	47,000	Marketing
11	EMP007	Karan Mehta	60,000	IT
12	EMP008	Pooja Deshmukh	35,000	HR Executive
13	EMP009	Rohan Joshi	40,000	Finance
14	EMP010	Meena Iyer	52,000	Marketing

The screenshot shows the same 'Employee Information' table as above, but with a 'VLOOKUP FUNCTION' dialog box overlaid on the right side of the screen. The dialog box is titled 'Data Validation' and contains settings for 'Allow: List', 'Data: between', and 'Source: =\$B\$5:\$B\$14'. The 'OK' button is visible at the bottom right of the dialog.

## Output:

The screenshot shows a Microsoft Excel spreadsheet titled "Employee Information". The data is organized into two tables:

	Emp ID	Employee Name	Salary (₹)	Department
5	EMP001	Rahul Sharma	45,000	HR Executive
6	EMP002	Priya Singh	55,000	IT
7	EMP003	Amit Verma	38,000	Marketing
8	EMP004	Sneha Patil	50,000	Sales
9	EMP005	Ankit Gupta	42,000	Finance
10	EMP006	Neha Reddy	47,000	Marketing
11	EMP007	Karan Mehta	60,000	IT
12	EMP008	Pooja Deshmukh	35,000	HR Executive
13	EMP009	Rohan Joshi	40,000	Finance
14	EMP010	Meena Iyer	52,000	Marketing

The formula `=VLOOKUP($I$5,$B$4:$E$14,2,0)` is entered in cell J5, which is highlighted with a yellow background. The formula is also displayed in the formula bar above the spreadsheet.

On the right side of the screen, there is a separate table labeled "VLOOKUP FUNCTION" with the following structure:

	Emp ID	Employee Name	Salary (₹)	Department
	EMP003	Amit Verma	38000	Marketing

## Q 5. Prepare a product price list and use XLOOKUP to search the price of a given product.

### Input Data:

Product Information		
Product ID	Product Name	Price
P001	Laptop	55,000
P002	Mouse	500
P003	Keyboard	1,200
P004	Monitor	9,500
P005	Pen Drive (32GB)	700
P006	External HDD	4,800
P007	Smartphone	18,000
P008	Headphones	1,500
P009	Printer	7,200
P010	Web Camera	2,300

The screenshot shows the Microsoft Excel ribbon with the 'Data' tab selected. A 'XLOOKUP FUNCTION' dialog box is open, overlaid on the 'Product Information' table. The dialog box is titled 'XLOOKUP FUNCTION' and contains settings for 'Data Validation'. Under 'Validation criteria', 'Allow:' is set to 'List', 'Data:' is set to 'between', and 'Source:' is set to '=B\$5:\$B\$14'. There are also checkboxes for 'Ignore blank' and 'In-cell dropdown'. At the bottom of the dialog box are 'OK' and 'Cancel' buttons.

## Output:

The screenshot shows a Microsoft Excel spreadsheet with the following details:

- Product Information Table:** Located in the range A4:C14. It has columns for Product ID, Product Name, and Price.
- XLOOKUP Function Output:** Located in cell J5, which contains the formula =XLOOKUP(\$J\$5,\$B\$5:\$B\$14,\$C\$5:\$C\$14,"NOT FOUND",0,1). The result is "Keyboard".
- Table Headers:** The first row of the Product Information table is bolded and serves as a header. The XLOOKUP output table also has a header row with columns for Product ID, Product Name, and Price.
- Formatting:** The Product ID column in the main table is bolded. The XLOOKUP output table has a yellow header row.

Product Information			XLOOKUP FUNCTION		
Product ID	Product Name	Price	Product ID	Product Name	Price
P001	Laptop	55,000			
P002	Mouse	500			
P003	Keyboard	1,200			
P004	Monitor	9,500			
P005	Pen Drive (32GB)	700			
P006	External HDD	4,800			
P007	Smartphone	18,000			
P008	Headphones	1,500			
P009	Printer	7,200			
P010	Web Camera	2,300			

## Q.6 Use INDEX-MATCH to find the marks of a student from a result sheet.

### Input Data:

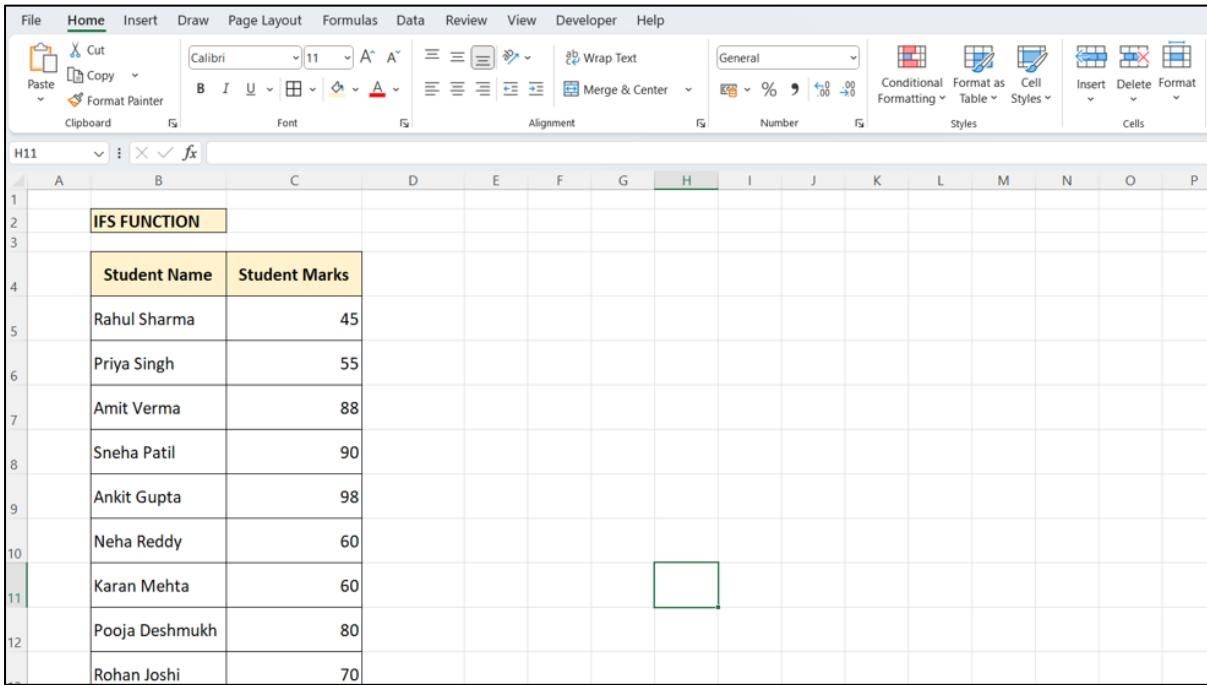
Student Information			
	Student ID	Student Name	Student Marks
1	1	Rahul Sharma	45
2	2	Priya Singh	55
3	3	Amit Verma	38
4	4	Sneha Patil	50
5	5	Ankit Gupta	42
6	6	Neha Reddy	47
7	7	Karan Mehta	60
8	8	Pooja Deshmukh	35
9	9	Rohan Joshi	40

### Output:

Student Information			INDEX MATCH FUNCTION	Student ID	Student Name	Student Marks
	Student ID	Student Name	Student Marks			
1	1	Rahul Sharma	45			
2	2	Priya Singh	55			
3	3	Amit Verma	38			
4	4	Sneha Patil	50			
5	5	Ankit Gupta	42			
6	6	Neha Reddy	47			
7	7	Karan Mehta	60			
8	8	Pooja Deshmukh	35			
9	9	Rohan Joshi	40			

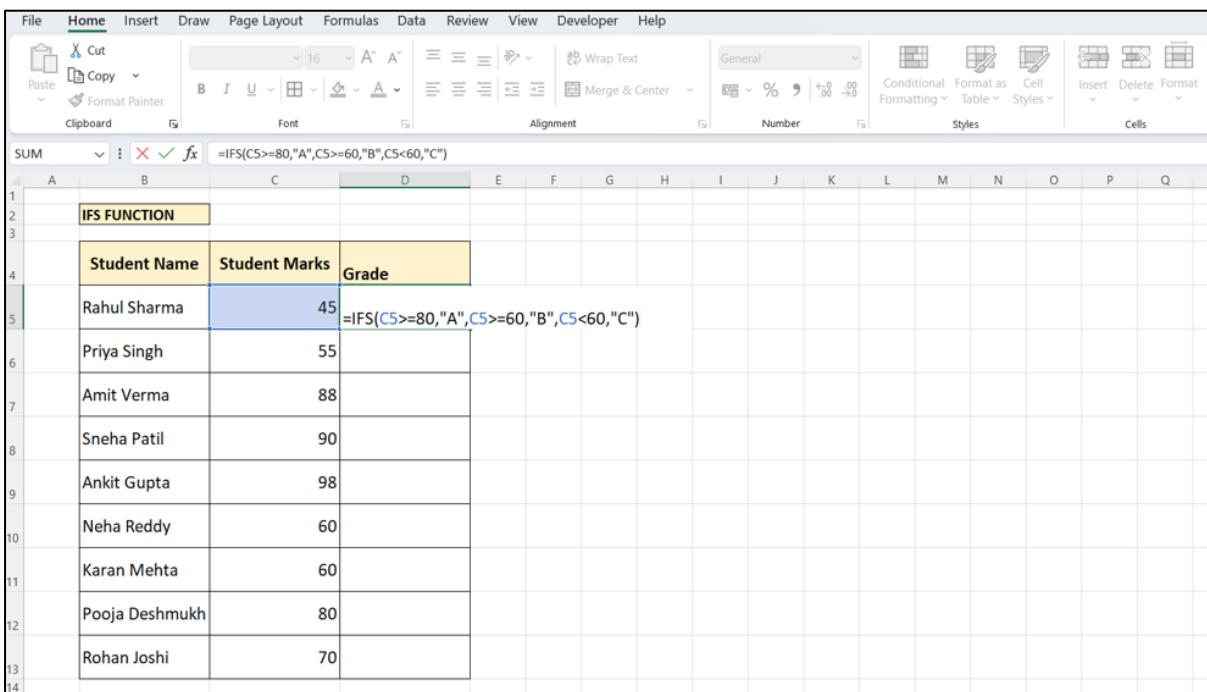
## Q.7 Apply the IFS function to grade students as A, B, C based on marks.

### Input Data:



A screenshot of Microsoft Excel showing a table of student marks. The table has two columns: 'Student Name' and 'Student Marks'. The data rows are as follows:

	Student Name	Student Marks
5	Rahul Sharma	45
6	Priya Singh	55
7	Amit Verma	88
8	Sneha Patil	90
9	Ankit Gupta	98
10	Neha Reddy	60
11	Karan Mehta	60
12	Pooja Deshmukh	80
13	Rohan Joshi	70



A screenshot of Microsoft Excel showing the same student marks data as above, but with an IFS function formula applied in column D. The formula is =IFS(C5>=80,"A",C5>=60,"B",C5<60,"C"). The table now includes a third column 'Grade'.

	Student Name	Student Marks	Grade
5	Rahul Sharma	45	=IFS(C5>=80,"A",C5>=60,"B",C5<60,"C")
6	Priya Singh	55	
7	Amit Verma	88	
8	Sneha Patil	90	
9	Ankit Gupta	98	
10	Neha Reddy	60	
11	Karan Mehta	60	
12	Pooja Deshmukh	80	
13	Rohan Joshi	70	

## Output:

## Q.8 Use SUMIFS to calculate total sales of a product in a specific region.

**Input Data:**

A screenshot of Microsoft Excel showing a table of sales data. The table has columns for Product, Region, and Sales. The data shows sales for Apple and Banana across East and West regions. The table is selected, and the formula bar shows the formula =SUMIF(D5:D10,B5:B10,"Apple").

Product	Region	Sales
Apple	East	100
Banana	West	200
Apple	West	150
Banana	East	120
Apple	East	130
Banana	West	180

A screenshot of Microsoft Excel showing the same sales data table from above, but with an additional column labeled "Sum Ifs". The formula bar now shows the formula =SUMIFS(D5:D10,B5:B10,"Apple"). The cell E5 contains the formula =SUMIFS(D5:D10,B5:B10,"Apple").

Product	Region	Sales	Sum Ifs
Apple	East	100	=SUMIFS(D5:D10,B5:B10,"Apple")
Banana	West	200	
Apple	West	150	
Banana	East	120	
Apple	East	130	
Banana	West	180	

## Output:

## Q.9 Use DATEDIF to calculate the age of employees from their Date of Birth.

### Input Data:

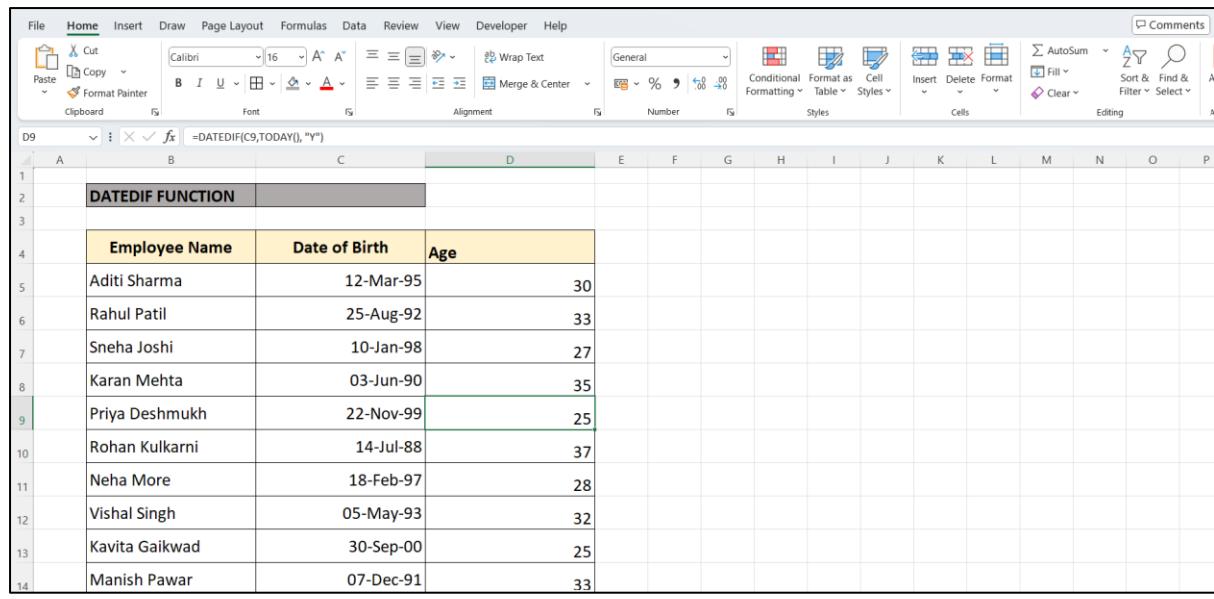
The screenshot shows a Microsoft Excel spreadsheet titled "DATEDIF FUNCTION". The table has two columns: "Employee Name" and "Date of Birth". The data includes:

DATEDIF FUNCTION	
Employee Name	Date of Birth
Aditi Sharma	12-Mar-95
Rahul Patil	25-Aug-92
Sneha Joshi	10-Jan-98
Karan Mehta	03-Jun-90
Priya Deshmukh	22-Nov-99
Rohan Kulkarni	14-Jul-88
Neha More	18-Feb-97
Vishal Singh	05-May-93
Kavita Gaikwad	30-Sep-00
Manish Pawar	07-Dec-91

The screenshot shows the same Microsoft Excel spreadsheet with an additional column "Age" added. The formula `=DATEDIF(C5,TODAY(),"Y")` is entered in cell D5, and it is copied down to the other rows. The table now has three columns: "Employee Name", "Date of Birth", and "Age". The data remains the same as in the previous screenshot.

DATEDIF FUNCTION		
Employee Name	Date of Birth	Age
Aditi Sharma	12-Mar-95	=DATEDIF(C5,TODAY(),"Y")
Rahul Patil	25-Aug-92	
Sneha Joshi	10-Jan-98	
Karan Mehta	03-Jun-90	
Priya Deshmukh	22-Nov-99	
Rohan Kulkarni	14-Jul-88	
Neha More	18-Feb-97	
Vishal Singh	05-May-93	
Kavita Gaikwad	30-Sep-00	
Manish Pawar	07-Dec-91	

## Output:



The screenshot shows a Microsoft Excel spreadsheet with the following details:

- Sheet Title:** DATEDIF FUNCTION
- Columns:** Employee Name, Date of Birth, Age
- Data Rows:** 10 rows of employee information.
- Cell D9:** Contains the formula `=DATEDIF(C9,TODAY(),""Y"")`.
- Font:** Calibri, Size 16.
- Number Format:** General.
- Table Structure:** A standard table with alternating row colors (light gray for even rows).
- Header Row:** Row 4 contains the column headers.
- Body Rows:** Rows 5 through 14 contain individual employee records.

## Q.10 Apply conditional formatting to highlight students who scored less than 40.

**Input Data:**

A screenshot of Microsoft Excel showing a table of student information. The table has two columns: "Student Name" and "Student Marks". The data rows are as follows:

Student Information	
Student Name	Student Marks
Rahul Sharma	30
Priya Singh	55
Amit Verma	12
Sneha Patil	30
Ankit Gupta	52
Neha Reddy	60
Karan Mehta	16
Pooja Deshmukh	40
Rohan Joshi	40

A screenshot of Microsoft Excel showing the "Conditional Formatting" rules dialog box open. The "Highlight Cells Rules" section is selected, with "Less Than..." highlighted. The data rows are the same as in the previous screenshot.

The "Conditional Formatting" dropdown menu shows the following options:

- Highlight Cells Rules >
- Top/Bottom Rules >
- Data Bars
- Color Scales
- Icon Sets
- New Rule...
- Clear Rules
- Manage Rules...

Sub-options for "Highlight Cells Rules" include:

- Greater Than...
- Less Than...
- Between...
- Equal To...
- Text that Contains...
- A Date Occurring...
- Duplicate Values...

## Output:

Student Information	
Student Name	Student Marks
Rahul Sharma	30
Priya Singh	55
Amit Verma	12
Sneha Patil	30
Ankit Gupta	52
Neha Reddy	60
Karan Mehta	16
Pooja Deshmukh	40
Rohan Joshi	40

**Q.11 Create a pivot table to group sales data by month and summarize total sales.**

**Input Data:**

Date	Product	Sales Amount
01-Jan-25	Laptop	55,000
05-Jan-25	Mouse	800
10-Jan-25	Keyboard	1,200
15-Feb-25	Laptop	52,000
20-Feb-25	Monitor	9,000
25-Feb-25	Mouse	850
02-Mar-25	Keyboard	1,100
08-Mar-25	Laptop	58,000
12-Mar-25	Monitor	10,500
18-Apr-25	Mouse	900
22-Apr-25	Laptop	60,000
27-Apr-25	Keyboard	1,300
03-May-25	Monitor	9,500
10-May-25	Mouse	750
15-May-25	Laptop	57,000

Date	Product	Sales Amount
01-Jan-25	Laptop	55,000
05-Jan-25	Mouse	800
10-Jan-25	Keyboard	1,200
15-Feb-25	Laptop	52,000
20-Feb-25	Monitor	9,000
25-Feb-25	Mouse	850
02-Mar-25	Keyboard	1,100
08-Mar-25	Laptop	58,000
12-Mar-25	Monitor	10,500
18-Apr-25	Mouse	900
22-Apr-25	Laptop	60,000
27-Apr-25	Keyboard	1,300
03-May-25	Monitor	9,500
10-May-25	Mouse	750
15-May-25	Laptop	57,000

Screenshot of Microsoft Excel showing the 'Insert' tab selected. A PivotTable is being created from the range \$B\$5:\$D\$20. The 'PivotTable from table or range' dialog box is open, showing the selected range and options for placing the PivotTable on a new worksheet.

**PivotTable from table or range**

Select a table or range  
Table/Range: Sheet1!\$B\$5:\$D\$20

Choose where you want the PivotTable to be placed  
 New Worksheet  
 Existing Worksheet  
Location:

Choose whether you want to analyze multiple tables  
 Add this data to the Data Model

OK Cancel

Date	Product	Sales Amount
01-Jan-25	Laptop	55,000
05-Jan-25	Mouse	800
10-Jan-25	Keyboard	1,200
15-Feb-25	Laptop	52,000
20-Feb-25	Monitor	9,000
25-Feb-25	Mouse	850
02-Mar-25	Keyboard	1,100
08-Mar-25	Laptop	58,000
12-Mar-25	Monitor	10,500
18-Apr-25	Mouse	900
22-Apr-25	Laptop	60,000
27-Apr-25	Keyboard	1,300
03-May-25	Monitor	9,500
10-May-25	Mouse	750
15-May-25	Laptop	57,000

Screenshot of Microsoft Excel showing the 'PivotTable Analyze' tab selected. A PivotTable is being edited with the following configuration:

- PivotTable Fields** pane:
  - Selected fields: Sales Amount, Months (Date)
  - Available fields: Date, Product
- Drag fields between areas below** pane:
  - Filters**: Months (Date)
  - Columns**: None
  - Rows**: Months (Date)
  - Values**: Sum of Sales Amount

Date	Product	Sales Amount
01-Jan-25	Laptop	55,000
05-Jan-25	Mouse	800
10-Jan-25	Keyboard	1,200
15-Feb-25	Laptop	52,000
20-Feb-25	Monitor	9,000
25-Feb-25	Mouse	850
02-Mar-25	Keyboard	1,100
08-Mar-25	Laptop	58,000
12-Mar-25	Monitor	10,500
18-Apr-25	Mouse	900
22-Apr-25	Laptop	60,000
27-Apr-25	Keyboard	1,300
03-May-25	Monitor	9,500
10-May-25	Mouse	750
15-May-25	Laptop	57,000

## Output:

The screenshot shows a Microsoft Excel spreadsheet titled "Product & Sales Information". The data is organized into two main sections: a raw data table and a pivot table.

**Raw Data Table:**

	Date	Product	Sales Amount
6	01-Jan-25	Laptop	55,000
7	05-Jan-25	Mouse	800
8	10-Jan-25	Keyboard	1,200
9	15-Feb-25	Laptop	52,000
10	20-Feb-25	Monitor	9,000
11	25-Feb-25	Mouse	850
12	02-Mar-25	Keyboard	1,100
13	08-Mar-25	Laptop	58,000
14	12-Mar-25	Monitor	10,500
15	18-Apr-25	Mouse	900
16	22-Apr-25	Laptop	60,000
17	27-Apr-25	Keyboard	1,300
18	03-May-25	Monitor	9,500
19	10-May-25	Mouse	750
20	15-May-25	Laptop	57,000

**Pivot Table:**

Row Labels	Sum of Sales Amount
Jan	57000
Feb	61850
Mar	69600
Apr	62200
May	67250
<b>Grand Total</b>	<b>317900</b>

## Q12.Add a calculated field in a pivot table to show profit percentage.

### Input Data:

The screenshot shows a Microsoft Excel spreadsheet titled "Product & Sales Information". The data is organized into three columns: "Product Name", "Sales Amount", and "Cost Amount". The rows contain 19 data points for various products like Laptop, Mouse, Keyboard, and Monitor, along with their respective sales and cost values.

	Product Name	Sales Amount	Cost Amount
6	Laptop	55,000	45,000
7	Mouse	800	500
8	Keyboard	1,200	850
9	Monitor	10,000	8,000
10	Printer	7,500	6,000
11	Laptop	60,000	49,000
12	Mouse	900	600
13	Keyboard	1,100	850
14	Monitor	9,500	7,200
15	Printer	8,000	6,200
16	Laptop	58,000	47,000
17	Mouse	850	550
18	Keyboard	1,300	950
19	Monitor	10,200	8,100
20	Printer	7,800	6,100

The screenshot shows the "Insert" tab selected in the Excel ribbon. A "PivotTable" dialog box is open, prompting the user to "Select a table or range". The range "Sheet1!\$B\$5:\$D\$20" is selected in the "Table/Range" field. The "New Worksheet" option is selected under "Choose where you want the PivotTable to be placed". A "PivotTable from table or range" dialog box is also visible on the right side of the screen, showing the selected table range and placement options.

**PivotTable Fields**

Choose fields to add to report:

Search

Product  
 Sales Amount  
 Cost Amount  
 Profit%

More Tables...

Drag fields between areas below:

Filters

Columns

Values

Rows

Values

Product

Sum of Sales Amount  
Sum of Cost Amount  
Sum of Profit%

Product Name	Sales Amount	Cost Amount
Laptop	55,000	45,000
Mouse	800	500
Keyboard	1,200	850
Monitor	10,000	8,000
Printer	7,500	6,000
Laptop	60,000	49,000
Mouse	900	600
Keyboard	1,100	850
Monitor	9,500	7,200
Printer	8,000	6,200
Laptop	58,000	47,000
Mouse	850	550
Keyboard	1,300	950
Monitor	10,200	8,100
Printer	7,800	6,100

## Output:

**ADD CALCULATED FIELD**

Product Name	Sales Amount	Cost Amount	Row Labels	Sum of Sales Amount	Sum of Cost Amount	Sum of Profit%
Laptop	55,000	45,000	Keyboard	3600	2650	26.38888889
Mouse	800	500	Laptop	173000	141000	18.49710983
Keyboard	1,200	850	Monitor	29700	23300	21.54882155
Monitor	10,000	8,000	Mouse	2550	1650	35.29411765
Printer	7,500	6,000	Printer	23300	18300	21.45922747
Laptop	60,000	49,000	<b>Grand Total</b>	<b>232150</b>	<b>186900</b>	<b>19.49170795</b>
Mouse	900	600				
Keyboard	1,100	850				
Monitor	9,500	7,200				
Printer	8,000	6,200				
Laptop	58,000	47,000				
Mouse	850	550				
Keyboard	1,300	950				
Monitor	10,200	8,100				
Printer	7,800	6,100				

## Q13. Summarize student marks by subject and calculate average marks using Pivot Table.

**Input Data:**

A screenshot of Microsoft Excel showing a table titled "Student Information". The table has three columns: "Student Name", "Subject Name", and "Marks". The data is as follows:

	Student Name	Subject Name	Marks
6	Aditi	Math	85
7	Rohan	Science	78
8	Priya	English	90
9	Aarav	Math	88
10	Sneha	Science	82
11	Karan	English	76
12	Aditi	Science	80
13	Rohan	Math	92
14	Priya	Science	85
15	Aarav	English	89

A screenshot of Microsoft Excel showing the "Insert" tab selected. A dropdown menu is open under the "PivotTable" button, with the "From Table/Range" option highlighted. The table "Student Information" is visible below the ribbon.

The table "Student Information" is identical to the one in the previous screenshot, containing the same 15 rows of student data.

	Student Name	Subject Name	Marks
6	Aditi	Math	85
7	Rohan	Science	78
8	Priya	English	90
9	Aarav	Math	88
10	Sneha	Science	82
11	Karan	English	76
12	Aditi	Science	80
13	Rohan	Math	92
14	Priya	Science	85
15	Aarav	English	89

Screenshot of Microsoft Excel showing the 'Insert' tab selected. A PivotTable is being created from the range A6:L15. The 'PivotTable from table or range' dialog box is open, showing options for 'New Worksheet' (selected), 'Existing Worksheet' (radio button), and 'Location' set to 'Sheet1!\$D\$19'. The 'Add this data to the Data Model' checkbox is unchecked.

	Student Name	Subject Name	Marks
6	Aditi	Math	85
7	Rohan	Science	78
8	Priya	English	90
9	Aarav	Math	88
10	Sneha	Science	82
11	Karan	English	76
12	Aditi	Science	80
13	Rohan	Math	92
14	Priya	Science	85
15	Aarav	English	89

Screenshot of Microsoft Excel showing the 'PivotTable Analyze' tab selected. The PivotTable Fields pane is open, displaying fields: 'Student Name' (unchecked), 'Subject Name' (checked), and 'Marks' (checked). The 'Rows' section shows 'Subject Name' under 'Rows', and the 'Values' section shows 'Average of Marks' under 'Σ Values'.

	Student Name	Subject Name	Marks
6	Aditi	Math	85
7	Rohan	Science	78
8	Priya	English	90
9	Aarav	Math	88
10	Sneha	Science	82
11	Karan	English	76
12	Aditi	Science	80
13	Rohan	Math	92
14	Priya	Science	85
15	Aarav	English	89

## Output:

The screenshot shows a Microsoft Excel spreadsheet with the following data:

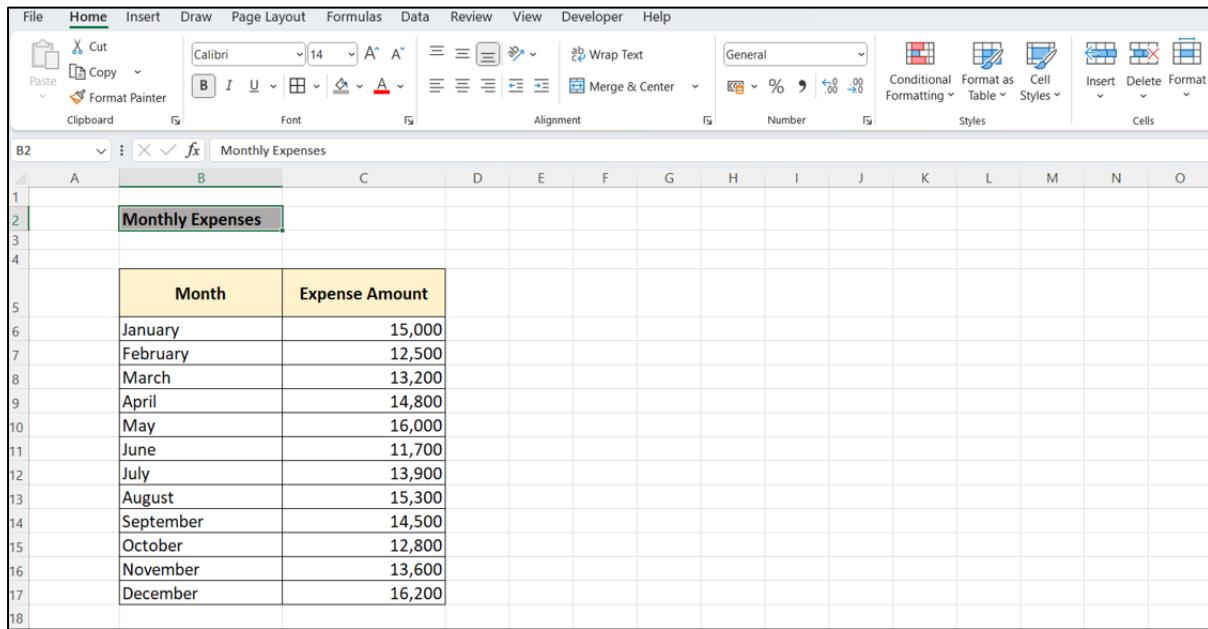
Student Information			CALCULATE AVERAGE MARKS	
	Student Name	Subject Name	Marks	
6	Aditi	Math	85	
7	Rohan	Science	78	
8	Priya	English	90	
9	Aarav	Math	88	
10	Sneha	Science	82	
11	Karan	English	76	
12	Aditi	Science	80	
13	Rohan	Math	92	
14	Priya	Science	85	
15	Aarav	English	89	

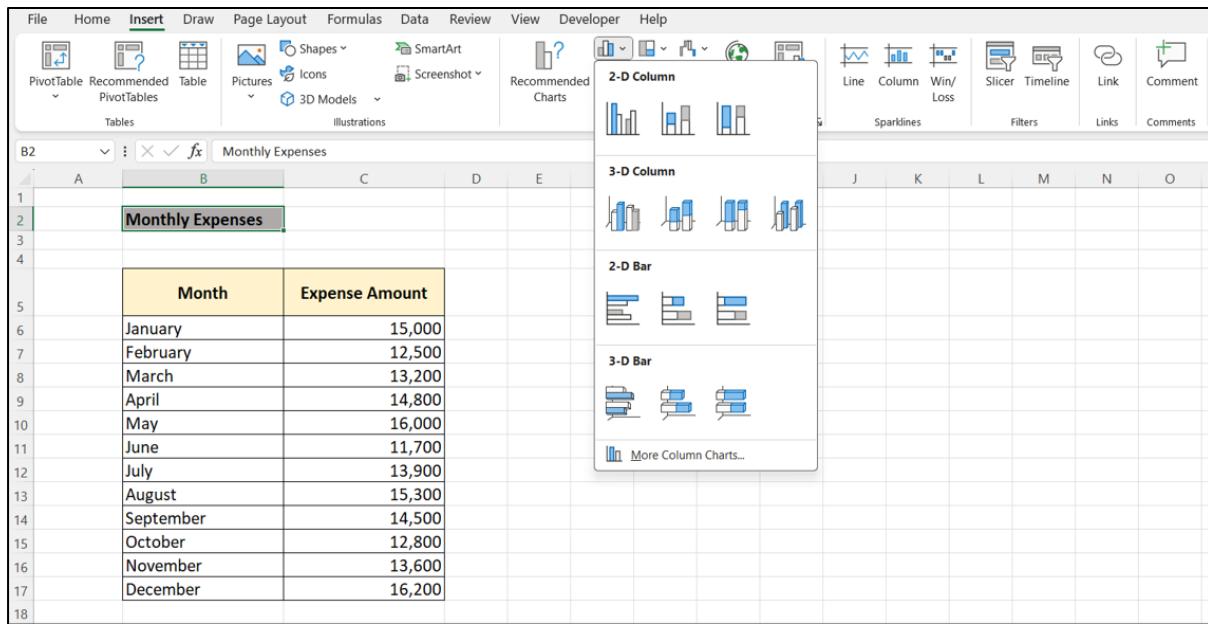
Row Labels	Average of Marks
English	85
Math	88.33333333
Science	81.25
<b>Grand Total</b>	<b>84.5</b>

## Q14.Create a Bar Chart for showing monthly expenses.

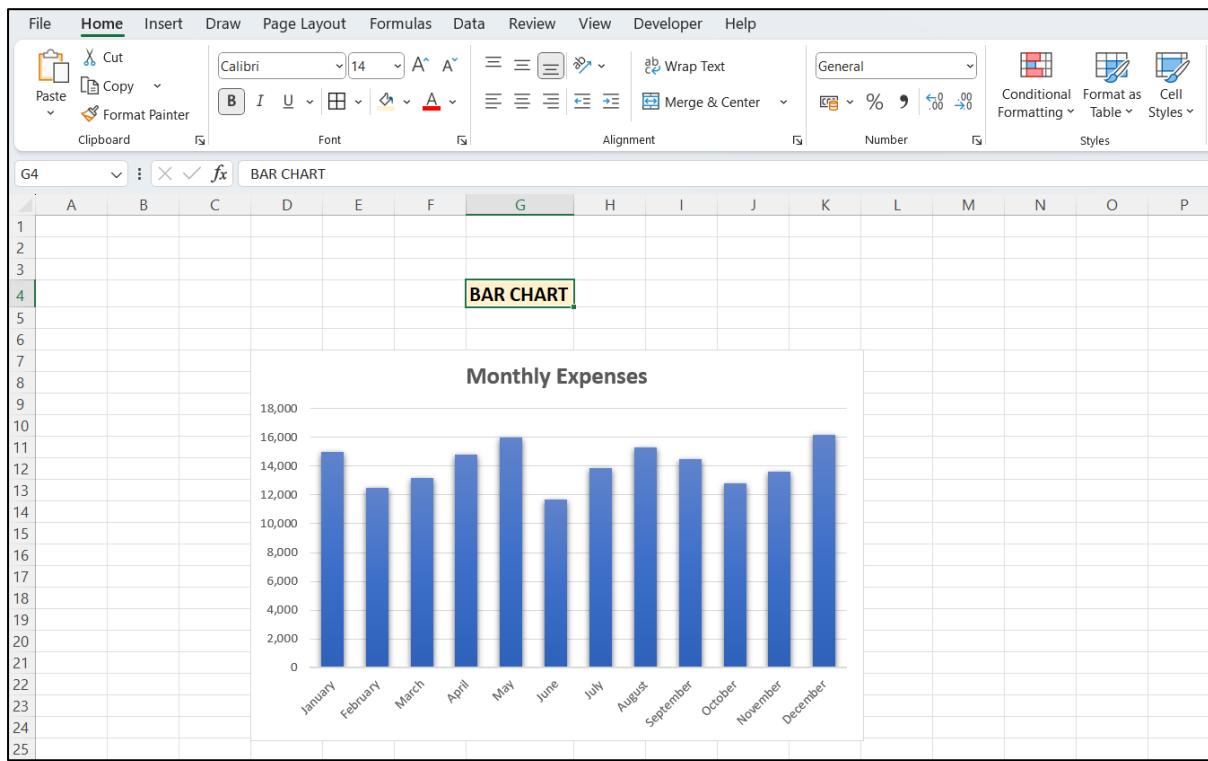
### Input Data:



	Month	Expense Amount
1	January	15,000
2	February	12,500
3	March	13,200
4	April	14,800
5	May	16,000
6	June	11,700
7	July	13,900
8	August	15,300
9	September	14,500
10	October	12,800
11	November	13,600
12	December	16,200



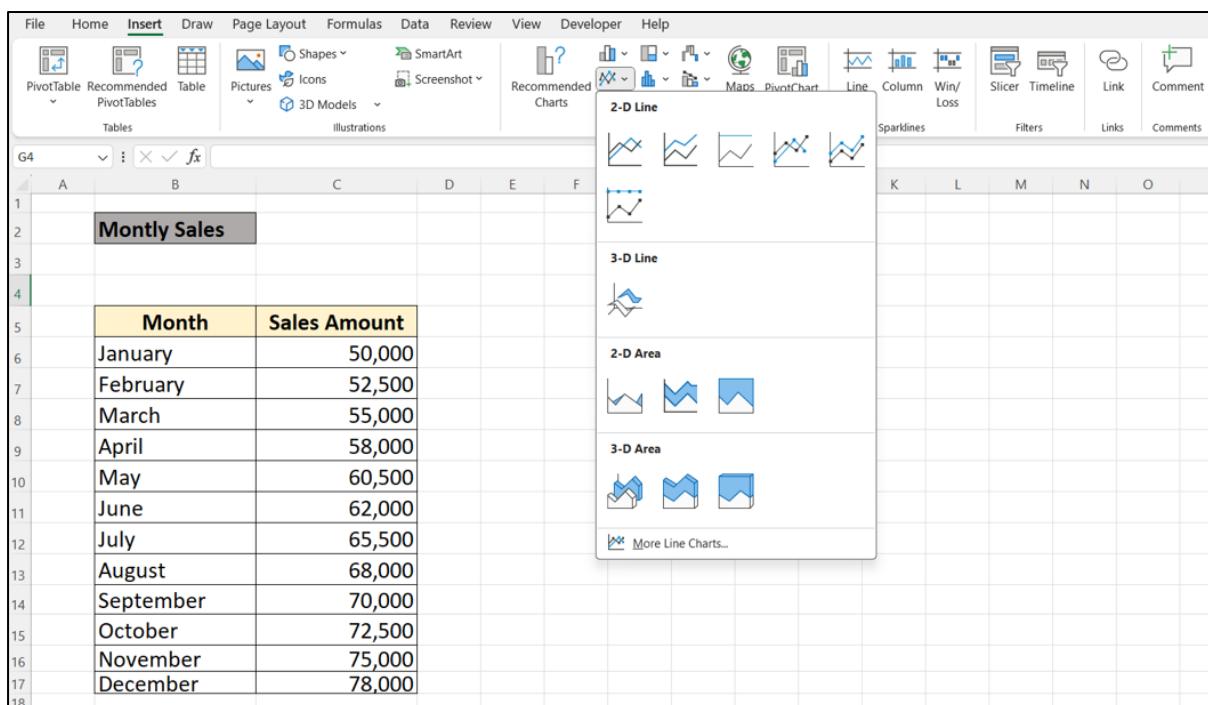
## Output:



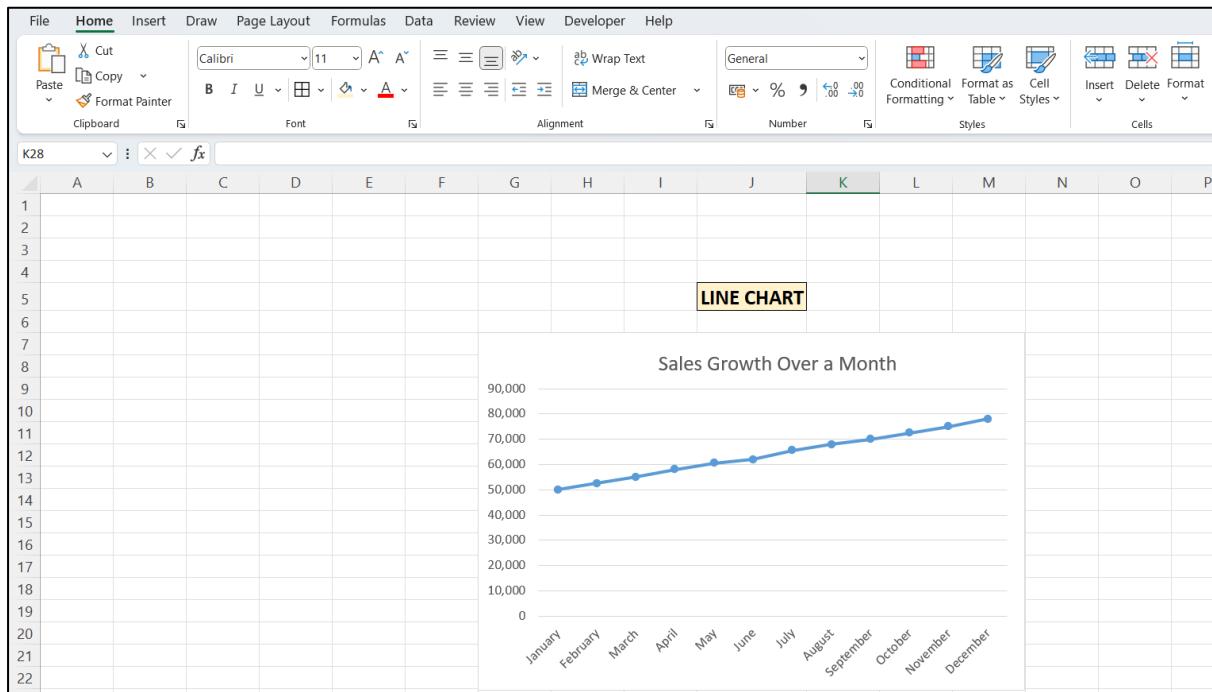
## Q15.Create a Line Chart for sales growth over a year.

### Input Data:

Monthly Sales	
Month	Sales Amount
January	50,000
February	52,500
March	55,000
April	58,000
May	60,500
June	62,000
July	65,500
August	68,000
September	70,000
October	72,500
November	75,000
December	78,000



## Output:

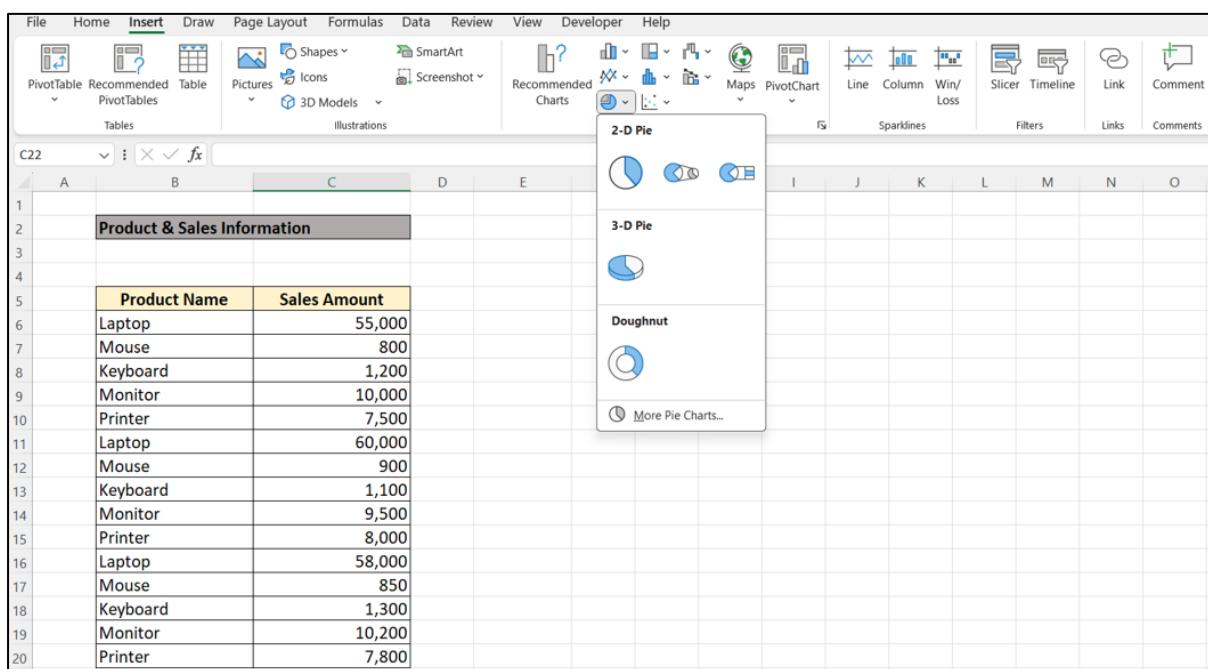


## 16.Create a Pie Chart to show percentage contribution of different products.

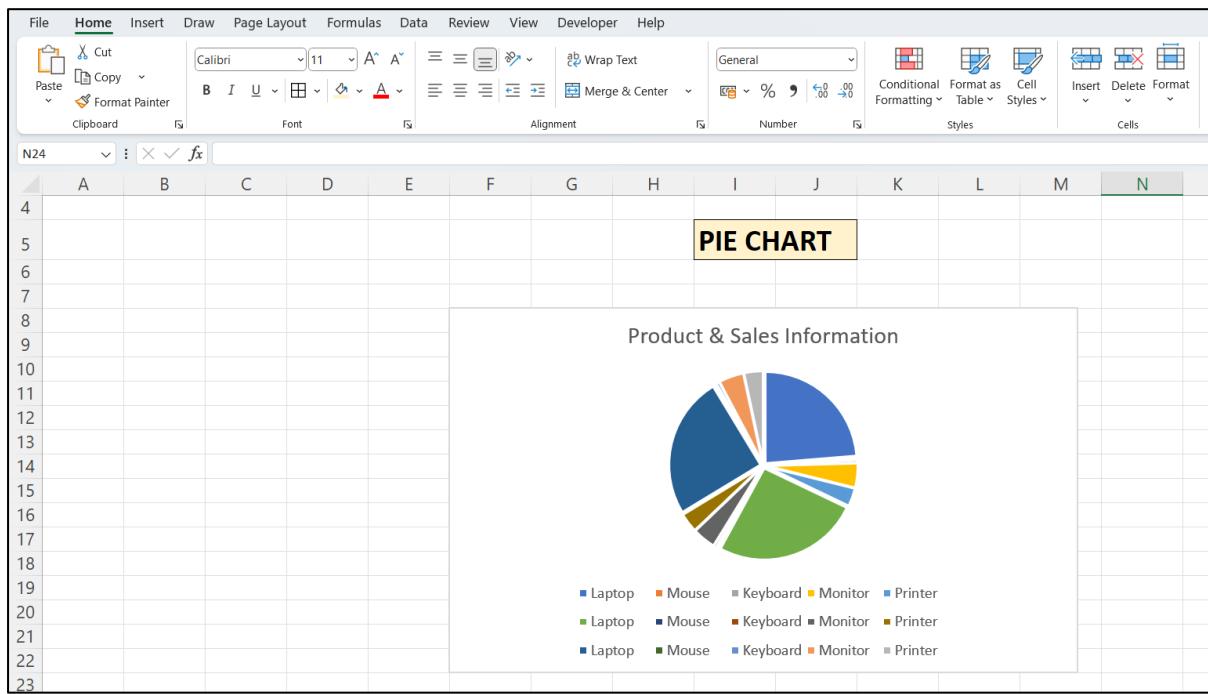
**Input Data:**

The screenshot shows a Microsoft Excel spreadsheet titled "Product & Sales Information". The table has two columns: "Product Name" and "Sales Amount". The data includes various products like Laptop, Mouse, Keyboard, Monitor, and Printer, along with their respective sales amounts. The table is located in the range C22:O20.

Product Name	Sales Amount
Laptop	55,000
Mouse	800
Keyboard	1,200
Monitor	10,000
Printer	7,500
Laptop	60,000
Mouse	900
Keyboard	1,100
Monitor	9,500
Printer	8,000
Laptop	58,000
Mouse	850
Keyboard	1,300
Monitor	10,200
Printer	7,800

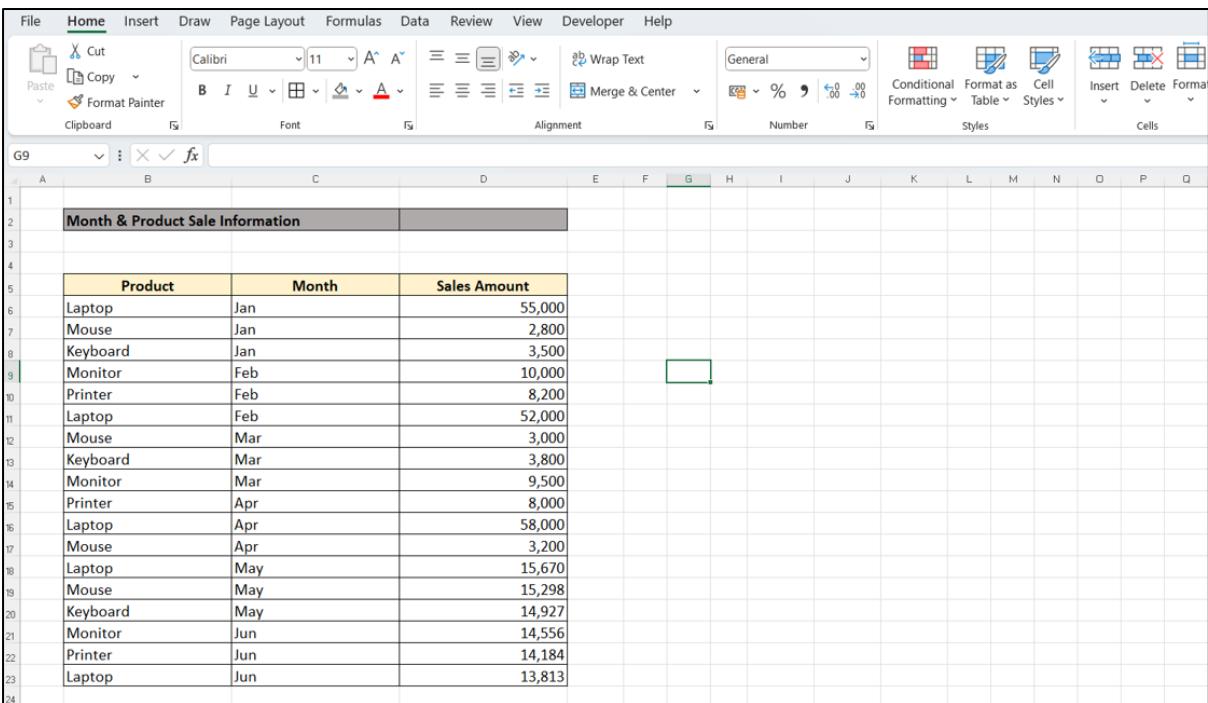


## Output:



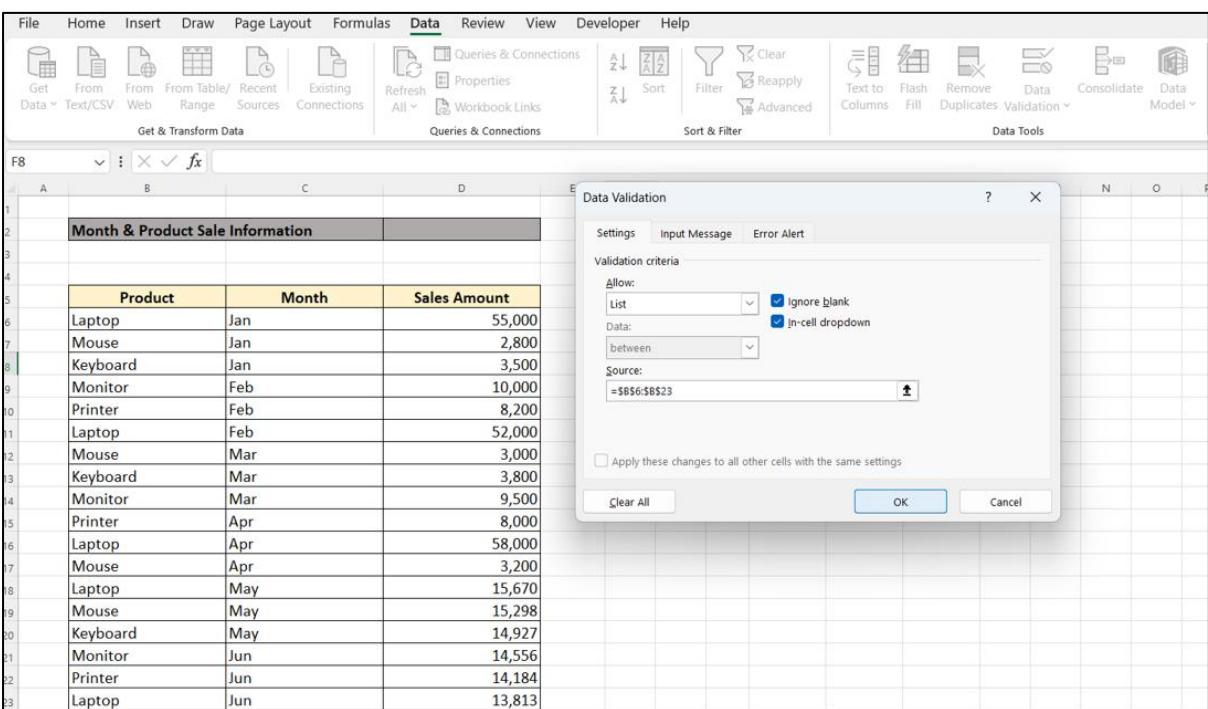
## 17. Demonstrate Dynamic Charting by creating a chart that changes based on dropdown selection.

### Input Data:



The screenshot shows a Microsoft Excel spreadsheet titled "Month & Product Sale Information". The table has three columns: Product, Month, and Sales Amount. The data includes various products like Laptop, Mouse, Keyboard, Monitor, and Printer across months Jan through Jun. The table is styled with alternating row colors and bold headers.

Month & Product Sale Information		
Product	Month	Sales Amount
Laptop	Jan	55,000
Mouse	Jan	2,800
Keyboard	Jan	3,500
Monitor	Feb	10,000
Printer	Feb	8,200
Laptop	Feb	52,000
Mouse	Mar	3,000
Keyboard	Mar	3,800
Monitor	Mar	9,500
Printer	Apr	8,000
Laptop	Apr	58,000
Mouse	Apr	3,200
Laptop	May	15,670
Mouse	May	15,298
Keyboard	May	14,927
Monitor	Jun	14,556
Printer	Jun	14,184
Laptop	Jun	13,813



The screenshot shows the same Excel spreadsheet with the "Data Validation" dialog box open. The dialog box is set to "Allow: List" and "Source: =\$B\$6:\$B\$23". The "OK" button is highlighted.

**Data Validation**

Settings   Input Message   Error Alert

Validation criteria

Allow:  List    Ignore blank  
 In-cell dropdown

Data:

Source:

Apply these changes to all other cells with the same settings

Clear All   OK   Cancel

K7

=FILTER(D6:D23,B6:B23=I6)

**Month & Product Sale Information**

Product	Month	Sales Amount
Laptop	Jan	55,000
Mouse	Jan	2,800
Keyboard	Jan	3,500
Monitor	Feb	10,000
Printer	Feb	8,200
Laptop	Feb	52,000
Mouse	Mar	3,000
Keyboard	Mar	3,800
Monitor	Mar	9,500
Printer	Apr	8,000
Laptop	Apr	58,000
Mouse	Apr	3,200
Laptop	May	15,670
Mouse	May	15,298
Keyboard	May	14,927
Monitor	Jun	14,556
Printer	Jun	14,184
Laptop	Jun	13,813

Insert Chart

Recommended Charts All Charts

- Recent
- Templates
- Column**
- Line
- Pie
- Bar
- Area
- X Y (Scatter)
- Map
- Stock
- Surface
- Radar
- Treemap
- Sunburst
- Histogram
- Box & Whisker
- Waterfall
- Funnel
- Combo

Clustered Column

Sales Amount

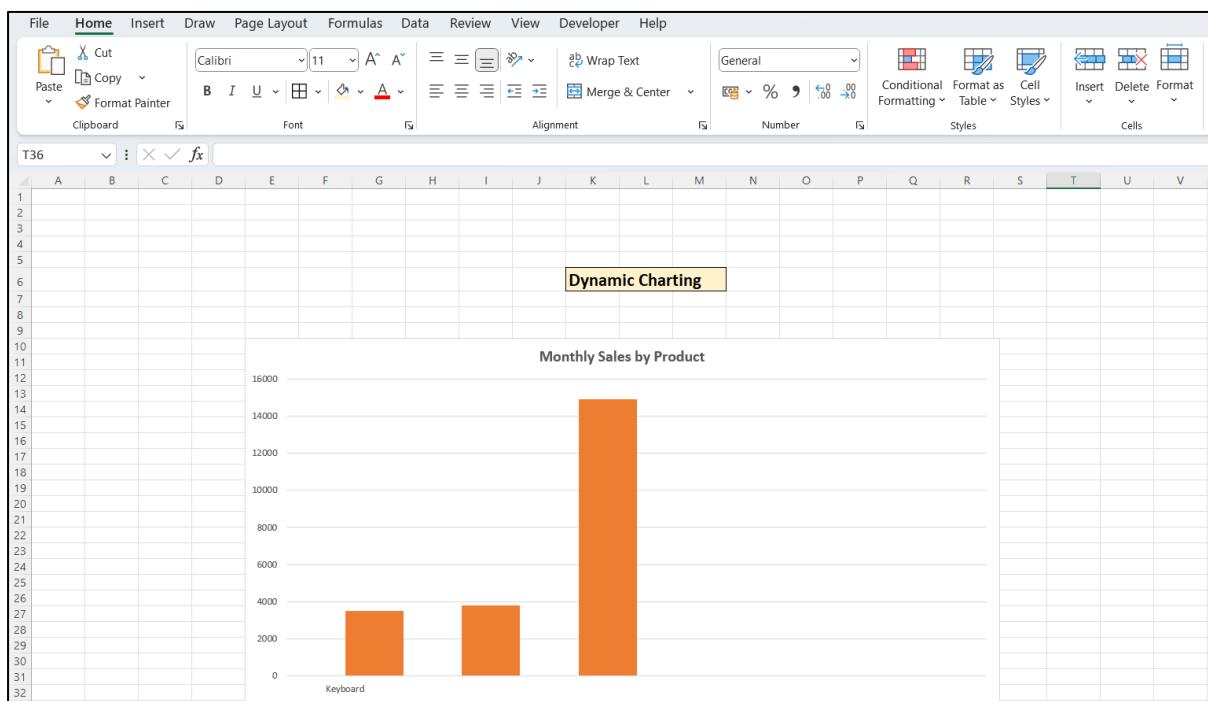
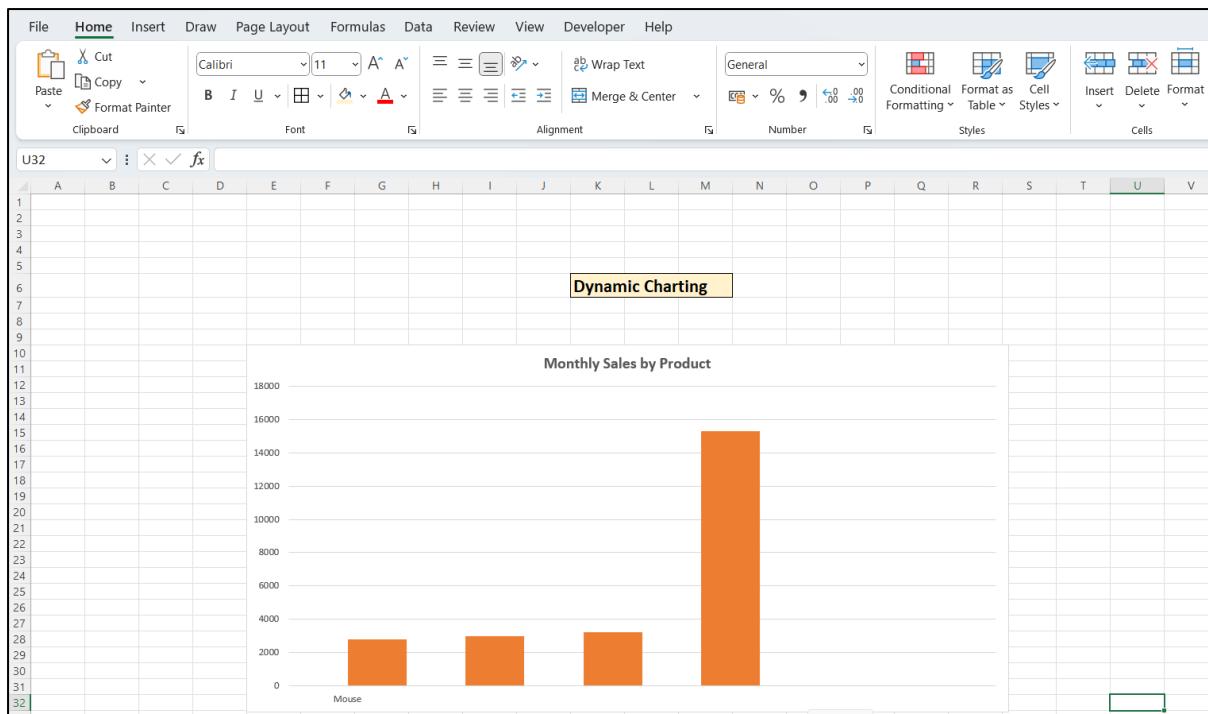
## Output:

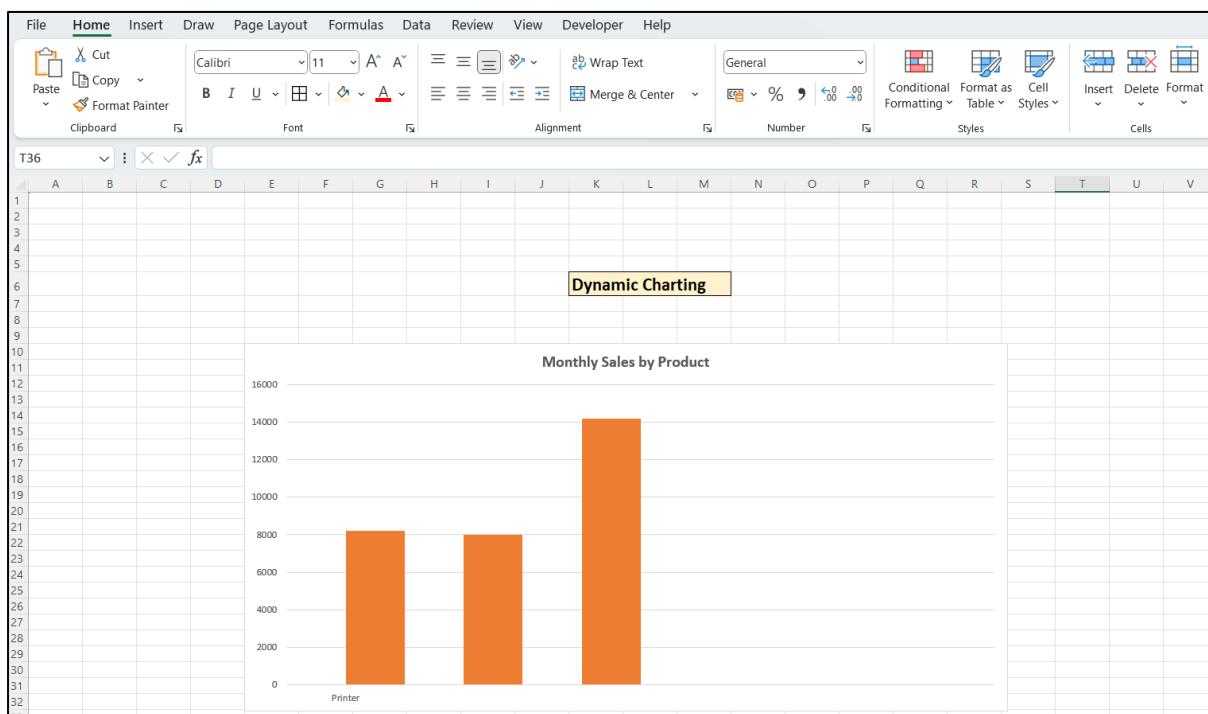
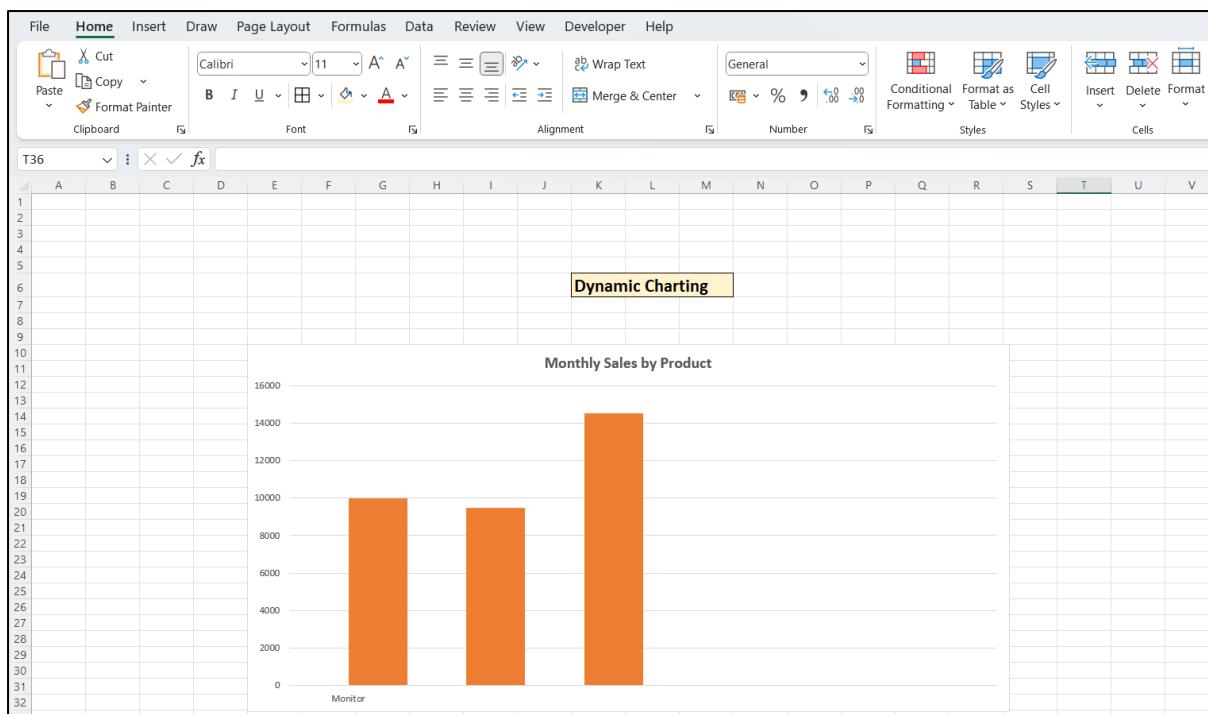
S32

**Dynamic Charting**

**Monthly Sales by Product**

Product	Month	Sales Amount
Laptop	Jan	55,000
Laptop	Feb	52,000
Laptop	Mar	15,670
Laptop	Apr	58,000
Mouse	May	15,298
Keyboard	May	14,927
Monitor	Jun	14,556
Printer	Jun	14,184
Laptop	Jun	13,813





**18. Use Goal Seek to find the required marks in final exam to achieve 70% overall.**

## Input Data:

A	B	C	D	E	F	G	H	I	J
1									
2		Final Exam Marks							
3			GOAL SEEK						
4									
5		Exam Title	Maximum Marks	Obtained Marks	Weightage (%)	Percentage			
6		Assignment	100	80	20	80			
7		Midterm Exam	100	65	30	65			
8		Final Exam	100		50	0			
9		Overall							
10									

## Output:

A	B	C	D	E	F	G
1						
2		Final Exam Marks				
3			GOAL SEEK			
4						
5		Exam Title	Maximum Marks	Obtained Marks	Weightage (%)	Percentage
6		Assignment	100	80	20	80
7		Midterm Exam	100	65	30	65
8		Final Exam	100	70	50	70
9		Overall				71.666667
10						
11						

19. Use a Data Table to analyze monthly EMI payments for different loan interest rates.

## Input Data:

## Output:

Loan amount and Rate Information										
Monthly EMI Payments										
	Loan Amount	Loan Period (in Years)	Interest Rate	EMI (Result)						
7	5,00,000	5	8%	=PMT(\$D\$7/12,C7*12,-B7)						
8	5,00,000	4	7%	₹ 12,206.46						
9	5,00,000	2	6%	₹ 22,613.65						

Loan amount and Rate Information

Monthly EMI Payments

	Loan Amount	Loan Period (in Years)	Interest Rate	EMI (Result)
7	5,00,000	5	8%	₹ 10,138.20
8	5,00,000	4	7%	₹ 12,206.46
9	5,00,000	2	6%	₹ 22,613.65

Loan amount and Rate Information

Monthly EMI Payments

	Loan Amount	Loan Period (in Years)	Interest Rate	EMI (Result)
7	5,00,000	5	8%	₹ 10,138.20
8	5,00,000	4	7%	₹ 12,206.46
9	5,00,000	2	6%	₹ 22,613.65

**20. Use Scenario Manager to compare profit under Best Case, Worst Case, and Normal Case scenarios.**

## Input Data:

The screenshot shows a Microsoft Excel spreadsheet with the following data:

	Month	Product Category	Units Sold	Revenue (₹)
1	January	Electronics	120	4,80,000
2	January	Clothing	250	1,87,500
3	January	Furniture	80	2,40,000
4	February	Electronics	130	5,20,000
5	February	Clothing	270	2,02,500
6	February	Furniture	90	2,70,000
7	March	Electronics	150	6,00,000
8	March	Clothing	300	2,25,000
9	March	Furniture	100	3,00,000
10				
11				

Product Sales Data Analysis												
Month	Product Category	Units Sold	Revenue (₹)		Multiplier	Performance Metrics						
			Actual	Target		Growth (%)		Market Share (%)		Customer Satisfaction		Operational Efficiency
January	Electronics	120	4,80,000	5,00,000	1	10%	15%	12%	14%	85%	90%	80%
January	Clothing	250	1,87,500	2,00,000	1	12%	18%	14%	16%	88%	92%	82%
January	Furniture	80	2,40,000	2,40,000	1	15%	20%	18%	22%	90%	95%	85%
February	Electronics	130	5,20,000	5,50,000	1	18%	22%	20%	24%	92%	98%	88%
February	Clothing	270	2,02,500	2,25,000	1	20%	25%	22%	26%	94%	99%	90%
February	Furniture	90	2,70,000	3,00,000	1	22%	28%	24%	28%	96%	100%	92%
March	Electronics	150	6,00,000	6,50,000	1	25%	30%	28%	32%	98%	105%	95%
March	Clothing	300	2,25,000	2,50,000	1	28%	35%	32%	38%	100%	110%	98%
March	Furniture	100	3,00,000	3,50,000	1	30%	40%	35%	45%	102%	115%	100%
April	Electronics	160	6,40,000	7,00,000	1	35%	45%	40%	50%	105%	120%	105%

Screenshot of Microsoft Excel showing the Scenario Manager dialog box open over a data table.

**Data Table Headers:**

Month	Product Category	Units Sold	Revenue (₹)	Adjusted Revenue	Multiplier
-------	------------------	------------	-------------	------------------	------------

**Data Table Rows (January-March):**

January	Electronics	120	4,80,000	576000	
January	Clothing	250	1,87,500	225000	
January	Furniture	80	2,40,000	288000	
February	Electronics	130	5,20,000	624000	
February	Clothing	270	2,02,500	243000	
February	Furniture	90	2,70,000	324000	
March	Electronics	150	6,00,000	720000	
March	Clothing	300	2,25,000	270000	
March	Furniture	100	3,00,000	360000	

**Scenario Manager Dialog Box:**

- Scenarios: Best Case, Worst Case, Most Likely Case
- Changing cells: \$F\$3
- Comment: Created by Sai Ganばvale on 13-10-2025  
Modified by Sai Ganばvale on 13-10-2025

Screenshot of Microsoft Excel showing the Scenario Manager dialog box open over a data table.

**Data Table Headers:**

Month	Product Category	Units Sold	Revenue (₹)	Adjusted Revenue	Multiplier
-------	------------------	------------	-------------	------------------	------------

**Data Table Rows (January-March):**

January	Electronics	120	4,80,000	408000	0.85
January	Clothing	250	1,87,500	159375	
January	Furniture	80	2,40,000	204000	
February	Electronics	130	5,20,000	442000	
February	Clothing	270	2,02,500	172125	
February	Furniture	90	2,70,000	229500	
March	Electronics	150	6,00,000	510000	
March	Clothing	300	2,25,000	191250	
March	Furniture	100	3,00,000	255000	

**Scenario Manager Dialog Box:**

- Scenarios: Best Case, Worst Case, Most Likely Case
- Changing cells: \$F\$3
- Comment: Created by Sai Ganばvale on 13-10-2025  
Modified by Sai Ganばvale on 13-10-2025

The screenshot shows a Microsoft Excel spreadsheet with data in columns A through F. The columns are labeled: Month, Product Category, Units Sold, Revenue (₹), Adjusted Revenue, and Multiplier. The data spans from row 3 to row 11. The 'Scenario Manager' dialog box is open, listing three scenarios: Best Case, Worst Case, and Most Likely Case. The 'Most Likely Case' is selected. The 'Changing cells:' field contains \$F\$3. The 'Comment:' field indicates the scenario was created by Sai Ganbavale on 13-10-2025 and modified on the same date.

Month	Product Category	Units Sold	Revenue (₹)	Adjusted Revenue	Multiplier
January	Electronics	120	4,80,000	480000	
January	Clothing	250	1,87,500	187500	
January	Furniture	80	2,40,000	240000	
February	Electronics	130	5,20,000	520000	
February	Clothing	270	2,02,500	202500	
February	Furniture	90	2,70,000	270000	
March	Electronics	150	6,00,000	600000	
March	Clothing	300	2,25,000	225000	
March	Furniture	100	3,00,000	300000	

## Output:

The screenshot shows a Microsoft Excel spreadsheet with a 'Scenario Summary' report. The report includes sections for 'Current Values:', 'Best Case', 'Worst Case', and 'Most Likely Case'. It also lists 'Changing Cells:' (\$G\$3) and 'Result Cells:' for various scenarios. A note at the bottom states: 'Notes: Current Values column represents values of changing cells at time Scenario Summary Report was created. Changing cells for each scenario are highlighted in gray.' The report spans from row 6 to row 19.

Scenario Summary				
	Current Values:	Best Case	Worst Case	Most Likely Case
Changing Cells:	\$G\$3	1	1.2	0.85
Result Cells:				
	\$E\$3	480000	576000	408000
	\$E\$4	187500	225000	159375
	\$E\$5	240000	288000	204000
	\$E\$6	520000	624000	442000
	\$E\$7	202500	243000	172125
	\$E\$8	270000	324000	229500
	\$E\$9	600000	720000	510000
	\$E\$10	225000	270000	191250
	\$E\$11	300000	360000	255000
Notes: Current Values column represents values of changing cells at time Scenario Summary Report was created. Changing cells for each scenario are highlighted in gray.				

