Program 4: Data Analysis Process: Conditional Formatting, What- If Analysis, Data Tables, Charts & Graphs.

Data Analysis Process

The process of data analysis or alternately, data analysis steps, involves gathering all the information, processing it, exploring the data, and using it to find patterns and other insights. The process of data analysis consists of:

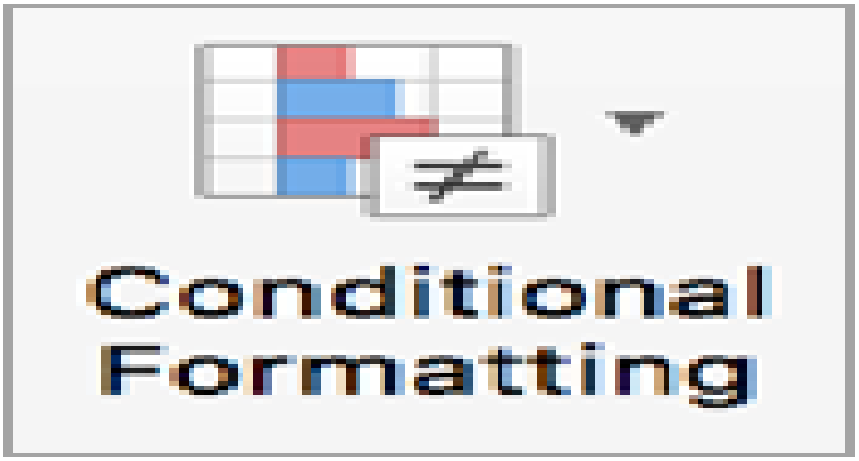
Step 1:

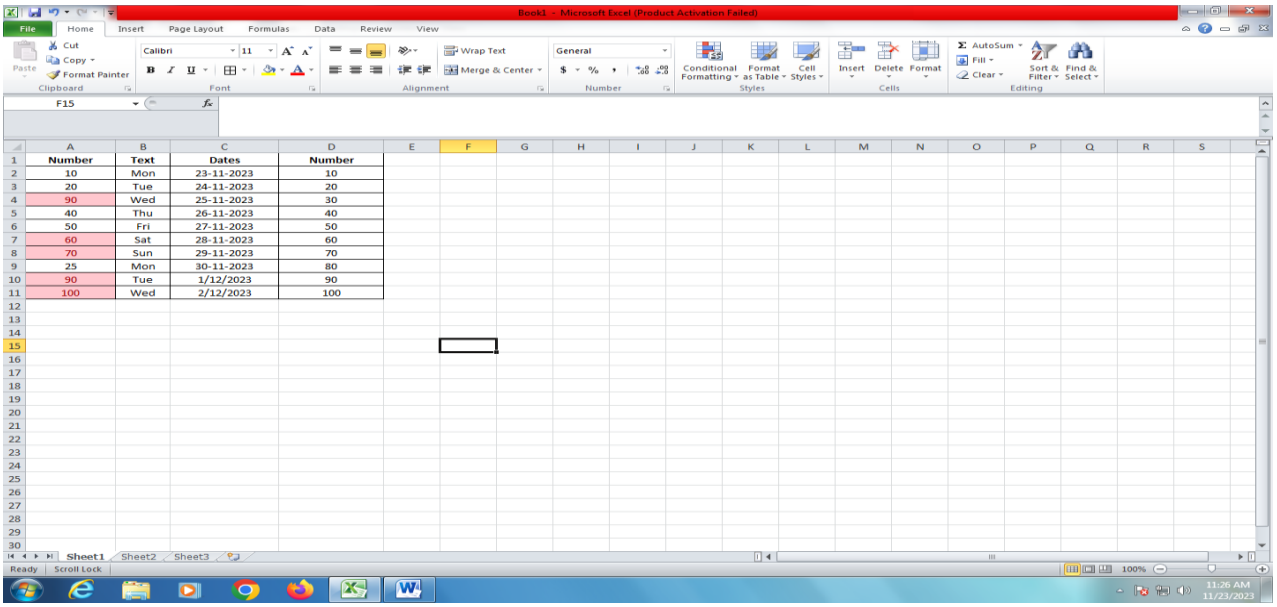
Conditional Formatting

Conditional formatting makes it easy to highlight certain values or make particular cells easy to identify. These changes the appearance of a cell range based on a condition (or criteria). We can use conditional formatting to highlight cells that contain values which meet a certain condition. Or We can format a whole cell range and vary the exact format as the value of each cell varies.

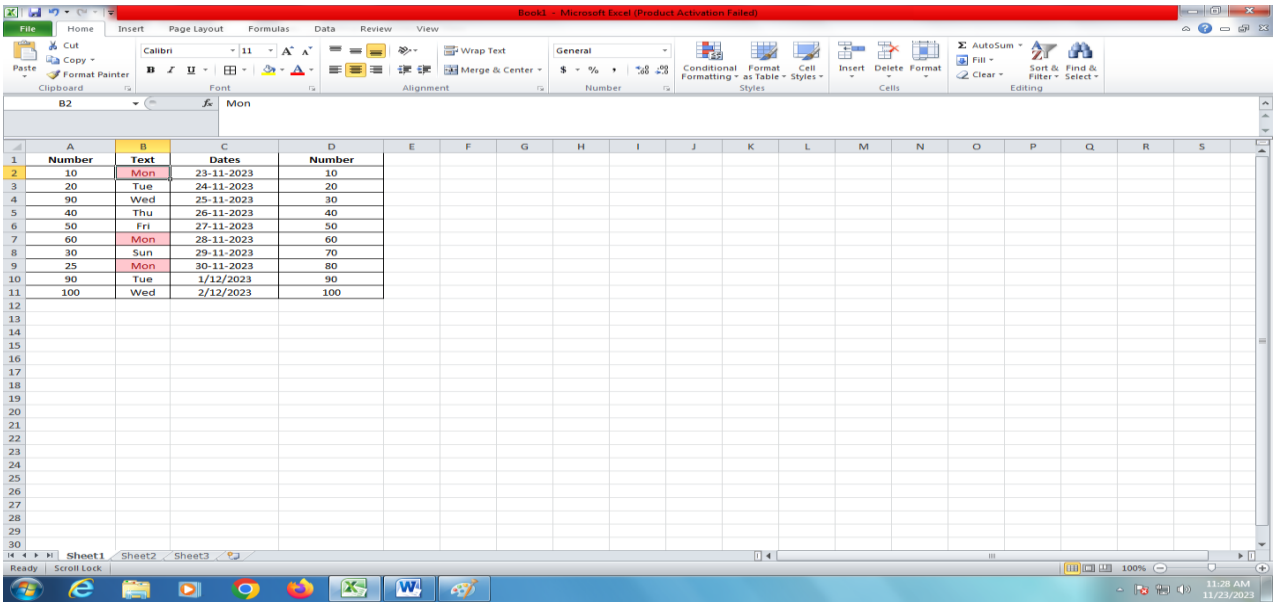
1. Select the range of cells, the table, or the whole sheet that you want to apply conditional formatting to.

2. On the **Home** tab, click **Conditional Formatting**.





	A	B	C	D
1	Number	Text	Dates	Number
2	10	Mon	23-11-2023	10
3	20	Tue	24-11-2023	20
4	90	Wed	25-11-2023	30
5	40	Thu	26-11-2023	40
6	50	Fri	27-11-2023	50
7	60	Sat	28-11-2023	60
8	70	Sun	29-11-2023	70
9	25	Mon	30-11-2023	80
10	90	Tue	1/12/2023	90
11	100	Wed	2/12/2023	100



	A	B	C	D
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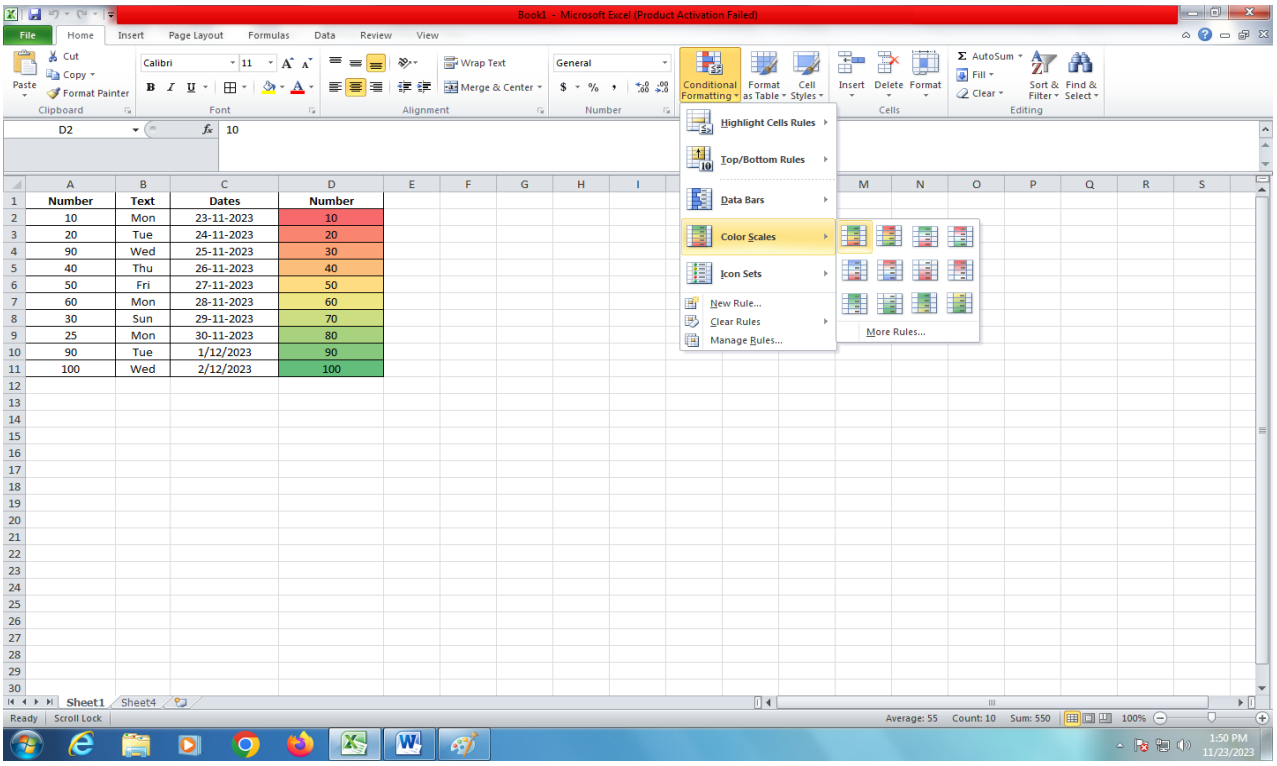
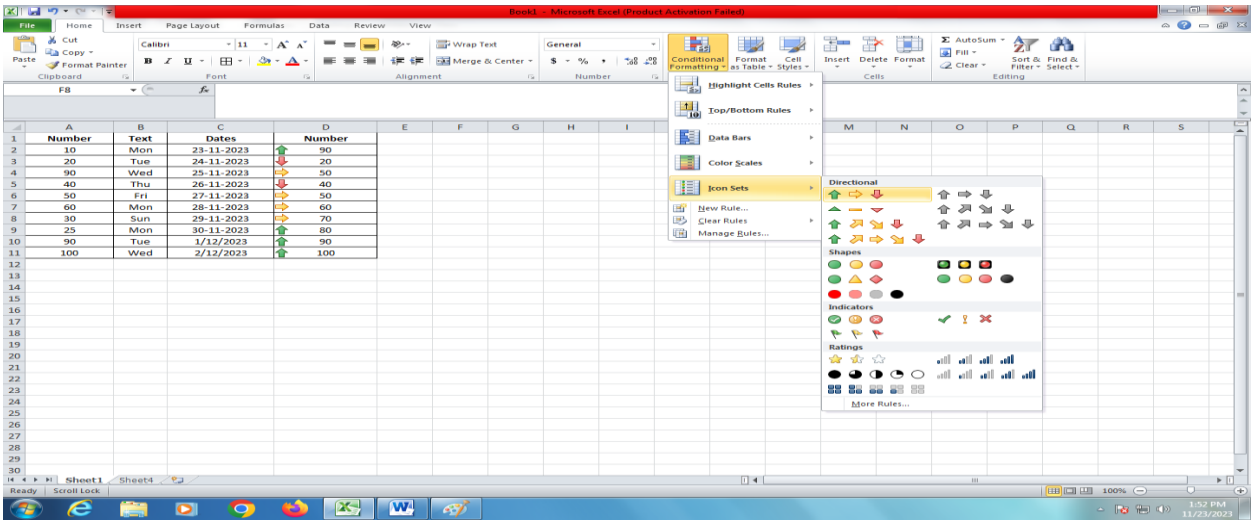
8	30	Sun	29-11-2023	70
9	25	Mon	30-11-2023	80
10	90	Tue	1/12/2023	90
11	100	Wed	2/12/2023	100



Number	Text	Dates	Number
10	Mon	23-11-2023	10
20	Tue	24-11-2023	20
90	Wed	25-11-2023	30
40	Thu	26-11-2023	40
50	Fri	27-11-2023	50
60	Mon	28-11-2023	60
30	Sun	29-11-2023	70
25	Mon	30-11-2023	80
90	Tue	1/12/2023	90
100	Wed	2/12/2023	100

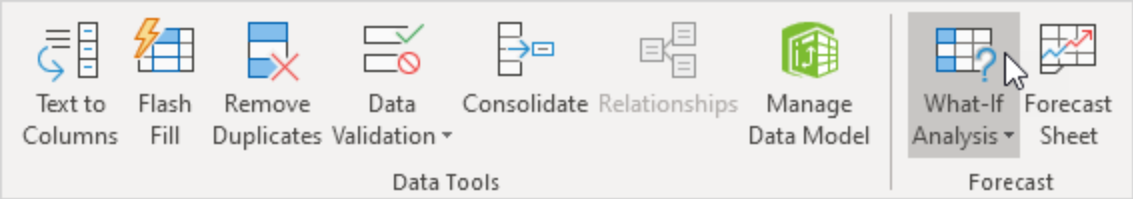


Number	Text	Dates	Number
10	Mon	23-11-2023	90
20	Tue	24-11-2023	20
90	Wed	25-11-2023	50
40	Thu	26-11-2023	40
50	Fri	27-11-2023	50
60	Mon	28-11-2023	60
30	Sun	29-11-2023	70
25	Mon	30-11-2023	80
90	Tue	1/12/2023	90
100	Wed	2/12/2023	100

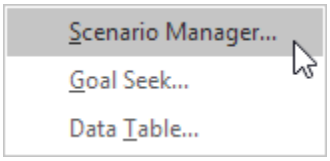
Step2:

What- If Analysis

1. On the Data tab, in the Forecast group, click What-If Analysis.

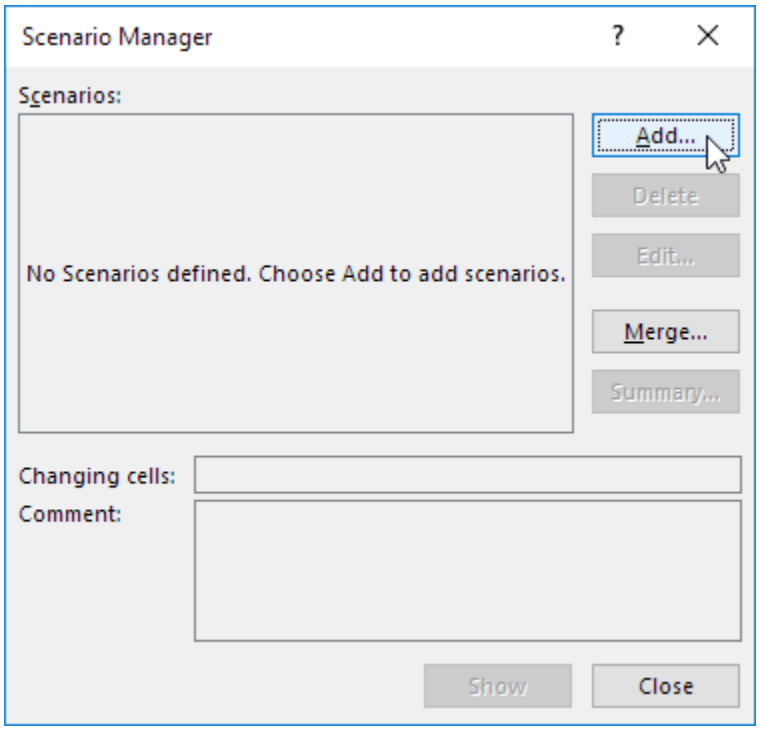


2. Click Scenario Manager.

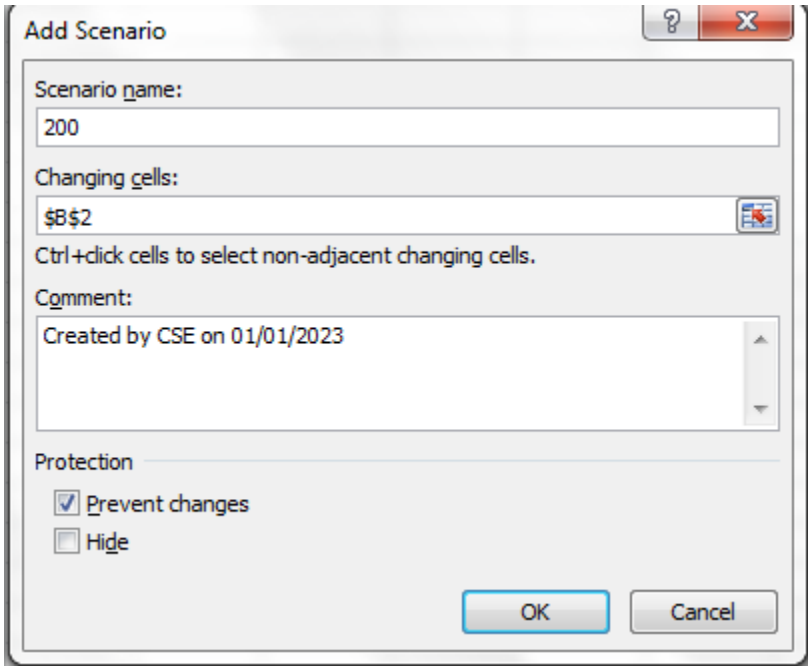


The Scenario Manager Dialog box appears.

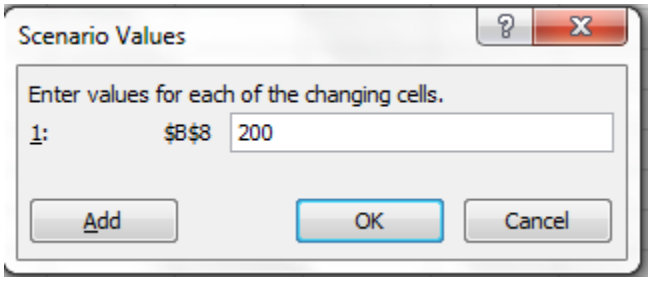
3. Add a scenario by clicking on Add.



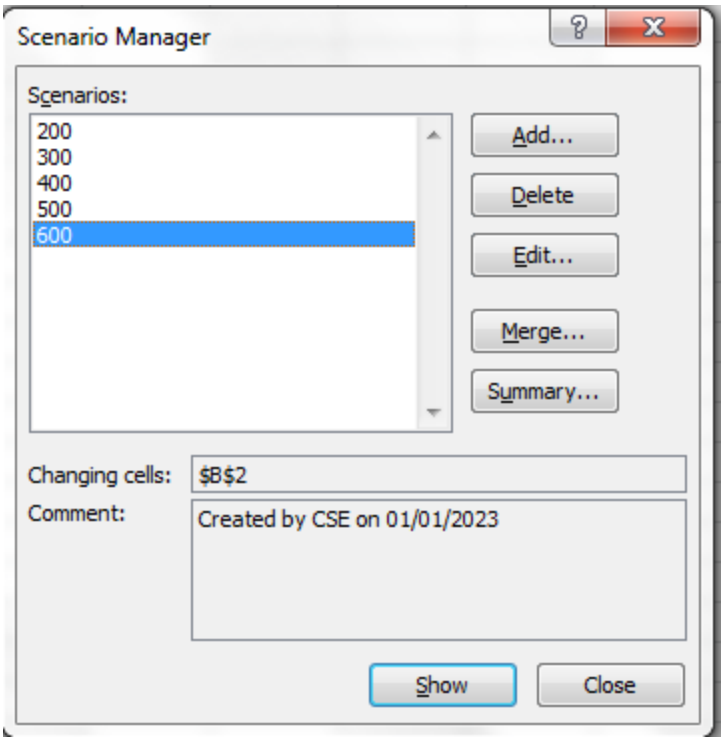
4. Type a name (200), select cell B2 for the Changing cells and click on OK.



5. Enter the corresponding value 200 and click on OK again



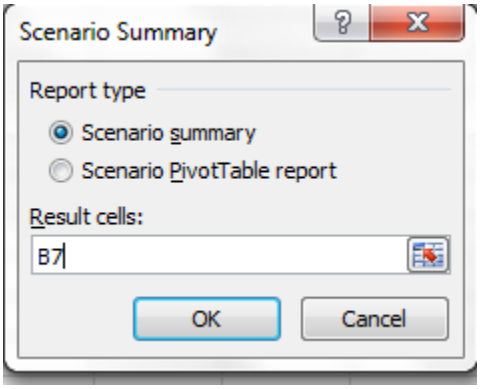
6. Next, add 4 other scenarios (300,400,500,600).



Scenario Summary

To easily compare the results of these scenarios, execute the following steps.

1. Click the Summary button in the Scenario Manager.
2. Next, select cell D10 (total profit) for the result cell and click on OK.



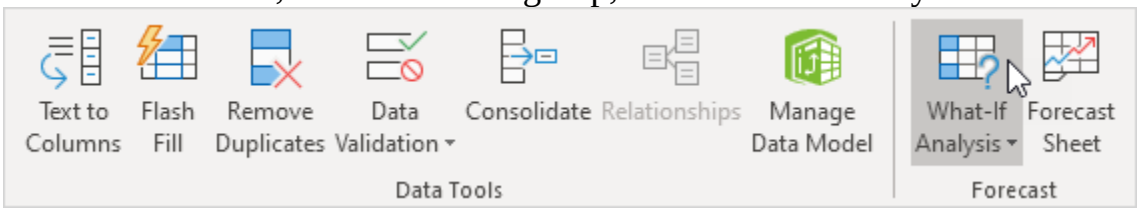
Scenario Summary						
	Current Values:	200	300	400	500	600
Changing Cells:						
Qty	100	200	300	400	500	600
Result Cells:						
Profit	$880.00	$1,760.00	$2,640.00	$3,520.00	$4,400.00	$5,280.00

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.

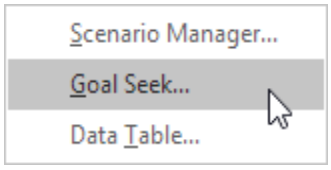
Goal Seek

What if you want to know how many books you need to sell for the highest price, to obtain a total profit of exactly $4700? You can use Excel's Goal Seek feature to find the answer.

1. On the Data tab, in the Forecast group, click What-If Analysis.



2. Click Goal Seek.



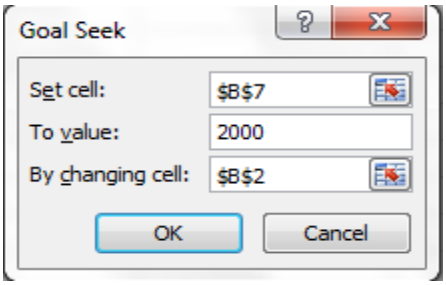
The Goal Seek dialog box appears.

3. Select cell B7.

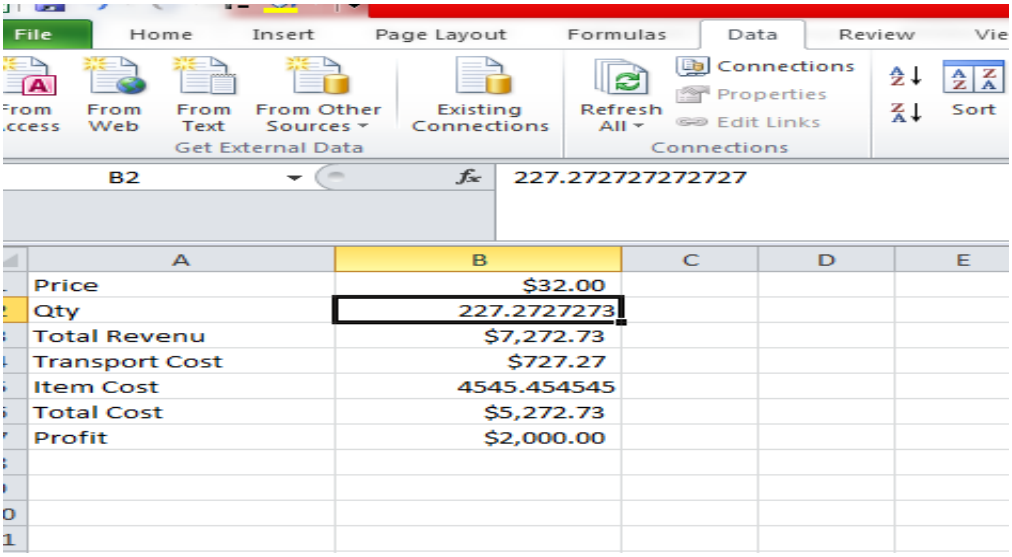
4. Click in the 'To value' box and type 2000.

5. Click in the 'By changing cell' box and select cell B2.

6. Click OK.

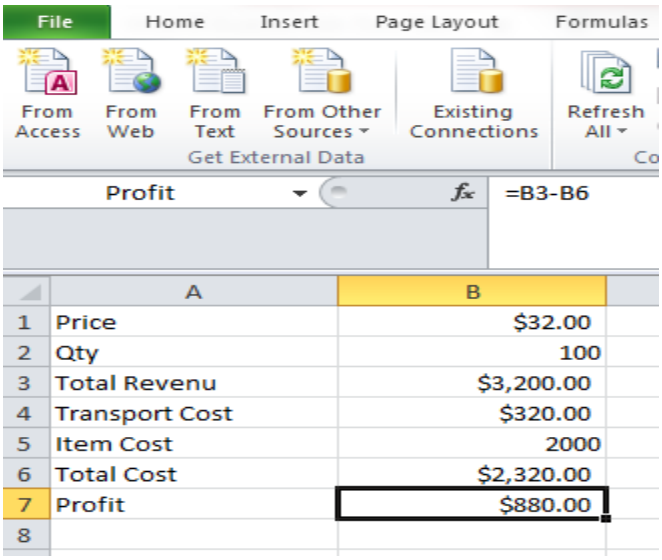


Result. We need to set 227.27 Qty for total profit of exactly $2000.



Data Table

1. Create a table of revenue cost.



2. Copy the last cell in which we get output in another cell. **E3** for this example.

	A	B	C	D	E
1	Price	$32.00			
2	Qty	100		Qty	
3	Total Revenu	$3,200.00			=profit
4	Transport Cost	$320.00			Profit
5	Item Cost	2000			
6	Total Cost	$2,320.00			
7	Profit	$880.00			

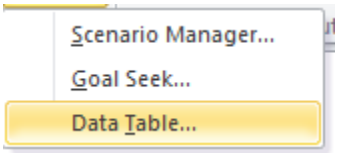
3. Write the values in the cell for which you want to make a change in a column or in rows.

	$880.00
200	
300	
400	
500	
600	
700	

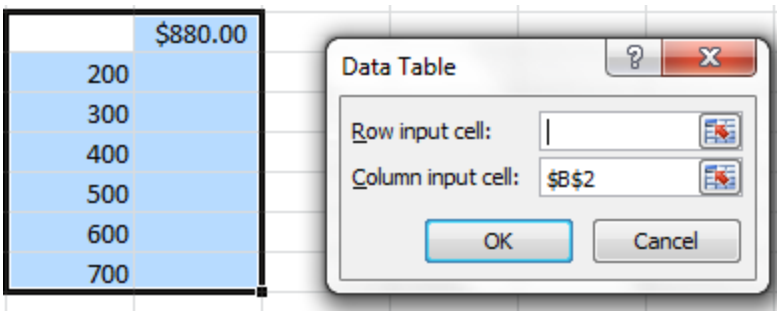
4. Go to the **data** tab of the **Toolbar.**

5. Under the **data table** section, select the **what-if analysis.**

6. A drop-down appears. Select the **Data Table.**



7. A dialogue box name **data table** appears then select the cell in which we want to change the input value in a row or in the column. Input the value of the **Column input cell** to be **B2**. Click **Ok**. Our data table is ready.

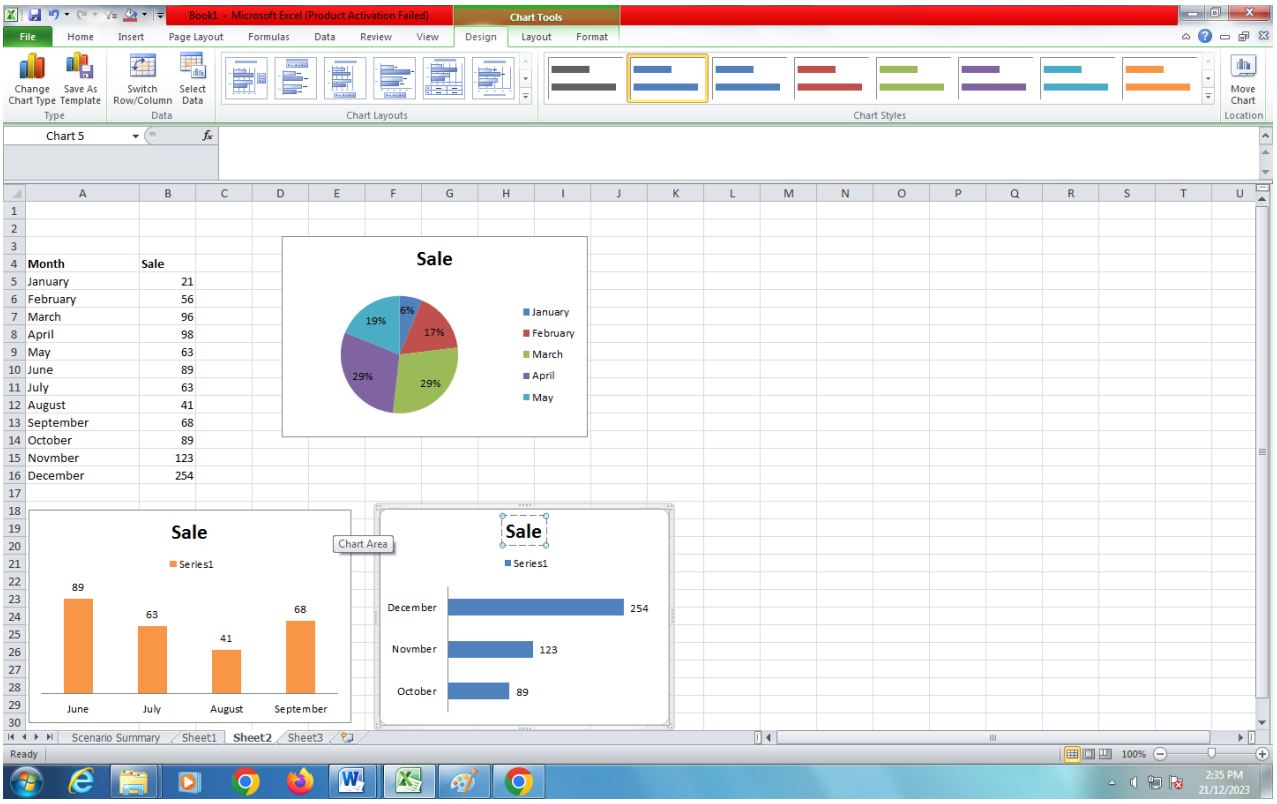


	A	B	C	D	E
1	Price	$32.00			
2	Qty	100		Qty	
3	Total Revenu	$3,200.00			$880.00
4	Transport Cost	$320.00		200	1760
5	Item Cost	2000		300	2640
6	Total Cost	$2,320.00		400	3520
7	Profit	$880.00		500	4400
8				600	5280
9				700	6160
10					

Step 3

Charts and Graphs

1. Select data for the chart
2. Select Insert > Recommended Charts.
3. Select a chart on the Recommended Charts tab, to preview the chart. ..
4. Select a chart
5. Select OK.


Book1 - Microsoft Excel (Product Activation Failed)
Chart Tools
Chart 5
Month
Sale
January 21
February 56
March 96
April 98
May 63
June 89
July 63
August 41
September 68
October 89
Novmber 123
December 254
Sale
6%
17%
29%
29%
19%
January
February
March
April
May
Sale
Series1
89
63
41
68
June
July
August
September
Chart Area
Sale
Series1
December
254
Novmber
123
October
89
Scenario Summary
Sheet1
Sheet2
Sheet3
Ready
100%
2:35 PM
21/12/2023

Program5: Cleaning data with text functions: use of UPPER and LOWER, TRIM function, Concatenate.

Step 1

Cleaning data with text function

- We need to structure this data to perform data analysis. However, initially we need to clean the data.
- We need to remove any nonprintable characters and excess spaces that might be present in the data. We can use the CLEAN function and TRIM function for this purpose.

Trim Function

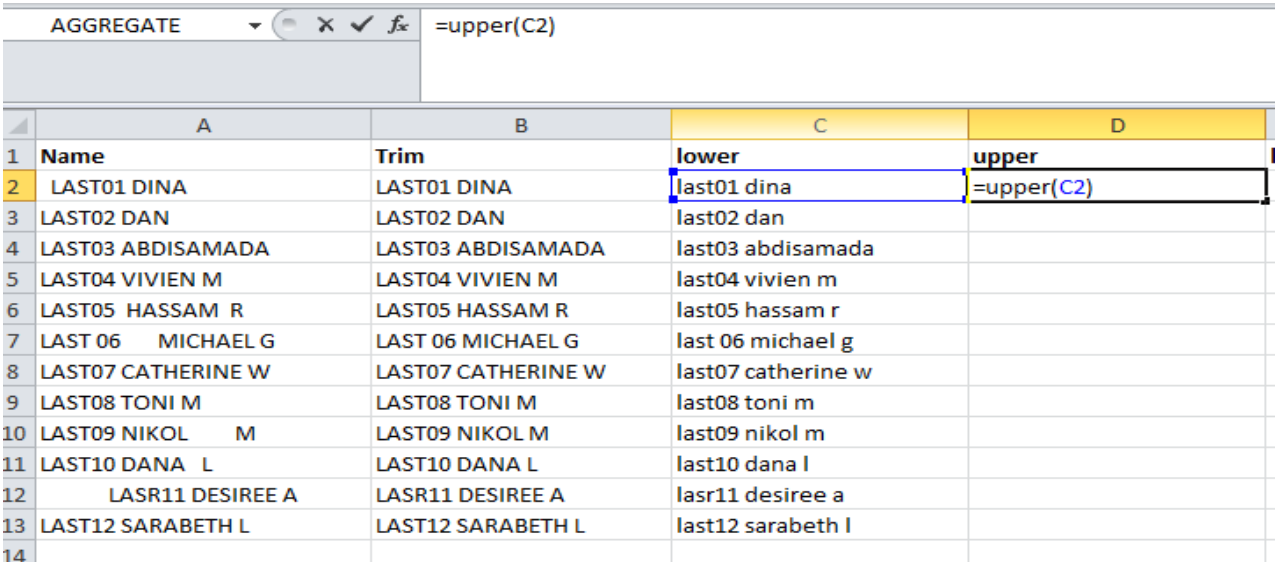
- The TRIM Function is categorized under Excel Text functions. TRIM helps remove the extra spaces in data and thus clean up the cells in the worksheet.
- In financial analysis, the TRIM function can be useful in removing irregular spacing from data imported from other applications.

	A	B	C	D	E
1	**Name**	**Trim**	**upper**	**lower**	**concatenate**
2	LAST01 DINA	=TRIM(A2)			
3	LAST02 DAN				
4	LAST03 ABDISAMADA				
5	LAST04 VIVIEN M				
6	LAST05 HASSAM R				
7	LAST 06 MICHAEL G				
8	LAST07 CATHERINE W				
9	LAST08 TONI M				
10	LAST09 NIKOL M				
11	LAST10 DANA L				
12	LASR11 DESIREE A				
13	LAST12 SARABETH L				
14					

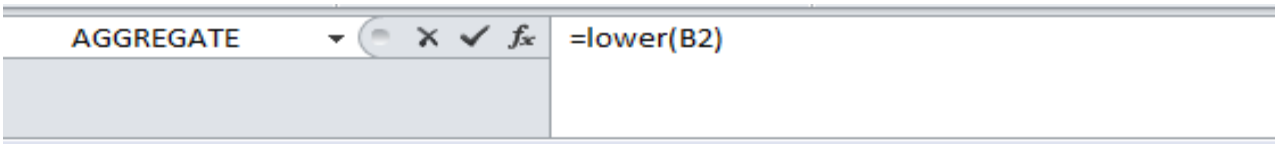
Upper and Lower

- The UPPER Function is an Excel Text function, that will convert text to all capital letters (UPPERCASE).
- Thus, the function converts all characters in a supplied text string into upper case. In financial analysis, we often import data from external sources.
- The LOWER function is used to lowercase text in a cell. Changing the letter case of our cell values can be great when there is a lot of case inconsistency

among the cell inputs or when preparing our dataset for case-sensitive usage. It is typed =LOWER.



	A	B	C	D
1	**Name**	**Trim**	**lower**	**upper**
2	LAST01 DINA	LAST01 DINA	last01 dina	=upper(C2)
3	LAST02 DAN	LAST02 DAN	last02 dan	
4	LAST03 ABDISAMADA	LAST03 ABDISAMADA	last03 abdisamada	
5	LAST04 VIVIEN M	LAST04 VIVIEN M	last04 vivien m	
6	LAST05 HASSAM R	LAST05 HASSAM R	last05 hassam r	
7	LAST 06 MICHAEL G	LAST 06 MICHAEL G	last 06 michael g	
8	LAST07 CATHERINE W	LAST07 CATHERINE W	last07 catherine w	
9	LAST08 TONI M	LAST08 TONI M	last08 toni m	
10	LAST09 NIKOL M	LAST09 NIKOL M	last09 nikol m	
11	LAST10 DANA L	LAST10 DANA L	last10 dana l	
12	LASR11 DESIREE A	LASR11 DESIREE A	lasr11 desiree a	
13	LAST12 SARABETH L	LAST12 SARABETH L	last12 sarabeth l	
14				

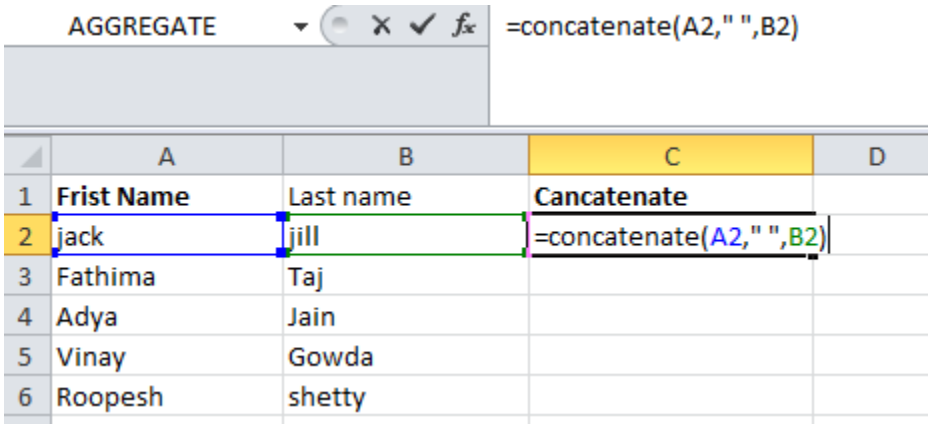


	A	B	C
1	**Name**	**Trim**	**lower**
2	LAST01 DINA	LAST01 DINA	=lower(B2)
3	LAST02 DAN	LAST02 DAN	
4	LAST03 ABDISAMADA	LAST03 ABDISAMADA	
5	LAST04 VIVIEN M	LAST04 VIVIEN M	
6	LAST05 HASSAM R	LAST05 HASSAM R	
7	LAST 06 MICHAEL G	LAST 06 MICHAEL G	
8	LAST07 CATHERINE W	LAST07 CATHERINE W	
9	LAST08 TONI M	LAST08 TONI M	
10	LAST09 NIKOL M	LAST09 NIKOL M	
11	LAST10 DANA L	LAST10 DANA L	
12	LASR11 DESIREE A	LASR11 DESIREE A	
13	LAST12 SARABETH L	LAST12 SARABETH L	

Concatenate

- The CONCATENATE function in Excel is used to join different pieces of text together or combine values from several cells into one cell.
- The syntax of Excel CONCATENATE is as follows:

CONCATENATE(text1, [text2], …)


AGGREGATE
=concatenate(A2," ",B2)
A
B
C
D
1
Frist Name
Last name
Cancatenate
2
jack
jill
=concatenate(A2," ",B2)
3
Fathima
Taj
4
Adya
Jain
5
Vinay
Gowda
6
Roopesh
shetty