Marwadi University	Marwadi University Faculty of Technology Department of Information and Communication Technology	
Subject: Data Visualization and Dashboard (01CT0410)	Aim: WhatIF analysis in excel	
Experiment No: 02	Date: 24-01-2024	Enrollment No: 92200133030

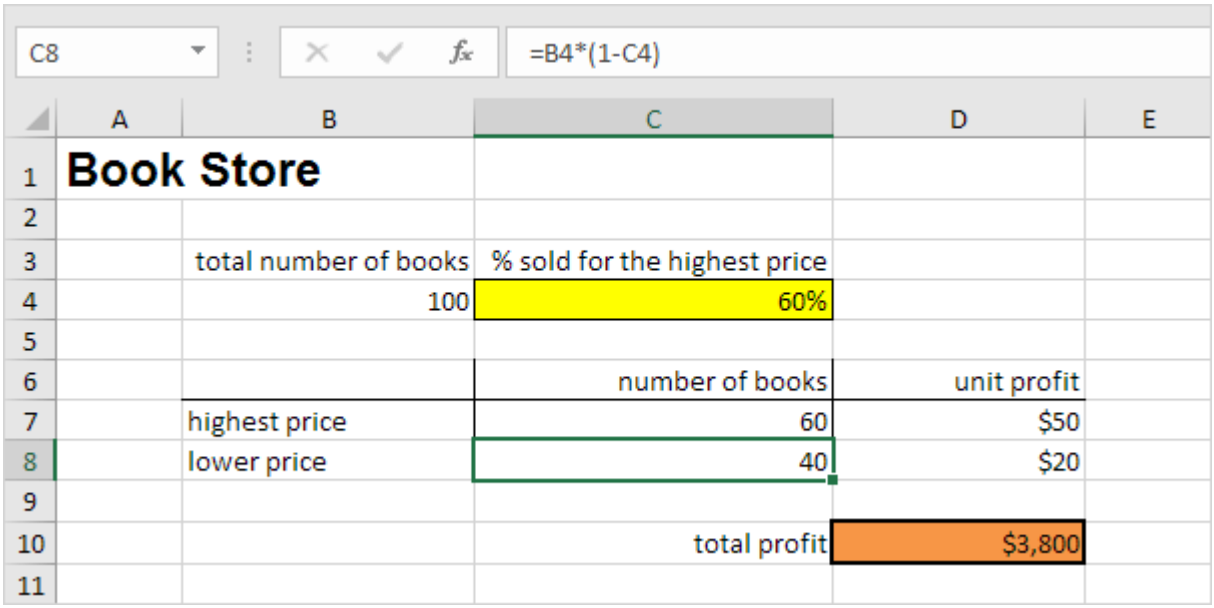
Aim: WhatIF analysis in excel

IDE: Excel

Theory:

What-If Analysis in Excel allows you to try out different values (scenarios) for formulas. The following example helps you master what-if analysis quickly and easily.

Assume you own a book store and have 100 books in storage. You sell a certain % for the highest price of $50 and a certain % for the lower price of $20.



If you sell 60% for the highest price, cell D10 calculates a total profit of 60 * $50 + 40 * $20 = $3800.

Create Different Scenarios

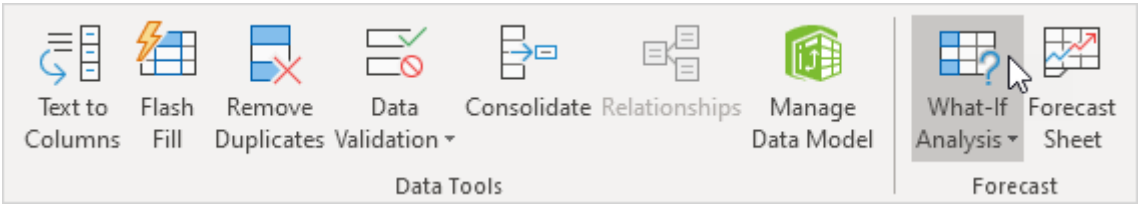
But what if you sell 70% for the highest price? And what if you sell 80% for the highest price? Or 90%, or even 100%? Each different percentage is a different scenario. You can use the Scenario Manager to create these scenarios.

You can simply type in a different percentage into cell C4 to see the corresponding result of a scenario in cell D10.

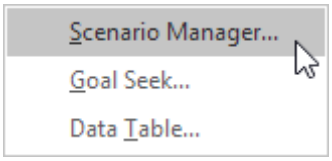
Marwadi University	Marwadi University Faculty of Technology Department of Information and Communication Technology	
Subject: Data Visualization and Dashboard (01CT0410)	**Aim: WhatIF analysis in excel**	
Experiment No: 02	**Date: 24-01-2024**	**Enrollment No: 92200133030**

However, what-if analysis enables you to easily compare the results of different scenarios.

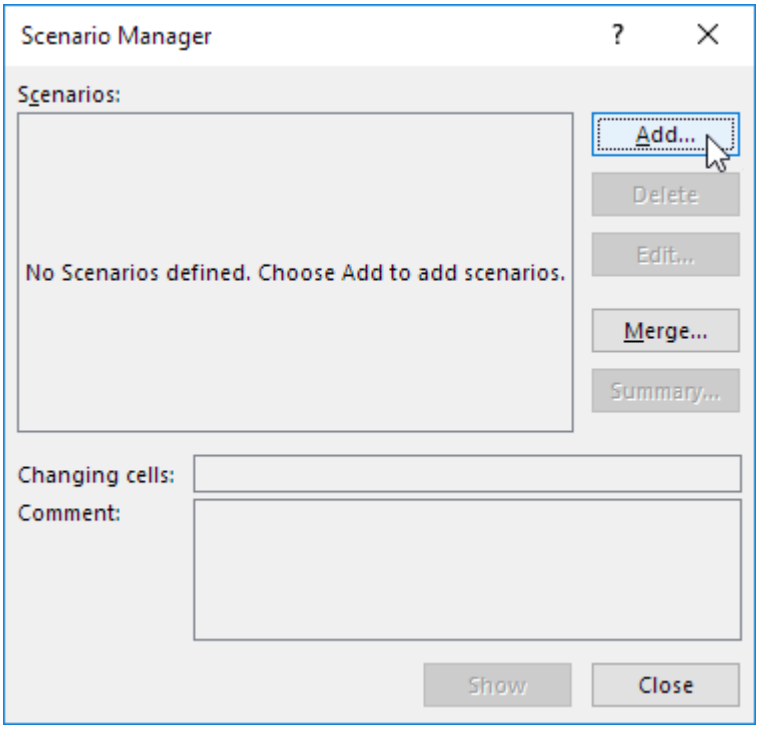
1. On the Data tab, in the Forecast group, click What-If Analysis.



2. Click Scenario Manager.

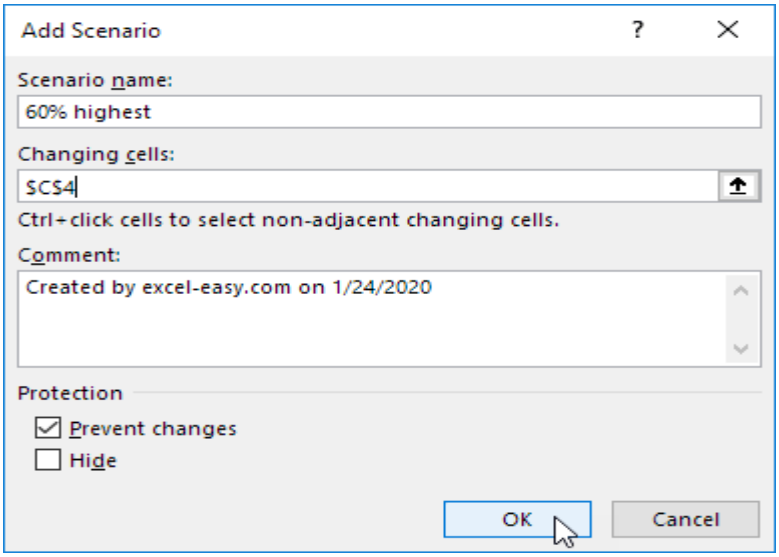


3. Add a scenario by clicking on Add.

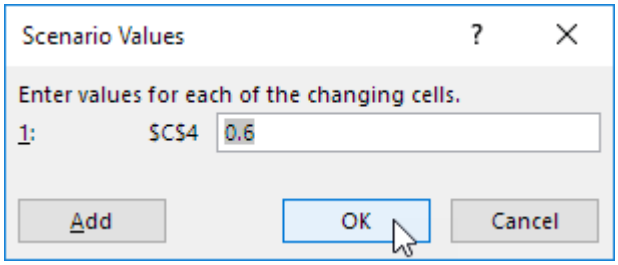


4. Type a name (60% highest), select cell C4 (% sold for the highest price) for the Changing cells and click on OK.

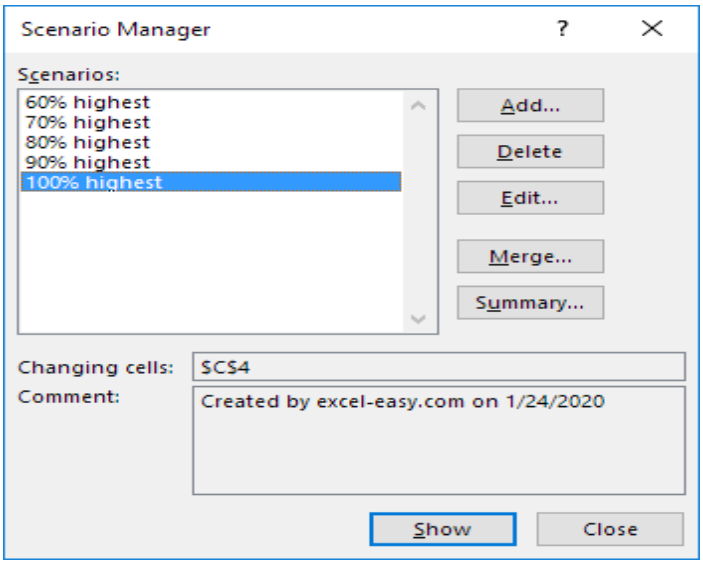
Marwadi University	Marwadi University Faculty of Technology Department of Information and Communication Technology	
Subject: Data Visualization and Dashboard (01CT0410)	**Aim: WhatIF analysis in excel**	
Experiment No: 02	**Date: 24-01-2024**	**Enrollment No: 92200133030**



5. Enter the corresponding value 0.6 and click on OK again.



6. Next, add 4 other scenarios (70%, 80%, 90% and 100%).



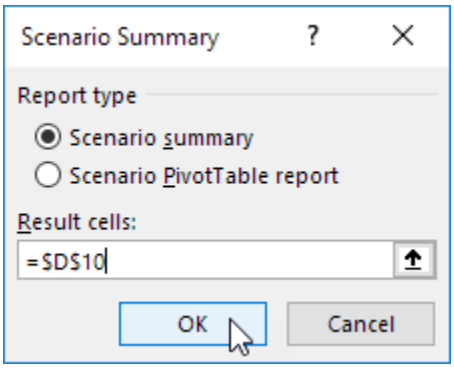
Marwadi University	Marwadi University Faculty of Technology Department of Information and Communication Technology	
Subject: Data Visualization and Dashboard (01CT0410)	Aim: WhatIF analysis in excel	
Experiment No: 02	Date: 24-01-2024	Enrollment No: 92200133030

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.



Result:

Scenario Summary						
	Current Values:	60% highest	70% highest	80% highest	90% highest	100% highest
Changing Cells:						
C4	60%	60%	70%	80%	90%	100%
Result Cells:						
D10	$3,800	$3,800	$4,100	$4,400	$4,700	$5,000
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.						

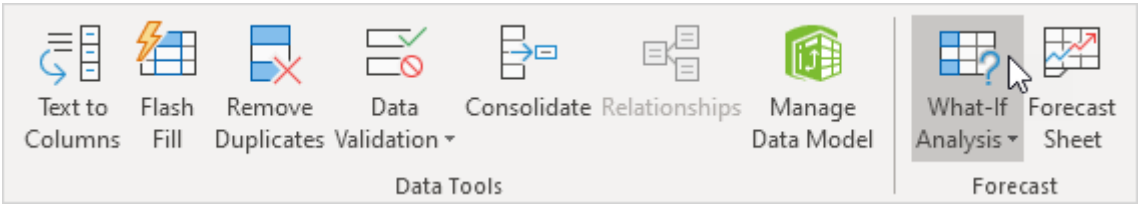
if you sell 70% for the highest price, you obtain a total profit of $4100, if you sell 80% for the highest price, you obtain a total profit of $4400, etc. That's how easy what-if analysis in Excel can be.

Goal Seek

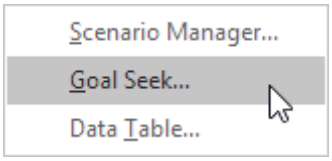
What if you want to know how many books you need to sell for the highest price, to obtain a total profit of exactly $4700? You can use Excel's Goal Seek feature to find the answer.

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

Marwadi University	Marwadi University Faculty of Technology Department of Information and Communication Technology	
Subject: Data Visualization and Dashboard (01CT0410)	**Aim: WhatIF analysis in excel**	
Experiment No: 02	**Date: 24-01-2024**	**Enrollment No: 92200133030**



2. Click Goal Seek.



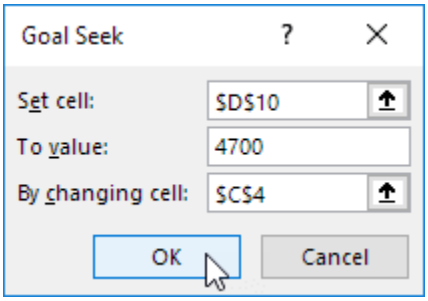
The Goal Seek dialog box appears.

3. Select cell D10.

4. Click in the 'To value' box and type 4700.

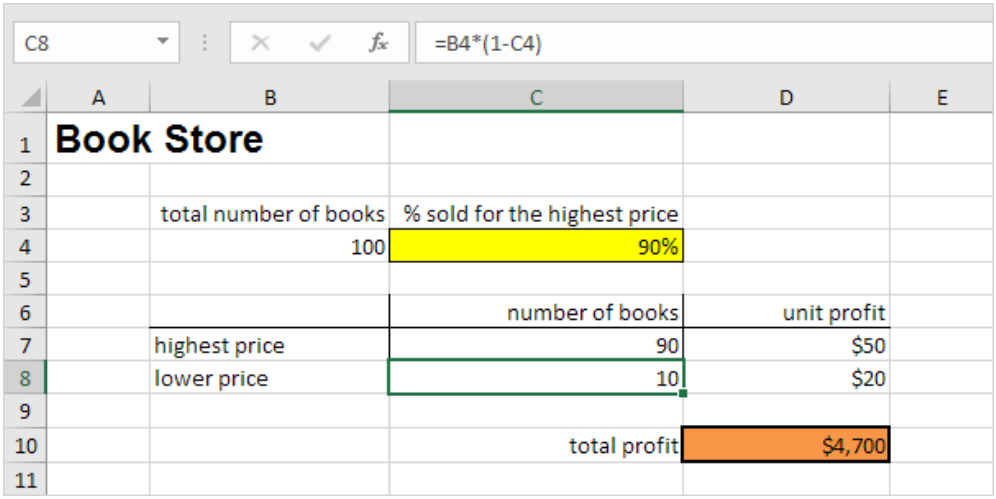
5. Click in the 'By changing cell' box and select cell C4.

6. Click OK.



You need to sell 90% of the books for the highest price to obtain a total profit of exactly $4700.

Marwadi University	Marwadi University Faculty of Technology Department of Information and Communication Technology	
Subject: Data Visualization and Dashboard (01CT0410)	Aim: WhatIF analysis in excel	
Experiment No: 02	Date: 24-01-2024	Enrollment No: 92200133030



Pre Lab Exercise:

a. What is the use of scenario manager?

b. What is the use of Data tables option in WhatIF analysis?

c. What is the use of Goal Seek?

Marwadi University	**Marwadi University** **Faculty of Technology** **Department of Information and Communication Technology**	
Subject: Data Visualization and Dashboard (01CT0410)	**Aim: WhatIF analysis in excel**	
Experiment No: 02	**Date: 24-01-2024**	**Enrollment No: 92200133030**

Tasks:

Perform the following tasks:

1. Take the principal amount, rate of interest and number of years from the user

Result :-

2			
3	**Principle Amount**	10000	
4	**Rate of Interest**	12	
5	**No.of Years**	5	
6			

2. Calculate the interest and amount from the mentioned details

Result :-

7			
8	**Interest**	6000	
9	**Amount**	16000	
10			

3. Apply data tables to get the amount for different rate of interest

Result :-

16000	5	
13	16500	
14	17000	
15	17500	
16	18000	
17	18500	
18	19000	
19	19500	
20	20000	

Marwadi University	Marwadi University Faculty of Technology Department of Information and Communication Technology	
Subject: Data Visualization and Dashboard (01CT0410)	Aim: WhatIF analysis in excel	
Experiment No: 02	Date: 24-01-2024	Enrollment No: 92200133030

4. Apply data tables to get the amount for different rate of interest and number of years

Result :-

16000	6	7	8	9	10
13	17800	19100	20400	21700	23000
14	18400	19800	21200	22600	24000
15	19000	20500	22000	23500	25000
16	19600	21200	22800	24400	26000
17	20200	21900	23600	25300	27000
18	20800	22600	24400	26200	28000
19	21400	23300	25200	27100	29000
20	22000	24000	26000	28000	30000

5. Analyze different scenario for getting the amount for different number of years

Result :-

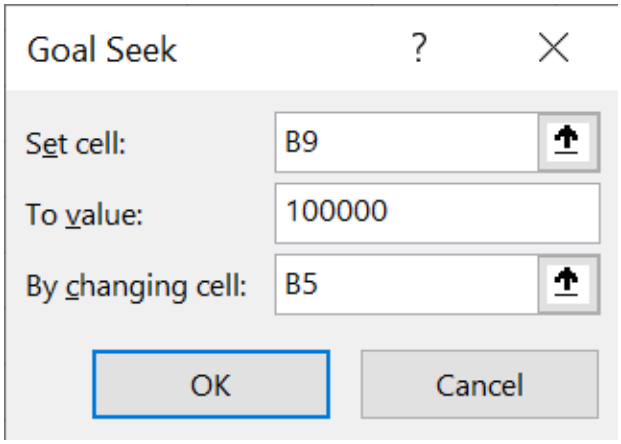
Scenario Summary						
	Current Values:	For 6 Years	For 7 Years	For 8 Years	For 9 Years	For 10 Years
Changing Cells:						
Years	5	6	7	8	9	10
Result Cells:						
Amount	16000	17200	18400	19600	20800	22000

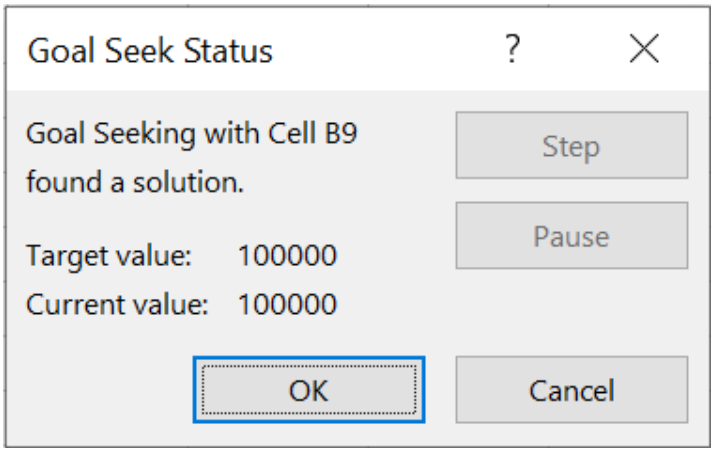
Notes: Current Values column represents values of changing cells at time Scenario Summary Report was created. Changing cells for each scenario are highlighted in gray.

Marwadi University	Marwadi University Faculty of Technology Department of Information and Communication Technology	
Subject: Data Visualization and Dashboard (01CT0410)	Aim: WhatIF analysis in excel	
Experiment No: 02	Date: 24-01-2024	Enrollment No: 92200133030

6. Analyze the number of years to invest the amount to achieve the goal of certain **X** amount.

Result :-





2			
3	**Principle Amount**	10000	
4	**Rate of Interest**	12	
5	**No.of Years**	75	
6			
7			
8	**Interest**	90000	
9	**Amount**	100000	
10			

Marwadi University	**Marwadi University** **Faculty of Technology** **Department of Information and Communication Technology**	
Subject: Data Visualization and Dashboard (01CT0410)	**Aim: WhatIF analysis in excel**	
Experiment No: 02	**Date: 24-01-2024**	**Enrollment No: 92200133030**

Observation and Result Analysis:

Write the final observation and process corresponding to each task

3.

4.

5.

6.

Post Lab Exercise:

Task for scenario manager and Goal Seek operations in WhatIF analysis

Perform your own result prediction for the grades in each subject to attain your expected SPI for this semester. Attach the screenshot of the output with the detailed explanation of the process involved.

Marwadi University	Marwadi University Faculty of Technology Department of Information and Communication Technology	
Subject: Data Visualization and Dashboard (01CT0410)	Aim: WhatIF analysis in excel	
Experiment No: 02	Date: 24-01-2024	Enrollment No: 92200133030

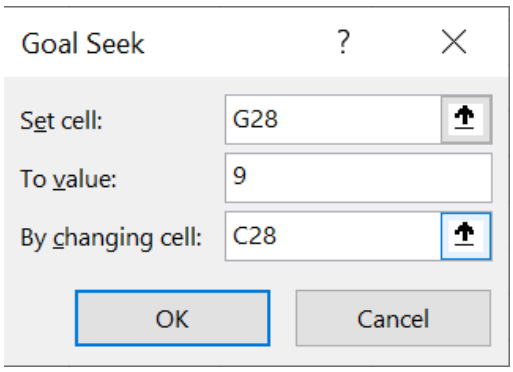
Result :-

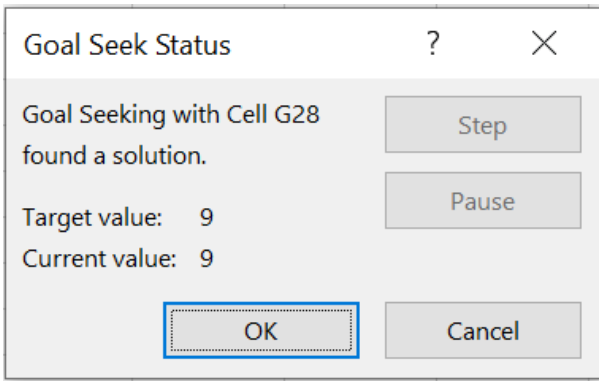
	Subject Name	Credit	Grade	Grade Point			
24							
25	**Subject Name**	**Credit**	**Grade**	**Grade Point**			
26	ADC	4	9	36		**Total Grade Point**	245
27	DMS	4	9	36		**Total Credit**	28
28	DVD	2	7	14		**SPI**	8.75
29	IWT	4	9	36			
30	MCI	4	9	36			
31	OS	3	8	24			
32	PS	4	9	36			
33	OE	3	9	27			
34							

Scenario Summary

	Current Values:	9 In 4 Credit Subject	9 In 3 Credit Subject	9 In 2 Credit Subject	10 In All
Changing Cells:					
ADC	8	9	8	8	10
DMS	7	9	7	7	10
IWT	8	9	8	8	10
MCI	7	9	7	7	10
PS	8	9	8	8	10
OS	9	9	9	9	10
OE	9	9	9	9	10
DVD	9	9	9	9	10
Result Cells:					
SPI	8	9	8	8	10

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.





Marwadi University	Marwadi University Faculty of Technology Department of Information and Communication Technology	
Subject: Data Visualization and Dashboard (01CT0410)	Aim: WhatIF analysis in excel	
Experiment No: 02	Date: 24-01-2024	Enrollment No: 92200133030

24							
25	**Subject Name**	**Credit**	**Grade**	**Grade Point**			
26	ADC	4	9	36	**Total Grade Point**	252	
27	DMS	4	9	36	**Total Credit**	28	
28	DVD	2	9	18	**SPI**	9	
29	IWT	4	9	36			
30	MCI	4	9	36			
31	OS	3	9	27			
32	PS	4	9	36			
33	OE	3	9	27			
34							