

Practical 5

Aim: Apply the what – if Analysis for data visualization. Design and generate necessary reports based on the data warehouse data.

I. Open MS Excel.

Goal Seek:

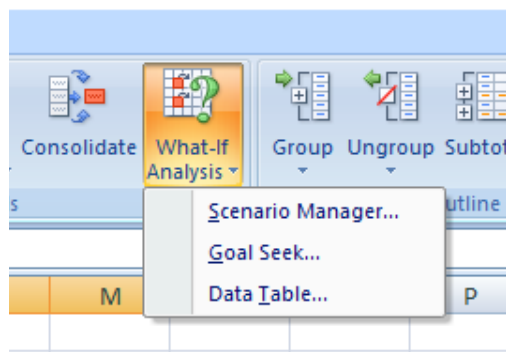
a) Type the following:

Product Name	Sugar
QTY (KG)	25
Price/Kg	45
Total Sale	

b) Go on the empty cell beside Total Sale and type the following formula to multiply QTY and Price:

=E4*E5

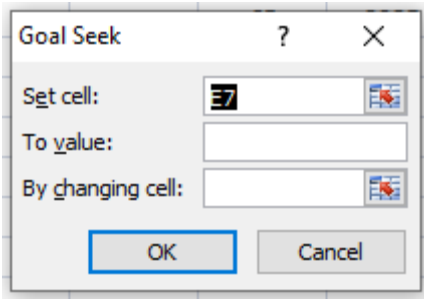
c) Select 'Total Sale' value, then in the Data tab click on What If Analysis and select Goal Seek.



You will get the following window:

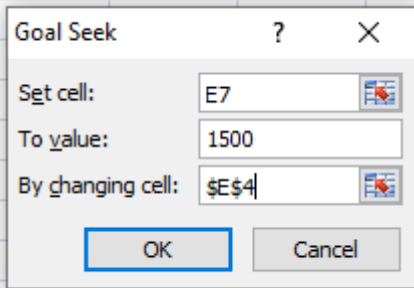
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Roll No.: IT22096
Class: TYBSc IT

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d) Type 1500 in 'To value' and select 'QTY' value in 'By changing cell'. Click 'OK'.

Product Name	Sugar
QTY (KG)	25
Price/Kg	45
Total Sale	1125



The quantity will be changed according to the total sale.

Product Name	Sugar
QTY (KG)	33.33333
Price/Kg	45
Total Sale	1500

f) Similarly, you can perform the same with 'Price/Kg' value.

Data Table:

a) Type the following:

QTY	
	1125
50	
35	
65	
45	

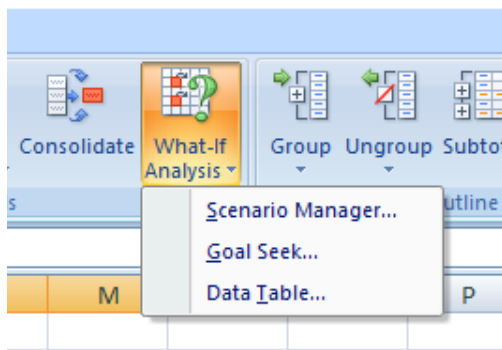
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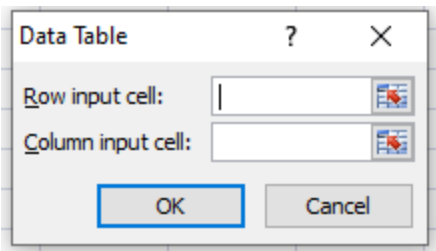
b) Select the cells as shown below.

QTY	
	1125
50	
35	
65	
45	

c) In the Data tab, click on What If Analysis and select Data Table.

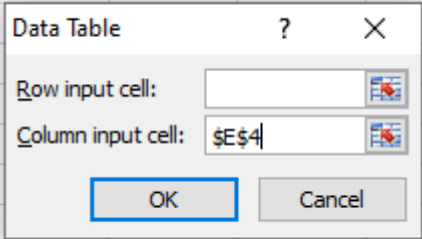


d) After selecting Data Table you will get a window.



e) Select '25' as 'Column input cell' to get the price for the corresponding quantity.

Product Name	Sugar
QTY (KG)	25
Price/Kg	45
Total Sale	1125

A screenshot of the 'Data Table' dialog box in Excel. The dialog box has a title bar with a question mark icon. It contains two input fields: 'Row input cell:' and 'Column input cell:'. The 'Column input cell:' field is filled with the text '\$E\$4'. At the bottom of the dialog box are 'OK' and 'Cancel' buttons.

The corresponding values will appear.

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	QTY
	1125
50	2250
35	1575
65	2925
45	2025

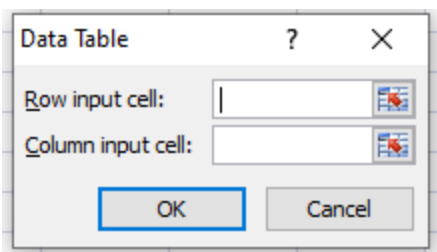
a) Type the following:

	QTY				
Price	1125	25	35	32	27
	15				
	20				
	22				
	66				

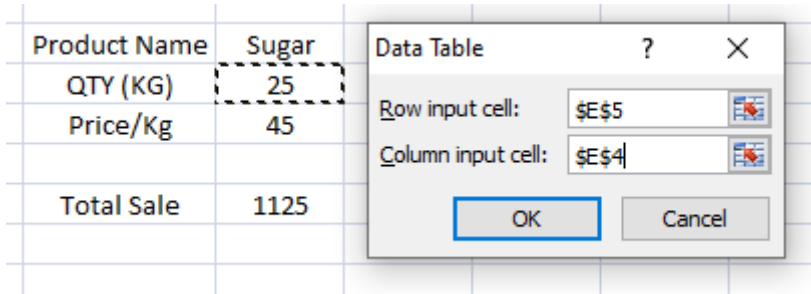
b) Select the cells as shown below:

	QTY				
Price	1125	25	35	32	27
	15				
	20				
	22				
	66				

c) In the Data tab, click on What If Analysis and select Data Table.



d) Since quantity values are written in the column and price values in row, we select '25' as 'Column input cell' and '45' as 'Row input cell'.

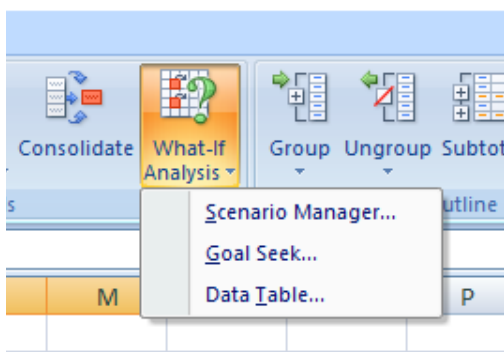


The corresponding values will appear.

	QTY				
Price	1125	25	35	32	27
	15	375	525	480	405
	20	500	700	640	540
	22	550	770	704	594
	66	1650	2310	2112	1782

Scenario Manager:

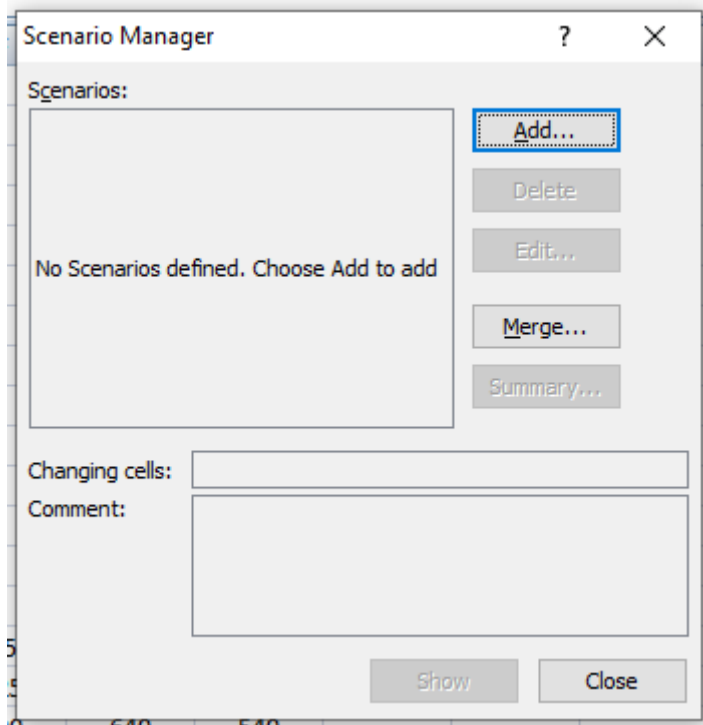
a) In the Data tab, click on What If Analysis and select Scenario Manager.



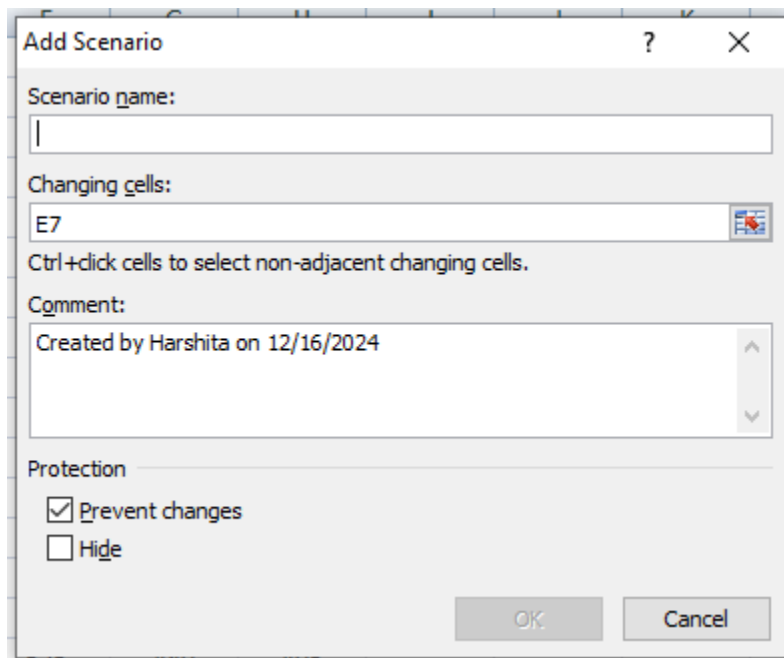
b) The following window will appear. Click on 'Add' to add a scenario.

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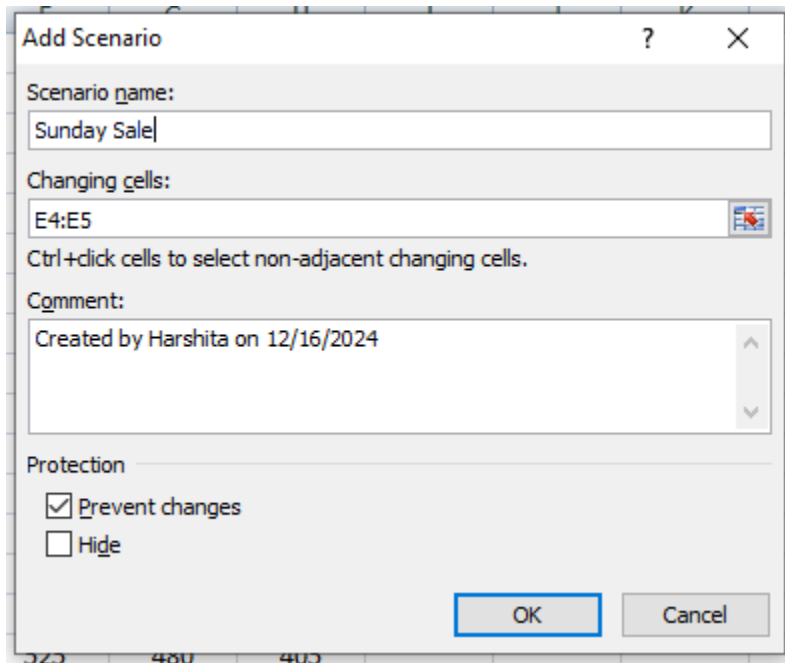
c) Type a scenario name and select the changing cells.



For instance, type 'Sunday Sale' as the scenario name and select E4, E5('25';'45') as changing cells. Then click 'OK'.

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Add Scenario

Scenario name:
Sunday Sale

Changing cells:
E4:E5

Ctrl+click cells to select non-adjacent changing cells.

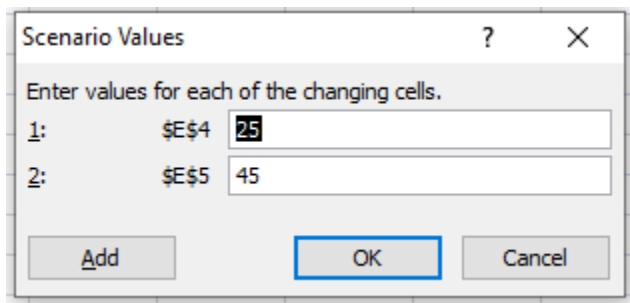
Comment:
Created by Harshita on 12/16/2024

Protection

☒ Prevent changes
☐ Hide

OK Cancel

d) Type the values '25' and '45' respectfully and click 'OK'.



Scenario Values

Enter values for each of the changing cells.

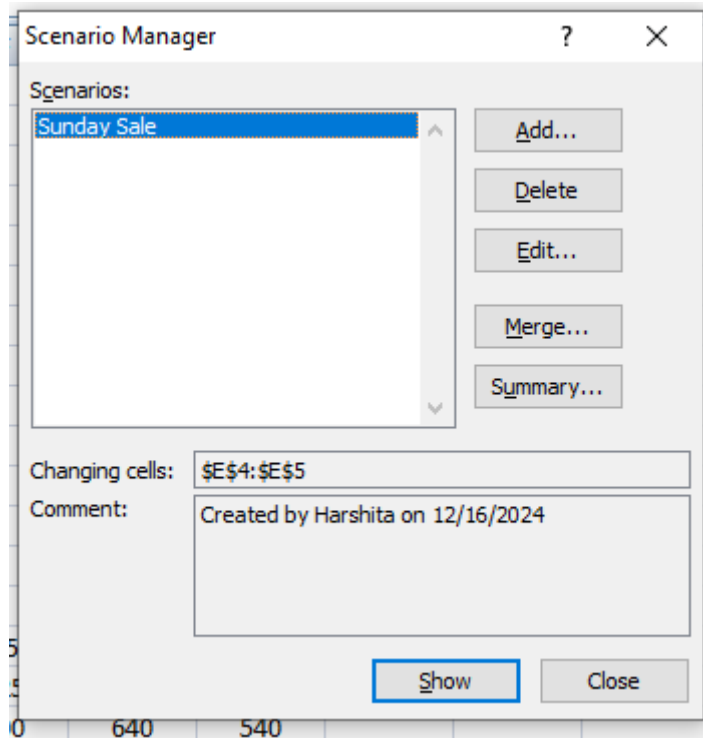
1:	\$E\$4	25
2:	\$E\$5	45

Add OK Cancel

A scenario is created as shown below.

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Now change the values '25' and '45' to some other value. To get the original value, go to 'Scenario Manager', select 'Sunday Sale' and click on 'Show'.

Practical 10

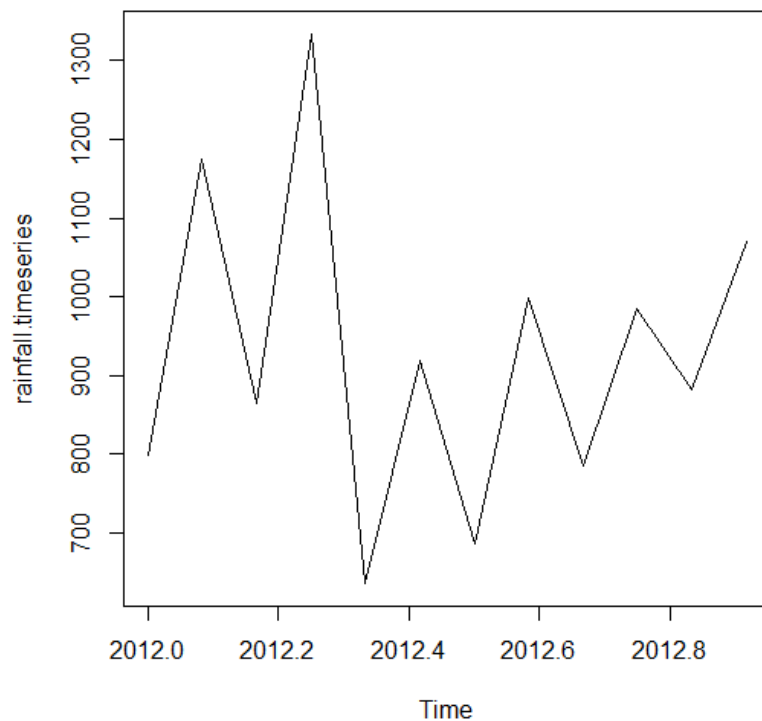
Aim: Data Analysis using Time Series Analysis

Code:

```
rainfall <- c(799,1174.8,865.1,1334.6,635.4,918.5,685.5,998.6,784.2,985,882.8,1071)  
rainfall.timeseries <- ts(rainfall,start = c(2012,1),frequency = 12)  
print(rainfall.timeseries)  
png(file = "rainfall.png")  
plot(rainfall.timeseries)  
dev.off()
```

Output:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2012	799.0	1174.8	865.1	1334.6	635.4	918.5	685.5	998.6	784.2	985.0	882.8	1071.0



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Practical 9

Aim: Prediction Using Linear Regression

Code:

```
x <- c(151,174,138,186,128,136,179,163,152,131)
y <- c(63,81,56,91,47,57,76,72,62,48)
relation <- lm(y~x)
a <- data.frame(x = 170)
result <- predict(relation,a)
print(result)
```

Output:

```
1
76.22869
```

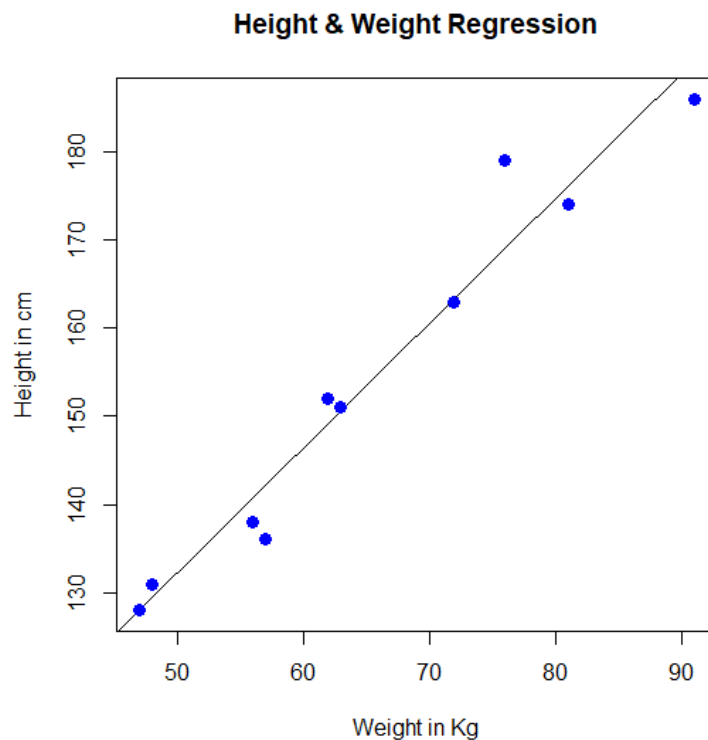
Practical 6

Aim: Implementation of Classification algorithm in R Programming

Code:

```
x <- c(151,174,138,186,128,136,179,163,152,131)
y <- c(63,81,56,91,47,57,76,72,62,48)
relation <- lm(y~x)
png(file = "linearregression.png")
plot(y,x,col = "blue",main = "Height & Weight Regression",abline(lm(x~y)),
     cex = 1.3,pch = 16,xlab = "Weight in Kg",ylab = "Height in cm")
dev.off()
```

Output:



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	1	2	3
setosa	50	0	0
versicolor	0	48	2
virginica	0	14	36

Code:

```
plot(newiris[c("Sepal.Length", "Sepal.Width")], col=kc$cluster)  
points(kc$centers[c("Sepal.Length", "Sepal.Width")], col=1:3, pch=8, cex=2)
```

Output:

