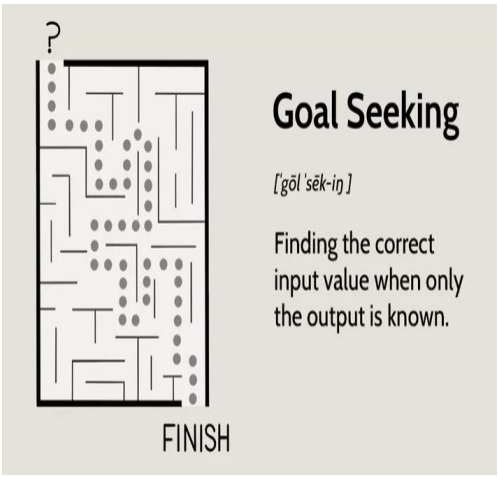
MBA II Semester IT Skills Lab 2

Lab Experiment No.	Part	Task
Experiment 4	a	Open the "Format" Worksheet and follow the instruction tasks mentioned there.
Experiment 5	a	Open the "Goal Seek" Worksheet and Prepare the What-if-Analysis for the particulars provided in the "Goal Seek" Worksheet
Experiment 5	b	Open the "What-if-Analysis--data Table" Worksheet and Prepare the What-if-Analysis for the particulars provided in the "Whatif data Table" Worksheet



Goal seeking is one of the tools used in "what-if analysis" on computer software programs. A what-if analysis is a process of changing values in (Microsoft Excel) cells to see how these changes will affect formula outcomes on the worksheet. When you are goal seeking, you are performing what-if analysis on a given value, or the output. So, in essence, you would be creating a scenario by asking "what if the output was X"—or basically, a cause and effect situation.

For some of the more complex problems, people will often use computer software. A spreadsheet program like Microsoft Excel has a goal seeking tool built-in. It allows the user to determine the desired input value for a formula when the output value is already known. This feature can help the user determine things like the interest rate a borrower needs to qualify for (the input) if she only knows how much she can afford to pay each month (the output).

Process of What-if-Analysis using Goal Seek in Microsoft Excel

Prepare the worksheet

1. Open a new, blank worksheet.
2. First, add some labels in the first column
   a. In cell A1, type **Loan Amount**.
   b. In cell A2, type **Term in Months**.
   c. In cell A3, type **Interest Rate**.
   d. In cell A4, type **Payment**.
3. Next, add the values that you know.
   a. In cell B1, type **100000**. This is the amount that you want to borrow.
   b. In cell B2, type **180**. This is the number of months that you want to pay off the loan.
4. Next, add the formula for which you have a goal. For the example, use the PMT function:
   a. In cell B4, type =**PMT(B3/12,B2,B1)**. This formula calculates the payment amount.

In this example, you want to pay $900 each month. You don't enter that amount here, because you want to use Goal Seek to determine the interest rate,

Use Goal Seek to determine the interest rate

1. On the **Data** tab, in the **Data Tools** group, click **What-If Analysis**, and then click **Goal Seek**.
2. In the **Set cell** box, enter the reference for the cell that contains the formula that you want to resolve. In the example, this reference is cell B4.
3. In the **To value** box, type the formula result that you want. In the example, this is -900. Note that this number is negative because it represents a payment.
4. In the **By changing cell** box, enter the reference for the cell that contains the value that you want to adjust. In the example, this reference is cell B3.
5. Click **OK**. Cell B4 displays the result of the formula =PMT(B3/12,B2,B1).
6. Finally, format the target cell (B3) so that it displays the result as a percentage.
   a. On the **Home** tab, in the **Number** group, click **Percentage**.
   b. Click **Increase Decimal** or **Decrease Decimal** to set the number of decimal places.

Data Formatting & Manipulations - sort & filter

Sl. No.	Company	City	Gender	Age (Years)	Education	Marital Status
1	Accenture	Greater Noida	Male	Below 30	Graduate	Single
2	HCL	Delhi	Female	Below 30	Graduate	Marrired
3	Wipro	Ghaziabad	Male	30-40	Post Graduate	Marrired
4	TCS	Delhi	Male	Below 30	Graduate	Single
5	Infosys	Noida	Male	Below 30	Under Graduate	Single
6	Accenture	Delhi	Male	Below 30	Graduate	Single
7	Infosys	Greater Noida	Male	Below 30	Graduate	Marrired
8	TCS	Hyderabad	Female	30-40	Post Graduate	Marrired
9	HCL	Ghaziabad	Male	30-40	Graduate	Single
10	TCS	Delhi	Male	30-40	Under Graduate	Marrired
11	Accenture	Greater Noida	Female	Below 30	Graduate	Single
12	TCS	Greater Noida	Female	30-40	Graduate	Marrired
13	TCS	Delhi	Female	Below 30	Post Graduate	Single
14	Accenture	Delhi	Male	Below 30	Graduate	Single
15	Infosys	Noida	Male	Below 30	Graduate	Single
16	HCL	Noida	Male	Below 30	Graduate	Single
17	Infosys	Noida	Male	Below 30	Graduate	Single
18	TCS	Delhi	Female	30-40	Post Graduate	Marrired
19	Wipro	Ghaziabad	Male	Below 30	Graduate	Single
20	TCS	Delhi	Male	Below 30	Under Graduate	Single
21	Wipro	Noida	Female	Below 30	Graduate	Single
22	TCS	Delhi	Male	30-40	Graduate	Marrired
23	Wipro	Ghaziabad	Male	Below 30	Graduate	Single
24	HCL	Delhi	Male	30-40	Post Graduate	Marrired
25	Wipro	Delhi	Male	Below 30	Under Graduate	Single
26	Infosys	Greater Noida	Male	Below 30	Graduate	Marrired
27	TCS	Hyderabad	Male	30-40	Post Graduate	Marrired
28	HCL	Ghaziabad	Male	30-40	Graduate	Single
29	TCS	Delhi	Female	30-40	Post Graduate	Marrired
30	Accenture	Greater Noida	Male	Below 30	Graduate	Single
31	TCS	Greater Noida	Female	30-40	Graduate	Marrired
32	TCS	Delhi	Female	Below 30	Post Graduate	Single
33	HCL	Noida	Male	Below 30	Graduate	Single
34	Infosys	Noida	Male	Below 30	Graduate	Single
35	TCS	Delhi	Female	30-40	Post Graduate	Marrired
36	Wipro	Ghaziabad	Male	Below 30	Graduate	Single
37	TCS	Delhi	Male	Below 30	Under Graduate	Single
38	Wipro	Noida	Female	Below 30	Graduate	Single
39	TCS	Delhi	Male	30-40	Graduate	Marrired
40	Wipro	Ghaziabad	Male	Below 30	Graduate	Single
41	TCS	Delhi	Male	30-40	Graduate	Marrired
42	Wipro	Ghaziabad	Male	Below 30	Post Graduate	Single
43	HCL	Delhi	Female	30-40	Post Graduate	Marrired
44	Wipro	Delhi	Male	Below 30	Graduate	Single
45	Infosys	Greater Noida	Female	Below 30	Under Graduate	Marrired
46	TCS	Hyderabad	Female	30-40	Graduate	Marrired
47	TCS	Delhi	Male	30-40	Graduate	Single
48	Infosys	Noida	Male	Below 30	Graduate	Single
49	Accenture	Delhi	Male	30-40	Post Graduate	Single
50	Infosys	Greater Noida	Male	Below 30	Graduate	Marrired

Task to complete

Consider the data of 50 IT professionals for this Experiment

1. Sort data first by Company then by Gender, then by Age and Marital Status

2. Filter the data by city with descending on age

3. Show the data summary in separate tables A1, A2, A3, A4, A5 in the following manner

A1 : COMPANY		
Company	**Frequency**	**Percent**
Accenture		
HCL		
TCS		
Wipro		
Total		

A2 : CITY		
City	**Frequency**	**Percent**
Delhi		
Ghaziabad		
Greater Noida		
Noida		
Total		

A3 : GENDER RATIO		
Category	**Frequency**	**Percent**
Male		
Female		
Total		

A5 : MARITAL STATUS RATIO		
Category	**Frequency**	**Percent**
Single		
Married		
Total		

A4 : AGE RATIO		
Category	**Frequency**	**Percent**
Below 30		
30-40		
40-50		
Total		

A6 : EDUCATION RATIO		
Category	**Frequency**	**Percent**
Under Graduate		
Graduate		
Post Graduate		
Total		

What-if Analysis using Goal Seek

Loan Amt	100000	**Fixed**
Terms in Months	180	**Fixed**
Interest rate	0.00%	**To adjust**
Payment	₹ -555.56	PMT(B3/12,B2,B1)

To Set Payment **Rs 900**

Loan Amt	100000
Terms in Months	180
Interest rate	7.02%
Payment	₹ -900.00

What-If-Analysis using Data Table

Step 1: Create a **table to find PMT.**

Investment Scheme	
Monthly Payment	-500
No of Years	30
Rate of Interest pa	5%
Future Value	₹ 4,16,129.32

Step 2: Copy the last cell in which you get output in another cell

₹ 4,16,129.32

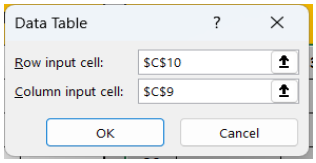
Step 3: Write both values you want to change in both **columns and rows.**

Return at the Cross-Section of Interest Rate (Horizontal) and No of Years(Vertical)									
	3%	3.50%	4%	4.50%	5%	5.50%	6%	6.50%	7%
10									
20									
30									
40									
50									

Step 4: Go to the **Data** tab of the **toolbar. Select the what-if analysis.**

Step 5: Select the **Data Table.**

Step 6: A dialogue box appears in which you have to select the cell in which you want to change the value in both row and column. The **Row input cell value** is **C10** and the **column input cell value** is **C9**.



Step 7: Click **ok** and see the result.

Return at the Cross-Section of Interest Rate (Horizontal) and No of Years(Vertical)									
₹ 4,16,129.32	3%	3.50%	4%	4.50%	5%	5.50%	6%	6.50%	7%
10	69870.7094	71716.2552	73624.9024	75599.0368	77641.1397	79753.791	81939.6734	84201.5771	86542.4037
20	164150.999	173434.635	183387.313	194062.181	205516.834	217813.698	231020.448	245210.465	260463.33
30	291368.442	317706.371	347024.702	379693.073	416129.318	456805.946	502257.521	553089.044	609985.498
40	463029.751	522333.442	590980.67	670575.34	763010.078	870519.792	995745.367	1141809.46	1312406.7
50	694661.546	812565.188	954678.2	1126385.75	1334325.99	1586690.07	1893595.54	2267551.07	2724035.46

Prepare a What-if-Analysis for

i) Rate of Interest Only from 2% to 8%

ii) Monthly Payment Only from 100 to 1000

iii) Cross section of Interest rate (3% to 7%) and No of years (10 to 50 Years

Investment Scheme		(i) Rate of Interest		(ii) Monthly Payment	
			₹ 4,16,129.32		
Monthly Payment	**-500**	2%		-100	
No of Years	**30**	2.50%		-200	
Rate of Interest pa	**5%**	3%		-300	
		3.50%		-400	
Future Value	**₹ 4,16,129.32**	4%		-500	
		4.50%		-600	
		5%		-700	
		5.50%		-800	
		6%		-900	
		6.50%		-1000	
		7%			
		7.50%			
		8%			

s)

(iii)

Return at the Cross-Section of Interest Rate (Horizontal) and No of Years(Vertical)									
₹ 4,16,129.32	3%	3.50%	4%	4.50%	5%	5.50%	6%	6.50%	7%
10									
20									
30									
40									
50									