Using Goal Seek and Creating Scenarios

The purpose of this session is to introduce learners to the key concepts and skills surrounding;

- **Using the Goal Seek Feature**
- **Creating multiple Worksheet Scenarios**

<u>Personal Notes and Application:</u>

Goal Seek

MS Excel's **Goal Seek** is used to recalculate a desired result by changing the value of another cell contained within the calculation. To use the Goal Seek command, enter the formula and the corresponding values in the worksheets.

Example:

|	A	B	C	D	E
1	John's Delivery Service - First Quarter Report				
2					
3	**Income (Months)**				
4					
5	January	39875			
6	February	42657			
7	March	49800			
8		Total			
9					
10	**Expenses**				
11					
12	Rent	12500			
13	Office Expenses	8640			
14	Staff	31200			
15	Leases	18950			
16	Equiptment	15600			
17		Total			
18					
19		Grand Total			
20					

1. In cell C8, use the SUM Function to summarize the range of cells **B5:B7**
2. In cell C17, use the SUM Function to summarize the range of cells **B12:B16**
3. In cell C19, enter the following formula;
    =C8-C17

To initiate the Goal Seek function, follow the steps as listed;

4. Open the Tools menu
5. Select the option Goal Seek…
6. From the Goal Seek dialogue box, enter the cell reference containing the formula in the **Set cell:** box (**C19**). Then enter the goal you are seeking in the **To value:** box (**55000**). Enter the cell reference to the cell containing the variable (cell you want to change to meet your seek) in the **By changing cell:** box (**B5**)
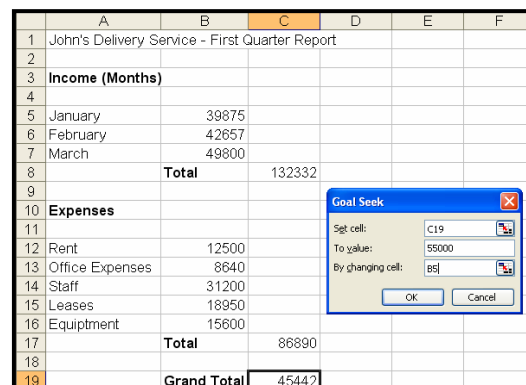
7. Select **OK**
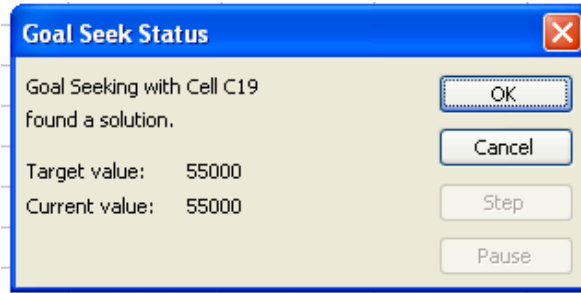
8. The **Goal Seek Status** dialogue box will appear with the changed value. To initiate change, select OK, to return to original value, select Cancel. (Select **Cancel**)
9. Complete the following steps in using the Goal Seek function while still working with this spreadsheet;

	Set Cell: *Box*	To Value: *Box*	By changing cell: *box*	OK/Cancel
Goal Seek #1	C19	49500	B15	Cancel
Goal Seek #2	C8	145500	B5	OK
Goal Seek #3	C17	78500	B14	OK

Example 2:

	A	B	C	D	E	F	G
1	ABC Car Sales - G. Altun, Client						
2							
3	**Wishes to Buy**	**Period Payment**	**Duration**	**Rate**	**Future Value**	**Present Value**	
4	Used Truck	-225	60	1.9%			
5							

1. Use the **PV** function to determine the Present Value (the value of $225/month for the next 60 months at 1.9% annual interest)
2. Use Goal Seek to determine the following goal;
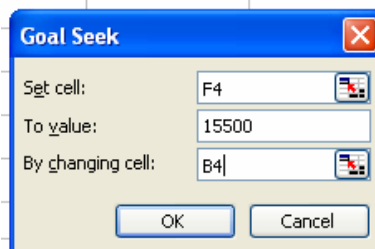
In this Goal Seek, you will determine a new monthly payment to purchase a Used Truck with a present value of $15500

Creating Scenarios

Goal Seek provides one answer to a specific question. **Scenario Manager** allows you to set up several different scenarios based on different questions that you may have. You can then analyze final outcomes based on each scenarios effect.

Example:

	A	B	C	D	E	F
1	XYZ Product Import Co.					
2						
3	Fixed Costs	225000				
4	Material Costs					
5						
6	Revenue					
7						
8	Profit					
9						

1. Save as **Scenario Exercise.xls**
2. In cell B8, insert the following formula, to attain the profit calculation **=B6-B4-B3**

In this exercise, we are going to create three scenarios based on the unknown information (Material Costs, Revenue). The scenarios will be Worst Case, Probable Case, and Best Case.

3. Open the Tools menu
4. Select the option Scenarios…
5. From the **Scenario Manager** dialogue box, click **Add**…
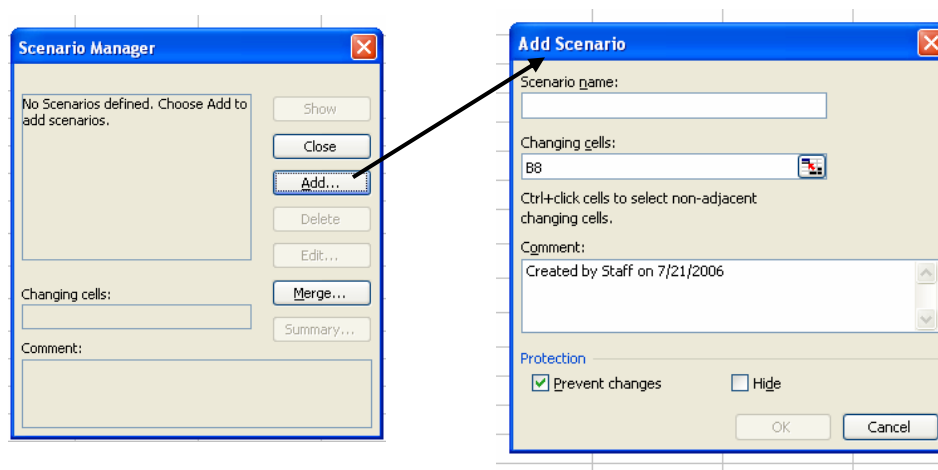
*You will now add the **Worst Case** scenario*
6. From the **Add Scenario** dialogue box, insert the first scenario name **Worst case**. Select the changing cell to be cells B4 and B6. Select **OK**

7. From the **Scenario Values** dialogue box, insert the value <u>90000</u> into changing cell **B4**. Insert the value <u>350000</u> into changing cell **B6**. Select **Add**

*You will now add the **Probable Case** scenario*

8. From the **Add Scenario** dialogue box, insert the first scenario name <u>**Probable case**</u>. Select the changing cell to be cells B4 and B6. Select **OK**
9. From the **Scenario Values** dialogue box, insert the value <u>125000</u> into changing cell **B4**. Insert the value <u>450000</u> into changing cell **B6**. Select **Add**

*You will now add the **Best Case** scenario*

10. From the **Add Scenario** dialogue box, insert the first scenario name <u>**Best case**</u>. Select the changing cell to be cells B4 and B6. Select **OK**
11. From the **Scenario Values** dialogue box, insert the value <u>155000</u> into changing cell B4. Insert the value <u>600000</u> into changing cell B6. Select **OK**
12. From the **Scenario Manager** dialogue box, select a scenario that you wish to view and select **Show**