



FastCourse Series

Chapter 2: Financial Functions and What-If Analysis



LABYRINTH
LEARNING™

Learning Objectives

- After studying this chapter, you will be able to:
 - ▲ Create financial functions
 - ▲ Create one-variable and two-variable Data Tables
 - ▲ Use What-If Analysis tools to create scenarios
 - ▲ Adjust input values using Goal Seek

Creating Financial Functions

- Calculate monthly payments, investment worth, how long to pay off debt
- Valuable for decision-making, analysis, and forecasting
- Financial function arguments
 - ▲ Arguments are similar for many functions

Function Arguments	
PMT	
Rate	<input type="text"/>
Nper	<input type="text"/>
Pv	<input type="text"/>
Fv	<input type="text"/>
Type	<input type="text"/>

Function Arguments	
FV	
Rate	<input type="text"/>
Nper	<input type="text"/>
Pmt	<input type="text"/>
Pv	<input type="text"/>
Type	<input type="text"/>

Function Arguments	
NPER	
Rate	<input type="text"/>
Pmt	<input type="text"/>
Pv	<input type="text"/>
Fv	<input type="text"/>
Type	<input type="text"/>



Creating Financial Functions (cont.)

■ PMT function (Payment function)

- ▲ Calculates payment amount required to pay off a loan
- ▲ Calculates how much to save each month to reach a future value amount

Function Arguments	
PMT	
Rate	5%/12
Nper	60
Pv	50000
Fv	
Type	

Creating Financial Functions (cont.)

■ FV function (future value function)

- ▲ Calculates the future value of an investment for a specific interest rate, investment length, and payment

Function Arguments	
FV	
Rate	7%/12
Nper	120
Pmt	200
Pv	
Type	

■ NPER function

- ▲ Missing number of periods required

Function Arguments	
NPER	
Rate	6%/12
Pmt	400
Pv	15000
Fv	
Type	

Using What-If Analysis Tools

- Asks a question – what if?
 - ▲ What if the interest rate increases
 - ▲ What if I invest money
- Works best with complex formulas list PMT, FV, or NPER



Using What-If Analysis Tools (cont.)

■ Using data tables

- ▲ Data Tables are NOT tables
- ▲ No sorting or filtering or inserting a total row
- ▲ Insert multiple different argument values and see results all at once



Using What-If Analysis Tools (cont.)



■ Creating one- or two-variable data tables

	A	B
1	Variable:	1
2	Constant:	10

Input cell values

Data Table ? X

Row input cell:

Column input cell:

OK Cancel

One-variable data table

One Variable Table	
Formula =B1*B2	
Substitute Values	2
	3
	4
	5
	6
	7

Substitute values replace the variable input cell

Data Table ? X

Row input cell:

Column input cell:

OK Cancel

Two-variable data table

Two Variable Table		1	2	3	4	5	6	7	8
Substitute Values	2								
	3								
	4								
	5								
	6								
	7								
	8								
	9								

Substitute values in row AND column replace input cells

Scenario Manager

- Compare results with multiple possibilities
 - ▲ Up to 32 variables
- Results shows in worksheet or scenario summary report
- Scenario requirements: scenario name, identify changing cells, entering value for each changing cell

Add Scenario	
Scenario name:	<input type="text"/>
Changing cells:	<input type="text"/>

Name

Cells that change

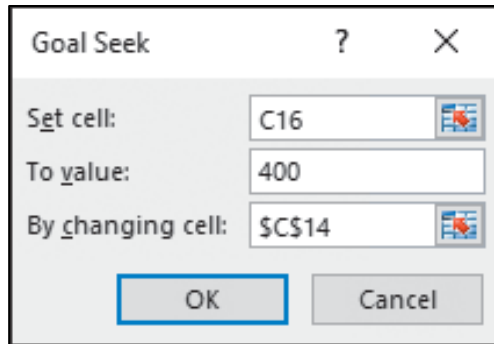
Scenario Values		
Enter values for each of the changing cells.		
1:	\$B\$6	<input type="text"/>
2:	\$B\$7	<input type="text"/>
3:	\$B\$8	<input type="text"/>
4:	\$B\$9	<input type="text"/>

Entering values



Goal Seek

- Know the result you want first
- Excel works backward to find required input



The image shows the 'Goal Seek' dialog box in Microsoft Excel. It has a title bar with a question mark and a close button. Inside, there are three input fields: 'Set cell:' with 'C16', 'To value:' with '400', and 'By changing cell:' with '\$C\$14'. Each field has a small grid icon to its right. At the bottom are 'OK' and 'Cancel' buttons. The 'OK' button is highlighted with a blue border.

Goal cell

Known result

Changing value