

Making Decisions With Excel

We can instruct a spreadsheet to make decisions on entered labels and values. This is achieved by using the IF function, which takes the form:

IF (something is true, do this, otherwise, do something else)

The IF function uses mathematical symbols (operators) to make comparisons:

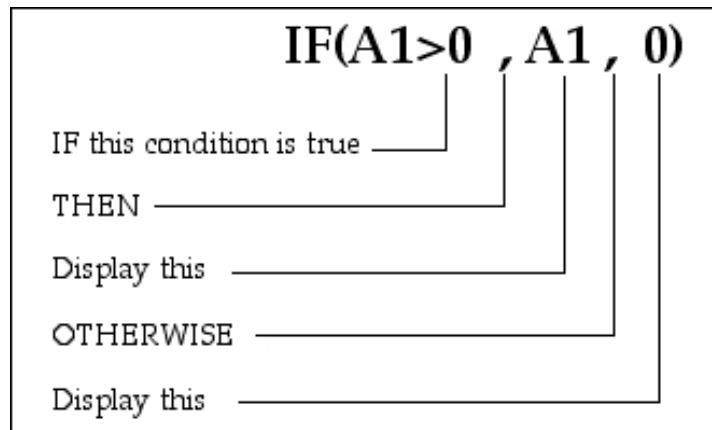
Operator	Meaning
<	less than
>	greater than
<=	less than or equal to
>=	greater than or equal to
=	equal to
<>	is not equal to

For example, look at the following formula:

=IF(A1>0,A1,0)

This formula reads: if the contents of cell A1 is greater than zero then display the contents of A1, otherwise display zero. The sections of an IF statement must be separated by commas. The commas stand for 'then' and 'otherwise'.

The following diagram shows the sections of the formula:



The IF Command

A template for a company that gives discounts on items priced over \$100 will be used.

- 1 Load Microsoft Excel 2010 and click on the OPEN icon in the QUICK ACCESS TOOLBAR or from within the FILE tab.
- 2 Access the EXCEL 2010 SUPPORT FILES, open the CHAPTER 12 folder and load the CHAPTER 12 file, selecting YES to the READ-ONLY message.

DISCOUNT CITY		
ITEM	PRICE	DISCOUNT
Radio	\$53.00	No
TV	\$525.00	
Toaster	\$81.50	
Heater	\$137.50	

3 In cell C4 enter the formula:
 $=IF(B4>100,"Yes","No")$

NOTE: The spreadsheet is being told that if the contents of the cell B4 is greater than 100, then display YES, otherwise display NO. Quotation marks are used around YES and NO because they are LABELS.

DISCOUNT CITY		
ITEM	PRICE	DISCOUNT
Radio	\$53.00	No
TV	\$525.00	Yes
Toaster	\$81.50	No
Heater	\$137.50	Yes

4 Autofill the formula down 3 cells and format the 4 labels to CENTRE. You should have a YES displayed next to prices over \$100.

	B	C	D	E	F
1	DISCOUNT CITY				
3	ITEM	PRICE	DISCOUNT		
4	Radio	\$53.00	No		
5	TV	\$525.00	Yes		
6	Toaster	\$81.50	No		
7	Heater	\$95.60	No		
8					

5 Change the cost of the Heater to \$95.60 and observe the change.

6 Mathematical calculations can also be done within IF functions.

	B	C	D	E	F
1	DISCOUNT CITY				
3	ITEM	PRICE	DISCOUNT		
4	Radio	\$53.00			
5	TV	\$525.00	Yes		
6	Toaster	\$81.50	No		
7	Heater	\$95.60	No		
8					

7 Position the cursor at cell C4, enter:
 $=IF(B4>100,B4*10%, "")$
and press the <enter> key.

- NOTE:**
- i For the "", press the double quotation key twice.
 - ii The formula reads: if the value in cell B4 is greater than 100, then work out and display B4 times 10%, otherwise display a blank space (two quotes entered next to one another).
 - iii You should receive a blank space in cell C4 as the Radio costs less than \$100.

The screenshot shows the Excel ribbon with the Home tab selected. The Alignment group is open, with the right-align icon highlighted. The formula bar shows the formula =IF(B4>100,B4*10%,)". The table has a header row and 7 data rows. The 'ITEM' column is bolded. The 'PRICE' column has a currency format with two decimal places. The 'DISCOUNT' column is empty.

8 Autofill the formula down for the other 3 cells and format the 4 cells to CURRENCY with two decimal places and RIGHT aligned.

This screenshot shows the same Excel interface after step 8. The 'PRICE' column for the Toaster has been changed to \$137.50. The formula in cell C6 has been calculated to \$13.75. The formula bar shows the formula =IF(B6>100,B6*10%,)". The table structure remains the same as in the previous screenshot.

9 Change the price of the Toaster to \$137.50 and a discount should be allocated to it.

This screenshot shows the same Excel interface after step 9. The 'PRICE' column for the Toaster has been changed to \$100.00. The formula in cell C6 has been calculated to \$0.00. The formula bar shows the formula =IF(B6>100,B6*10%,)". The table structure remains the same as in the previous screenshots.

10 Change the cost of the Toaster to \$100. A discount is not given because the value is not over \$100.