Lesson No1 : Applying Grading /Ranking in Excel (All versions)

Let's Say you need to rate the Sales with some grade text like POOR, AVERAGE, GOOD and EXCELLENT

Basedon a a range of values as mentioned below :

0 to 1999 ---Poor

2000 to 2999 –Average

3000 to 3999---Good

4000 and 5000 or greater – Excellent

Sales value	What is the ranking Using If ?	What is the ranking Using Lookup?
0	Poor	Poor
1999	Poor	Poor
2000	Avg	Avg
2999	Avg	Avg
3000	Good	Good
3999	Good	Good
5000	Excellent	Excellent
5001	Excellent	Excellent

We can use 2 commonly used functions in this scenario

    A> IF (Nested)
    B> Lookup

Lets Understand the First method using If .

METHOD 1 : IF Function (NESTED)

Consider the Logic to be used here in Plain English (pseudo Code)

Psudeo Code ,for N text values of gradings always N-1 if's

```
if (salesvalue(a3-cell) >= 5000 then

  result = " Excellent"  - true

else

if (salesvalue(a3-cell) >= 3000 then  false

result = "Good"  true

else

if (salesvalue(a3-cell) >= 2000 then  false

result = "Average" -true

else      Default Case

result = "Poor"

End )))
```

The Syntax of the IF function in Excel is :

=if(condition,what-action-if-true, what-action-if-false)

To Apply a nested if , using the above syntax and the logic explained by the English Code ,In Excel use :

=if(a3>=5000,"Excellent",if(a3>=3000,"Good",if(A3>=2000,"Avg","poor")))

Note : For the Working Example refer to the attached Excel Sheet

METHOD 2 : Lookup Function

Create a Tabular form in Excel as a reference for Lookup Function

F	G
0	poor
2000	avg
3000	good
5000	excellent

Let's says the Value to Lookup Value is in the Cell O2(the Sales Value to be Ranked)

The Lookup Fuction Syntax

=lookup(Lookup_Value,Lookup_Value_range,lookup_result_range)

Apply the Function Syntax as below

=LOOKUP(A3,F3:F6,G3:G6)

Note : For the Working Example refer to the attached Excel Sheet ,The Snapshot is given below

Example 1		
Lookup Value	**What is the ranking Using If ?**	**What is the ranking Using Lookup?**
1999	poor	poor
	=IF(A3>=5000,"excellent",IF(A3>=3000,"Good",IF(A3>=2000,"Avg","poor")))	=LOOKUP(A3,F3:F6,G3:G6)

Lets Take Another Example

Example 2

Scores	Grade with IF	Grade With Lookup
0	Fail	Fail
34	Fail	Fail
35	pass	Pass
59	pass	Pass
60	A	A
74	A	A
75	A+	A+

90	Distinction	Distinction
91	Distinction	Distinction

Create a Table for Lookup function to lookup values

Column F   Column G

0	Fail
35	Pass
60	A
75	A+
90	Distinction

I have Created A Named Range for frequently used cells by selecting the columns and typing a name in the Name Box and press Enter

 Named Ranges ====>   L_range(For Column F)   R_range(For Column G)

Consider the The Formula For IF as given below :

=IF(A13>=90,"Distinction",IF(A13>=75,"A+",IF(A13>=60,"A",IF(A13>=35,"pass",

"Fail"))))

Consider the The Formula For lookup as given below :

=LOOKUP(A13,L_range,R_lookup)

So which Function is Simpler or Best to use ? You may say lookup , well actually Depends on the usage

Keep it Simple.

When to use IF

- Use IF, when you need to formulate /evaluate the result , and when the grades are more than 7 – 15 , you may have to write many nested ifs (N-1) , this makes the formula longer and complex
- You need to use Comparison operators in the test conditions
- Need No order to evaluate , from Larget to smallest or Smallest to Largest Order will do , both orders if will work

When to Use Lookup

- Use a Lookup , when you have smaller reference Tables Like we created above , typically 2 dimensional, 1 column to lookup and the other to return a result .
- The Lookup column range must be always sorted in the Ascending order(smaller to larger)
- Also the Lookup Function , can be used In MACROS (very useful)
- Lookup Function can use Arrays (so when your values are in the form of arrays, use lookup insteadof if)

  So the above Lookup Formula can also be written as below using an Array syntax (you don't need to create a Table reference for lookup, in this case)

  =LOOKUP(A3,{0,2000,3000,5000}, {"Poor","Average","Good","Excellent"})

  Note : The Braces in red are the data Sets (Arrays) ,1 each for the lookup range and the Result Range

Some Other Functions , to Consider For Ranking /Grading

- CHOOSE ()
- RANK(2007 or oder versions)
- RANK.EQ(2010 onwards)

Hope you found this Lesson interesting and helpful .I would appreciate your comments and feedback

Next Lesson Upcoming Soon , On Choose , Ranking !!!

Happy Grading !!!

From,

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