

# The Research and Implementation of Integrated Application for Excel 2010 If Function

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**Abstract.** Excel is tool software often used in daily office. With the increasing requirements for office efficiency and quality, we must consider the comprehensive application of Excel function and replace the functions of other functions. In this paper, the If function of Excel is thoroughly analyzed. By using the method of mixed application of If function and other functions, the functions with practical value can be realized in the work, and some functions that are difficult to remember can be replaced. The practical application proves that this method can improve the work efficiency and quality of office automation.

## Introduction

With the wider and deeper application of computers in the field of office automation, office software is widely used by enterprises and institutions in society. For example, the WPS Office software of Jinshan Company and Microsoft Office software of Microsoft Company in China have a high utilization rate in China, and the market share of Microsoft Office is more than 80%. The software is a set of software packages, mainly including Word, Excel, Access, PowerPoint, Frontage and other tool software, among which the higher application rate is mainly Word, Excel and PowerPoint. Excel is widely used in the field of office automation because of its strong statistical calculation function for spreadsheet processing. At present, most colleges and universities in China use Microsoft Office for basic computer teaching. At the same time, a large number of professionals who can skillfully use Microsoft Office software and have professional knowledge are needed in society. It is a long way to go to train and improve the application ability of Microsoft Office software for college students.

There are many versions of Microsoft Office, with 2003, 2007 and 2010 versions currently widely used. This paper mainly studies the comprehensive application of Excel If function in Microsoft Office 2010. The comprehensive application of Excel If function can replace some other Excel functions, and help users avoid memorizing many other functions. It has great help to improve the application level of office automation and use other Excel functions for reference.

## The Structure of If Function and Its Simple Application

If (condition, condition is the result of "true" and condition is the result of "false")

Among them:

(1) Conditions: It is a logical expression, that is, "cell or cell area address (numeric or text)+relational operator+cell or cell area address (numeric or text)".

(2) The result of "true" condition: it can be numerical value, text, relational expression or other functions and formulas.

(3) The result of "false" condition: it can be numerical value, text, relational expression or other functions and formulas.

Main purposes: This function is mainly used for data classification according to conditions.

Example 1: In Table 1, according to the IF function used by the Distribution Department to fill in the column of "distribution area", the corresponding relationship between the Distribution

Department and the distribution area is as follows: the first part corresponds to "Beijing"; the second part corresponds to "Shanghai"; the third part corresponds to "Nanjing"; the result is filled in the B2:B7 cell area.

Calculating method: Enter the following functions in the B2 cell of Table 1.

"= IF (B2="Division 1","Beijing",IF (B2="Division 2", "Shanghai", "Nanjing"))", then press the Enter key, then fill the cell area of B2:B7 with the filling handle, as shown in Table 1.

Table 1 Simple Application of If Function

Distribution Department	Territory	Book category	quarter	Quantity	Sales volume	Sales ranking
The third	Nanjing	Computer	3	124	8680	5
The third	Nanjing	Children	2	321	9630	4
The first	Beijing	Social	2	435	21750	1
The second	Shanghai	Computer	2	256	17920	2
The second	Shanghai	Social	1	167	8350	6
The third	Nanjing	Computer	4	157	10990	3

### Nested Application of If Function

Grammatical Format: If (condition 1, condition 1 is the result of "true", (condition 2, condition 2 is the result of "true", (condition 3, condition 3 is the result of "true",... )... )

Note: If functions can be nested up to seven layers.

Main Applications: Multi-level classification of data.

Example 2: In Table 2, according to the "comprehensive results", the "grade of achievement" is classified as "excellent", 80 (including 80) to 90 "good", 70 (including 70) to 80 "medium", 60 (including 60) to 70 "pass", and below 60 "fail".

Calculating method: In the F2 cell of Table 2, input "= IF (E6 > 90,"excellent",IF (E6 > 80,"good",IF (E6 > 70", "medium", "IF" (E6 > 60","pass"))" and fill the cell of F2:F8 with filling handle. The calculation results are shown in Table 2.

Table 2 Nested Application of If Function

Name	Academic achievement	Cultural achievements	Total score	Comprehensive results	Grade of achievement
LiMei Liu	86	81	167	85	good
ShanShan Yu	75	80	155	77	secondary
Jiang Wu	90	86	176	89	good
Jie Rang	90	92	182	91	excellent
DongMei Li	89	74	163	85	good
HaiYan Tian	67	56	123	64	pass
HaiTao Wang	94	75	169	88	good

Skills of Input Function If: If you input If function directly into the cell to be calculated, it requires English punctuation and letters, otherwise it is easy to make mistakes and difficult to input. Here is the input skill of Input Function If.

(1) In the Logical test text box, use the mouse to select the cell or cell area as the condition, and enter the specific condition, as shown in Figure 1.

(2) Enter the result of the condition "true" in the Value\_if\_true text box;

(3) In the Value\_if\_false text box, you don't need to input the If function. Click on the "IF" in the upper left corner of Figure 2 with the mouse to pop up the If function interface of Figure 3, and then repeat the above two steps according to the nested needs.

Figure 1. The First IF Function Interface

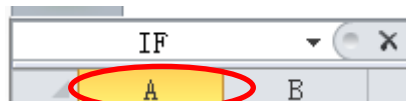


Figure 2. Click the interface of the IF function

Figure 3. Second If Function Interface

## Mixed Application of If Function and Other Functions

If function can be mixed with min function, and function, or function, mid function, sum function and average function to achieve the desired operation effect.

### 4.1 Mixed Application of If Function and Min or OR Function

Grammatical format: "If (Min (Cell Area) condition, condition is "true" result, IF nesting"

Main Applications: Application of Cell Area Conditions

Example 3: In Table 3, a "grade" is given according to the following requirements:

Unqualified: The scores of any of the five subjects were below 60 points.

Pass: 60 points less than average score less than 75 points

Good: 75 points less than average score less than 85 points

Excellent: Average score (> 85)

Computing method:

In H2 cell, input function "= If (Min (B2:E2) < 60,"Unqualified", "If"(B2 < 75,"Qualified", "IF (B2 < 85", "Good", "Excellent")" or "= If (or (B2 < 60, H3 < 60, C2 < 60, D2 < 60, E2 < 60),"Unqualified", "IF (B2 < 75", "Qualified", "IF (B2 < 85", "Good"and"Excellent")" can achieve the operation of the title requirements, as shown in Table 3.

Table 3 Mixed Application of If Function and min Function

姓名	数学	语文	化学	英语	地理	平均成绩	等级
A	89	86	90	86	76	85.4	优
B	78	83	80	80	67	67.6	良
C	73	68	58	61	46	61.2	不合格
D	74	78	67	60	70	69.8	合格
E	54	67	67	82	80	70	不合格

## Mixed Application of If Function and "AND" Function

Syntax Format: IF (AND) (condition 1, condition 2,...) The condition is "true" result and the condition is "false" result.

Main Applications: Multi-conditional operations.

Example 4: Use the If function to fill in the statistical results according to the following rules for the "completion" column of Table 4: When the left three items "whether to fill in", "whether to audit", "whether to inform customers" are all "yes", display "completed", otherwise it is "incomplete".

Computing method: Enter "= IF" (AND (C2= "yes", "D2="yes", "E2= "yes"), "completed", "incomplete") in the F2 cell of Table 4, and the results are shown in Table 4.

Table 4 Mixed Application of If Function and AND Function

Person liable	Number of reports	Whether to fill in	Whether to review	Whether to notify customers	Completion
A	2	yes	yes	yes	yes
B	0	yes	no	yes	no
B	1	yes	yes	yes	yes
C	0	yes	no	yes	no

### Mixed Application of If Function and MID Function

Syntax Format: If (min (string, starting position, length) condition, condition is "true" result, condition is "false" result)

Main uses: According to the intercepted character conditions for calculation.

Example 5: In Table 5, according to the "curriculum number" filled in the column of "curriculum type" with the function of If, the corresponding relationship between "curriculum type" and "curriculum number" is that "curriculum type" is the first expression of "curriculum number", "6" means "general course", "4" means "elective course" and "9" means "professional core course".

Calculating method: Input "= IF (MID (A2, 1, 1) ="6", "general course", "IF (MID (A2, 1, 1) = "4", "elective course", "professional core course") in C2 cell of Table 5, and fill the C3:C6 cell area with filling handle, as shown in Table 5.

Table 5 Mixed Application of If Function and MID Function

Course No	course name	Class hours	Course type	credit	Number of courses
9504	Financial Management	3	Professional core curriculum	3	2
9505	cost accounting	4	Professional core curriculum	4	3
6001	university English	12	General course	12	1
6009	Contemporary World Economy and Politics	2	General course	2	2

### Mixed Application of If Function and Average Function

Grammar Format: If (Average condition, condition is "true" result, condition is "false" result)

Main Use: Calculate according to the average condition.

Example 6: It is important to know whether a person's performance pay is more than twice the average performance pay of all employees.

Calculating method: Enter "= IF (B2 > AVERAGE (\$B \$2: \$B \$6), " over ", "not over") in C2 cell of Table 2 and fill C3:C6 with filling handle. The calculation results are shown in Table 6.

Table 6 Mixed Application of If Function and Average Function

Number	Performance pay	Is it twice the average?
9504	2890.3	no
9505	4323.6	yes
6001	3263.1	yes
9401	1890.6	no
4035	2428.9	no

### Mixed Application of If Function and Sum Function

Syntax Format: SUM (IF (Cell Area Conditions), summation and region) requires an array formula.

Main uses: summing up according to conditions.

Example 7: In Table 7, the total performance pay is required to exceed twice the average performance pay.

Processing method: Enter the following in C2 cell.

"= SUM (IF (C2:C6="more than", B2:B6)", input according to Ctrl+Shift+Enter termination formula, form an array formula, otherwise the correct results can not be obtained. The calculation results are shown in Table 7.

Table 7 Mixed Application of If Function and Sum Function (1)

Number	Performance pay	Is it twice the average?
2	2890.3	no
1	4323.6	yes
2	3263.1	yes
1	1890.6	no
3	2428.9	no
Over twice the average wage	7586.7	

Example 8: In Table 8, it is required to calculate the total profits and taxes of profit-making enterprises.

Processing method: Input "= If (B2 > 0, SUM (B2: E2), "--") in F2 cell and fill F3: F4 cell area with filling handle. The calculation results are shown in Table 8.

Table 8 Mixed Application of If Function and Sum Function (2)

Company Name	Total profit	VAT	Business tax	Urban construction maintenance tax	Total profit and tax
A	90	25	20	18	153
B	-10	12	15	8	--
C	50	60	35	7	152

### Conclusion

The author used "the comprehensive application method of If function in Excel 2010" to train many enterprises and institutions in Hongta District of Yuxi City. From the feedback information of trainers, we know that this method can greatly improve office efficiency and quality. Other functions of Excel can also use this method for comprehensive application, which is of great help to the study of advanced applications of Excel functions. The author applies the results of this study to the basic computer teaching in Yuxi Normal University. Through nearly three years of teaching, it has been proved that the introduction of this method can improve the students' ability to use Microsoft Office skills and their employment ability, and has a greater role in improving the quality of teaching.

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