

Using the IF Function

Scenario

"Hey! So as you know, we recently completed our semi-annual fundraiser. If anyone gave at least **\$50**, they'll receive a free tote bag. I was going to type **Free Gift** for each person who donated at least \$50, but I'm really busy today. Do you think you could handle this for me?"

Our spreadsheet

Once you have downloaded if_function_practice file from moodle, open the file in Excel or another spreadsheet application. As you can see there is a ton of information—there are several different columns, and each row contains the contact information for one person, along with the amount of money that person donated.

	A	B	C	D	E	F	G
1	Name	Email Address	Street Address	City	State	Zip	Donation
2	Silvia Armstrong	SilviaNArmstrong@email.com	2219 Andell Road	Columbus	OH	43215	\$52.00
3	Kara Booker	KaraCBooker@email.com	839 Warner Street	Casper	WY	82601	\$42.00
4	Susan Brown	SusanLBrown@email.com	4208 Fannie Street	Wharton	TX	77488	\$20.00
5	Melissa Dales	MelissaSDales@email.com	1505 Saint Clair Street	Southaven	MS	38671	\$25.00
6	Bessie Dandridge	BessieCDandridge@email.com	4884 Meadow Drive	Oklahoma City	OK	73102	\$50.00
7	Barbara Fallis	BarbaraJFallis@email.com	4884 Cunningham Court	Farmington Hills	MI	48335	\$79.00
8	Jeffrey Hegwood	JeffreyMHegwood@email.com	2663 Butternut Lane	Benton	IL	62812	\$82.00
9	Cindy Hoch	CindyJHoch@email.com	4187 Straford Park	Lexington	KY	40507	\$20.00
10	Judith Jamison	JudithMJamison@email.com	2433 Byers Lane	Marysville	CA	95901	\$5.00
11	Kim Johnson	KimVJohnson@email.com	2037 Lochmere Lane	Plainville	CT	6062	\$44.00
12	Laura Juarez	LauraDJuarez@email.com	1916 Horseshoe Lane	Fort Washington	PA	19034	\$30.00
13	Kathleen McMullen	KathleenRMcMullen@email.com	1564 Daylene Drive	Ann Arbor	MI	48104	\$76.00
14	Sherry Michel	SherryRMichel@email.com	1870 Franklin Avenue	Corpus Christi	TX	78401	\$35.00
15	Dustin Moore	DustinSMoore@email.com	4793 Oakway Lane	Los Angeles	CA	90017	\$41.00
16	Pedro Penton	PedroAPenton@email.com	4316 Pickens Wav	Pecan Gap	TX	75469	\$64.00

How can we solve this problem quickly?

So if a person donated at least \$50, we need to write the words **Free Gift** in that donor's row. We could go through each row, look at the value, and then write **Free Gift** if the value is at least \$50. But there are a lot of people on the spreadsheet, so it could be really time consuming to do this manually. What we really need is way to make our spreadsheet do this **automatically**.

While you might never have used it before, the **IF function** can simplify these kinds of problems. The IF function can look at a value in a cell to see if it meets a basic condition (in our example, **if the value is greater than or equal to 50**). Then it can then add text to an empty cell. Here, we can use the IF function to look at each person's donation, then add the words **Free Gift** if they donated at least \$50. Basically, the IF function can do the same thing we were planning to do, only it can do it much faster.

Prepare the spreadsheet

If you've never used the IF function before, don't worry—it's not complicated, although the **syntax** is a bit different from other formulas you may have used. Before you get started, it's best to decide where the results from the function will go. In our case, we'll go ahead and insert a new column to the right of column G.

F	G	H	I
Zip	Donation	Free Gift?	
43215	\$52.00		
82601	\$42.00		
77488	\$20.00		
38671	\$25.00		
73102	\$50.00		
48335	\$79.00		
62812	\$82.00		

Writing the function

Now that we have our new column, we'll start building our formula. We'll need to have a formula on each row, so we'll start by typing the formula in cell H2. As with any formula, you'll start with an **equals sign (=)**. Then type the function name, followed by an open parenthesis. So far, it should look like this:

=IF(

Now, we'll add our **arguments**. The arguments will tell the IF **function what to look for** and **what to write** in the cell depending on the outcome.

The first argument sets up the condition we want to test. For this formula, we want to know **if the value in cell G2 is greater than or equal to 50**. We'll use some

mathematical operators (> for greater than and = for equals) to write the condition:

=IF(G2>=50

The next argument will tell the function what to write if the condition is **true** (that is, if the value is greater than or equal to 50). This means the person will be getting a free gift, so we'll have it write **Free Gift**. Because this argument is text, we'll need to put it in **double quotes** (" "). And, as with any function, we'll need to use a comma to separate each argument:

=IF(G2>=50, "Free Gift"

The final argument will tell the function what to write if the condition is **false**. This means the person won't get a free gift. We could make the function write something like **None** or **No**, but in this case we actually just want the cell to remain **blank**. To do this, we'll just type **double quotes ("") with no text inside**. This is also our last argument, so go ahead and close the parentheses:

=IF(G2>=50, "Free Gift", "")

OK, you're done! When you press Enter, the words **Free Gift** should appear in the cell.




H2

:

=IF(G2>=50,"Free Gift", "")

	D	E	F	G	H	I
1	City	State	Zip	Donation	Free Gift?	
2	Columbus	OH	43215	\$52.00	Free Gift	
3	Casper	WY	82601	\$42.00		
4	Wharton	TX	77488	\$20.00		
5	Southaven	MS	38671	\$25.00		
6	Oklahoma City	OK	73102	\$50.00		
7	Farmington Hills	MI	48335	\$79.00		
8	Benton	IL	62812	\$82.00		

Now we can just drag the fill handle down to add the formula to the other cells in column H:

H2	:	  	=IF(G2>=50,"Free Gift", "")		
	D	E	F	G	H
1	City	State	Zip	Donation	Free Gift?
2	Columbus	OH	43215	\$52.00	Free Gift
3	Casper	WY	82601	\$42.00	
4	Wharton	TX	77488	\$20.00	
5	Southaven	MS	38671	\$25.00	
6	Oklahoma City	OK	73102	\$50.00	Free Gift
7	Farmington Hills	MI	48335	\$79.00	Free Gift
8	Benton	IL	62812	\$82.00	Free Gift
9	Lexington	KY	40507	\$20.00	
10	Marysville	CA	95901	\$5.00	
11	Plainville	CT	6062	\$44.00	
12	Fort Washington	PA	19034	\$30.00	
13	Ann Arbor	MI	48104	\$76.00	Free Gift
14	Corpus Christi	TX	78401	\$35.00	
15	Los Angeles	CA	90017	\$41.00	
16	Pecan Gap	TX	75469	\$64.00	Free Gift
17	Lexington	KY	40507	\$45.00	
18	Madison	WI	53703	\$19.00	
19	San Jose	CA	95113	\$36.00	
20	Waltham	MA	2154	\$90.00	Free Gift
21	Rochelle Park	NJ	7662	\$82.00	Free Gift

Excellent—our function is working perfectly! If we wanted to go a step further, we might **sort** or **filter** the results to show only those donors who earned the free gift. For now, it looks like we're ready to send this back.