Tutorial using Logical functions and IF Statements

These are one of several LOGICAL functions available in Excel. The IF function is useful because it gives your formulas decision-making capability. Please read pages 102 to 104 for an explanation.

Below is a brief tutorial based on the Elections Canada data we used in class.

And please note, be sure to download the latest version of Excel on to your laptops.

Okay, let's get started.

1. Download the Elections Canada donations data.
2. Copy the Original worksheet and paste it into a new and re-labeled worksheet called "WorkingCopy".
3. In order to construct a pivot table we'll use for this exercise, it will be necessary to pull the year out of the dates in column F.

F
Date_received
Sep 11, 2008
Sep 15, 2008
Sep 15, 2008
Sep 19, 2008
Sep 30, 2008
Sep 30, 2008
Oct 14, 2008

4. You'll notice that the dates are not really dates at all, but text. How do we know this? Because they are justified to the left. Excel

is reading the dates as text. We'll use the RIGHT function whose generic syntax looks like this: "=RIGHT(cell reference, number of characters)". In essence, this function tells Excel to pull the last four characters from column F and place them in column G, the new column that we'll be creating. NOTE: If we wanted to pull the months and days, we would use a LEFT function "=LEFT(cell reference, number of characters)". Excel's help menu is excellent for learning more about these functions, so please use it as a handy resource in addition to the textbook.

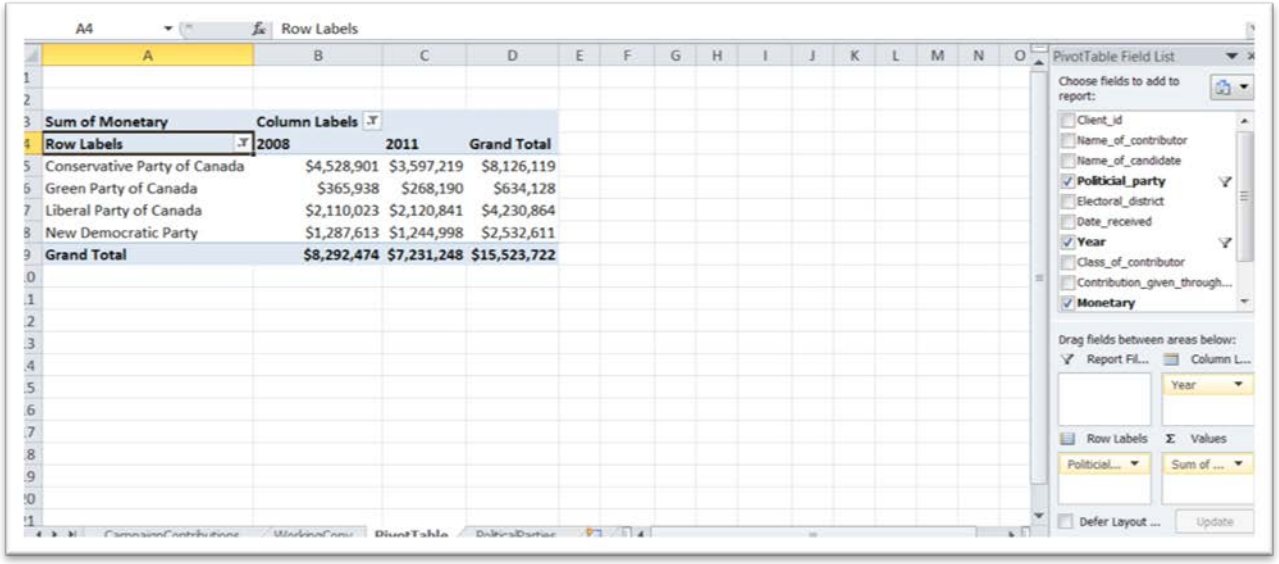
5. Insert a new column, and call it "Year".
6. Use the RIGHT function to pull the year out of the dates.

7. In plain English, the function tells Excel to go to cell F2 and extract the last four characters from the right. We can copy this formula to the bottom because we know that the dates in column F follow the same pattern; that is, the year containing four characters after the comma.

8. Plug in the formula and copy it to bottom.

F	G
Date_received	Year
Sep 11, 2008	2008
Sep 15, 2008	2008
Sep 15, 2008	2008
Sep 19, 2008	2008
Sep 30, 2008	2008
Sep 30, 2008	2008
Oct 14, 2008	2008
Sep 11, 2008	2008
Sep 27, 2008	2008
Sep 17, 2008	2008
Sep 26, 2008	2008
Oct 03, 2008	2008
Sep 11, 2008	2008
Sep 11, 2008	2008
Sep 11, 2008	2008

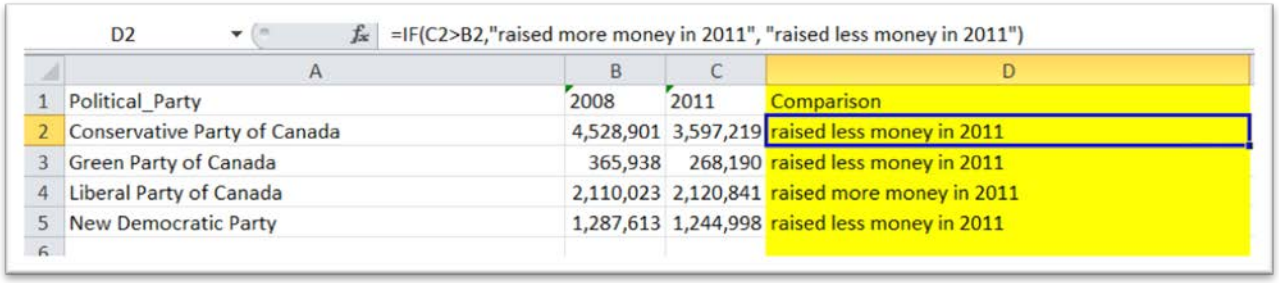
9. Create a pivot table that lists the total donations for the four main political parties for the last two elections: 2008 and 2011.



10. We want to find out which parties raised more money in 2011 compared to 2011. However, we don't want to work with the pivot table because while it allows you to create columns outside

the actual table, you can't sort that column. So it's best to copy the table, open a new worksheet and use the "paste special" option, which strips the table of the formula Excel used to create it, and just provides the raw numbers or values. The textbook covers paste special on pages 100-101.

11. Once the table is in a new worksheet, name it something like "Political Parties", clean it up so that the first row contains the columns, delete the grand total column because we won't need it, and create a new column – D – we can call "Comparison". Be sure to reformat your numbers.
12. Use the IF statement that is explained on pages 102-104 of the textbook, but instead of using the words "yes" and "no", use the phrases "raised less money in 2011" and "raised more money in 2011".



	A	B	C	D
1	Political_Party	2008	2011	Comparison
2	Conservative Party of Canada	4,528,901	3,597,219	raised less money in 2011
3	Green Party of Canada	365,938	268,190	raised less money in 2011
4	Liberal Party of Canada	2,110,023	2,120,841	raised more money in 2011
5	New Democratic Party	1,287,613	1,244,998	raised less money in 2011
6				

13. We also wanted to create a pivot table grouping the donors with the political party. However, to do this, we needed to use the "concatenation" function explained on pages 95-97 of the textbook.
14. Create a new column to the right of Political_party. We're doing this, because a pivot table only groups values in one column. This means we could use the pivot table to group the donors in column B in the row label, but we wouldn't know which party received their contributions. We can accomplish this task, by

combining the contributor name in column with the political party name in column D, as you can see in the screen grab below.

15. Use the ampersand (&), the concatenation operator, to produce this formula:

16. Copy the formula all the way down column E, and then create a second pivot table that groups the information in the new "Name_of_contributor_Political_party" column.
17. Group the new column in the pivot table's row label, sum the contributions and be sure to format the numbers as currency.
18. Sort the SUM of their contributions in descending order.
19. Now let's follow the same routine we did for the first exercise to determine which candidates received more cash in 2008 compared to 2011. However, here's a hint: you only want to include those candidates who ran in both elections. So you'll have to do some filtering, copy that table that only has candidates from 2008 and 2011, and then paste the filtered table into yet another new worksheet.
20. Use your concatenation function.