UNIVERSITY OF MARYLAND
University College

Learning Resource

The IF Statement in Excel

The basic IF statement in Excel works like this:

=IF(logic_test, value_if true, value_if_false)

So using similar data, but not EXACTLY the same IF statement that is required in the assignment, here's an example. Let's say that taxes are higher at the Airport location versus the Downtown location. Here are a few rows of the data:

Year	Quarter	Location	CarClass	Revenue	NumCars
2015	Q1	Airport	Economy	$342,140	3,267
2015	Q1	Airport	Premium	$349,852	3,205
2015	Q1	Downtown	Economy	$343,252	3,705
2015	Q1	Downtown	Premium	$351,060	3,477

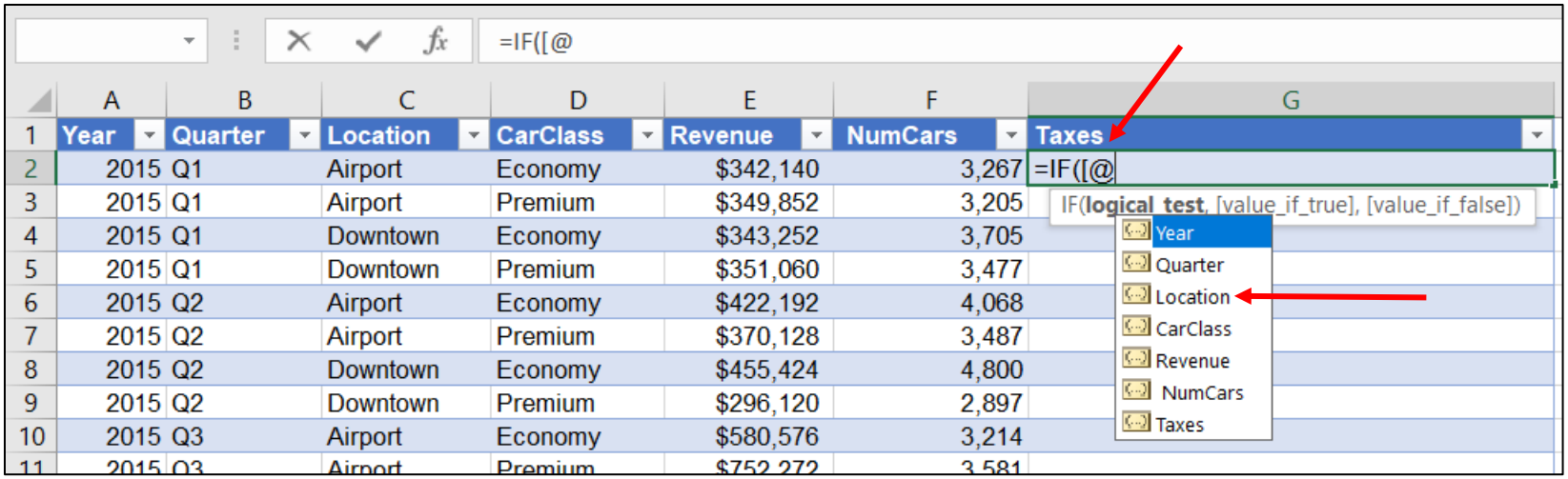
Start the IF statement in Column G, Row 2 (the label “Taxes” has been added).

=IF([@Location] = "Airport", 8%, 6%)

Year	Quarter	Location	CarClass	Revenue	NumCars	Taxes
2015	Q1	Airport	Economy	$342,140	3,267	=IF([@Location] = "Airport", 8%, 6%)
2015	Q1	Airport	Premium	$349,852	3,205	
2015	Q1	Downtown	Economy	$343,252	3,705	
2015	Q1	Downtown	Premium	$351,060	3,477	

=IF([Location] = "Airport", 8%, 6%) should also work here.

The @ symbol is optional here, but why is it used? Because it tells Excel that a 'named' column is to be used, in this case Location. But Excel will also display a prompt, a dropdown menu, as below. (Depending on the version of Excel being used, the dropdown box may show up WITHOUT the @, after the first bracket [is typed in).

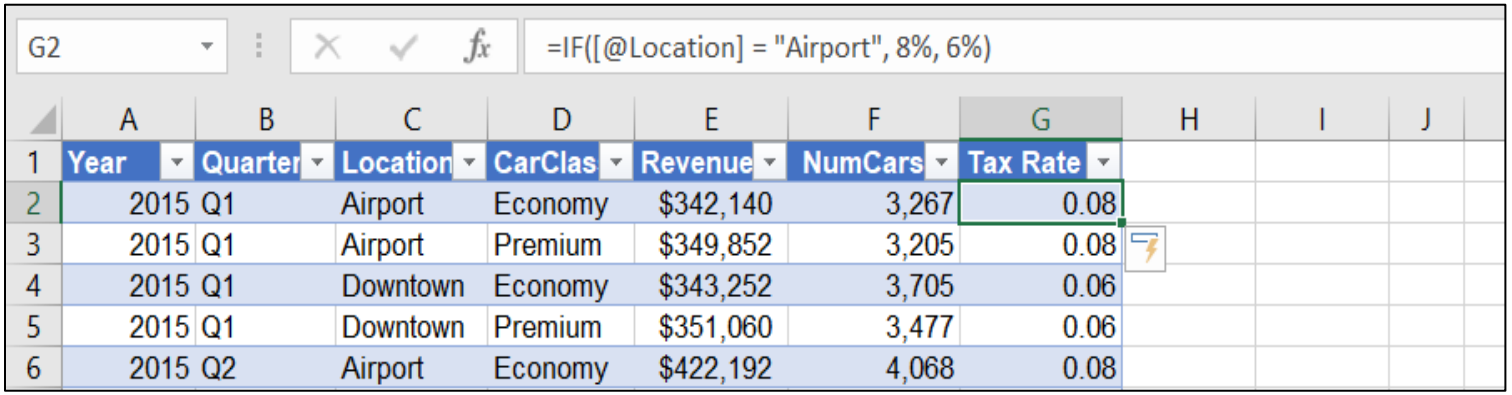


If an error message that the 'name' typed in is invalid but it looks correct, there may be a SPACE before the name (often difficult to see, but Excel doesn't like that). Use the prompt and Excel will (hopefully) fix it for you.

Back to the IF statement:

=IF([@Location] = "Airport", 8%, 6%)

This is read as**, *If the Location is Airport, then Taxes are 8%, otherwise 6%.*** (This works because there are only two choices.) Our result in Column G (Taxes) is: (NOTE: If Column G is formatted as Currency, this will show up as $0 for all cells.)



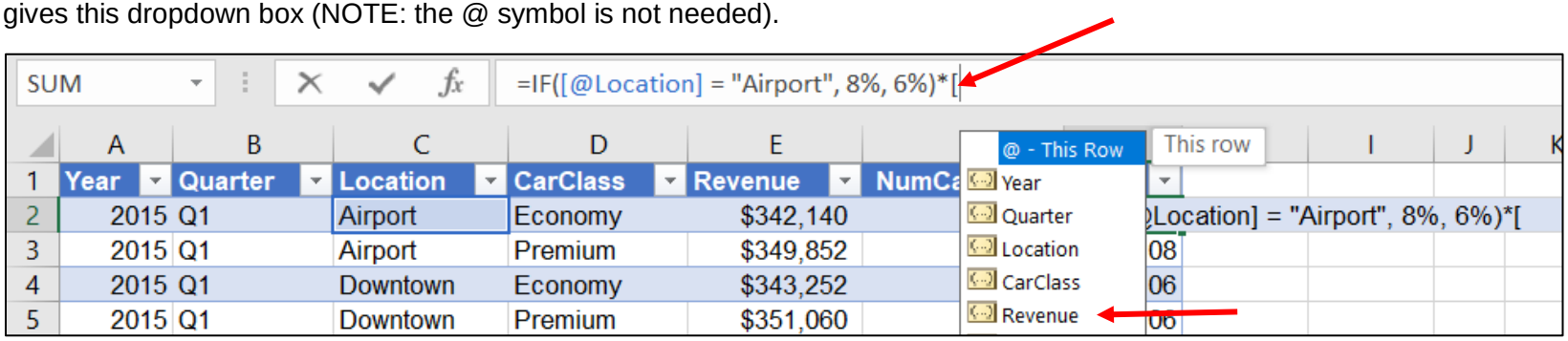
Year	Quarter	Location	CarClass	Revenue	NumCars	Tax Rate
2015	Q1	Airport	Economy	$342,140	3,267	0.08
2015	Q1	Airport	Premium	$349,852	3,205	0.08
2015	Q1	Downtown	Economy	$343,252	3,705	0.06
2015	Q1	Downtown	Premium	$351,060	3,477	0.06
2015	Q2	Airport	Economy	$422,192	4,068	0.08

Looks good. The value .08 is associated with Airport and .06 with Downtown.

Another column COULD be created where Revenue is multiplied by Taxes (Revenue*Taxes) to get a $ amount. But to save space, let's continue adding to the IF statement:

=IF([@Location] = "Airport", 8%, 6%)*[

gives this dropdown box (NOTE: the @ symbol is not needed).

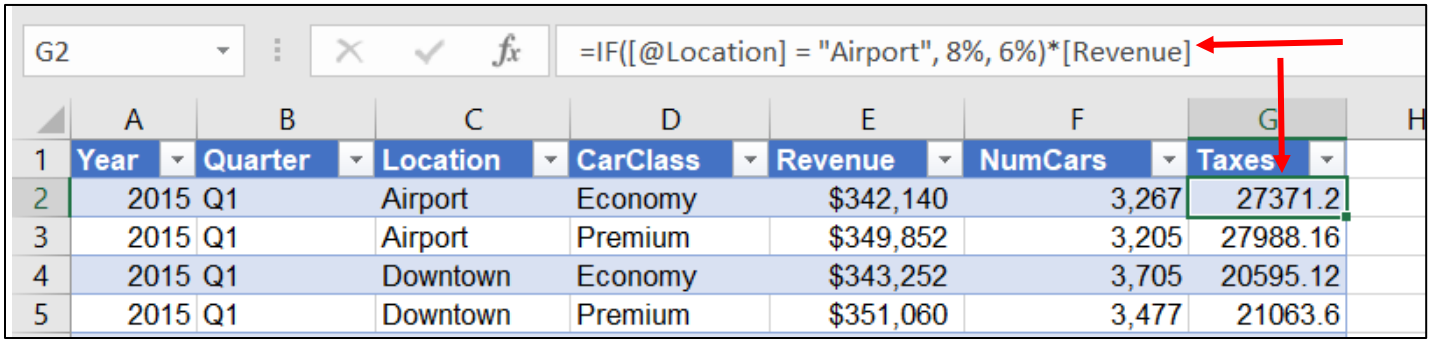


Year	Quarter	Location	CarClass	Revenue
2015	Q1	Airport	Economy	$342,140
2015	Q1	Airport	Premium	$349,852
2015	Q1	Downtown	Economy	$343,252
2015	Q1	Downtown	Premium	$351,060

Simply select Revenue (if needed, double-click on Revenue), close the bracket with] for the result:

Year	Quarter	Location	CarClass	Revenue	NumCars	Taxes
2015	Q1	Airport	Economy	$342,140	3,267	27371.2
2015	Q1	Airport	Premium	$349,852	3,205	27988.16
2015	Q1	Downtown	Economy	$343,252	3,705	20595.12
2015	Q1	Downtown	Premium	$351,060	3,477	21063.6

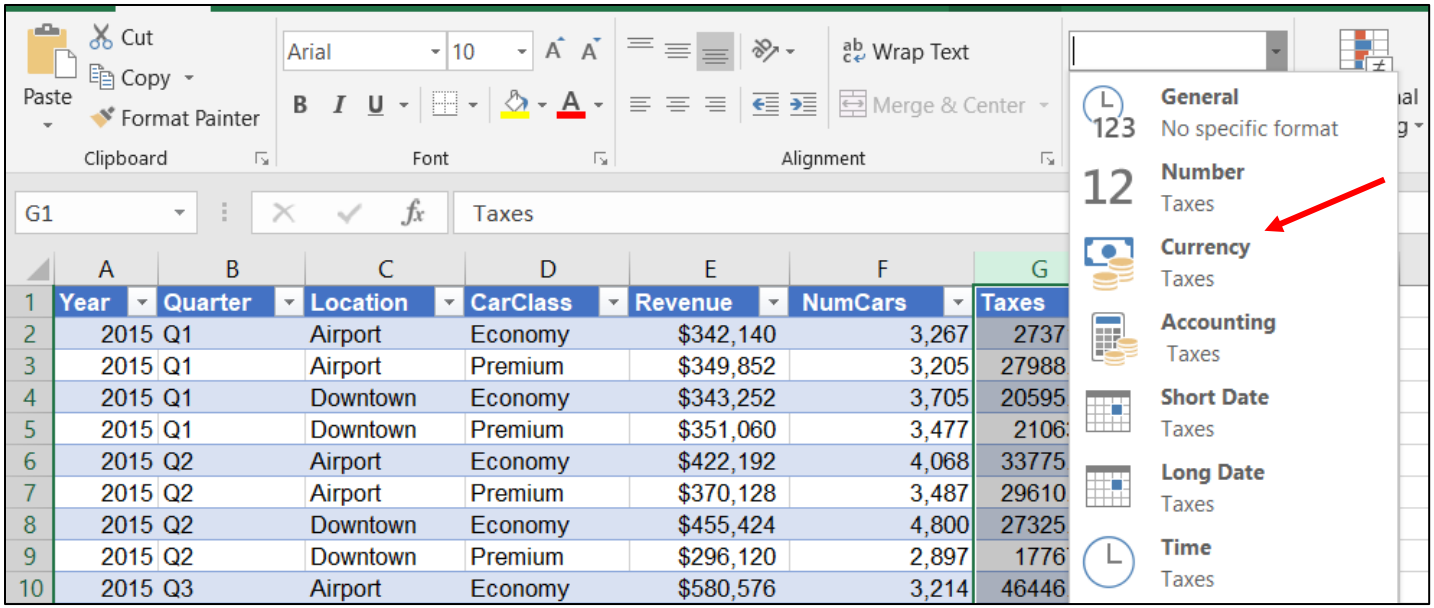
Note the formula and the value in Column G Taxes.



Year	Quarter	Location	CarClass	Revenue	NumCars	Taxes
2015	Q1	Airport	Economy	$342,140	3,267	27371.2
2015	Q1	Airport	Premium	$349,852	3,205	27988.16
2015	Q1	Downtown	Economy	$343,252	3,705	20595.12
2015	Q1	Downtown	Premium	$351,060	3,477	21063.6

Now the formula says: ***If the Location is Airport, then Taxes are 8%, otherwise 6%. Whatever that result is, multiply it by the Revenue value in this row and give me the result***.

ALL cells in Column G Taxes should be populated with the proper formula and data. Change the 'number type' to Currency (important). (The data may already be in Currency format, in which case, no change needs to be made to this column). However, to change to the Currency number type, select all the data in Column G, choose the dropdown box in the Number area in the Ribbon, and choose Currency:



	A	B	C	D	E	F	G
1	Year	Quarter	Location	CarClass	Revenue	NumCars	Taxes
2	2015	Q1	Airport	Economy	$342,140	3,267	2737
3	2015	Q1	Airport	Premium	$349,852	3,205	27988
4	2015	Q1	Downtown	Economy	$343,252	3,705	20595
5	2015	Q1	Downtown	Premium	$351,060	3,477	2106
6	2015	Q2	Airport	Economy	$422,192	4,068	33775
7	2015	Q2	Airport	Premium	$370,128	3,487	29610
8	2015	Q2	Downtown	Economy	$455,424	4,800	27325
9	2015	Q2	Downtown	Premium	$296,120	2,897	1776
10	2015	Q3	Airport	Economy	$580,576	3,214	46446

Year	Quarter	Location	CarClass	Revenue	NumCars	Taxes
2015	Q1	Airport	Economy	$342,140	3,267	$27,371.20
2015	Q1	Airport	Premium	$349,852	3,205	$27,988.16
2015	Q1	Downtown	Economy	$343,252	3,705	$20,595.12
2015	Q1	Downtown	Premium	$351,060	3,477	$21,063.60

Now apply these same ideas to the assignment to determine Overhead. The % values in the example can be replaced with simple numbers or cell references.