CS&E 1111/1112 Pre Lab 4

Download from Carmen: Credit Card Analysis.xlsx and UtilityAnalysis.xlsx

**ALL BEGINNING FILES MUST BE DOWNLOADED FROM Carmen OR THEY WILL NOT BE ACCEPTED.**

**PART 1: Complete on SIMnet.**

Go to Carmen then to Modules then to McGraw Hill Campus then to SIMnet for your assignment for Prelab 4.

# Part 2: credit card Problem

The Credit Card Analysis spreadsheet lists various credit cards and basic information about these cards.

You will be filling in columns H through L. In addition Rows 10 & 11 will have summary questions which you will be asked to solve.

* **In cell H2, write a formula which can be copied down the column to cells H3:H8, to determine (T/F) if the Credit card limit is greater than $5,000.**

We don’t need to use AND/OR/NOT because we are only comparing two things. Instead you will **use a relational operator** alone (>, <, >=, <=, =).

Basically we are asking: Is the Credit Card Limit > 5000 (T/F)

Now, convert this expression to excel syntax: = \_\_\_\_ > \_\_\_\_. Note: the number 5000 does not appear in any cell that can be used as comparison criteria so we must hard code the value 5000 in the relational expression.

* **In cell I2, write a formula which can be copied down the column to cells I3:I8, to determine (T/F) if the card has an acceptable APR. An acceptable APR is one that is between 11% and 20% or one that has an Annual Fee of $0.00.** Note:Please use the "Highest APR" value for this calculation.

Because we are checking more than one thing we will need to use a Boolean function.

Here we are asking: Is the Credit Card between 11%-20% OR does it have an annual fee of $0.00.

The basic syntax will be: = OR(AND( \_\_\_\_ >= \_\_\_\_, \_\_\_\_ <= \_\_\_\_),Annual Fee = 0) –Use a cell reference for “Annual Fee”

You plug in the arguments.

* **In cell J2, write a formula which can be copied down the column to cells J3:J8, to determine (T/F) if the card has the lowest APR of all the cards listed.** Note: Pleaseuse the "Lowest APR" value.

Syntax: = \_\_\_\_\_\_ = MIN(\_\_\_\_)

* **In cell K2, write a formula which can be copied down to cells K3:K8, to determine T/F) if the card’s credit limit is within 20% (inclusive) of the Average credit card limit.**

=AND( \_\_\_ >= AVERAGE(\_\_\_:\_\_\_) \* 0.8 , \_\_\_ <= AVERAGE(\_\_\_:\_\_\_) \* 1.2 )

* **In cell L2, write a formula which can be copied down the column to cells L3:L8, to determine (T/F) if the card is not a visa card. (You must use the not function to receive credit for this question.)**

I know this is a redundant question, but I want you to practice using the not function.

* **In cell M2, write a formula which can be copied down the column to cells M3:M8, to determine (T/F) if the card does not have an introductory rate of 0%. (You must use the not function to receive credit for this question.)** Again: Redundant question but good practice.

Remember, never use = true or = false. This is already implied when testing cells for true or false values.

* **In cell E10, write a formula to determine (T/F) if all the cards have an introductory rate of 0%.**
* **In cell E11, write a formula to determine (T/F) if any of the cards have an introductory rate of 0%.**
* **Save the file and submit it to Carmen.**

# Part 3: utility analysis

With energy costs getting higher every day, your boss has asked you to analyze your company’s budgeted and actual utility costs over the past year. The file UtilityAnlaysis.xlsx has been previously setup containing the budget and actual expenditures for January through December. Also included is the average difference between inside and outside temperatures for that month as an absolute value. Your job will be to complete this analysis:

* In cell E3, write an Excel formula to determine the value of the cost overruns (budget vs. actual expenditure) for the month of January. This value should be positive if the actual amount spent *exceeds* the budget. Copy the formula down the column for months February through December.
* In cell F3, write an Excel formula to determine (True/False) if the actual expenditures exceeded the budget for this month. Copy the formula down the column.
* In cell E17, write an Excel formula to determine (True/False) if the expenses for all months were over budget.
* In cell E18, write an Excel formula to determine (True/False) if at least one of the months experienced a cost overrun (over budget).
* In cell E19, write an Excel formula to determine (True/False) if none of the months were over budget.
* In cell E20, write an Excel formula to determine (True/False) if both winter and summer each have at least one month with cost overruns. Assume the summer months are June, July and August and winter months are January, February and March.
* Use Conditional Formatting to highlight values in cells F3:F14, if they are True. Use the default (pink, with red text) format.
* Use Conditional Formatting to insert light blue data bars in cells E3:E14. The longer the bar the higher the cost overrun.
* On the same worksheet adjacent to this table, create a chart showing the values of the cost overruns for each month. **Use an appropriate chart that compares discrete values.** Be sure your chart contains a title and axis labels.
* Insert a second chart, just below the first chart This chart should plot the functional relationship between average temperature differences from inside/outside versus the budgeted amount for utilities. **Use an appropriate chart that shows a functional relationship.** Be sure your chart contains a title and appropriate axis labels.
* Save the file and submit it to Carmen.

Pre Lab 4 Zip your files before submitting to Carmen.

1. **Credit Card Analysis.xlsx**.
2. **Utility Analysis.xlsx**