INTE/CMPS 2245 (2) ASSIGNMENT #5

Winter 2020

Due Date: Part A: March 30, 2020
Part B & C: April 6, 2020
Part D & E: April 8, 2020

Upload completed files in Moodle. **Proofread and spell check** each worksheet.

Part A: Open **Language School.xlsx** and save it with a new name that includes your name.

Mountainview Language School in Denver, CO, is a small school that provides language training in English, Spanish, and French to students from all over the world. The school keeps track of its student records in Excel. You've been asked to work with the current spreadsheet and improve it so that information and issues can be analyzed and tracked. You use advanced IF functions and a lookup table to calculate data related to student payments, and then you use the COUNTIF, SUMIF, and AVERAGEIF functions to analyze the payment data.

1. Create an Excel table and give it an appropriate name.
2. In cell K4, add a new column called **Owing**.
3. Freeze the rows from the column headings up to Row 1.
4. In cell K5, enter an IF function that enters *Owing* in cell K5 if the Balance is greater than 0 and *Up to Date* if the value is 0 or less.
5. Students who are enrolled in a Level 1 course pay $2,100 in tuition, and students enrolled in Levels 2, 3, and 4 courses pay $3,300 in tuition. In cell F5 (Tuition), enter a function to enter the correct tuition fee.
6. A 15% discount is offered to students who are taking Level 1 English. In cell I5, enter a function to calculate the discount amount. If neither criterion is met, a 0 should show.
7. In the Lookup worksheet, create a Lookup table to reflect the material costs for each program. Include clear labels. The material costs are as follows: $540 for English, $392 for Spanish and $415 for French.
8. In cell G5 of the Student Records worksheet, use VLOOKUP or HLOOKUP to enter the appropriate material costs based on the program a student is taking.
9. In cell J5 (Balance), enter the formula that calculates the balance based on the values in the Tuition, Material Costs, Paid and Discount columns.
10. Add a total row and choose functions which would be meaningful tallies.
11. Use conditional formatting to highlight any duplicate values in the Student ID column. For the formatting, select black text and a light red fill color.

12. Change the Student ID for Chloe Leblanc to **4511** and change the Student ID for Patricia Chow to **4599**.
13. Insert five new rows above the table, clear any formatting, and then enter and format text following the sample below. You may choose your own colours, but ensure that there is sufficient contrast.

	A	B	C	D	E	F	G	H	I	J	K
1			Mountainview Language School								
2			Student Payment Records								
3											
4				Number of Students	Total Tuition	Total Material Costs	Total Paid	Total Balance	Average Balance		
5			English Program								
6			French Program								
7			Spanish Program								
8											

14. In D5:I7, use COUNTIF, SUMIF and AVERAGEIF functions to fill in the table. Format all values.
15. Create a Pivot Table to summarize the number of students enrolled in each program. Then prepare a Pivot Chart to show the percentage of students enrolled in each program. Give appropriate titles. Go to the Payments table and add yourself as a student; make up the rest of the data. Return to the worksheet showing your Pivot Table and ensure that it is updated to reflect your registration.
16. Create a Pivot Table to summarize the tuition received by program and level. Provide an appropriate title and format the table. Then complete this extra step as a **bonus**: Choose a tuition total for one of the programs and drill down to create a new worksheet showing all of the supporting data. Name the worksheet with the program and the word "Details." Again, ensure consistent formatting.
17. Double check that all tables are formatted well and have consistent or complementary styles.

Part B: This question is a follow-up to Assignments 1 and 2 in which you designed a grade book for a course.

- On your Grades worksheet, add two columns to the right of the final numeric grade.

    o In the first new column, show the final grade after the attendance requirement has been considered for the course. On the course outline, the professor has indicated that 1 point will be deducted for every class missed beyond the 3-class grace period.

    o In the second new column, show the final grade as a letter grade. Use a VLOOKUP or HLOOKUP. Consult the Mount's undergraduate calendar.

- Prepare another table in which you use COUNTIF/COUNTIFS to determine the number of final grades in each of the following groups: 90s to 100, 80s, 70s, 60s, 50s, below 50.

No other part of your grades workbook will be graded. Check with me if you are unsure how to incorporate these changes into your previous design.

Part C: This is a continuation of Assignment 4, Part B, and is based on **Module 6, Case 1, p. 6-66 and p. 6-67**.

1. Copy the Report worksheet to your completed file from Assignment 4, Part B: NP_EX_6_Seacation.xlsx and add the words "with Report" to the file name.
2. Begin at Question 15 and complete the case. Practice with the slicers before submitting the case with the slicers as instructed in Question 18.

Part D: For this case, use **Consignment 2020.xlsx**; save it with a new name that includes your name.

A Local Look is a Nova Scotia store which sells locally made items on a consignment basis. Artists and crafters leave their items at the store with owner Liz Brown. When an item is sold, Liz records the sale in an Excel workbook chronologically by date. Liz has asked for your help in completing the Excel application that she began recently. In addition to recording sales, Liz wants to calculate how much she must pay to each consignor at the end of the month and tally the monthly sales by category. Liz has divided her sales items into 6 categories. Currently, Liz has 10 consignors who regularly leave items with her, and you plan to be one of her consignors soon.

1. Add yourself to the list of consignors.
2. The existing worksheet includes some of the sales from March and will give you an idea of the type of data that needs to be recorded. Create a new worksheet for April and use it to complete your work. Liz plans to use this workbook for the rest of the year with a different worksheet per month, but you need only to develop the application on the April worksheet. Do not make any changes in the original worksheet. It is for your reference only.

3. Use data validation to help ensure that only valid dates and quantities are entered. Create a drop down list for the categories. Choose at least one other way in which you apply data validation. Use appropriate input messages and error alerts.
4. Complete the formulas in the sales table. Tax is applied to all items except food. For individual items over $100, Liz splits the selling price equally with consignors. For all other sales, she retains 40% of the selling price.
5. Using advanced IF functions, calculate the following. Totals should automatically update as the sales data are entered. (To the right of the main table, these summary tables have been started for you.)
    a. The amount of each cheque Liz must write to each consignor at the end of the month.
    b. The total sales by category for the month.
6. Test your new application by entering sample data. Provide a total row for each table, comparing totals to ensure the formulas are correct.
7. Format your tables and ensure that the worksheet has been formatted to print, if desired. Since the worksheet will record sales for the entire month, several pages will be needed. However, for the purpose of this assignment, plan your table to fill approximately two letter-size pages. You do not require this much data, however.
8. At the beginning of your workbook, add a Documentation worksheet. Include the "normal" labels/data, but also create a data definition table (see p. EX 6-5) to include only the following columns: Field, Description, and Notes. Include all fields, not just those with data validation. Be sure to proofread and spell check.

Part E: Trinette's Trilbies & Fedoras is a company established by Trinette Jalbert to sell hats called fedoras and trilbies, a narrow-brimmed fedora hat. Trinette has ask you to create a billing/invoice system to expedite her work. Name the workbook **Hats** *your first name***.xlsm**, a macro-enabled workbook. Complete the following:

1. Create three worksheets: Documentation, Invoice, and Product Information.
2. In the Documentation worksheet, enter the company name, your name as the designer, the design date, and a purpose statement.
3. In the Product Information worksheet, enter the data about the products for sale. Use clear labels, and enter the data in separate cells.

Colour: Dark Brown, Navy Blue, Black, Gray
Fabric: Tweed, Wool, Felt
Hat Type: Trilby, Fedora
Size: XS, S, M, L, XL, XXL, XXXL
Standard Price: $75
Size Surcharge: $12
Fabric Surcharge: $15
Shipping Fees: $13 (Standard) & $20 for XXXL Fedoras

4. In the Invoice worksheet, create an invoice that resembles the following:
   a. Enter the labels as shown in this image.

Trinette's Trilbies & Fedoras
5426 North Street
Halifax, NS B3K 1M7
902-455-6565

				Date

Sold to

Hat Information				Unit Price
Hat Type	Fedora			$ 87.00
Fabric	Wool		Fabric Surcharge*	-
Color	Navy Blue			
Size	XXXL			
			Subtotal	$ 87.00
			Sales Tax	13.05
			Shipping	20.00
			Total Due	$ 120.05

* Fabric Surcharge is on felt only.

   b. Use a function to insert the current date.
   c. Insert a comment or note in the *Sold to:* cell with a reminder about the data that should be entered in the following three rows.

d. Use data validation rules to create lists of the different hat types, fabrics, colours and sizes you entered on the Product Information worksheet.
e. Create defined names that can be used in your formulas.
f. For the unit price, enter a formula that will calculate the price of the hat. All hat sizes larger than "L" will be charged the standard price plus the size surcharge. Note that this calculated unit price should appear in one cell.
g. The fabric surcharge, which applies to felt purchases only, should be listed separately below the unit price.
h. Calculate the subtotal, sales tax, shipping charge, and totals. Reminder: use defined names. The standard shipping charge applies to most orders, but anyone ordering an XXXL Fedora will be charged the higher rate.
i. Change the column widths as appropriate and format the invoice to be easy to read. You may improve upon the image given above.
5. Protect the Invoice worksheet so that a user can enter the customer and hat information but cannot enter data in any other cells. Do not use a password.
6. Protect the entire Documentation and Product Information worksheets. Do not use a password.
7. Create two macros as described here and store them in your Hats workbook. On the Invoice worksheet, create a macro button for each macro, assign the macro to the button, and enter a descriptive label for the button. When you create your buttons, you will need to unprotect the worksheet.
a. *MakePDF*: to create a pdf file of the invoice. In the macro, set a print area to the range containing the form, center the worksheet on the page, and add a header with the letters **I N V O I C E** spread out or in a larger font. Since we are not working on campus, use File|Save As to create the pdf. Other methods can be used to create pdfs, but I am assuming this method will be the most flexible. To test your macro, reverse all of the settings the macro changes.
b. *ClearInputs* that deletes the values from the cells containing the customer and hat information.
8. Remove the worksheet protection from the Documentation worksheet and paste a list of the defined names with their locations.
9. Below the Defined Names list, type a list of the macro names along with a brief explanation of their purpose and their shortcut keys, if used. Reapply worksheet protection.
10. Enter test data (in all fields) to test your application. Use your name and address.
11. Using your macro, create a pdf of the completed invoice for you as the customer. Submit this pdf along with your macro-enabled workbook.
12. Use your *ClearInputs* macro to delete the data you entered for testing. Save your .xlsm file with no data and no settings that your *MakePDF* macro will change.