Trent University
COIS 1010H
Winter 2019
ASSIGNMENT #1

Google Sheets

For this assignment, you will be using a spreadsheet to manipulate grades for a hypothetical class. The assignment is to be done in Google Sheets (Part of Google Drive). It will not be accepted in any other format. Assignments **NOT** completed using Google Sheets will automatically receive a **0**.

You need to:

1. Download the file Assn1Grades.csv from Blackboard and save it on your computer.

2. Access your Google based Trent email through myTrent, then select **Google Sheets** from the **Application Picker** in the upper right (looks like a grid of 9 squares). Once in Google Sheets, upload the Assign1Grades.csv file using the upload tab in the **File Picker** (icon that looks like a file folder in the top/right above the list of files).

3. Rename the file with your Trent userid (everything that appears before the @ sign in your Trent email address) and " - Assignment 1" (Select **File** then click on **Rename**)

4. Insert 2-3 rows for titles to the top of the spreadsheet. This should include the name of a school (use the name of your high school if you like), the course (make one up), the term and your name.

   Make sure to merge cells of the rows to allow you to lay this out as a professional document. Please note that you will be marked on presentation as well as correctness.

   Also, be sure **not** to include the **Name** columns (A & B) when merging as it will make Step 6 impossible.

5. Use a **function** to include the **system date/time**. This means every time the spreadsheet is recalculated the current date/time changes.

   Hint: You can find the correct function by using Google's Function list (located in the help menu) and narrowing by Date functions then reading the descriptions to find the right function.

   Note: if your time changes but is consistently off by several hours, don't worry about it. It is a result of the timezone associated with your google account.

6. Freeze the top rows up-to and including the **Totals** row, so that when you scroll vertically those rows stay in place.

   Now Freeze the columns containing the **Names**, so that when you scroll horizontally the names stay in place

   If you merged across these columns in Step 4, you will be unable to freeze unless you unmerge first

7. Add 7 additional rows of student information to what is already in the spreadsheet.

   Assign the marks randomly. Do not use the same marks for each assignment/test and do not just copy the given rows.

   Make sure that students do not receive more than the maximum mark for any assignment/test.

   Your graph in Step 15 will be more interesting if you make sure some of these people do very poorly ☺

8. Sort the rows in descending order by **Last Name** and descending order by **First Name**

   Note: *You will need to do both sorts simultaneously so that you don't undo one with the other, and be sure to include the grades in the sort*!

   *Hint: you'll need to use the "**sort range**" option*

   STOP: Before continuing on, make sure that all students still have their original grades. A mistake here is almost impossible to fix later on.

9. In the column labelled **Average of Best**, use a formula to calculate the average grade on the best **8 of 9** quizzes for all students. **Do not do the calculation by hand/calculator.**

   *Hint: you will need to use both the **AVERAGE** and the **LARGE** function, and you must use the large function once for each grade you want to include!*

10. Add a column called **Calc. Final Grade**. Using a formula, calculate the **final** grade for each student as a whole number out of 100 (not a percentage) using the Totals and Weights provided for each course deliverable at the top of the sheet.

    *Note: You will not use the individual quiz marks for this, only the calculated **average of best** column.*

    Note: there is no pre-built function for this … it is just basic math.

*A deliverable's contribution to the final mark is calculated using **studentMark/Total * Weight**. All three of these values should be **cell references**. This result for each deliverable should added together.*

***Total** and **Weight** must be **referenced absolutely**, so that you can copy your formula.*

Marks will be deducted if you hard-code values into the formula (must contain cell references)

The final grade must not have decimal places. Use the **ROUND** function to accomplish this, rather than a formatting option.

11. Your hypothetical department has a policy that states if a student's exam grade is better then their final calculated grade, they can use their exam grade as their final mark.

    Create a column called **Best Final Grade**. Use a function (*Hint: **Max** is one option*) to find and display the higher of the two grades (*either their **Calc Final Grade** from Step 10 or their Exam grade (which must be converted to a number out of 100 first*).

    Note: Converting the Exam grade to a mark out 100 can be done either within the formula for determining the higher mark, or by adding a column specifically for the calculation, but should use absolute referencing.

12. Add a column titled **Grade Used**. Use the **Logical Function IF** function to output either "Exam" or "Calculated" for each student depending on which grade was used.

13. Use functions to calculate the average, the median, and the mode for each assignment/quiz/exam and both version of the final grade.

14. Make good use of colors, backgrounds, font-sizes, alignments etc. to give your document a professional look/feel and improve readability.

15. To compare the effectiveness of the Final Grade Policy, on a **second sheet** in your workbook, use the **FREQUENCY** function (referring to the **first** sheet) to calculate how many final grades are in the following ranges for each the calculated final grade, and the best final grade
    - 0-29 (Dreadfully Poor)
    - 30-49(Not Good At All)
    - 50-69(Moderately Acceptable)
    - 70-89 (Reasonably Intelligent)
    - 90+ (Wickedly Good)

    *Hint: You do not need to copy data into the second sheet to do this. You can reference data in another sheet using the format **sheetname!cellreference***

16. Graph **both** frequency distributions (side by side) into a **Column Chart** – this is called a histogram. Be sure that you have a title for the chart as well as axes titles / labels.

17. Your spreadsheet should have a professional look (proper formatting, alignment, number of decimal places, etc.).

Submission

1. Using the **Share** option in the top right of Google Docs, turn link sharing on, and set it so that anyone with the link can **edit** your document (It may say "anyone from Trent"). Start by clicking on ***Get Sharable Link***.

   You must complete this step for your assignment to be marked.

   It must be shared to allow editing. If your sharing link doesn't not allow editing, you will receive a 0.

2. Copy the link provided on the Share page and submit it to the **Assignment 1 Dropbox** on Blackboard (paste it into the comments box)

   If you do not submit the link on Blackboard, your assignment cannot be marked.

   Note: If you are using a new browser, it will not allow you right-click access to the paste option in order to paste your link in the submission area. If this is the case, putting the cursor in the submission area and using the keyboard shortcut Ctrl-V (Cmd+V on a Mac) will work.