Computer Literacy Lab 2: Microsoft Excel

Task #1: Create an annual expenses report (25 pts)

Prepare your yearly expenses using a tabular representation having 12 columns (one for each month January through December) and the following rows representing categories of expenses: rent, tuition, transportation, utilities, insurance, groceries, books, and entertainment. You can add more rows if necessary. Using formulas and charts in Excel, perform the following actions:

- Calculate the total expenditure for each row entry in the 13th column.
- Calculate the average expenditure for each row entry in the 14th column.
- Calculate the monthly expenditure in the last row for each month.
- Make a pie chart using the equation showing the average expenditure for each of the categories.
- Using a chart visualization of your choice, show the monthly trend of cumulative expenditure.

Save your Excel file as Lastname-Firstname-Lab2-Task1.xls.

Task #2: Using a large data set (25 pts)

Your second task is to download the given Kickstarter Projects of 2018 data set located here. Open it in Microsoft Excel. You should observe that there are over 378,000 rows – each row represents a project on Kickstarter, and it has 15 columns representing the following attributes: ID, name, sub-category, main category, currency, deadline, amount set as a goal in the specified currency, date and time when it launched, how much has been pledged (based on the given currency), its current state, backers, country, amount of US dollars pledged, and amount of US dollars set as a goal. Each of the following steps involves using Microsoft Excel features to create visualizations to better understand the data, observe patterns/trends, and answer questions about the provided data. You will record your answers/results of each step in an organized report written in Microsoft Word. When you are finished, save the Word document as a PDF. This document will be your lab submission for Task #2.

Step 1 [Working with larger data sets: Freezing, Hiding, and Conditional Formatting].

First, this document is so large that when you scroll down to see other row entries, the header row disappears. Use the "View →Freeze Top Row" option to prevent this. Try to scroll down again – you should see that the top header row is always present.

Additionally, there is some extra information that we do not need. Select the column for "usd_pledged" and right click to hide it. You should see it compress so that the space between the column before and after is increased. You can right click between this space to unhide that column at a later time.

It's easy to get lost in the text when there is so much of it, so we will use conditional formatting to add some color to a cell in each row based on what values each cell has. Select the entire column for 'state', then select "Home→ Conditional Formatting→Highlight Cell Rules→Text That Contains… ". You will add five different conditions based on the text that appears in that cell. If the cell contains the text "successful", color it green. You should see this change immediately. Repeat the above process to add each of the following rules. If "canceled": color orange; if "live": color blue; if "failed": color red; if "undefined": color grey. Take 10 minutes to experiment with other kinds of conditional formatting. For example, try to adjust the 'goal' cells with an automatic color gradient based on the amount.

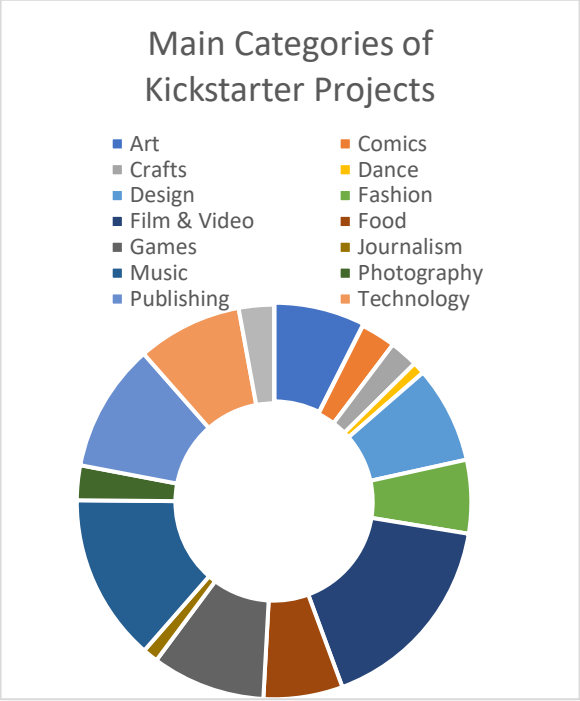
Step 2 [Formulas: SUM]. Scroll all the way down to the last row (around row 378,663). In the first empty row available, type in "Total Pledged". In the next column of that same row, use the SUM formula to accumulate the total amount of USD pledged. Answer the following question in your MS Word document:

- How many total US dollars have been pledged to all Kickstarter projects from this data set?

Step 3 [Formulas: COUNTIF]. After the "Total Pledged" row that you just made, create a row for "Total Successful". Use the COUNTIF formula to count how many projects are listed as "successful" under the "state" column. Repeat this process to find the total canceled, failed, live, suspended, and undefined projects. Answer the following question in your MS Word document:

- How many successful Kickstarter projects are there? How many canceled? How many failed?
- Based on this data, do you think you have a good shot of creating a successful Kickstarter project?

Step 4 [Main categories of Kickstarter Projects]. Use a pivot table to count how many instances of each main category are present in the data set – this will create a new worksheet in Excel. You will need to adjust the span of rows so that it does not include the rows you just made in the previous steps. Choose from the PivotTable fields the main category attribute and drag it under the "Rows" box. This will display a table which shows each main category and the number of Kickstarter projects that fall into that main category. Using this table, create a Doughnut Chart which shows the distribution of projects in each main category (e.g., Art, Comics, Crafts, etc.). Set the title of the chart as "Main Categories of Kickstarter Projects". Copy and paste the chart to your Microsoft Word document. Experiment with the design/format options to make your chart look similar to the figure on the right. You can edit the colors, how the legend is displayed, the size of the slices and whitespace between slices of the Doughnut, etc.



Step 5 [Sub-categories of Kickstarter Projects]. Create a new pivot table which counts, for each major category, how many projects fall into each sub-category. This can be accomplished by choosing from the PivotTable fields the main category attribute to drag under the "Rows" box (as you did for step 1), and additionally drag the sub-category attribute under the "Rows" box. An excerpt from the resulting PivotTable is shown on the right which shows this information for two major categories. Locate in your pivot table the 'Games' section which shows the number of Kickstarter projects under different categories of 'Games'. Copy and paste this section to your Microsoft Word document. Answer the following questions in your Word document using the table:

- What type of game is the most/least common? How many game projects are of that type?

Dance	**3768**
Dance	2322
Performances	1013
Residencies	69
Spaces	200
Workshops	164
Design	**30070**
Architecture	760
Civic Design	289
Design	4199
Graphic Design	2002
Interactive Design	398
Product Design	22314
Typography	108

<u>Submission</u>

You will submit two files to the Lab assignment in Blackboard: the excel sheet from task #1 and a PDF of the word document from task #2.

- Lastname-Firstname-Lab2-Task1.xls
- Lastname-Firstname-Lab2-Task2.pdf

Do not submit the excel sheet from part 2 – it is too large for Blackboard!