CS170 – Computer Applications for Business

Recitation Project

Due Date:	**Before 11:55 p.m. on the night of this recitation (July 10, 2019)**
Accept Until:	**Before 11:55 p.m. three days after this recitation (July 13, 2019)**
Evaluation:	**35 points**
Submit to Sakai:	**RecitationProject.xlsx file**

To get credit for this project:

1 Deliver the **RecitationProject.xlsx** file to Sakai on time.
2 Your TA should be able to open your file by clicking on its link.

Background:

This project is designed to practice the use of formulas, built-in MS Excel Functions, What-If Analysis. For this project, you will upload your Excel file to Sakai so that it can be accessed by just clicking on the file's link.

Directions:

- Follow the instructions listed on the next pages to create and complete the Recitation Project file.
- Enter your name on cell **A1** of the worksheet.
- Submit your **RecitationProject.xlsx** file to Sakai using the Sakai->*Assignments* link.

Instructions:

Grades spreadsheet

1. Go to Sakai → CS170 Gradebook page and do the following:

   a) Select the Gradebook Items, Grades, Due Dates and Comments. Do not select the column headings, only the items and their information.

   b) Copy the selection by right-clicking on it and choosing the option **Copy**.

   c) Start Excel, create a Blank worksheet.

   d) Select the cell **C3** on the worksheet and **paste** the information copied. Widen the C column width.

      - Rename the worksheet as **Grades**.

   e) Delete column E: click on the E letter that identifies that column and then right -click and select Delete (this is needed since that column came with Data format).

   f) Add the following entries to the list of activities on the C column (below the last activity listed): **Final Exam Part 1**, **Final Exam Part 2** and **Final Exam Part 3.** (if there is an entry for the Final Exam, overwrite with the entries indicated above).

   g) Starting on the cell **E3**, type the maximum number of points possible for each Gradebook Item:

      - 2 points for Assignment 1
      - 35 points Assignments for 2, 3, 6 and the Recitation Project
      - 40 points for Assignments 4 and 5
      - 80 points each for Exams 1 and 2
      - 120 for the Final Exam (simply ignore it if this entry is not listed yet)
      - **Note**: **If there is an item for which you do not have a grade yet, do not enter the maximum points for it.**

h) On row 28 do the following:

- Enter the label "**Totals**" on **C28**
- The total points obtained will be calculated on **D28**. Since there might be some blank cells, an appropriate function for this cell is **SUMIF**.
    - Arguments for **SUMIF**:
        - **range**: the list of scores on the D column (including blank cells for the activities with no scores yet)
        - **criteria**: greater than or equal to 0 (express this using Excel notation)
        - **sum_range**: the list of scores on the D column (including blank cells for the activities with no scores yet)
- Copy the function from **D28** to **E28** using the fill handle.

i) On row 29:

- Enter the label "**Performance**" on **C29**.
- On **D29** enter a formula to calculate your **Performance %** by simply dividing your total points by the total maximum points (those numbers are on row 28).
- Format your performance with Percentage style with 1 decimal.

j) On **G3**, start a table of equivalences between **% points** (on the **G column**) and **letter grades** (on the **H column**). Use the following Grading table which is derived from the Grading section of the Syllabus (once completed the Grading table should start at **G3** and end at **H9**.)

0%	**F**
60%	**D**
70%	**C**
76%	**C+**
80%	**B**
87%	**B+**
90%	**A**

k) On row 30:

- Enter the label **Letter Grade** on **C30**.
- On **D30** insert the **VLOOKUP** function to calculate the current letter grade based on your Performance % and the Grading table created on **G3:H9**.
    - The arguments for the **VLOOKUP** function are:
        - **lookup_value**: your numeric performance % (from **D29**).
        - **table_array**: the table that converts percentages into letter grades which you created starting on G3.
        - **col_index_num**: 2 (since the second column contains the letter grades).

l) **What-If Analysis**:

- Now that you have calculated a letter grade for your current scores, you will run some simulation **Scenarios** to evaluate the possible effect of the Final Exam.
- The formula entered on cell **D28** which currently contains SUMIF needs to be modified to process the hypothetical Final Exam scores for each of its parts.
- To process the Second Chance option, the formula on **D28** needs to be expanded. Instead of just =SUMIF(…) the format will be:

  =SUMIF(…) + IF(…) + IF(…)

    - The first **IF** that needs to be added – use the Formula bar to add it - will have the following arguments (use Excel notation; ***value_if_false*** does not need an entry):
        - **Logical_test:** 2 x Score of Final Exam Part 1 > Score of Exam 1
        - Value_if_true**:** **(**2 x Score of Final Exam Part 1) – Score of Exam 1
        - Value_if false:

At this point **D28** should have the following format:

=SUMIF(…) + IF(...)

- The second **IF** that needs to be added will have the following arguments (use Excel notation; ***value_if_false*** does not need an entry):
    - **Logical_test:** 2 x Score of Final Exam Part 2 > Score of Exam 2
    - Value_if_true**:** **(**2 x Score of Final Exam Part 2) – Score of Exam 2
    - Value_if false:

At this point **D28** should have the following format:

=SUMIF(…) + IF(…) + IF(...)

- Some numbers have to be added to the rows where **Final Exam Part 1**, **Final Exam Part 2** and **Final Exam Part 3** are located.
    - On the D column of those rows place some hypothetical numbers (Example: 32 on each of those three cells).
    - The E column for those rows should have 40 on those cells since the maximum score for each part of the Final Exam is 40.
- At this point, the What-If Analysis may start. Click on **D30**, then on the **Data** tab → **What-If Analysis** → **Scenario Manager**.
    - Proceed to create at least three Scenarios with different data for the *Changing Cells* (the 3 cells on the D column with the hypothetical scores for the parts of the Final Exam).
    - The *Result Cell* when closing the **Scenario Manager** – by clicking the **Summary** button – is **D30**.

m) After generating the Scenario Summary, save your work by using the *File* → *Save As* option and submit it to *Sakai* → *Assignments* section.