

# CSU101

## Summer 2009

### Lab Assignment 3

To complete this assignment you must submit an electronic copy by the due date using Blackboard. Both of the following problems will be completed on a single spreadsheet, in the LabE3.xls workbook available on the course website, and on Blackboard.

#### **Problem 1: VLOOKUP**

On this spreadsheet you have a list of potentially graduating students and their GPAs. We need to attach a graduation status to each of them, depending upon this GPA. Create a VLOOKUP table, starting in cell L4 (the other columns are spaces left for the next problem), so that a student's GPA determines their graduation status. The possible statuses, and their requirements, are listed below:

Summa Cum Laude	GPA of 3.75 or higher
Magna Cum Laude	GPA of 3.50, but less than 3.75
Cum Laude	GPA of 3.25, but less than 3.50
Graduating	GPA of 2.50, but less than 3.25
In Danger	GPA of 2.00, but less than 2.50
Will Not Graduate	GPA less than 2.00

Once the lookup table is complete, use it to give a label to each student with his or her status (put this label in column C, next to each student).

Finally, in the column to the right of your VLOOKUP table, give a count of the number of students receiving each of these statuses. For example, next to the "Summa Cum Laude" row in the table, count the number of students who are graduating summa cum laude. Give similar counts for all of the other possible statuses.

**NOTE: DO NOT HARD CODE THE STATUS NAMES IN YOUR COUNTING FUNCTION!** The names of each status are already in the spreadsheet, use an address!

#### **Problem 2: String Parsing**

Your job now is to parse each student's name into three pieces of information: last name, first name, and middle initial. We then want to see the first character of the first name (i.e., the first initial). Space is provided in the sheet in columns D, E, F and G for these answers, but you will probably need to use other columns for your calculations (if you need to move the lookup table from question 1, you may do so; just make sure that you also change your VLOOKUP functions so that the correct label is still given to each student).

The task is to be achieved by using suitable text functions to find the appropriate delimiters in each data value, and then use these delimiters to separate out the required parts. When you have a solution that works for the first and second cases, copy that solution into all the other rows (down to row 185). Make sure your solution works for someone without a middle initial, as well as with someone who has a middle initial. Also, note that some students have first and last names that include spaces (such as “Spera, John Michael C” and “St Fleur, Christina B”).

We now want to know the number of first names in our data that begin with each particular letter of the alphabet, “A” through “Z”. The answers begin at A190.

- First type “A” through “Z” in cells A193:A218. Next assign the name *FirstInitials* to the range G5:G185.
- Then in B193 place a function that will count the number of occurrences of the letter in A193 appearing in *FirstInitials*. There are 22 first names beginning with “A” in the data, so if your function is correct, it should return a 22.
- Now copy this function into B194:B218. You now know the number of first names starting with each letter of the alphabet.
- Calculate the percent of the total that each of these numbers represents, by summing the numbers in B219 (cf. labeled cell), and using this total in your calculation of each percentage. 26 percents should be reported, one for each letter of the alphabet.

Next we want to know the answer to two questions:

1. How many of the people represented in the data have a middle initial?
2. What percent of the whole have one?

The answers go in G191 and G192, respectively. Of course, these answers are to be computed from the data automatically.