

CS1100
Fall 2009
Lab Assignment 3

To complete this assignment you must submit an electronic copy to Blackboard by the due date.

Download the file **Lab3.xls** and save a copy of it. The file contains records on a number of students in a class, with their height and sex.

Task for Sheet 1:

In sheet 1 you are given the height in inches and the sex of some students, the data appearing in F3:G64. Your task is to

1. Filter the data for these students into a column which contains the heights of only female students and a column which contains only the heights of male students. (You may add string values to H2 and I2 to make filtering easier.)
2. Make a named range for the female height data and a named range for the male height data.
3. In columns B and C, enter formulas which calculate the appropriate statistics for the female height data and the male height data.

Your solution to this problem should take into account the real possibility that the data could change.

(continued)

Task for Sheet 2:

Use sheet 2 to solve the following problem. You should build the entire spreadsheet from scratch:

A bank pays interest on a CD deposit where the interest rate depends upon the amount of money initially on deposit.

- The term of the CD is one year and the interest is given as an annual interest.
- The interest is compounded monthly so you must use the annual interest divided by 12.
- The interest rate is fixed once the CD begins based on the initial principal. Here are the rules:

if < \$500,	use 4%
or else if < \$2000,	use 4.5%
or else if < \$25000,	use 5%
or else	use 6%

Design and build a spreadsheet that will calculate and display the principal and interest on any CD for every month of the year.

Design your spreadsheet with the following requirements in mind.

- All inputs and results of calculation should be labeled.
- The four interest rates are parameters of the problem, and should be isolated from the main calculation. In this way, if they were to change, we would have a simple way to make the change.
- For any particular CD, the amount of the CD, what we are calling the principal, is also a parameter of a particular calculation. So, there must be a cell in the spreadsheet where this principal can be entered.
- Since the interest rate to be used depends both on the original principal and on the rate rules, there should be a labeled cell that will give this actual interest rate.
- There should also be a cell that shows the monthly interest rate to be used when the interest is compounded.
- Finally, there should be a table with month numbers from 0 to 12, the value of the CD at the end of each month, and, for months in which

interest is accrued, the interest for that month. (The value of the CD at the end of month 0 should be the initial balance. There should be no interests accrued in month 0.)

Note that interest to be applied must be rounded to the nearest one cent (\$.01) in each month.

Hint: To use the principal and interest rate rules to compute the actual interest rate to be used, use VLOOKUP.