

CS 130 Assignment 1

Date Assigned: Monday, February 2, 2015

Date Due: Monday, February 9, 2015 at 2:15pm

Points: 50

Goals: Build a worksheet, format data correctly, use named cells, build simple formulas, use built in Functions, build a table, and build a simple chart.

In a Workbook called **01ExcelPUNetID** (replace PUNetID with YOUR PuNet ID), create each of the following worksheets:

Worksheet #1 – named “Forest Defoliation”

A forester counts the number of egg masses on 1/40 of an acre the preceding fall to determine the amount of defoliation that will be caused by the gypsy moth during the current year. The percent of defoliation y is approximated by $y = \frac{300}{3+17e^{-1.57x}}$ where x is the number of egg masses **in thousands**.

(Source: Department of Environmental Resources)

You are to design a worksheet with the title **Forest Defoliation** merged across A1-B1, and two columns of information under the headings **Egg Masses** in cell A3 and **Percent of Defoliation** in cell B3.

Underneath the Egg Masses heading, display values that go from 0 to 2000 in increments of 100. For each egg mass value, calculate and display the percent (e.g. 12.45%) of defoliation in the corresponding row and column for the given egg mass. Display percentages to two decimal places. This worksheet is to look professional. Column headings and values are to be right aligned and the worksheet heading is to be centered. Make sure the columns are wide enough to display all information as well as a little spacing between each column.

NOTE: If I drag down on the last row of your table, your worksheet is to continue doing correct calculations without me having to do any table modifications.

Egg Masses	Percent Defoliation
0	15.00%
100	17.11%
200	19.46%

Worksheet #2 – named “Retirement”

You have just secured your first job with a starting salary of \$58,000 per year. You have been asked if you would like to contribute a portion of that salary towards a retirement plan. The company has a matching option up to 5%, meaning that if you contribute 1% of your present salary to your retirement then the company will match that 1% all the way up to 5% (if you contribute 2%, they will contribute 2%; if you contribute 3%, they will contribute 3%; and so on). Your salary will keep up with inflation.

Design a worksheet that looks exactly like the following and gives correct results based on the specifications described.

	A	B	C	D	E	F	G	H
1	Enter Retirement Information							
2								
3	Starting Salary	\$58,000.00			Final Balance			
4	Personal Contributions	3%						
5	Inflation Increase	2%						
6	Beginning Balance	\$ -						
7	Years Until Retirement	45						
8	Yearly Interest Rate	8%	Retirement Schedule					
9			Beginning Balance (\$)	Salary (\$)	Contribution (\$)	Interest Earned (\$)	Ending Balance (\$)	Year
10			\$ -	\$ 58,000.00	\$ 3,480.00	\$ 278.40	\$ 3,758.40	1
11			\$ 3,758.40	\$ 59,160.00	\$ 3,549.60	\$ 584.64	\$ 7,892.64	2
12			\$ 7,892.64	\$ 60,343.20	\$ 3,620.59	\$ 921.06	\$ 12,434.29	3

Enter the following data for this assignment: Starting Salary (\$58,000), Personal Contribution (3%), Inflation Increase (2%), Beginning Balance (\$0), Years until Retirement (45), and Yearly Interest Rate (8%). Your worksheet is to calculate 45 years of retirement in rows 10 through 54 based on the above discussion.

Below the retirement table, you are to graph the ending balance for each of the 45 years. Make sure that your graph is properly labeled, easy to read, and correct based on the data in the retirement table.

In cell F3, enter the balance in your retirement account at the end of 45 years.

If I drag down on the last row of your table, your worksheet is to continue doing correct calculations without me having to do any table modifications.

How to Submit and Grading Policies

A copy of your single Excel file (properly named) with the two worksheets (properly named) is to be placed in the CS130 Drop Box by **2:15pm** on the due date to be considered on time.

Grading will be based on:

- Correctness of your results
- Completeness of your results
- Professional look of the worksheets as described above and discussed in class
- Ability to perform a what-if analysis by changing any of the user input data with accurate results computed and displayed in the worksheet.