CS130 Assignment #1

Date Assigned: Wednesday, September 05, 2012
Date Due: Wednesday, September 12, 2012
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**, create each of the following worksheets:

Worksheet #1 (Name it ExamGrades)

I need to calculate student exam grades and perform some simple analyses of each exam question. Which questions were most difficult? Which questions were easiest? Which questions had the largest spread in answers?

The attached spreadsheet allows me to perform the analysis I need. The spreadsheet has a column for each exam question and a row for each student.

You need to build the spreadsheet as shown.

You must write formulas to calculate: Total Points, Student Score, Average, Median, Average Percent, and Standard Deviation. You may use Excel functions to perform these calculations. I must be able to add information for students 1006 through 1010 and have your spreadsheet update all the calculated values correctly.

In a comment in cell B20, answer the following questions:

- Which question was the most difficult (students scored the worst)?
- Which question was easiest (students scored the best)?

In a comment in cell B22, answer the following questions:

- Which question had the largest spread in answers?
- Explain exactly what data you used to make this determination.

You may add calculations to the spreadsheet to answer the above questions. Add these calculations below the table.

Make sure all of your data is formatted correctly. Numeric data and column headers for numeric data must be right justified. Text data and column headers for text data must be left justified. Any value that is a percent must not have any digits after the decimal point. Average and Median must have one digit after the decimal point, and Standard Deviation must have two digits after the decimal point.

Worksheet #2 (Name it "Retirement")

You have just secured your first job with a starting salary of $36,000 per year. At this point in time, you will be asked if you would like to contribute a portion of that salary toward a retirement plan. Also, you just found out that your company has a matching option up to 5% meaning if you contribute 1% of your present salary the company will match that 1% all the way up to 5%. Finally, you are to assume that each year your salary will keep up with inflation.

With this in mind, you are to 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
Enter Retirement Information							
Starting Salary	$ 36,000.00						
Personal Contributions	3%						
Inflation Increase	2%						
Beginning Balance	$ -						
Years Until Retirement	45						
Yearly Interest Rate	8%			**Retirement Calendar**			
		Beginning Balance ($)	Salary ($)	Contribution ($)	Interest Earned ($)	Ending Balance ($)	Year
		$ -	$ 36,000.00	$ 2,160.00	$ 172.80	$ 2,332.80	1
		$ 2,332.80	$ 36,720.00	$ 2,203.20	$ 362.88	$ 4,898.88	2
		$ 4,898.88	$ 37,454.40	$ 2,247.26	$ 571.69	$ 7,717.84	3

Enter the following data for this assignment: Starting Salary ($36,000), 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 information 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 your graph is properly labeled, easy to read, and correct based on the data in the retirement table.

Note1: Split the screen so that the first 15 rows and the last 4 rows of the worksheet are showing on the display screen.

Note 2: 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 folder by **4:45pm** 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.

Question Number	1	2	3	4	5	6	7	8	9	10	11		Student Score	Total Points
Student ID / Maximum Points	8	9	5	8	4	8	8	8	12	15	16			101
1001	8	3	4	8	4	8	7	4	11	11	14		81%	
1002	8	4	5	8	2	8	8	3	12	9	16		82%	
1003	8	5	3	7	4	8	5	4	11	14	8		76%	
1004	8	9	5	8	4	7	8	7	12	15	16		98%	
1005	8	8	5	8	4	7	4	5	10	15	11		84%	
1006													0%	
1007													0%	
1008													0%	
1009													0%	
1010													0%	
Average	8.0	5.8	4.4	7.8	3.6	7.6	6.4	4.6	11.2	12.8	13.0			
Median	8.0	5.0	5.0	8.0	4.0	8.0	7.0	4.0	11.0	14.0	14.0			
Average Percent	100%	64%	88%	98%	90%	95%	80%	58%	93%	85%	81%			
Standard Deviation	0.00	2.32	0.80	0.40	0.80	0.49	1.62	1.36	0.75	2.40	3.10			