

CS130 Assignment #2

Date Assigned: Tuesday, February 12, 2013
 Date Due: Tuesday, February 19, 2013 4:30 pm
 Points: 50

Goals: Build a worksheet, Charting, What If-Analysis, Goal Seek, Import Data from the Web, If statements, Conditional Formatting.

In a Workbook called **02ExcelPUNetID**, create each of the following worksheets:

Worksheet #1 (Name it Vote2012)

State	Democratic Party (Obama / Biden)	Republican Party (Romney / Ryan)	Libertarian Party (Johnson / Gray)	Green Party (Stein / Honkala)	Others (all other listed parties and candidates)	Total Votes	Victor	# Victory	% Victory
AL	795,696	1,255,925	12,328	3,397	6,992	2,074,338	(Romney / Ryan)	460,229	22.2%
AK	122,640	164,676	7,392	2,917	-	297,625	(Romney / Ryan)	42,036	14.1%
AZ	1,025,232	1,233,654	32,100	7,816	452	2,299,254	(Romney / Ryan)	208,422	9.1%
AR	394,409	647,744	16,276	9,305	1,734	1,069,468	(Romney / Ryan)	253,335	23.7%
CA	7,854,285	4,839,958	143,221	85,638	115,455	13,038,547	(Obama / Biden)	3,014,327	23.1%

Import the table from the following URL into cell A1.

<http://www.archives.gov/federal-register/electoral-college/2012/popular-vote.html>

Clean up the data. Display the column header for numeric data right justified; display the column headers and state abbreviations in bold text. Display the vote counts using the comma numeric format and with no digits past the decimal point. Display the dashes (which represent zero votes) left justified.

Add a column to the immediate right of Total Votes titled **Victor**. This column must use an If statement to display the team that won the election in that state. Reference the team names at the top of the table to display the team name. Note that only Obama/Biden and Romney/Ryan won a state. You do not need to write an If statement that takes into account any other candidate teams. The text in this column and the header of this column must be center-justified.

Add a column to the immediate right of Victor titled **# Victory** that displays the number of votes the victor won by. This number must always be positive and be displayed using the comma format with no digits past the decimal point.

Add a column to the immediate right of # Victory titled **% Victory** that displays the percent of total votes (for that state) the victor won by. This number must always be positive and be displayed as a percent with one digit past the decimal point.

At the bottom of the table, calculate the total votes for each team and the total number of votes cast. Extend the Victor, # Victory, and % Victory columns down to show who won the election and by how much.

53	WI	1,620,985	1,410,966	20,439	7,665	11,379	3,071,434	(Obama / Biden)	210,019	6.8%
54	WY	69,286	170,962	5,326	-	3,487	249,061	(Romney / Ryan)	101,676	40.8%
55	Totals	65,444,241	60,590,978	1,273,123	464,496	781,031	128,553,859	(Obama / Biden)	4,853,263	3.8%

NOTE: As votes are challenged and continue to be tallied the website above is updated. You may see different numbers on the website than I show here! That is fine.

Conditional Formatting

In the **Victor** column, set the background to blue for each row representing a state won by Obama/Biden. In the Romney/Ryan column, set the background to red for each row representing a state won by Romney/Ryan.

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

BONUS

Using Conditional Formatting set the background to light green for the candidate team that came in third place in each state. For example, you would set Johnson/Gary to light green in AZ and Stein/Honkala to light green in DC.

Worksheet #2 (Name it BankStatement)

You need to build a worksheet to keep track of your savings and checking accounts balances.

Get the data from the specified address below. This provides the initial balance (in the top left corner) in each account and the type and amount of each transaction. The Checking account can have a Deposit, D, or Withdraw, W. The Savings account can have a Deposit, D, or Withdraw, W, or Transfer, T. The Transfer from Savings will always transfer the amount of the transaction from the Savings to the Checking account.

<http://zeus.cs.pacificu.edu/chadd/cs130s13/Assignments/BankStatement.html>

The worksheet should be setup as shown at the end of this document. The full color version of this document is available on the class schedule web page. Allow the user to change the initial balance of the accounts, any transaction information, or the interest table and have the entire spreadsheet update.

Savings New Balance is the Savings Balance, plus or minus the Transaction Amount, plus the Interest Earned. Checking New Balance is Checking Balance plus or minus the Transaction Amount plus the Transfer Amount.

► You will need to write a calculation for Savings Balance, Interest Earned, Savings New Balance, Checking Balance, Transfer Amount, and Checking New Balance.

The interest table determines what interest rate a Savings account earns based on that account's balance. There are three brackets: High, Mid, and Low. In the example below, you earn 2.00% interest if you have at least \$10,000.01 in your account, you earn 1.00% interest if you have at least \$5,000.01 in your account, and you earn 0.50% interest otherwise. **Interest is calculated before a transaction is applied.** You must reference the table in the interest calculation so that **any** changes to the table will change your calculations automatically. The Checking account does not earn interest.

► I recommend completing the Checking half of the table before starting on the Savings half of the table. The If statements in the Checking half are slightly more simple than the If statements in the Savings half.

Charting:

Below the table build a chart that charts Savings New Balance and Interest Earned for each transaction. Make sure to properly label the chart and ensure that both datasets are readable.

What If Analysis: The user should be able to change any of the input values and see the table and chart update.

Goal Seek:

What over \$10,000.01 interest rate will get the last number in the "Savings New Balance" column to \$2,000? Place your answer in a comment in cell J1.

Formatting:

Be sure to format money and percents correctly. All percents must have two digits past the decimal point. Make sure column headers are justified appropriately. **The example is poorly formatted.** Note that for money you must use the "Accounting" formatting. The Accounting formatting displays \$0.00 as "\$ -".

Use **conditional formatting** to highlight the Savings Transaction Type if the transaction is a Transfer.

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 **4:30pm** on the due date to be considered on time.

Grading will be based on:

- Correctness and Completeness of your results
- Professional look of the worksheets as described above and discussed in class
- Make sure all of your data is properly formatted
- Use Named Cells where appropriate
- Ability to perform a what-if analysis by changing any of the user input data with accurate results computed and displayed in the worksheet.

The formulas and functions on these spreadsheets are trickier than they appear! Start early!

Remember, this is an individual assignment. Do not discuss your solution with other students.

Savings Account	Checking Account	Savings Account Interest Rate		W	Withdraw				
\$ 10,000.00	\$ 1,000.00	At Least	Interest	D	Deposit				
		\$10,000.01	2.00%	T	Transfer				
		\$5,000.01	1.00%						
		\$0.01	0.50%						
Savings Balance	Transaction Type	Transaction Amount	Interest Earned	Savings New Balance	Checking Balance	Transaction Type	Transaction Amount	Transfer Amount	Checking New Balance
\$ 10,000.00	W	\$ 800.00	\$ 100.00	\$ 9,300.00	\$ 1,000.00	W	\$ 900.00	\$ -	\$ 100.00
\$ 9,300.00	D	\$ 100.00	\$ 93.00	\$ 9,493.00	\$ 100.00	D	\$ 312.00	\$ -	\$ 412.00
\$ 9,493.00	T	\$ 1,200.00	\$ 94.93	\$ 8,387.93	\$ 412.00	D	\$ 90.00	\$ 1,200.00	\$ 1,702.00
\$ 8,387.93	W	\$ 300.00	\$ 83.88	\$ 8,171.81	\$ 1,702.00	W	\$ 30.00	\$ -	\$ 1,672.00

Note that in this example above the formatting is poor and the spreadsheet is too large to fit well on this page. You may wish to have the column titles on one line instead of broken across two lines. Be sure to highlight every other row in the table for easy reading.