

# Unit 2 | Assignment - The VBA of Wall Street

## Background

You are well on your way to becoming a programmer and Excel master! In this homework assignment you will use VBA scripting to analyze real stock market data. Depending on your comfort level with VBA, choose your assignment from Easy, Moderate, or Hard below.

## Files

- [Test Data](#) - Use this while developing your scripts.
- [Stock Data](#) - Run your scripts on this data to generate the final homework report.

## Stock market analyst



## Easy

- Create a script that will loop through one year of stock data for each run and return the total volume each stock had over that year.
- You will also need to display the ticker symbol to coincide with the total stock volume.
- Your result should look as follows (note: all solution images are for 2015 data).

<ticker>	<date>	<open>	<high>	<low>	<close>	<vol>		Ticker	Total Stock Volume
A	20150101	40.94	40.94	40.94	40.94	0		A	645319200
A	20150102	41.18	41.31	40.37	40.56	1530700		AA	6449104200
A	20150105	40.32	40.46	39.7	39.8	2042200		AA-B	40441700
A	20150106	39.81	40.02	39.02	39.18	2084500		AAC	78122300
A	20150107	39.52	39.81	39.29	39.7	3359600		AAN	179606700
A	20150108	40.24	40.98	40.18	40.89	2116300		AAP	266930500
A	20150109	41	41	40.29	40.59	1644900		AAT	48158100
A	20150112	40.61	40.72	39.95	40.11	2771100		AAV	30229400
A	20150113	40.47	40.7	39.33	39.55	2013400		AB	71403800
A	20150114	39.03	39.1	38.21	39.06	5134000		ABB	532805500
A	20150115	39.33	39.41	37.99	38.01	2630200		ABBV	2643021600
A	20150116	37.86	38.46	37.76	38.25	3003900		ABC	516218400
A	20150119	38.25	38.25	38.25	38.25	0		ABEV	3915345800
A	20150120	38.43	38.66	37.76	37.93	5033600		ABG	82930400
A	20150121	37.75	38.41	37.68	38.16	2721600		ABM	72539400

## Moderate

- Create a script that will loop through all the stocks for one year for each run and take the following information.
  - The ticker symbol.
  - Yearly change from opening price at the beginning of a given year to the closing price at the end of that year.
  - The percent change from opening price at the beginning of a given year to the closing price at the end of that year.
  - The total stock volume of the stock.
- You should also have conditional formatting that will highlight positive change in green and negative change in red.
- The result should look as follows.

<ticker>	<date>	<open>	<high>	<low>	<close>	<vol>		Ticker	Yearly Change	Percent Change	Total Stock Volume
A	20150101	40.94	40.94	40.94	40.94	0		A	0.870000005	2.13%	645319200
A	20150102	41.18	41.31	40.37	40.56	1530700		AA	-17.76000023	-37.49%	6449104200
A	20150105	40.32	40.46	39.7	39.8	2042200		AA-B	-17.13999939	-33.97%	40441700
A	20150106	39.81	40.02	39.02	39.18	2084500		AAC	-11.85999966	-38.36%	78122300
A	20150107	39.52	39.81	39.29	39.7	3359600		AAN	-8.180000305	-26.76%	179606700
A	20150108	40.24	40.98	40.18	40.89	2116300		AAP	-8.770000458	-5.51%	266930500
A	20150109	41	41	40.29	40.59	1644900		AAT	-1.460000038	-3.67%	48158100
A	20150112	40.61	40.72	39.95	40.11	2771100		AAV	0.289999992	6.05%	30229400
A	20150113	40.47	40.7	39.33	39.55	2013400		AB	-1.980000019	-7.67%	71403800
A	20150114	39.03	39.1	38.21	39.06	5134000		ABB	-3.420000076	-16.17%	532805500
A	20150115	39.33	39.41	37.99	38.01	2630200		ABBV	-6.199999809	-9.47%	2643021600
A	20150116	37.86	38.46	37.76	38.25	3003900		ABC	13.55000019	15.03%	516218400

## Hard

- Your solution will include everything from the moderate challenge.
- Your solution will also be able to return the stock with the "Greatest % increase", "Greatest % Decrease" and "Greatest total volume".
- Solution will look as follows.

<ticker>	<date>	<open>	<high>	<low>	<close>	<vol>		Ticker	Yearly Change	Percent Change	Total Stock Volume				Ticker	Value	
A	20150101	40.94	40.94	40.94	40.94	0		A	0.870000005	2.13%	645319200				Greatest % Increase	ARR	491.30%
A	20150102	41.18	41.31	40.37	40.56	1530700		AA	-17.76000021	-37.49%	6449104200				Greatest % Decrease	KMLW	-98.59%
A	20150105	40.32	40.46	39.7	39.8	2042200		AA-B	-17.13999939	-33.97%	40441700				Greatest Total Volume	BAC	21277761900
A	20150106	39.81	40.02	39.02	39.18	2084500		AAC	-11.85999966	-38.36%	78122300						
A	20150107	39.52	39.81	39.29	39.7	3359600		AAN	-8.180000305	-26.76%	179606700						
A	20150108	40.24	40.98	40.18	40.89	2116300		AAP	-8.770000458	-5.51%	266930500						
A	20150109	41	41	40.29	40.59	1644900		AAT	-1.460000038	-3.67%	48158100						
A	20150112	40.61	40.72	39.95	40.11	2771100		AAV	0.289999992	6.05%	30229400						
A	20150113	40.47	40.7	39.33	39.55	2013400		AB	-1.980000019	-7.67%	71403800						
A	20150114	39.03	39.1	38.21	39.06	5134000		ABB	-3.420000076	-16.17%	532805500						
A	20150115	39.33	39.41	37.99	38.01	2630200		ABV	-6.199999809	-9.47%	2643021600						
A	20150116	37.86	38.46	37.76	38.25	3003900		ABC	-13.550000019	15.03%	516218400						
A	20150119	38.25	38.25	38.25	38.25	0		ABEV	-1.759999799	-28.30%	3915345800						
A	20150120	38.43	38.66	37.76	37.93	5033600		ABG	-8.479999542	-11.17%	82930400						
A	20150121	37.75	38.41	37.68	38.16	2721600		ABM	-0.180000007	-0.63%	72539400						
A	20150122	38.51	39.86	38.12	39.65	4856500		ABR	0.379999995	5.61%	37916900						
A	20150123	39.6	39.6	38.76	38.81	1519200		ABR-A	-0.490000001	-1.96%	1243100						

## CHALLENGE

- Make the appropriate adjustments to your script that will allow it to run on every worksheet, i.e., every year, just by running it once.
- This can be applied to any of the difficulties.

## Other Considerations

- Use the sheet `alphabetical_testing.xlsx` while developing your code. This data set is smaller and will allow you to test faster. Your code should run on this file in less than 3-5 minutes.
- Make sure that the script acts the same on each sheet. The joy of VBA is to take the tediousness out of repetitive task and run over and over again with a click of the button.

## Submission

- To submit please upload the following to Github:
  - A screen shot for each year of your results on the Multi Year Stock Data.
  - VBA Scripts as separate files.
- After everything has been saved, create a sharable link and submit that to <https://bootcampspot-v2.com/>.

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