

Module 2 Challenge

[Start Assignment](#)

ABC = testing
Multi stock =
final assignment

Due Apr 13 by 11:59pm **Points** 100 **Submitting** a text entry box or a website url

Background

You are well on your way to becoming a programmer and Excel expert! In this homework assignment, you will use VBA scripting to analyze generated stock market data.


Before You Begin

- ✓ Create a new repository for this project called `VBA-challenge`. Do not add this assignment to an existing repository.

- Inside the new repository that you just created, add any VBA files that you use for this assignment. These will be the main scripts to run for each analysis.

Files

Download the following files to help you get started:


Module 2 Challenge files 

practice push & pull
Check all files
uploaded prior to submit
See grading criteria

Instructions

Create a script that loops through all the stocks for one year and outputs the following information:

- The ticker symbol *duplicate value to new table for reference*
- Yearly change from the opening price at the beginning of a given year to the closing price at the end of that year. *calculate difference, start minus closing*
- The percentage change from the 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. The result should match the following image:

1. verify formula for each step would result in outcome how to do
 2. Do. write the code in VBA
 3. test run  troubleshoot until functional
- double-check: variable type

Note repetition in the tickers

<ticker>	<date>	<open>	<high>	<low>	<close>	<vol>	Ticker	Yearly Change	Percent Change	Total Stock Volume
AAB	20180102	24.44	24.56	24.44	24.47	261879	AAB	-3.12	-12.77%	76562863
AAB	20180103	24.45	24.45	24.22	24.28	15721045	AAF	-0.44	-7.45%	234825151
AAB	20180104	24.27	24.36	24.27	24.28	5954	AAR	-0.32	-17.11%	4416325
AAB	20180105	24.24	24.33	24.22	24.33	58161100	AAT	5.33	42.44%	112180
AAB	20180108	24.28	24.72	24.28	24.72	267347	ABJ	0.20	0.47%	86672415
AAB	20180109	24.73	24.73	24.64	24.64	1129348	ABK	1.61	4.80%	1039138
AAB	20180110	24.62	24.78	24.57	24.68	5453423	ABKV	2.22	11.57%	532461431
AAB	20180111	24.68	24.85	24.68	24.85	14391	ABM	-1.16	-12.96%	102956042
AAB	20180112	24.86	24.86	24.71	24.86	13701	ACJ	-0.57	-3.70%	616942
AAB	20180116	24.85	24.93	24.79	24.79	101867	ACYQ	2.04	4.79%	23409782
AAB	20180117	24.81	24.85	24.68	24.69	515155	ADB	-2.40	-8.34%	4198015
AAB	20180118	24.67	24.86	24.67	24.86	657377	ADF	0.36	2.74%	1390786789
AAB	20180119	24.89	24.93	24.71	24.71	1106987	AEL	2.33	5.11%	433986731
AAB	20180122	24.66	24.9	24.66	24.85	1418811	AEV	2.79	11.71%	84397
AAB	20180123	24.87	24.94	24.8	24.84	52744	AEY	-0.08	-6.96%	8274367
AAB	20180124	24.83	24.83	24.56	24.56	3545845	AFZ	0.35	2.70%	175801284
AAB	20180125	24.58	24.66	24.54	24.66	3119820	AGF	-1.53	-2.46%	190388669

- Add functionality to your script to return the stock with the "Greatest % increase", "Greatest % decrease", and "Greatest total volume". The solution should match the following image:

<ticker>	<date>	<open>	<high>	<low>	<close>	<vol>	Ticker	Yearly Change	Percent Change	Total Stock Volume			Ticker	Value
AAB	20180102	24.44	24.56	24.44	24.47	261879	AAB	-3.12	-12.77%	765628638			Greatest % Increase	THB 141.42
AAB	20180103	24.45	24.45	24.22	24.28	15721045	AAF	-0.44	-7.45%	2348251513			Greatest % Decrease	RKS -90.02
AAB	20180104	24.27	24.36	24.27	24.28	5954	AAR	-0.32	-17.11%	44163252			Greatest Total Volume	QKN 1.69E+
AAB	20180105	24.24	24.33	24.22	24.33	58161100	AAT	5.33	42.44%	1121804				
AAB	20180108	24.28	24.72	24.28	24.72	267347	ABJ	0.20	0.47%	866724156				
AAB	20180109	24.73	24.73	24.64	24.64	1129348	ABK	1.61	4.80%	10391386				
AAB	20180110	24.62	24.78	24.57	24.68	5453423	ABKV	2.22	11.57%	5324614313				
AAB	20180111	24.68	24.85	24.68	24.85	14391	ABM	-1.16	-12.96%	1029560425				
AAB	20180112	24.86	24.86	24.71	24.86	13701	ACJ	-0.57	-3.70%	6169423				
AAB	20180116	24.85	24.93	24.79	24.79	101867	ACYQ	2.04	4.79%	234097825				
AAB	20180117	24.81	24.85	24.68	24.69	515155	ADB	-2.40	-8.34%	41980152				
AAB	20180118	24.67	24.86	24.67	24.86	657377	ADF	0.36	2.74%	13907867898				
AAB	20180119	24.89	24.93	24.71	24.71	1106987	AEL	2.33	5.11%	4339867319				
AAB	20180122	24.66	24.9	24.66	24.85	1418811	AEV	2.79	11.71%	843970				
AAB	20180123	24.87	24.94	24.8	24.84	52744	AEY	-0.08	-6.96%	8274367				
AAB	20180124	24.83	24.83	24.56	24.56	3545845	AFZ	0.35	2.70%	175801284				

- Make the appropriate adjustments to your VBA script to enable it to run on every worksheet (that is, every year) *at* once.

NOTE

Make sure to use conditional formatting that will highlight positive change in green and negative change in red.

yearly change column and percent change column

Other Considerations

- Use the sheet `alphabetical_testing.xlsx` while developing your code. This dataset is smaller and will allow you to test faster. Your code should run on this file in under 3 to 5 minutes.

- Make sure that the script acts the same on every sheet. The joy of VBA is that it takes the tediousness out of repetitive tasks with the click of a button.

Requirements

Retrieval of Data (20 points)

✓ The script loops through one year of stock data and reads/ stores all of the following values from each row:

- ticker symbol (5 points)
- volume of stock (5 points)
- open price (5 points)
- close price (5 points)

Column Creation (10 points)

- On the same worksheet as the raw data, or on a new worksheet all columns were correctly created for:
 - ticker symbol (2.5 points)
 - total stock volume (2.5 points)
 - yearly change (\$) (2.5 points)
 - percent change (2.5 points)

Conditional Formatting (20 points)

- Conditional formatting is applied correctly and appropriately to the yearly change column (10 points)
- Conditional formatting is applied correctly and appropriately to the percent change column (10 points)

Calculated Values (15 points)

- All three of the following values are calculated correctly and displayed in the output:
 - Greatest % Increase (5 points)
 - Greatest % Decrease (5 points)
 - Greatest Total Volume (5 points)

Looping Across Worksheet (20 points)

- The VBA script can run on all sheets successfully.

GitHub/GitLab Submission (15 points)

- All three of the following are uploaded to GitHub/GitLab:
 - Screenshots of the results (5 points)
 - Separate VBA script files (5 points)
 - README file (5 points)

files to add to folder

Grading

*export VBA file to run on multiple files
describe what happens in the code
provide instructions on how to run with your own file
requirements for data entry and places that will be overridden*

This assignment will be evaluated against the requirements and assigned a grade according to the following table:

Grade	Points
A (+/-)	90+
B (+/-)	80–89
C (+/-)	70–79
D (+/-)	60–69
F (+/-)	< 60

Submission

To submit your Challenge assignment, click Submit, and then provide the URL of your GitHub repository for grading.

NOTE

You are allowed to miss up to two Challenge assignments and still earn your certificate. If you complete all Challenge assignments, your lowest two grades will be dropped. If you wish to skip this assignment, click Next, and proceed to the next module.


Comments are disabled for graded submissions in Bootcamp Spot. If you have questions about your feedback, please notify your instructional staff or your Student Success Manager. If you would like to resubmit your work for an additional review, you can use the Resubmit Assignment button to upload new links. You may resubmit up to three times for a total of four submissions.

IMPORTANT

It is your responsibility to include a note in the README section of your repo specifying code source and its location within your repo. This applies if you have worked with a peer on an assignment, used code in which you did not author or create sourced from a forum such as Stack Overflow, or you received code outside curriculum content from support staff such as an Instructor, TA, Tutor, or Learning Assistant. This will provide visibility to grading staff of your circumstance in order to avoid flagging your work as plagiarized.

If you are struggling with a Challenge or any aspect of the curriculum, please remember that there are student support services available for you:

1. Office hours facilitated by your TA(s)

2. Tutor sessions ([sign up](#) )
3. Ask the class Slack channel/get peer support
4. AskBCS Learning Assistants

References

Data for this dataset was generated by edX Boot Camps LLC, and is intended for educational purposes only.