The Stock Momentum Dashboard V5

Complete Manual: How to Load and Use

Peter Staadecker, 28-Nov-2025

Contents

Program Purpose

This program allows you to input a list of stock and ETF ticker symbols into a Google Sheet. For each ticker entered the program will calculate the annualized percentage price changes over the previous 1, 3, 6 and 12 months.

If you optionally also input a purchase date for a ticker, the program will calculate the annualized percentage price change since the purchase date.

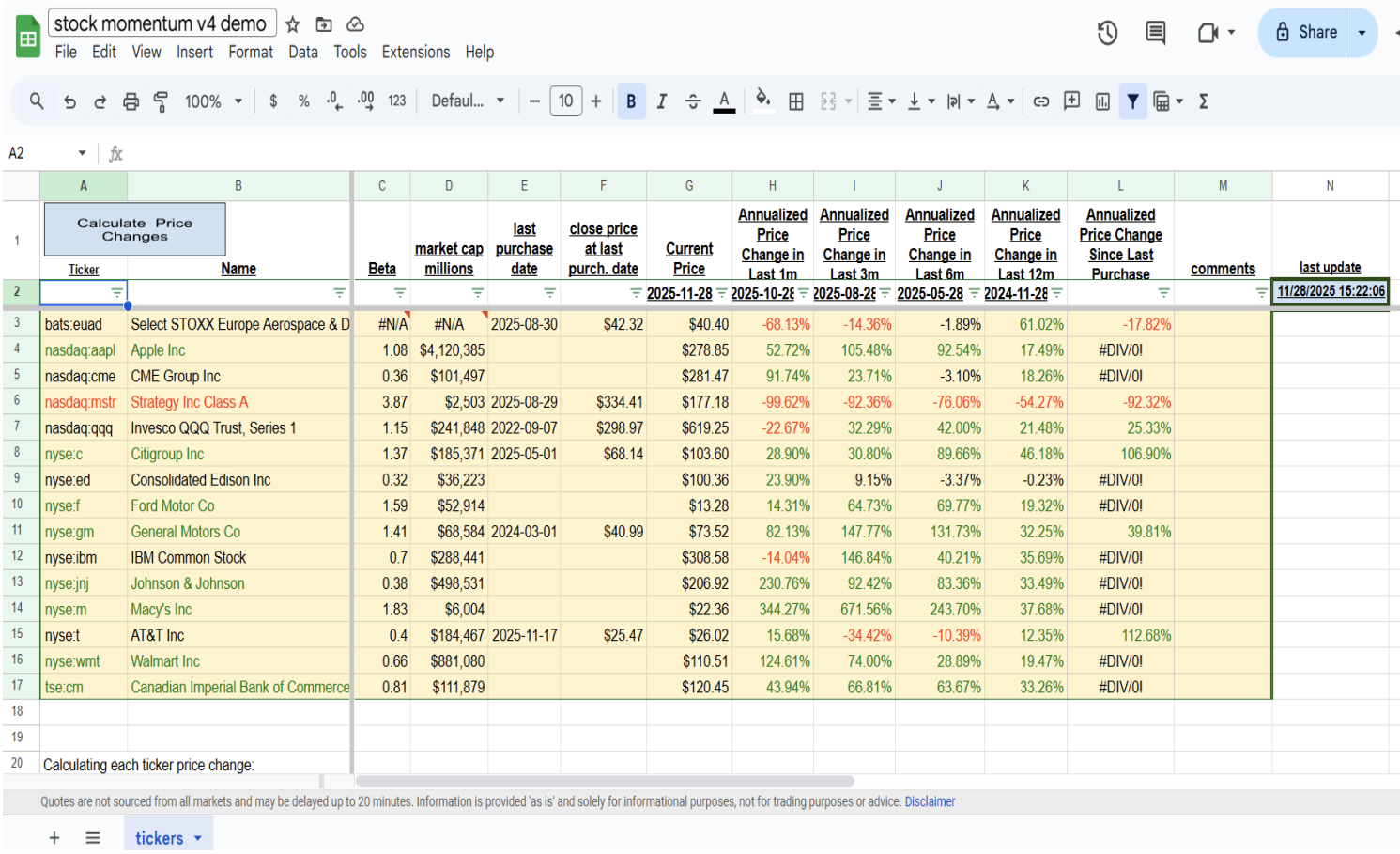
This gives a handy, colour-coded overview of stocks that have a positive price trend over time, versus stocks whose prices are turning negative or have mixed results.

I think of these results as a momentum dashboard for stock prices.

The dashboard uses Google Sheets for easy input of the ticker symbols and easy display of the annualized percentage price changes over the above time periods.

See the sample screenshot below. (Note: where the difference is immaterial, some of the screenshots are from an earlier version of this program.)

A. Illustration: Sample Input and Output



	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	Calculate Price Changes							Annualized Price Change in Last 1m	Annualized Price Change in Last 3m	Annualized Price Change in Last 6m	Annualized Price Change in Last 12m	Annualized Price Change Since Last Purchase		
	Ticker	Name	Beta	market cap millions	last purchase date	close price at last purch. date	Current Price						comments	last update
2							2025-11-28	2025-10-28	2025-08-28	2025-05-28	2024-11-28			11/28/2025 15:22:06
3	bats:euad	Select STOXX Europe Aerospace & D	#N/A	#N/A	2025-08-30	$42.32	$40.40	-68.13%	-14.36%	-1.89%	61.02%	-17.82%		
4	nasdaq:aapl	Apple Inc	1.08	$4,120,385			$278.85	52.72%	105.48%	92.54%	17.49%	#DIV/0!		
5	nasdaq:cme	CME Group Inc	0.36	$101,497			$281.47	91.74%	23.71%	-3.10%	18.26%	#DIV/0!		
6	nasdaq:mstr	Strategy Inc Class A	3.87	$2,503	2025-08-29	$334.41	$177.18	-99.62%	-92.36%	-76.06%	-54.27%	-92.32%		
7	nasdaq:qqq	Invesco QQQ Trust, Series 1	1.15	$241,848	2022-09-07	$298.97	$619.25	-22.67%	32.29%	42.00%	21.48%	25.33%		
8	nyse:c	Citigroup Inc	1.37	$185,371	2025-05-01	$68.14	$103.60	28.90%	30.80%	89.66%	46.18%	106.90%		
9	nyse:ed	Consolidated Edison Inc	0.32	$36,223			$100.36	23.90%	9.15%	-3.37%	-0.23%	#DIV/0!		
10	nyse:f	Ford Motor Co	1.59	$52,914			$13.28	14.31%	64.73%	69.77%	19.32%	#DIV/0!		
11	nyse:gm	General Motors Co	1.41	$68,584	2024-03-01	$40.99	$73.52	82.13%	147.77%	131.73%	32.25%	39.81%		
12	nyse:ibm	IBM Common Stock	0.7	$288,441			$308.58	-14.04%	146.84%	40.21%	35.69%	#DIV/0!		
13	nyse:jnj	Johnson & Johnson	0.38	$498,531			$206.92	230.76%	92.42%	83.36%	33.49%	#DIV/0!		
14	nyse:m	Macy's Inc	1.83	$6,004			$22.36	344.27%	671.56%	243.70%	37.68%	#DIV/0!		
15	nyse:t	AT&T Inc	0.4	$184,467	2025-11-17	$25.47	$26.02	15.68%	-34.42%	-10.39%	12.35%	112.68%		
16	nyse:wmt	Walmart Inc	0.66	$881,080			$110.51	124.61%	74.00%	28.89%	19.47%	#DIV/0!		
17	tse:cm	Canadian Imperial Bank of Commerce	0.81	$111,879			$120.45	43.94%	66.81%	63.67%	33.26%	#DIV/0!		
18														
19														
20	Calculating each ticker price change:													

To use the program, you will need basic familiarity with Google Sheets, including how to insert or delete rows, sort on columns, and how to copy Google formulae from one cell to another.

For easy overview, the dashboard is colour-coded, as can be seen in the sample screenshot above.

- Green means the annualized percentage price changes exceed 10%.
- Red means the annualized percentage price changes are less than -10%.
- Black means the annualized price changes are between -10% and +10%.

For the ticker symbols:

- Red means the 1, 3, 6 and 12-month changes are all negative.
- Green means the 1, 3, 6 and 12-month changes are all positive.
- Black means the 1, 3, 6 and 12-month changes are a mix of some positive, some negative.

The change since the purchase date does not influence the ticker colour, since recently bought stock can have very volatile price swings to either plus or minus without any long-term significance.

Program Requirements

You will need a Google account, access to your Google Drive and internet access.

I have tested the program only on a PC but believe it should work similarly on an Apple Mac.

The program display works on my Android phone, but does not let me change inputs or update results.

How Stock Prices are Obtained

The demonstration Google Sheet is called “stock momentum v5 demo” and the accompanying Googe Sheet extension, which houses the program script, is “stock momentum v5.”

You will sometimes see references to the program as the script, the program, the program script the Google Sheet extension, the Google Apps script or the app. They mean the same thing in this context.

The Google Sheet function, GOOGLEFINANCE, provides the core information for the program. That function requires an internet connection. Offline use will show a pop-up label “Trying to Connect” plus additional error messages.

When used online within the sheet and program, GOOGLEFINANCE provides current stock prices and historical closing prices for your chosen stock ticker symbols for the previous 1, 3, 6 and 12 months and for the closing price on the day of any stock purchase date. The program then calculates the annualized percentage changes.

Google’s documentation for GOOGLEFINANCE at https://support.google.com/docs/answer/3093281?hl=en notes some limitations:

Quotes are not sourced from all markets and may be delayed up to 20 minutes. Information is provided 'as is' and solely for informational purposes, not for trading purposes or advice.

Google treats dates passed into GOOGLEFINANCE as noon UTC time. Exchanges that close before that time may be shifted by a day.”

Google provides a list of stock exchanges for which it provides information at https://www.google.com/googlefinance/disclaimer/#!#realtime

In addition to pricing for stocks and ETFs, GOOGLEFINANCE provides market caps, stock/ETF names, and betas. Market caps and betas are usually not available for ETFs.

I note that Google’s beta values often seem suspiciously low. While I provide these values for now from the program, I recommend you double check betas against e.g. Yahoo’s finance pages. I may reconsider in a later program version if these values are worth showing.

Disclaimer

While I find this program useful for my own purposes, I show it here without any guarantee of correctness, usefulness or anything else.

The stocks and ETF tickers I show in this documentation are random examples to illustrate the functioning of the program. They are chosen merely to illustrate the program's function and are not my stock picks nor trading advice of any kind.

Loading the Program

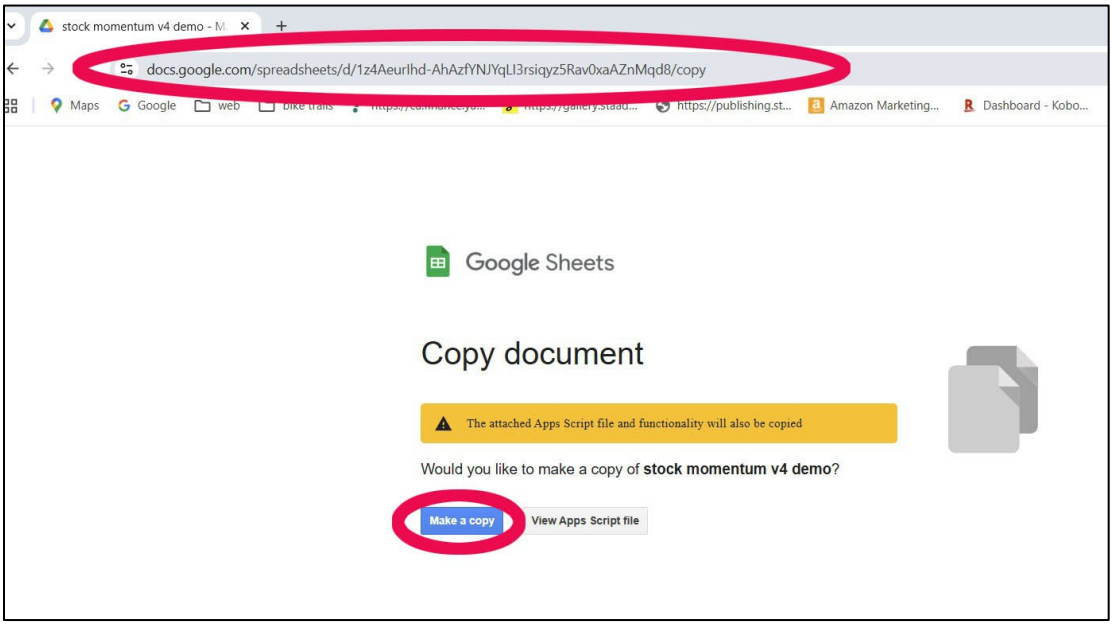
You need to load both the Google Sheet "stock momentum v5 demo" and the associated script "stock momentum v5" into your own Google Drive.

From inside your own Google Drive paste this link into your URL:

https://docs.google.com/spreadsheets/d/1-K6PdE6brWU4HQhKwmTsZo4KypD5NHKjj4n70S0EnTM/copy

Then click the "Make a copy button." See the screenshot below for where to past the URL and the location of the copy button.

B. Illustration: Copying the Sheet and Program to Your Google Drive



Your copy will load either in the Google Drive subdirectory from which you pasted the link, or to the top level of your Google Drive.

You cannot run the program yet. You need to authorize the program.

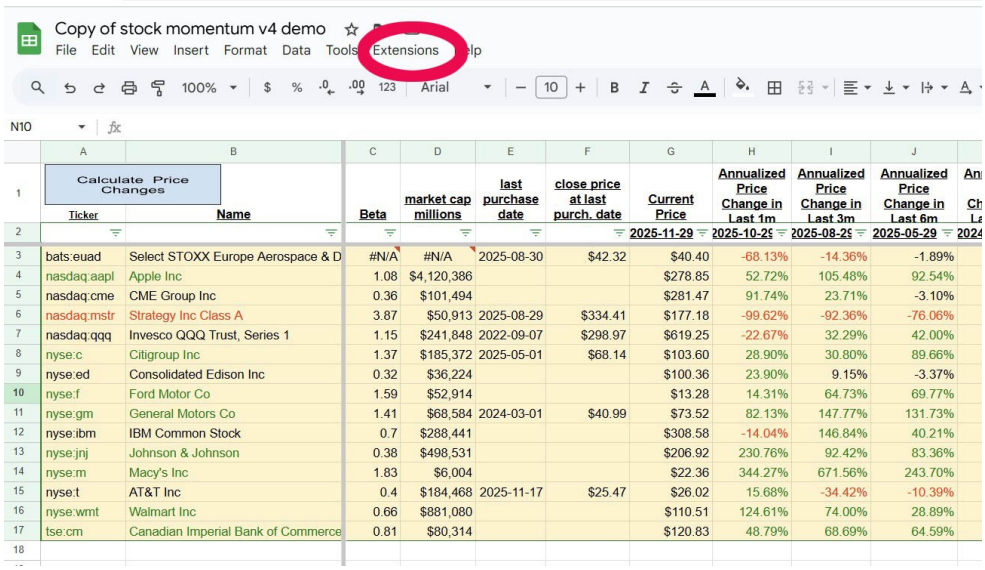
Authorizing the Program

Once you've copied the sheet to your drive, double click it to open it.

Before you can run the program for the first time, you need to authorize the script.

Open the script by clicking on the "Extensions" command within in the Google Sheet top tool bar. See the screenshot below.

C. Illustration: Accessing the Extensions Menu

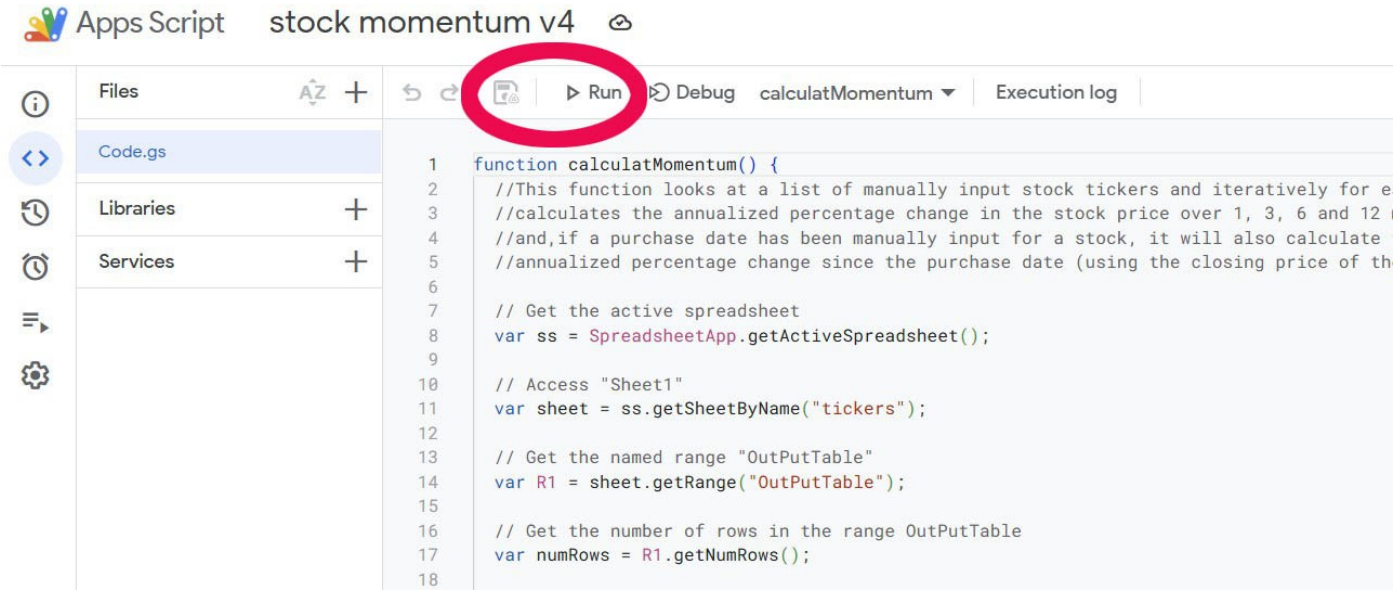


	A	B	C	D	E	F	G	H	I	J
1	Calculate Price Changes							Annualized Price Change in Last 1m	Annualized Price Change in Last 3m	Annualized Price Change in Last 6m
2	Ticker	Name	Beta	market cap millions	last purchase date	close price at last purch. date	Current Price	2025-11-29	2025-10-2	2025-08-2	2025-05-29	2024
3	bats:euad	Select STOXX Europe Aerospace & D	#N/A	#N/A	2025-08-30	$42.32	$40.40	-68.13%	-14.36%	-1.89%		
4	nasdaq:aapl	Apple Inc	1.08	$4,120,386			$278.85	52.72%	105.48%	92.54%		
5	nasdaq:cme	CME Group Inc	0.36	$101,494			$281.47	91.74%	23.71%	-3.10%		
6	nasdaq:mstr	Strategy Inc Class A	3.87	$50,913	2025-08-29	$334.41	$177.18	-99.62%	-92.36%	-76.06%		
7	nasdaq:qqq	Invesco QQQ Trust, Series 1	1.15	$241,848	2022-09-07	$298.97	$619.25	-22.67%	32.29%	42.00%		
8	nyse:c	Citigroup Inc	1.37	$185,372	2025-05-01	$68.14	$103.60	28.90%	30.80%	89.66%		
9	nyse:ed	Consolidated Edison Inc	0.32	$36,224			$100.36	23.90%	9.15%	-3.37%		
10	nyse:f	Ford Motor Co	1.59	$52,914			$13.28	14.31%	64.73%	69.77%		
11	nyse:gm	General Motors Co	1.41	$68,584	2024-03-01	$40.99	$73.52	82.13%	147.77%	131.73%		
12	nyse:ibm	IBM Common Stock	0.7	$288,441			$308.58	-14.04%	146.84%	40.21%		
13	nyse:jnj	Johnson & Johnson	0.38	$498,531			$206.92	230.76%	92.42%	83.36%		
14	nyse:m	Macy's Inc	1.83	$6,004			$22.36	344.27%	671.56%	243.70%		
15	nyse:t	AT&T Inc	0.4	$184,468	2025-11-17	$25.47	$26.02	15.68%	-34.42%	-10.39%		
16	nyse:wmt	Walmart Inc	0.66	$881,080			$110.51	124.61%	74.00%	28.89%		
17	tse:cm	Canadian Imperial Bank of Commerce	0.81	$80,314			$120.83	48.79%	68.69%	64.59%		
18												

A drop-down menu will open. Select the drop-down command "Apps Script"

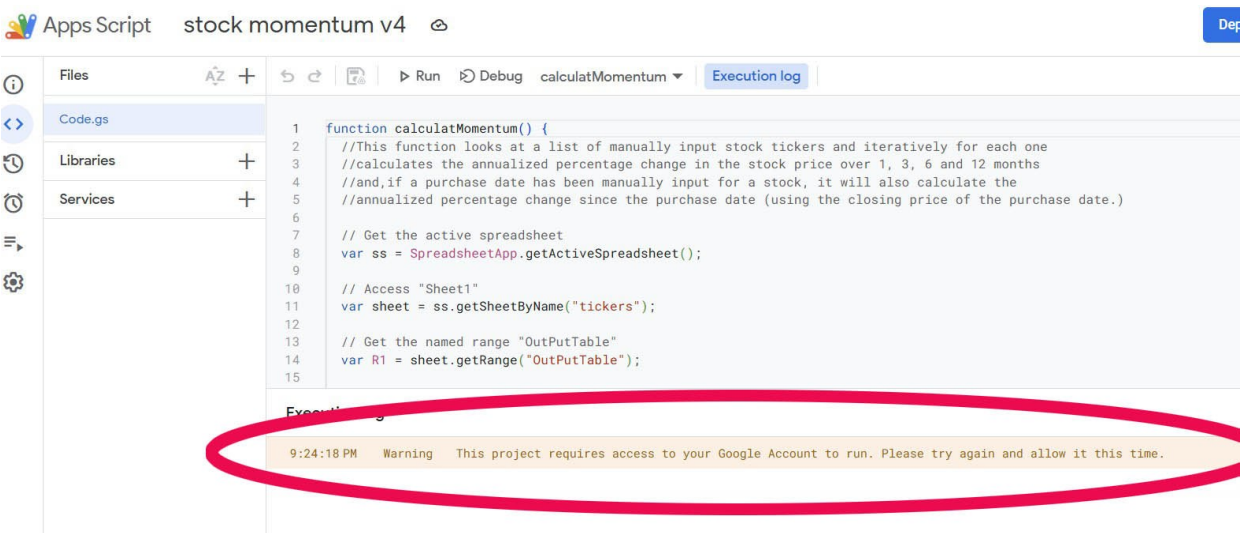
A new tab will open containing the script that you will need to authorize. Press the save command if necessary and then press the run command. The "save" and "run" commands are shown on the screenshot below.

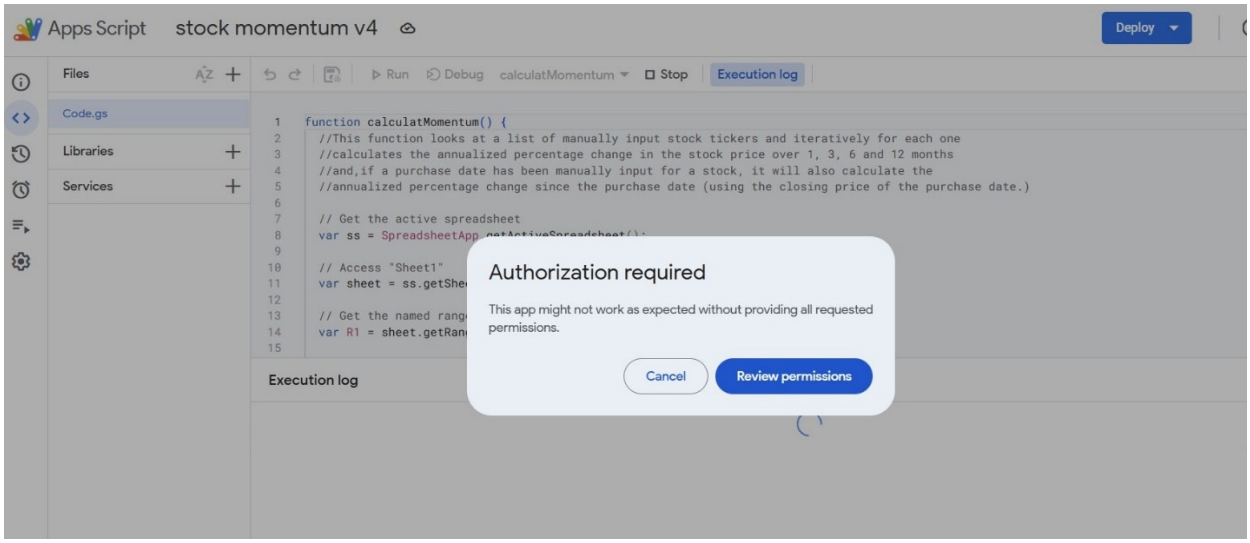
D. Illustration: Running the Script for Authorization



After pressing the run command for the first time Google will request that you approve the script, aka the program, aka the Google Sheets extension. A series of four to five separate prompts will ask you to authorize the script. Follow the instructions and authorize each of the steps. The first prompts may look like one or both of these.

E. Illustration: Typical Authorization Prompts



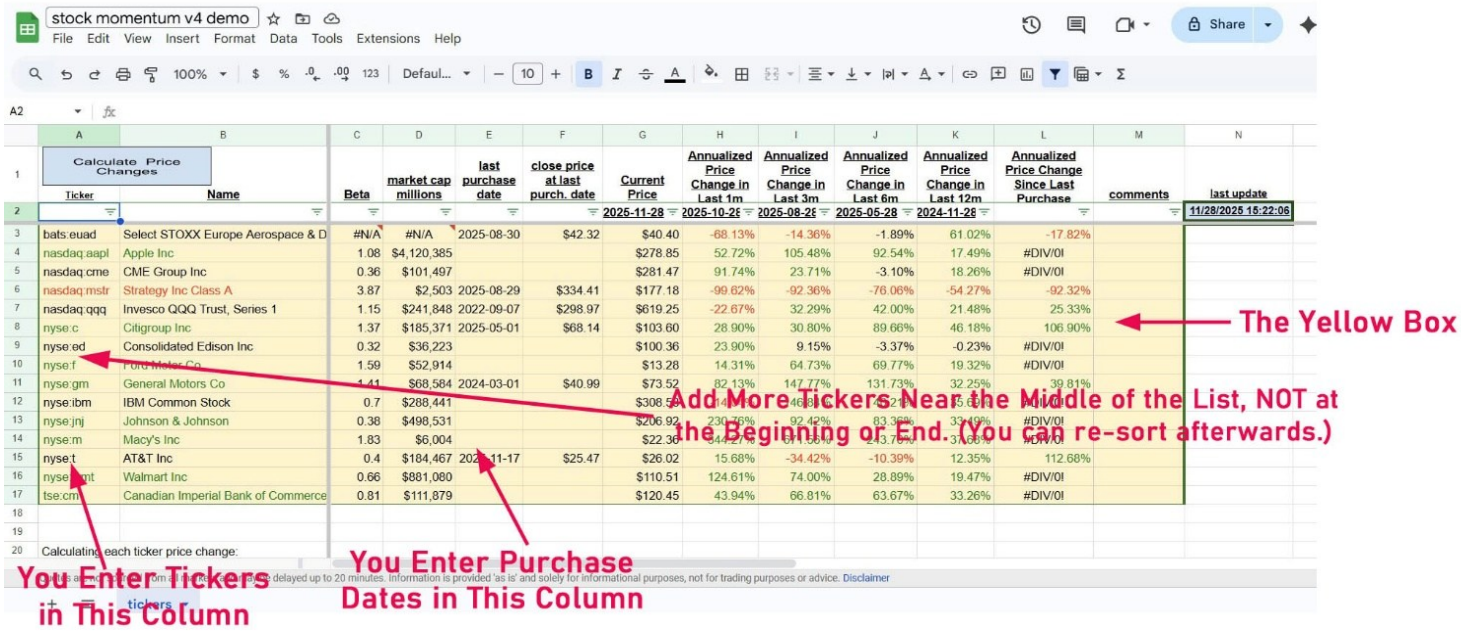


After completing all the authorization steps, close the script tab and move to the Google Sheet. See the next section on how to enter your data into the Google sheet and then run the program.

Changing the Stock Tickers

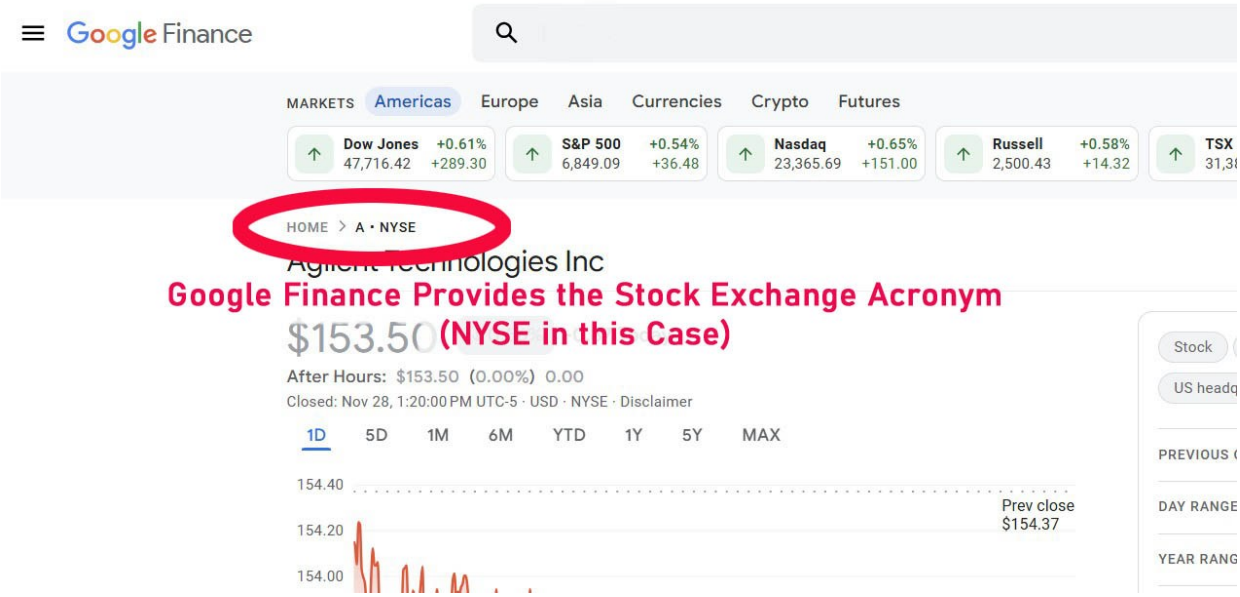
- Open the Google Sheet from within your Google account.
- Do not change the column structure of the Google Sheet. If you do, the program may not function correctly.
- You may replace any and all of the provided sample stock tickers and optionally any purchase dates with your own choices.
- The only place where you may add, delete or sort rows is within the yellow box. The yellow box is shown in the screenshot below.

F. Illustration: The Crucial Yellow Box



- To preserve the boundaries of the yellow box, you may insert/delete tickers and rows anywhere EXCEPT the first and last row of the yellow box.
- You can, of course, change the stock tickers and optionally any purchase dates in the first and last row of the yellow box. Just don't add/delete rows there.
- After adding a new row in the yellow box, you can re-sort the rows on a column-heading of your choice, if needed. (To sort, press on the upside down-pyramid within any column heading immediately above the yellow box.) Then from an existing row copy into the newly added row the cell formulae for
    - name
    - beta
    - market cap
    - current purchase price
- Include the stock exchange acronyms along with the ticker symbols as in the screenshot above. If you don't provide the exchange acronym, the GOOGLEFINANCE function will guess a stock exchange, and it may not be what you intended. You can look up the appropriate stock exchange acronyms – NYSE, NASDAQ, TSE etc. – for your tickers in Google Finance pages. See the screenshot below.

G. Illustration: Looking up the Stock Exchange Acronym



Running the Program

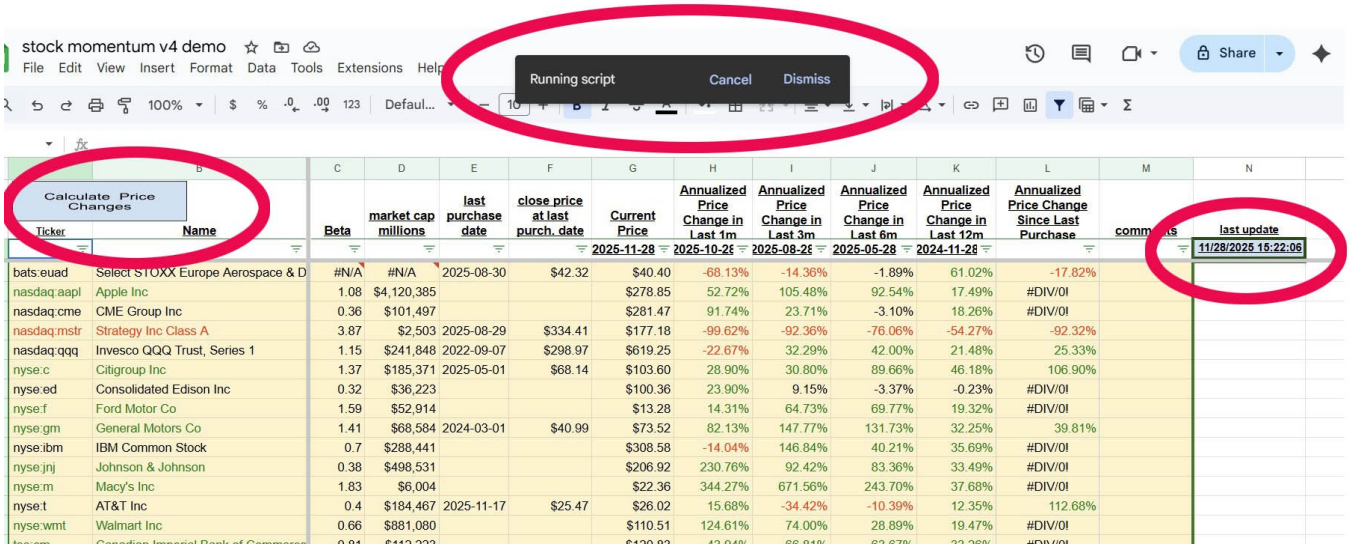
After you've authorized the program per the instructions above, and after you've made any changes you wish to your ticker symbols in the yellow box, click on the "Calculate Price Changes" button from within your Google Drive and Google sheet to run the program. The "Script Running" label will appear.

Depending on the number of tickers in your list, the program may take several seconds to complete, typically about one second per ticker symbol.

The progress through the ticker list is visible on the Google Sheet since each ticker that is being processed is temporarily shown in bold font.

When the program completes the "Script Running" label will disappear and the timestamp for the last update will change to the current time. See the screenshot below to see the position of the "Calculate Price Changes" button, the "Script Running" label and the "Last Update" time stamp.

H. Illustration: The Calculate Button, The “Script Running” label and the Timestamp



Ticker	Name	Beta	market cap millions	last purchase date	close price at last purch. date	Current Price	Annualized Price Change in Last 1m	Annualized Price Change in Last 3m	Annualized Price Change in Last 6m	Annualized Price Change in Last 12m	Annualized Price Change Since Last Purchase	comments
						2025-11-28	2025-10-28	2025-08-28	2025-05-28	2024-11-28		
bats:euad	Select STOXX Europe Aerospace & D	#N/A	#N/A	2025-08-30	$42.32	$40.40	-68.13%	-14.36%	-1.89%	61.02%	-17.82%	
nasdaq:aapl	Apple Inc	1.08	$4,120,385			$278.85	52.72%	105.48%	92.54%	17.49%	#DIV/0!	
nasdaq:cme	CME Group Inc	0.36	$101,497			$281.47	91.74%	23.71%	-3.10%	18.26%	#DIV/0!	
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nyse:f	Ford Motor Co	1.59	$52,914			$13.28	14.31%	64.73%	69.77%	19.32%	#DIV/0!	
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nyse:jnj	Johnson & Johnson	0.38	$498,531			$206.92	230.76%	92.42%	83.36%	33.49%	#DIV/0!	
nyse:m	Macy's Inc	1.83	$6,004			$22.36	344.27%	671.56%	243.70%	37.68%	#DIV/0!	
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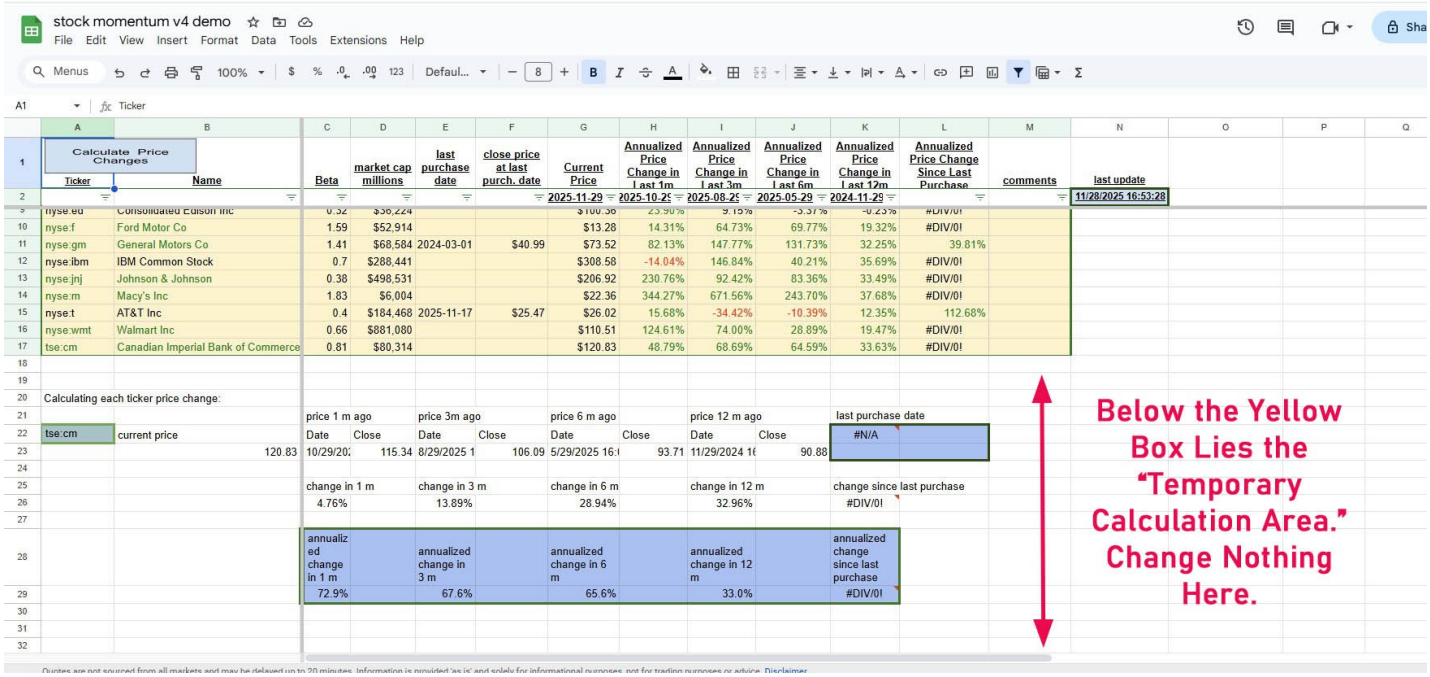
nyse:wmt	Walmart Inc	0.66	$881,080			$110.51	124.61%	74.00%	28.89%	19.47%	#DIV/0!	

How the Program Works

The program script takes each ticker in turn from the list of tickers in the yellow box, and transfers that ticker to a “temporary calculation area” below the yellow box. You should not change anything in the temporary calculation area.

In the temporary calculation area, the program and the sheet look up the ticker price for prior time periods, calculate the ticker price changes from the current price, convert these to percentage changes and then to annualized percentage price changes. When the calculation is complete for that ticker, the program copies the percentage price changes back into the yellow box and then repeats for the next ticker from the yellow box. See the screenshot below.

I. Illustration: The Temporary Calculation Area



	Calculate Price Changes														
	Ticker	Name	Beta	market cap millions	last purchase date	close price at last purch. date	Current Price	Annualized Price Change in Last 1m	Annualized Price Change in Last 3m	Annualized Price Change in Last 6m	Annualized Price Change in Last 12m	Annualized Price Change Since Last Purchase	comments	last update	
2							2025-11-29	2025-10-2	2025-08-2	2025-05-29	2024-11-29			11/28/2025 16:53:28	
10	nyse:f	Ford Motor Co	1.59	$52,914			$13.28	14.31%	64.73%	69.77%	19.32%	#DIV/0!			
11	nyse:gm	General Motors Co	1.41	$68,584	2024-03-01	$40.99	$73.52	82.13%	147.77%	131.73%	32.25%	39.81%			
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17	tse:cm	Canadian Imperial Bank of Commerce	0.81	$80,314			$120.83	48.79%	68.69%	64.59%	33.63%	#DIV/0!			
20	Calculating each ticker price change:														
21			price 1 m ago		price 3m ago		price 6 m ago		price 12 m ago		last purchase date				
22	tse:cm	current price	Date	Close	Date	Close	Date	Close	Date	Close	#N/A				
23		120.83	10/29/20	115.34	8/29/2025 1	106.09	5/29/2025 16:	93.71	11/29/2024 1	90.88					
25			change in 1 m		change in 3 m		change in 6 m		change in 12 m		change since last purchase				
26			4.76%		13.89%		28.94%		32.96%		#DIV/0!				
28			annualized change in 1 m		annualized change in 3 m		annualized change in 6 m		annualized change in 12 m		annualized change since last purchase				
29			72.9%		67.6%		65.6%		33.0%		#DIV/0!				

FAQs

Q: I see huge (positive or negative) annualized percentage changes. How is this possible?

A: The percentage changes are expressed as ANNUAL percentage changes for comparison across different time periods. Taking an extreme case, if a stock that you bought a day ago has had a 5% price increase in the one day since you bought it, that equates to a greater than 54 million percent increase for one year if compounded for 365 days.

Q: The stock purchase price shown is different from my actual purchase price. Why is that?

A: To minimize manual input, the program takes the closing price for the day on which you bought a stock as a proxy for your actual purchase price. In most cases the effect of this approximation on the 1, 3, 6, 12-month changes etc. will be minor.

Q: I reran the program on the same day, and the numbers changed. Why?

A: The program has likely updated the current stock prices since you last ran the program. That will change the numbers.

Q: I reran the program last night after market close, and again this morning before market open and the numbers changed. Why?

A: Even though the stock exchanges in your time zone are still closed, your prices from 1, 3, 6, 12-months ago will have changed by a day. And though markets aren't open yet in your time zone, any stocks that you're tracking on foreign exchanges that are now open will likely change their current price.

Q: You say I should make changes to the stock tickers from within my Google account only. Can I make changes from outside my Google account, e.g. from my Edge browser?

A: I have experienced intermittent problems when doing that, and even sometimes when just running the program from my Edge browser.

Q: In the list of stock tickers, can I repeat the same stocker ticker but with different purchase dates?

A: Yes, although there is usually little to gain from this. The only output number that will change is the change since last purchase. The 1, 3, 6, and 12-month price changes will be identical.

Q: I occasionally experience an error message when running the program. An example is "Error: Service Spreadsheets failed while accessing document with idxxxxxx." However, when I rerun the program shortly after, it works.

A: ChatGPT tell me that this kind of error may have the following causes (amongst others)

- Temporary Google service outage Sometimes Google's backend services fail briefly, causing this error even if everything is set up correctly.
- Exceeded quotas or limits Apps Script has daily quotas and rate limits. If too many requests are made to the Spreadsheets service, it can throw this error.