10847.17 984.13

~ Buy

OMX ICELAND 8

.06

5993.7030 6025.9680

inStock

Python Stock Tracking Project

By Miguel Mastache 28289.06 27956.04 10/28/22

6230.9 ~ Sell

1632.51

1172.94

Introduction

inStock is a simple stock tracking application. It is capable of importing historical stock information, from either Yahoo! Finance, via CSV or web scraping. This app is able to save your stock purchase history, and produce reports based on your purchase history.

Environment

This part of the project focus' on setting up the environment used to develop the stock tracking application.

GitHub

- Screen shot of GitHub project repository.
- For this class, I setup a GitHub repository. It can be found at:
- https://github.com/denkigish

Code Olesues ¹ Pull requests O	© Unwatch 1 → 💱 Fork 0 → 🏠 Star 0
P main +	dd file - Code - About
henkigish Update README.md	3 days ago 3 days ago 3 days ago 2 Provided.
C README.md Update README.md	3 days ago ☆ 0 stars
README.md	Image: Watching Image
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	Packages No packages published Publish your first package
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IDE & Starter Files

 Screen shot of your IDE
 (Spyder or VS Code) with the project Starter Files loaded.

• Also chose to use the VS Code IDE for development of the project. Shown is VS Code with the starter files loaded.

Program

• Screen shot of Python program running successfully.

• prices.py working with price list, summing, and counting stocks above minimum price.

•••		prices.py — CEIS150	
<pre>EXPLORER CEIS150 CEIS150 CEIS150</pre>	•	<pre> stock_class.py 1, A ● prices.py U</pre>	
 prices.py README.md stock_class.py stock_class.py stock_class.py stock_data.py stock_GUI.py stock_GUI.py stocks.py utilities.py WebScraping.ipynb venv bin include lib share pyvenv.cfg 	U 1, A A A A A A	<pre>4 min_price = float(input ('Please enter the minimum price:')) 5 price_list = [69.0, 71.0, 84.5, 91.0, 67.4, 81.2, 84.6, 58.8 6 for price in price_list: 7 sum+=price 8 if price > min_price: 9 count+=1 10 11 print("Hello {} the minimum price is {}".format(full_name,min 12 print("Hello {} the minimum price is {}".format(full_name,min 13 print("The total price is {0:.2f}.".format(sum))]</pre>	
OUTLINE > TIMELINE		<pre>PROBLEMS ① OUTPUT TERMINAL ··· ▷ Python + ~ □ □ Enter your Full Name: Miguel Mastache Please enter the minimum price:59 Hello Miguel Mastache the minimum price is 59.0 there are 9 prices greater than the minimum price The total price is 7.9e+02.</pre> • mmastache@imac CEIS150 % /Users/mmastache/.pyenv/versions/3.10.6/bin/py Users/mmastache/CEIS150/prices .py Enter your Full Name: Miguel Mastache Please enter the minimum price:59 Hello Miguel Mastache the minimum price is 59.0 there are 9 prices greater than the minimum price The total price is 788.00. • mmastache@imac CEIS150 % []	۲ م thon

UML and Class Definition

This section covers the development of the classes needed to work with our stock and history data. These classes are the foundation of my program.

Class Diagram

Paste your Visio Class
 Diagram

Stock
_symbol
_name
_shares
DataList[]
symbol
name
shares
buy(shares)
sell(shares)
add_data(stock_data)

Class Code

Screen Shot of your stock_class.py file.

		stock_class.py — inStock		I II 08
Сh	🕏 stock_class.py M 🗙		D ~ €	
	<pre>stock_class.py > 1</pre>	module contains the class definitions Mastache 22 port datetime	that will be used in the s	stock an
a a	6 7 8 Stock Class cru	eates is for creating stock objects t	that track,	
В	10 it uses proper	ymbol of lock and now many snares are ty object for setting accessor functi ack of the daily data.	ions.	
囚	12 iss Stock: 13 definit	(self, symbol, name, shares):		
	14selfsyn15selfname16self. shaw	nbol = symbol ne = name ares = shares		
Ro	17 self.Data 18	aList = [] # list of daily stock data		
	19 @property 20 def symbol(solution) 21 return solution	elf): alf cymbol		
	PROBLEMS OUTPUT hon /Users/mmastache/ Unit Testing Starting Testing Add StockS Testing Change Symbol Test Change NameSu Test Change Shares	DEBUG CONSOLE <u>TERMINAL</u> JUPYTER Python/inStock/stock_class.py uccessful! Successful! – Stock symbol change H ccessful! Successful! – Stock shares change blog	+ · ▷ Pytł ▷ Pytł blocked cked	∨ ∧ × hon hon
ي چې ک	Test Buy sharesSu Test Sell sharesSu Creating daily stock Congratulations – All Goodbye O (venv) mmastache@mac	cessful! ccessful! dataSuccessful! . Tests Passed inStock %		
main م		S Live Share UTF-8 CRLF	(<u>र</u> ू

Unit Test

• Screen Shot of your successful unit test.

		stock_class.py — inStock	
Ch	🍦 stock_class.py M 🗙		⊳ ∽ য়ে Ш …
	🍦 stock_class.py > 省	Stock	
	53 # DailyData cl 54 # this is used	lass, creates the daily data object, which is da d by Stock to keep track of the daily data.	te, closing price, and vo
Ŷ	55 class DailyDat 56 definit 57 self.	ta: t(self,date, close, volume): date = date	
a ₩	58 self. 59 self.	_ close = close _volume = volume	
₿	61 @property 62 def date(s	self):	
因	63 return 64 65 @date.set1	n selfdate	
	66 def date(s 67 self.	self, date): _date = date	
Ro	69 @property 70 def close	(self):	
	72 @close.set	ter	
	PROBLEMS OUTPUT	DEBUG CONSOLE TERMINAL JUPYTER	+~ ^ ×
	hon /Users/mmastache, Unit Testing Starting Testing Add StockS	/Python/inStock/stock_class.py Successful!	Python Python Python
	Testing Change Symbo Test Change NameSu Test Change Shares Test Buy sharesSu	Successful! – Stock symbol change blocked uccessful! – Stock shares change blocked ccessful!	
503 203	Test Sell sharesSu Creating daily stock Congratulations – All Goodbye	uccessful! dataSuccessful! L Tests Passed	
နို mai	$n^* \odot 0 \downarrow 1^* \otimes 0 \triangle 0$	CRLF UTF-8 CRLF CPython 3	.10.7 ('venv': venv) 🕅 🗘

Console Interface

This section covers the creation of console-based interface for working with stocks and the stock price history. It develops the code for adding stock, and its daily data.

Code

• Code snippet.

		stoc	k_menu_v3.py — inStock	
📌 stoc	k_class.py	🗬 stock_menu_v3.py M 🗙	≣ stock_menu_v3.txt	🕏 stock_console.py M
🕏 sto	ck_menu_v3.py			
	# -*- coding	: utf-8 -*-		
	Created on M	lon Aug 30 22:57:11 2021		
	@author: D99	003734		
7	# Author: Mi	quel Mastache		
8	# Date: 11/1	1/22		
	from datetim	e import datetime		
	from stock_c	lass import Stock, DailyDa	ta	
11		t_class import Traditiona	l, Robo	
12	import matpl	otlib.pyplot as plt		
13	import csv			
14				
15	dof add stor	k(ctock lict)		
10	ontion =			
18	while on	tion != "0":		
	prin	t("Add stock")		
	symb	ol = input("Enter Ticker S	ymbol: ").upper()	
21	name	= input("Enter Company Na	me: ")	
22	shar	es = float(input("Enter Nu	mber of Shares: "))	
23	new_	<pre>stock = Stock(symbol, name</pre>	, shares)	
24	stoc	k_list.append(new_stock)	en o arro de ter	
25	opti	on = input("Stock Added -	Enter to Add Another Sto	ock or 0 to Stop: ")
20 27	# Demove sto	ck and all daily data		
27	def delete s	tock(stock list):		
29	print("\	n\nDelete Stock")		
30	print("S	<pre>itock List: [", end = "")</pre>		
31	for stoc	k in stock_list:		
32	prin	t(stock.symbol,end=" ")		
	print("]	")		
34	symbol =	input("Which stock do you	want to delete?: ").upp	per()
	found =	False		
	1 = 0			
PROBL	EMS OUTPUT	DEBUG CONSOLE TERMINA	L JUPYTER	
PROBL source mmasta (venv	EMS OUTPUT e /Users/mmast ache@mac inSto) mmastache@ma	DEBUG CONSOLE TERMINA ache/Python/inStock/venv/bi ick % source /Users/mmastach ic inStock % /Users/mmastach	L JUPYTER — n/activate e/Python/inStock/venv/bi e/Python/inStock/venv/bi	n/activate n/python /Users/mmastache/Python/inStock/stock_menu_v3.py
1 - Ac 2 - De 3 - L	dd Stock elete Stock ist stocks			
4 – Ad 5 – Si	dd Daily Stock how Chart	Data (Date, Price, Volume)		
6 - I	nvestor Type			
_	oad Data xit Program			
7 - Lo	ALC I LUGI all			
7 - Lu 0 - Ex Enter	Menu Option:	0		
7 - Lu 0 - Ex Enter Goodby	Menu Option: ye	0		

Adding a Stock

• Paste a screen shot of your working Stock program.

. ~ະສ1 python (venv) mmastache@mac inStock % python stock_menu_v3.py Stock Analyzer ---1 - Add Stock 2 - Delete Stock 3 - List stocks 4 - Add Daily Stock Data (Date, Price, Volume) 5 - Show Chart 6 - Investor Type 7 - Load Data 0 - Exit Program Enter Menu Option: 1 Add stock ---Enter Ticker Symbol: MSFT Enter Company Name: Microsoft Enter Number of Shares: 100 Stock Added - Enter to Add Another Stock or 0 to Stop: Add stock ---Enter Ticker Symbol: AAPL Enter Company Name: Apple Enter Number of Shares: 100.01 Stock Added - Enter to Add Another Stock or 0 to Stop: Add stock ---Enter Ticker Symbol: F Enter Company Name: Ford Enter Number of Shares: 303.33

Listing 3 Stocks

• Paste a screen shot of your working Stock program.

• • •		python			~% 1			
Enter Ticke	r Symbol: GM							
Enter Company Name: General Motors								
Enter Number of Shares: 555.55								
Stock Added - Enter to Add Another Stock or 0 to Stop: 0								
Stock Analyzer								
1 – Add Stock								
2 - Delete 3	Stock							
3 - List st	ocks							
4 - Add Dai	ly Stock Data (Date,	Price, Volum	ne)					
5 - Show Ch	art							
6 - Investo	r Type							
7 - Load Da	ta							
0 - Exit Pre	ogram							
Enter Menu (Option: 3							
Stock List								
21MBOL	NAME	SHAKES						
MSFT	Microsoft	100.0						
AAPL	Apple	100.01						
F	Ford	303.33						
GM	General Motors	555.55						
Press Enter	to Continue ***							

Daily Data

• Paste a screen shot of your working Stock program.

<pre>7 - Load Data 0 - Exit Program inter Menu Option: 4 dd Daily Stock Data itock List: [MSFT AAPL F GM] /hich stock do you want to use?: F leady to add data for: F inter Data Separated by Commas - Do Not use Spaces inter a Blank Line to Quit inter Date,Price,Volume xample: 8/28/20,47.85,10550 nter Date,Price,Volume: 11/11/22, 14.50,57340000 nter Date,Price,Volume:</pre>
<pre>0 - Exit Program Enter Menu Option: 4 add Daily Stock Data Stock List: [MSFT AAPL F GM] hich stock do you want to use?: F teady to add data for: F inter Data Separated by Commas - Do Not use Spaces inter a Blank Line to Quit inter Date,Price,Volume xample: 8/28/20,47.85,10550 nter Date,Price,Volume: 11/11/22, 14.50,57340000 nter Date,Price,Volume:</pre>
inter Menu Option: 4 add Daily Stock Data stock List: [MSFT AAPL F GM] which stock do you want to use?: F teady to add data for: F inter Data Separated by Commas - Do Not use Spaces inter a Blank Line to Quit inter Date,Price,Volume xample: 8/28/20,47.85,10550 nter Date,Price,Volume: 11/11/22, 14.50,57340000 nter Date,Price,Volume:
add Daily Stock Data Stock List: [MSFT AAPL F GM] Which stock do you want to use?: F Leady to add data for: F Inter Data Separated by Commas - Do Not use Spaces Inter a Blank Line to Quit Inter Date,Price,Volume xample: 8/28/20,47.85,10550 nter Date,Price,Volume: 11/11/22, 14.50,57340000 nter Date,Price,Volume:
Stock List: [MSFT AAPL F GM] Which stock do you want to use?: F Leady to add data for: F Inter Data Separated by Commas - Do Not use Spaces Inter a Blank Line to Quit Inter Date,Price,Volume ixample: 8/28/20,47.85,10550 Inter Date,Price,Volume: 11/11/22, 14.50,57340000 Inter Date,Price,Volume:
Which stock do you want to use?: F Ready to add data for: F Inter Data Separated by Commas - Do Not use Spaces Inter a Blank Line to Quit Inter Date,Price,Volume xample: 8/28/20,47.85,10550 Inter Date,Price,Volume: 11/11/22, 14.50,57340000 Inter Date,Price,Volume:
Ready to add data for: F Enter Data Separated by Commas - Do Not use Spaces Enter a Blank Line to Quit Enter Date,Price,Volume Example: 8/28/20,47.85,10550 Enter Date,Price,Volume: 11/11/22, 14.50,57340000 Enter Date,Price,Volume:
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nter Date,Price,Volume xample: 8/28/20,47.85,10550 inter Date,Price,Volume: 11/11/22, 14.50,57340000 nter Date,Price,Volume:
xample: 8/28/20,47.85,10550 nter Date,Price,Volume: 11/11/22, 14.50,57340000 nter Date,Price,Volume:
nter Date,Price,Volume: 11/11/22, 14.50,57340000
nter Date.Price.Volume:
ate Entry Complete
ress Enter to Continue ***
tock Analyzer
. – Add Stock
- Delete Stock
- List stocks
- Add Daily Stock Data (Date, Price, Volume)
- Show Chart
- Investor Type
- Load Data
- Exit Program
nter Menu Option:

Inherited Classes

This part of the project uses inheritance to develop different account types. And a menu interface for the console.

Inherited classes

• Paste a screen shot of your classes

• •	•	account_class.py — inStock	08
ß	🍦 stock	_class.py	
	🏓 acco	punt_class.py > 😂 Robo	
	95 96	<pre>print("Successful!") except:</pre>	
	97 98 99	<pre>print("***Adding Robo Account Failed!") error_count = error_count+1 error_list_append("Robo_Constructor_Error")</pre>	
\$ ¢	100 101	# Test Change years	
пO	102	<pre>print("Test Change Balance",end="") true</pre>	
⊞	105	testRobo.years = 1000	
₫	105 106 107	<pre>if testRobo.years == 1000: print("Successful!")</pre>	
	108 109	else: print("***ERROR! Years change unsuccessful.")	
Ro	110 111	<pre>error_count = error_count+1 error_list.append("Years Change Error")</pre>	
	112 113	except: print("***ERROR! Years change failed.")	
	114	error_count = error_count+1	
	115	<pre>error_list.append("Years Change Failure")</pre>	
	116	# Test investment return	
	118	<pre># rest investment return " end="")</pre>	
	119	try:	
	120	testRobo.years = 1000	
	121	<pre>testRobo.balance = 1</pre>	
	122	<pre>if testRobo.investment_return() == 1050:</pre>	
	123	print("Successful!")	
	124	else:	
	125	<pre>print("***ERROR!Investment return unsuccessful.")</pre>	
	126	error_count = error_count+1	
\bigcirc	127	error_list.append("investment return Error")	
8	120	except:	
	130	error count = error count+1	
503	131	error_list.append("Investment Return Failure")	
90	122		
m على	ain* 🗸	Spaces: 4 UTF-8 LF (Python 3.10.7 ('venv': venv)	Ų

Unit Tests

 Paste a screen shot of your unit tests successfully completed

••	•	account_class.py — inSt	ock						
G	🅏 stock	_class.py 🛛 ಿ account_class.py U 🗙 🍦 sto	ck_menu_v3.py M ●	≣ E. ▷ ∽					
	acco	unt_class.py > 🛇 main							
Q	95	<pre>print("Successful!")</pre>							
l ´	96	except:							
9 o	97	<pre>print("***Adding Robo Account Failed</pre>	l!")						
64	98	error_count = error_count+1							
	99	error_list.append("Robo Constructor	Error")						
	100								
~	101	# lest Change years							
	102	true							
ШШ –	103	try: testBobo years - 1000							
	105								
Ā	106	if testRobo.vears == 1000:							
	107	<pre>print("Successful!")</pre>							
P.	108	else:							
	109	<pre>print("***ERROR! Years change ur</pre>	isuccessful.")						
	110	<pre>error_count = error_count+1</pre>							
8	111	error_list.append("Years Change	Error")						
	112	except:							
	113	<pre>print("***ERROR! Years change failed</pre>	-")						
	114	error_count = error_count+1	uroll)						
	112	error_tist.append("rears change Fail	ure")						
	PROBLE	AS OUTPUT DEBUG CONSOLE TERMINAL JI	JPYTER	+~ ^ ×					
	6 - Inv	vestor Type		💶 ▷ Python					
	7 - Loa 0 - Ex ⁻	d Data † Program		Python					
	Enter M	lenu Option: 0							
	Goodbye	: mmactache@mac_inStock & /llcorc/mmactache/Dutk	on/inStack/yony/hin	/nv/t					
	hon /Us	sers/mmastache/Python/inStock/account_class.py		rpyc					
	Unit Te	sting Starting							
	Testing	Add Retirement AccountSuccessful!							
	Test C	ange BalanceSuccessful!							
	Test Cl	ange NumberSuccessful!							
(8)	Test C	ange BalanceSuccessful!							
	Test in	westment returnSuccessful!							
503	Goodbye	e							
5	○ (venv)	mmastache@mac inStock %							
۶° ma	ain* 🕂	⊗ 0 🛆 0 🛷 Live Share Spaces: 4 UTF-8	LF {} Python 3.1	0.7 ('venv': venv) 🕺 🗘					

Stock menu program

• Paste a screen shot of your classes in the main program

• •	•			stock_menu_v	v3.py — inS	Stock					08
G	unt_class	s.py U	stock_menu_v	3.ру М •	≣ Extens	ion: SQLite	\$	stock_co	⊳~ ţj		
	🗬 st	ock_menu	_v3.py > 🕅 investme	ent_type							
	91	def inv	/estment_type <mark>(stoc</mark>	k_list):							
	92	pri	int("Investment Ac	count")							
90	93	bal	lance = float(inpu	t("What is	your ini	tial balan	ce: "))				
64	94	nun	<pre>nber = input("What</pre>	is your ac	count nu	mber: ")					
	95	aco	ct= input("Do you"	want a Trad 	litional	(t) or Rob	o (r) ac	count: ")		
	96	11	acct.lower() == "	r":							
	97		years = float(in	put("How ma	iny years	until ret	irement:	··))			
-0	90		robo_acct = Robo	(bacance, n	umber, y	ears)	invoctro	nt notur	()		
Ш	100		print(four inve	schenc recu	irn 15 ,	robo_acct.	TUARTINE	nc_recur	n())		
	100		if acct lower()	0+0.							
五	101		trad acct = Trad	itional(bal	ance nu	mber)					
	102		temp list=[]		unce, nu						
	104		print("Choose st	ocks from t	he list	below: ")					
	105		while True:								
	106		print("Stock	List: [",e	end=""")						- 11
æ	107		for stock in	stock_list							- 11
0	108		print(st	ock.symbol,	" ",end=	"")					- 11
	109		<pre>print("]")</pre>								- 11
	110		symbol = inp	ut("Which s	tock do	you want to	o purcha	se, 0 to	quit: ").upp	er()
	111		if symbol ==	"0":							- 8
	112		break								
	113		shares = flo	at <mark>(</mark> input("H	low many	shares do y	you want	to buy?	: "))		
	114		found = Fals	e							
	115		for stock in	<pre>stock_list</pre>	:						
	116		if stock.s	ymbol == sy	mbol:						
	117		found	= True							
	118		curren	t_stock = s _	tock						
	119		if found ==	True							
	120		current_	stock.buy(s	hares)	1-					
	121		temp_tis	t.append(cu	Irrent_st	OCK)					
	122		print(p	ougni, sna	ires, or	, Symbol)					
6	123		eise:	vmbol Not F	ound yey	u)					
8	124		trad acct add st	ock(temp li	ct)						
	125		crad_accerada_se	oen(cemp_ci							
503	127										
	128	# Funct									
۳ ^و لي	ain* 🕂 🕀	⊗ 0 ∆ 0) 🔗 Live Share	Spaces: 4	UTF-8	CRLF {} I	Python 3	3.10.7 ('vei	nv': venv)	ନ୍ଦ	Q

Stock menu program

• Traditional Account

• •	•	stock_menu	_v3.py — inStock		
G	.int_class.py U	🗬 stock_menu_v3.py M 🔍	≡ Extension: SQL	.ite 🏾 🗬 stock_co	⊳∽ \$3 Ш …
	🕏 stock_menu	_v3.py > 🗘 investment_type			
\mathcal{Q}	74	<pre>print("Ready to add data 1</pre>	or: ",symbol)		
	75	print("Enter Data Separate	d by Commas - Do	Not use Spaces")	
<u>j</u> e	76	print("Enter a Blank Line	to Quit")		
04	77	print("Enter Date, Price, Vo	lume")		
N	79	data = input("Enter Date.	rice.Volume: ")		
₽~	80	while data != "":	1100,0000000000000000000000000000000000		
	81	date, price, volume =	<pre>data.split(",")</pre>		
Ш	82	<pre>daily_data = DailyData</pre>	(date,float(pric	e),float(volume))	-
	83				
Д	84	current_stock.add_data	(daily_data)		
	85	print("Date Entry Complete	ite, Price, volume:		
n Pi	87 els	se:			
i Lui	88	print("Symbol Not Found **	*")		
~	89 _ =	= input("Press Enter to Cont	inue ***")		
6	90				
	91 def inv	<pre>/estment_type(stock_list):</pre>			
	92 pr:	<pre>Int("Investment Account" lance = float(input("What is</pre>) vour initial ba	lance: "))	
	93 Da	mber = input("What is your a	ccount number: ")	
	PROBLEMS O	UTPUT DEBUG CONSOLE TEI	RMINAL JUPYTER		_ + ~ ^ ×
	Enter Menu Op	tion: 6			Python
	What is your	initial balance: 100			Python
	What is your	account number: 7083438183			
	Choose stocks	from the list below:	account: t		
	Stock List: [F GM]			
	How many shar	b you want to purchase, 0 to es do vou want to buv?: 50	quit: F		
	Bought 50.0	of F			
	Which stock d	r om j o you want to purchas <u>e. 0 to</u>	quit: GM		
Ø	How many shar	es do you want to buy?: 50			
	Stock List: [F GM]			
siz	Which stock d	o you want to purchase, 0 to	quit: 0		
203	1 – Add Stock	r			
နိ [ု] ma	ain* 😌 🛞 0 🛆 () 🔗 Live Share Spaces:	4 UTF-8 CRLF	(Python 3.10.7 ('ve	nv': venv) & 다

Stock menu program

Robo Account

• •	•	stock_menu	ı_v3.py — inStock	
ل ل	unt_class.py U	🕏 stock_menu_v3.py M 🏾	≣ Extension: SQLite	🕏 stock_co Þ < ర్ఫి 🖽 …
	🕏 stock_menu	_v3.py > 🛇 add_stock_data		
Q		print("Peady to add data	for: " cymbol)	
/~	74	print(Reduy to duu udta	ed by Commas - Do Not u	se Spaces")
00	76	print("Enter a Blank Line	to Quit")	se spaces y
64	77	print("Enter Date, Price, V	olume")	
	78	print("Example: 8/28/20,4	7.85,10550")	
$\triangleleft_{\mathbf{A}}$	79	<pre>data = input("Enter Date,</pre>	Price,Volume: ")	
1. L	80	while data != "":		
	81	date, price, volume =	data.split(",")	
Ш	82	<pre>daily_data = DailyDat</pre>	a <mark>(date,</mark> float(price),flo	at(volume))
	83			
五	84	current_stock.add_dat	a(daily_data)	
	85	data = input("Enter D	ate,Price,Volume: ")	
	80	print("Date Entry Complet	e")	
		print("Symbol Not Found *	الىب	
	80	- input("Press Enter to Con	tinue +++")	
\overrightarrow{a}	90		LING TTT /	
0	91 def inv	vestment type(stock list):		
	92 pr:	int("Investment Account	")	
	93 ba	<pre>lance = float(input("What i</pre>	s your initial balance:	"))
	94 nur	mber = input("What is your	account number: ")	
	PROBLEMS O	UTPUT DEBUG CONSOLE TE	RMINAL JUPYTER	+~ ^ ×
	Press Enter t	o Continue ***		Python
	Stock Analyze	r		
	1 – Add Stock 2 – Delete St	ock		E Python
	3 – List stoc	ks		
	4 - Add Daily	_Stock Data (Date, Price, Vo	lume)	
	5 - Snow Char 6 - Investor	t Type		
	7 – Load Data	.,,,-		
	0 - Exit Prog	ram		
	Investment Ac	count		
0	What is your	initial balance: 1		
	What is your a	account number: 63043/2685 Traditional (t) or Robo (r)	account: r	
~~~	How many years	s until retirement: 57		
રંડર	Your investme	nt return is 59.85		
۶º m	iain* 🕂 🛞 0 🛆 (	0 중 Live Share Spaces:	4 UTF-8 CRLF { Pyth	non 3.10.7 ('venv': venv) 🖗 🗘

#### Github Push

	-	stock_mend_vo.py — motock		
۲ م	unt_class.p	y 🔮 stock_menu_v3.py ● 🛛 🗏 Extension: SQLite	stock_console.py	$\triangleright$ ~ $\square$ …
	🕹 stocl	k_menu_v3.py > 🕞 add_stock_data		
$\mathcal{Q}$	74	print("Ready to add data for: ",symbol)		
Í	75	<pre>print("Enter Data Separated by Commas - Do No</pre>	t use Spaces")	
የዖ	76	<pre>print("Enter a Blank Line to Quit")</pre>		
6	77	<pre>print("Enter Date,Price,Volume")</pre>		
	78	print("Example: 8/28/20,47.85,10550")		
☆ ^{&gt;}	79	<pre>data = input("Enter Date,Price,Volume: ")</pre>		
	80	while data != "":		
	18	<pre>date, price, volume = data.split(",") datily_data = DailyData(data_float(price))</pre>	float(volume))	
	02 83	daity_data = DaityData(date, Ftoat(price),		
Π.	84	current stock.add data(daily data)		
A	85	<pre>data = input("Enter Date, Price, Volume: ");</pre>		
	86	<pre>print("Date Entry Complete")</pre>		
P	87	else:		
	88	print("Symbol Not Found ****")		
	89	<pre>_ = input("Press Enter to Continue ***")</pre>		
6	90			
	91	<pre>def investment_type(stock_list):</pre>		
	92	<pre>print("Investment Account")</pre>		
	93	<pre>balance = float(input("What is your initial baland works = deput("What is your another "")</pre>	ce: "))	
	94	<pre>number = input("What is your account number: ")</pre>		
	PROBLE	MS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER		$+ \sim \sim \times$
		commit	•• [>	Python
	• (venv)	mmastache@mac inStock % git commit —m "Module 4" 551d7c6l Module 4	< ا	Python
	4 file	es changed, 185 insertions(+), 4 deletions(-)		
	create	e mode 100644pycache/account_class.cpython-310.pyc		
	create	e mode 100644 account_class.py mmastache@mac inStock % git nush https://github.com/dem	nkigish/inStoc	
	k.git		intigion, inscoo	
	Enumera	ating objects: 11, done.		
	Delta d	compression using up to 4 threads		
	Compres	ssing objects: 100% (7/7), done.		
	Writing Total 7	g objects: 100% (7/7), 3.75 KiB   3.75 MiB/s, done. 7 (delta 4) _ reused 0 (delta 0) _ pack_reused 0		
$\sim$	remote:	Resolving deltas: 100% (4/4), completed with 4 local of	objects.	
572	To http	ps://github.com/denkigish/inStock.git		
225	<ul> <li>(veny)</li> </ul>	mmastache@mac inStock %		
နို ma	in ↔0↓	1↑ ⊗ 0 🛆 0 🔗 Live Share Spaces: 4 UTF-8 CRLF { }	Python 3.10.7 ('venv': v	env) & 다

### Charts

In this section, we use the matplotlib library to display charts for the stock data.



#### Chart

• Paste a screen shot of your stock chart.



#### Code

SOURC $E \checkmark 0 \cdots$ Image: stock_menu_v3.py M × image: stock_console.py       Image: stock_menu_v3.py > 0 display_chart         Message (#Enter to c       Image: stock_menu_v3.py > 0 display_chart       Image: stock_menu_v3.py > 0 display_chart         Volume       Image: stock_menu_v3.py > 0 display_chart       Image: stock_menu_v3.py > 0 display_chart         Volume       Image: stock_menu_v3.py > 0 display_chart       Image: stock_menu_v3.py > 0 display_chart         Volume       Image: stock_menu_v3.py > 0 display_chart       Image: stock_menu_v3.py > 0 display_chart         Volume       Image: stock_menu_v3.py > 0 display_chart       Image: stock_menu_v3.py > 0 display_chart         Volume       Image: stock_menu_v3.py > 0 display_chart       Image: stock_menu_v3.py > 0 display_chart         Volume       Image: stock_menu_v3.py > 0 display_chart       Image: stock_menu_v3.py > 0 display_chart         Image: stock_menu       Image: stock_menu_v3.py > 0 display_chart       Image: stock_menu_v3.py > 0 display_chart         Image: stock_menu       Image: stock_menu       Image: stock_menu       Image: stock_menu         Image: stock_menu       Image: stock_menu       Image: stock_menu       Image: stock_menu         Image: stock_menu       Image: stock_menu       Image: stock_menu       Image: stock_menu         Image: stock_menu       Image: stock_menu       Image: stock_menu       Image: stock_menu	<pre>SOURC 〒 ✓ Ů ···</pre>
Message (#Enter to c	<pre>Message (#Entor to c</pre>
<pre># Author: Miguel Mastache # Date: 11/11/22 from datetime import datetime from stock_class import Stock, DailyData from account_class import Taditional, Robo import matplotlib.pyplot as plt import csv  def add_stock(stock_list):     option = ""     while option != "0":         print("Add stock")         symbol = input("Enter Ticker Symbol: ").upper()         name = input("Enter Company Name: ")         shares = float(input("Enter Momber of Shares: "))         rew_stock = stock(stock_list):         option = input("Enter Company Name: ")         shares = float(input("Enter to Add Another Stock or 0 to Stop: ")  # Remove stock and all daily data def delete_stock(stock_list):         print("Stock List: [", end = "")         for stock in stock_list:</pre>	39     found = True       40     stork list.non(i)       PROBLEMS     OUTPUT       DEBUG CONSOLE     TERMINAL       JUPYTER     + < ^

#### File Processing

This section covers file processing, by developing file saving code, and importing of saved data in csv format.



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#### Code

		stock_menu_v3.py — inStock	
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8	) OUTLINE	<pre>26 77 # Docume stadt and all delta data PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER Profit/Loss:\$115.87 2022-12-01 14.41 14360500.0 Low Price: \$122.10 High Price: \$127.97 Average Price: \$37.77 Average Price: \$37.77 Average Volume: 19399999999 Highe Volume: 46540400.0 Average Volume: 15.87 72022-12-02 14.62 10800800.0 Low Price: \$12.10 High Price: \$127.97 Average Price: \$37.68 Low Volume: 83999999999 Highe Volume: 13309504.365079366 Change in Price: \$15.87 Profit/Loss:151.5.87 ***** No daily history</pre>	+ ∨ ∧ × > zsh > Python
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#### Importing data

 Screenshot of the historical data import



Date

#### Importing data

• Screenshot of the historical data import

••	•	stock_menu_v3.py — inStock	E 🗆 🖽 08
Сh	EXPLORER ···	🕏 stock_menu_v3.py M × 🔮 stock_console.py	⊳∨ ಭ ⊞ …
		stock_menu_v3.py > I add_stock	
Q	>pycache		
1	> .vscode	5 @author: D99003734	
90	> venv		
62	♦ .gitignore		
	account class.pv	8 # Date: 12/3/22	
± ± >	AFRM.csv U	9 From datetime import datetime	
	README.md	11 from account class import Traditional, Robo	
FR-		12 import matplotlib.pyplot as plt	
	<pre>stock_console py</pre>	13 import csv	
Д	stock data py	14	
	stock_data.py	15 16 dof odd stock(stock list):	
<b>.</b>		17  option = ""	
	= stock_menu_v3.by	18 while option != "0":	
~		19 print("Add stock")	
6		<pre>20 symbol = input("Enter Ticker Symbol: ").upper()</pre>	
	Stocks.py	21 name = input("Enter Company Name: ") 23 charact = float(input/"Enter Number of Charact "))	
		23 new stock = Stock(symbol, name, shares)	
	Utilities.py	24 stock_list.append(new_stock)	
	webScraping.ipynb	<pre>25 option = input("Stock Added - Enter to Add Another Stock or 0 to Stop</pre>	
		26	
			$\pm$ $\sim$ $\times$
		Average Price: \$37.68	≥ zsh
		Highe Volume: 86940400.0	Direction Python
		Average Volume: 14309504.365079366 Change in Price: \$115.87	
		Profit/Loss:\$115.87	
		**** No daily history	
		Report for: TSLA TESLA	
		**** No daily history	
		Report complete	
		Press Enter to Continue ***	
		1 – Add Stock	
		2 – Delete Stock	
		3 – LIST STOCKS 4 – Add Daily Stock Data (Date, Price, Volume)	
		5 - Show Chart	
		7 – Load Data	
		0 - Exit Program	
~~~~		Stock List: [AFRM TSLA ]	
503		Which stock do you want to use?: AFRM Press Enter to Continue ####	
<u>}</u> m	nain* 🕂 🛞 0 <u> 0</u> 🔗 L <u>ive Sh</u>	are Ln 18, Col 25 Spaces: 4 UTF-8 CRLF () Python 3.10.7 ('w	env': venv) 🔗 🚨



GUI

This section covers the development of the graphical user interface for the stock tracking application.

Code

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38 self.filemenu.add_separator() ************************************		 INSTOCK INSTOCK Sycarke Sycarke Sycarke gliginore account_class.py Gacount_class.py a AFRM.dess a Contentiver BIM.csw GRADME.md stock_class.py Method Diagram.drawio utilities.py WebScraping.jpynb 	<pre>stock_GUIPy > i # Summary: Inis module contains the user interface and logic for a # Summary: Inis module contains the user interface and logic for a # Author: Higuet Mastache # Date: 12/7/22 from diatetime import datetime from tkinter import tatetime from stock_class import Stock, Dailydata from utilities import totex, Dailydata from utilities import tatetime from tister(stock_data from tister(stock_data) from tister(</pre>	
	8		38 self.filemenu.add_separator() PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL ○ mmastache@mac inStock %) 🗰
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Stocks in GUI

Paste a screen shot of your
 GUI working

•••	inStock Stock Manager
	Tesla - 1.0 Shares
Sto	ocks
AAPL AFRM F GM MSFT TSLA	Manage History Report Add Stock Symbol Name Shares Vupdate Shares Shares Buy Selected Stock Sell Selected Stock
	Delete Stock Delete Selected Stock

History Tab

• Paste a screen shot of your History tab with import working.

• • •	inStock Stock Manager
	General Motors - 1.0 Shares
Stocks	
AAPL AFRM	Manage History Report
r GM MSFT	11/17/22 \$4.00 200.0 11/18/22 \$5.00 300.0
TSLA	11/19/22 \$6.00 400.0

Report Complete

 Paste a screen shot of your Report tab

	inStock Stock Manager
	Tesla - 1.0 Shares
Stocks	
AAPL AFRM F GM MSFT TSLA	ManageHistoryReportSummary 11/17/22 to 11/19/22Low Price: \$6.00High Price: \$8.00Average Price: \$7.00Low Volume: 200.0High Volume: 600.0Average Volume: 366.66666666666667Starting Price: \$6.00Ending Price: \$2.00Profit/Loss: \$2.00Report Complete

Challenges

A few challenges were faced in the development of this project. First and foremost, I am not a fan of the limitations imposed by Anaconda. I prefer to use a clean version of python without the conda package. Therefore, I had to learn how to use Visual Studio Code, venv, and pip. Additionally, keeping track of all the installation packages proved to be challenging, but using virtual environments helped address this.

Career skills developed

I became familiar with the use of pyenv on macOS. Used virtual environments using venv. Used pip to manage python packages. Became familiar with Visual Studio Code. Used object oriented programming. Became familiar with gui development using tkinter.

Conclusion

Development of this app, allowed me to see how different pieces of software come together and work together to develop a modern gui based application. Additionally, introduced me to further areas of pursuit, in particular web scraping, database processing, and gui development.