

Bob Trieste

Java, Python - 2019.

- [AWS setup environment](#)
- [Scripting in TD Ameritrade's thinkorswim](#)
- [Python](#)
- [Java](#)

Sample of Java & Python projects as well as workflow.

- Java core programming in IntelliJ IDE, JDBC implementation, MySQL, TDD, J-Unit and Mockito testing.
- Spring Frameworks, Spring Boot, Eureka microservices, REST APIs, MVC design.
- Python (NumPy, Pandas, SciPy, matplotlib), Jupyter Notebook & Spyder IDE.
- Amazon Web Services (AWS) EC2 & Lambda, Twilio API, HTTP, HTML.
- GitHub, Jenkins, Blue Ocean, Docker and other utilities, services and protocols for software CI/CD.

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<https://github.com/bobtreehouse> (<https://github.com/bobtreehouse>)

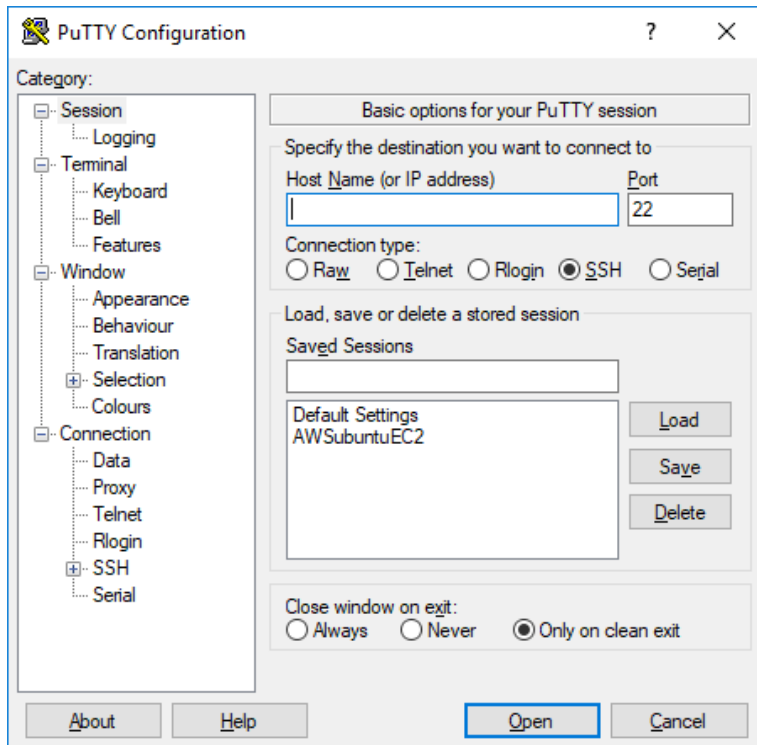
<http://bit.ly/BobTbio> (<http://bit.ly/BobTbio>)

- This interactive Python notebook contains screenshots and code examples.
- It can be downloaded and run in locally in Jupyter Notebooks or as a PDF. Source code for Python and Java projects may also be found in the root directory of this repository or in other public repositories on my GitHub page.

AWS EC2 Instance for hosting and running apps in the cloud.

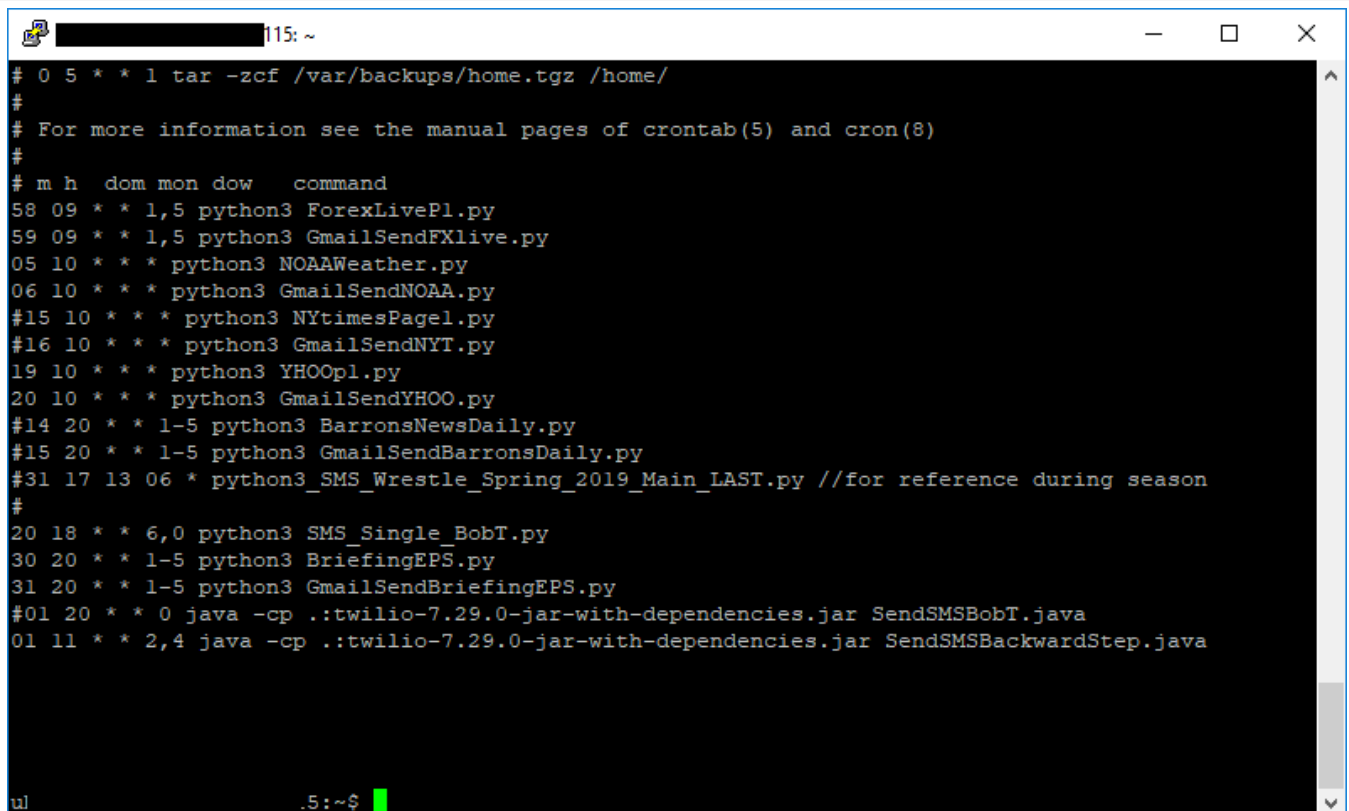
- I employ an Ubuntu-Linux version of Amazon Web Services EC2 remote server to host and run certain code and services.
- the server is in Amazon's US-Ohio-East region.
- I connect through a PuTTY SSH client.

```
In [10]: from IPython.core.display import Image, display
PATH = "C:/Users/bobtr/OneDrive/GitProjectFolder/JavaPython2019/ScreenShots/"
display(Image(filename = PATH + "PuTTYsshClient.png", width=452, height=442))
```



I use software utility cron (UTC time-based job scheduler for Unix operating systems) to schedule repetitive tasks.

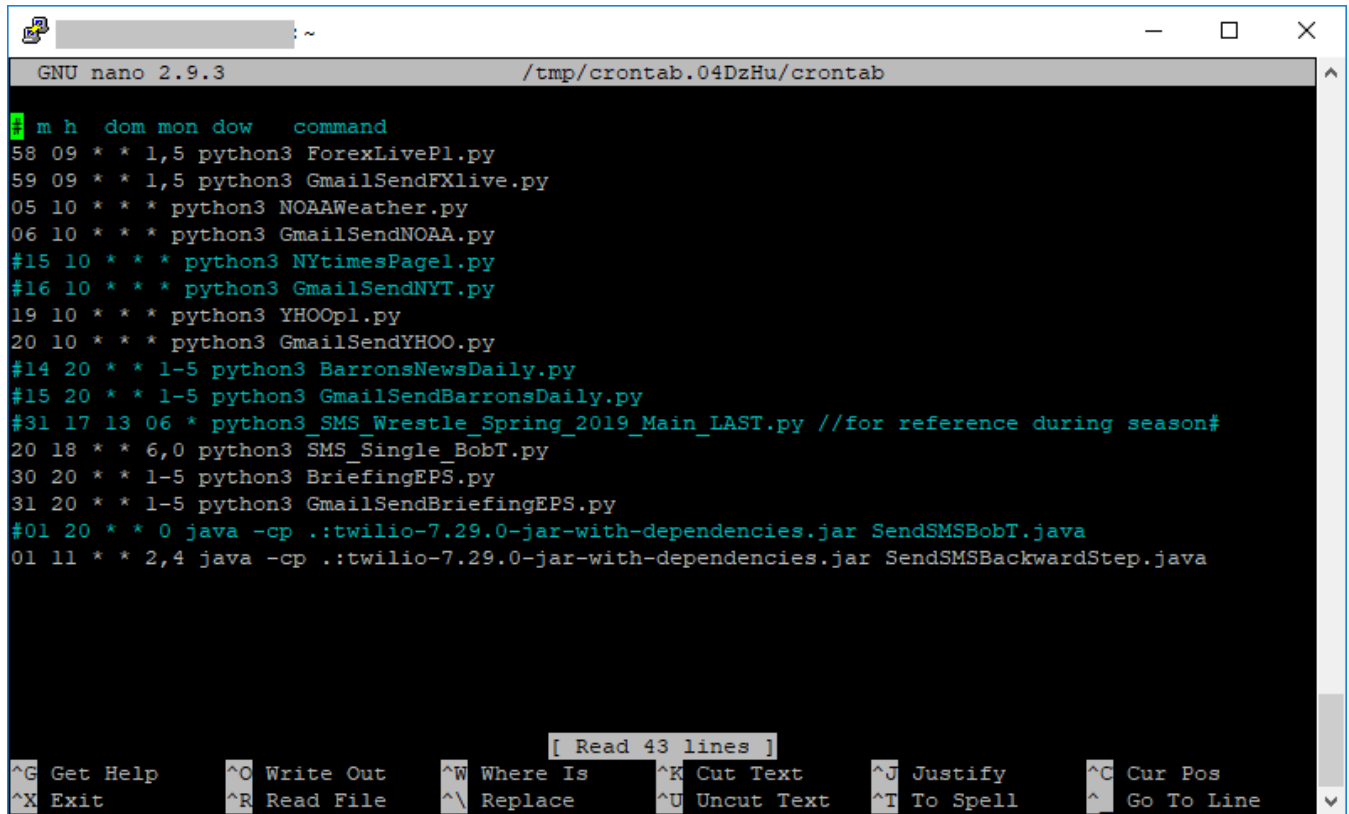
```
In [11]: from IPython.core.display import Image, display
PATH = "C:/Users/bobtr/OneDrive/GitProjectFolder/JavaPython2019/ScreenShots/"
display(Image(filename = PATH + "CRONTABAWS.png"))
```



Java and Python programs sit side by side and can be set to repeat at custom intervals or scheduled to run at a specified time in the future.

A python script written in conjunction with use of the Twilio texting API was used to send automated text messages out on regular intervals to members of a sports team for reminders. This code was later ported into Java code and run with a Twilio JAR dependency.

```
In [12]: from IPython.core.display import Image, display
PATH = "C:/Users/bobtr/OneDrive/GitProjectFolder/JavaPython2019/ScreenShots/"
display(Image(filename = PATH + "CRONeditAWS.png"))
```



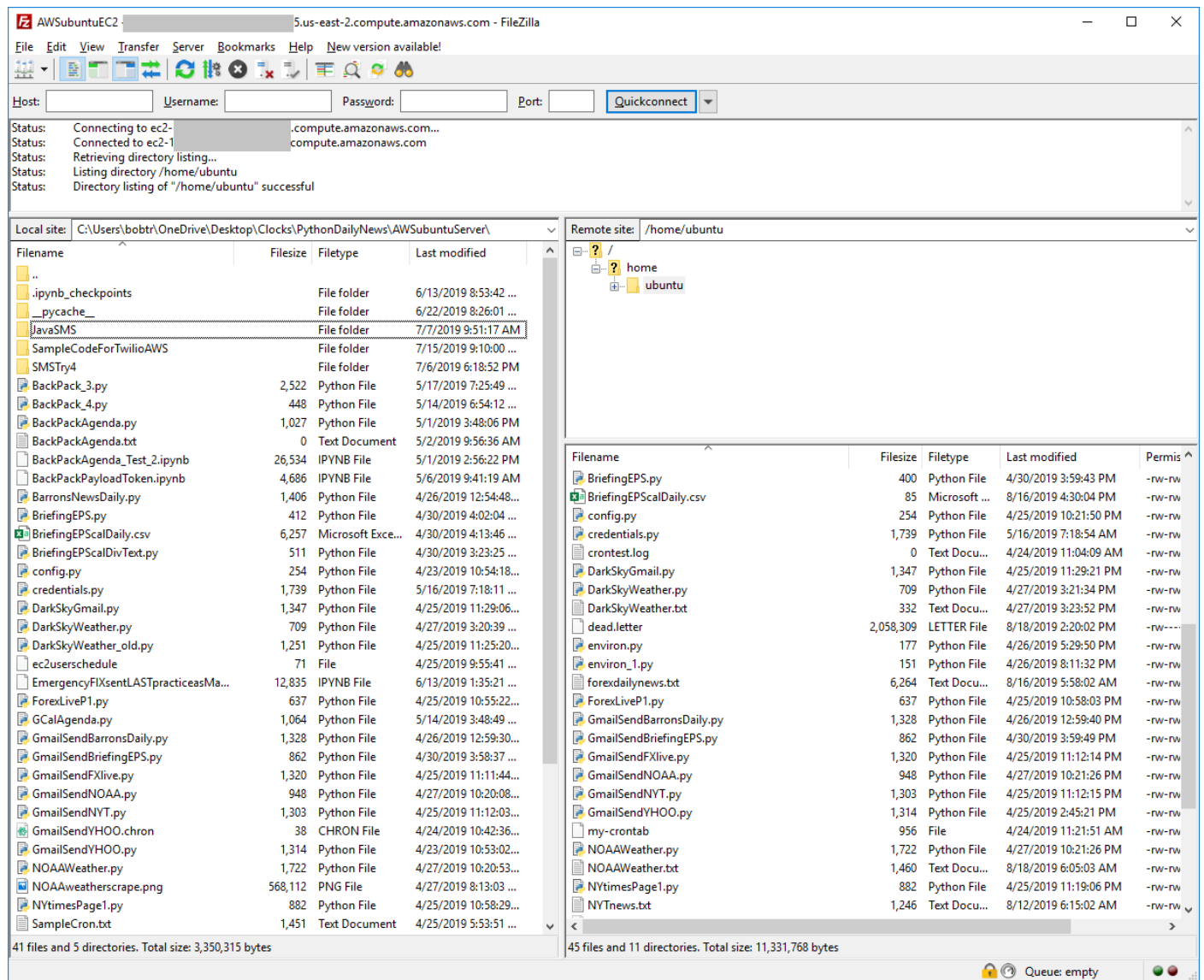
```
GNU nano 2.9.3 /tmp/crontab.04DzHu/crontab

# m h dom mon dow   command
58 09 * * 1,5 python3 ForexLivePl.py
59 09 * * 1,5 python3 GmailSendFXlive.py
05 10 * * * python3 NOAAWeather.py
06 10 * * * python3 GmailSendNOAA.py
#15 10 * * * python3 NYtimesPage1.py
#16 10 * * * python3 GmailSendNYT.py
19 10 * * * python3 YHOOpl.py
20 10 * * * python3 GmailSendYHOO.py
#14 20 * * 1-5 python3 BarronsNewsDaily.py
#15 20 * * 1-5 python3 GmailSendBarronsDaily.py
#31 17 13 06 * python3 SMS_Wrestle_Spring_2019_Main_LAST.py //for reference during season#
20 18 * * 6,0 python3 SMS_Single_BobT.py
30 20 * * 1-5 python3 BriefingEPS.py
31 20 * * 1-5 python3 GmailSendBriefingEPS.py
#01 20 * * 0 java -cp .:twilio-7.29.0-jar-with-dependencies.jar SendSMSBobT.java
01 11 * * 2,4 java -cp .:twilio-7.29.0-jar-with-dependencies.jar SendSMSBackwardStep.java

[ Read 43 lines ]
^G Get Help  ^O Write Out  ^W Where Is  ^K Cut Text  ^J Justify   ^C Cur Pos
^X Exit      ^R Read File  ^\ Replace   ^U Uncut Text ^T To Spell  ^_ Go To Line
```

Files can be managed between a local machine and remote server with FileZilla FTP client.

```
In [20]: from IPython.core.display import Image, display
PATH = "C:/Users/bobtr/OneDrive/GitProjectFolder/JavaPython2019/ScreenShots/"
display(Image(filename = PATH + "FileZillaAWS.png"))
```



Here are some samples of web text-scrappers to read and parse daily morning news and deliver seamlessly to an e-mail inbox.

In [14]:

```
#-*- coding: utf-8 -*-
"""
Created on Sun Jan 20 20:22:57 2019

@author: bobtr
"""
import bs4 as bs
import urllib.request

save_path = ''

sauce = urllib.request.urlopen('https://www.forexlive.com/').read()
soup = bs.BeautifulSoup(sauce, 'lxml')

nav = soup.nav
body = soup.body

for paragraph in body.find_all("div",{"class":"teaser-text"}):
    print(paragraph.text)

    filename = "forexdailynews.txt"
    f = open(filename, "w")
    body = soup.body
    text = soup.text
for paragraph in body.find_all("div",{"class":"teaser-text"}):
    f.write(paragraph.text)
    f.write('\n')
f.close()
```

- US President Trump remarks to media
- China wants to make a deal, we'll see what happens
- China's President Xi has something in mind to do with trade
- Greenland is strategically interesting

Via the), the paper say they have the full copy of an unprecedented leak of government documents
Sunday Times (gated

"This is not Project Fear-this is the most realistic assessment of what the public face with no deal. These are likely, basic, reasonable scenarios-not the worst case," a senior government source told the Sunday Times.

Speaking on a TV interview, Navarro said
More here.

Dunno where he was with these comments on the day US equities were getting smashed.
ForexLive

Trump upbeat on China talks:

Whit House economic adviser Larry Kudlow has also been unleashed, doing Sunday television interviews:

- "No, I don't see a recession"

On China talks:

A piece in the Hong Kong press (South China Morning Post) with remarks from a former SAFE (State Administration of Foreign Exchange) official
if you'd like more

German Finance Minister Olaf Scholz spoke on Sunday,

- Said Germany has fiscal strength
- is thus able to counter future economic crisis "with full force"
-

Good morning, afternoon or evening & welcome to Monday morning.

Monday morning market liquidity is very thin. Prices can swing around on not too much at all, so take care out there. Liquidity improves as more Asian centres come on online.

Upbeat comments from the Prez.

No details, of course, the market will discount the bluster quickly.
ForexLive

What's coming next for global markets

Bonds are painting an ever-dour message on Fed policy, an end to globalisation and slower global growth. We look ahead to next week.

If you have a spare hour (I know, who does

these days?), I have put down the link for my recent webinar on using volatility as a framework to manage risk. It breaks down this spreadsheet and how you can apply/understand risk reversals, the weekly Commitment of Traders report and have a deeper perspective on implied and realised volatility -

The euro is the linchpin holding everything together, but it's breaking

The euro closed the week at the lowest level in two years but this might be just the beginning. The ZEW survey this week showed economic expectations tanking and the euro won't be far behind unless Merkel reverses course and starts spending. If the euro goes, it will set off a cascading series of events, as I explain in this video.

Not clear where the tanker is headed

A Gibraltar court released the Grace 1 tanker on Saturday and the ship is preparing for departure.

The move came despite US objections and appeals. The US government issued a warrant to seize the ship, saying all oil aboard the ship is subject to forfeiture due to a "scheme to unlawfully access the US financial system to support illicit shipments" of oil in violations of sanctions.

The central bank rundown

The weekend is a perfect time for a quick catch up for where the major central banks are at. The central banks will be listed with the most bearish central bank first which will be, drum roll please, and no surprise it's the Bank of England winning the current battle of the bears

Forex news for NY trading on August 16, 2019

Yes this week, had a day when the Dow and Nasdaq each fell over 3%. However, this week was really about yields.

Major indices close up 1.2% or better

The major US indices are closing with provisional gains of 1.2% or better.

The numbers are showing

- The S&P index rose 41.12 points or 1.44% at 2888.71

For the week, despite the solid gains today, the major indices are ending the week with losses (but it could

d have been worse).

Forex futures positioning data among noncommercial traders for the week ending August 13, 2019

Highlights:

ForexLive

Fed Chair Powell speaks at Jackson Hole Economic Policy Symposium on Friday

The meeting minutes from the last FOMC meeting will be released on Wednesday at 2 PM ET/1800 GMT. The market is very sensitive to what the Fed might do at their next policy meeting in September. There is a 100% chance for a rate cut, with the market currently pricing in a 32% chance for 50 bps.

Fed's Mester (non-voter in 2019) speaking. She is generally considered more hawkish.

Loretta Mester is speaking. She is a nonvoting member of the Fed in 2019 and is generally considered more hawkish:

Up \$0.40 or 0.73%

The high price today extended to \$55.67, while the low fell to \$54.26.

The price last Friday close at \$54.27. The high for the week reached \$57.45 on Tuesday. That was up 5.86% at the highs. The decline from the high reached \$53.77 (a 6.4% decline from the high). For the week, the gain is 1.1%.

Speaking to the London Times

HERE

There is little reaction in the GBP on the back the comments in the article.

ForexLive

Reported earlier today

Somehow, I missed the release of the weekly NY Fed GDP Nowcast for 3Q growth.

In the current week, the index rose from 1.58% to 1.82%. The Atlanta Fed GDPNow forecast also rose this week from 1.9% to 2.2%.

MA will be remembered for the bounces on dips...

The price of gold is trading down \$-9.08 at \$1514.21. The low price extended to \$1503.77. The high price reached \$1528.10 today.

NASDAQ index down only -0.69% on the week. S&P index -0.94%. Both were down over -3% at the lows for the week

The Nasdaq has ticked to a new session high and is down only 0.69% on the week. At the lows, the Nasdaq fell -3.06% from the close last week at 7959.84. The price just reached a new session high at 7905.35.

According to sources at Buzzfeed

The UK PM Boris Johnson is to meet France's Macron and Germany's Merkel next week. This according to Buzzfeed.

Minneapolis Fed Pres. Neil Kashkari

The Minneapolis Pres. Neil Kashkari speaks on CNN:

Kashkari is not a voting member in 2019

ForexLive

the scraped web content sent via e-mail

```
In [24]: from IPython.core.display import Image, display
PATH = "C:/Users/bobtr/OneDrive/GitProjectFolder/JavaPython2019/ScreenShots/"
display(Image(filename = PATH + "WSJnewsAutoEmail.png"))
```



Can be customized for other news surces with a sample of the code output below.

In [16]:

```
# -*- coding: utf-8 -*-
"""
Created on Mon Jan  7 18:30:25 2019

@author: bobtr
"""
import bs4 as bs
import urllib.request

save_path = ''
sauce = urllib.request.urlopen('https://www.barrons.com/real-time').read()
sauce2 = urllib.request.urlopen('https://finance.yahoo.com/').read()
soup = bs.BeautifulSoup(sauce, 'lxml')
soup2 = bs.BeautifulSoup(sauce2, 'lxml')
nav = soup.nav
nav2 = soup2.nav
body = soup.body
body2 = soup2.body
text = soup.text

for paragraph in body.find_all("h3"):
    print(paragraph.text)

for paragraph in body2.find_all("h3"):
    print(paragraph.text)

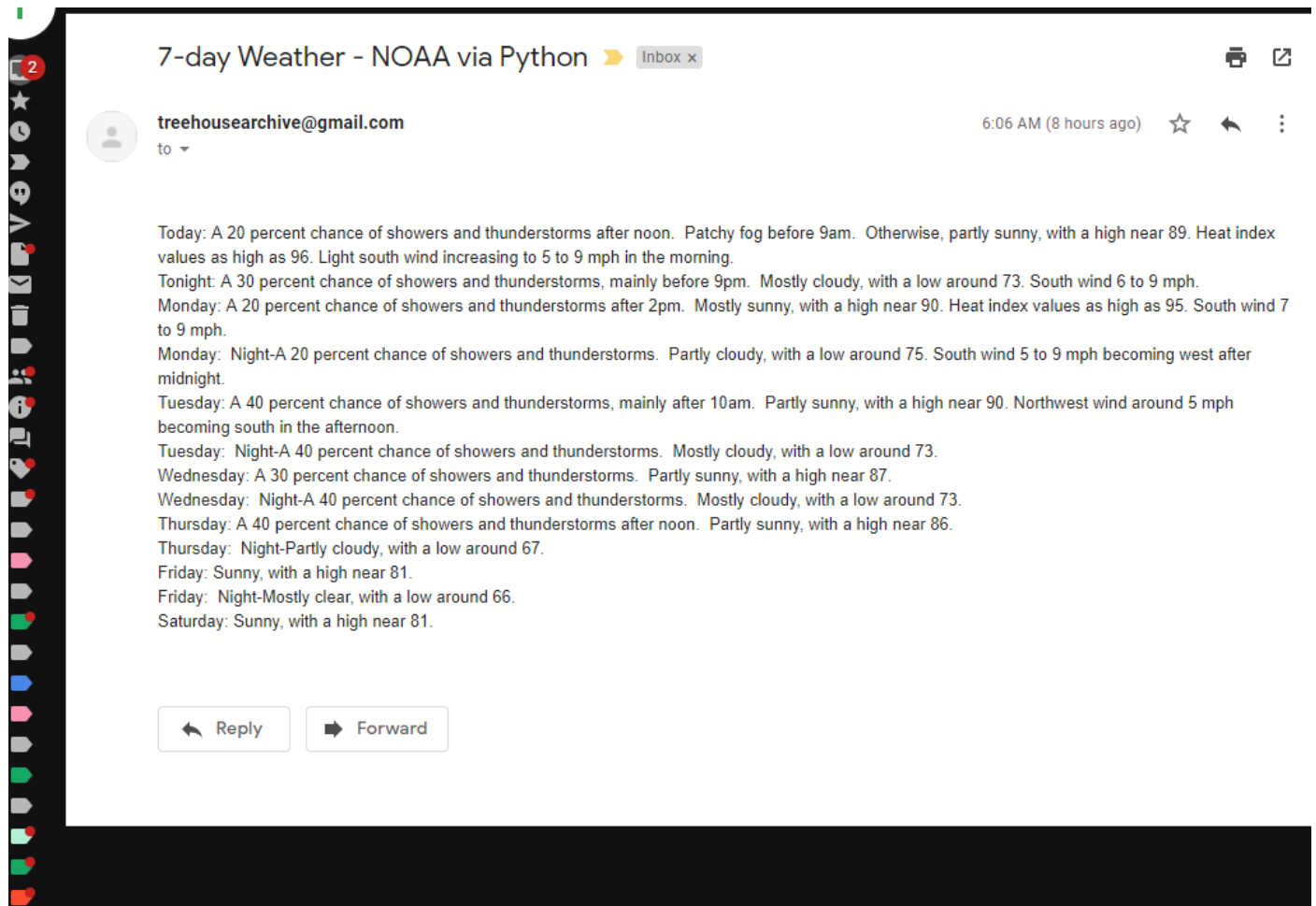
    filename = "BarronsDailynews.txt"
    f = open(filename, "w")
    body = soup.body
    text = soup.text
    for paragraph in body.find_all('h3'):
        f.write(paragraph.text)
        f.write('\n')
        #f.write("")
    for paragraph in body2.find_all('h3'):
        f.write(paragraph.text)
        f.write('\n')
f.close()
```

Home Depot, L Brands, Analog Devices and More Stocks to Watch
Retirement Reboot: How to Play Catchup After Being Out of Work
Yale Built a Large Stake in Slack Stock
The No. 1 Job in America with the 'Best Career Opportunities' Pays \$112,000 a Year – and It's Not in Tech
South Korea's Sovereign-Wealth Fund Sold Tesla Stock – and Bought Uber and GM
What to Watch for in Baidu Earnings
Merger Arbitrage Fund Managers Share What They're Seeing
PG&E Will Get to Steer Its Own Reorganization, Judge Rules
Tensions Over Huawei Are About to Hit the U.S.-China Trade War Again
Stanford Now Owns Stakes in Uber and Pinterest Stock
Harvard University Sold Apple and Facebook Stock – and Bought Alphabet
Oil and Gas Stocks to Love
Big IPOs, Like Beyond Meat, Have Had a Good Year. WeWork Wants In.
In the Lingo of a Trade War, Tariffs Are Just So 80s
Stocks Swing Wildly as Yield Curve Flips. Is There a Recession Out There?
When Defensive Stocks Are No Longer the Best Defense
Myriad Genetics Runs Into Trouble With the F.D.A.
ViacomCBS: We've Seen This Show Before
A Really Cool Plan: Cut Interest Rates and Buy Greenland
Letters to Barron's
30 business leaders who have backed Trump
Jackson Hole – What to know in the week ahead
Soaring U.S. health care costs hit employer plans
Mark Cuban explains how to make a 16% guaranteed return
How to Use a P/E Ratio When Picking Stocks
Kevin O'Leary: This easy math trick helps you crush retirement goals
These 16 money wasters are why so many Americans can't save for retirement
I built a nest egg of \$1 million and I'm only 46 – so why do I still spend my waking hours worrying?
Senior rip-offs are soaring—and you won't believe who the crooks are
The No. 1 Job in America with the 'Best Career Opportunities' Pays \$112,000 a Year – and It's Not in Tech
General Electric's (GE) Biggest Bull Is Unfazed by Harry Markopolos' Bearish Report
Hedge Fund Legend Jim Simons Pours Money Into Aurora Cannabis (ACB) and Aphria (APHA) Stocks
Recession watch: 6 financial moves to make when the economy slows down
Saudi Oil Fields Are in the Firing Line as Gulf Conflicts Rage
Here's the game plan for U.S. stock investors if China retaliates against Trump
Copy insiders and buy these stocks – because they see no recession looming
The \$4 billion time bomb ticking away inside the biggest marijuana companies
Briggs & Stratton stock falls to 44-year low after surprise loss, dividend cut and plant closure
Wall Street Has Abandoned Oil and Gas Stocks. You Shouldn't.
This 31-year-old sold \$700,000 of stuff online without buying any inventory and the one silver lining for t
he real-estate market in July
Door-to-door thieves are using DNA tests to scam you
These homeowners are putting a floor under house prices
Here's what smart rich people really do with their nest egg
The new math of saving for retirement may boil down to this one, absurdly simple rule
Baidu Reports Earnings With Stock Holding a Value Level
San Francisco doesn't care about the stock market
What really helped Walmart clean up with earnings – robot 'associates'
Why gold's 'strong undercurrent' has some analysts eyeing \$2,000 an ounce

```
In [25]: from IPython.core.display import Image, display
PATH = "C:/Users/bobtr/OneDrive/GitProjectFolder/JavaPython2019/ScreenShots/"
display(Image(filename = PATH + "BarronsEndDayNewsAuto.png"))
```



```
In [26]: from IPython.core.display import Image, display
PATH = "C:/Users/bobtr/OneDrive/GitProjectFolder/JavaPython2019/ScreenShots/"
<p><a name="java"></a></p>display(Image(filename = PATH + "WeatherEmailAuto.png"))
```

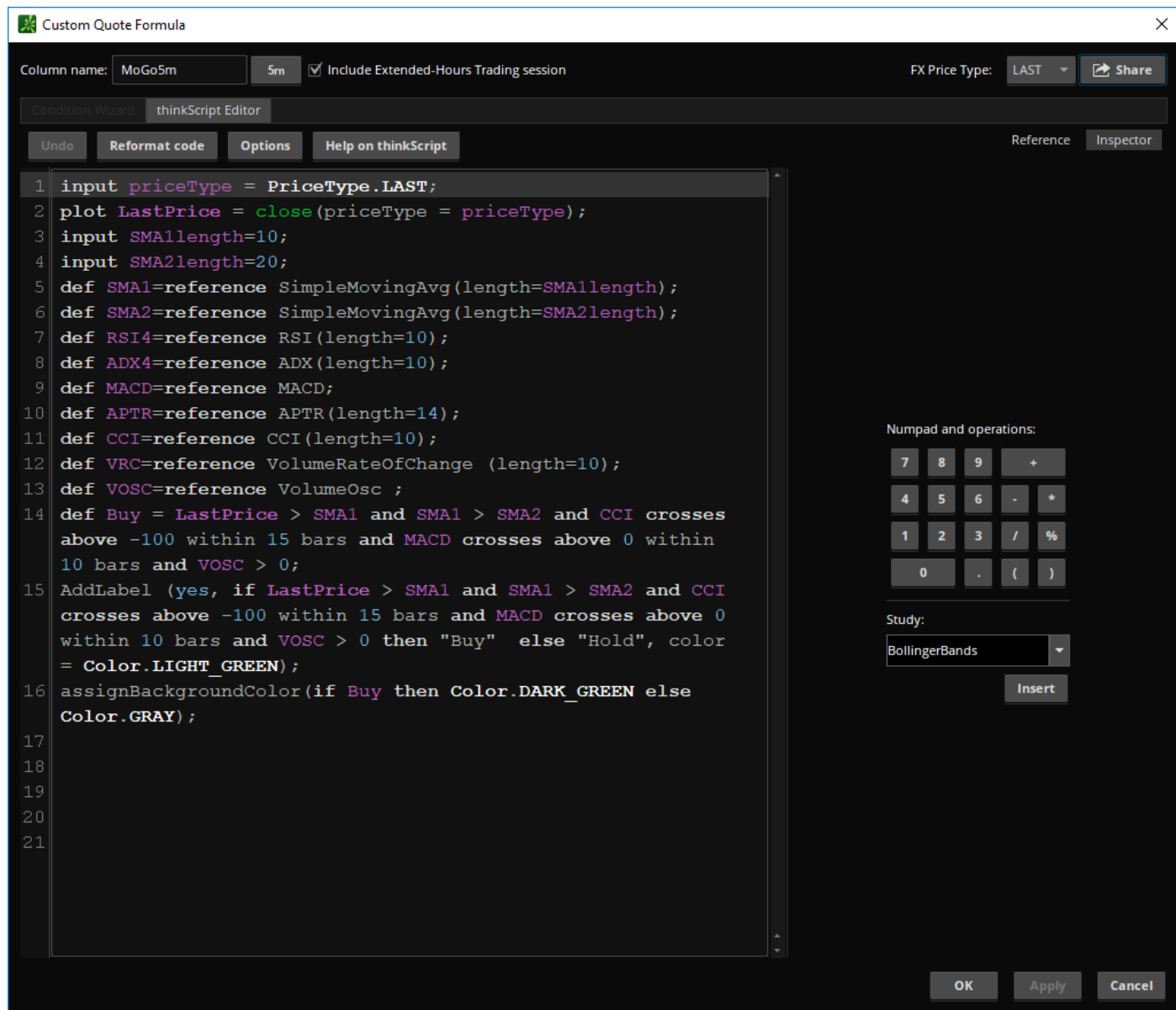


Some custom watchlist screens built inside thinkorswim (TD Ameritrade) with "thinkscript" (python).

```
In [17]: from IPython.core.display import Image, display
PATH = "C:/Users/bobtr/OneDrive/GitProjectFolder/JavaPython2019/ScreenShots/"
display(Image(filename = PATH + "TOSmarketWatchCustomSort.png"))
```

01BobsList2018	Symbol	Mark	%Change	Net Chng	Trend	MoGo30m	MoNo30m	MoGo15m	MoNo15m	Tgt1	StTgt	MoGo...	MoNo5m	ADX	Volume	BuyRDX30m	SellRDX30m	Simple...	Simple...
	GPPO	4.010	+0.75%	+0.5	Downtrend	Buy	Hold	Hold	Hold	4.04	4.62	Buy	Hold	11.65	3,485,650	Hold	Hold	5.26	5.64
	PVPL	106.160	+1.15%	+1.21	Uptrend	Hold	Hold	Hold	Hold	106.16	109.16	Buy	Hold	16.98	5,989,174	Hold	Hold	114.03	100.65
	EEM	39.550	+1.38%	+54	Uptrend	Hold	Hold	Hold	Hold	39.54	40.64	Buy	Hold	32.32	53,443,372	Hold	Hold	41.85	41.7
	USD/JPY	106.3690	0.00%	0	Uptrend	Hold	Hold	Buy	Hold	106.225	106.896	Buy	Hold	17.218	0	Hold	Hold	107.7	110.128
	EUR/JPY	118.0010	0.00%	0	Uptrend	Buy	Hold	Hold	Hold	117.937	119.373	Buy	Hold	13.478	0	Hold	Hold	120.919	124.336
	CL	72.280	+1.28%	+91	Uptrend	Hold	Hold	Hold	Hold	72.28	71.67	Buy	Hold	26.67	2,549,049	Hold	Hold	72.68	67.4
	PG	119.180	+1.52%	+1.79	Uptrend	Hold	Hold	Hold	Hold	119.18	115.93	Buy	Hold	21.15	8,302,368	Hold	Hold	113.65	102.22
	FB	183.700	+0.61%	+1.11	Uptrend	Hold	Hold	Hold	Hold	183.9	190.32	Hold	Hold	11.11	12,844,832	Hold	Hold	191.59	168.56
	JCI[V19]	54.850	+0.79%	+43	Uptrend	Hold	Hold	Hold	Hold	54.53	55.38	Hold	Hold	16.59	384,587	Hold	Hold	56.12	56.42
	YG[C219]	1523.60	-0.50%	-7.60	Downtrend	Hold	Hold	Hold	Hold	1521.4	1478.8	Hold	Hold	23.6	316,041	Hold	Hold	1424.2	1317.6
	INQ[U19]	7610.500	+1.52%	+114.25	Uptrend	Hold	Hold	Hold	Hold	7627.0	7706.55	Hold	Hold	18.73	445,874	Hold	Hold	7743.98	7245.28
	NFLX	302.850	+2.38%	+7.04	Uptrend	Hold	Hold	Hold	Hold	302.68	317.1	Hold	Hold	23.5	7,090,757	Hold	Hold	343.05	335.12
	BBT[U19]	1493.90	+2.09%	+38.68	Uptrend	Hold	Hold	Hold	Hold	1491.6	1522.2	Hold	Hold	24.8	130,289	Hold	Hold	1542.8	1520.7
	TYM[U19]	25913.0	+1.32%	+338.00	Uptrend	Hold	Hold	Hold	Hold	25811.0	26349.0	Hold	Hold	18.0	196,334	Hold	Hold	26597.0	25590.0
	AAPL	206.500	+2.36%	+4.76	Uptrend	Hold	Hold	Hold	Hold	206.85	203.51	Hold	Hold	27.09	28,813,624	Hold	Hold	201.6	185.69
	AMAT	46.630	-1.12%	-5.3	Downtrend	Hold	Hold	Hold	Hold	46.7	47.67	Hold	Sell	15.15	17,870,792	Hold	Hold	45.8	40.03
	AMD	31.250	+5.09%	+1.51	Uptrend	Hold	Hold	Hold	Hold	31.15	31.66	Hold	Hold	32.8	71,588,978	Hold	Hold	31.66	25.52
	CSCO	46.980	+1.54%	+71	Downtrend	Hold	Hold	Hold	Hold	46.98	53.17	Hold	Hold	22.26	25,000,253	Hold	Hold	55.37	51.13
	CVS	60.280	+2.45%	+1.44	Uptrend	Hold	Hold	Hold	Hold	60.11	57.31	Hold	Hold	28.58	9,643,551	Hold	Hold	55.83	61.03
	DIS	135.200	+1.34%	+1.79	Uptrend	Hold	Hold	Hold	Hold	135.37	139.01	Hold	Hold	18.34	6,353,770	Hold	Hold	140.47	123.54
	ENDP	2.260	+1.35%	+0.3	Downtrend	Hold	Sell	Hold	Sell	2.3	2.77	Hold	Sell	9.13	3,347,503	Hold	Hold	3.56	7.93
	GE	8.790	+9.74%	+78	Uptrend	Hold	Hold	Hold	Hold	8.76	9.61	Hold	Hold	29.22	248,883.6	Hold	Sell	10.09	9.42
	INTC	46.500	+1.75%	+80	Uptrend	Hold	Hold	Hold	Hold	46.47	48.07	Hold	Hold	23.25	23,333,693	Hold	Hold	48.26	49.35
	IBM	107.720	+2.40%	+2.52	Uptrend	Hold	Hold	Hold	Hold	107.8	110.82	Hold	Hold	23.47	11,830,550	Hold	Hold	111.65	107.37
	CAT	116.430	+1.02%	+1.18	Uptrend	Hold	Hold	Hold	Hold	116.5	124.49	Hold	Hold	19.82	3,551,929	Hold	Hold	130.1	130.68
	MSFT	136.130	+1.83%	+2.45	Uptrend	Hold	Hold	Hold	Hold	136.0	136.86	Hold	Hold	21.09	25,026,151	Hold	Hold	136.27	118.85
	MU	43.620	+3.10%	+1.31	Uptrend	Hold	Hold	Hold	Hold	43.5	43.66	Hold	Hold	26.74	18,156,572	Hold	Hold	40.63	38.81
	NVDA	159.650	+7.25%	+10.79	Uptrend	Hold	Hold	Hold	Hold	159.99	159.91	Hold	Hold	27.94	25,384,628	Hold	Hold	159.77	162.09
	UA	16.790	+1.76%	+2.9	Uptrend	Hold	Hold	Hold	Hold	16.79	19.8	Hold	Hold	9.31	1,540,992	Hold	Hold	21.95	20.09
	GOOGL	1179.210	+0.85%	+9.89	Uptrend	Hold	Hold	Hold	Hold	1179.19	1177.17	Hold	Hold	15.55	1,265,187	Hold	Hold	1140.58	1129.08
	SNAP	15.980	-0.06%	-0.1	Downtrend	Hold	Hold	Hold	Hold	15.97	16.37	Hold	Hold	25.81	25,843,920	Hold	Hold	15.39	10.45
	T	34.970	+1.83%	+6.3	Uptrend	Hold	Hold	Hold	Hold	34.93	34.04	Hold	Hold	25.8	31,102,985	Hold	Hold	33.4	31.35
	SQ	62.870	+1.40%	+8.7	Uptrend	Hold	Hold	Hold	Hold	62.8	69.76	Hold	Hold	13.33	5,421,368	Hold	Hold	73.26	70.53
	MINKD	1.090	+4.81%	+0.5	Downtrend	Hold	Hold	Hold	Hold	1.05	1.1	Hold	Hold	16.51	2,378,604	Hold	Hold	1.12	1.45
	FBI	38.600	+1.07%	+41	Uptrend	Hold	Hold	Hold	Hold	38.6	39.79	Hold	Sell	27.37	26,824,449	Hold	Hold	41.24	41.97
	CTRP	33.530	+3.62%	+1.17	Uptrend	Hold	Hold	Hold	Hold	33.53	35.47	Hold	Hold	35.01	2,873,407	Hold	Sell	36.5	35.39
	ID	31.300	+3.75%	+1.13	Uptrend	Hold	Hold	Hold	Hold	31.28	29.21	Hold	Hold	28.26	19,520,106	Hold	Hold	29.53	26.49
	PRWR	12.890	+3.79%	+4.7	Uptrend	Hold	Hold	Hold	Hold	12.91	12.72	Hold	Hold	30.17	2,188,023	Hold	Sell	11.26	7.72
	TVTR	40.580	+1.22%	+48	Downtrend	Hold	Hold	Hold	Hold	40.53	40.47	Hold	Hold	17.85	7,998,824	Hold	Hold	38.24	34.72
	VVGR	21.430	+3.93%	+8.1	Uptrend	Hold	Hold	Hold	Hold	21.11	21.82	Hold	Hold	19.1	270,555	Hold	Hold	24.24	17.57
	WPRT	2.670	+2.30%	+0.6	Downtrend	Hold	Hold	Sell	Hold	2.71	2.89	Hold	Hold	16.39	325,462	Hold	Hold	2.82	2.06
	DKS	32.170	+2.19%	+6.9	Downtrend	Hold	Hold	Hold	Hold	32.03	34.44	Hold	Hold	25.43	1,320,887	Hold	Hold	35.15	35.86
	ROKU	131.120	+1.27%	+1.64	Downtrend	Hold	Hold	Hold	Hold	131.0	114.98	Hold	Hold	10.74	6,368,413	Hold	Hold	106.1	68.6
	PCX	9.100	+1.22%	+1.1	Downtrend	Hold	Hold	Hold	Hold	9.08	10.31	Hold	Hold	16.51	18,373,216	Hold	Hold	10.87	11.55
	DE	149.250	+3.84%	+5.52	Uptrend	Hold	Hold	Hold	Hold	149.23	155.79	Hold	Hold	24.91	3,492,991	Hold	Sell	159.76	155.73
	IBB	105.000	+2.23%	+2.29	Uptrend	Hold	Hold	Hold	Hold	104.97	104.78	Hold	Hold	29.71	2,919,707	Hold	Sell	105.96	106.63
	RIGL	1.940	+1.04%	+0.2	Downtrend	Hold	Hold	Hold	Hold	1.87	2.19	Hold	Hold	10.56	1,667,536	Hold	Hold	2.3	2.37
	TGT	84.350	+2.00%	+1.65	Uptrend	Hold	Hold	Hold	Hold	84.21	84.32	Hold	Hold	21.26	4,861,051	Hold	Hold	86.19	77.71
	FIT	2.990	+3.46%	+10	Downtrend	Hold	Hold	Hold	Hold	3.0	3.57	Hold	Hold	14.01	4,280,256	Hold	Hold	4.12	5.23
	BAC	27.030	+2.97%	+78	Uptrend	Hold	Hold	Hold	Hold	27.02	28.53	Hold	Hold	31.32	70,841,690	Hold	Hold	28.76	28.2
	CELC	94.740	+1.53%	+1.43	Uptrend	Hold	Hold	Hold	Hold	94.64	93.18	Hold	Hold	18.42	2,676,086	Hold	Hold	93.69	86.92
	UAN	3.680	0.00%	0	Downtrend	Hold	Hold	Hold	Hold	3.69	3.78	Hold	Hold	24.26	27,260	Hold	Hold	3.71	3.74
	V	178.230	+1.11%	+1.96	Uptrend	Hold	Hold	Hold	Hold	178.47	177.64	Hold	Hold	21.46	8,312,221	Hold	Hold	176.07	154.54
	AXP	124.630	+1.84%	+2.25	Uptrend	Hold	Hold	Hold	Hold	124.63	124.83	Hold	Hold	16.4	2,343,388	Hold	Hold	124.84	112.37
	M	15.980	-1.11%	-1.8	Downtrend	Hold	Hold	Hold	Hold	15.98	20.19	Hold	Hold	19.73	14,808,621	Hold	Hold	21.24	25.35
	SNE	55.730	+1.29%	+71	Downtrend	Hold	Hold	Hold	Hold	55.73	55.23	Hold	Sell	34.06	1,254,688	Buy	Hold	53.91	49.85
	AMZN	1792.570	+0.93%	+16.45	Uptrend	Hold	Hold	Hold	Hold	1792.75	1851.74	Hold	Hold	24.42	3,054,240	Hold	Hold	1899.86	1753.21
	QRCL	53.590	+1.90%	+1.00	Uptrend	Hold	Hold	Hold	Hold	53.59	55.21	Hold	Hold	31.26	9,913,097	Hold	Hold	56.23	52.28
	JBTC[Q19]	10435.0	+3.01%	+305.00	Uptrend	Hold	Hold	Hold	Hold	10590.0	10942.0	Hold	Sell	22.0	5,247	Hold	Hold	10482.0	6199.0
	QQQ	185.480	+1.61%	+2.93	Uptrend	Hold	Hold	Hold	Hold	185.6	187.71	Hold	Hold	9.28	34,785,006	Hold	Hold	188.4	176.29
	SPY	288.900	+1.48%	+4.20	Uptrend	Hold	Hold	Hold	Hold	289.02	292.34	Hold	Hold	32.47	85,825,286	Hold	Hold	294.08	279.47
	IBM	133.760	+1.39%	+1.84	Uptrend	Hold	Hold	Hold	Hold	133.76	140.84	Hold	Hold	26.06	3,011,993	Hold	Hold	140.94	133.2
	IRM	148.630	+2.16%	+3.14	Uptrend	Hold	Hold	Hold	Hold	148.72	151.42	Hold	Hold	32.18	23,945,306	Hold	Hold	153.25	151.08
	NIKD[U19]	20590.0	+1.33%	+270.00	Uptrend	Hold	Hold	Hold	Hold	20515.0	20853.0	Hold	Hold	22.0	6,992	Hold	Hold	21183.0	21268.0
	IAU	14.490	-0.62%	-0.09	Uptrend	Hold	Hold	Hold	Hold	14.49	14.06	Hold	Hold	13.96	19,403,756	Hold	Hold	13.57	12.59
	TSLA	219.750	+1.99%	+4.30	Downtrend	Hold	Hold	Hold	Hold	219.82	234.27	Hold	Hold	18.41	5,207,376	Hold	Hold	231.7	278.01
	BA	330.450	+0.75%	+2.45	Uptrend	Hold	Hold	Hold	Hold	330.2	339.93	Hold	Hold	16.8	3,866,567	Hold	Hold	352.83	361.74
	BR	42.330	+1.58%	+66	Downtrend	Hold	Hold	Hold	Hold	42.33	44.76	Hold	Sell	25.26	2,938,187	Hold	Hold	44.47	48.27
	WHR	131.770	+2.01%	+2.60	Downtrend	Buy	Hold	Hold	Hold	130.37	138.97	Hold	Hold	38.08	467,404	Hold	Hold	140.78	131.06
	ES[U19]	2891.500	+1.51%	+43.00	Uptrend	Hold	Hold	Hold	Hold	2884.75	2926.19	Hold	Hold	23.47	1,556,941	Hold	Hold	2946.57	2799.43
	BABA	174.600	+4.57%	+7.63	Uptrend	Hold	Hold	Hold	Hold	174.6	166.14	Hold	Hold	60.89	25,952,537	Hold	Hold	167.76	165.53
	VZN[U19]	130260	-0.11%	-0045	Uptrend	Buy	Hold	Hold	Hold	130.71875	129.119986	Hold	Hold	14.225017	1,491,242	Hold	Hold	128.049...	123.65...
	SDJI	25886.010	+1.20%	+306.62	Downtrend	Hold	Hold	Hold	Hold	25818.36	26384.43	Hold	Hold	29.84	276,211.7...	Hold	Hold	26607.26	25596.58
	IG	17.090	+0.65%	+1.1	Uptrend	Hold													

```
In [19]: from IPython.core.display import Image, display
PATH = "C:/Users/bobtr/OneDrive/GitProjectFolder/JavaPython2019/ScreenShots/"
display(Image(filename = PATH + "TOScustomMomoSignal.png"))
```



another screen and with a mean-reverting signal...

```
In [22]: from IPython.core.display import Image, display
PATH = "C:/Users/bobtr/OneDrive/GitProjectFolder/JavaPython2019/ScreenShots/"
display(Image(filename = PATH + "TOScustomMeanRevertSignal.png"))
```

Custom Quote Formula

Column name: SellRDX30m 30m ☒ Include Extended-Hours Trading session FX Price Type: LAST [Share](#)

Condition Wizard thinkScript Editor

Undo Reformat code Options Help on thinkScript Reference Inspector

```
1 input priceType = PriceType.LAST;
2 plot LastPrice = close(priceType = priceType);
3 input SMAlength=20;
4 def SMA1=reference SimpleMovingAvg(length=SMAlength);
5 def RSI4=reference RSI(length=10);
6 def ADX4=reference ADX(length=10);
7 def VRC=reference VolumeRateOfChange (length=5);
8 def Sell = LastPrice >=(SMA1*1.005) and RSI4 > 50 and ADX4
9 > 30 and VRC < -10;
9 AddLabel (yes, if LastPrice>=(SMA1*1.005) and RSI4 > 50 and
10 ADX4 > 30 and VRC < -10 then "Sell" else "Hold", color =
Color.LIGHT_ORANGE);
11 assignBackgroundColor(if Sell then Color.PLUM else
Color.GRAY);
```

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Study:
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```
In [23]: from IPython.core.display import Image, display
PATH = "C:/Users/bobtr/OneDrive/GitProjectFolder/JavaPython2019/ScreenShots/"
display(Image(filename = PATH + "TOSmarketWatchCustomSort2CustomSort.png"))
```

Quotes Main@thinkorswim [build 1954]																			
01BobsList2018																			
Symbol	Mark	%Change	Net Chng	Trend	MoGo30m	MoNo30m	MoGo15m	MoNo15m	Tgt1	StTgt	MoGo5m	MoNo5m	ADX	Volume	BuyRDx30m	SellRDx30m	Simple...	Simple...	
AMAT	46.630	-1.12%	-0.53	Downtrend	Hold	Hold	Hold	Hold	46.7	47.67	Hold	Sell	15.15	17,870,792	Hold	Hold	45.8	40.03	
ENDP	2.260	+1.35%	+0.03	Downtrend	Hold	Sell	Hold	Sell	2.3	2.77	Hold	Sell	9.13	3,347,503	Hold	Hold	3.56	7.93	
FXI	38.600	+1.07%	+0.41	Uptrend	Hold	Hold	Hold	Hold	38.6	39.79	Hold	Sell	27.37	26,824,449	Hold	Hold	41.24	41.97	
SNE	55.730	+1.29%	+0.71	Downtrend	Hold	Hold	Hold	Hold	55.73	55.23	Hold	Sell	34.06	1,254,688	Buy	Hold	53.91	49.85	
IBTC[Q19]	10435.0	+3.01%	+305.00	Uptrend	Hold	Hold	Hold	Hold	10590.0	10942.0	Hold	Sell	22.0	5,247	Hold	Hold	10482.0	6199.0	
BIK	42.330	+1.58%	+0.66	Downtrend	Hold	Hold	Hold	Hold	42.33	44.76	Hold	Sell	25.26	2,938,187	Hold	Hold	44.47	48.27	
FB	183.700	+0.61%	+1.11	Uptrend	Hold	Hold	Hold	Hold	183.9	190.32	Hold	Hold	11.11	12,844,832	Hold	Hold	191.59	168.56	
ICL[V19]	54.850	+0.79%	+0.43	Uptrend	Hold	Hold	Hold	Hold	54.53	55.38	Hold	Hold	16.59	384,587	Hold	Hold	56.12	56.42	
ZGC[Z19]	1523.60	-0.50%	-7.60	Downtrend	Hold	Hold	Hold	Hold	1521.4	1478.8	Hold	Hold	23.6	316,041	Hold	Hold	1424.2	1317.6	
INQ[U19]	7610.500	+1.52%	+114.25	Uptrend	Hold	Hold	Hold	Hold	7627.0	7706.55	Hold	Hold	18.73	445,874	Hold	Hold	7743.98	7245.28	
NFLX	302.850	+2.38%	+7.04	Uptrend	Hold	Hold	Hold	Hold	302.68	317.11	Hold	Hold	23.5	7,090,757	Hold	Hold	343.05	335.12	
RTY[U19]	1493.90	+2.09%	+30.60	Uptrend	Hold	Hold	Hold	Hold	1491.6	1522.2	Hold	Hold	24.8	130,299	Hold	Hold	1542.8	1520.7	
YIM[U19]	25913.0	+1.32%	+338.00	Uptrend	Hold	Hold	Hold	Hold	25811.0	26349.0	Hold	Hold	18.0	196,334	Hold	Hold	26597.0	25590.0	
AAPL	206.500	+2.36%	+4.76	Uptrend	Hold	Hold	Hold	Hold	206.85	203.51	Hold	Hold	27.09	28,813,624	Hold	Hold	201.6	185.69	
AMD	31.250	+5.09%	+1.51	Uptrend	Hold	Hold	Hold	Hold	31.15	31.66	Hold	Hold	32.8	71,588,978	Hold	Hold	31.66	25.52	
CSCO	46.980	+1.54%	+0.71	Downtrend	Hold	Hold	Hold	Hold	46.98	53.17	Hold	Hold	22.26	25,000,253	Hold	Hold	55.37	51.13	
CYS	60.280	+2.45%	+1.44	Uptrend	Hold	Hold	Hold	Hold	60.11	57.31	Hold	Hold	28.58	9,643,551	Hold	Hold	55.83	61.03	
DJS	135.200	+1.34%	+1.79	Uptrend	Hold	Hold	Hold	Hold	135.37	139.01	Hold	Hold	18.34	6,353,770	Hold	Hold	140.47	123.54	
GE	8.790	+9.74%	+0.78	Uptrend	Hold	Hold	Hold	Hold	8.76	9.61	Hold	Hold	29.22	248,883.6	Hold	Sell	10.09	9.42	
GPRO	4.010	+0.75%	+0.03	Downtrend	Buy	Hold	Hold	Hold	4.04	4.62	Buy	Hold	11.65	3,485,650	Hold	Hold	5.26	5.64	
INTC	46.500	+1.75%	+0.80	Uptrend	Hold	Hold	Hold	Hold	46.47	48.07	Hold	Hold	23.25	23,335,693	Hold	Hold	48.26	49.35	
IPM	107.720	+2.40%	+2.52	Uptrend	Hold	Hold	Hold	Hold	107.8	110.82	Hold	Hold	23.47	11,830,550	Hold	Hold	111.65	107.37	
CAT	116.430	+1.02%	+1.18	Uptrend	Hold	Hold	Hold	Hold	116.5	124.49	Hold	Hold	19.82	3,551,929	Hold	Hold	130.1	130.68	
MSFT	136.130	+1.83%	+2.45	Uptrend	Hold	Hold	Hold	Hold	136.0	136.86	Hold	Hold	21.09	25,026,151	Hold	Hold	136.27	118.85	
MU	43.620	+3.10%	+1.31	Uptrend	Hold	Hold	Hold	Hold	43.5	43.66	Hold	Hold	26.74	18,156,572	Hold	Hold	40.63	38.81	
NVDA	159.650	+7.25%	+10.79	Uptrend	Hold	Hold	Hold	Hold	159.99	159.91	Hold	Hold	27.94	25,384,628	Hold	Hold	159.77	162.09	
UA	16.790	+1.76%	+0.29	Downtrend	Hold	Hold	Hold	Hold	16.79	19.8	Hold	Hold	9.31	1,540,992	Hold	Hold	21.95	20.09	
GOOGL	1179.210	+0.85%	+9.89	Uptrend	Hold	Hold	Hold	Hold	1179.19	1177.17	Hold	Hold	15.55	1,265,187	Hold	Hold	1140.58	1129.08	
SNAP	15.980	-0.06%	-0.01	Downtrend	Hold	Hold	Hold	Hold	15.97	16.37	Hold	Hold	25.81	25,843,920	Hold	Hold	15.39	10.45	
T	34.970	+1.83%	+0.63	Uptrend	Hold	Hold	Hold	Hold	34.93	34.04	Hold	Hold	25.8	31,102,985	Hold	Hold	33.4	31.35	
SQ	62.870	+1.40%	+0.87	Uptrend	Hold	Hold	Hold	Hold	62.8	69.76	Hold	Hold	13.33	5,421,368	Hold	Hold	73.26	70.53	
PIPL	106.160	+1.15%	+1.21	Uptrend	Hold	Hold	Hold	Hold	106.16	109.16	Buy	Hold	16.98	9,989,174	Hold	Hold	114.03	100.65	
MNKD	1.090	+4.81%	+0.05	Downtrend	Hold	Hold	Hold	Hold	1.05	1.1	Hold	Hold	16.51	2,378,604	Hold	Hold	1.12	1.45	
CTRP	33.530	+3.62%	+1.17	Uptrend	Hold	Hold	Hold	Hold	33.53	35.47	Hold	Hold	35.01	2,873,407	Hold	Sell	36.5	35.39	
ID	31.300	+3.75%	+1.13	Uptrend	Hold	Hold	Hold	Hold	31.28	29.21	Hold	Hold	28.26	19,520,106	Hold	Hold	29.53	26.49	
SPWR	12.890	+3.79%	+0.47	Uptrend	Hold	Hold	Hold	Hold	12.91	12.72	Hold	Hold	30.17	2,188,023	Hold	Sell	11.26	7.72	
TWTR	40.580	+1.22%	+0.49	Downtrend	Hold	Hold	Hold	Hold	40.53	40.47	Hold	Hold	17.85	7,998,824	Hold	Hold	38.24	34.72	
VYGR	21.430	+3.93%	+0.81	Uptrend	Hold	Hold	Hold	Hold	21.11	21.82	Hold	Hold	19.1	270,555	Hold	Hold	24.24	17.57	
WPRT	2.670	+2.30%	+0.06	Downtrend	Hold	Hold	Hold	Sell	2.71	2.89	Hold	Hold	16.39	325,462	Hold	Hold	2.82	2.06	
DKS	32.170	+2.19%	+0.69	Downtrend	Hold	Hold	Hold	Hold	32.03	34.44	Hold	Hold	25.43	1,320,887	Hold	Hold	35.15	35.86	
ROKU	131.120	+1.27%	+1.64	Downtrend	Hold	Hold	Hold	Hold	131.0	114.98	Hold	Hold	10.74	6,368,413	Hold	Hold	106.1	68.6	
FCX	9.100	+1.22%	+0.11	Downtrend	Hold	Hold	Hold	Hold	9.08	10.31	Hold	Hold	16.51	18,373,216	Hold	Hold	10.87	11.55	
DE	149.250	+3.84%	+5.52	Uptrend	Hold	Hold	Hold	Hold	149.23	155.79	Hold	Hold	24.91	3,492,991	Hold	Sell	159.76	155.73	
IBB	105.000	+2.23%	+2.29	Uptrend	Hold	Hold	Hold	Hold	104.97	104.78	Hold	Hold	29.71	2,919,707	Hold	Sell	105.96	106.63	
RIGL	1.940	+1.04%	+0.02	Downtrend	Hold	Hold	Hold	Hold	1.87	2.19	Hold	Hold	10.56	1,667,536	Hold	Hold	2.3	2.37	
TGT	84.350	+2.00%	+1.65	Uptrend	Hold	Hold	Hold	Hold	84.21	84.32	Hold	Hold	21.26	4,861,051	Hold	Hold	86.19	77.71	
FIT	2.990	+3.46%	+0.10	Downtrend	Hold	Hold	Hold	Hold	3.0	3.57	Hold	Hold	14.01	4,280,256	Hold	Hold	4.12	5.23	
BAC	27.030	+2.97%	+0.78	Uptrend	Hold	Hold	Hold	Hold	27.02	28.53	Hold	Hold	31.32	70,841,690	Hold	Hold	28.76	28.2	
CELG	94.740	+1.53%	+1.43	Uptrend	Hold	Hold	Hold	Hold	94.64	93.18	Hold	Hold	18.42	2,675,096	Hold	Hold	93.69	86.92	
UAN	3.680	0.00%	0	Downtrend	Hold	Hold	Hold	Hold	3.69	3.78	Hold	Hold	24.26	27,260	Hold	Hold	3.71	3.74	
EEM	39.550	+1.38%	+0.54	Uptrend	Hold	Hold	Hold	Hold	39.54	40.64	Buy	Hold	32.32	53,443,372	Hold	Hold	41.85	41.7	
V	178.230	+1.11%	+1.96	Uptrend	Hold	Hold	Hold	Hold	178.47	177.64	Hold	Hold	21.46	8,312,221	Hold	Hold	176.07	154.54	
AXP	124.630	+1.84%	+2.25	Uptrend	Hold	Hold	Hold	Hold	124.63	124.83	Hold	Hold	16.4	2,343,388	Hold	Hold	124.84	112.37	
M	15.980	-1.11%	-0.18	Downtrend	Hold	Hold	Hold	Hold	15.98	20.19	Hold	Hold	19.73	14,808,621	Hold	Hold	21.24	25.35	
AMZN	1792.570	+0.93%	+16.45	Uptrend	Hold	Hold	Hold	Hold	1792.75	1851.74	Hold	Hold	24.42	3,054,240	Hold	Hold	1899.86	1753.21	
QRCL	53.590	+1.90%	+1.00	Uptrend	Hold	Hold	Hold	Hold	53.59	55.21	Hold	Hold	31.26	9,913,097	Hold	Hold	56.23	52.28	
QQQ	185.480	+1.61%	+2.93	Uptrend	Hold	Hold	Hold	Hold	185.6	187.71	Hold	Hold	9.28	34,785,006	Hold	Hold	188.4	176.29	
SPY	288.900	+1.48%	+4.20	Uptrend	Hold	Hold	Hold	Hold	289.02	292.34	Hold	Hold	32.47	85,825,286	Hold	Hold	294.08	279.47	
IBM	133.760	+1.39%	+1.84	Uptrend	Hold	Hold	Hold	Hold	133.76	140.84	Hold	Hold	26.06	3,011,993	Hold	Hold	140.94	133.2	
IWM	148.630	+2.16%	+3.14	Uptrend	Hold	Hold	Hold	Hold	148.72	151.42	Hold	Hold	32.18	23,945,306	Hold	Hold	153.25	151.08	
NKD[U19]	20590.0	+1.33%	+270.00	Uptrend	Hold	Hold	Hold	Hold	20515.0	20853.0	Hold	Hold	22.0	6,992	Hold	Hold	21183.0	21268.0	
IAU	14.490	-0.62%	-0.09	Uptrend	Hold	Hold	Hold	Hold	14.49	14.06	Hold	Hold	13.96	19,403,756	Hold	Hold	13.57	12.59	
TSLA	219.750	+1.99%	+4.30	Downtrend	Hold	Hold	Hold	Hold											


```
In [29]: from IPython.core.display import Image, display
PATH = "C:/Users/bobtr/OneDrive/GitProjectFolder/JavaPython2019/ScreenShots/"
display(Image(filename = PATH + "TOSdataExcelCustom.png"))
```

AutoSave On

TDbobRiskRADX2017.xlsx - Saved

Bob Trieste

File Home Insert Page Layout Formulas Data Review View Help Bloomberg Search Share Comments

C88 =RTD("tos.rtd",,"NET_CHANGE",A88)

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	FXdayTriggersContraWithTgt														
2	2015treehouse														
3	Symbol	Last	Net Chng	StTgt	ST Buy Trgr	ST Sell Trgr	ST Buy Trgr	ST Sell Trgr		risk index		/NQ		Risk2	
4	IWM	148.6300	3.1400	151.4200	BUY	HOLD	BUY	HOLD		523.5580		7,668.2500		106.9016	
5	\$DXY	98.2030	0.0590	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!						change	
6	USD/JPY	106.3440	0.0000	106.8960	BUY	HOLD	HOLD	HOLD						16.42%	
7	EUR/USD	1.1090	0.0000	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!		change					
8	GBP/USD	1.2147	0.0000	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!		6.85%		11.0000			
9	USD/MXN	19.6397	0.0000	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!							
10	AUD/USD	0.6775	0.0000	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!							
11	AUD/JPY	72.1200	0.0000	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!		MFANGTAN		theo NQ range			
12	EUR/JPY	117.9850	0.0000	119.3730	BUY	HOLD	BUY	HOLD		522.55125		7486.88 v risk index			
13	GBP/JPY	129.1170	0.0000	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!		7.09875		7472.48 v FANGTAN			
14	EUR/GBP	0.9129	0.0000	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!							
15	EUR/CAD	1.4703	0.0000	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!		change		GOOGL/AMZN			
16	USD/CHF	0.9789	0.0000	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!		7.09875		1485.89	13.1700		
17	USD/CAD	1.3271	0.0000	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!							
18	/NQ	7,668.2500	11.0000	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!		Bios				FXEM	FXG4
19	/NKD[Z6]	24,200.0000	145.0000	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!		166.28	3.01			12.088	
20	/ES[Z6]	2,921.7500	1.7500	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!							
21	AAPL	206.5000	4.7600	203.5100	HOLD	SELL	HOLD	SELL		/RTY					
22	VIX	18.4700	-2.7100	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!		1,703.7000					
23	/CL[Z6]	73.5600	1.4400	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!				Actual>	98.2030		
24	HYG	86.1000	0.2900	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!							
25										USD Index		Theo>	98.1999		
26	SPY	288.8500	4.2000	292.3400	BUY	HOLD	BUY	HOLD		USD Index	50.143481				
27	QQQ	185.4800	2.9300	187.7100	BUY	HOLD	BUY	HOLD		EUR/USD	1.1090	-0.576	0.942136415		
28	TLT	146.1300	-1.1800	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!		USD/JPY	106.3690	0.136	1.88645674		
29	XLK	78.2800	1.4600	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!		GBP/USD	1.2150	-0.119	0.977089051		
30	XLE	57.0200	0.7400	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!		USD/CAD	1.3264	0.091	1.026040663		
31	XLF	26.5700	0.4600	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!		USD/SEK	9.6650	0.042	1.099964064		
32	XLY	115.8900	1.3000	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!		USD/CHF	0.9784	0.036	0.999214188		
33	XLV	90.5500	1.1000	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!				-0.39			
34	XLI	74.3000	1.4100	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!							
35	XLB	56.6200	0.9800	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!							
36	XLP	60.2100	0.6800	loading	#VALUE!	#VALUE!	#VALUE!	#VALUE!							
37							BUY	SELL							
38	FB	183.7000	1.1100	190.3200	BUY	HOLD	BUY	HOLD							
39	AMZN	1,792.5700	16.4500	1,851.7400	BUY	HOLD	BUY	HOLD							
40	V	178.2300	1.9600	177.6400	HOLD	HOLD	HOLD	HOLD							
41	GOOGL	1,179.2100	9.8900	1,177.1700	HOLD	HOLD	HOLD	HOLD							
42	MSFT	136.1300	2.4500	136.8600	BUY	HOLD	HOLD	HOLD							

```
In [ ]:
```

Some samples of Python logic below

Python datetime module for generating a world-time clock

```
In [33]: import sys
import os
from tkinter import *
import time
import datetime
import pytz
from time import gmtime
from datetime import timedelta
one_hour = timedelta(hours=+1)
tz = pytz.timezone('US/Eastern')
altzone = time.altzone

dt_Japan = datetime.datetime.now(tz=pytz.timezone('Japan'))
dt_UTC = datetime.datetime.now(tz=pytz.timezone('UCT'))
dt_NYC = datetime.datetime.now(tz=pytz.timezone('US/Eastern'))
dt_GMT = datetime.datetime.now(tz=pytz.timezone('GMT'))
dt_UTC = datetime.datetime.now(tz=pytz.timezone('UTC'))
dt_LDN = datetime.datetime.now(tz=pytz.timezone('Europe/London'))
dt_NZ = datetime.datetime.now(tz=pytz.timezone('NZ'))
dt_SYD = datetime.datetime.now(tz=pytz.timezone('Australia/Sydney'))
dt_HK = datetime.datetime.now(tz=pytz.timezone('Hongkong'))
dt_CNH = datetime.datetime.now(tz=pytz.timezone('Asia/Shanghai'))
dt_ZUR = datetime.datetime.now(tz=pytz.timezone('Europe/Zurich'))

print("NYC", dt_NYC.strftime('%a %b %d, %Y: %I:%M:%S:%p '))
print("GMT", dt_GMT.strftime('%a %b %d, %Y: %I:%M:%S:%p '))
print("UTC", dt_UTC.strftime('%a %b %d, %Y: %I:%M:%S:%p '))
print("LDN", dt_LDN.strftime('%a %b %d, %Y: %I:%M:%S:%p '))
print("ZUR", dt_ZUR.strftime('%a %b %d, %Y: %I:%M:%S:%p '))
print("China", dt_CNH.strftime('%a %b %d, %Y: %I:%M:%S:%p '))
print("HK", dt_HK.strftime('%a %b %d, %Y: %I:%M:%S:%p '))
print("Tokyo", dt_Japan.strftime('%a %b %d, %Y: %I:%M:%S:%p '))
print("SYD", dt_SYD.strftime('%a %b %d, %Y: %I:%M:%S:%p '))
print("NZ", dt_NZ.strftime('%a %b %d, %Y: %I:%M:%S:%p '))
```

```
NYC Sun Aug 18, 2019: 05:42:13:PM
GMT Sun Aug 18, 2019: 09:42:13:PM
UTC Sun Aug 18, 2019: 09:42:13:PM
LDN Sun Aug 18, 2019: 10:42:13:PM
ZUR Sun Aug 18, 2019: 11:42:13:PM
China Mon Aug 19, 2019: 05:42:13:AM
HK Mon Aug 19, 2019: 05:42:13:AM
Tokyo Mon Aug 19, 2019: 06:42:13:AM
SYD Mon Aug 19, 2019: 07:42:13:AM
NZ Mon Aug 19, 2019: 09:42:13:AM
```

Exercise

Use a while loop to produce a list of all the prime numbers between 2 and 100. Remember a prime number is only divisible by itself and one.

```
In [34]: import math
```

```
In [35]: primes=[]
N=2
while N<=100:
    is_prime=True
    for num in primes:
        if N%num==0:
            is_prime=False
            break
    if is_prime:
        primes.append(N)
    N=N+1
print(primes)
```

```
[2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43, 47, 53, 59, 61, 67, 71, 73, 79, 83, 89, 97]
```

Find the sum of all the multiples of 3 or 5 below 1000.

```
In [37]: x = 3
y = 5
x_list = []
y_list = []

while x < 1000:
    x_list.append(x)
    x += 3

while y < 1000:
    y_list.append(y)
    y += 5

numsum = sum(set(x_list + y_list))
print(numsum)
```

233168

Let's plot the change in outstanding revolving HELOC loans for the past two years from Fedw data.

```
In [38]: import pandas as pd
```

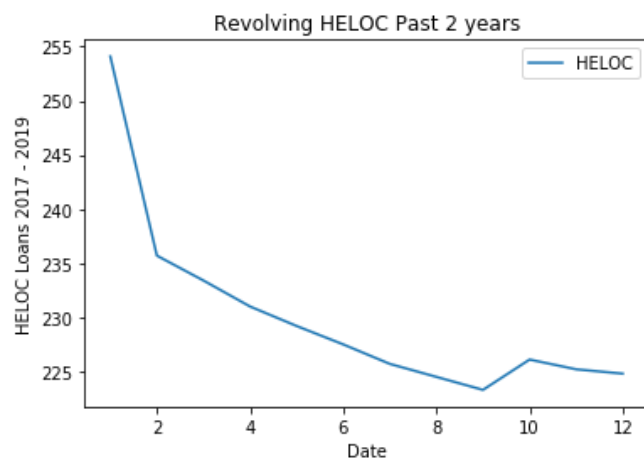
```
In [39]: from matplotlib import pyplot as plt
```

```
In [40]: x = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12]
```

```
In [41]: y = [254.1, 235.7, 233.4, 231.0, 229.2, 227.5, 225.7, 224.5, 223.3, 226.1, 225.2, 224.8]
```

```
In [42]: z = [659.9, 663.8, 663.6, 657.6, 659.2, 661.3, 660.9, 659.2, 658.8, 659.6, 659.8, 660.5]
```

```
In [43]: plt.plot(x,y)
plt.title("Revolving HELOC Past 2 years")
plt.xlabel("Date")
plt.ylabel("HELOC Loans 2017 - 2019")
plt.legend(["HELOC", "Time"])
plt.show()
```



```
In [44]: Fed_data = pd.read_csv('FedDataLargeBank_2.csv')
```

In [45]:

Fed_data

Out[45]:

	Type	2017	2018	2018.1	2018.2	2018.3	2018.4	2018.5	2018.6	2018.7	2019	2019.1	2019.2
0	NaN	Dec	Jun	Jul	Aug	Sep	Oct	Nov	Dec	26-Dec	2-Jan	9-Jan	16-Jan
1	Bank credit	7,327.3	7,299.9	7,319.8	7,331.5	7,345.2	7,381.7	7,437.4	7,537.7	7,580.6	7,602.2	7,570.7	7,578.2
2	Securities in bank credit 2	2,256.1	2,206.3	2,220.2	2,231.4	2,230.7	2,239.3	2,269.0	2,307.1	2,314.3	2,332.0	2,329.2	2,347.6
3	Treasury and agency securities 3	1,724.8	1,717.5	1,728.7	1,736.9	1,740.1	1,752.0	1,785.4	1,836.3	1,845.6	1,863.1	1,859.3	1,878.1
4	Mortgage-backed securities (MBS) 4	1,297.4	1,294.9	1,302.3	1,309.9	1,309.6	1,312.8	1,335.5	1,360.2	1,360.1	1,376.0	1,368.7	1,397.0
5	Non-MBS 5	427.4	422.6	426.4	427.0	430.6	439.2	449.9	476.1	485.5	487.1	490.6	481.1
6	Other securities	531.3	488.8	491.5	494.5	490.6	487.3	483.6	470.8	468.7	468.9	469.9	469.4
7	Mortgage-backed securities (MBS) 6	66.2	61.8	60.4	58.8	58.4	57.8	56.9	55.2	54.7	55.5	55.5	55.4
8	Non-MBS 7	465.1	427.0	431.1	435.7	432.2	429.5	426.7	415.7	414.0	413.4	414.4	414.0
9	Loans and leases in bank credit 8	5,071.2	5,093.6	5,099.7	5,100.0	5,114.5	5,142.3	5,168.4	5,230.6	5,266.2	5,270.2	5,241.5	5,230.7
10	Commercial and industrial loans	1,145.8	1,185.4	1,185.2	1,181.0	1,185.3	1,204.4	1,226.8	1,248.5	1,267.7	1,270.1	1,257.2	1,258.8
11	Real estate loans	2,064.9	2,048.7	2,051.4	2,051.4	2,053.5	2,055.1	2,050.6	2,043.5	2,036.1	2,044.9	2,047.5	2,044.5
12	Residential real estate loans	1,405.0	1,385.0	1,387.8	1,393.9	1,394.2	1,393.8	1,389.8	1,384.3	1,377.3	1,385.4	1,387.7	1,384.0
13	Revolving home equity loans	254.1	235.7	233.4	231.0	229.2	227.5	225.7	224.5	223.3	226.1	225.2	224.8
14	Closed-end residential loans 9	1,150.9	1,149.3	1,154.4	1,162.8	1,165.0	1,166.3	1,164.1	1,159.8	1,154.0	1,159.3	1,162.5	1,159.2
15	Commercial real estate loans	659.9	663.8	663.6	657.6	659.2	661.3	660.9	659.2	658.8	659.6	659.8	660.5
16	Construction and land development loans 10	100.8	100.9	100.7	100.5	100.6	99.4	99.0	97.7	96.8	97.6	97.1	96.9
17	Secured by farmland 11	8.6	8.3	8.2	8.3	8.3	8.2	8.1	8.1	8.2	8.2	8.2	8.2
18	Secured by multifamily properties 12	139.5	141.5	142.3	142.1	143.8	146.6	146.9	146.9	147.3	144.7	145.0	144.8
19	Secured by nonfarm nonresidential properties 13	411.0	413.0	412.3	406.7	406.5	407.0	406.8	406.4	406.6	409.0	409.5	410.6
20	Consumer loans	1,098.4	1,083.2	1,084.4	1,090.4	1,095.1	1,098.9	1,108.3	1,128.0	1,135.1	1,135.3	1,128.0	1,120.3
21	Credit cards and other revolving plans	656.1	639.4	640.1	644.8	647.2	648.6	657.1	676.2	683.4	680.9	672.8	664.8
22	Other consumer loans	442.3	443.7	444.4	445.6	447.9	450.3	451.2	451.8	451.7	454.3	455.2	455.4
23	Automobile loans 14	340.3	339.8	340.0	340.6	341.3	341.5	341.3	341.5	341.5	342.2	343.0	343.0
24	All other consumer loans 15	102.0	104.0	104.3	105.0	106.6	108.7	109.9	110.3	110.2	112.1	112.2	112.4
25	All other loans and leases	762.1	776.2	778.6	777.1	780.5	784.0	782.7	810.6	827.3	819.9	808.8	807.1
26	Loans to nondepository financial institutions 16	282.3	295.6	302.6	306.9	312.3	319.3	321.1	332.3	336.9	334.9	335.8	334.5
27	All loans not elsewhere classified 17	479.8	480.7	476.1	470.2	468.3	464.7	461.6	478.4	490.4	485.1	473.1	472.7
28	LESS: Allowance for loan and lease losses	69.6	68.4	68.6	68.3	68.4	67.8	67.9	68.0	67.7	68.1	68.6	68.5

We can analysze data right from a web URL.

In [46]:

import pandas as pd

In [47]:

movies = pd.read_csv('http://bit.ly/imdbratings')

```
In [48]: movies.head()
```

```
Out[48]:
```

	star_rating	title	content_rating	genre	duration	actors_list
0	9.3	The Shawshank Redemption	R	Crime	142	[u'Tim Robbins', u'Morgan Freeman', u'Bob Gunt...
1	9.2	The Godfather	R	Crime	175	[u'Marlon Brando', u'Al Pacino', u'James Caan']
2	9.1	The Godfather: Part II	R	Crime	200	[u'Al Pacino', u'Robert De Niro', u'Robert Duv...
3	9.0	The Dark Knight	PG-13	Action	152	[u'Christian Bale', u'Heath Ledger', u'Aaron E...
4	8.9	Pulp Fiction	R	Crime	154	[u'John Travolta', u'Uma Thurman', u'Samuel L....

```
In [49]: movies.shape
```

```
Out[49]: (979, 6)
```

```
booleans = [] for length in movies.duration: if length >= 200: booleans.append(True) else: booleans.append(False)
```

```
In [51]: booleans[0:5]
```

```
Out[51]: [False, False, True, False, False]
```

Only "The Godfather: Pat II" is 200 minute or more out of the anove sample !

Sample code below to clean and parse text and perform word counts

- One example of a use case for this would be to compare and contrast FOMC statements for keyowrd differences.

```
In [53]: def text_cleaner(in_name,out_name,punc=list('!"#$%&\'()*+,-./:;<=>?@[\\]^_`{|}~')):
    f_in=open(in_name,'r')
    f_out=open(out_name,'w')
    lines=f_in.readlines()
    f_in.close()
    for line in lines:
        line=line.lower()
        for mark in punc:
            line=line.replace(mark,'')
        f_out.write(line)
    f_out.close()
    print(out_name,'has been written')
```

```
punc=list('!"#$%&\'()*+,-./:;<=>?@[\\]^_`{|}~')
```

```
In [55]: def wordCounter(in_name):
    f_in=open(in_name,'r',encoding="ISO-8859-1")
    lines=f_in.readlines()
    f_in.close()

    D={}

    for line in lines:
        line=line.strip()
        line=line.lower()
        for mark in '!"#$%&\'()*+,-./:;<=>?@[\\]^_`{|}~':
            line=line.replace(mark,'')
        words=line.split()
        for word in words:
            if word in D:
                D[word]+=1
            else:
                D[word]=1

    L=list(D.items())
    return sorted(L,key=lambda x:x[1],reverse=True)
```

would generate the below once stopwords were removed:

```
In [ ]: [('rate', 125),
        ('participants', 105),
        ('federal', 98),
        ('inflation', 89),
        ('economic', 86),
        ('projections', 71),
        ('growth', 70),
        ('market', 67),
        ('percent', 61),
        ('funds', 57),
        ('would', 57),
        ('policy', 55),
        ('board', 47),
        ('risks', 46),
        ('monetary', 43),
        ('outlook', 43),
        ('real', 41),
        ('financial', 40),
        ('conditions', 40),]
```

```
In [ ]:
```

Java

Java code samples

Some logic to handle command line input for numbers that correspond to days of week:

```
In [ ]: import java.util.Scanner;
public class DaysWeek {
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        System.out.println("Enter 1 to 7 digit for days:");
        String userInput = scan.nextLine();
        int userInputDigit = Integer.parseInt(userInput);
        if (userInputDigit == 1) {
            System.out.println("Monday");
        } else if (userInputDigit == 2) {
            System.out.println("Tuesday");
        } else if (userInputDigit == 3) {
            System.out.println("Wednesday");
        } else if (userInputDigit == 4) {
            System.out.println("Thursday");
        } else if (userInputDigit == 5) {
            System.out.println("Friday");
        } else if (userInputDigit == 6) {
            System.out.println("Saturday");
        } else if (userInputDigit == 7) {
            System.out.println("Sunday");
        }
        else {
            System.out.println("Wrong entry");
        }
    }
}
```

Iterate through List and Arrays

```
In [ ]: import java.util.ArrayList;
import java.util.List;

public class Collections2Test {

    public static void main(String[] args) {
        List<String> myList = new ArrayList<String>();

        System.out.println("Size of myList = " + myList.size());

        myList.add("billy");
        myList.add("sal");
        myList.add("sal");
        myList.add("bob");
        myList.add("tommy");

        List<Integer> index = new ArrayList<Integer>();

        for(int i = 0; i<myList.size(); i++){
            if(myList.get(i).equals("sal")) {
                //index.add(i);
                System.out.println("index sal at = " +i);
            }
        }
        System.out.println("size before remove " + myList.size());
        myList.remove("sal");
        System.out.println("size after remove " + myList.size());
    }

    /*
    now we can use "clear" and "remove"
    instantiate a list;
    loop through / display / add parts to list
    */
}
```

Finding Min and Max numbers from Arrays

```
In [ ]: import java.util.Scanner;

public class MinMaxArray {

    public static void main(String[] args) {
        // get array from user
        // getArrayInput()
        int[] arr = getArrayInput();
        System.out.println("Min number");
        System.out.println("Max number => " + getMaxNumber(arr));
    }

    public static int getMaxNumber(int [] arr){
        int maxNumnber = arr[0];
        for(int element : arr) {
            if(element > maxNumnber) {
                maxNumnber = element;
            }
        }
        return maxNumnber;
    }

    public static int getMinNumber(int [] arr){
        int maxNumnber = arr[0];
        for(int element : arr) {
            if(element > maxNumnber) {
                maxNumnber = element;
            }
        }
        return maxNumnber;
    }

    //[] will return an array in a method
    public static int[] getArrayInput(){
        Scanner myScanner = new Scanner(System.in);

        System.out.println("Enter number of inputs : ");
        int arraySize = Integer.parseInt(myScanner.nextLine());

        int[] arrayInput = new int[arraySize];

        for(int i = 0; i < arrayInput.length; i++) {
            System.out.println("Enter your number : (" + (i+1) + ")");
            arrayInput[i] = Integer.parseInt(myScanner.nextLine());
        }
        return arrayInput;
    }
}
```

Implementing Switch Statements.


```

In [ ]: import java.util.Scanner;

public class MonthConverterSwitch {

    public static void main(String[] args) {

        Scanner myScanner = new Scanner(System.in);

        System.out.println("Please enter a number between 1 and 12 for the month: ");
        String userInput = myScanner.nextLine();
        int userInputDigit = Integer.parseInt(userInput);

        int switchValue = userInputDigit;

        switch (switchValue) {
            case 1:
                System.out.println("January");
                break;
            case 2:
                System.out.println("February");
                break;
            case 3:
                System.out.println("March");
                break;
            case 4:
                System.out.println("April");
                break;
            case 5:
                System.out.println("May");
                break;
            case 6:
                System.out.println("June");
                break;
            case 7:
                System.out.println("July");
                break;
            case 8:
                System.out.println("August");
                break;
            case 9:
                System.out.println("September");
                break;
            case 10:
                System.out.println("October");
                break;
            case 11:
                System.out.println("November");
                break;
            case 12:
                System.out.println("December");
                break;

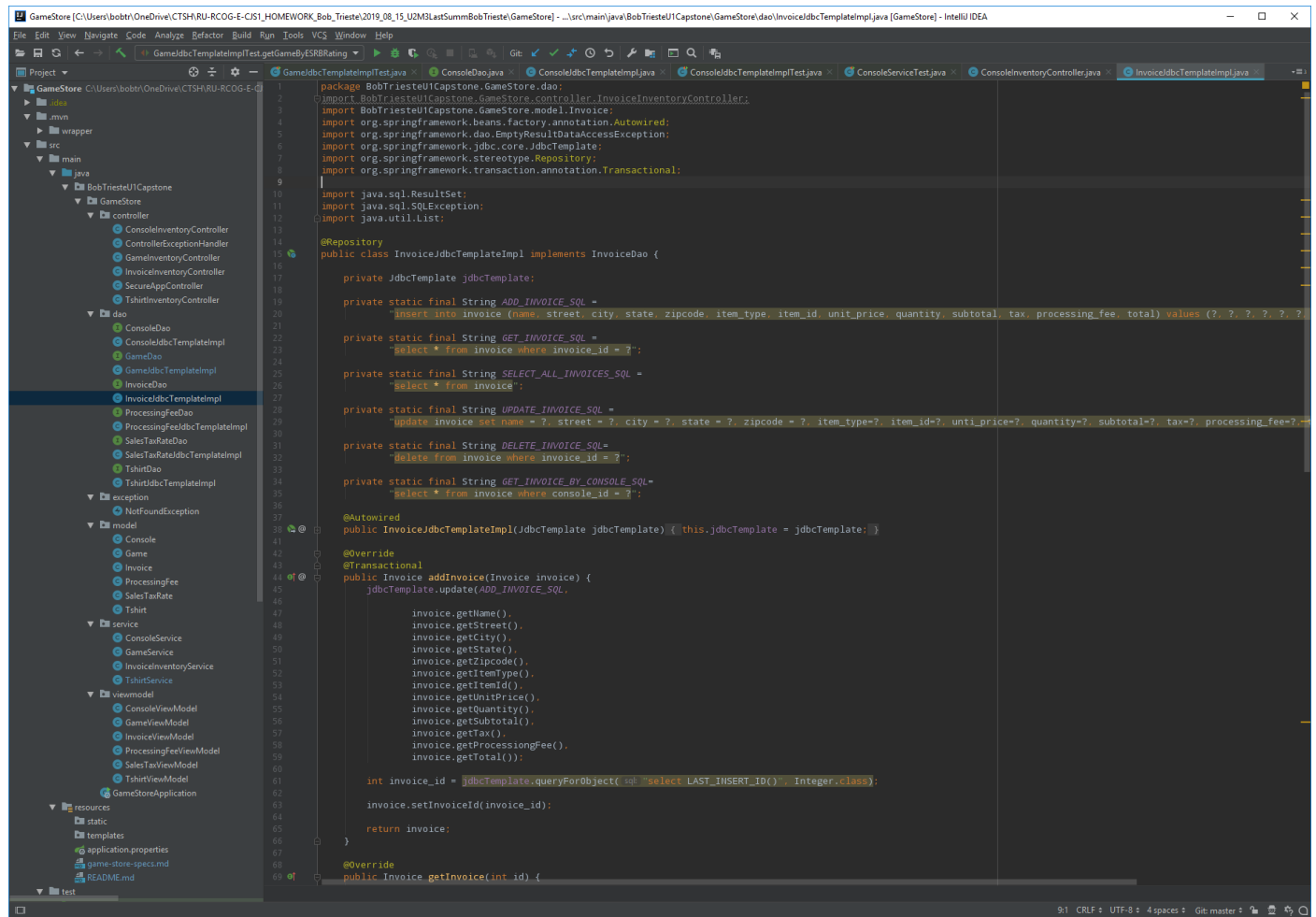
            default:
                System.out.println("You have entered an invalid number. You must enter a number between 1 and 12. Goodbye.");
                break;
        }
    }
}

```

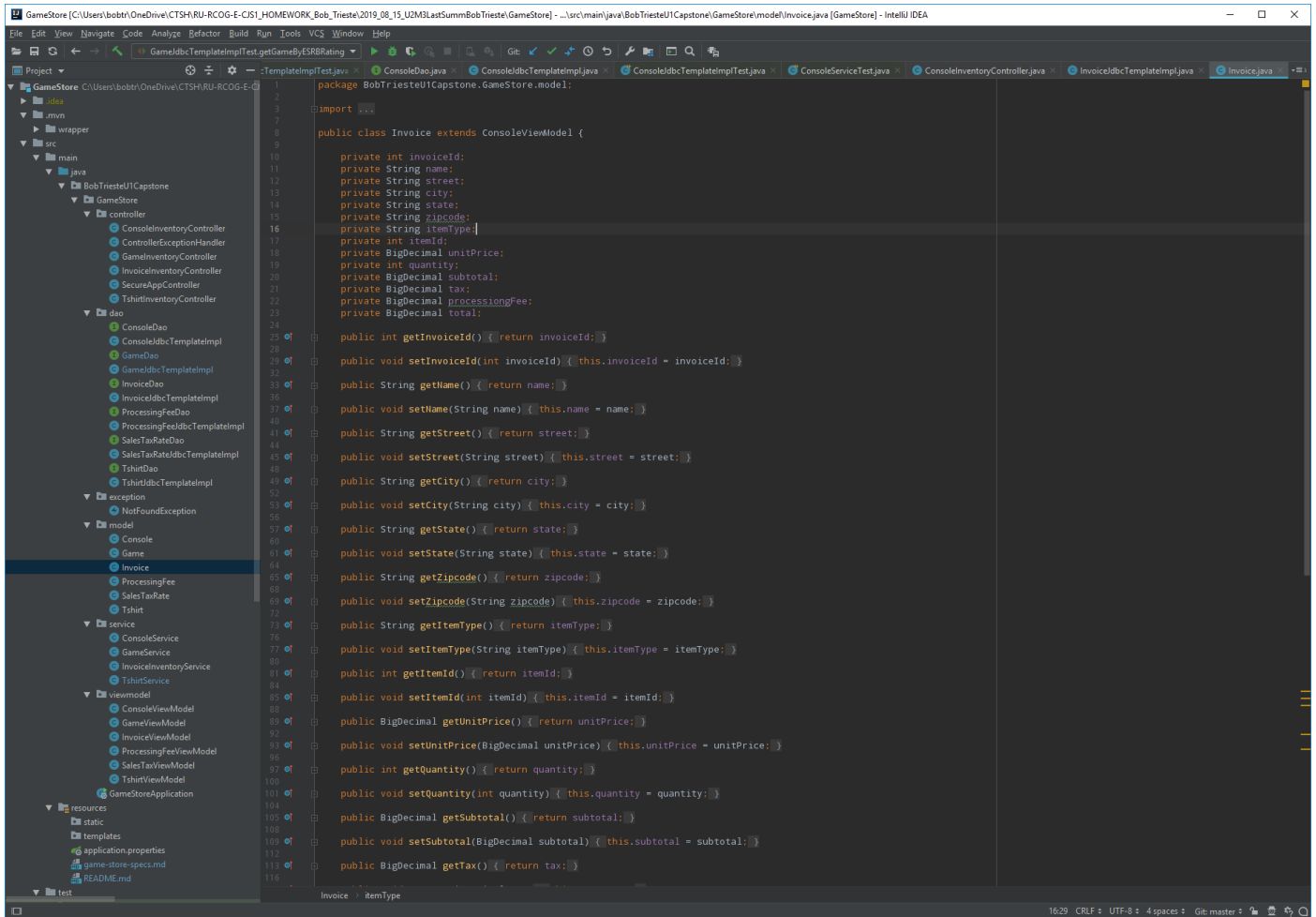
Coding larger projects in IntelliJ IDE with multiple Classes and Interfaces, Service Layer,

Controllers, JDBC, testing, etc. (below is screenshot. actual program in source folder).

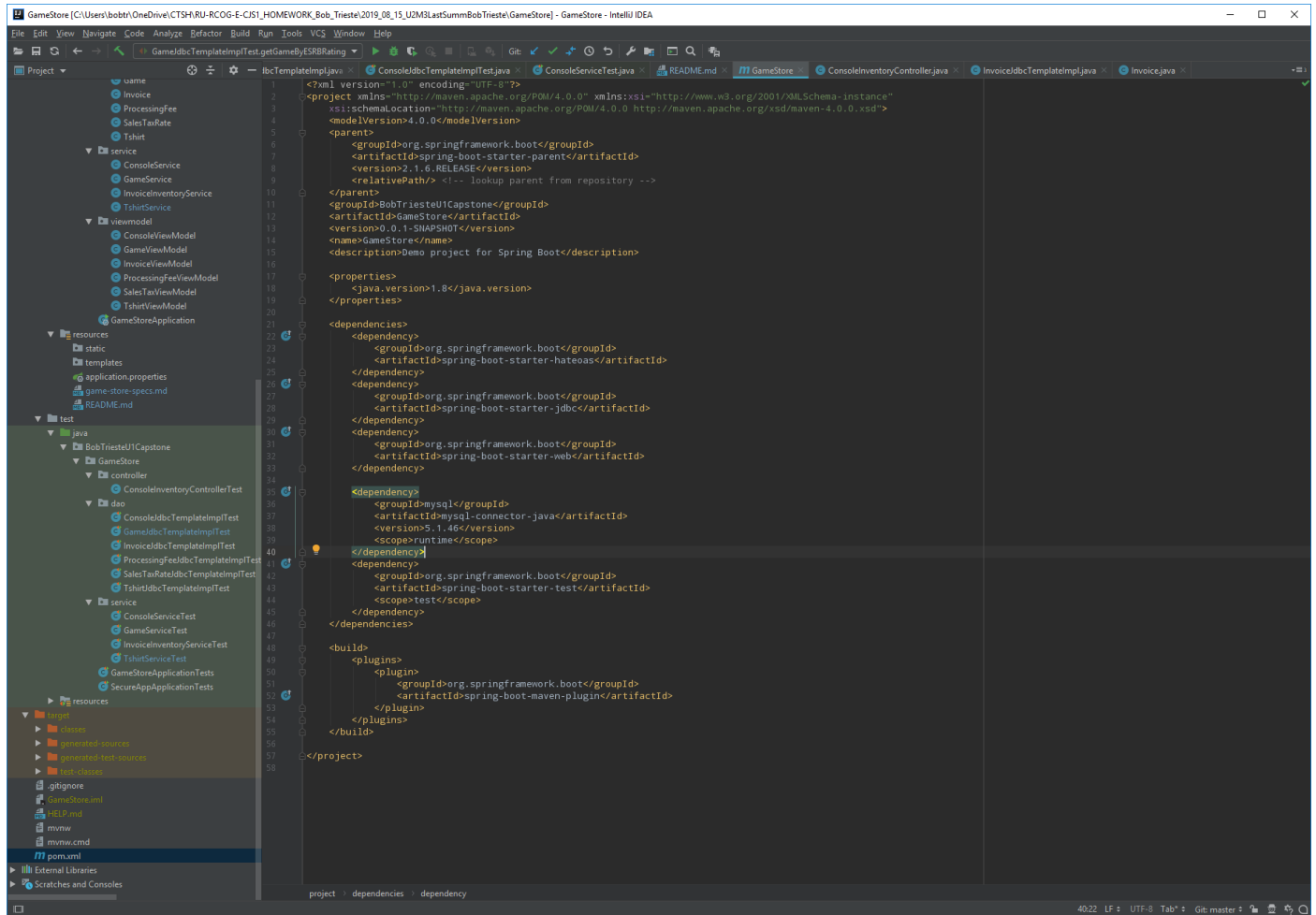
In [59]: `from IPython.core.display import Image, display`
`PATH = "C:/Users/bobtr/OneDrive/GitProjectFolder/JavaPython2019/ScreenShots/"`
`display(Image(filename = PATH + "JavaMavenIntelliJ.png"))`



In [60]: `from IPython.core.display import Image, display`
`PATH = "C:/Users/bobtr/OneDrive/GitProjectFolder/JavaPython2019/ScreenShots/"`
`display(Image(filename = PATH + "IntelliJSample2.png"))`



In [61]: `from IPython.core.display import Image, display`
`PATH = "C:/Users/bobtr/OneDrive/GitProjectFolder/JavaPython2019/ScreenShots/"`
`display(Image(filename = PATH + "POMxmlFile.png"))`



Several full programs are available in the root folder of this repository to inspect further.

Additionally you can search through other public repositories of mine.

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<https://github.com/bobtreehouse> (<https://github.com/bobtreehouse>)

<http://bit.ly/BobTbio> (<http://bit.ly/BobTbio>)

In []: