002 - Quick Guide on how to obtain financial data in a python program

November 11, 2023

1 + 002 Quick Guide on how to obtain financial data in a python program

For future projects: - export and organize data on CSV file - run an import code to perform some analysis over financial statements

install std Libraries

```
[]: # !pip install pandas

# !pip install pandas-datareader

# !pip install yfinance

# !pip install datetime

# !pip install plotly_express
```

```
[]: # import libs
import pandas as pd
from pandas_datareader import data as pdr
import numpy as np
import yfinance as yf
import datetime as dt
import plotly.express as px
import plotly.graph_objects as go

yf.pdr_override()
```

1.1 1 Define and create a Ticker object

```
[]: # define Ticker code from User input

stock = input("Please, enter the Ticker code: ")

# create a ticker object with a ticker symbol

stock = yf.Ticker(stock)

stock
```

Please, enter the Ticker code: JPM

[]: yfinance.Ticker object <JPM>

1.2 2 Obtain financial statement data

[]: #show some recent news about company

'publisher': 'TheStreet.com',

→jpmorgan-just-added-%27holy.html',
'providerPublishTime': 1699650218,

once created the ticker object, we can search for some info about company inputed:

```
display(stock.news)
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```

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[]: display(stock.balance_sheet)
                                                        2022-12-31 \
```

'title': 'Should JPMorgan Diversified Return U.S. Mid Cap Equity ETF (JPME) Be

Treasury Shares Number

1170676094.0

Preferred Shares Number	391850000.0
Ordinary Shares Number	2934257801.0
Share Issued	4104933895.0
Net Debt	4104933093.0 NaN
Total Debt	466727000000.0
	204069000000.0
Tangible Book Value	731655000000.0
Invested Capital	231473000000.0
Net Tangible Assets	
Common Stock Equity	264928000000.0
Preferred Stock Equity	27404000000.0
Total Capitalization	715032000000.0
Total Equity Gross Minority Interest	292332000000.0
Stockholders Equity	292332000000.0
Other Equity Interest	NaN
Gains Losses Not Affecting Retained Earnings	-17341000000.0
Treasury Stock	107336000000.0
Retained Earnings	296456000000.0
Additional Paid In Capital	89044000000.0
Capital Stock	31509000000.0
Common Stock	4105000000.0
Preferred Stock	27404000000.0
Total Liabilities Net Minority Interest	3373411000000.0
Derivative Product Liabilities	NaN
Long Term Debt And Capital Lease Obligation	422700000000.0
Long Term Debt	422700000000.0
Current Debt And Capital Lease Obligation	44027000000.0
Current Debt	44027000000.0
Other Current Borrowings	44027000000.0
Commercial Paper	NaN
Payables And Accrued Expenses	351282000000.0
Payables	351282000000.0
Other Payable	51141000000.0
Accounts Payable	300141000000.0
Total Assets	3665743000000.0
Investments And Advances	1014081000000.0
Held To Maturity Securities	425305000000.0
Available For Sale Securities	NaN
Trading Securities	382919000000.0
Goodwill And Other Intangible Assets	60859000000.0
Other Intangible Assets	9197000000.0
Goodwill	51662000000.0
Net PPE	27734000000.0
Receivables	196069000000.0
Other Receivables	70880000000.0
Accounts Receivable	125189000000.0
Other Short Term Investments	205857000000.0
Cash And Cash Equivalents	567234000000.0
Cash Financial	27697000000.0

	2021-12-31
Treasury Shares Number	1160784750.0
Preferred Shares Number	391850000.0
Ordinary Shares Number	2944149145.0
Share Issued	4104933895.0
Net Debt	NaN
Total Debt	469176000000.0
Tangible Book Value	202598000000.0
Invested Capital	728465000000.0
Net Tangible Assets	237436000000.0
Common Stock Equity	259289000000.0
Preferred Stock Equity	34838000000.0
Total Capitalization	709709000000.0
Total Equity Gross Minority Interest	294127000000.0
Stockholders Equity	294127000000.0
Other Equity Interest	NaN
Gains Losses Not Affecting Retained Earnings	-84000000.0
Treasury Stock	105415000000.0
Retained Earnings	272268000000.0
Additional Paid In Capital	88415000000.0
Capital Stock	38943000000.0
Common Stock	4105000000.0
Preferred Stock	34838000000.0
Total Liabilities Net Minority Interest	3449440000000.0
Derivative Product Liabilities	NaN
Long Term Debt And Capital Lease Obligation	415582000000.0
Long Term Debt	415582000000.0
Current Debt And Capital Lease Obligation Current Debt	53594000000.0
	53594000000.0 53594000000.0
Other Current Borrowings	03594000000.0 NaN
Commercial Paper Payables And Accrued Expenses	312871000000.0
Payables Payables	312871000000.0
Other Payable	50116000000.0
Accounts Payable	262755000000.0
Total Assets	3743567000000.0
Investments And Advances	1048726000000.0
Held To Maturity Securities	363707000000.0
Available For Sale Securities	NaN
Trading Securities	376494000000.0
Goodwill And Other Intangible Assets	56691000000.0
Other Intangible Assets	6376000000.0
Goodwill	50315000000.0
Net PPE	27070000000.0
Receivables	159651000000.0
Other Receivables	57081000000.0
Accounts Receivable	102570000000.0

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Ohlan Ohant Tarra Turranturat	200505000000	
Other Short Term Investments	308525000000.0	
Cash And Cash Equivalents Cash Financial	740834000000.0	
Cash Financial	26438000000.0	
	2020-12-31	2019-12-31
Treasury Shares Number	1055499435.0	1020912567.0
Preferred Shares Number	280850000.0	338050000.0
Ordinary Shares Number	3049434460.0	3084021328.0
Share Issued	4104933895.0	4104933895.0
Net Debt	NaN	144356000000.0
Total Debt	426451000000.0	407987000000.0
Tangible Book Value	195863000000.0	180996000000.0
Invested Capital	675742000000.0	642324000000.0
Net Tangible Assets	225926000000.0	207989000000.0
Common Stock Equity	249291000000.0	234337000000.0
Preferred Stock Equity	30063000000.0	26993000000.0
Total Capitalization	660597000000.0	628397000000.0
Total Equity Gross Minority Interest	279354000000.0	261330000000.0
Stockholders Equity	279354000000.0	261330000000.0
Other Equity Interest	NaN	-21000000.0
Gains Losses Not Affecting Retained Earnings	7986000000.0	1569000000.0
Treasury Stock	88184000000.0	83049000000.0
Retained Earnings	236990000000.0	223211000000.0
Additional Paid In Capital	88394000000.0	88522000000.0
Capital Stock	34168000000.0	31098000000.0
Common Stock	4105000000.0	4105000000.0
Preferred Stock	30063000000.0	26993000000.0
Total Liabilities Net Minority Interest	3106717000000.0	2426049000000.0
Derivative Product Liabilities	70623000000.0	43708000000.0
Long Term Debt And Capital Lease Obligation	381243000000.0	367067000000.0
Long Term Debt	381243000000.0	367067000000.0
Current Debt And Capital Lease Obligation	45208000000.0	40920000000.0
Current Debt	45208000000.0	40920000000.0
Other Current Borrowings	45208000000.0	40920000000.0
Commercial Paper	12031000000.0	14754000000.0
Payables And Accrued Expenses	303222000000.0	254115000000.0
Payables	303222000000.0	254115000000.0
Other Payable	70623000000.0	43708000000.0
Accounts Payable	232599000000.0	210407000000.0
Total Assets	3386071000000.0	2687379000000.0
Investments And Advances	1013495000000.0	759576000000.0
Held To Maturity Securities	201821000000.0	47540000000.0
Available For Sale Securities	13827000000.0	398239000000.0
Trading Securities	423496000000.0	361337000000.0
Goodwill And Other Intangible Assets	53428000000.0	53341000000.0
Other Intangible Assets	4180000000.0	5518000000.0
Goodwill	49248000000.0	47823000000.0
Net PPE	27109000000.0	25813000000.0

Receivables	170133000000.0		
Other Receivables	79630000000.0	49766000000.0	
Accounts Receivable	90503000000.0	72861000000.0	
Other Short Term Investments	388178000000.0	361337000000.0	
Cash And Cash Equivalents	527609000000.0	263631000000.0	
Cash Financial	24874000000.0	21704000000.0	
display(stock.income_stmt)			
	20:	22-12-31 \	
Tax Effect Of Unusual Items	-4891781	8.307846	
Tax Rate For Calcs	0.183902		
Total Unusual Items	-266000000.0		
Total Unusual Items Excluding Goodwill	-266000000.0		
Net Income From Continuing Operation Net Minor:	37676000000.0		
Reconciled Depreciation	7051	0.00000	
Net Interest Income	66710	66710000000.0	
Interest Expense	26097000000.0		
Interest Income	92807000000.0		
Normalized Income		37893082181.692154	
Net Income From Continuing And Discontinued Ope			
Diluted Average Shares		000000.0	

[]

Total Unusual Items Excluding Goodwill	-266000000.0	
Net Income From Continuing Operation Net Minori	37676000000.0	
Reconciled Depreciation	7051000000.0	
Net Interest Income	66710000000.0	
Interest Expense	26097000000.0	
Interest Income	92807000000.0	
Normalized Income	37893082181.692154	
Net Income From Continuing And Discontinued Ope	37676000000.0	
Diluted Average Shares	2970000000.0	
Basic Average Shares	2965800000.0	
Diluted EPS	12.09	
Basic EPS	12.1	
Diluted NI Availto Com Stockholders	35892000000.0	
Net Income Common Stockholders	35892000000.0	
Otherunder Preferred Stock Dividend	189000000.0	
Preferred Stock Dividends	1595000000.0	
Net Income	37676000000.0	
Net Income Including Noncontrolling Interests	37676000000.0	
Net Income Continuous Operations	37676000000.0	
Tax Provision	849000000.0	
Pretax Income	46166000000.0	
Special Income Charges	-266000000.0	
Other Special Charges	266000000.0	
Gain On Sale Of Security	-2380000000.0	
Selling General And Administration	45547000000.0	
Selling And Marketing Expense	3911000000.0	
General And Administrative Expense	41636000000.0	
Other Gand A	NaN	
Salaries And Wages	41636000000.0	
Total Revenue	128695000000.0	
Operating Revenue	128695000000.0	
	2021-12-31 \	
Tax Effect Of Unusual Items	0.0	
Tax Rate For Calcs	0.189	

	2021-12-31	\
Tax Effect Of Unusual Items	0.0	
Tax Rate For Calcs	0.189	

Total Unusual Items	NaN	
Total Unusual Items Excluding Goodwill	NaN	
Net Income From Continuing Operation Net Minori	48334000000.0	
Reconciled Depreciation	7932000000.0	
Net Interest Income	52311000000.0	
Interest Expense	5553000000.0	
Interest Income	57864000000.0	
Normalized Income	48334000000.0	
Net Income From Continuing And Discontinued Ope	48334000000.0	
Diluted Average Shares	3026600000.0	
Basic Average Shares	3021500000.0	
Diluted EPS	15.36	
Basic EPS	15.39	
Diluted NI Availto Com Stockholders	46503000000.0	
Net Income Common Stockholders	46503000000.0	
Otherunder Preferred Stock Dividend	231000000.0	
Preferred Stock Dividends	1600000000.0	
Net Income	48334000000.0	
Net Income Including Noncontrolling Interests	48334000000.0	
Net Income Continuous Operations	48334000000.0	
Tax Provision	11228000000.0	
Pretax Income	59562000000.0	
Special Income Charges	NaN	
Other Special Charges	NaN	
Gain On Sale Of Security	-345000000.0	
Selling General And Administration	41603000000.0	
Selling And Marketing Expense	3036000000.0	
General And Administrative Expense	38567000000.0	
Other Gand A	NaN	
Salaries And Wages	38567000000.0	
Total Revenue	121649000000.0	
Operating Revenue	121649000000.0	
operating nevenue	121043000000.0	
	2020-12-31	\
Tax Effect Of Unusual Items	0.0	
Tax Rate For Calcs	0.177	
Total Unusual Items	NaN	
Total Unusual Items Excluding Goodwill	NaN	
Net Income From Continuing Operation Net Minori	29131000000.0	
Reconciled Depreciation	8614000000.0	
Net Interest Income	54563000000.0	
Interest Expense	9960000000.0	
Interest Income	64523000000.0	
Normalized Income	29131000000.0	
Net Income From Continuing And Discontinued Ope	29131000000.0	
Diluted Average Shares	3087400000.0	
Basic Average Shares	3082400000.0	
Diluted EPS	8.88	
DITUUGU EID	0.00	

Basic EPS	8.89
Diluted NI Availto Com Stockholders	27410000000.0
Net Income Common Stockholders	27410000000.0
Otherunder Preferred Stock Dividend	138000000.0
Preferred Stock Dividends	1583000000.0
Net Income	29131000000.0
Net Income Including Noncontrolling Interests	29131000000.0
Net Income Continuous Operations	29131000000.0
Tax Provision	6276000000.0
Pretax Income	35407000000.0
Special Income Charges	NaN
Other Special Charges	NaN NaN
Gain On Sale Of Security	802000000.0
•	37464000000.0
Selling General And Administration	2476000000.0
Selling And Marketing Expense	
General And Administrative Expense	34988000000.0
Other Gand A	10338000000.0
Salaries And Wages	34988000000.0
Total Revenue	119543000000.0
Operating Revenue	119543000000.0
	0010 10 01
m	2019-12-31
Tax Effect Of Unusual Items	0.0
Tax Rate For Calcs	0.182
Total Unusual Items	NaN
Total Unusual Items Excluding Goodwill	NaN
Net Income From Continuing Operation Net Minori	36431000000.0
Reconciled Depreciation	8368000000.0
Net Interest Income	57245000000.0
Interest Expense	26795000000.0
Interest Income	8404000000.0
Normalized Income	36431000000.0
Net Income From Continuing And Discontinued Ope	36431000000.0
Diluted Average Shares	3230400000.0
Basic Average Shares	3221500000.0
Diluted EPS	10.72
Basic EPS	10.75
Diluted NI Availto Com Stockholders	34642000000.0
Net Income Common Stockholders	34642000000.0
Otherunder Preferred Stock Dividend	202000000.0
Preferred Stock Dividends	1587000000.0
Net Income	36431000000.0
Net Income Including Noncontrolling Interests	36431000000.0
Net Income Continuous Operations	36431000000.0
Tax Provision	8114000000.0
Pretax Income	44545000000.0
Special Income Charges	NaN
Other Special Charges	NaN

Gain On Sale Of Security	258000000.0
Selling General And Administration	37734000000.0
Selling And Marketing Expense	3579000000.0
General And Administrative Expense	34155000000.0
Other Gand A	9821000000.0
Salaries And Wages	34155000000.0
Total Revenue	115627000000.0
Operating Revenue	115627000000.0

[]: display(stock.cashflow)

2022-12-31	
107119000000.0	
-10596000000.0	
-45556000000.0	
78442000000.0	
0.0	
23143000000.0	
4355000000.0	
567234000000.0	
740834000000.0	
-16643000000.0	
-156957000000.0	
-126257000000.0	
-126257000000.0	
2439000000.0	
-13562000000.0	
NaN	
-7434000000.0	
-7434000000.0	
0.0	
-3162000000.0	
-3162000000.0	
23902000000.0	
-8984000000.0	
32886000000.0	
-45556000000.0	
78442000000.0	
-137819000000.0	
-137819000000.0	
-11932000000.0	
12467000000.0	
172401000000.0	
-159934000000.0	
107119000000.0	
107119000000.0	
32686000000.0	
-76000000.0	
	107119000000.0 -10596000000.0 -45556000000.0 78442000000.0 23143000000.0 4355000000.0 567234000000.0 -16643000000.0 -156957000000.0 -126257000000.0 -126257000000.0 -13562000000.0 -13562000000.0 -7434000000.0 -3162000000.0

Change In Other Current Assets	-2882000000.0	
Change In Payables And Accrued Expense	58614000000.0	
Change In Payable	58614000000.0	
Change In Account Payable	58614000000.0	
Change In Receivables	-22970000000.0	
Changes In Account Receivables	-22970000000.0	
Other Non Cash Items	26055000000.0	
Deferred Tax	-2738000000.0	
Deferred Income Tax	-2738000000.0	
Depreciation Amortization Depletion	7051000000.0	
Depreciation And Amortization	7051000000.0	
Net Income From Continuing Operations	37676000000.0	
•		
	2021-12-31	\
Free Cash Flow	78084000000.0	
Repurchase Of Capital Stock	-20983000000.0	
Repayment Of Debt	-54932000000.0	
Issuance Of Debt	82409000000.0	
Issuance Of Capital Stock	7350000000.0	
Interest Paid Supplemental Data	5142000000.0	
Income Tax Paid Supplemental Data	18737000000.0	
End Cash Position	740834000000.0	
Beginning Cash Position	527609000000.0	
Effect Of Exchange Rate Changes	-11508000000.0	
Changes In Cash	224733000000.0	
Financing Cash Flow	275993000000.0	
Cash Flow From Continuing Financing Activities	275993000000.0	
Net Other Financing Charges	-5731000000.0	
Cash Dividends Paid	-12858000000.0	
Common Stock Dividend Paid	NaN	
Net Preferred Stock Issuance	4775000000.0	
Preferred Stock Payments	-2575000000.0	
Preferred Stock Issuance	7350000000.0	
Net Common Stock Issuance	-18408000000.0	
Common Stock Payments	-18408000000.0	
Net Issuance Payments Of Debt	35250000000.0	
Net Short Term Debt Issuance	7773000000.0	
Net Long Term Debt Issuance	27477000000.0	
Long Term Debt Payments	-54932000000.0	
Long Term Debt Issuance	82409000000.0	
Investing Cash Flow	-129344000000.0	
Cash Flow From Continuing Investing Activities	-129344000000.0	
Net Other Investing Changes	-11044000000.0	
Net Investment Purchase And Sale	-96821000000.0	
Sale Of Investment	263720000000.0	
Purchase Of Investment	-360541000000.0	
Operating Cash Flow	78084000000.0	
Cash Flow From Continuing Operating Activities	78084000000.0	

	05004000000	
Change In Working Capital	35901000000.0	
Change In Other Working Capital	16885000000.0	
Change In Other Current Assets	-11745000000.0	
Change In Payables And Accrued Expense	43162000000.0	
Change In Payable	43162000000.0	
Change In Account Payable	43162000000.0	
Change In Receivables	-12401000000.0	
Changes In Account Receivables	-12401000000.0	
Other Non Cash Items	-8575000000.0	
Deferred Tax	3748000000.0	
Deferred Income Tax	3748000000.0	
Depreciation Amortization Depletion	7932000000.0	
Depreciation And Amortization	7932000000.0	
Net Income From Continuing Operations	48334000000.0	
	100010000000	
	2020-12-31	2019-12-31
Free Cash Flow	-79910000000.0	
	-7947000000.0	
Repurchase Of Capital Stock		
Repayment Of Debt	-105055000000.0	
Issuance Of Debt	78686000000.0	61085000000.0
Issuance Of Capital Stock	4500000000.0	5000000000.0
Interest Paid Supplemental Data	13077000000.0	29918000000.0
Income Tax Paid Supplemental Data	7661000000.0	5624000000.0
End Cash Position	527609000000.0	263631000000.0
Beginning Cash Position	263631000000.0	278793000000.0
Effect Of Exchange Rate Changes	9155000000.0	-182000000.0
Changes In Cash	254823000000.0	-14980000000.0
Financing Cash Flow	596645000000.0	32987000000.0
Cash Flow From Continuing Financing Activities	596645000000.0	32987000000.0
Net Other Financing Charges	420000000.0	3143000000.0
Cash Dividends Paid	-12690000000.0	-12343000000.0
Common Stock Dividend Paid	NaN	-12343000000.0
Net Preferred Stock Issuance	3070000000.0	925000000.0
Preferred Stock Payments	-1430000000.0	-4075000000.0
Preferred Stock Issuance	4500000000.0	500000000.0
Net Common Stock Issuance	-6517000000.0	-24001000000.0
Common Stock Payments	-6517000000.0	-24001000000.0
Net Issuance Payments Of Debt	-21931000000.0	-37086000000.0
Net Short Term Debt Issuance	4438000000.0	-28561000000.0
Net Long Term Debt Issuance	-26369000000.0	-8525000000.0
Long Term Debt Payments	-105055000000.0	-69610000000.0
	78686000000.0	
Long Term Debt Issuance		61085000000.0
Investing Cash Flow	-261912000000.0	-54013000000.0
Cash Flow From Continuing Investing Activities		-54013000000.0
Net Other Investing Changes	-7341000000.0	-5035000000.0
Net Investment Purchase And Sale	-180752000000.0	
Sale Of Investment	228793000000.0	125804000000.0
Purchase Of Investment	-409545000000.0	-255576000000.0

Operating Cash Flow	-79910000000.0	6046000000.0
Cash Flow From Continuing Operating Activities	-79910000000.0	6046000000.0
Change In Working Capital	-144904000000.0	-61178000000.0
Change In Other Working Capital	-92285000000.0	-42799000000.0
Change In Other Current Assets	-42434000000.0	-17949000000.0
Change In Payables And Accrued Expense	7827000000.0	-352000000.0
Change In Payable	7827000000.0	-352000000.0
Change In Account Payable	7827000000.0	-352000000.0
Change In Receivables	-18012000000.0	-78000000.0
Changes In Account Receivables	-18012000000.0	-78000000.0
Other Non Cash Items	13750000000.0	15891000000.0
Deferred Tax	-3981000000.0	949000000.0
Deferred Income Tax	-3981000000.0	949000000.0
Depreciation Amortization Depletion	8614000000.0	8368000000.0
Depreciation And Amortization	8614000000.0	8368000000.0
Net Income From Continuing Operations	29131000000.0	36431000000.0