

## SCRIPTING FOR LINE GRAPHS – PYTHON (PANDAS)

```
In [1]: pip install xlrd
pip install openpyxl

Input In [1]
pip install xlrd
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SyntaxError: invalid syntax
```

```
In [1]: import pandas as pd
import numpy as np
from pandas import Series, DataFrame
```

```
In [2]: Fortune1000dataset = pd.ExcelFile('Fortune_1000_2018_2022_companies_data.xlsx')
```

```
In [3]: dframe2022 = Fortune1000dataset.parse('2022')
dframe2021 = Fortune1000dataset.parse('2021')
dframe2020 = Fortune1000dataset.parse('2020')
dframe2019 = Fortune1000dataset.parse('2019')
dframe2018 = Fortune1000dataset.parse('2018')
```

```
In [106]: dframe2022['Year'] = 2022
dframe2021['Year'] = 2021
dframe2020['Year'] = 2020
dframe2019['Year'] = 2019
dframe2018['Year'] = 2018
```

```
In [122]: dframe2022.head()
```

Out[122]:

	Rank	Company Name	Type of Industry	Unique ID	Number of Employees	Change in Rank	Revenues\n(\$millions)	Revenue\nChange	Profits\n(\$millions)	Profit\nChange	Assets\n(\$millio
0	1	Walmart	Retail Company	Walmart_Retail Company	2300000	-	572754.0	0.024	13673	0.012	24486
1	2	Amazon	Technology Company	Amazon_Technology Company	1608000	-	469822.0	0.217	33364	0.564	42054
2	3	Apple	Technology Company	Apple_Technology Company	154000	-	365817.0	0.333	94680	0.649	35100
3	4	CVS Health	Healthcare Company	CVS Health_Healthcare Company	258000	-	292111.0	0.087	7910	0.102	23299
4	5	UnitedHealth Group	Healthcare Insurance Company	UnitedHealth Group_Healthcare Insurance Company	350000	-	287597.0	0.118	17285	0.122	21220

```
In [108]: dframe2021.head()
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Out[108]:

	Rank	Type of Industry	Unique ID	Number of Employees	Change in Rank	Revenues\n(\$millions)	Revenue\nChange	Profits\n(\$millions)	Profit\nChange	Assets\n(\$millions)	Market Value (\$m)	Year
Walmart	1	Retail Company	Walmart_Retail Company	2300000	-	559151.0	0.067	13510	-0.092	252496.0	382642.8	2021
Amazon	2	Technology Company	Amazon_Technology Company	1298000	-	386064.0	0.376	21331	0.841	321195.0	1558069.6	2021
Apple	3	Technology Company	Apple_Technology Company	147000	1	274515.0	0.055	57411	0.039	323888.0	2050685.9	2021
CVS Health	4	Healthcare Company	CVS Health_Healthcare Company	256500	1	268706.0	0.046	7179	0.082	230715.0	98653.2	2021
UnitedHealth Group	5	Healthcare Insurance Company	UnitedHealth Group_Healthcare Insurance Company	330000	2	257141.0	0.062	15403	0.113	197289.0	351725	2021

In [125]: `dframe2020.head()`

Out[125]:

	Rank	Company Name	Type of Industry	Unique ID	Number of Employees	Change in Rank	Revenues\n(\$millions)	Revenue\nChange	Profits\n(\$millions)	Profit\nChange	Assets\n(\$millions)
0	1	Walmart	Retail Company	Walmart_Retail Company	2200000	-	523964.0	0.019	14881	1.231	236495.0
1	2	Amazon	Technology Company	Amazon_Technology Company	798000	3	280522.0	0.205	11588	0.15	225248.0
2	3	Exxon Mobil	Oil And Gas Company	Exxon Mobil_Oil And Gas Company	74900	-1	264938.0	-0.087	14340	-0.312	362597.0
3	4	Apple	Technology Company	Apple_Technology Company	137000	-1	260174.0	-0.02	55256	-0.072	338516.0
4	5	CVS Health	Healthcare Company	CVS Health_Healthcare Company	290000	3	256776.0	0.32	6634	-	222449.0

In [123]: `dframe2019.head()`

Out[123]:

	Rank	Company Name	Type of Industry	Unique ID	Number of Employees	Change in Rank	Revenues\n(\$millions)	Revenue\nChange	Profits\n(\$millions)	Profit\nChange	Assets\n(\$millions)
0	1	Walmart	Retail Company	Walmart_Retail Company	2200000	-	514405.0	0.028	6670	-0.324	215000.0
1	2	Exxon Mobil	Oil And Gas Company	Exxon Mobil_Oil And Gas Company	71000	-	290212.0	0.188	20840	0.057	346000.0
2	3	Apple	Technology Company	Apple_Technology Company	132000	1	265595.0	0.159	59531	0.231	365000.0
3	4	Berkshire Hathaway	Multinational Conglomerate Company	Berkshire Hathaway_Multinational Conglomerate ...	389000	-1	247837.0	0.024	4021	-0.911	707000.0
4	5	Amazon	Technology Company	Amazon_Technology Company	647500	3	232887.0	0.309	10073	2.321	162000.0

In [124]: `dframe2018.head()`

Out[124]:

	Rank	Company Name	Type of Industry	Unique ID	Number of Employees	Previous Rank	Revenues\n(\$millions)	Revenue\nChange	Profits\n(\$millions)	Profit\nChange	Assets\n(\$millions)
0	1	Walmart	Retail Company	Walmart_Retail Company	2300000.0	1	500343.0	0.03	9862	-0.277	215000.0
1	2	Exxon Mobil	Oil And Gas Company	Exxon Mobil_Oil And Gas Company	71200.0	4	244363.0	0.174	19710	1.514	346000.0
2	3	Berkshire Hathaway	Multinational Conglomerate Company	Berkshire Hathaway_Multinational Conglomerate ...	377000.0	2	242137.0	0.083	44940	0.867	707000.0
3	4	Apple	Technology Company	Apple_Technology Company	123000.0	3	229234.0	0.063	48351	0.058	365000.0
4	5	UnitedHealth Group	Healthcare Insurance Company	UnitedHealth Group_Healthcare Insurance Company	260000.0	6	201159.0	0.088	10558	0.505	162000.0

```
In [115]: concat_dframe = pd.concat([dframe2018,dframe2019,dframe2020,dframe2021,dframe2022], ignore_index = True)
```

```
In [119]: concat_dframe.sort_values('Company Name',ascending=True)
```

Out[119]:

Type of Industry	Unique ID	Number of Employees	Previous Rank	Revenues(\$millions)	Revenue Change	Profits(\$millions)	Profit Change	Assets(\$millions)	Market Value (\$m)	Year	Change in Rank
Garden Company	1-800-Flowers_Garden Company	4800	NaN	2122.2	0.425	118.7	1.011	1076.7	830	2022	-
ational merate mpany	3M_Multinational Conglomerate Company	96163	NaN	32136.0	-0.019	4570	-0.146	44659.0	78528.8	2020	-8
ational merate mpany	3M_Multinational Conglomerate Company	95000	NaN	35355.0	0.099	5921	0.1	47072.0	84738.3	2022	-6
ational merate mpany	3M_Multinational Conglomerate Company	94987	NaN	32184.0	0.001	5384	0.178	47344.0	111642.1	2021	7
ational merate mpany	3M_Multinational Conglomerate Company	91536.0	94	31657.0	0.051	4858	-0.038	37987.0	130550	2018	NaN
...	...	...	...	...	...	...	...	...	...	...	...
Media mpany	iHeartMedia_Media Company	9588	NaN	2948.2	-0.2	-1914.7	-	9203.0	2584.6	2021	-85
Media mpany	iHeartMedia_Media Company	18700.0	426	6178.0	-0.015	-704.4	-	12257.0	39	2018	NaN
Media mpany	iHeartMedia_Media Company	18300	NaN	6325.8	0.026	-201.9	-	12269.5	97.4	2019	-14
Estate rrtgage mpany	loanDepot_Real Estate Mortgage Company	11307	NaN	3943.2	-0.113	113.5	-0.944	11812.3	1290.3	2022	-117
Estate rrtgage mpany	loanDepot_Real Estate Mortgage Company	11763	NaN	4443.6	2.028	2013.1	57.487	10893.2	6089.1	2021	-

```
In [121]: concat_dframe.to_excel('Fortune1000_concatinated.xlsx')
```