

Stock index - a set of shares

| | |
|--------------------|------------------|
| Dow Jones Index | djx.txt, djx.csv |
| Nasdaq 100 Index | ndx.txt, ndx.csv |
| S&P 500 Index | spx.txt, spx.csv |
| Russell 1000 Index | rux.txt, rux.csv |

Each stock has the following items (attributes)

- 1) Symbol
- 2) Name
- 3) Sector
- 4) Industry
- 5) Exchange
- 6) Options
- 7) "Market Cap [K\$]"
- 8) Volume
- 9) Price
- 10) Earnings
- 11) Price/Earnings
- 12) Dividend

Files with the extension "txt" have one items per line.

In files with the extension "csv" , all items of one share are on one

How to convert the contents of a file `djx.txt` that has one entry per line:

```
Symbol
Name
Sector
Industry
Exchange
Options
"Market Cap [K$]"
Volume
Price
Earnings
Price/Earnings
Dividend
```

to the file `djx.csv`, which has all 12 items of the stock on one line:

```
Symbol,Name,Sector,Industry,Exchange,Options,"Market Cap [K$]",Volume,Price,Earnings,Price/Earnings,Dividend
```

How to convert the contents of the `djx.csv` file

```
Symbol,Name,Sector,Industry,Exchange,Options,"Market Cap [K$]",Volume,Price,Earnings,Price/Earnings,Dividend
```

to the `djx.txt` file format

```
Symbol  
Name  
Sector  
Industry  
Exchange  
Options  
"Market Cap [K$]"  
Volume  
Price  
Earnings  
Price/Earnings  
Dividend
```

List every third stock (except for comments and headers every third line) from the djsx.csv file.

Example of output:

```
AXP,"American Express Company",Finance,"Finance - Misc Services",NYSE,Yes,73756504,7037700,91.60,5.60,16.95,0.430
CRM,"Salesforce.com Inc","Computers and Technology","Computer - Software",NYSE,Yes,216971296,4425400,238.43,1.50,166.87,N/A
DIS,"Walt Disney Company","Consumer Discretionary","Media Conglomerates",NYSE,Yes,214082752,11654600,118.47,3.28,37.59,0.880
HD,"Home Depot",Retail-Wholesale,"Building Prds Retail - Wsale",NYSE,Yes,290341728,3255800,269.72,10.91,25.37,1.500
INTC,"Intel Corp","Computers and Technology","Semi General",NASDAQ,Yes,181336496,45066000,44.25,5.31,8.60,0.330
```

How many stocks do the individual indices contain: `djx.csv`, `ndx.csv`, `spx.csv`, `rux.csv`?

Example of output:

30

103

505

1010

List the 10 most expensive companies (largest value of item "Market Cap", item 7) in Dow Jones (djsx.csv)?

Example of output:

```
AAPL,"Apple Inc","Computers and Technology","Computer - Mini",NASDAQ,Yes,1927912160,143937797,111.20,3.30,35.47,0.205
MSFT,"Microsoft Corp","Computers and Technology","Computer - Software",NASDAQ,Yes,1532833600,51195500,202.68,5.75,34.45,0.510
WMT,"Wal-Mart Stores",Retail-Wholesale,"Retail - Supermarket",NYSE,Yes,396838752,5616400,140.04,5.28,27.06,0.540
JNJ,"Johnson & Johnson",Medical,"Large Cap Pharma",NYSE,Yes,364238656,8426000,138.36,8.05,17.78,1.010
V,"Visa Inc","Business Services","Financial Transaction Services",NYSE,Yes,351318272,17809400,180.87,5.38,35.33,0.300
```

For each stock, indicate in how many different indexes it is included?

Example of output:

```
1 AAXN,"Axon Inc","Industrial Products","Protection - Safety",NASDAQ,Yes,6474552,456400,102.00,-0.55,0.00,N/A
1 ACAD,"Acadia Pharmaceutica",Medical,"Medical - Biomedical",NASDAQ,Yes,7319551,2099100,46.42,-1.47,0.00,N/A
...
4 MSFT,"Microsoft Corp","Computers and Technology","Computer - Software",NASDAQ,Yes,1532833600,51195500,202.68,5.75,34.45,0.510
4 WBA,"Walgreens Boots Alliance",Retail-Wholesale,"Retail - Drug Stores",NASDAQ,Yes,29952036,7286900,34.59,4.74,7.59,0.468
```

How many stocks are included in only one index, in two indices, in three indices, in four indices?

Example of output:

```
514 1
405 2
100 3
  6 4
```


From what different sectors (column 3) are stocks in the Dow Jones index (djx.csv)?

Example of output:

Aerospace
Auto-Tires-Trucks
Basic Materials
Business Services
Computers and Technology
Conglomerates
...

How many stocks represent these sectors in the Dow Jones index (djsx.csv)?

Example of output:

```
1 Aerospace
1 Basic Materials
1 Business Services
6 Computers and Technology
2 Conglomerates
```

Which sector is most represented (the largest number of stocks) in the Dow Jones index (djsx.csv)?

Example of output:

6 Computers and Technology

Which indexes contain the stock ZM (Zoom Video Communications Cl A)?

Example of output:

ndx.csv

rux.csv

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Which firms do not pay dividends (N/A in item 12) in the Dow Jones index (djsx.csv)?

Example of output:

```
CRM,"Salesforce.com Inc","Computers and Technology","Computer - Software",NYSE,Yes,216971296,4425400,238.43,1.50,166.87,N/A
```

Which stocks represent the "Finance" sector in the Dow Jones index (djsx.csv)?

Example of output:

```
AXP,"American Express Company",Finance,"Finance - Misc Services",NYSE,Yes,73756504,7037700,91.60,5.60,16.95,0.430
GS,"Goldman Sachs Group",Finance,"Finance - Investment Brokers",NYSE,Yes,65295300,4214500,189.77,23.74,8.24,1.250
JPM,"JP Morgan Chase & Company",Finance,"Banks - Major Regional",NYSE,Yes,294215712,16389400,96.54,7.65,12.98,0.900
TRV,"The Travelers Companies Inc",Finance,"Insurance - Proprty & Casualty",NYSE,Yes,
30777044,2899700,121.50,8.86,13.44,0.850
```

Which stocks from the "Finance" sector has the largest dividend in the Dow Jones index (djsx.csv)?

Example of output:

```
GS,"Goldman Sachs Group",Finance,"Finance - Investment Brokers",NYSE,Yes,65295300,4214500,189.77,23.74,8.24,1.250
```