**Polish companies bankruptcy data Data Set**

**Source:**

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**Data Set Information:**

The dataset is about bankruptcy prediction of Polish companies. The data was collected from Emerging Markets Information Service (EMIS, [[Web Link]](http://www.securities.com/)), which is a database containing information on emerging markets around the world. The bankrupt companies were analyzed in the period 2000-2012, while the still operating companies were evaluated from 2007 to 2013.

**Attribute Information:**

X1 net profit / total assets   
X2 total liabilities / total assets   
X3 working capital / total assets   
X4 current assets / short-term liabilities   
X5 [(cash + short-term securities + receivables - short-term liabilities) / (operating expenses - depreciation)] \* 365   
X6 retained earnings / total assets   
X7 EBIT / total assets   
X8 book value of equity / total liabilities   
X9 sales / total assets   
X10 equity / total assets   
X11 (gross profit + extraordinary items + financial expenses) / total assets   
X12 gross profit / short-term liabilities   
X13 (gross profit + depreciation) / sales   
X14 (gross profit + interest) / total assets   
X15 (total liabilities \* 365) / (gross profit + depreciation)   
X16 (gross profit + depreciation) / total liabilities   
X17 total assets / total liabilities   
X18 gross profit / total assets   
X19 gross profit / sales   
X20 (inventory \* 365) / sales   
X21 sales (n) / sales (n-1)   
X22 profit on operating activities / total assets   
X23 net profit / sales   
X24 gross profit (in 3 years) / total assets   
X25 (equity - share capital) / total assets   
X26 (net profit + depreciation) / total liabilities   
X27 profit on operating activities / financial expenses   
X28 working capital / fixed assets   
X29 logarithm of total assets   
X30 (total liabilities - cash) / sales   
X31 (gross profit + interest) / sales   
X32 (current liabilities \* 365) / cost of products sold   
X33 operating expenses / short-term liabilities   
X34 operating expenses / total liabilities   
X35 profit on sales / total assets   
X36 total sales / total assets   
X37 (current assets - inventories) / long-term liabilities   
X38 constant capital / total assets   
X39 profit on sales / sales   
X40 (current assets - inventory - receivables) / short-term liabilities   
X41 total liabilities / ((profit on operating activities + depreciation) \* (12/365))   
X42 profit on operating activities / sales   
X43 rotation receivables + inventory turnover in days   
X44 (receivables \* 365) / sales   
X45 net profit / inventory   
X46 (current assets - inventory) / short-term liabilities   
X47 (inventory \* 365) / cost of products sold   
X48 EBITDA (profit on operating activities - depreciation) / total assets   
X49 EBITDA (profit on operating activities - depreciation) / sales   
X50 current assets / total liabilities   
X51 short-term liabilities / total assets   
X52 (short-term liabilities \* 365) / cost of products sold)   
X53 equity / fixed assets   
X54 constant capital / fixed assets   
X55 working capital   
X56 (sales - cost of products sold) / sales   
X57 (current assets - inventory - short-term liabilities) / (sales - gross profit - depreciation)   
X58 total costs /total sales   
X59 long-term liabilities / equity   
X60 sales / inventory   
X61 sales / receivables   
X62 (short-term liabilities \*365) / sales   
X63 sales / short-term liabilities   
X64 sales / fixed assets

**TASK:**

There are two datasets: train.csv and test.csv

Use information in train.csv to predict which banks in the test data are bankruptcy

**Relevant Papers:**

Zieba, M., Tomczak, S. K., & Tomczak, J. M. (2016). Ensemble Boosted Trees with Synthetic Features Generation in Application to Bankruptcy Prediction. Expert Systems with Applications. [[Web Link]](doi:10.1016/j.eswa.2016.04.001)

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