

A SOFTWARE GIVING YOUR DATA THE SENSE

 perSimplex

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PERSIMPLEX is an intelligent software tool designed for numeric data processing aimed at obtaining valuable *knowledge and information*.

PERSIMPLEX is designed for everybody who is intending to evaluate a big amount of data stored in computer databases in order to support *decision making and management tasks*.

The standard need of the users, who represent the numeric data and their changes in the traditional curve diagram, gave us the basic idea.

The graphic representation is advantageous due to several reasons. The main reason is better perception and understandability of the graphic representation than that of tables full of numbers and dates.

Simultaneously, *the shape of the diagram curves* is important since it is just this shape, which informs the user on the movement and changes of the numeric data.

For the user, it is *crucial* how deep is the curve slope while decreasing or increasing as well as it's any specific shape.

The problem arises as soon as the user has placed too much curves in the diagram. As shown in the figure, the diagram becomes less apprehensible even for as few as 100 different curves.

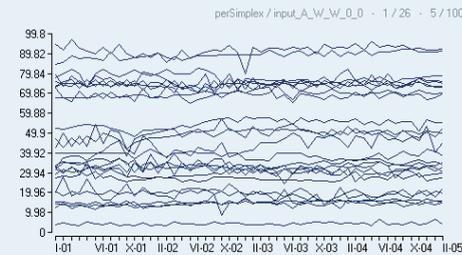
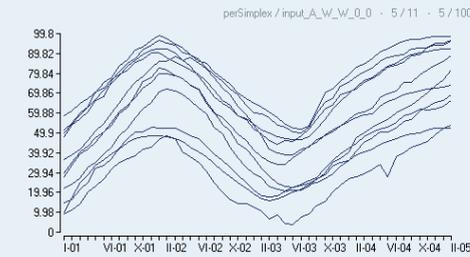
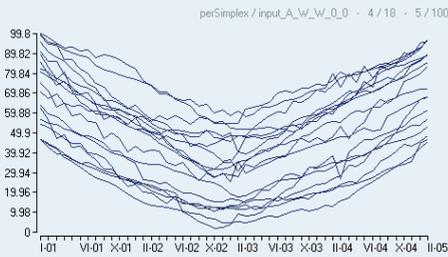
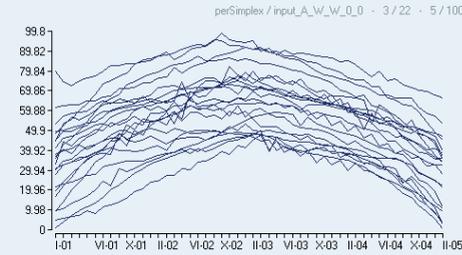
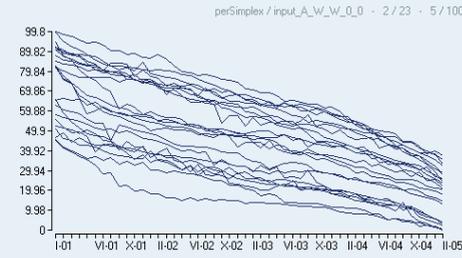
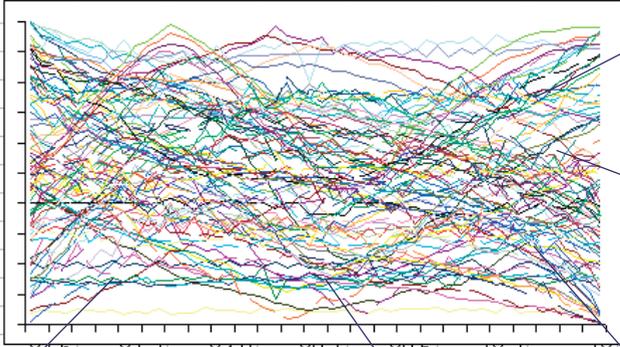
We just would like to remind you, that it is just *the curve shape*, which motivates the users to use the curve diagram for the data representation. Therefore, the shape similarity for the curves is a *natural criterion* for creation of clusters.

Therefore, if you want represent graphically *thousands or millions* of curves, such diagram becomes useless for practical purposes.

The solution of this problem is simple: The diagram curves should be divided in groups – *clusters of curves with similar shape*. And this is the basis of PERSIMPLEX.

Please note that for real data processing, the curves in the identified clusters have only *approximately identical shape* instead of the absolutely identical one.

	A	B	C	D	E	F	G	H	I	J
1	Name	I-01	II-01	III-01	IV-01	V-01	VI-01	VII-01	VIII-01	IX-01
2	Alison	99.1	94.7	92.4	90.7	88.3	85.4	83.4	82.5	80.8
3	Anna	82.3	78	74	66.2	63.1	64.6	61.2	59.5	59.1
4	Brenda	94.5	88	85.3	80.9	77.5	75.3	71.6	69.2	60.7
5	Brian	99.8	97.7	95	92.9	93.3	91.5	92	88	89.1
6	Brigitta	80	74.5							
7	Britney	44.4	53.2							
8	Carole	81.4	80.2							
9	Clare	77.7	80							
10	Claudia	79.4	73.3							
11	Cory	94.5	91.6							
12	Debbie	99.7	98.2							
13	Denise	3.9	4.9							
14	Diana	99	94.5							
15	Donna	44.8	49.5							
16	Dorothy	67.8	67.8							
17	Edith	61.4	62.4							
18	Elaine	91.9	91							



A SOFTWARE CHANGING YOUR DATA INTO INFORMATION

PERSIMPLEX is exceptional due to its ability to perceive *in reality the degree* of the curves shape similarity and the ability to utilize this similarity degree for the identification of the *substantial clusters* of curves.

Apparently, there is no need to emphasize that such tasks cannot be solved easily by the mean of standard software techniques.

The original PERSIMPLEX technology is based in advanced mathematical methods based on the so-called *Fuzzy Cluster Analysis*. From this point of view, PERSIMPLEX belongs to the category of *Artificial Intelligence* area products.

PERSIMPLEX brings unique and valuable information to the user on the real data *natural structure*, which is determined by the means of their allocation to various *characteristic clusters*.

To the users, the knowledge on such allocation allows, generally, the appropriate decision making based on undistorted learning of the individual clusters. Regardless whether *the numeric data* represent the company's customers, bank transactions, web data or movement of goods on the stock.

The input data shall not necessarily express only the dynamics change in time, i.e. the situation when the individual columns identify the daily hours, month days or year weeks. The data may include data which is *not homogeneous*, e.g. sex, age, qualification, income or number of children.

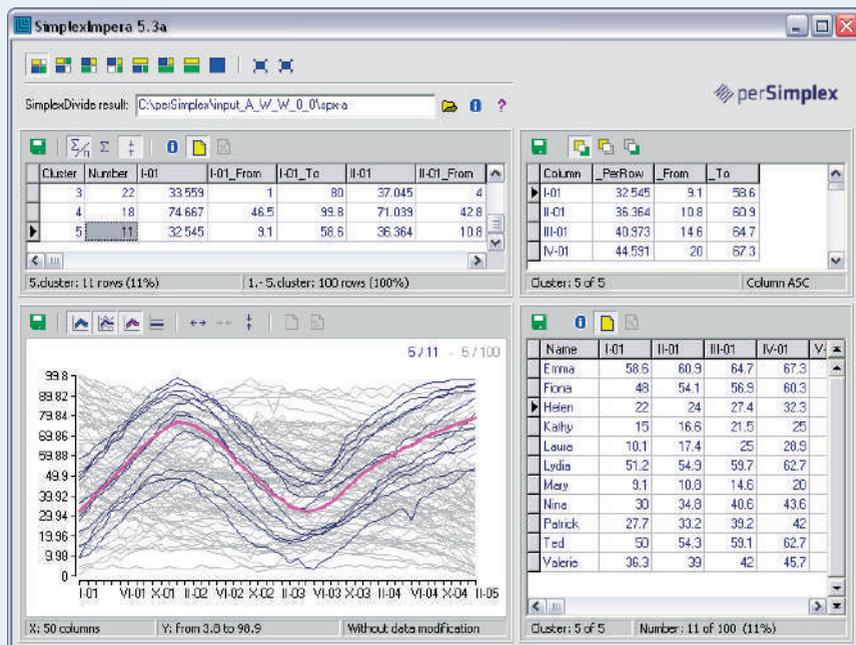
The only thing needed is the sufficient numerical representation of the data and then the use of PERSIMPLEX. Then, the cluster generation criterion becomes *multidimensional*. This allows the dealing with tasks related to the factor analysis.

The universality of PERSIMPLEX consists in *no content restrictions* applied for the processed data. Solely the user is to decide what type of data he needs to process. It is crucial only to prepare the input data so that their graphic representation should correspond to the user's intent. PERSIMPLEX is to solve the remainder.

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