Assignment 4

Multi-Variate Data, Scatter Plot, Parallel Coordinates

10 Points for Homework

Due Tuesday, June 4th, 23:59 (Paderborn time)

Upload your solutions to PANDA using the upload tool entitled with "Assignment 4".
Your submission has to include the source code and screenshots of your solution. Do NOT compress you files.

1. In class assignment:

Data Set "Leaves": Measurement results of the growth of leaves from three different types of trees (maple, aspen and pear) at different growing periods.

Type of tree	Age of Leaf	Length of Leaf	Width of Leaf
Maple	3 weeks	2.2 cm	1.8 cm
Maple	2 months	4.6 cm	5.5 cm
Maple	4 months	8.8 cm	10.0 cm
Aspen	3 weeks	1.2 cm	1.2 cm
Aspen	2 months	3.6 cm	3.6 cm
Aspen	4 months	7.5 cm	7.5 cm
Pear-Tree	3 weeks	3.2 cm	1.2 cm
Pear-Tree	2 months	7.0 cm	2.5 cm
Pear-Tree	4 months	11.0 cm	4.0 cm

(a) Set up the data model: Describe the characteristics of the data set "Leaves".
(b) Draw a scatter plot of length and width of leaves.
(c) Visualize data set with scatter plot matrix.
(d) Visualize data set with parallel coordinates.

2. Homework:

Given is an anonymized data set consisting of a lecture evaluation. The task is to find candidates for the Weierstrass-Price ("Best Teacher").

To decide which professor is worth considering for the award the following characteristics are checked: professor, lecture, number of participants visiting lecture, professional expertise, motivation, clear presentation and overall impression. Evaluation is given in grades (1.0 = very good, …, 5.0 = fail).

a) Visualize given data with a scatterplot matrix.
b) Visualize given data with parallel coordinates.

Deliverables: 2 images (PNG).

Data are provided under PANDA → Assignment 4 given as *.csv-file called → "DataWeierstrass.csv" and the included table has the following format:

professor	lecture	# participants	professional expertise	motivation	clear presentation	overall impression
prof01	lecture075	112	1.72	1.81	2.58	2.62
…	…	…	…	…	…	…

or rather:

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professor;lecture;participants;professional expertise;motivation;clear presentation;overall impression
prof01;lecture075;112;1.72;1.81;2.58;2.62
…
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Upload your PNG pictures and your code to PANDA. Do NOT compress you files as *.zip, *.rar or any other format.

The points you will receive for this assignment depend upon:

- correctness of solution
- expressiveness and effectiveness of solution