

The data set (and description) can be downloaded here:

<http://stat.ethz.ch/Teaching/Datasets/crabs.dat>

Description:

TITLE : crabs
KEYWORDS (statist) : discriminant analysis
APPLICATION AREA : biology, zoology, environment

SHORT DESCRIPTION :
Leptograpsus crabs
Data from Campbell & Mahon (1974) on the
morphology of
rock crabs of genus Leptograpsus. There are 50
specimens
of each sex of each of two colour forms.
Variables are:
- colour form (B = blue form, O = orange form);
- sex (M = male, F = female);
- index within each group of 50;
- frontal lip of carapace, in mm;
- rear width of carapace, in mm;
- length along the midline of carapace, in mm;
- maximum width of carapace, in mm;
- body depth, in mm.

DIM. (VAR./OBS.) : 5 / 200

/ LITERATURE : /

Ripley (1996): Pattern Recognition and Neural
Networks.

Descriptive statistics:

Dataset= crabB_MvsF : n= 100 , d= 5

Class1: n= 50

Covariance matrix:

	[,1]	[,2]	[,3]	[,4]	[,5]
[1,]	10.2560	6.5431	23.2955	26.6118	10.1705
[2,]	6.5431	4.4591	15.0789	17.2604	6.5481
[3,]	23.2955	15.0789	53.4167	60.9823	23.2389
[4,]	26.6118	17.2604	60.9823	69.7809	26.5889
[5,]	10.1705	6.5481	23.2389	26.5889	10.2393

Correlation matrix:

	[,1]	[,2]	[,3]	[,4]	[,5]
[1,]	1.0000	0.9676	0.9953	0.9948	0.9925
[2,]	0.9676	1.0000	0.9770	0.9785	0.9691
[3,]	0.9953	0.9770	1.0000	0.9988	0.9937
[4,]	0.9948	0.9785	0.9988	1.0000	0.9947
[5,]	0.9925	0.9691	0.9937	0.9947	1.0000

Median: 15.0469 11.8321 32.49 37.1878 13.571
 Mean: 14.842 11.718 32.014 36.81 13.35
 MCD-estimated:
 MDC-0.975-Mean: 14.4659 11.3439 31.0195 35.6024 12.8951
 MDC-0.750-Mean: 14.6091 11.4932 31.4068 36.0841 13.0795
 MDC-0.500-Mean: 14.4659 11.3439 31.0195 35.6024 12.8951

Class2: n= 50

Covariance matrix:

	[,1]	[,2]	[,3]	[,4]	[,5]
[1,]	6.9054	6.2789	15.4733	17.7981	7.1029
[2,]	6.2789	5.9473	14.2532	16.3893	6.5553
[3,]	15.4733	14.2532	35.0422	40.2104	16.1379
[4,]	17.7981	16.3893	40.2104	46.2908	18.5290
[5,]	7.1029	6.5553	16.1379	18.5290	7.5761

Correlation matrix:

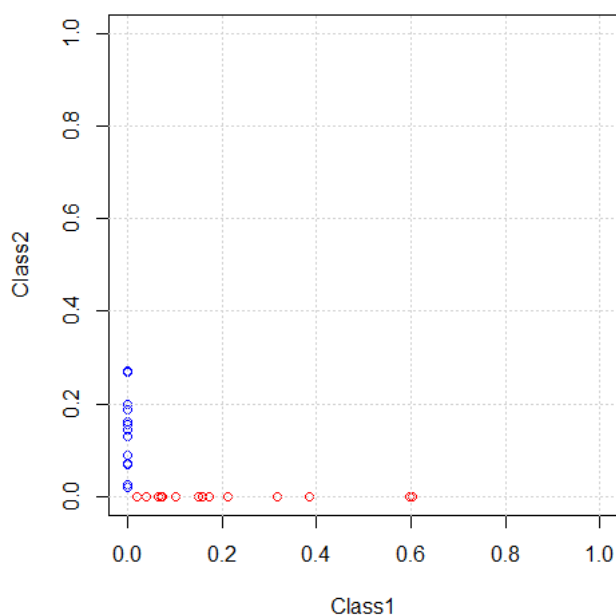
	[,1]	[,2]	[,3]	[,4]	[,5]
[1,]	1.0000	0.9798	0.9947	0.9955	0.9820
[2,]	0.9798	1.0000	0.9873	0.9878	0.9766
[3,]	0.9947	0.9873	1.0000	0.9984	0.9904
[4,]	0.9955	0.9878	0.9984	1.0000	0.9894
[5,]	0.9820	0.9766	0.9904	0.9894	1.0000

Median: 13.1586 12.0492 27.8601 32.293 11.5932
 Mean: 13.27 12.138 28.102 32.624 11.816
 MCD-estimated:
 MDC-0.975-Mean: 12.7163 11.586 26.7977 31.1256 11.2023
 MDC-0.750-Mean: 12.7163 11.586 26.7977 31.1256 11.2023
 MDC-0.500-Mean: 12.7163 11.586 26.7977 31.1256 11.2023

Measures:

Mah.Dist: 3.1111
 Mah.Dist-MCD-0.975: 2.5838
 Mah.Dist-MCD-0.750: 2.5838
 Mah.Dist-MCD-0.500: 2.6081

DD-Plot (zonoid): crabB_MvsF



DD-Plot (random Tukey) for crabB_MvsF

