

This module covers...

- Statistical Moments 1 - 4
 - 1st: mean / average / median
 - 2nd: standard deviation / variance
 - 3rd: skewness
 - 4rd: kurtosis
- Covariance, covariance matrices and correlation
- Multidimensional vector spaces

In this Video you will learn...

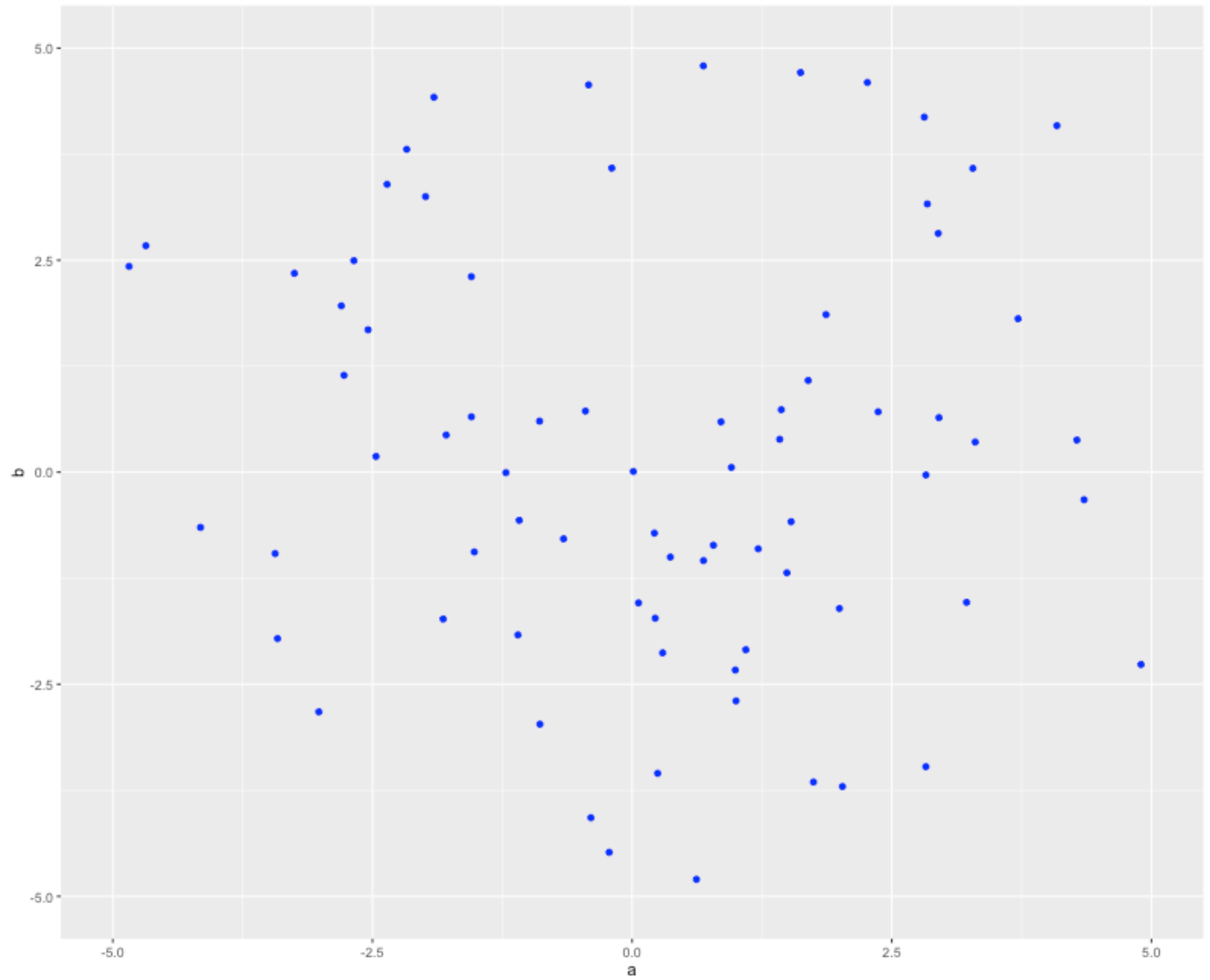
Multidimensional vector spaces

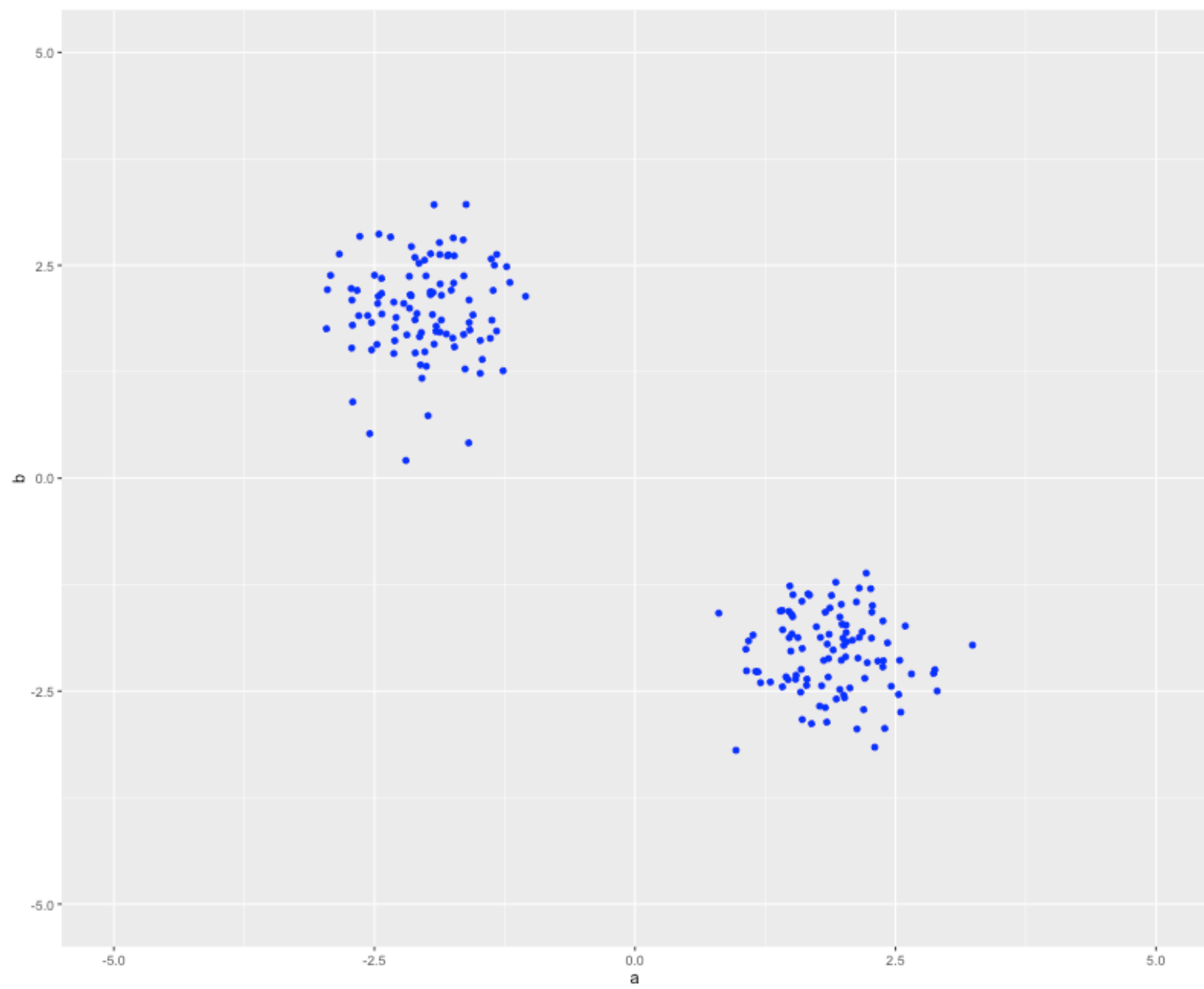
Multidimensional vector spaces

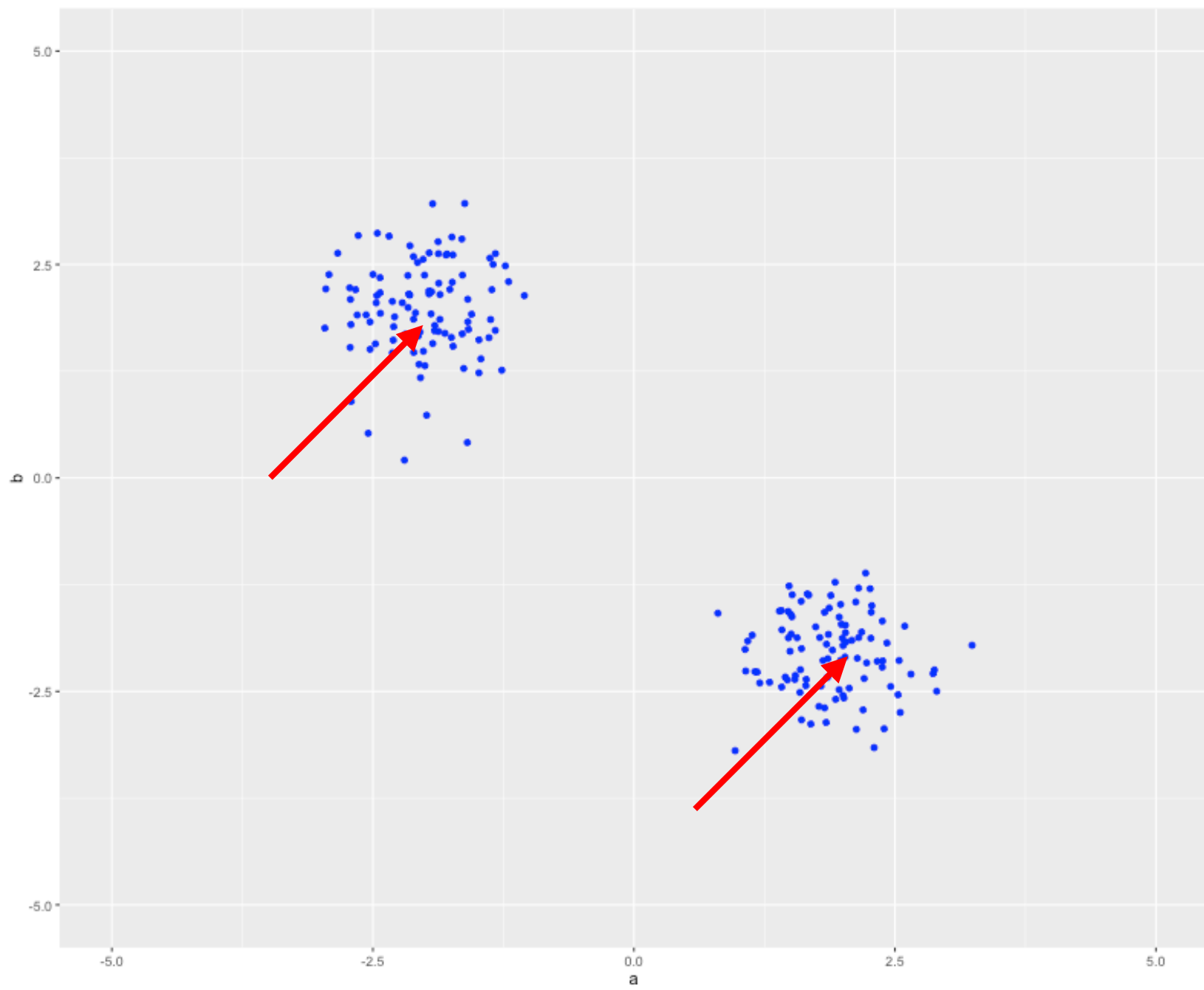
- what to do if you have more than three
 - columns
 - dimensions
 - features

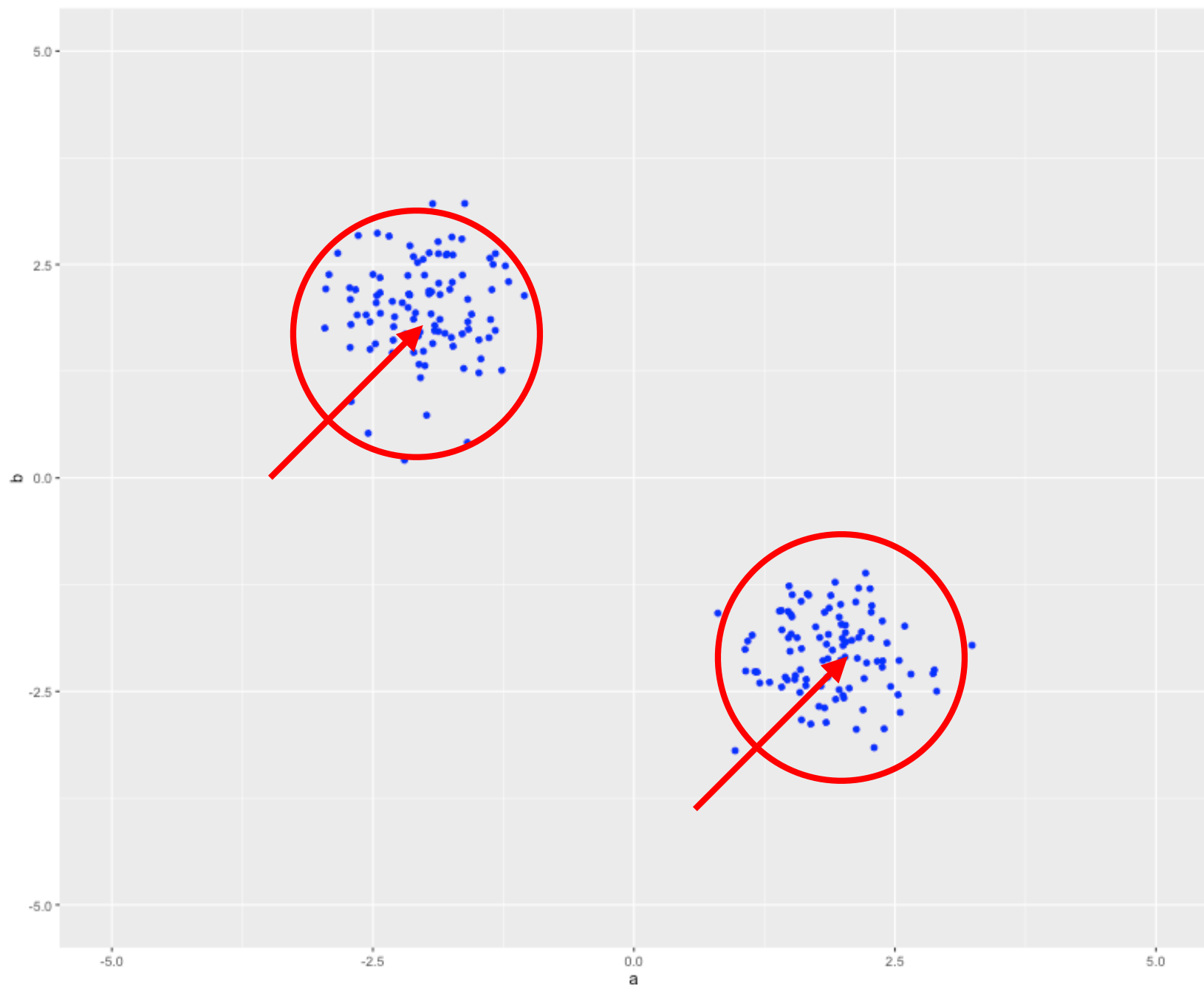
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3	-1.131817932	-0.699614649
4	-2.683678245	0.195370267
5	1.749825018	-0.330698751
6	-0.928641073	1.566158104
7	0.899575172	0.939946396
8	0.870280563	1.474927043
9	0.920410164	0.444397958
10	-1.024133867	1.210330365
11	-1.771609212	-0.431428949
12	-0.621395663	-0.010650813
13	-0.243071816	2.090911466
14	0.518914624	-0.319937917
15	1.013300717	1.590002247
16	-0.300278697	1.418503991
17	-0.608777993	0.856976445
18	-0.871403448	0.073136697
19	0.048412080	-0.641777024
20	-1.491374217	0.372062606
21	-0.657865978	-0.587405322
22	0.234750766	-0.314104583
23	1.021579971	0.539823173
24	-0.179681214	0.774507749
25	-0.781272219	-1.820271668
26	-0.655363690	-0.025649603
27	-0.292880427	-0.864829543
28	-0.295509338	-0.117709266
29	0.367665623	-2.779238203

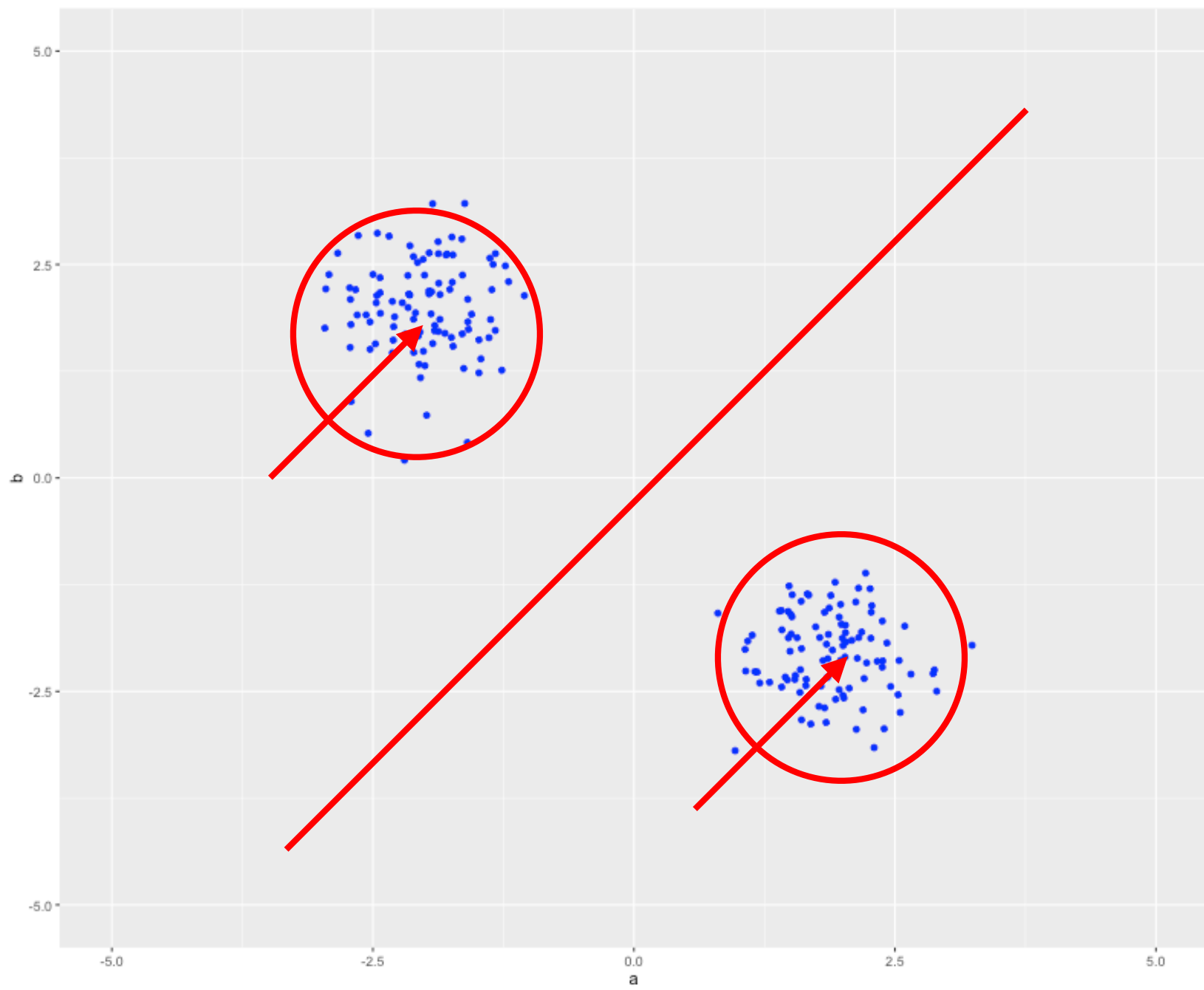
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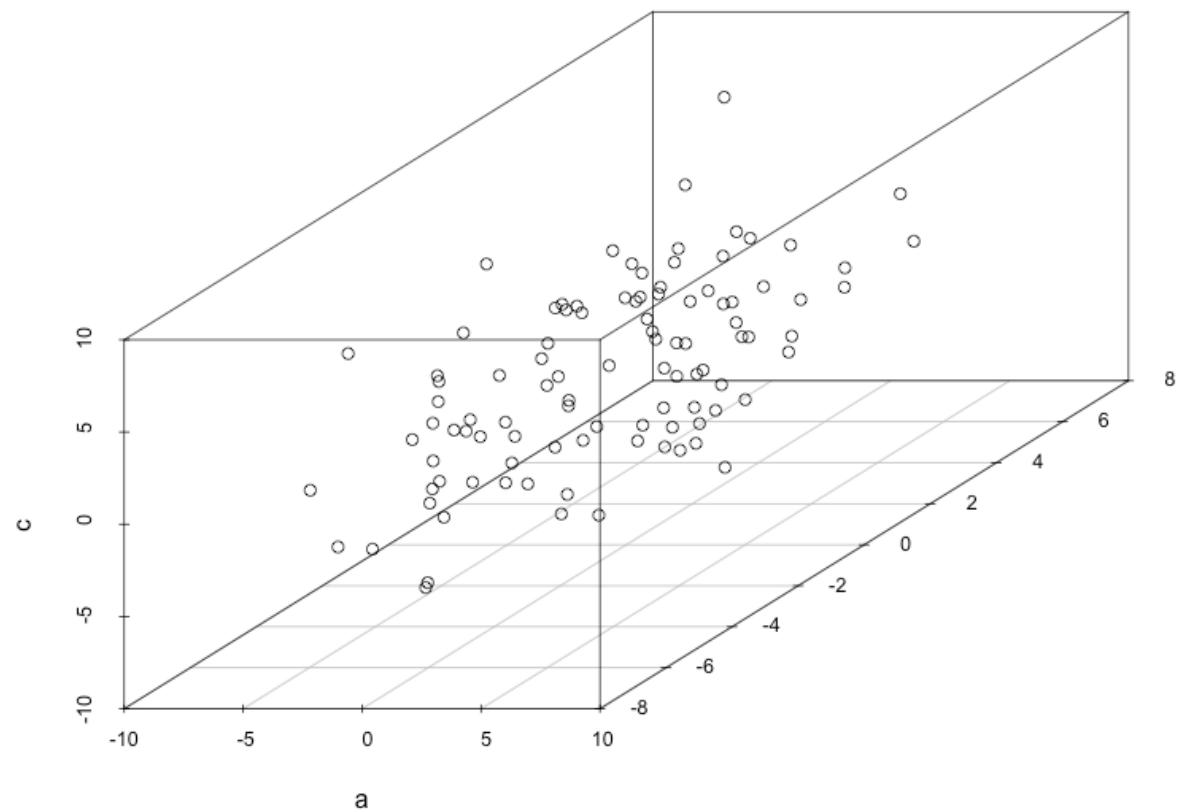


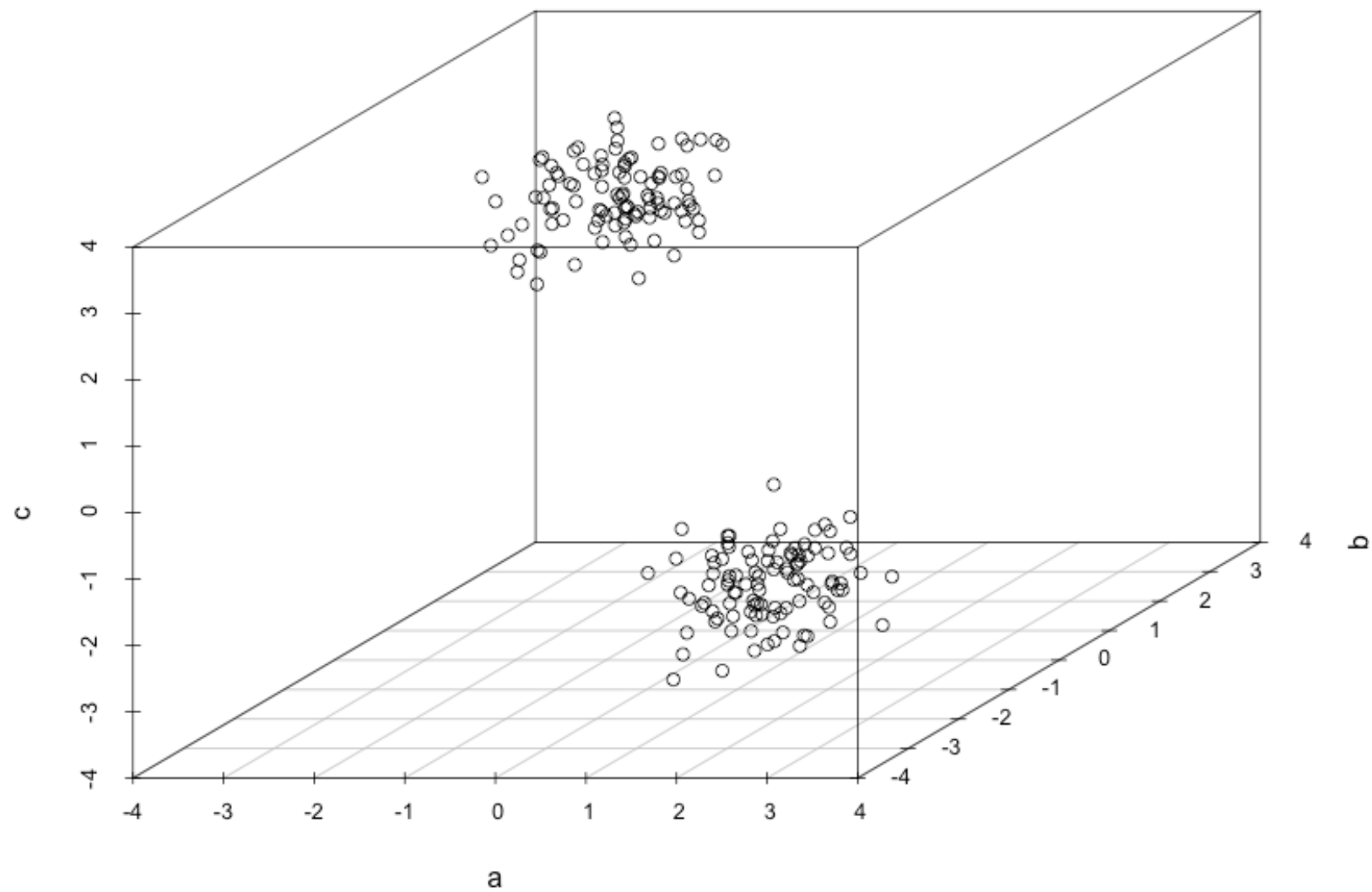


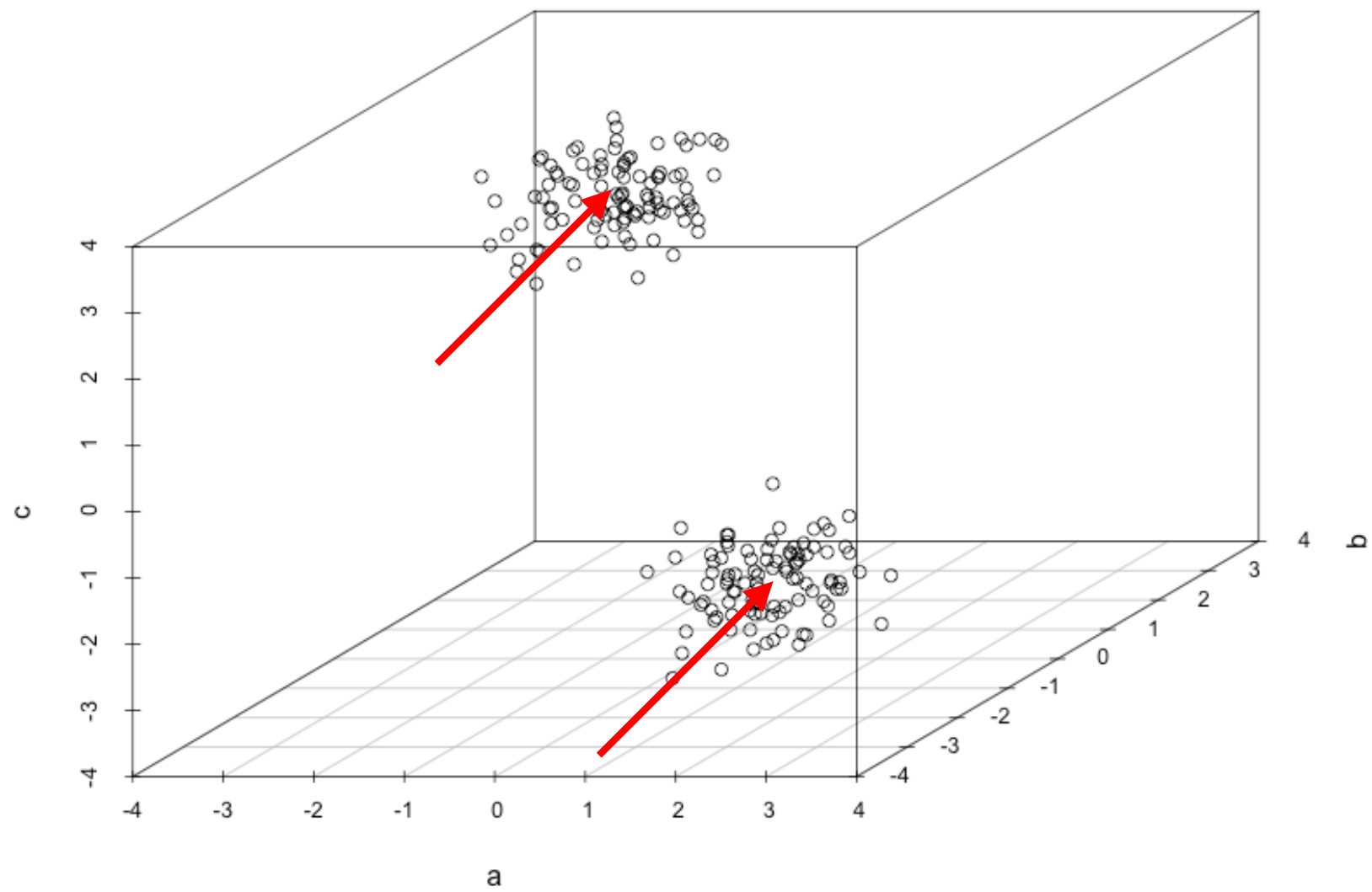


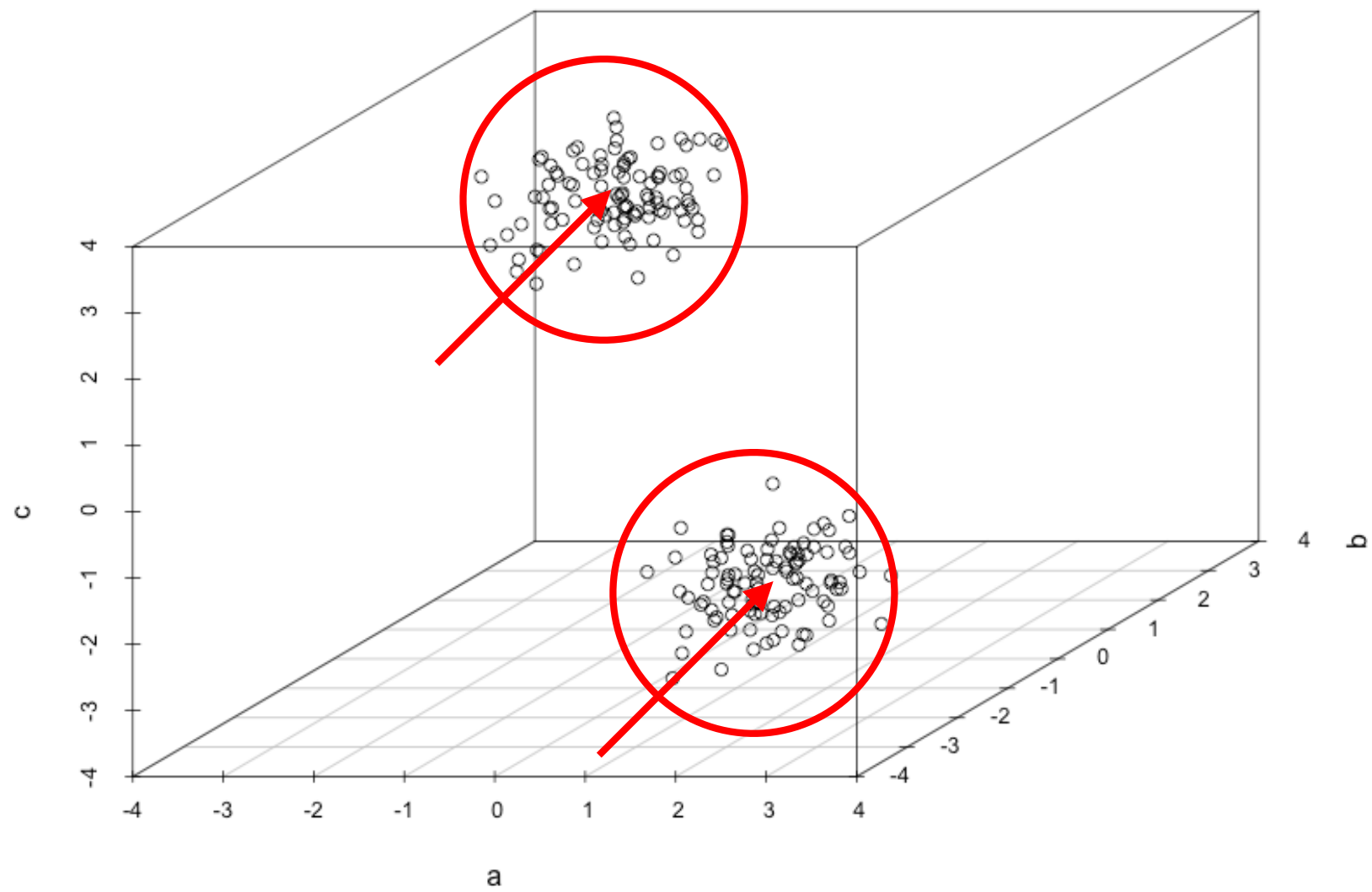


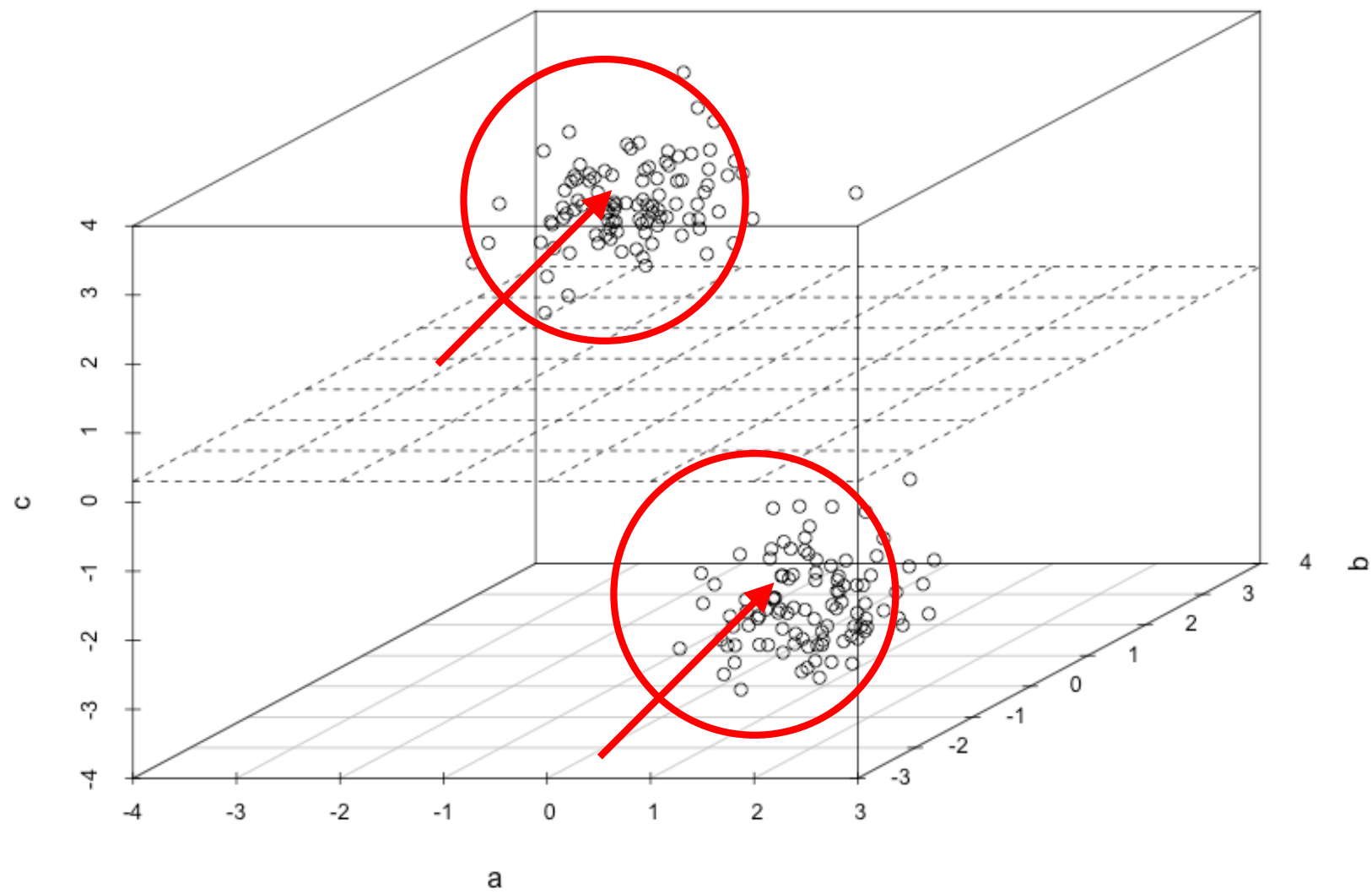
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6	5.15705376	-1.391037602	1.01389575
7	0.86662422	-0.127969118	-3.37673323
8	2.40733023	0.481904059	-3.96560917
9	2.15709270	-7.566656648	-3.64866568
10	1.52790587	0.293957282	-3.95959942
11	-0.74321970	-2.930610945	-2.31231032
12	-2.31907444	-1.704799287	-2.23064506
13	3.96291165	2.154209289	-1.08552648
14	3.04167807	1.407469877	-3.70042420
15	1.31825451	-0.475994535	5.25803538
16	-1.99372558	2.471108448	1.21642891
17	0.70367418	0.120154032	2.09863093
18	-0.04805700	-2.024727878	1.36529723
19	2.89562560	-2.918724089	-5.15555148
20	3.49889585	0.804904677	1.14762463
21	-1.86651116	-0.813828110	-3.80851901
22	3.45682602	2.422931500	-2.24931218
23	0.38038848	-2.027400510	-0.21944177
24	-4.42966158	4.162916856	-1.04277660
25	-1.48100865	1.483902222	1.77449968
26	-0.67768036	-4.729055267	1.47036347
27	1.66707208	5.400409215	-2.04315448
28	-0.55715361	1.974047421	3.85575792
29	0.85782012	-4.278319688	1.39653264











additional dimensions

- colours and different shapes for categorical dimensions
- remove irrelevant dimensions from plot
- create multiple plots for subsets of dimensions
- reduce dimensions algorithmically
- algorithms calculating cluster center / hyperplanes

Summary

- low dimensional data can be plotted using charts
- for data sets with more than three dimensions alternatives have to be used
- patterns in data can be seen as point clouds in multi dimensional vector space
- points, circles, lines, spheres, planes, hyperspheres and hyperplanes define center and boundaries

The next module covers...

Data Visualisation