Pattern Recognition
Spring 2019

Exercise 1b : First Clustering Task

Author : Sylvain Julmy

Professor : Dr. Andreas Fischer
Teaching Assistants : Paul Maergner, Linda Studer

Problems

JVM : I had some problem to run the whole experiment (26000 samples) due to memory overflow on the JVM. So I have only run the experiment for 10000 samples.

Dunn-Index I don't believe that I have managed to implements the Dunn-index correctly since I got very low value.

Remarks

I already know that I can save the distance matrix between the experiment, but I have encountered some problems using the matrix for some computation, so I recompute the distance to avoid to problems.
The source code is available in appendice.

Results

```
loaded 10000 points

run for k = 5
c-index    : 0.21763074932942766
dunn-index : 0.0377054548290667

run for k = 7
c-index    : 0.19931685705584504
dunn-index : 0.03158389320659047

run for k = 9
c-index    : 0.1882984897061028
dunn-index : 0.02231755203740108

run for k = 10
c-index    : 0.20668792866822322
dunn-index : 0.009200814540990237

run for k = 12
c-index    : 0.1982052908357665
dunn-index : 0.009309993980770268

run for k = 15
c-index    : 0.1837013475514325
dunn-index : 0.00949495039023326
```