## Homework 4 am4665

## Exercice 1:

Figure 1 represents the objective function value per iteration.

Figure 2 represents the clusters for K=3

Figure 3 represents the clusters for K=5

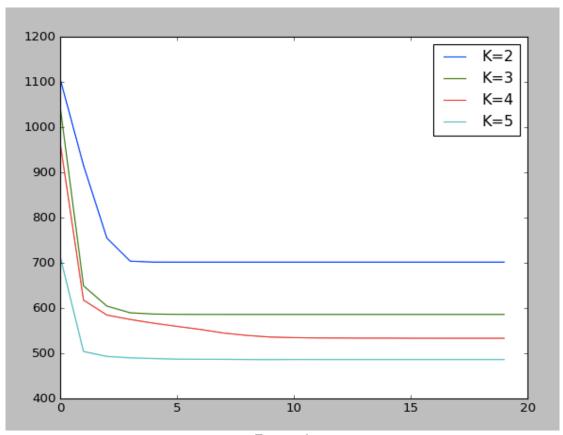


Figure 1

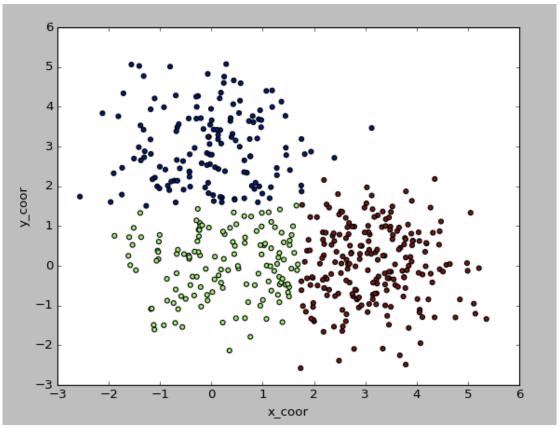


Figure 2

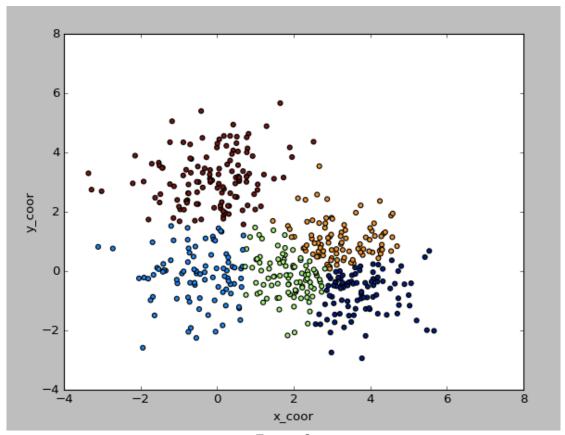
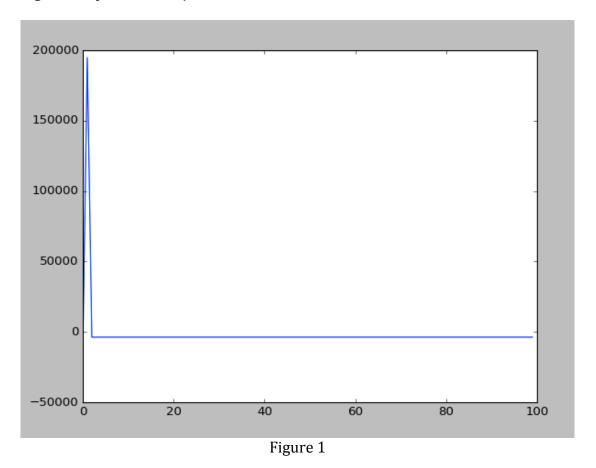


Figure 3

## Exercice 2:

Figure 1 represents the joint likelihood function for 100 iterations.



I have an issue with my first iteration, I couldn't identify the reason.

Here are the value of the final value of the objective function for each of the  $10 \, \mathrm{run}$ :