CS-E3210- Machine Learning Basic Principles
Home Assignment 5 - "Clustering"

Your solutions to the following problems should be submitted as one single pdf which does not contain any personal information (student ID or name). The only rule for the layout of your submission is that for each problem there has to be exactly one separate page containing the answer to the problem. You are welcome to use the LaTeX-file underlying this pdf, available under `https://version.aalto.fi/gitlab/junga1/MLBP2017Public`, and fill in your solutions there.

Problem 1: Hard Clustering

Answer.

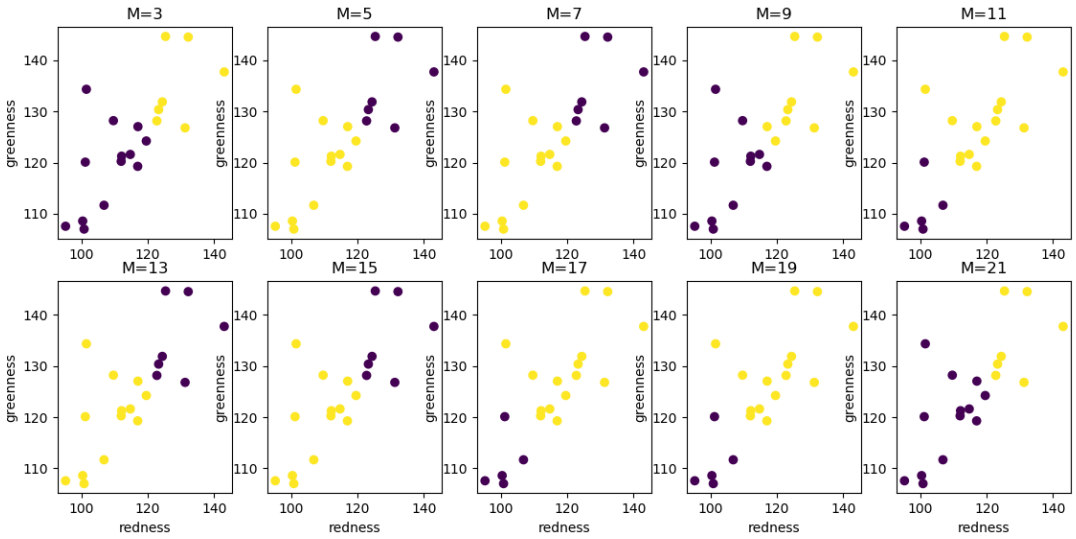

Figure 1: Clustering

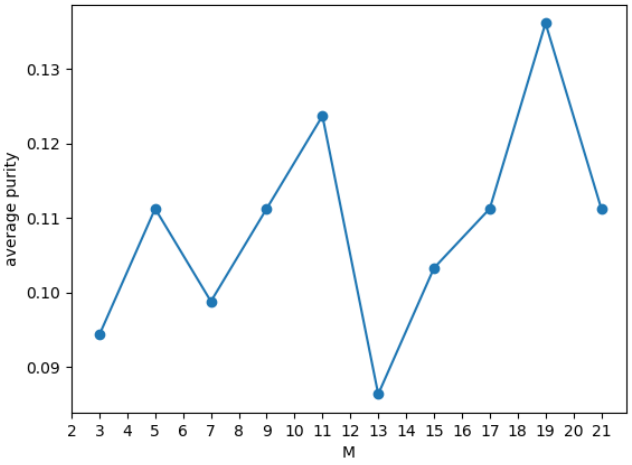

Figure 2: Average purity

From the Figure 2, we can see that the average purity oscillates around 0.1, with min ≈ 0.086, max ≈ 0.136.

Problem 2: Soft Clustering

Answer.

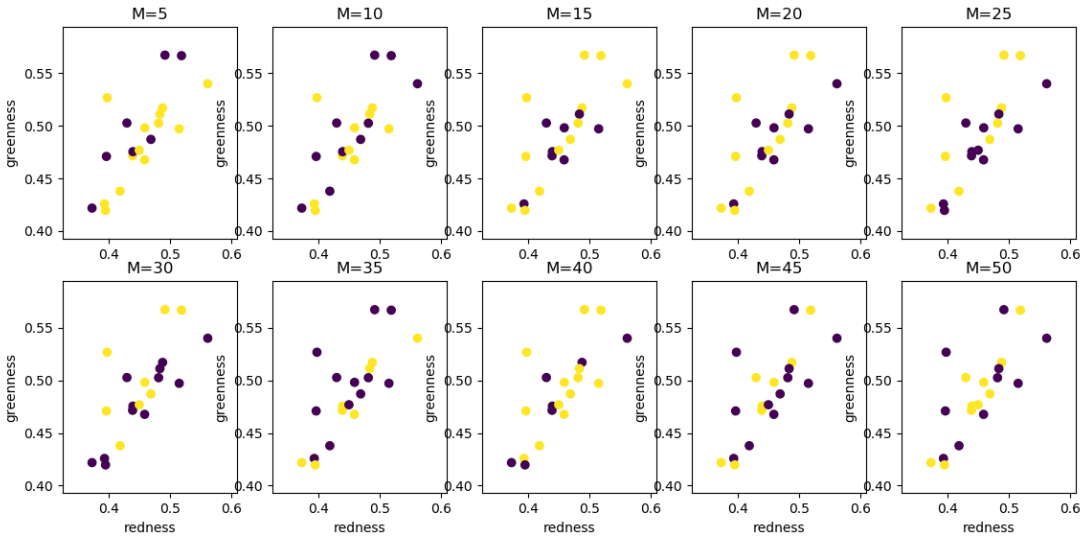

Figure 3: Clustering

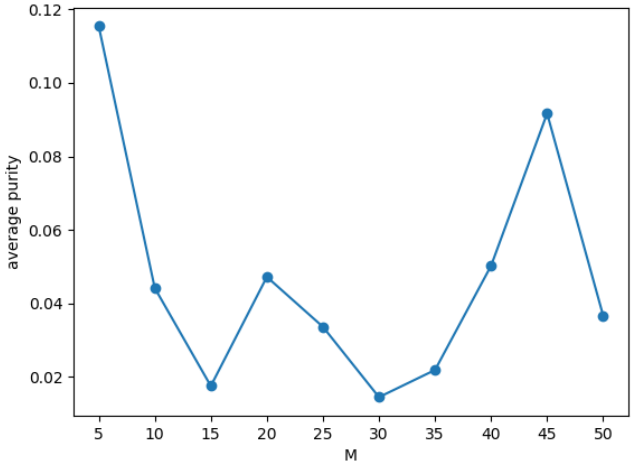

Figure 4: Average purity

After decreasing rapidly, the average purity will oscillates around 0.05.