

Homework 3 Self-Organising Map

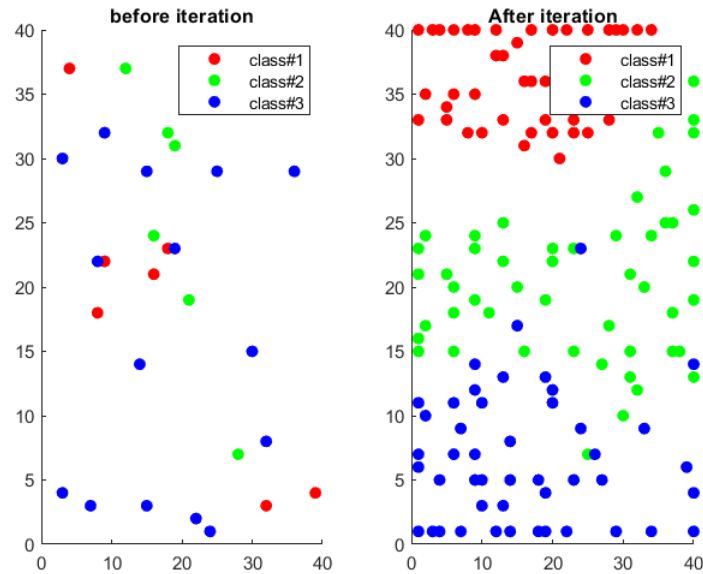


Figure 1: The location of the winning neuron in the output array

The plot on the left shows the closest location of the winning neuron before learning. Since the initial weights are randomly generated, the winning neurons are therefore located randomly.

However, from the plot on the right, the neurons are clearly separated into three parts, corresponding to three types of iris. It illustrates that if the patterns are close to each other, they should activate neurons also close to each other. The patterns belong to the first class are strictly separated (red dots). While some of the green dots are overlapped with blue ones, which means some of the irises are missed classified or perhaps these patterns are quite similar to each other.

Due to the random initial weights, the figure varies from each experiment. But it should give three clear clusters in general.