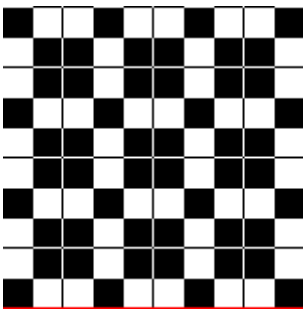
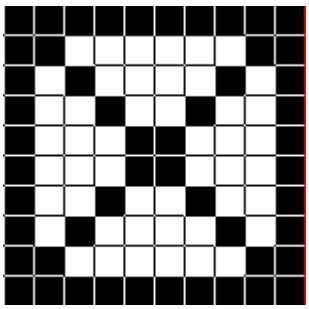
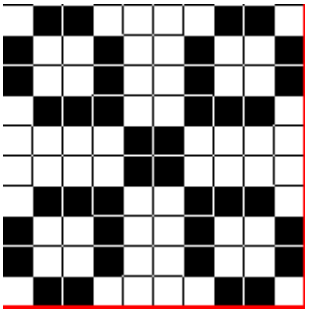
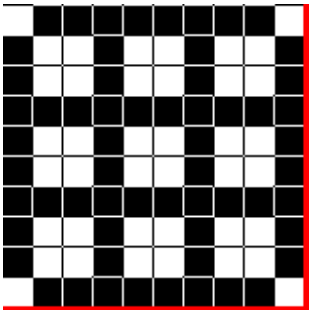
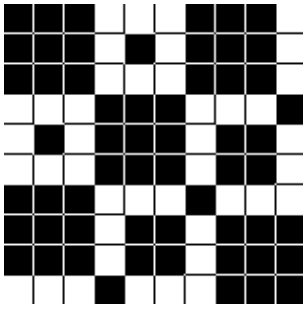
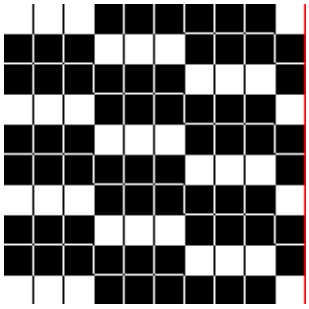
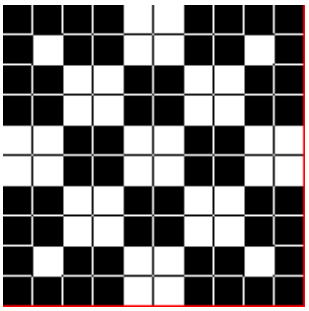
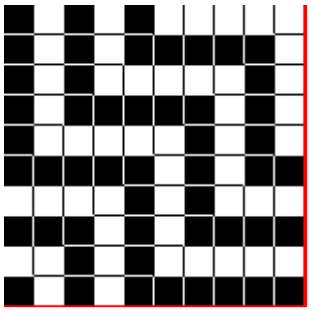
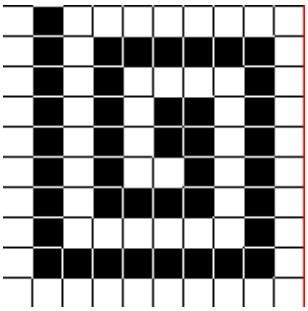
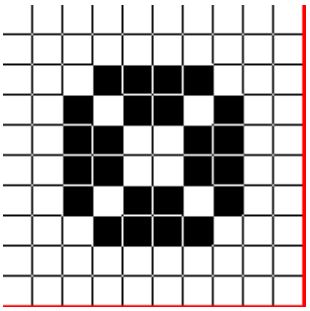
Olga Karpiuk AS-16

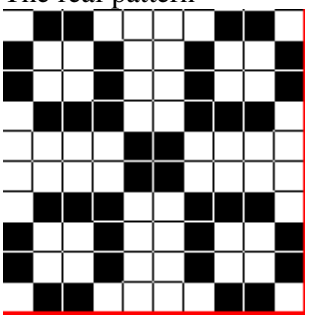
Exercise 1.

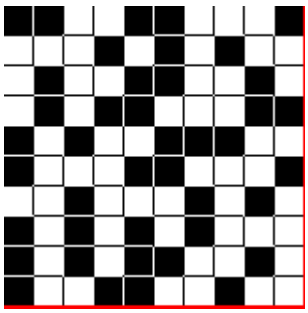
Exercise 2:

If the weights is random generated than the number of iterations of change patterns is infinity.

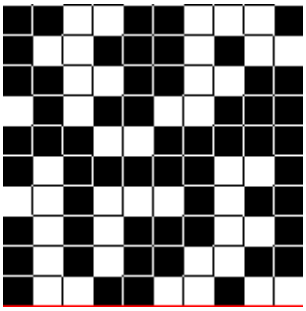
The real pattern



after 100 iterations



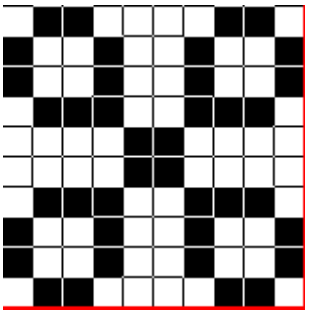
after 400 iterations



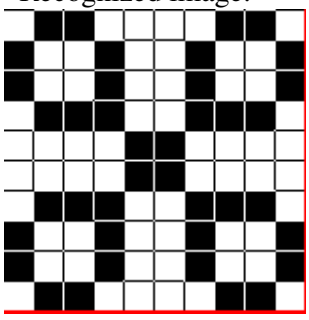
Exercise 3:

We studied network by formula: $$w_{ij} = \frac{1}{N}\sum_{\mu=1}^{p} \xi_i^\mu \xi_j^\mu \quad (i \neq j), \quad w_{ii} = 0.$$

On enter of network:



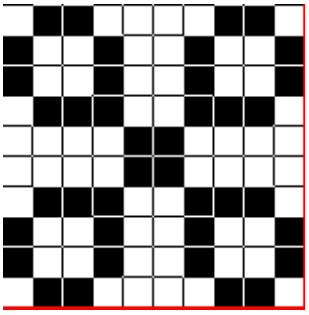
Recognized image:



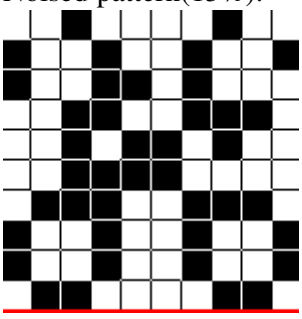
Exercise 4:

We studied network by formula: $$w_{ij} = \frac{1}{N}\sum_{\mu=1}^{p} \xi_i^\mu \xi_j^\mu \quad (i \neq j), \quad w_{ii} = 0.$$

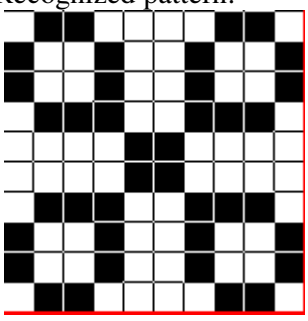
On enter of network:



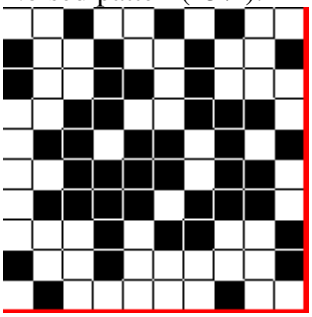
Noised pattern(15%):



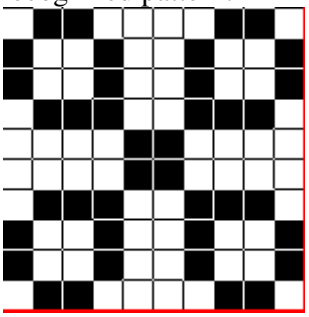
Recognized pattern:



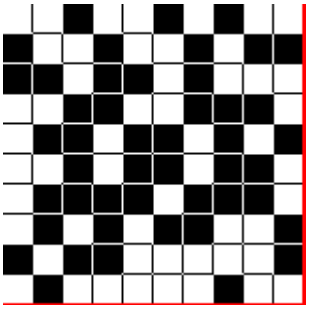
Noised pattern(25%):



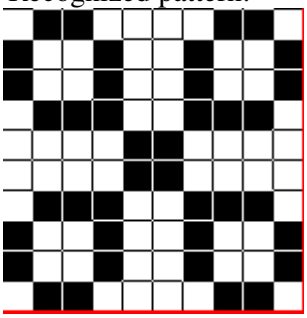
Recognized pattern:



Noised pattern(37%):

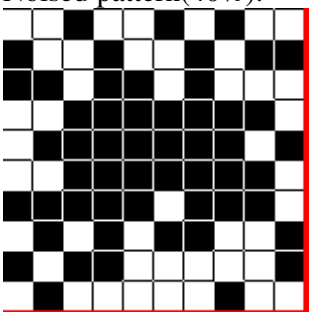


Recognized pattern:



The critical level of noise is about 40%

Noised pattern(40%):



Recognized pattern(invalid):