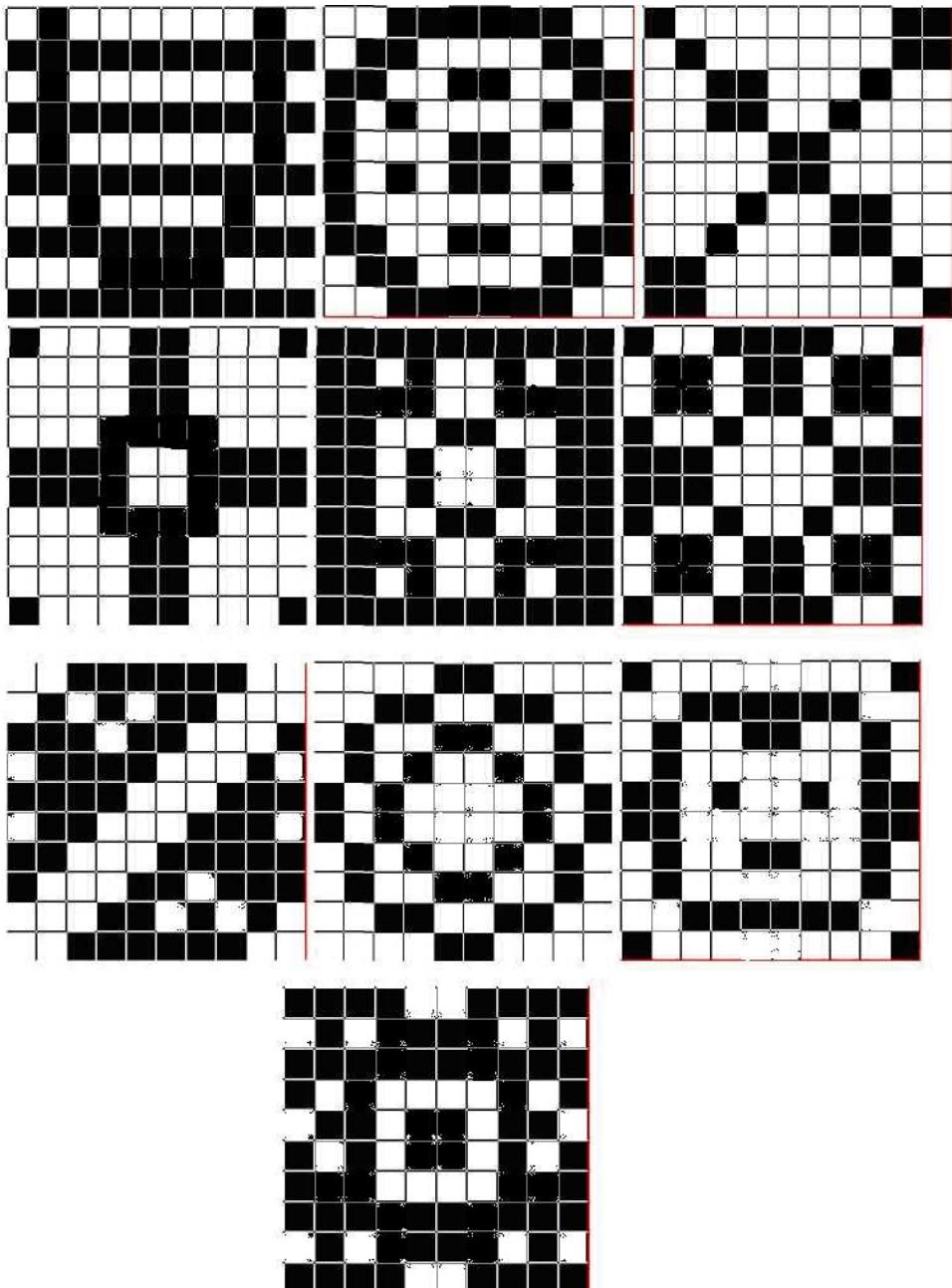


Oksana Zhdanovich AS-15

Exercise 1:



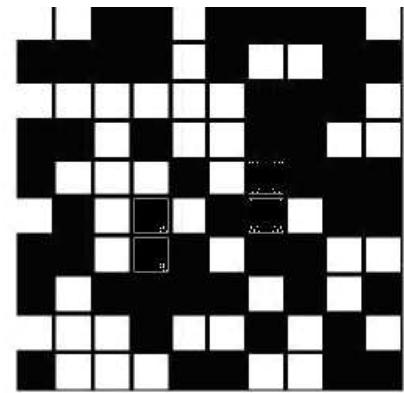
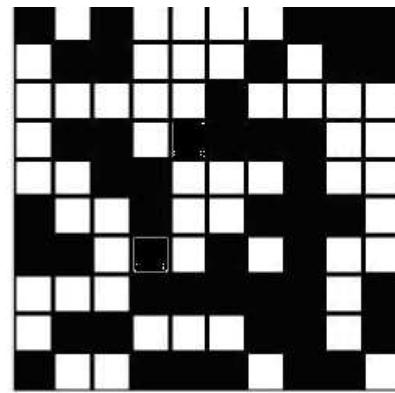
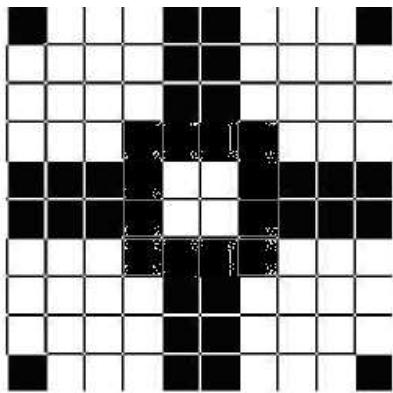
Exercise 2:

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

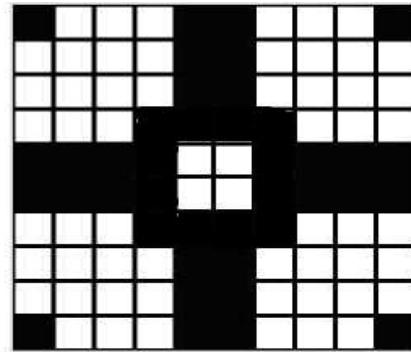
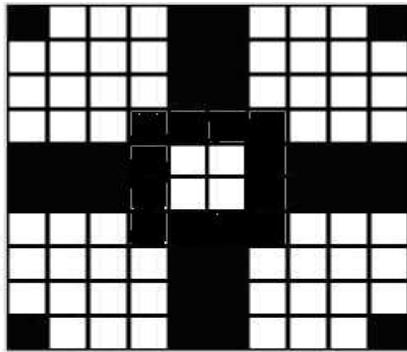


Exercise 3:

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:

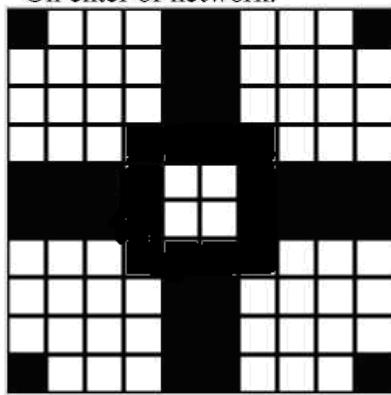
Recognized image:



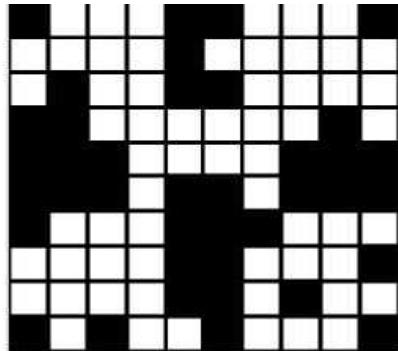
Exercise 4:

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

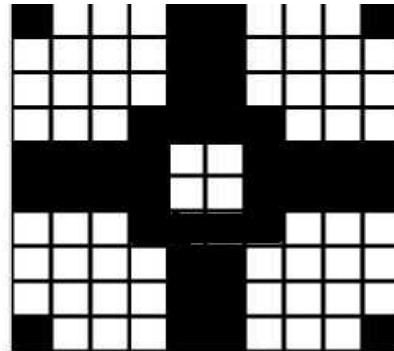
On enter of network:



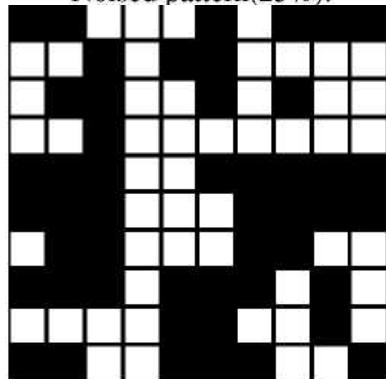
Noised pattern(15%):



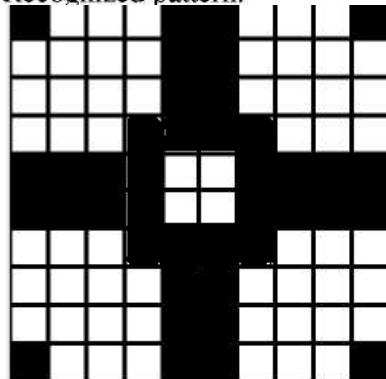
Recognized pattern:



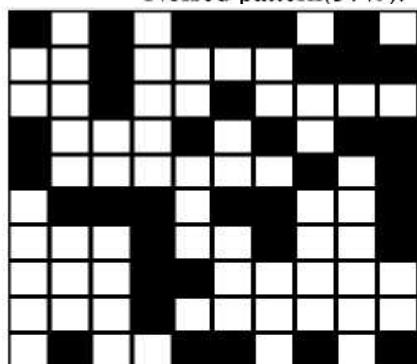
Noised pattern(25%):



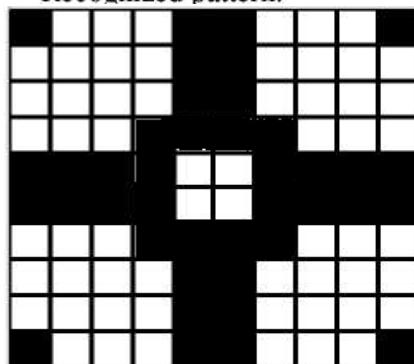
Recognized pattern:



Noised pattern(37%):

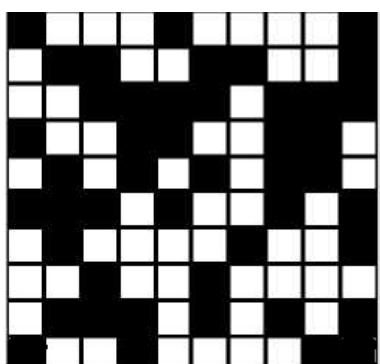


Recognized pattern:



The critical level of noise is about 40%

Noised pattern(40%):



Recognized pattern(invalid):

