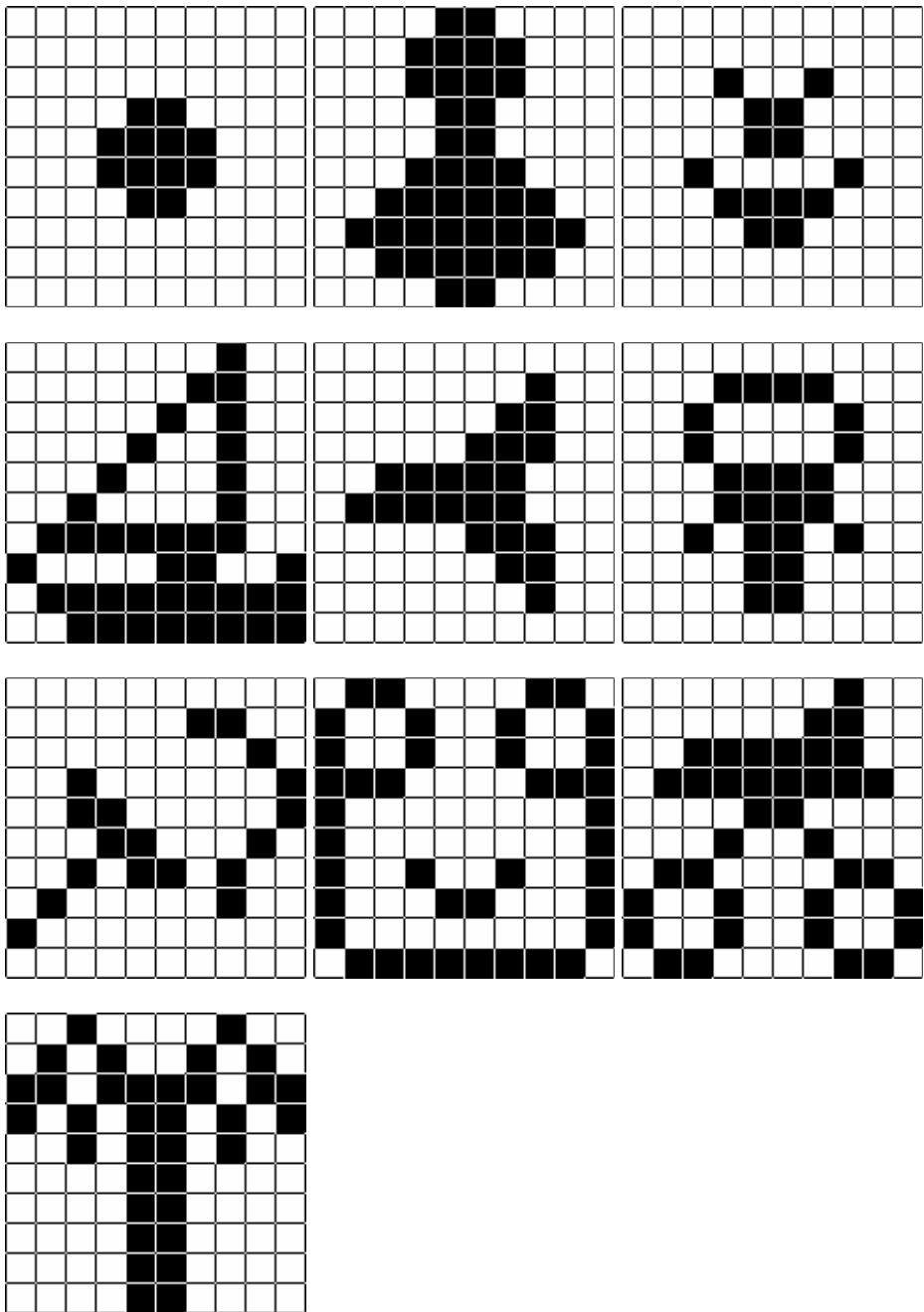


Student from group AS-16  
Zybailo Yury

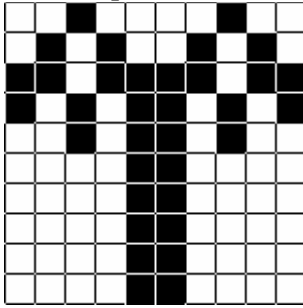
Exercise 1:



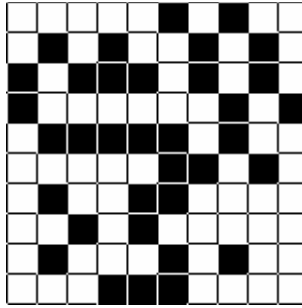
### Exercise 2:

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

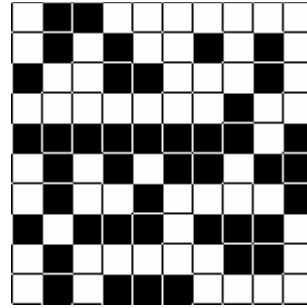
The real pattern



after 100 iterations



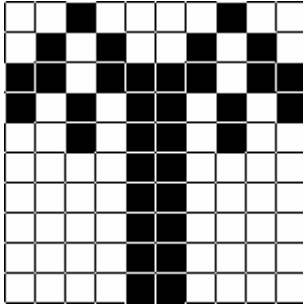
after 400 iterations



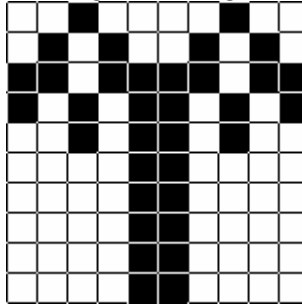
### Exercise 3:

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:



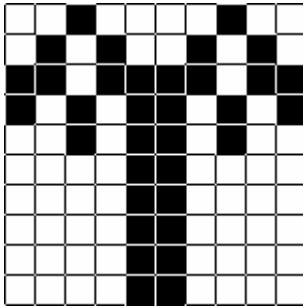
Recognized image:



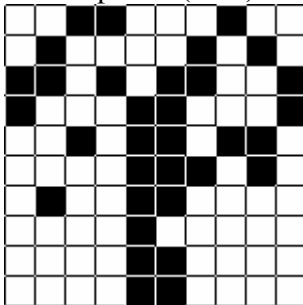
### Exercise 4:

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

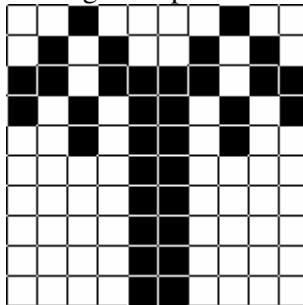
On enter of network:



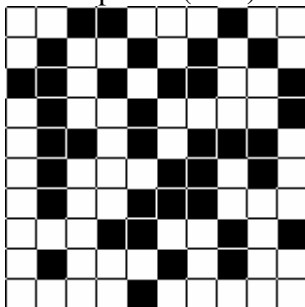
Noised pattern(10%):



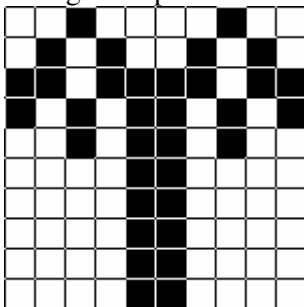
Recognized pattern:



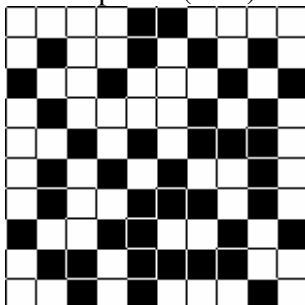
Noised pattern(30%):



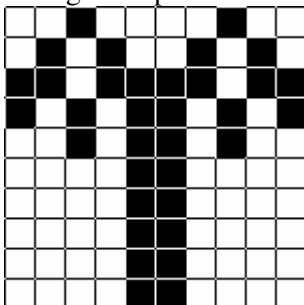
Recognized pattern:



Noised pattern(40%):

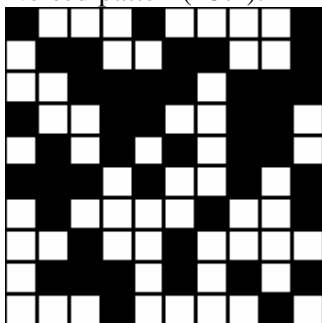


Recognized pattern:

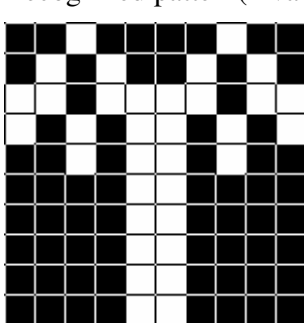


The critical level of noise is about 48%

Noised pattern(48%):



Recognized pattern(invalid):



The schedule of change of critical number:

