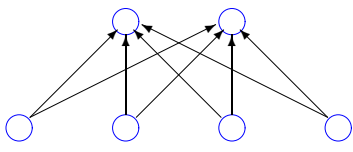






## Сеть Кохонена

Для обучения сети SOFM, имеющей четыре входных элемента и два кластерных, используются четыре образца, закодированные 1 (закрашенный квадрат) и 0 (пустой квадрат) слева направо, сверху вниз. Даны начальные весовые значения  $W_{i,j}$  и норма обучения  $\eta$ . Используя евклидову метрику, определить принадлежность образцов кластерным элементам и вычислить весовые значения после первого цикла обработки данных.

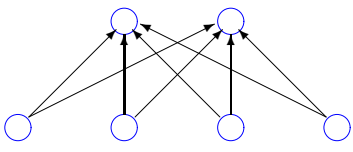
**Задача 9.1.** *Алехин Игорь*  
 $\eta = 0.4$







1)  2)   
 3)  4) 

$$W = \begin{vmatrix} 0.8 & 0.1 & 0.6 & 0.7 \\ 0.5 & 0.5 & 0.4 & 0.9 \end{vmatrix}$$

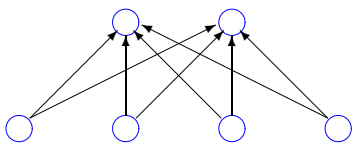
**Задача 9.2.** *Байкова Мария*  
 $\eta = 0.8$







1)  2)   
 3)  4) 

$$W = \begin{vmatrix} 0.4 & 0.4 & 0.8 & 0.9 \\ 0.4 & 1 & 0.8 & 0.5 \end{vmatrix}$$

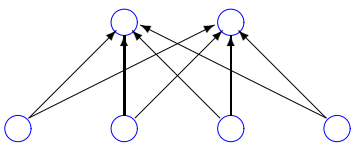
**Задача 9.3.** *Бак Илья*  
 $\eta = 0.5$







1)  2)   
 3)  4) 

$$W = \begin{vmatrix} 0.1 & 1 & 0.9 & 0.3 \\ 0.8 & 0.8 & 0.7 & 0.2 \end{vmatrix}$$

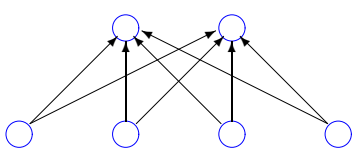
**Задача 9.4.** *Гольденберг Павел*  
 $\eta = 0.5$







1)  2)   
 3)  4) 

$$W = \begin{vmatrix} 0.1 & 1 & 0.1 & 0.5 \\ 0.6 & 0.9 & 0.7 & 0.2 \end{vmatrix}$$

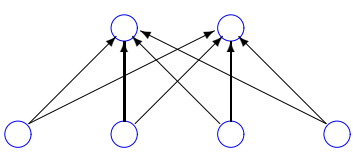
**Задача 9.5.** *Гусев Сергей*  
 $\eta = 0.7$







1)  2)   
 3)  4) 

$$W = \begin{vmatrix} 0.7 & 0.3 & 0.6 & 0.8 \\ 0.2 & 0.6 & 0.3 & 0.8 \end{vmatrix}$$

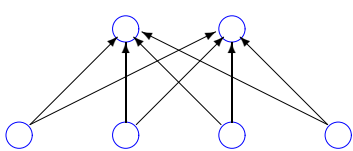
**Задача 9.6.** *Ерёмин Станислав*  
 $\eta = 0.5$







1)  2)   
 3)  4) 

$$W = \begin{vmatrix} 0.5 & 0.7 & 0.6 & 0.3 \\ 0.5 & 1 & 1 & 0.6 \end{vmatrix}$$

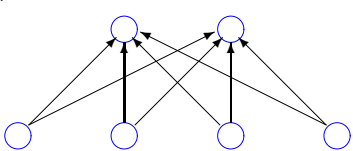
**Задача 9.7.** *Ермолаева Наталья*  
 $\eta = 0.5$







1)  2)   
 3)  4) 

$$W = \begin{vmatrix} 0.5 & 0.9 & 0.9 & 0.8 \\ 0.5 & 0.1 & 0.7 & 0.6 \end{vmatrix}$$

**Задача 9.8.** *Зайцев Андрей*  
 $\eta = 0.5$



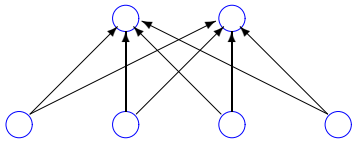
1)  2)   
 3)  4) 

$$W = \begin{vmatrix} 0.8 & 0.7 & 0.3 & 0.8 \\ 0.3 & 0.1 & 0.6 & 0.9 \end{vmatrix}$$

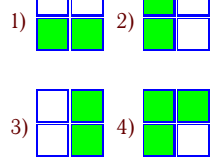
**Задача 9.9.**

Кленова Ирина

$\eta = 0.8$

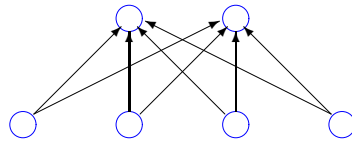


$$W = \begin{vmatrix} 0.5 & 0.4 & 0.3 & 0.1 \\ 0.5 & 0.3 & 0.8 & 0.6 \end{vmatrix}$$

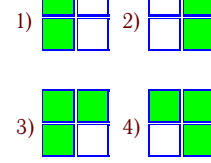
**Задача 9.10.**

Миронов Вадим

$\eta = 0.5$

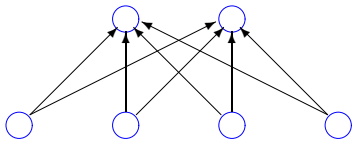


$$W = \begin{vmatrix} 0.7 & 0.6 & 0.1 & 0.5 \\ 0.3 & 0.1 & 0.9 & 0.8 \end{vmatrix}$$

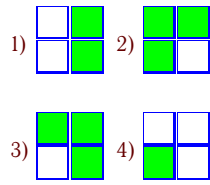
**Задача 9.11.**

Михайлов Дмитрий

$\eta = 0.5$

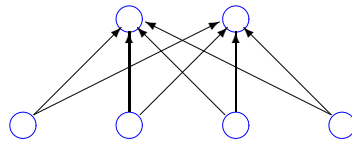


$$W = \begin{vmatrix} 0.9 & 0.6 & 0.8 & 0.1 \\ 1 & 0.7 & 0.1 & 1 \end{vmatrix}$$

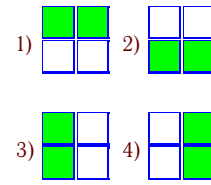
**Задача 9.12.**

Огневский Павел

$\eta = 0.5$

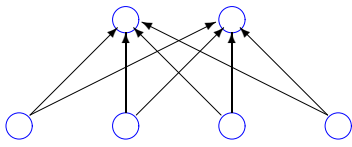


$$W = \begin{vmatrix} 0.3 & 0.6 & 0.8 & 1 \\ 0.2 & 0.3 & 0.3 & 0.4 \end{vmatrix}$$

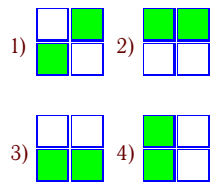
**Задача 9.13.**

Пур Мохаммад Бехруз

$\eta = 0.5$

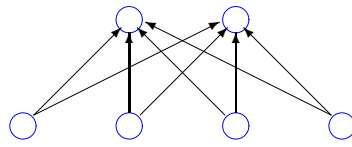


$$W = \begin{vmatrix} 0.2 & 1 & 0.2 & 1 \\ 0.6 & 0.7 & 0.9 & 0.3 \end{vmatrix}$$

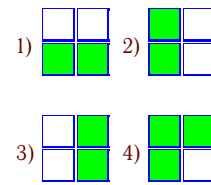
**Задача 9.14.**

Кондратьев Илья

$\eta = 0.5$

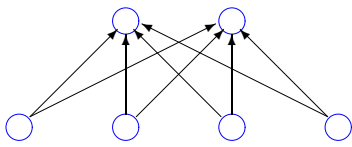


$$W = \begin{vmatrix} 0.6 & 0.6 & 0.7 & 0.7 \\ 0.5 & 0.6 & 0.3 & 0.7 \end{vmatrix}$$

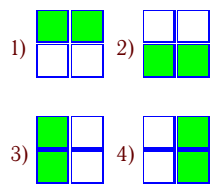
**Задача 9.15.**

Попов Алексей

$\eta = 0.5$

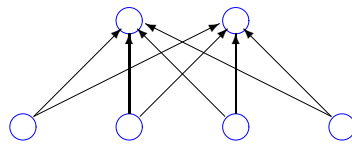


$$W = \begin{vmatrix} 0.4 & 0.7 & 0.6 & 0.2 \\ 0.2 & 0.6 & 0.6 & 0.5 \end{vmatrix}$$

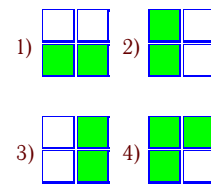
**Задача 9.16.**

Сбытова Екатерина

$\eta = 0.6$

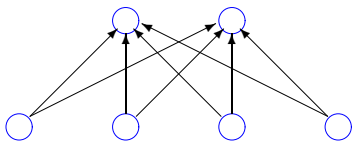


$$W = \begin{vmatrix} 0.6 & 0.2 & 0.2 & 0.5 \\ 0.4 & 0.4 & 0.2 & 0.7 \end{vmatrix}$$

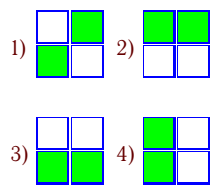
**Задача 9.17.**

Сурков Роман

$\eta = 0.7$

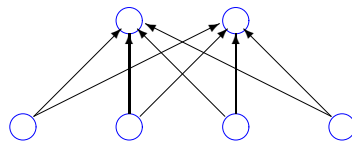


$$W = \begin{vmatrix} 0.2 & 0.3 & 0.3 & 0.1 \\ 0.8 & 0.1 & 0.5 & 0.3 \end{vmatrix}$$

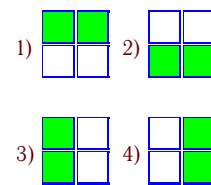
**Задача 9.18.**

Ткачев Константин

$\eta = 0.8$



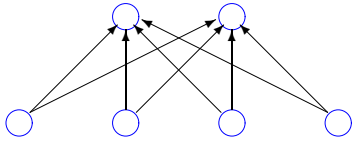
$$W = \begin{vmatrix} 0.4 & 0.4 & 0.4 & 0.2 \\ 0.1 & 0.2 & 0.7 & 0.5 \end{vmatrix}$$



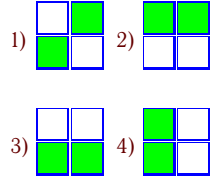
**Задача 9.19.**

Толченова Екатерина

$\eta = 0.7$



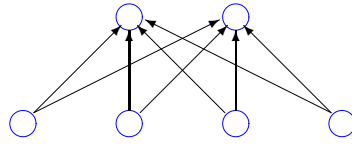
$$W = \begin{vmatrix} 0.1 & 0.3 & 0.9 & 0.7 \\ 0.5 & 0.8 & 0.3 & 0.2 \end{vmatrix}$$



**Задача 9.20.**

Фадеев Александр

$\eta = 0.5$



$$W = \begin{vmatrix} 0.1 & 0.9 & 0.4 & 0.8 \\ 0.2 & 0.8 & 0.6 & 0.2 \end{vmatrix}$$

