CNN → Mobile Net

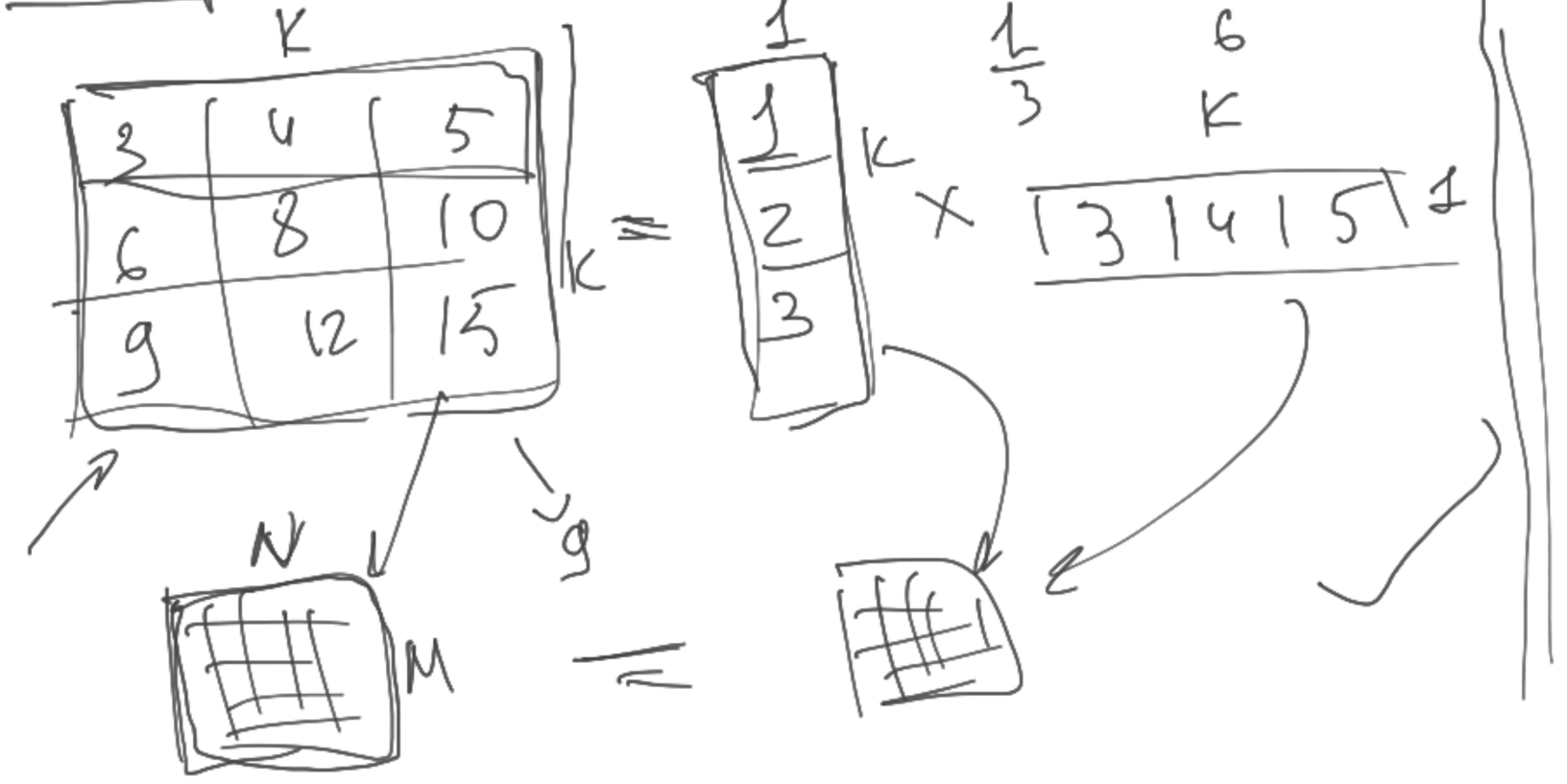
I: $K \times K \times N \times M$

II: $N \times M \times K + N \times M \times K$

$= 2 \times K \times N \times M$

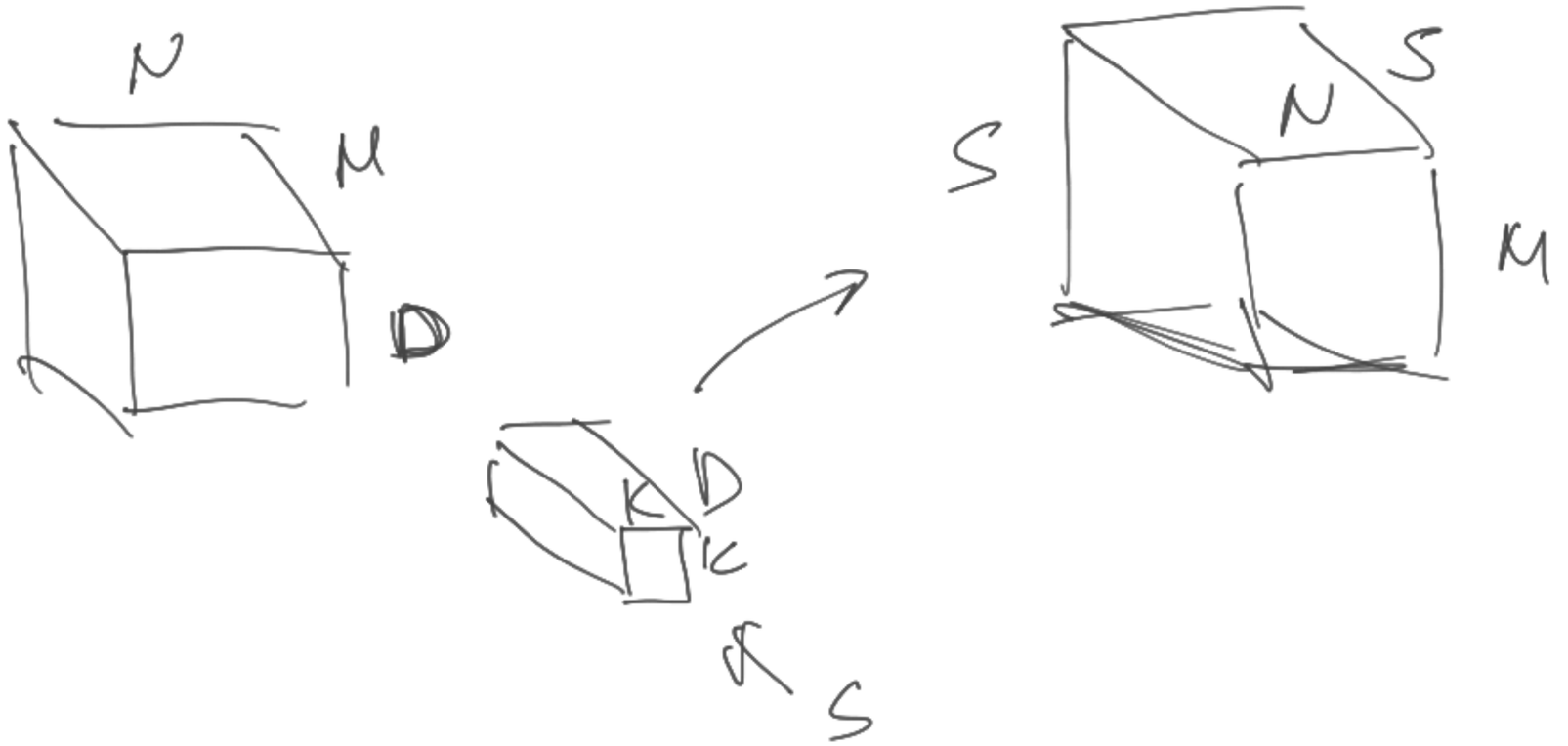
$\frac{2}{K}$

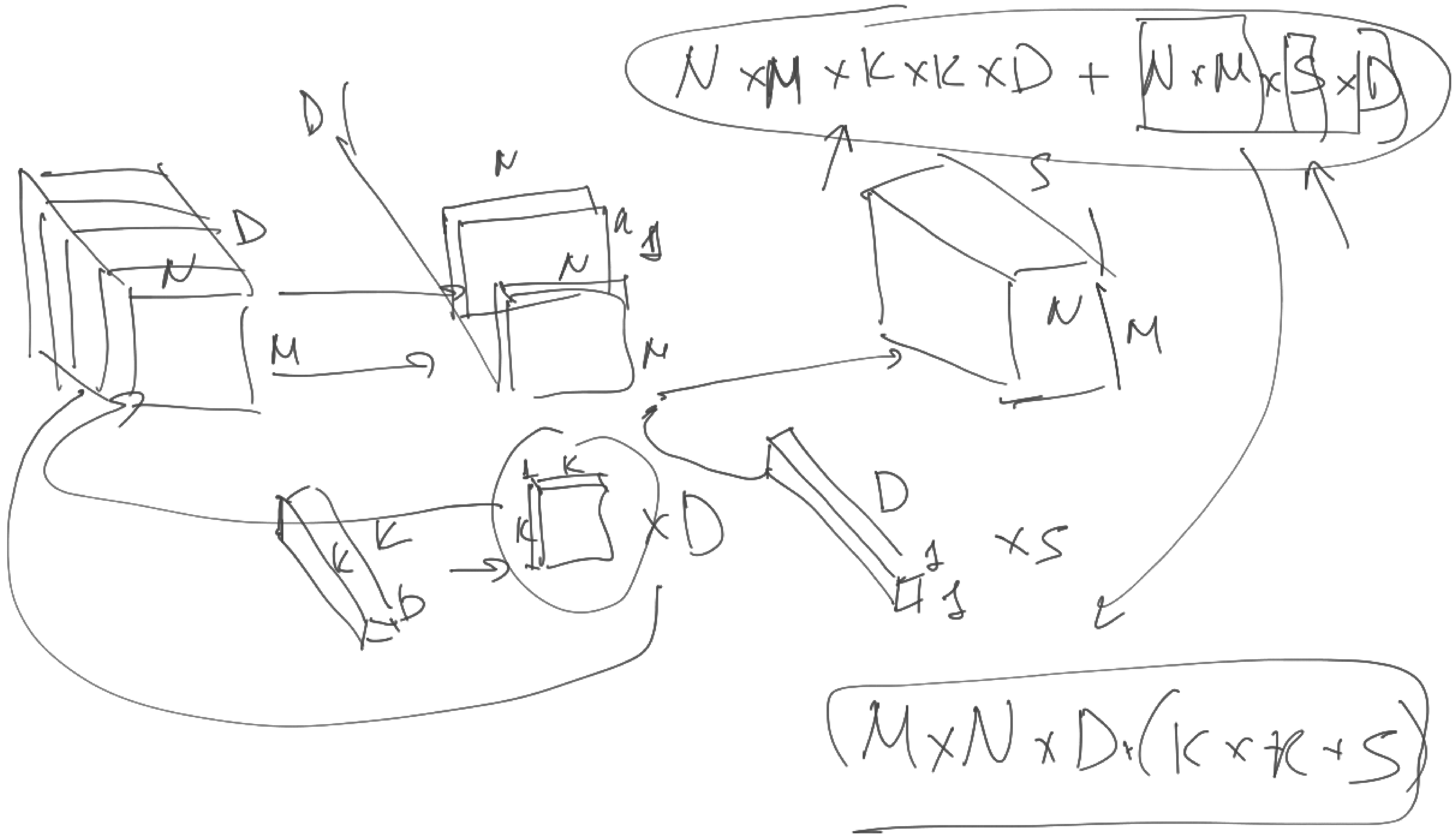
Separable Convolutions



Deepwise Separable Conv

$N \times M \times D \times k \times k \times S$




N x M x K x K x D + N x M x S x D
M x N x D x (K x K + S)
x D
x S

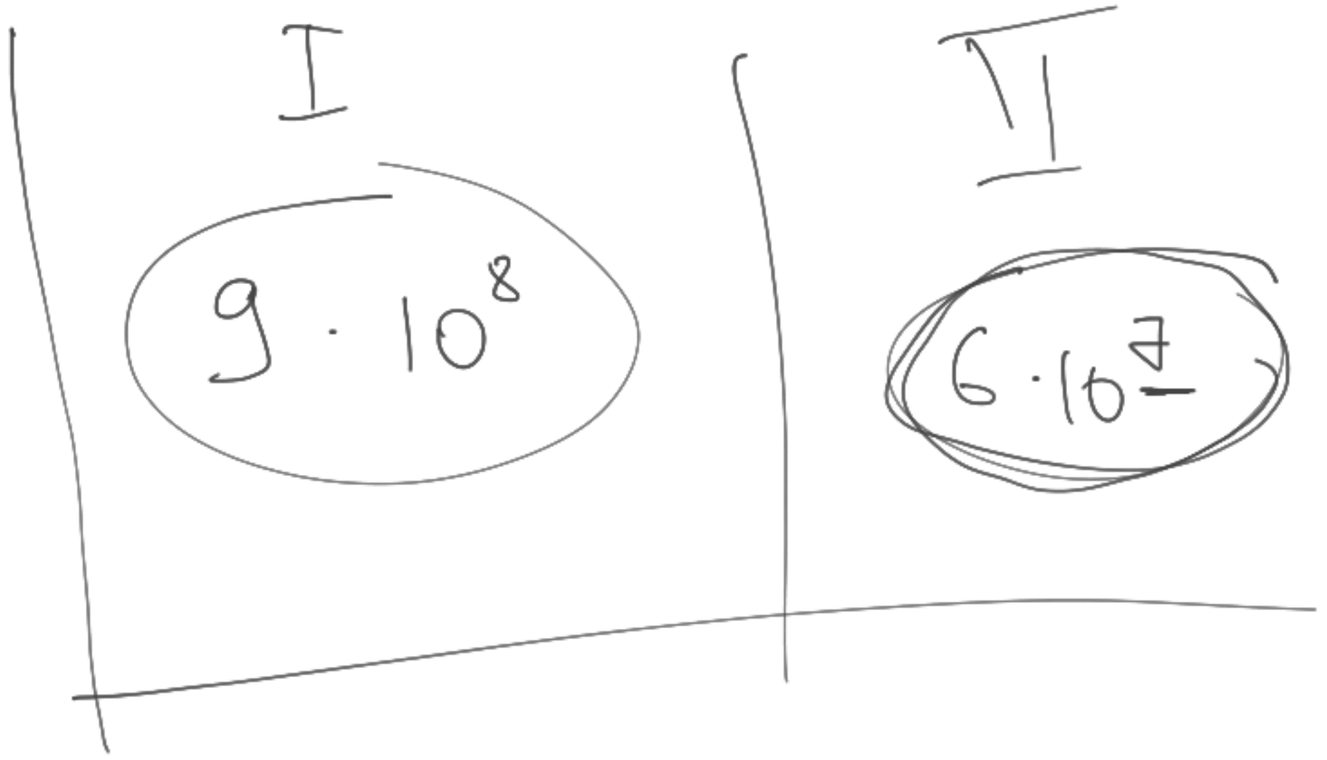
$K = 5$

$N = 1024$

$M = 1024$

$D = 3$

$S = 12$



$S \times L \times K \times D \longrightarrow D \times S + K \times K \times D$

RNN → Light RNN

V размер словаря: $100 \sim K$

$V \cdot K$

$\frac{K}{2}$

$x_i \in \mathbb{R}^{K/2}$

x_1 x_2 x_3 ... x_B

$y \in \mathbb{R}^{K/2}$

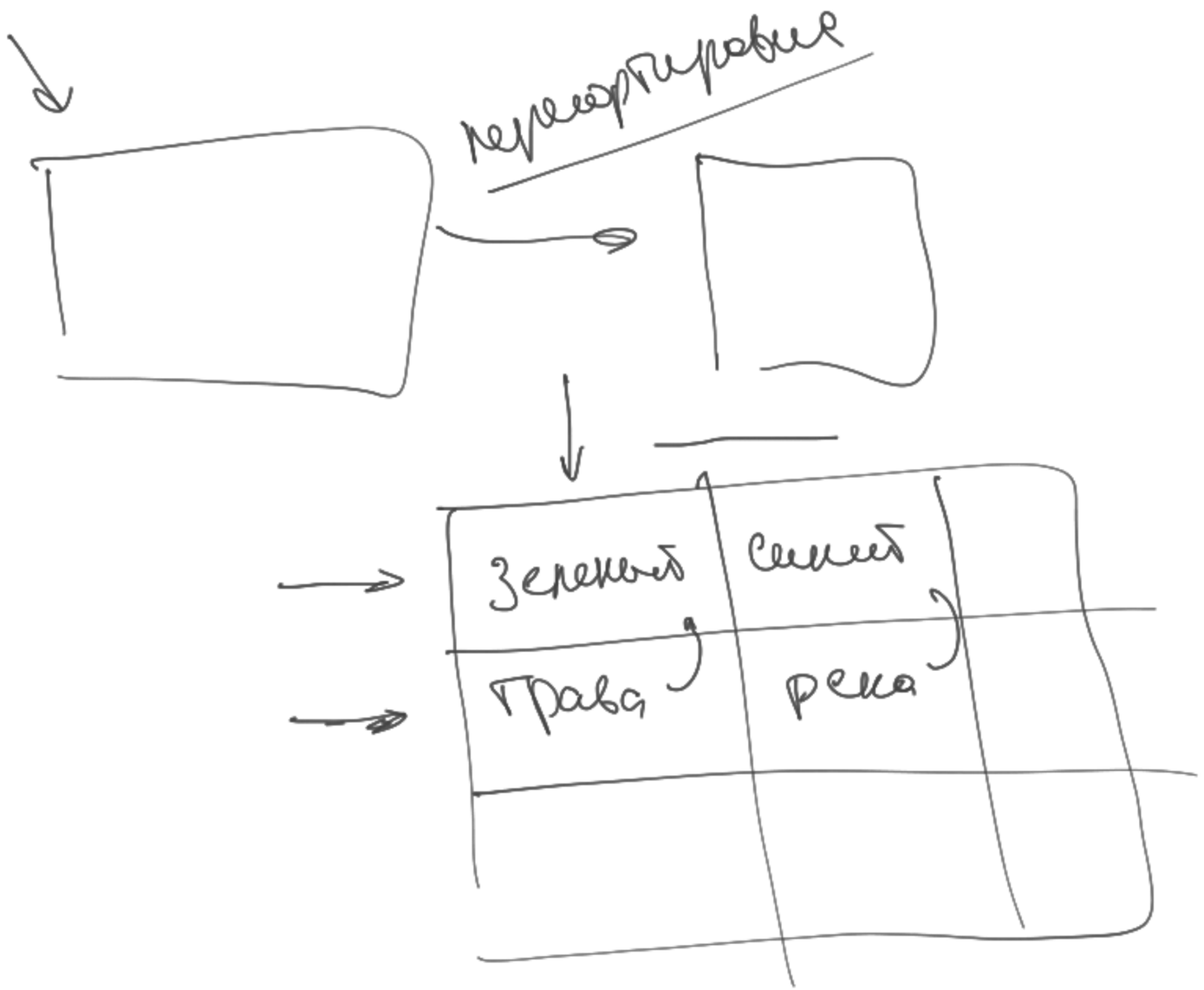
y_1 y_2 : y_B

B

Запись → $\begin{pmatrix} x_i \\ y_j \end{pmatrix}$

$B^2 = V$

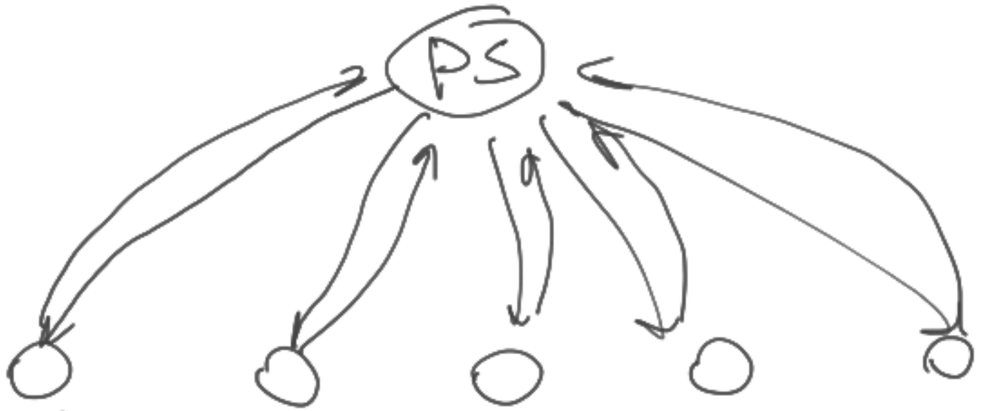
$\Rightarrow B = \sqrt{V} \times 2$


перемаршрутизация
Зеленый
Синий
трава
река

PS

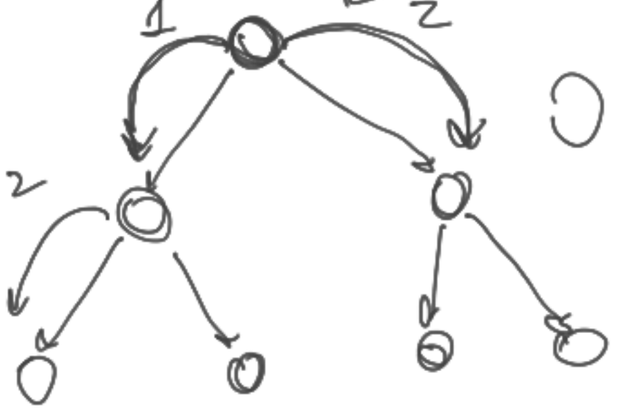
N - количество

K - количество весов



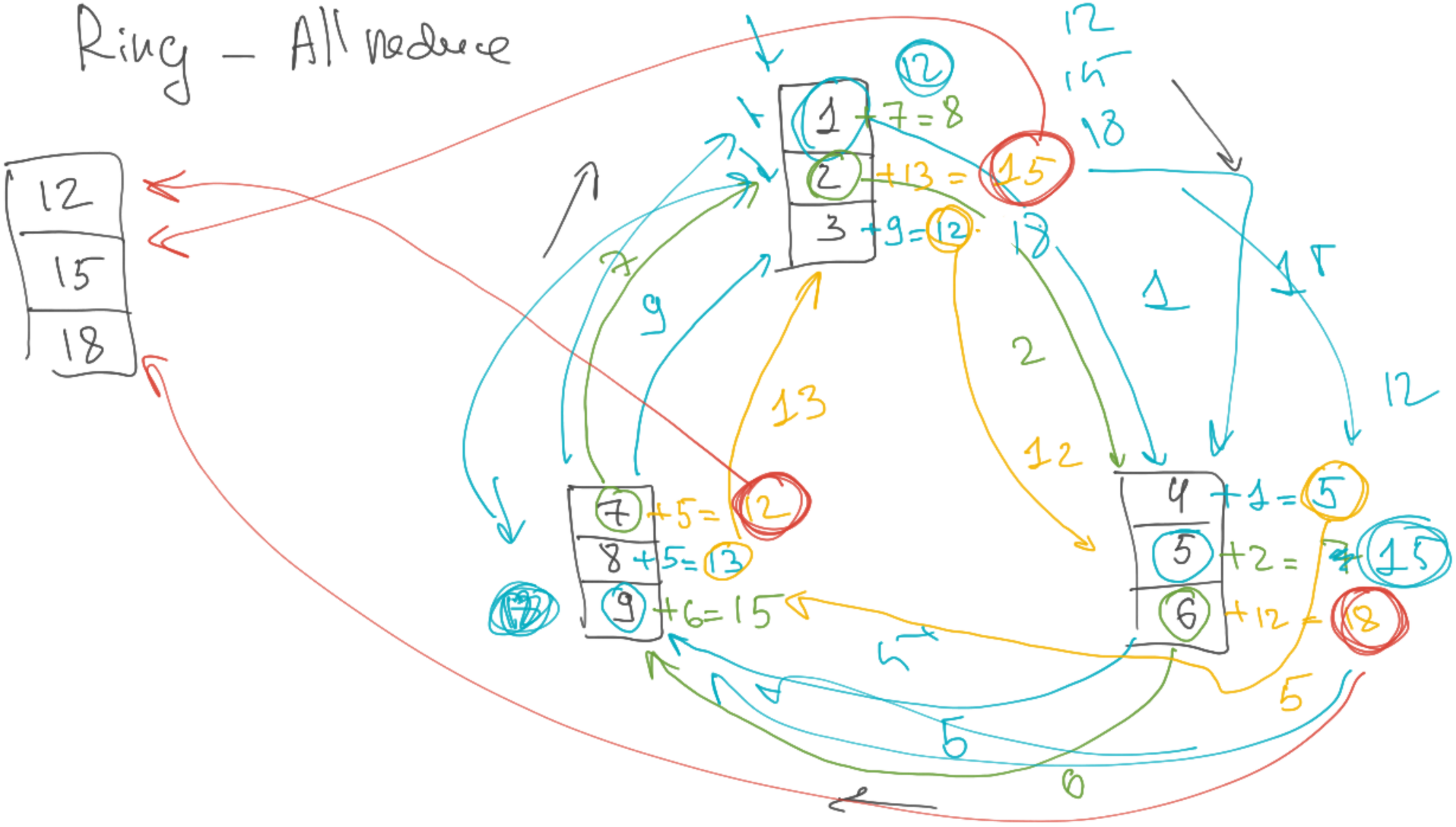
Tree - Alirodue

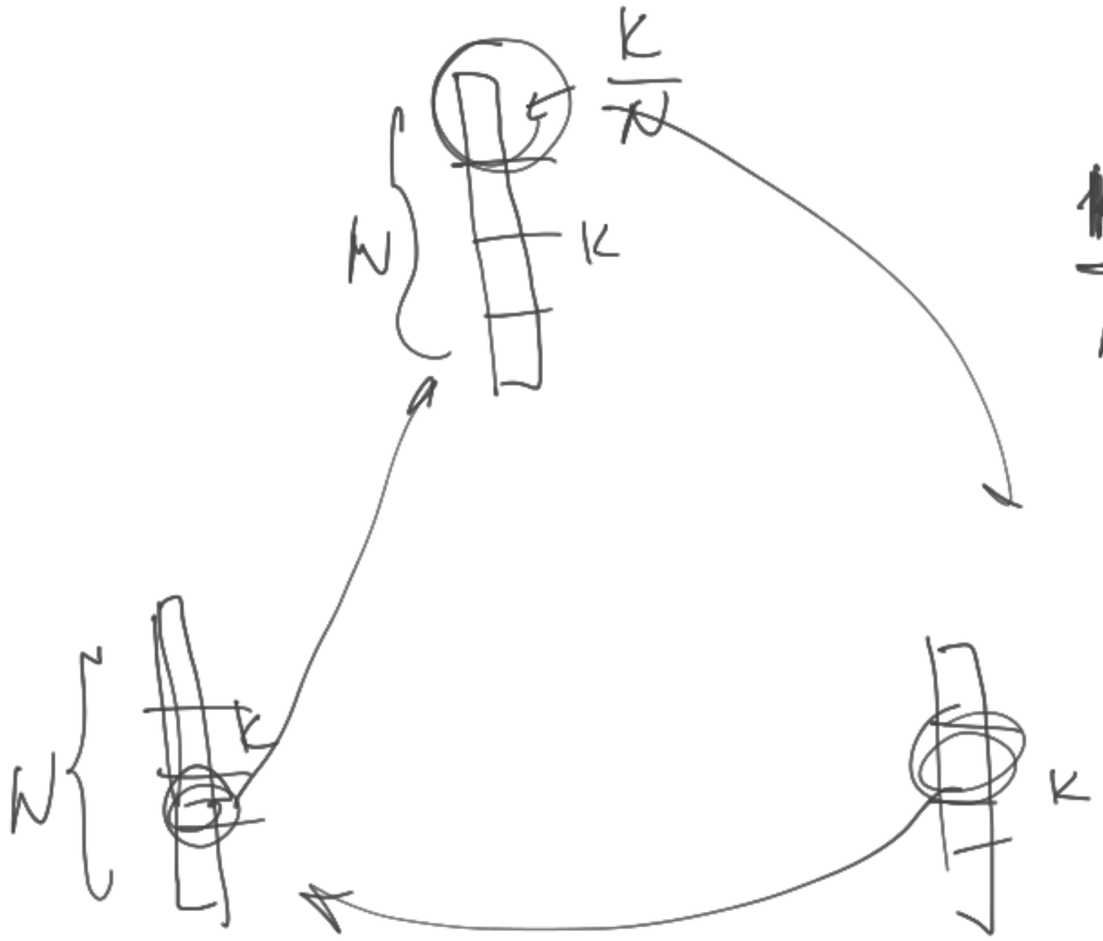
$2 \cdot N \cdot K = O(N \cdot K)$



$O(\log N \cdot K)$

Ring – All reduce





$\frac{K}{N} \cdot 2 \cdot N = O\left(N \cdot \frac{K}{N}\right) =$

$= O(K)$

$\approx A$

$$\frac{A}{A+B+C}$$

$\approx B$

$\approx C$