

ТОПОТ



$$\begin{aligned} m/n &= k \\ p/q &= t \\ x/y &= a \\ z/k &= b \end{aligned}$$

$$\begin{aligned} a &= k^* (1+1/t) \\ b &= t^* (1+1/k) \end{aligned}$$

$$\begin{aligned} k &= a/(1+1/t) \\ t &= b/(1+1/k) \end{aligned}$$

$$\begin{aligned} k &= a/(1+(1+1/k)/b) = a/([b+1+1/k]/b) = \\ &= a/([bk+k+1]/k)/b = akb/(bk+k+1) \end{aligned}$$

$$\begin{aligned} k &= akb/(bk+k+1) \\ 1 &= ab/(bk+k+1) \\ (bk+k+1) &= ab \\ (b+1)k &= ab-1 \\ k &= (ab-1)/(1+b) \end{aligned}$$

$$\begin{aligned} a &= k^* (1+1/t) \\ b &= t^* (1+1/k) \end{aligned}$$

$$\begin{aligned} ta &= k^* (1+t) \\ kb &= t^* (1+k) \end{aligned}$$

$$k = ta/(1+t)$$

$$\begin{aligned} tab/(1+t) &= t^* (1+ta/(1+t)) \\ tab/(1+t) &= t^* (1+t+ta)/(1+t) \\ tab &= t^* (1+t+ta) \\ ab &= (1+t+ta) \\ ab-1 &= t(1+a) \\ t &= (ab-1)/(1+a) \end{aligned}$$

обратная ТОПОТ это найти m/n через x/y и z/k и найти p/q через x/y и z/k

$$\begin{aligned} x/y &= m/n * (1+q/p) \\ z/k &= p/q * (1+n/m) \end{aligned}$$

$$\begin{aligned} m/n &= ((x/y)(z/k) - 1)/(1+(z/k)) \\ p/q &= ((x/y)(z/k) - 1)/(1+(x/y)) \end{aligned}$$

обратный ТОПОТ