

$$\begin{bmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 \\ 2 & 5 & 6 & 1 & 4 & 3 & 8 & 7 \end{bmatrix} = (1254) (36) (87)$$

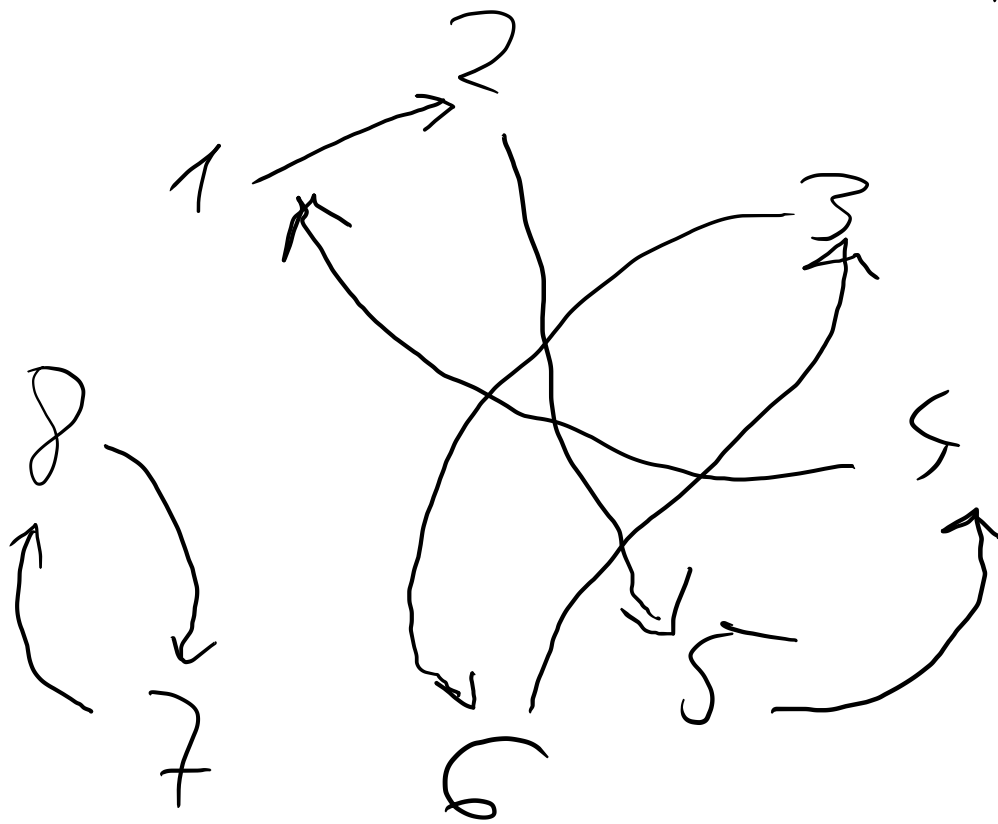
↙ Cook  
↘ disjoint

Rank  $[4, 2, 2] = 4$

Elojel: 3 db  
Páros hosszú  
ciklus

⇒ rank 1000

↗ non disjoint  
is is.



$$\begin{bmatrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 \\ 5 & 7 & 6 & 4 & 8 & 3 & 2 & 1 \end{bmatrix} = (1\ 5\ 8)(2\ 7)(3\ 6)(4)$$

$$\text{Perut} = [3, 2, 2, 1] = 6$$

Előjel: + (2 db páros cillár)

non-ell  
kizár

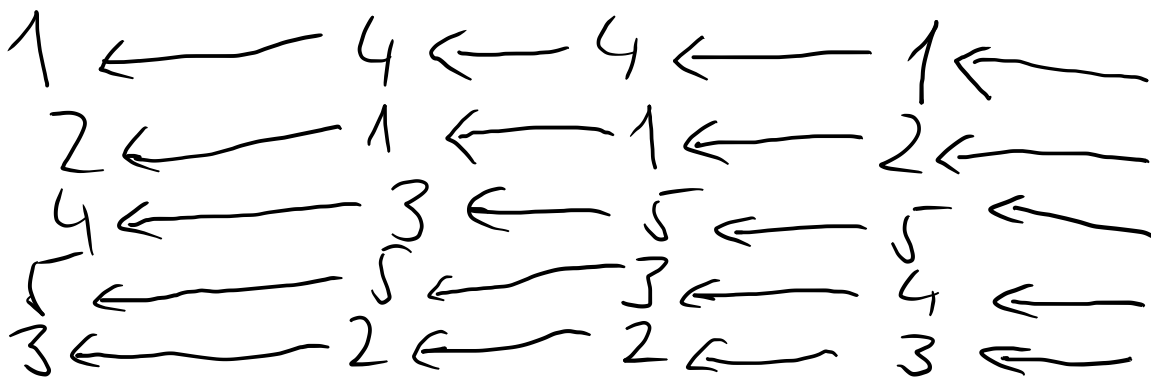
$$\begin{bmatrix} a & b & c & d & e \\ c & a & e & b & d \end{bmatrix} = (a\ c\ e\ d\ b)$$

Perut 5, Előjel +

$$f = (1\ 2\ 3\ 4)(3\ 5)(1\ 4\ 3\ 2)(3\ 5)$$

előjel: +

(4 db páros cillár)



$$\begin{aligned} & \Rightarrow f(1) = 1 \\ & f(2) = 2 \\ & f(3) = 4 \\ & f(4) = 5 \\ & f(5) = 3 \end{aligned}$$

$$f = (3\ 4\ 5) \text{ Perut } 3$$

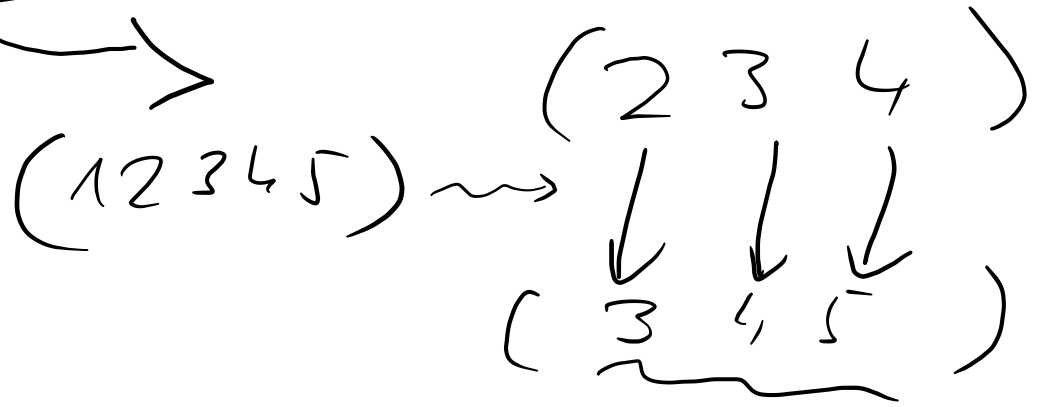
$$\left[ (12345) (234) (12345) \right]^{-1} = (54321)$$

$(1) (2) (345)$       Row 3      +  
 Oath  
 for cells.

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$$\left[ (12)(23)(34) \right]^{1222}$$

$(1234) (1234) = (1234)^2 = \underline{\underline{(13)(24)}}$   
 Row 4



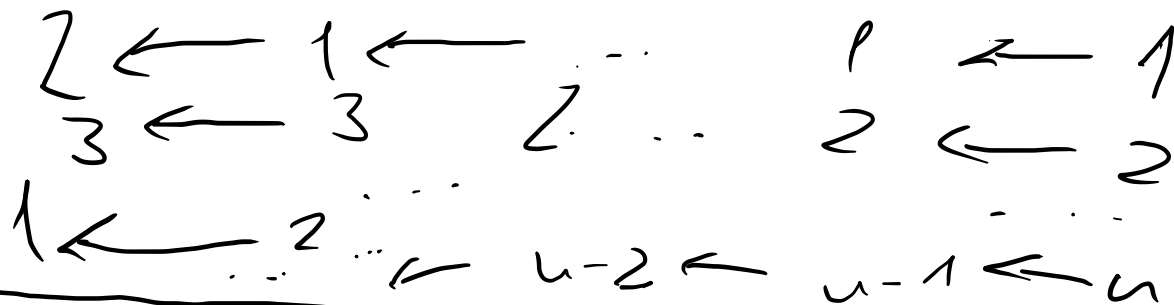
$$f(234) f^{-1} = (f(2) f(3) f(4))$$

$$S_u (a_1 a_2 \dots a_u) = (a_2 a_3 \dots a_u a_1) \dots$$

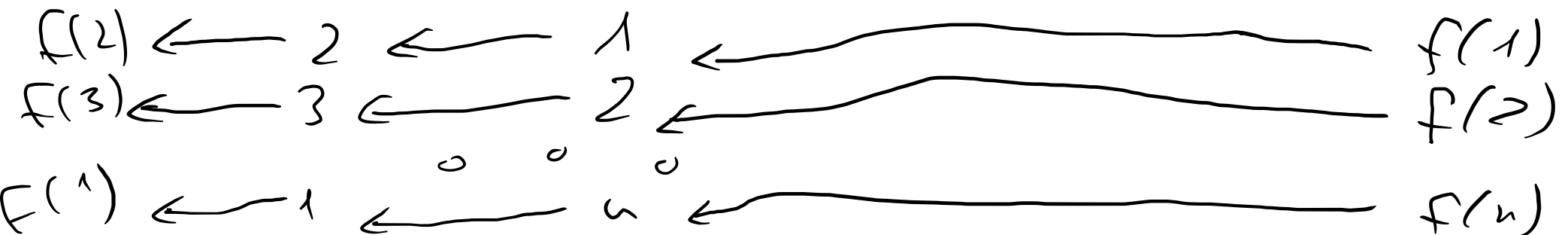
$u!$   $u$ -vers steinaltet

$$\frac{u!}{u} = (u-1)!$$

$$(12 \dots u) = (12)(23) \dots (u-1 u)$$



$$f(12 \dots u) f^{-1} = (f(1) f(2) \dots f(u))$$



$$f(12 \dots u) = (12 \dots u) f \quad f(a) = 1$$

$$f(a+1) \leftarrow a+1 \leftarrow a \quad 1 \quad a$$

$\uparrow$  mod  $u$   
wert  $+1$

$$\underline{f(a+1) = 2} \quad f(a+2) = 3 \quad \text{rfl.}$$

$(12 \dots u)$  valamehlatatwa.

$$\rightarrow f(12 \dots u) f^{-1} = (12 \dots u) \quad \overline{\prod} \cdot u \cdot 0.$$

$$\left( \underset{\parallel}{f(a)} \underset{\parallel}{f(2)} \dots \underset{\parallel}{f(u)} \right) \parallel$$

$\parallel$   $b$   $b+1$   $\dots$   $b+u$   
 $\uparrow$  mod  $u$ .

$$\begin{aligned} (12 \dots u)^f &= \\ &= \begin{matrix} 1 \rightarrow r \\ 2 \rightarrow r+1 \\ \vdots \\ u \rightarrow r+u \end{matrix} \end{aligned}$$

Mindestens paars permutation 3-cycles (transposition)

$$(a_1 a_2) (a_3 a_4) \dots (a_{2k-1} a_{2k})$$

paars od case.

$$(12)(57)(76)(64)$$

$$(ab)(bc)$$

$$(abc)$$

$$\begin{array}{c} \parallel \\ (12)(25)(52)(57) \\ \text{3-cycles} \quad \text{3-cycles} \end{array} \quad (764)$$