

$$p = \langle 632541 \rangle = \begin{pmatrix} 1 & 2 & 3 & 4 & 5 & 6 \\ 6 & 3 & 2 & 5 & 4 & 1 \end{pmatrix} = (16)(23)(45) = (f_1=6 \ f_2=3 \ f_3=2 \ f_4=5 \ f_5=4 \ f_6=1) =$$

$$= \begin{vmatrix} & & & & 1 \\ & & & 1 & \\ & 1 & & & \\ & & 1 & & \\ & & & 1 & \\ 1 & & & & \end{vmatrix} = \begin{matrix} \text{1} \rightarrow \text{6} \\ \text{2} \rightarrow \text{3} \\ \text{3} \rightarrow \text{2} \\ \text{4} \rightarrow \text{5} \\ \text{5} \rightarrow \text{4} \end{matrix} = \begin{matrix} \text{1} \text{ 6} \\ \text{2} \text{ 3} \\ \text{4} \text{ 5} \end{matrix}$$

$$a/ p = \langle 7, 9, 8, 1, 3, 6, 4, 8, 2 \rangle = (174)(2938)(6)(8)$$

$$|S_n| = 9! = 362880 \quad n=9$$

b/ pearly state 6 i 8

$$c/ p^{-1} = \langle 495726183 \rangle$$

$$d/ p^{-1} = \langle 2, 8, 4, 6, 3, 1, 9, 5, 7 \rangle$$

$$e/ [1^3 3^1 4^1]$$

$$f/ \text{ord}(p) = \text{NWW}(4, 3) = 12$$

$$i/ \text{liczba cykli} = 4$$

$$j/ \text{liczba cykli nieparzystych} = 1$$

$$k/ \text{liczba cykli nieparzystych} = 3$$

$$l/ \text{inwersje} : (7, 9)(7, 1)(7, 3)(7, 6)(7, 4)(7, 2)(5, 1)(5, 3)(5, 6)(5, 2)(9, 1)(9, 3)(9, 6)(9, 4)(9, 8)(9, 2)(3, 2)(6, 4)(6, 2)(4, 2)(8, 2)$$

$$m/ \text{liczba inwersji} = 21$$

$$n/ w_i = [6, 4, 6, 0, 1, 2, 1, 1, 0]$$

$$o/ \text{Sign}(p) = (-1)^{21} = -1 \quad |c(p)| = 21$$

$$\text{sign}(p) = (-1)^{7+4} = -1 \quad C(p) = 4$$

$$\text{sign}(p) = (-1)^5 = -1 \quad \Gamma(p) = 5$$

$$\text{Sign}(p) = (-1)^4 = -1 \quad C_p(p) = 1$$

$$\text{Sign}(p) = \det(A) = -1$$

$$A = \begin{matrix} & \begin{matrix} 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \end{matrix} \\ \begin{matrix} 1 \\ 2 \\ 3 \\ 4 \\ 5 \\ 6 \\ 7 \\ 8 \\ 9 \end{matrix} & \begin{bmatrix} & & & & & & 1 & & \\ & & & 1 & & & & & \\ & & & & & & & 1 & \\ 1 & & & & & & & & \\ & 1 & & & & & & & \\ & & 1 & & & & & & \\ & & & 1 & & 1 & & & \\ & & & & 1 & & & 1 & \\ 1 & & & & & & & & \end{bmatrix} \end{matrix}$$

$$= \begin{vmatrix} 0 & 1 \\ 1 & 0 \end{vmatrix} = -1$$