

$$\sigma \sim \tau \text{ conjugate} \Leftrightarrow \tau = \pi \sigma \pi^{-1}$$

$$\overline{\pi i_1 \cdots i_j} \pi^{-1} = \overline{i_{\pi_1} \cdots i_{\pi_j}}$$

$$\sigma \sim \tau \Leftrightarrow \text{same cycle type } k_1 \cdots k_n$$

$$\sum_j^{1|n} j k_j = n$$

$$k_j = m_j - m_{j+1}$$

$$m_1 \geq m_2 \geq \cdots \geq m_n \geq 0$$

$$m_1 + \cdots + m_n = k_1 + 2k_2 + \cdots + nk_n = n$$

$$\#\mathbf{C}(n) / \sim = \begin{bmatrix} 2n-1 \\ n \end{bmatrix}$$