



$$a = \begin{pmatrix} 1 & 2 & 3 & 4 \\ 2 & 3 & 4 & 1 \end{pmatrix} = (1 \ 2 \ 3 \ 4)$$

$$b = \begin{pmatrix} 1 & 2 & 3 & 4 \\ 1 & 4 & 3 & 2 \end{pmatrix} = (2 \ 4)$$

$$D_8 = \{1, a, a^2, a^3, b, ba, ba^2, ba^3\}$$