Let $\alpha = \begin{bmatrix} 1 & 2 & 3 & 4 & 5 \\ 2 & 3 & 1 & 5 & 4 \end{bmatrix}$ and $\beta = \begin{bmatrix} 1 & 2 & 3 & 4 & 5 \\ 5 & 4 & 3 & 1 & 2 \end{bmatrix}$.

Rewrite α and β as products of disjoint cycles, and then calculate $\alpha\beta$ and $\beta\alpha$.

October 2, 2002

1