http://web.mit.edu/sp.268/www/rubik.pdf
Here is one example given.

$$(123)(231) = (132)\ order\ 3$$

We juggle with this. First we apply the first cycle of this permutation to a standard permutation, (123456), like $(123456) * (123)$.

$$\begin{pmatrix} 123456 \\ 231456 \end{pmatrix}$$

Then, we apply the second cycle, (231), to the result $(231456) * (231)$ to get in the two line notation

$$\begin{pmatrix} 231456 \\ 312456 \end{pmatrix}$$

Now, we apply the given algorithm to write the canonical cycle notation of the resulting two line permutation

$$\begin{pmatrix} 123456 \\ 312456 \end{pmatrix}$$

and get

$$(132)(4)(5)(6)$$

and omit the redundant one-cycles to arrive at the given result

$$(132)$$