

Recall:

1.

$$S_n = \{\alpha : \{1, 2, \dots, n\} \rightarrow \{1, 2, \dots, n\} \mid \alpha \text{ is 1-1 and onto.}\}$$

The elements, which are of course functions, are called permutations of  $\{1, 2, \dots, n\}$ .

2. Every permutation can be written as a product of disjoint cycles.
3. Permutations that move only 2 elements and leave the rest fixed (2-cycles) are called transpositions. For example,  $(1\ 2)$  is a transposition.

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