

Creates a class to represent a permutation of  $1, 2, \dots, n$  for some  $n \geq 0$ .

An object is created by passing as argument to the class name:

- either no argument, in which case the empty permutation is created, or
- $length = n$  for some  $n \geq 0$ , in which case the identity over  $1, \dots, n$  is created, or
- the numbers  $1, 2, \dots, n$  for some  $n \geq 0$ , in some order, possibly together with  $length = n$ .

`__len__()`, `__repr__()` and `__str__()` are implemented, the latter providing the standard form decomposition of the permutation into cycles (see wikipedia page on permutations for details).

Objects have:

- `nb_of_cycles` as an attribute
- `inverse()` as a method

The `*` operator is implemented for permutation composition, for both infix and in-place uses.