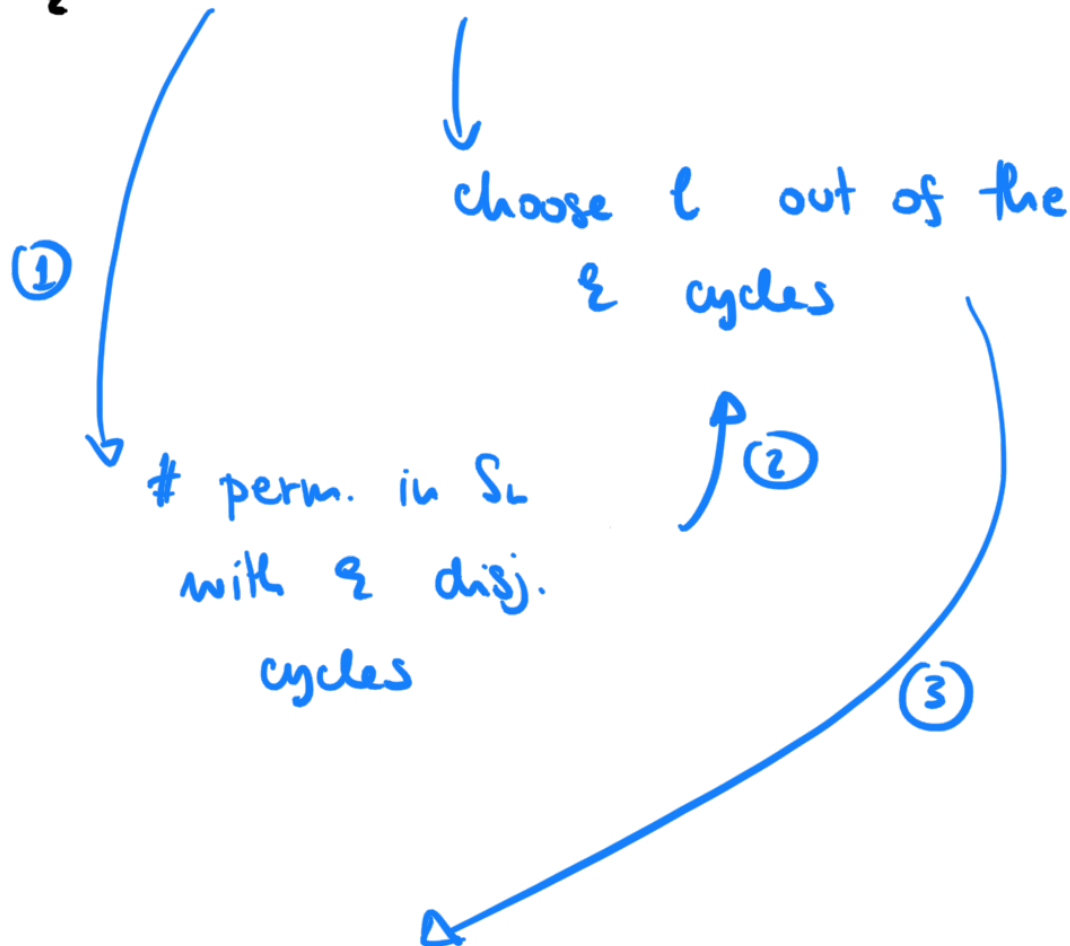


$$\sum_k \underbrace{c(n, k)}_{\text{①}} \underbrace{\binom{k}{\ell}}_{\text{choose } \ell \text{ out of the } k \text{ cycles}} = c(n+1, \ell+1)$$



Merge the other $k-\ell$ cycles in a canonical way (*) into 1 cycle and add the number $n+1$ - e.g. at the beginning.

(*) Write each of the $k-\ell$ cycles in the canonical form (as in the Foata transformation) and order them by their 1st element. Then merge - delete brackets.