Have tensor

$$A_{ijkl...} \tag{1}$$

Have a set of possible ranges each index may take. Define a set of numbers, $\{r\}_{r=0,..,N_{ranges}}$, each one of which corresponds to a different range.

Write a block as

$$A_{ijkl...}^{r_i r_j r_k r_l ...} \tag{2}$$

Any given block can be uniquely identified with a number, B, in base N_{ranges}:

$$B = \sum_{q_p}^{N_i ds} r_{q_p} N_{ranges}^{q_p} \tag{3}$$

where N_{ids} is the number of indexes. Here q_p is the position of index q. E.g., for A_{ijqkl} $q_p = 2$. We now write a block as

$$A_{ijkl...}^{B} \tag{4}$$

Permutation operations on the list of ranges can now be defined aritmetically. For example, swapping the ranges of indexes i and j has the following effect on the Block number:

$$swap_{ij}(B) = B - r_{i_p}(N_{ranges}^{i_p} - N_{ranges}^{j_p}) + r_{j_p}(N_{ranges}^{j_p} - N_{ranges}^{i_p}) \tag{5}$$