

In computing, row-major order and column-major order are methods for storing multidimensional arrays in linear storage such as random access memory.

The two mentioned ways differ from each other with respect to the order in which elements are stored contiguously in the memory. The elements in row-major order are arranged consecutively along the row and that in the column-major order are arranged consecutively along the column. While the terms allude to the rows and columns of a two-dimensional array, i.e. a matrix, the orders can be generalized to arrays of any dimension by noting that the terms row-major and column-major are equivalent to lexicographic and lexicographic orders, respectively.

In C language, 2-D arrays are stored in row major order and thus iterating its elements in a row major order is more efficient.

In languages like Pascal and Fortran, iterating by column major order will be more efficient because 2-D arrays are stored in column major order there.

The reason for this is explained properly here <https://cs.stackexchange.com/questions/71985/row-major-vs-column-major-order-2d-arrays-access-in-programming-languages>.