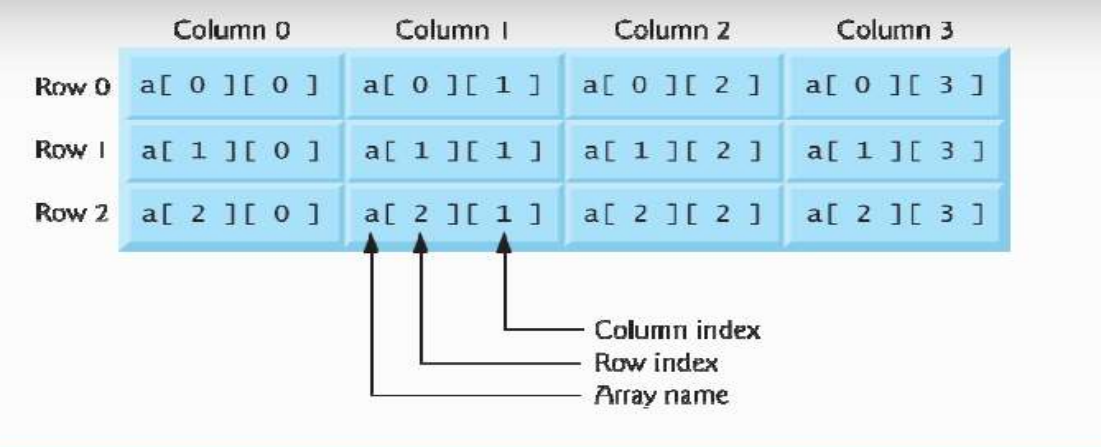
Exercise 3: Template

Double-subscripted arrays are considered as two-dimensional arrays.

To identify a particular element in the array, we need to specify two subscripts:

- The first subscript identifies the element's row
- The second subscript identifies the element's column.

Example:



Double-subscripted array with three rows and four columns.

In the exercise:

- The representation of the **double-subscripted** array is a **single-subscripted** array
- The size of the array is (rows*columns) elements
- By default, the double-subscripted array has (10*10) elements

Class DoubleSubscriptedArray

1- Private data members:	
int rowSize;	// number of rows in the array
int columnSize;	// number of columns in the array
int *ptr;	// pointer to the first element in the array
2- Overloaded operators:	
operator(int, int)	// access element at given row and column, this function has two versions*
operarator=	// assign one array to another one
operarator==	// check if two arrays are equal
operarator!=	// check if two arrays are different

operator<<	// input the content of the array
operator<<	// output the array in row and column format

*****: There are two versions of the double subscript **operator()** depending on the return:

1. **int& operator()(int, int)**

   Function call for **non-const** objects, it returns **lvalue** (reference)

2. **const int& operator()(int, int)**

   Function call for **const** objects, it returns **rvalue** (value)