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CSCI 3731 A

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1. What is the problem with two-dimensional arrays in C/C++?

C is not meant for handling multidimensional arrays. The dimensions of the array isn't looked at from other functions so the programmer would have to handle this directly.

2. Describe two ways to work around C/C++'s problems with two dimensional arrays.

By making a 1-dimensional array known as a flat array by laying out all the rows end to end. It is accessed by computing the offset.

The other way is to use the numerical recipes trick which uses two arrays; a flat array and an array of pointers. Each pointer in the pointer array points to the start of a row in the flat array.

3. Suppose you have a function that returns a two-dimensional array of ints allocated using the "Numerical Recipes trick". The caller should not be able to modify the values stored in this array or the pointers to rows. The function declaration looks like this _____
getArray();
Fill in the blank.

void