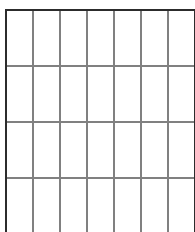# [0441] Multidimensional Arrays

Multidimensional arrays allow programmers to store data based on 2, 3, 4, or more different indexes. These kind of arrays are popular with school assignment creators, game programmers, and scientific programmers. They aren't heavily used in "the real world" but they are still worth learning and exploring.

In C#, there are two types of multidimensional arrays - Rectangular and Jagged.

Rectangular Multidimensional Arrays

Rectangular Multidimensional Arrays are arrays where the number of elements in each dimension is the same. They "look" like this:
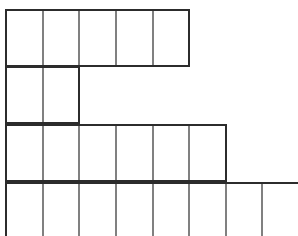

You can declare a square two dimensional array like this:

```
int[,] myGrid = new int[100,100];
```

This creates a 100 x 100 two dimensional array of integers.

Jagged Multidimensional Arrays

Jagged Multidimensional arrays are arrays of array objects, which allows each of the array objects to be a different size. They look like this:

You can declare a jagged two dimensional array like this:

    string [][] myShoppingLists = new string[10][];

This creates a 10-item array of array objects (each of which is some unknown size).

Again, Collections are now a better, easier way to store this kind of data (assuming memory size isn't an issue).