Multidimensional Arrays

The multidimensional array is also known as rectangular arrays in C#. It can be two dimensional or three dimensional. The data is stored in tabular form (row * column) which is also known as matrix.

To create multidimensional array, we need to use comma inside the square brackets. For example:

int[,] arr=new int[3,3];//declaration of 2D array int[,,]

arr=new int[3,3,3];//declaration of 3D array

Let's see a simple example of multidimensional array in C# which declares, initializes and traverse two-dimensional array.

Example Program 4

```csharp
using System;
public class MultiArrayExample
{
    public static void Main(string[] args)
    {
        int[,] arr=new int[3,3];//declaration of 2D array
        arr[0,1]=10;//initialization
        arr[1,2]=20;
        arr[2,0]=30;
        //traversal
        for(int i=0;i<3;i++)
        {
            for(int j=0;j<3;j++)
            {
                Console.Write(arr[i,j]+" ");
            }
            Console.WriteLine();//new line at each row
            Console.ReadLine();
        }
    }
}
```

Output:

```
0   10  0
0    0  20
30  0   0
```