Pointer to an Array

The way we can have a pointer to an integer, or a pointer to a float, can we also have a pointer to an array? The answer is yes. Declaration of a pointer to an array, however, is a little clumsy. For example, the declaration **int (*q)[4]** means that **q** is a pointer to an array of 4 integers. Let us use this pointer to an array in a program. Here it is...

```
/* Program 24 */
main( )
{
    int a[ ][4] =  {
                       5, 7, 5, 9,
                       4, 6, 3, 1,
                       2, 9, 0, 6
                   };
    int *p ;
    int ( *q )[4] ;

    p = ( int * ) a ;
    q = a ;

    printf ( "\n%u %u", p, q ) ;
    p++ ;
    q++ ;
    printf ( "\n%u %u", p, q ) ;
}
```

And here is the output...

```
65500 65500
65502 65508
```

To begin with both **p** and **q** contain the same address 65500. However, **p** is an integer pointer, whereas **q** is a pointer to an array of 4 integers. Hence on incrementing **p** it points to the next integer,