More Pointers: Dynamic Memory Allocation

One can create an array on the fly: this uses dynamic memory allocation. This is especially important for arrays (and more advanced structures) that exist only temporarily.

The function calloc is contained in stdlib.h. It reserves/allocates and initializes a block of memory. The function takes two int arguments: the first argument is the number of elements to be stored and the second argument is the size in bytes (think "cells") of the element that is to be stored (which is obtained using the sizeof). The calloc function returns the address of the beginning of the block.

```
int *intPtr;
intPtr = calloc( 1000, sizeof(int));
*intPtr = 10;
```

will create an array with 1000 elements and set the first value to 10 (the rest being zero).

Memory that is allocated with calloc must be released afterwards using the free command: free(intPtr);. This allows memory to be recycled.

There is a related function called malloc.