

C++ Notes: Array Initialization

An array can be initialized in the declaration by writing a comma-separated list of values enclosed in braces following an equal sign.

```
int days[12] = {31,28,31,30,31,30,31,31,30,31,30,31};
```

Altho this looks like an assignment, assignment statements with arrays are not allowed, and this syntax is legal only in a declaration.

Size can be set from initial value list

If the size is omitted, the compiler uses the number of values. For example,

```
// is the same as the statement below:  
int days[] = {31,28,31,30,31,30,31,31,30,31,30,31};
```

No default value

If an array has no initialization, the values are undefined.

```
float pressure[10]; // Initial values of pressure undefined.
```

Missing initialization values use zero

If an explicit array size is specified, but an shorter initialization list is specified, the unspecified elements are set to zero.

```
float pressure[10] = {2.101, 2.32, 1.44};
```

This not only initializes the first three values, but all remaining elements are set to 0.0. To initialize an array to all zeros, initialize only the first value.

```
float p1[1000]; // No initialization.  
float p2[1000] = {0.0}; // All 1000 values initialized to zero.
```

Initialization of character arrays

Character arrays can be initialized on the right by writing a double-quoted string.

```
char greeting[100] = "Hello"; // Remaining characters zero.  
char goodbye[] = "Adios"; // Array size is 6 (final zero on strings).
```

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