Strings

1 Strings are Null-terminated Arrays

We have used strings with double quotes—these are constant strings. But what about testing and changing strings? In C, a string is a null-terminated sequence of characters; that is, there is a special character—written '\0'—after the last normal character.

The standard approach for a user-created string is to store it inside a character array. In particular, this means that the array must have size at least 1 more than the length of the string. For example, a string like "happy", which has length 5, is stored in a char array of size at least 6 as:

0	1	2	3	4	5	6 onwards
h	a	p	p	y	\0	irrelevant

Constant strings, like the ones we provide to printf, automatically have the null character added to them. But any user-created string must have '\0' explicitly added.

To print a string with printf or read a string with scanf, use %s. Note that scanf is passed just the name of the char array (we'll see why later)—no ampersand. Also, scanf ignores whitespace before the string and treats a whitespace as the end of string.