17 Advanced Uses of Pointers

`void *` — In C89, `void *` is used as a "generic" pointer type; for example, `malloc` returns a value of type `void *`. In K&R C, `char *` is used for this purpose.

pointer mixing — K&R C allows pointers of different types to be mixed in assignments and comparisons. In C89, pointers of type `void *` can be mixed with pointers of other types, but any other mixing isn't allowed without casting. Similarly, K&R C allows the mixing of integers and pointers in assignments and comparisons; C89 requires casting.

pointers to functions — If `pf` is a pointer to a function, C89 permits using either `(*pf)(...)` or `pf(...)` to call the function. K&R C allows only `(*pf)(...)`.

18 Declarations

`const` *and* `volatile` — K&R C doesn't support the `const` and `volatile` type qualifiers.

initialization of arrays, structures, and unions — K&R C doesn't allow the initialization of automatic arrays and structures, nor does it allow initialization of unions (regardless of storage duration).

25 International Features

wide characters — K&R C doesn't support wide character constants and wide string literals.

trigraph sequences — K&R C doesn't support trigraph sequences.

26 Miscellaneous Library Functions

variable arguments — K&R C doesn't provide a portable way to write functions with a variable number of arguments, and it lacks the . . . (ellipsis) notation.