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Subject: FLT_RADIX value applies only to generic floating-point types

Problem:

The macro FLT_RADIX in C99 specifies the value chosen by the implementation for the then-existing floating-point types (called generic floating-point types in the TR, which also adds that term to the C99 text). For the decimal floating-point types, there is nothing implementation-defined about the radix; by definition the radix is 10. But taking the TR's suggested edits to C99 out of context, there are several places in the library where it would seem that the value of the macro FLT_RADIX would apply to decimal floating-point types (the `ilogb` and `logb` functions, the `scalbn` and `scalbln` functions, and some references to the `A,a` format specifiers that occur outside of their main definition). This is never appropriate, except for the one usage of the term FLT_RADIX already in the TR, which leaves it implementation-defined whether the `fe_dec_setround()` function affects the behavior of the generic floating-point types in the special case of `FLT_RADIX == 10` (i.e. in an implementation that uses decimal radix to implement the generic floating-point types).

Suggested changes to the TR:

Instead of changing the TR to specify edits to the C99 text at each of these occurrences of FLT_RADIX, an alternative would be just to add the following to section 5 document page 8 (PDF 11) of the TR, as the first bullet in the list of paragraph [6].

- radix of exponent representation, $b(=10)$
For the generic floating-point types, this value is implementation-defined and is specified by the macro FLT_RADIX. For the decimal floating-point types there is no corresponding macro, since the value 10 is an inherent property of the types. Wherever FLT_RADIX appears in a description of a function that operates on decimal floating-point types, it is implicitly understood to mean the value 10, rather than the implementation-defined radix of the generic floating-point types.