

**Proposal for C2Y
WG14 N3242**

Title: Problematic use of “correctly rounded”
Author, affiliation: C FP group
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Proposal category: Editorial
Reference: N3219

Toward the end of the C23 process, Note 1 in 3.12 (the definition of “correctly rounded result”) was changed to account for the ways “correctly rounded” is used in the document:

3.12

correctly rounded result

representation in the result format that is nearest in value, subject to the current rounding mode, to what the result would be given unlimited range and precision

Note 1 to entry: In this document, the words "correctly rounded" may apply to an operation that produces a correctly rounded result, or to input for such an operation.

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As pointed out by Vincent Lefevre, applying “correctly rounded” to input to mean the result is correctly rounded is poor wording. This occurs in just two places in C23.

The following changes reword the two occurrences to avoid applying “correctly rounded” to input. The changes also simplify Note 1 in 3.12 which no longer needs to account for the problematic use.

Changes:

In 7.24.1.6 #6 and
in 7.31.4.1.3 #6, change

If ~~all subject sequences of hexadecimal form are correctly rounded~~ the value resulting from the conversion is correctly rounded for all subject sequences of hexadecimal form, M may be regarded as infinite.

In 3.12 #2, change

Note 1 to entry: In this document, the words "correctly rounded" may apply to an operation that produces a correctly rounded result,~~or to input for such an operation.~~