Proposal for C2X
WG14 N2491

Title: powr justification, wording
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Proposal category: Editorial
Reference: N2454 ISO/IEC 9899 working draft

Problem:

In the specification of powr, the “log” in the formula $e^{y \log x}$ needs an e subscript, to match the standard’s usual designation for natural logarithm. Still, the role of the formula $e^{y \log_e x}$ is obscure. Also, no explanation is given for having another power function, powr, in addition to pow. The suggested changes below address these issues. The changes are partially based on suggestions from Jens when he added powr to the C2X draft.

Suggested changes:

In 7.12.7.7#2, in the first sentence, replace:

$$e^{y \log x}$$

with:

$$e^{y \log_e x}$$

In 7.12.7.7#3, replace:


with:

[3] The powr functions return $e^{y \log_e x}$.

In 7.12.7.7#2, attach a footnote to the wording:

The powr functions compute x raised to the power y as $e^{y \log_e x}$.

where the footnote is:

(*) Restricting the domain to that of the formula $e^{y \log_e x}$ is intended to better meet expectations for a continuous power function and to allow implementations with fewer tests for special cases.