

**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:

[3] The **powr** functions return  $x^y$ .

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.