

IEEE Standards Interpretations for IEEE Std 1003.2™-1992 IEEE Standard for Information Technology--Portable Operating System Interfaces (POSIX®)--Part 2: Shell and Utilities

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Interpretation Request #88

Topic: BREs **Relevant Clauses:** 2.8.3.3

In the description of backreferences in Basic Regular Expressions (BREs) in POSIX.2, subclause 2.8.3.3 states (in part): The backreference expression `\n` shall match the same (possibly empty) string of characters as was matched by a subexpression enclosed between `\(` and `\)` preceding the `n`. My question revolves around the use of the phrase "possibly empty". In particular, consider the following BRE: `a(b)*c\1` Does this BRE match the string `ac`? The BRE `a(b)*c` clearly matches `ac`. In this case, `\(b\)` fails to match, but `\(b\)*` matches zero or more instances of `b` (and therefore matches anything). Adding the backreference requires that the backreference match what the subexpression matched (which was nothing). One can read the standard as meaning that this is an empty match, and that therefore the backreference will (in this case) match an empty string. Alternatively, one can read the standard as saying that the backreference fails to match because the subexpression it references failed to match. Which of these interpretations is correct?

Interpretation Response

This request is substantially identical to interpretation #43 part 15, and the resolution to that interpretation applies in this case.

Rationale for Interpretation

None.