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Abstract

Example 4.5, Lemma 4.7, and Corollary 4.10 [1] are incorrect as stated.

1. Description of error.

In the paper [1] Example 4.5, Lemma 4.7, and Corollary 4.10 are incorrect. As pointed out by Donald Yau, the problem is in our false claim that “concatenation preserves the lexicographical order on $\text{Seq}(S)$,” which appears in the last sentence in Example 4.5.

Consider the counterexample found by Donald Yau, for Example 4.5 in [1]. Let $e < a < b$ (both strict) be elements in S . Let the sequences E, A, B be as follows:

$E = (e, e, \dots)$ with e in each entry, also called the 0 sequence,
 $A = (a, e, \dots)$ with e from the second entry, and
 $B = (b, e, \dots)$ with e from the second entry.

Then $E < A$ in $\text{Seq}(S)$, since $e < a$, but
 $\text{concat}(A, B) = (a, b, e, \dots) < (b, e, \dots) = \text{concat}(E, B)$,
since $a < b$.

Thus $\max(\text{concat}(A, B), \text{concat}(E, B)) > \text{concat}(\max(A, E), \max(B, B))$ which contradicts the claimed 2-fold monoidal structure.

Lemma 4.7 and Corollary 4.10 of [1] each have the same problem.

References

- [1] Stefan Forcey, Jacob Siehler and E. Seth Sowers, Operads in iterated monoidal categories, Journal of Homotopy and Related Structures, vol.2 (1), 2007, pp.1 - 43

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