

Corrigendum to “Short Regular Expressions from Finite Automata: Empirical Results”

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In the article [1], the present authors showed, among others, empirical results for converting randomly generated finite automata into regular expressions using

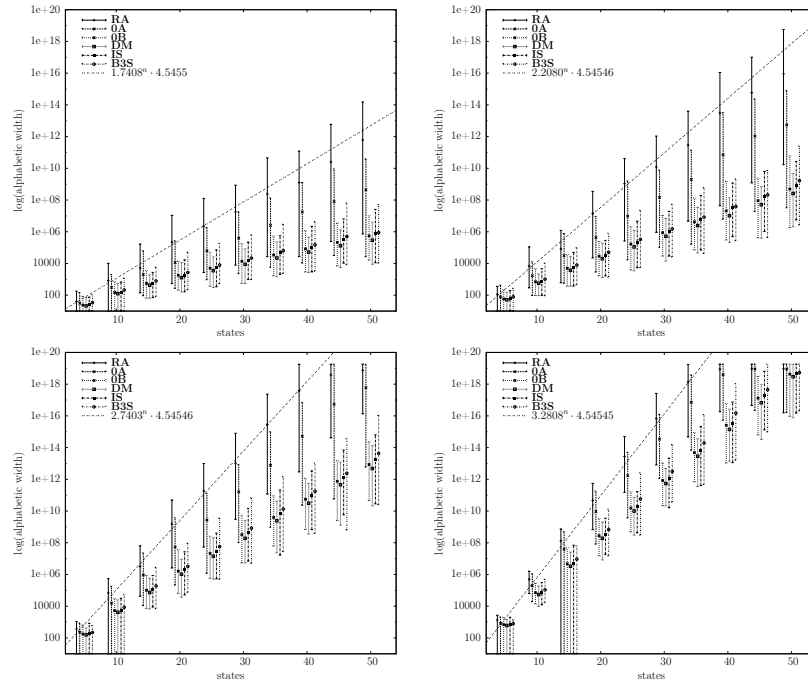


Fig. 1. Alphabetic size (y -axis, logarithmically scaled) in relation to the number of states (x -axis, linearly scaled) for DFAs with $5 \leq n \leq 50$ states—in steps of 5 states—and input alphabet size 2 (upper left), 3 (upper right), 5 (lower left), and 10 (lower right) for the random ordering **RA** and Algorithms **OA**, **OB**, **DM**, **IS**, and **B3S**. Here a vertical bar for an algorithm indicates the maximal occurring alphabetic width by its height. Moreover it also shows the alphabetic width on average indicated by the appropriate mark symbol.

several different algorithms. Due to an inaccuracy in the previous version 0.1.0 of the third-party software library used for randomly generating deterministic finite automata [2], there was a slight bias in the generated automata. These were not generated uniformly at random as claimed in [1]. Consequently, the data presented in [1, Fig. 1] is not representative.

This inaccuracy is fixed as of version 0.1.1 of the library [2], we ran all those tests again, in exactly the same environment—except for using the updated version of the library [2]. The new results, this time for deterministic finite automata generated *uniformly* at random, are depicted in Figure 1. As it turns out, the data exhibits the same patterns as that presented in [1, Fig. 1], and thus the interpretation of the results as well as all conclusions drawn in [1] remain valid.

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References

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