

Erratum

Erratum to “Classification of Base Sequences $BS(n + 1, n)$ ”

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While working on the classification of normal sequences, we discovered the following counter-example to [1, Theorem 4.2]. The base sequences $S^{(k)} \in BS(14, 13)$, ($k = 1, 2$) given (in encoded form) by

$$S^{(1)} = 0618616;1613441, \quad S^{(2)} = 0618616;1613442 \quad (1)$$

are both in the canonical form in spite of being equivalent. Indeed we have $S^{(2)} = \sigma_2 \theta S^{(1)}$.

The error in the proof occurs in the last two sentences of the fourth paragraph on page 19. Namely, the claim that $h_2 \in \langle \theta \rangle$ is not valid. To correct this error, we just need to replace the condition (x) in Definition 3.1 with the stronger condition

(x)' if n is odd and $q_i \neq 2$ for all $i \leq m$, then $q_{m+1} \neq 2$.

The last two sentences of the above-mentioned paragraph should be replaced by the following ones.

“Since h_2 fixes the central columns 0 and 3, we may assume that $q_{m+1}^{(1)}, q_{m+1}^{(2)} \in \{1, 2\}$. If $Q \subseteq \{1, 3, 4, 5, 6, 8\}$, then (x)' implies that $q_{m+1}^{(1)} = q_{m+1}^{(2)} = 1$. Otherwise $2 \in Q$ and so h_2 must fix the quad 2. Consequently, $h_2 = 1$ or $h_2 = \theta$ and so $q_{m+1}^{(2)} = h_2(q_{m+1}^{(1)}) = q_{m+1}^{(1)}$.”

After this correction, only $S^{(1)}$ has the canonical form. The program that we used to enumerate the equivalence classes did not suffer from the same error and our tables in the paper do not require any corrections. We have verified that all representatives listed in our tables (and the ones not included in the paper) are in the canonical form even when using the new definition. For example, note that only $S^{(1)}$, but not $S^{(2)}$, is listed in Table 7 (see item no. 332).

We point out three misprints: on the third line of the definition of (T4) on page 14, switch “even” and “odd”; on the fifth line of page 16, insert “switching A and B and” between “After” and “applying”; on the eighth line of page 16, switch the numbers 2 and 7.

References

- [1] D. Ž. Đoković, “Classification of base sequences $BS(n+1, n)$,” *International Journal of Combinatorics*, vol. 2010, Article ID 851857, 21 pages, 2010.