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Rich words in the block reversal of a word. (English) Zbl 07684704

Summary: The block reversal of a word \( w \), denoted by \( BR(w) \), is a generalization of the concept of the reversal of a word, obtained by concatenating the blocks of the word in the reverse order. We characterize non-binary and binary words whose block reversal contains only rich words. We prove that for a binary word \( w \), richness of all elements of \( BR(w) \) depends on \( l(w) \), the length of the run sequence of \( w \). We show that if all elements of \( BR(w) \) are rich, then \( 2 \leq l(w) \leq 8 \). We also provide the structure of such words.

MSC: 68R15 Combinatorics on words

Keywords: combinatorics on words; rich words; run-length encoding; block reversal

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