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*Sequence Covering and Packing Arrays*

A Sequence Covering Array (SeqCA) or a Sequence Packing Array (SeqPA) is a set $\mathcal{B}$ of $N$ $k$-sequences on $v$ events, where $2 \leq k \leq v$. In a SeqCA (SeqPA), every pair of events appears in at least (most) one of the sequences in $\mathcal{B}$. The number of sequences in a minimum (maximum) size SeqCA (SeqPA) is called the SeqCA (SeqPA) number, denoted by $k$-SeqCAN$(v)$ ($k$-SeqPAN$(v)$). In the literature, SeqCA (SeqPA) numbers are only known for small values of $k$, or for the case when $k = v$. For $N \in \{4, 5, 6, 7, 10, 11\}$, we determined the set of pairs $\{(v, k) : k\text{-SeqCAN}(v) = N\}$. For $N \in \{2, 3, 4, 5\}$, we determined the set of pairs $\{(v, k) : k\text{-SeqPAN}(v) = N\}$, and for $N \in \{7, 8, 9\}$ we determine the set $\{(v, k) : k\text{-SeqPAN}(v) \leq N\}$. For $N \in \{3, 4, 5, 6, 7, 8, 9\}$, known bounds on SeqPA numbers were improved.