

Extending Compact-Table to Basic Smart Tables

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Abstract. Table constraints are instrumental in modeling combinatorial problems with Constraint Programming. Recently, Compact-Table (CT) has been proposed and shown to be as an efficient filtering algorithm for table constraints, notably because of bitwise operations. CT has already been extended to handle non-ordinary tables, namely, short tables and/or negative tables. In this paper, we introduce another extension so as to deal with basic smart tables, which are tables containing universal values ($*$) as well as restrictions on values ($\neq v$) bounds ($\leq v$ or $\geq v$) and sets ($\in S$). Such tables offer the user a better expressiveness and permit to deal efficiently with compressed tuples. Our experiments show a substantial speedup when compression is possible (and a very limited overhead otherwise).

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