

# EXTENDING COMPACT-TABLE TO BASIC SMART TABLES

CP2017 - Doctoral Program

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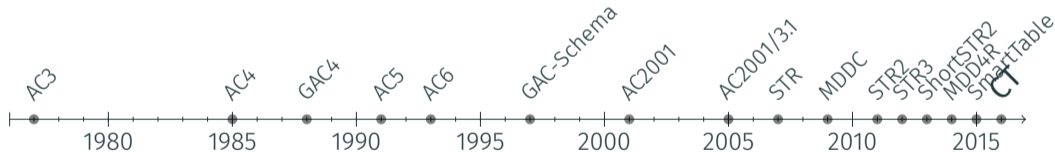
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Tables are the oldest most used CP constraints

$$(x, y, z) \in$$

	$x$	$y$	$z$
$\tau_1$	$a$	$a$	$a$
$\tau_2$	$d$	$d$	$a$
$\tau_3$	$c$	$e$	$b$
$\vdots$	$\vdots$	$\vdots$	$\vdots$



2016 : New algorithm ! CompactTable [CP2016], based on bitwise operations, completely outperformed existing algorithms.

## Tuples

CT  
[CP2016]

	$x$	$y$	$z$
$\tau_1$	$a$	$a$	$b$
$\tau_2$	$b$	$c$	$a$
$\tau_3$	$b$	$a$	$a$
$\tau_4$	$c$	$b$	$c$
	$\vdots$	$\vdots$	$\vdots$

## Short tuples

CT\*  
[AAAI17]

	$x$	$y$	$z$
$\tau_1$	*	*	$b$
$\tau_2$	$b$	$c$	$a$
$\tau_3$	$b$	*	*
$\tau_4$	$c$	$b$	*
	$\vdots$	$\vdots$	$\vdots$

## Basic Smart Tuples

CT<sub>bs</sub>  
[CP2017]

	$x$	$y$	$z$
$\tau_1$	*	*	$\in \{a, b\}$
$\tau_2$	$\neq a$	$c$	$\leq a$
$\tau_3$	$b$	*	*
$\tau_4$	$\geq c$	$\neq b$	$a$
	$\vdots$	$\vdots$	$\vdots$

More expressive, More compact, More efficient

Interested? Come to session CP12, Friday 10:30 room 112!