

CO3 (Ver. 2.2)

a COnverter for proving COnfluence of COnditional TRSs

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Overview

CO3 proves confluence of 3-DCTRSs or infeasibility of conditions by using

- very simple termination/confluence criteria for TRSs,
- the improved sequential unraveling \mathbb{U}_{conf} [Gmeiner et al, 13], and
- narrowing trees [Nishida & Maeda, 18]
- **reduction of confluence of join or semi-equational CTRSs to that of oriented ones**

Infeasibility Criterion for Condition c w.r.t. DCTRSs \mathcal{R}

$\mathbb{U}_{conf}(\mathcal{R})$ is right-linear and a narrowing tree for c defines \emptyset [Maeda et al, 19]

Confluence Criteria for syntactically deterministic 3-CTRSs \mathcal{R}

- \mathcal{R} is weakly-left-linear and $\mathbb{U}_{conf}(\mathcal{R})$ is confluent [Gmeiner et al, 13], or
- $\mathbb{U}_{conf}(\mathcal{R})$ is terminating and right-linear, and
 $\forall \langle s, t \rangle \Leftarrow c \in CP(\mathcal{R}), (c = \epsilon \wedge s = t) \vee$ "c is infeasible" [Maeda et al, 19]