

7th International Confluence Competition

Watch live at <http://cocograph.uibk.ac.at/2018.html>

July 12

FSCD 2018

Overview

- CoCo 2018
- Contestants
- Infrastructure
- Results

- 7th International Confluence Competition
- four regular **and two combined** categories
 - TRS first-order rewrite systems
 - CTRS first-order conditional rewrite systems
 - HRS higher-order rewrite systems
 - GCR ground confluence of many-sorted TRSs
 - **CPF certified confluence proofs**
 - CPF-TRS certified confluence proofs for TRSs
 - CPF-CTRS certified confluence proofs for CTRSs
 - **UN unique normalization of TRSs**
 - NFP normal form property of TRSs
 - UNC unique normal forms with respect to conversion for TRSs
 - UNR unique normal forms with respect to reduction for TRSs
- powered by StarExec



Scoring

Valid Answers

YES/NO on first line followed by proof

Regular Categories

score is YES+NO

CPF Category

score is sum of scores of component categories

UN Category

	NFP	UNC	UNR	none
NFP $\implies$ UNC $\implies$ UNR	5	4	3	0
$\neg$ NFP	–	5	4	3
$\neg$ UNC	–	–	5	4
$\neg$ UNR	–	–	–	5

CoCo 2018

TRS conflicts: none		CTRS conflicts: none		HRS conflicts: none	
ACP ver.0.62 (0 of 100): YES:0 NO:0 MAYBE:0	score: 0.00%	ACP ver.0.62 (0 of 100): YES:0 NO:0 MAYBE:0	score: 0.00%	CSI*ho (0 of 94): YES:0 NO:0 MAYBE:0	score: 0.00%
CoLL-Saigawa1.2 (0 of 100): YES:0 NO:0 MAYBE:0	score: 0.00%	CO3 (0 of 100): YES:0 NO:0 MAYBE:0	score: 0.00%	sol 55879 (0 of 94): YES:0 NO:0 MAYBE:0	score: 0.00%
CSI (0 of 100): YES:0 NO:0 MAYBE:0	score: 0.00%	ConCon 1.5 (0 of 100): YES:0 NO:0 MAYBE:0	score: 0.00%		
CPF-TRS conflicts: none		CPF-CTRS conflicts: none		GCR conflicts: none	
ACP ver.0.62 and CeTA (0 of 100): YES:0 NO:0 MAYBE:0	score: 0.00%	ConCon 1.5 + CeTA (0 of 100): YES:0 NO:0 MAYBE:0	score: 0.00%	AGCP ver.0.30 2018 (0 of 67): YES:0 NO:0 MAYBE:0	score: 0.00%
CSI+CeTA (0 of 100): YES:0 NO:0 MAYBE:0	score: 0.00%			FORT 2.0 (0 of 67): YES:0 NO:0 MAYBE:0	score: 0.00%
NFP conflicts: none		UNC conflicts: none		UNR conflicts: none	
CSI (0 of 63): YES:0 NO:0 MAYBE:0	score: 0.00%	ACP ver.0.62 UNC (0 of 63): YES:0 NO:0 MAYBE:0	score: 0.00%	CSI (0 of 63): YES:0 NO:0 MAYBE:0	score: 0.00%
FORT 2.0 (0 of 63): YES:0 NO:0 MAYBE:0	score: 0.00%	CSI (0 of 63): YES:0 NO:0 MAYBE:0	score: 0.00%	FORT 2.0 (0 of 63): YES:0 NO:0 MAYBE:0	score: 0.00%
		FORT 2.0 (0 of 63): YES:0 NO:0 MAYBE:0	score: 0.00%		

Contestants

	TRS	CTRS	CPF		HRS	GCR		UN	
			TRS	CTRS			NFP	UNC	UNR
ACP	✓	✓	✓					✓	
AGCP						✓			
CeTA			✓	✓					
CO3		✓							
CoLL-Saigawa	✓								
ConCon		✓		✓					
CSI	✓		✓				✓	✓	✓
CSI ^{ho}					✓				
FORT						✓	✓	✓	✓
SOL					✓				
new									

Cops

- Confluence problems
- Search & Query & Submission & Download
- Problem Selection
- Support for CTRSs
- Support for HRSs
- Support for MSTRSs

Problem Selection for CoCo 2018

- max. 100 random Cops from the literature
- oriented 3-CTRSs
- non-confluent systems for GCR/NFP/UNC/UNR
- pattern systems for HRS

2012: 125
2013: 261
2014: 425
2015: 492
2016: 521
2017: 758
2018: 789

CoCoWeb

- convenient web interface for all past participants

CoCoWeb

COCO

[Home](#) [Web Interface](#)

Tools

2017

CTRS

HRS

TRS

2016

2015

2014

2013

2012

Enter a **rewrite system**, upload a file or import a Cop:

```
1 (FUN
2   f : a -> a
3 )
4 (VAR
5   x : a
6 )
7 (RULES
8
9 )
```

property:

timeout:

submit this problem to

More on Cops and CoCoWeb

- talk at IJCAR: July 17, 15:00–15:15, Maths LT2

Hardware

- 192 nodes
- 2 quad-core 2.40 GHz processors, 256 GiB of memory



Software

- tool/benchmark submission/management
- tool execution
- queue management (CoCo queue has 30 nodes)
- (some) statistics

Special Thanks

- FLOC 2018 Organizers



- FSCD 2018 PC



- Aaron Stump



- Yakir Vizel



And the Winners are ...



...celebrated in Joint Award Ceremony: Saturday, July 14, 14:00–15:30

See You Next Year

- TACAS, Prague, April 6–7 2019