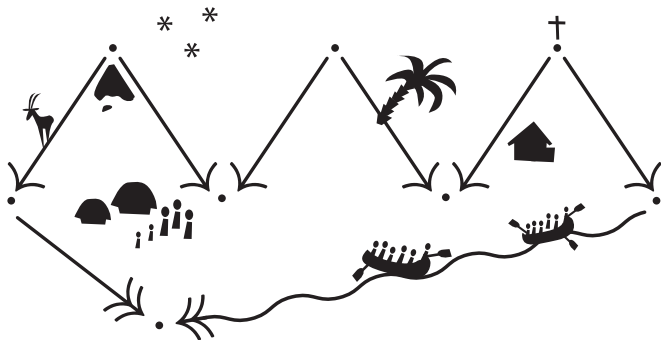


COCO 2016



5th Confluence Competiton, Obergurgl

Takahito Aoto

Nao Hirokawa

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Naoki Nishida

Overview

- CoCo 2016
- Tools
- Cops
- Scoring
- StarExec
- Results

CoCo 2016

- 5th International Confluence Competition
- live
- four regular and three demonstration categories
 - TRS first-order rewrite systems
 - CTRS first-order conditional rewrite systems
 - CPF certified confluence proofs
 - HRS higher-order pattern rewrite systems
 - GCR ground confluence of many-sorted TRSs
 - NRS nominal rewrite systems
 - UN unique normalization of TRSs

- powered by StarExec



CoCo 2016

TRS

ACP ver.0.51 2016 (0 of 100): score: **0.00%**

YES:0 NO:0 MAYBE:0

CoLL-Saigawa (0 of 100): score: **0.00%**

YES:0 NO:0 MAYBE:0

CSI (0 of 100): score: **0.00%**

YES:0 NO:0 MAYBE:0

HRS

ACPH (0 of 68): score: **0.00%**

YES:0 NO:0 MAYBE:0

CSI^{ho} (0 of 68): score: **0.00%**

YES:0 NO:0 MAYBE:0

CPF-TRS

ACP ver.0.51 and CeTA 2016 (0 of 100):

YES:0 NO:0 MAYBE:0

score: **0.00%**

CSI+CeTA (0 of 100): score: **0.00%**

YES:0 NO:0 MAYBE:0

NRS

Nrbox (0 of 30): score: **0.00%**

YES:0 NO:0 MAYBE:0

CTRS

CO3 (0 of 100): score: **0.00%**

YES:0 NO:0 MAYBE:0

ConCon 1.3.2 (0 of 100): score: **0.00%**

YES:0 NO:0 MAYBE:0

CoScart (0 of 100): score: **0.00%**

YES:0 NO:0 MAYBE:0

GCR

AGCP ver.0.02 (0 of 244): score: **0.00%**

YES:0 NO:0 MAYBE:0

FORT 1.0 (0 of 244): score: **0.00%**

YES:0 NO:0 MAYBE:0

CPF-CTRS

ConCon 1.3.2+CeTA (0 of 100): score: **0.00%**

YES:0 NO:0 MAYBE:0

CSI (0 of 50): score: **0.00%**

CR:0 NFP:0 UNC:0 YES:0 NO:0 MAYBE:0

FORT 1.0 (0 of 50): score: **0.00%**

CR:0 NFP:0 UNC:0 YES:0 NO:0 MAYBE:0

Tools & Categories

	TRS	CTRS	CPF	HRS	GCR	NRS	UN	EOSCS-MT
ACP	✓		✓					
ACPH				✓				
CeTA			✓					
CO3		✓						
CoLL-Saigawa	✓							
ConCon		✓	✓					
CoScart		✓						
CRC	✓	✓						✓
CSI	✓		✓				✓	
CSI ^{ho}				✓				
AGCP					✓			
FORT					✓		✓	
Nrbox						✓		
	new							

Cops

- Confluence problems 2012: 125
- Search & Query Interface 2013: 261
- Submission & Download Interface 2014: 425
- Problem Selection 2015: 492
- Support for CTRSs 2016: 521
- Support for HRSs

Problem Selection for CoCo 2016

- 100 random Cops for regular categories
- provided by tool authors for demonstration categories
- CPF categories use same problems as regular ones

Scoring

TRS/HRS category

valid answers: YES/NO

CTRS category

- CTRSs are classified by
 - condition type: oriented, join, semi-equational
 - extra variables: types 1,2,3,4
- problems in CTRS category: **oriented 3-CTRSs**
- valid answers: YES/NO/UNSUPPORTED

Score

score is **(YES+NO)**/UNSUPPORTED

StarExec

Hardware

- nodes 1–32 (2 quad-core, 2.40 GHz, 128 GB)
- nodes 33–192 (2 quad-core, 2.40 GHz, 256 GB)



Software

- tool/benchmark submission/management
- tool execution
- tool pipelining
- queue management (CoCo queue has 15 nodes from nodes 1–32)
- (some) statistics

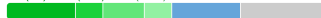
Special Thanks

- CLA & IWC Organizers
- Harald Zankl
- Aaron Stump
- Bertram Felgenhauer
- Maria Schett



tool3 (23 of 23): score: **78.26%**

YES(CR):5 YES(NFP):2 YES(UNC):3 YES:2 NO:5 MAYBE:6



And the Winners are ...

