TestAR

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Table 1: performance of ASP model vs cleaned up ASP model

Instances	N	n	k	Optimum	ASP		CleanASP	
					Best	Time (s)	Best	Time (s)
EASY instances								
1	5	10	4	2	2	0.041	2	0.025
2	5	12	4	2	2	0.031	2	0.019
3	5	14	4	2	2	0.031	2	0.016
4	5	16	4	2	2	0.036	2	0.022
5	5	18	4	2	2	0.047	2	0.025
6	5	25	4	2	2	0.031	2	0.019
7	10	25	4	2	2	0.090	2	0.058
8	10	30	4	2	2	0.123	2	0.067
9	25	25	4	2	2	0.139	2	0.078
10	25	28	4	2	2	0.166	2	0.091
11	25	30	4	2	2	0.126	2	0.072
MEDIUM instances								
15	25	35	8	2	3		0.059	2
16	25	33	8	3	3	0.622	3	0.088
17	30	33	8	3	3	300.235	3	1.666
HARD instances								
18	10	35	4	2	3		2	9.771
19	25	35	4	UNS	UNS	148.323	UNS	1.284
20	25	35	12	2	3		2	1.806
21	25	50	20	2	4		2	77.369
22	25	50	40	UNKN				
23	10	35	12	2	3		2	4.780
24	25	35	20	2	3		2	79.357

[1] UNS stands for unsatisfiable
[2] UNKN stands for unknown

Table 2: performance of MZN model vs cleaned up MZN model

Instances	N	n	k	Optimum	MZN		CleanMZN	
					Best	Time (s)	Best	Time (s)
EASY instances								
1	5	10	4	1	1	1.316	1	0.294
2	5	12	4	2	2	7.104	2	0.242
3	5	14	4	2	2	3.931	2	0.252
4	5	16	4	2	2	19.489	2	0.249
5	5	18	4	2	2		2	0.260
6	5	25	4	2	2	50.374	2	30.107
7	10	25	4	2	2	29.148		
8	5	30	4	2	2	27.897		
9	10	25	4	2	2	9.806		
10	10	30	4	2	2	60.026	4	
11	25	25	4	UNS	UNS	7.994	UNS	0.131
12	25	28	4	2	2	180.057	2	1.340
MEDIUM instances								
15	25	35	8	UNKN	3		3	
16	25	33	8	UNKN	3		3	
17	30	33	8	UNKN			3	
HARD instances								
18	10	35	4	UNKN	3			
19	25	35	4	UNKN	3		3	
20	25	35	12	UNKN				

[1] UNS stands for unsatisfiable
[2] UNKN stands for unknown
[3] The solver used is OR Tools CP-SAT 9.8.3296
[4] without any strategy