Faster Optimal and Suboptimal Hierarchical Search, Erratum

Michael J. Leighton and **Wheeler Ruml**
Department of Computer Science
University of New Hampshire
Durham, NH 03824 USA
mjr58, ruml at cs.unh.edu

Robert C. Holte
Department of Computer Science
University of Alberta
Edmonton, Alberta T6G 2E8 Canada
holte at cs.ualberta.ca

				Nodes Expanded (100K)		CPU Time (s)	
Algorithm	Weight	Solved	Sub-optimality	Mean	Median	Mean	Median
Switch	-	100	1.13	**0.29**	**0.20**	**0.10**	**0.06**
Short Circuit	-	100	**1**	1.39	0.91	0.89	0.55
Short Circuit WA*	1.1	100	1.01	1.69	1.28	1.10	0.81
" "	1.2	100	1.03	2.39	1.89	1.59	1.24
" "	2	100	1.24	6.34	6.77	4.46	5.00
" "	5	100	1.44	6.03	8.06	4.22	5.75
" "	10	100	1.53	5.51	6.34	3.84	4.52
Short Circuit Greedy	-	100	5.17	8.25	8.69	5.63	6.00

Table 1: Original results on the glued two 15 Puzzle.

				Nodes Expanded (100K)		CPU Time (s)	
Algorithm	Weight	Solved	Sub-optimality	Mean	Median	Mean	Median
Switch	-	100	1.91	**0.16**	**0.12**	**0.03**	**0.02**
Short Circuit	-	100	**1**	1.49	1.14	0.28	0.22
Short Circuit WA*	1.1	100	1.01	2.07	1.76	0.41	0.35
" "	1.2	100	1.03	2.94	2.71	0.60	0.57
" "	2	100	1.19	8.70	11.76	1.99	2.92
" "	5	94	1.4	8.95	12.8	2.08	3.11
" "	10	23	2.99	20.59	41.63	4.85	8.91
Short Circuit Greedy	-	56	10.1	151.1	221.2	55.9	86.4

Table 2: Corrected results on the glued two 15-Puzzle.

Erratum

A mistake was found in the code used to generate results for the original paper by Leighton, Ruml, and Holte (2011). This document contains updated results. The glued two 15-puzzle domain was the only domain affected. Table 1 shows the results from the original experiment. Table 2 shows the new results for the same 100 instances. The relative performance of Switch, Short Circuit WA*, and Short Circuit greedy remained the same after the correction. We originally concluded that Switch was able to solve problems with fewer node expansions and less CPU time than Short Circuit WA* or Short Circuit greedy. Our new results do not change this conclusion.

References

Leighton, M. J.; Ruml, W.; and Holte, R. C. 2011. Faster optimal and suboptimal hierarchical search. In *Proceedings of the Symposium on Combinatorial Search: (SoCS 2011)*.