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Course: CS420 - Artificial Intelligence
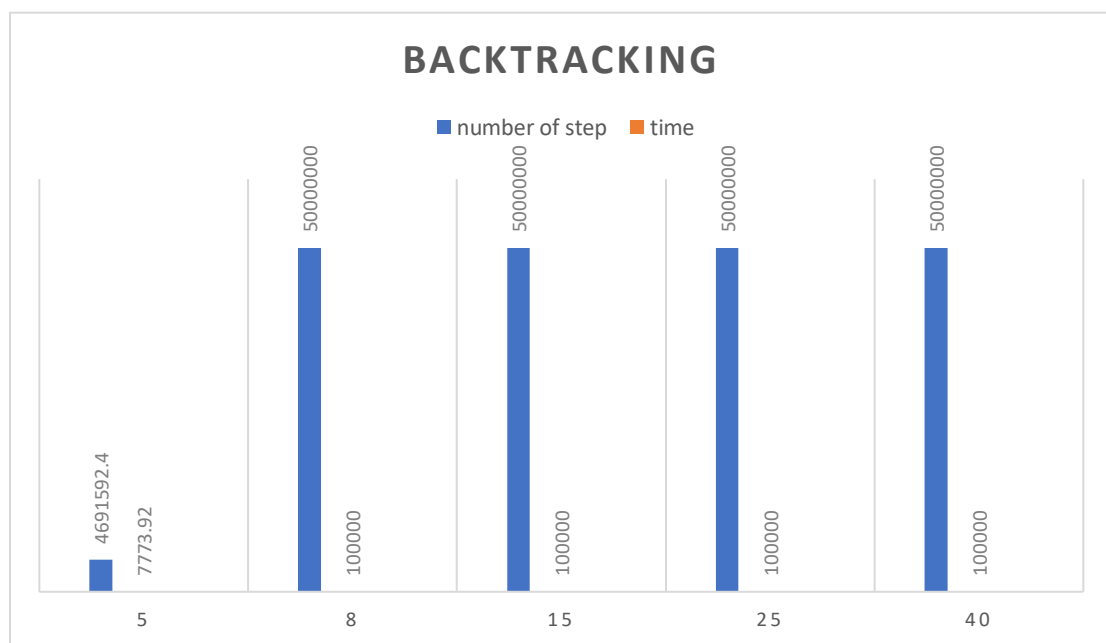
Lab01: The Knight's Tour

1. Backtracking

Size	5		8		15		25		40	
	step	time	step	time	step	time	step	time	step	time
(1,1)	70624	80.651	66005601	112420.97	over	over	over	over	over	over
(3,4)	8231144	13175.71	over	over	over	over	over	over	over	over
(5,2)	14635368	25262.06	over	over	over	over	over	over	over	over
(1,5)	111981	112.70	over	over	over	over	over	over	over	over
(4,2)	408845	238.46	over	over	over	over	over	over	over	over
Average	4691592.4	7773.92	over	over	over	over	over	over	over	over

*over (in step column): rather than 50,000,000 steps
**over (in step time): rather than 100,000 ms

2. Warnsdorff's Heuristic

Size	5		8		15		25		40	
	step	time	step	time	step	time	step	time	step	time
(1,1)	24	0.0	63	0.0	224	0.0	624	6.98	1599	78.10
(3,4)	7	0.0	63	0.0	223	2.99	623	8.97	1599	93.68
(5,2)	23	0.0	63	0.99	223	2.99	621	9.97	1599	15.59
(1,5)	24	0.0	63	0.99	224	15.62	624	31.91	1599	93.73
(4,2)	24	0.0	63	0.99	224	2.99	624	9.97	1583	93.73
Average	20.4	0.0	63	0.6	223.6	4.92	623.2	13.56	1595.80	74.97