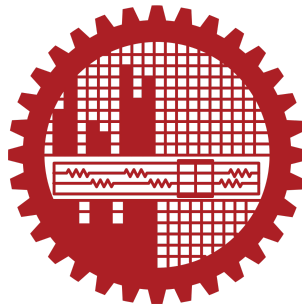


CSE318

Artificial Intelligence Sessional

Offline-03

Constraint Satisfaction Problem - Latin Square



Bangladesh University of Engineering & Technology

Md. Sultanul Arifin

1805097

Section: B2

Level - 3, Term - 2

Department of Computer Science and Engineering

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Exponential:

Benchmark Data	Known Best Solution		Scheme - 1			
			Largest-Degree + Kempe + Pairswap			
	Timeslots	Penalty	Timeslots	Penalty		
				After Largest Degree	After Kempe	After Pairswap
car-f-92	32	3.74	32	10.61	5.59	5.49
car-s-91	35	4.42	35	11.72	6.76	6.69
kfu-s-93	20	12.96	20	46.47	17.73	16.99
tre-s-92	23	7.75	22	15.81	10.94	10.84
yor-f-83	21	34.84	23	65.62	37.83	37.66

Benchmark Data	Known Best Solution		Scheme - 2			
			Saturation-Degree + Kempe + Pairswap			
	Timeslots	Penalty	Timeslots	Penalty		
				After Saturation Degree	After Kempe	After Pairswap
car-f-92	32	3.74	30	10.27	6.06	6.02
car-s-91	35	4.42	30	12.8	8.24	8.13
kfu-s-93	20	12.96	19	46.94	18.99	18.61
tre-s-92	23	7.75	23	15.93	10.32	10.2
yor-f-83	21	34.84	21	60.61	43.87	43.82

Benchmark Data	Known Best Solution		Scheme - 3			
			Largest-Enrollment + Kempe + Pairswap			
	Timeslots	Penalty	Timeslots	Penalty		
				After Largest Enrollment	After Kempe	After Pairswap
car-f-92	32	3.74	35	10.69	4.87	4.78
car-s-91	35	4.42	36	13.78	6.43	6.34
kfu-s-93	20	12.96	21	54.5	15.9	14.78
tre-s-92	23	7.75	22	16.34	10.45	10.36
yor-f-83	21	34.84	24	63.87	34.76	34.32

Benchmark Data	Known Best Solution		Scheme - 4 Random + Kempe + Pairswap			
			Timeslots	Penalty		
	Timeslots	Penalty		After Random	After Kempe	After Pairswap
car-f-92	32	3.74	43	7.62	3.77	3.67
car-s-91	35	4.42	47	9.2	4.69	4.6
kfu-s-93	20	12.96	25	33.14	12.21	11.43
tre-s-92	23	7.75	27	15.59	8.33	8.11
yor-f-83	21	34.84	26	48.59	31.38	31.11

Linear:

Benchmark Data	Known Best Solution		Scheme - 5 Largest-Degree + Kempe + Pairswap			
			Timeslots	Penalty		
	Timeslots	Penalty		After Largest Degree	After Kempe	After Pairswap
car-f-92	32	3.74	32	6.77	3.71	3.68
car-s-91	35	4.42	35	7.5	4.36	4.34
kfu-s-93	20	12.96	20	28.7	11.47	11.24
tre-s-92	23	7.75	22	10.1	6.94	6.87
yor-f-83	21	34.84	23	41.32	24.34	24.3

Benchmark Data	Known Best Solution		Scheme - 6 Saturation-Degree + Kempe + Pairswap			
			Timeslots	Penalty		
	Timeslots	Penalty		After Saturation Degree	After Kempe	After Pairswap
car-f-92	32	3.74	30	6.62	3.87	3.83
car-s-91	35	4.42	30	8.27	5.26	5.2
kfu-s-93	20	12.96	19	29.05	13.11	12.98
tre-s-92	23	7.75	23	10.18	6.63	6.58
yor-f-83	21	34.84	21	38.62	27.73	27.66

Benchmark Data	Known Best Solution		Scheme - 7 Largest-Enrollment + Kempe + Pairswap			
			Timeslots	Penalty		
	Timeslots	Penalty		After Largest Enrollment	After Kempe	After Pairswap
car-f-92	32	3.74	35	6.73	3.15	3.11
car-s-91	35	4.42	36	8.85	4.15	4.12
kfu-s-93	20	12.96	21	34.24	10.59	10.18
tre-s-92	23	7.75	22	10.43	6.96	6.85
yor-f-83	21	34.84	24	40.57	22.86	22.68

Benchmark Data	Known Best Solution		Scheme - 8 Random + Kempe + Pairswap			
			Timeslots	Penalty		
	Timeslots	Penalty		After Random	After Kempe	After Pairswap
car-f-92	32	3.74	45	4.97	2.38	2.3
car-s-91	35	4.42	44	6.17	3.37	3.32
kfu-s-93	20	12.96	24	21.95	9.08	8.75
tre-s-92	23	7.75	28	8.42	4.96	4.89
yor-f-83	21	34.84	25	36.02	22.45	22.25