

CSE318 – Artificial Intelligence

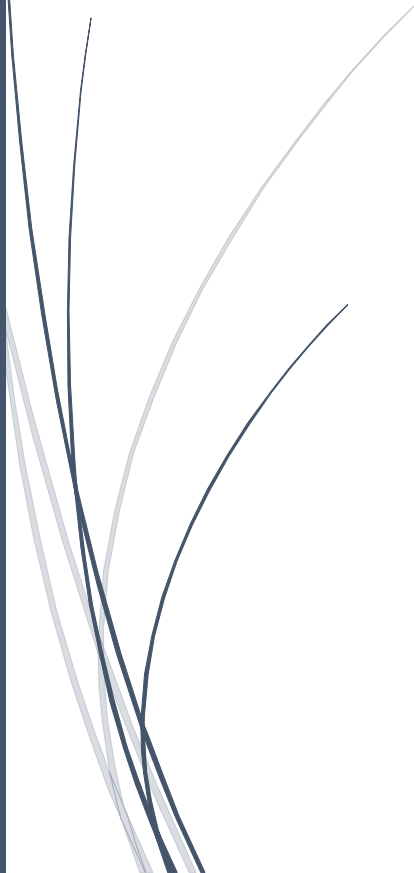
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Report On Exam Scheduling

Offline-3 on Local Search

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Penalty Strategy: Exponential

Benchmark Data	Known Best Solution		Scheme - 1 Largest-Degree + Kempe + Pairswap			
			Timeslots	Penalty		
	Timeslots	Penalty		After Largest Degree	After Kempe	After Pairswap
CARF92	32	3.74	32	10.61	5.85	5.8
CARS91	34	11.6	35	11.72	7.45	7.42
KFU93	20	12.96	20	46.47	19.19	18.65
TRE92	23	7.75	22	15.8	11	10.95
YOR83	21	34.84	23	65.62	37.43	37.43

Benchmark Data	Known Best Solution		Scheme - 2 Saturation-Degree + Kempe + Pairswap			
			Timeslots	Penalty		
	Timeslots	Penalty		After Saturation Degree	After Kempe	After Pairswap
CARF92	32	3.74	30	9.59	6.36	6.34
CARS91	34	11.6	31	12.45	8.21	8.19
KFU93	20	12.96	19	46.69	21.08	19.39
TRE92	23	7.75	23	15.91	10.26	10.19
YOR83	21	34.84	20	61.66	46.42	46.42

Penalty Strategy: Exponential

Benchmark Data	Known Best Solution		Scheme - 3 Largest-Enrollment + Kempe + Pairswap			
				Penalty		
	Timeslots	Penalty	Timeslots	After Largest Enrollment	After Kempe	After Pairswap
CARF92	32	3.74	35	10.69	5	4.96
CARS91	34	11.6	36	13.78	6.73	6.66
KFU93	20	12.96	21	54.5	16.83	16.04
TRE92	23	7.75	22	16.33	11	10.89
YOR83	21	34.84	24	63.87	36.65	36.63

Benchmark Data	Known Best Solution		Scheme - 4 Random + Kempe + Pairswap			
				Penalty		
	Timeslots	Penalty	Timeslots	After Random	After Kempe	After Pairswap
CARF92	32	3.74	42	8.65	4.31	4.24
CARS91	34	11.6	50	9.25	4.74	4.66
KFU93	20	12.96	25	35.06	14.74	13.65
TRE92	23	7.75	28	13.09	7.89	7.8
YOR83	21	34.84	28	48.93	30.13	29.91

Penalty Strategy: Linear

Benchmark Data	Known Best Solution		Scheme - 1 Largest-Degree + Kempe + Pairswap			
			Timeslots	Penalty		
	Timeslots	Penalty		After Largest Degree	After Kempe	After Pairswap
CARF92	32	3.74	32	6.77	3.81	3.73
CARS91	34	11.6	35	7.5	4.78	4.77
KFU93	20	12.96	20	28.7	12.85	12.74
TRE92	23	7.75	22	10.1	7.28	7.27
YOR83	21	34.84	23	41.32	24.67	24.66

Benchmark Data	Known Best Solution		Scheme - 2 Saturation-Degree + Kempe + Pairswap			
			Timeslots	Penalty		
	Timeslots	Penalty		After Saturation Degree	After Kempe	After Pairswap
CARF92	32	3.74	30	6.27	4.05	4
CARS91	34	11.6	31	8.05	5.37	5.35
KFU93	20	12.96	19	28.98	13.32	13.24
TRE92	23	7.75	23	10.13	6.86	6.81
YOR83	21	34.84	20	38.92	29.82	29.82

Benchmark Data	Known Best Solution		Scheme - 3 Largest-Enrollment + Kempe + Pairswap			
			Timeslots	Penalty		
	Timeslots	Penalty		After Largest Enrollment	After Kempe	After Pairswap
CARF92	32	3.74	35	6.73	3.31	3.28
CARS91	34	11.6	36	8.84	4.34	4.32
KFU93	20	12.96	21	34.24	11.63	11.44
TRE92	23	7.75	22	10.43	7.04	6.98
YOR83	21	34.84	24	40.57	23.16	23.15

Benchmark Data	Known Best Solution		Scheme - 4 Random + Kempe + Pairswap			
			Timeslots	Penalty		
	Timeslots	Penalty		After Random	After Kempe	After Pairswap
CARF92	32	3.74	42	4.84	2.73	2.7
CARS91	34	11.6	49	6.23	3.25	3.21
KFU93	20	12.96	24	18.19	9.27	9.04
TRE92	23	7.75	28	8.64	5.18	5.14
YOR83	21	34.84	28	32.07	19.89	19.8