

Bangladesh University of Engineering and Technology
CSE-318 : Artificial Intelligence
Offline-3 Local search

Submitted by
Abdur Rafi
1805008

Date of Submission:
21 January, 2023

Benchmark data	Known Best Solution		Scheme - 1 Largest Degree + kempe + Pairswap			
			Timeslots	Penalty (Exponential)		
	Timeslots	Penalty		After Largest Degree	After Kempe	After Pairswap
CARF92	32	3.74	32	10.615	4.963	4.742
CARS91	35	4.42	34	11.496	6.391	6.086
KFU93	20	12.96	20	46.516	15.331	15.112
TRE92	23	7.75	23	15.901	9.236	9.1
YOR83	21	34.84	23	64.689	34.058	34.029

Benchmark data	Known Best Solution		Scheme - 2 Saturation Degree + kempe + Pairswap			
			Timeslots	Penalty (Exponential)		
	Timeslots	Penalty		After Largest Degree	After Kempe	After Pairswap
CARF92	32	3.74	30	10.266	5.484	5.351
CARS91	35	4.42	31	12.206	7.137	6.875
KFU93	20	12.96	19	46.918	16.492	16.11
TRE92	23	7.75	23	15.843	9.451	9.393
YOR83	21	34.84	21	60.601	40.921	40.893

Benchmark data	Known Best Solution		Scheme - 3 Largest Enrollment + kempe + Pairswap			
			Timeslots	Penalty (Exponential)		
	Timeslots	Penalty		After Largest Degree	After Kempe	After Pairswap
CARF92	32	3.74	34	10.692	4.469	4.167
CARS91	35	4.42	36	13.773	5.732	5.34
KFU93	20	12.96	21	54.562	13.791	13.486

TRE92	23	7.75	22	16.331	9.945	9.873
YOR83	21	34.84	24	63.983	31.176	31.067

Benchmark data	Known Best Solution		Scheme - 4 Random + kempe + Pairswap			
			Timeslots	Penalty (Exponential)		
	Timeslots	Penalty		After Largest Degree	After Kempe	After Pairswap
CARF92	32	3.74	44	7.837	3.145	2.807
CARS91	35	4.42	46	9.560	3.988	5.523
KFU93	20	12.96	24	38.651	10.492	9.898
TRE92	23	7.75	28	12.88	6.478	6.371
YOR83	21	34.84	28	49.920	24.366	24.276

Benchmark data	Known Best Solution		Scheme - 5 Saturation Degree + kempe + Pairswap			
			Timeslots	Penalty (Linear)		
	Timeslots	Penalty		After Largest Degree	After Kempe	After Pairswap
CARF92	32	3.74	30	6.617	3.581	3.436
CARS91	35	4.42	31	7.923	4.720	4.597
KFU93	20	12.96	19	29.039	11.542	11.435
TRE92	23	7.75	23	10.148	6.116	6.087
YOR83	21	34.84	21	38.619	27.394	27.377