

TSP Algorithm Benchmark Results

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Benchmark	Cities	Optimal Distance	NN Distance	NN Time (s)	GA Distance	GA Time (s)	BF Distance	BF Time (s)	BB Distance	BB Time (s)
ali535	100	202339	1302.76	0.0012	1513.93	1.6981	1302.76	0.0014	1302.76	0.0012
att48	48	10628	40526.40	0.0003	43804.34	0.8009	40526.40	0.0003	40526.40	0.0002
att532	100	27686	18681.78	0.0010	25770.11	1.7027	18681.78	0.0012	18681.78	0.0012
d1291	100	50801	22.21	0.0011	25.00	1.7563	22.21	0.0012	22.21	0.0011
d1655	100	62128	6.76	0.0012	6.84	1.7055	6.76	0.0011	6.76	0.0010
d198	100	15780	22.22	0.0011	25.51	1.6972	22.22	0.0013	22.22	0.0011
d493	100	35002	9.88	0.0010	12.29	1.7088	9.88	0.0013	9.88	0.0011
d657	100	48912	21.95	0.0011	24.87	1.7130	21.95	0.0012	21.95	0.0011
fl1400	100	20127	18.31	0.0012	20.79	1.7105	18.31	0.0012	18.31	0.0011
fl3795	100	28772	15.21	0.0013	18.04	1.7101	15.21	0.0012	15.21	0.0010
fnl4461	100	N/A	5063.57	0.0015	6839.23	1.7158	5063.57	0.0015	5063.57	0.0011
gr431	100	171414	368.90	0.0011	493.17	1.7075	368.90	0.0013	368.90	0.0013
pa561	100	2763	221.59	0.0010	288.35	1.7259	221.59	0.0014	221.59	0.0011
pcb3038	100	137694	0.26	0.0011	0.25	1.7192	0.26	0.0011	0.26	0.0010
pla7397	100	23260728	1734510.55	0.0012	2459252.61	1.7132	1734510.55	0.0012	1734510.55	0.0018
rat575	100	6773	1492.21	0.0011	2045.02	1.7506	1492.21	0.0011	1492.21	0.0010
rl11849	100	923288	19.04	0.0013	29.72	1.7325	19.04	0.0017	19.04	0.0014

Note: NN = Nearest Neighbor, GA = Genetic Algorithm, BF = Brute Force, BB = Branch and Bound. For instances with >10 cities, Brute Force uses a heuristic. For instances with >20 cities, Branch and Bound uses Nearest Neighbor heuristic.