

# RESULTS

N/A: No Solution Found

Test	Input sizes		Exact methods															Heuristics				
			CP 1					CP 2					MIP									
	n_packs	n_bins	f_min	f_max	f_avg	std_dev	t_avg(s)	f_min	f_max	f_avg	std_dev	t_avg(s)	f_min	f_max	f_avg	std_dev	t_avg(s)	f_min	f_max	f_avg	std_dev	t_avg(s)
0007.txt	7	3	250	250	250	0	0.027932056	250	250	250	0	0.029741828	250	250	250	0	3.176666667	300	300	300	0	0.000063000
0010.txt	10	10	51	51	51	0	0.049313393	51	51	51	0	0.082288480	51	51	51	0	2.642000000	51	51	51	0	0.000119500
0011.txt	11	11	79	79	79	0	0.053943779	79	79	79	0	0.194204638	79	79	79	0	14.003000000	79	79	79	0	0.000111500
0012.txt	12	12	54	54	54	0	0.057868931	54	54	54	0	0.088900393	54	54	54	0	7.898000000	54	54	54	0	0.000123500
0013.txt	13	13	103	103	103	0	0.109191075	103	103	103	0	0.248680102	103	103	103	0	300.2450000	145	145	145	0	0.000121000
0014.txt	14	14	50	50	50	0	0.218952388	50	50	50	0	0.156991295	50	50	50	0	27.73466667	55	55	55	0	0.000147000
0015.txt	15	15	106	106	106	0	0.513134012	106	106	106	0	0.859766784	106	106	106	0	300.4066667	106	106	106	0	0.000147500
0016.txt	16	16	113	113	113	0	0.905138111	113	113	113	0	0.434518921	113	113	113	2E-14	300.4726667	130	130	130	0	0.000178500
0017.txt	17	17	105	105	105	0	190.2477704	105	105	105	0	48.88790709	105	105	105	0	300.7416667	105	105	105	0	0.000175500
0018.txt	18	18	118	118	118	0	300.0134580	118	118	118	0	300.0097486	121	147	133	13.115	300.6500000	121	121	121	0	0.000196500
0019.txt	19	19	106	106	106	0	5.214479066	106	106	106	0	4.515408114	106	106	106	0	300.7890000	129	129	129	0	0.000239000
0020.txt	20	20	171	171	171	0	2.519827466	171	171	171	0	3.259184459	466	466	466	7E-14	301.0606667	188	188	188	0	0.000226000
0021.txt	21	21	108	108	108	0	8.500796449	108	108	108	0	13.22533175	210	210	210	0	301.0763333	120	120	120	0	0.000229500
0022.txt	22	22	156	156	156	0	300.0168832	156	156	156	0	300.0154854	461	623	569	93.531	301.2113333	171	171	171	0	0.000231000
0023.txt	23	23	116	116	116	0	300.0116365	116	116	116	0	300.0111883	1108	1108	1108	0	301.3633333	147	147	147	0	0.000271500
0024.txt	24	24	158	158	158	0	300.0148793	158	160	158.67	1.1547	300.0153042	356	356	356	0	301.6633333	181	181	181	0	0.000304000
0025.txt	25	25	204	204	204	0	300.0179474	217	217	217	0	300.0161614	1601	1601	1601	0	301.8870000	237	237	237	0	0.000317000
0026.txt	26	26	158	158	158	0	300.0207270	158	158	158	0	300.0192201	622	622	622	0	301.9896667	161	161	161	0	0.000298500
0027.txt	27	27	158	158	158	0	300.0189365	158	158	158	0	300.0158563	N/A	N/A	N/A	N/A	N/A	180	180	180	0	0.000289500
0028.txt	28	28	158	158	158	0	300.0196483	158	158	158	0	300.0164230	1190	1190	1190	0	304.0343333	158	158	158	0	0.000341000
0029.txt	29	29	167	178	174.33	6.3509	300.0187450	178	178	178	0	300.0166405	1415	1415	1415	0	303.8066667	186	186	186	0	0.000317500
0030.txt	30	30	181	182	181.67	0.5774	300.0173433	181	181	181	0	300.0167477	2144	2144	2144	0	303.5200000	182	182	182	0	0.000365500
0031.txt	31	31	215	215	215	0	300.0253246	215	215	215	0	300.0220303	2249	2249	2249	0	303.8870000	215	215	215	0	0.000432000
0032.txt	32	32	171	171	171	0	300.0176523	171	171	171	0	300.0173429	1224	1224	1224	0	306.4953333	187	187	187	0	0.000426500
0033.txt	33	33	165	165	165	0	300.0201768	165	165	165	0	300.0197631	1429	1429	1429	0	306.5370000	178	178	178	0	0.000379000
0034.txt	34	34	165	165	165	0	300.0260553	165	165	165	0	300.0208469	803	803	803	0	306.0583333	182	182	182	0	0.000407500
0035.txt	35	35	213	220	215.33	4.0415	300.0196759	220	220	220	0	300.0238502	1723	1723	1723	0	309.1243333	237	237	237	0	0.000473500
0036.txt	36	36	299	299	299	0	300.0296591	299	299	299	0	300.0237642	2795	2795	2795	0	309.3520000	345	345	345	0	0.000494500
0037.txt	37	37	163	163	163	0	300.0222829	163	163	163	0	300.0210460	1750	1750	1750	0	308.5500000	163	163	163	0	0.000456000
0038.txt	38	38	252	252	252	0	300.0218226	252	252	252	0	300.0244739	1193	1193	1193	0	309.7286667	260	260	260	0	0.000461500
0039.txt	39	39	229	229	229	0	300.0224621	229	229	229	0	300.0226709	2895	2895	2895	0	308.1450000	229	229	229	0	0.000465000
0040.txt	40	40	263	263	263	0	300.0266393	263	263	263	0	300.0272773	2964	2964	2964	0	317.5096667	236	236	236	0	0.000511000
0041.txt	41	41	225	228	226	1.7321	300.0271970	225	225	225	0	300.0237112	1304	1304	1304	0	315.5370000	251	251	251	0	0.000538000
0042.txt	42	42	367	367	367	0	300.0270539	375	375	375	0	300.0304993	3115	3115	3115	0	317.3836667	412	412	412	0	0.000596500
0043.txt	43	43	237	237	237	0	300.0364837	279	279	279	0	300.0248417	3178	3178	3178	0	314.3276667	243	243	243	0	0.000567500
0044.txt	44	44	283	304	296.33	11.590	300.0313213	283	292	286	5.1962	300.0278897	2030	2030	2030	0	318.9026667	356	356	356	0	0.000567000
0045.txt	45	45	220	220	220	0	300.0270809	220	220	220	0	300.0295647	N/A	N/A	N/A	N/A	N/A	239	239	239	0	0.000601500
0046.txt	46	46	272	272	272	0	300.0306748	274	291	285.33	9.8150	300.0306235	N/A	N/A	N/A	N/A	N/A	301	301	301	0	0.000594500
0047.txt	47	47	313	322	319	5.1962	300.0306518	322	322	322	0	300.0300689	2182	2182	2182	N/A	316.9760000	284	284	284	0	0.000668500

Test	Input sizes		Exact methods															Heuristics					
			CP 1					CP 2					MIP										
	n_packs	n_bins	f_min	f_max	f_avg	std_dev	t_avg(s)	f_min	f_max	f_avg	std_dev	t_avg(s)	f_min	f_max	f_avg	std_dev	t_avg(s)	f_min	f_max	f_avg	std_dev	t_avg(s)	
0048.txt	48	48	269	269	269	0	300.0316954	269	269	269	0	300.0297711	N/A	N/A	N/A	N/A	N/A	287	287	287	0	0.000630000	
0049.txt	49	49	273	273	273	0	300.0297330	273	273	273	0	300.0323650	N/A	N/A	N/A	N/A	N/A	275	275	275	0	0.000694000	
0050.txt	50	50	291	293	291.67	1.1547	300.0346591	290	290	290	0	300.0403131	N/A	N/A	N/A	N/A	N/A	314	314	314	0	0.000679500	
0051.txt	51	51	328	328	328	0	300.0348325	328	391	370	36.373	300.0352015	N/A	N/A	N/A	N/A	N/A	291	291	291	0	0.000702000	
0052.txt	52	52	330	345	335	8.6603	300.0370899	330	334	332.67	2.3094	300.0385255	N/A	N/A	N/A	N/A	N/A	358	358	358	0	0.000841000	
0053.txt	53	53	382	382	382	0	300.0353604	359	384	373	12.767	300.0371281	N/A	N/A	N/A	N/A	N/A	404	404	404	0	0.000728500	
0054.txt	54	54	260	260	260	0	300.0374483	260	260	260	0	300.0370563	N/A	N/A	N/A	N/A	N/A	278	278	278	0	0.000768000	
0090.txt	90	90	567	585	573	10.392	300.0979588	565	570	567.33	2.5166	300.1171398	N/A	N/A	N/A	N/A	N/A	591	591	591	0	0.001591500	
0120.txt	120	120	760	800	776.33	20.984	300.1965074	744	784	770	22.539	300.1924827	N/A	N/A	N/A	N/A	N/A	701	701	701	0	0.002528000	
0150.txt	150	150	1169	1454	1301.3	143.58	300.3545031	856	994	911.67	72.762	300.4425781	N/A	N/A	N/A	N/A	N/A	770	770	770	0	0.003221000	
0180.txt	180	180	1810	1847	1825	19.468	300.7002796	1314	1787	1490	258.68	300.5421843	N/A	N/A	N/A	N/A	N/A	965	965	965	0	0.004655500	
0210.txt	210	210	2595	2828	2731	121.30	300.7788572	2270	2600	2481.7	183.73	300.7499004	N/A	N/A	N/A	N/A	N/A	1098	1098	1098	0	0.005970000	
0240.txt	240	240	1861	1992	1941.7	70.571	301.0924356	2074	2434	2308.3	203.12	301.0623261	N/A	N/A	N/A	N/A	N/A	1161	1161	1161	0	0.007081500	
0270.txt	270	270	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1243	1243	1243	0	0.008418500
0300.txt	300	300	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1817	1817	1817	0	0.010539000
0330.txt	330	330	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1942	1942	1942	0	0.012312500
0350.txt	360	360	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2052	2052	2052	0	0.014683000
0550.txt	550	550	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2841	2841	2841	0	0.028160000
0600.txt	600	600	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3633	3633	3633	0	0.035439499
0650.txt	650	650	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3775	3775	3775	0	0.039241500
0700.txt	700	700	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3835	3835	3835	0	0.046878500
0750.txt	750	750	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4017	4017	4017	0	0.049647501
0800.txt	800	800	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4489	4489	4489	0	0.057065001
0850.txt	850	850	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4503	4503	4503	0	0.060443999
0900.txt	900	900	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4625	4625	4625	0	0.071190499
0950.txt	950	950	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5308	5308	5308	0	0.085543001
10000.txt	10000	10000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	53952	53952	53952	0	5.323014975
1000.txt	1000	1000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	5579	5579	5579	0	0.067706000
2000.txt	2000	2000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	11217	11217	11217	0	0.238945499
3000.txt	3000	3000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	16019	16019	16019	0	0.502542987
4000.txt	4000	4000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	21701	21701	21701	0	0.868784487
5000.txt	5000	5000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	27568	27568	27568	0	1.374900043
6000.txt	6000	6000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	32746	32746	32746	0	1.936044991
7000.txt	7000	7000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	38368	38368	38368	0	2.655996561
8000.txt	8000	8000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	43364	43364	43364	0	3.431673050
9000.txt	9000	9000	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	49632	49632	49632	0	4.845009327