1 Tables

This tables presents many results of the article "Fast approximation for scheduling one machine".

TABLE 1 Table of results of instances with 10 jobs and 20 jobs. The instance name has the format N_X_J where X is the number of the instance and J is the number of jobs. BSL is the level where the best solution was found. All the runs in these instances can be accomplished in less than one second. Columns "Width" and "Depth" indicate the width and the depth, respectively, of the solution tree $\mathcal{T}$ constructed for the corresponding instance, the column σ ("Best", respectively) specifies the maximum job lateness in the initial ED-schedule σ (in the best obtained solution, respectively); column $|E|$ indicates the number of different emerging jobs obtained in the solution tree $\mathcal{T}$

Instances with 10 jobs									Instances with 20 jobs								
Instance	Nodes	Width	Depth	BSL	$|E|$	κ	σ	Best	Instance	Nodes	Width	Depth	BSL	$|E|$	κ	σ	Best
N_1_10	12	4	3	1	3	1	79	74	N_1_20	26	6	6	6	5	2	11	-59
N_2_10	4	1	3	1	2	2	55	33	N_2_20	130	25	9	9	9	2	17	-9
N_3_10	4	2	2	1	2	1	31	8	N_3_20	2	1	1	0	1	1	42	42
N_4_10	11	2	5	5	4	2	39	5	N_4_20	1875	310	14	9	10	6	55	-23
N_5_10	2	1	1	0	1	1	50	50	N_5_20	34	16	3	3	3	1	37	19
N_6_10	3	1	2	0	1	1	11	11	N_6_20	2	1	1	1	1	1	280	260
N_7_10	2	1	1	0	1	1	90	90	N_7_20	18	5	5	2	5	3	55	15
N_8_10	3	1	2	2	2	1	52	51	N_8_20	9	4	2	2	2	1	51	39
N_9_10	2	1	1	1	1	1	153	96	N_9_20	171	57	7	4	6	3	19	14
N_10_10	3	2	1	1	1	1	38	-16	N_10_20	132	43	6	5	5	2	7	-22
N_11_10	7	3	2	1	2	1	43	15	N_11_20	29	6	9	2	7	2	3	-8
N_12_10	42	11	6	3	5	3	29	-17	N_12_20	37	14	4	3	4	2	42	2
N_13_10	2	1	1	1	1	1	38	25	N_13_20	7	4	3	3	3	2	109	29
N_14_10	5	2	3	1	2	1	81	42	N_14_20	167	32	10	8	8	2	4	-43
N_15_10	6	3	2	1	2	1	10	8	N_15_20	11	5	3	2	3	2	91	81
N_16_10	3	1	2	1	2	1	31	11	N_16_20	3	2	1	0	1	1	25	25
N_17_10	2	1	1	1	1	1	69	10	N_17_20	8	3	4	2	2	2	11	-3
N_18_10	8	4	2	1	2	2	24	20	N_18_20	2	1	1	0	1	1	109	109
N_19_10	6	3	2	1	2	1	54	53	N_19_20	3	1	2	2	2	1	52	-2
N_20_10	26	9	4	1	3	2	50	32	N_20_20	24	8	6	4	6	1	32	5
N_21_10	2	1	1	1	1	1	42	15	N_21_20	24	8	4	3	4	2	41	19
N_22_10	25	8	5	3	5	1	73	56	N_22_20	4	2	2	2	2	1	158	100
N_23_10	4	1	3	2	2	1	119	90	N_23_20	29	4	10	10	8	3	15	-14
N_24_10	2	1	1	1	1	1	142	90	N_24_20	11	5	3	1	3	1	64	25
N_25_10	8	4	4	2	3	1	68	33	N_25_20	478	63	14	12	10	3	29	-10
N_26_10	2	1	1	1	1	1	120	96	N_26_20	3	1	2	2	2	1	57	-2
N_27_10	2	1	1	1	1	1	60	52	N_27_20	1089	159	15	9	12	3	18	-19
N_28_10	2	1	1	0	1	1	35	35	N_28_20	56	21	5	2	5	2	64	10
N_29_10	11	4	4	2	3	2	26	17	N_29_20	2	1	1	1	1	1	54	23
N_30_10	2	1	1	0	1	1	63	63	N_30_20	106	23	8	3	8	2	67	-6
N_31_10	2	1	1	1	1	1	75	53	N_31_20	1494	371	10	2	10	1	14	-3
N_32_10	16	6	5	2	5	2	33	10	N_32_20	13	5	4	2	3	2	92	25
N_33_10	2	1	1	0	1	1	21	21	N_33_20	112	34	7	2	5	3	74	24
N_34_10	14	5	4	4	3	1	49	33	N_34_20	3	1	2	1	1	2	75	8
N_35_10	10	4	4	2	3	2	5	-13	N_35_20	10	4	5	5	4	2	78	19
N_36_10	4	1	3	3	2	1	51	41	N_36_20	4	2	2	2	2	2	16	-2
N_37_10	7	2	4	4	3	2	29	0	N_37_20	19	3	10	4	5	1	25	12
N_38_10	2	1	1	1	1	1	51	47	N_38_20	26	8	4	4	4	1	13	-5
N_39_10	4	2	2	1	2	2	13	12	N_39_20	82	25	6	4	6	3	29	-17
N_40_10	2	1	1	1	1	1	93	92	N_40_20	6	2	4	2	3	2	45	20
N_41_10	2	1	1	1	1	1	121	113	N_41_20	40	14	6	1	5	2	25	-5
N_42_10	2	1	1	0	1	1	54	54	N_42_20	4	1	3	3	3	1	14	-2
N_43_10	2	1	1	1	1	1	134	66	N_43_20	3	1	2	1	2	1	75	49
N_44_10	4	2	2	1	2	1	83	53	N_44_20	61	16	7	6	7	2	61	-10
N_45_10	2	1	1	0	1	1	80	80	N_45_20	659	131	12	1	9	3	22	-7
N_46_10	8	4	2	0	2	1	5	5	N_46_20	2	1	1	1	1	1	18	16
N_47_10	21	7	4	2	4	1	25	17	N_47_20	261	79	11	1	9	3	15	12
N_48_10	2	1	1	1	1	1	26	-14	N_48_20	2	1	1	1	1	1	118	90
N_49_10	5	2	2	1	2	1	53	24	N_49_20	417	64	12	7	8	1	49	4
N_50_10	9	4	3	2	3	1	48	7	N_50_20	2	1	1	0	1	1	376	376

TABLE 2 Table of results of instances with 30 and 40 jobs. The instance name has the format N_X_J where X is the number of the instance and J is the number of jobs. In the column C will have a Y if the program was able to terminate or a N otherwise. Column "Depth" indicate the depth of the solution tree $\mathcal{T}$ constructed for the corresponding instance, the execution (processor) time is specified in seconds in column "Time", the column σ ("Best", respectively) specifies the maximum job lateness in the initial ED-schedule σ (in the best obtained solution, respectively); column $|E|$ indicates the number of different emerging jobs obtained in the solution tree $\mathcal{T}$

| Instances with 30 jobs | | | | | | | | Instances with 40 jobs | | | | | | | |
Instance	Depth	$\|E\|$	Time	κ	σ	Best	C	Instance	Depth	$\|E\|$	Time	κ	σ	Best	C
N_1_30	1	1	0	1	287	287	Y	N_1_40	11	10	0	4	63	-2	Y
N_2_30	2	2	0	1	63	45	Y	N_2_40	6	6	0	2	17	-8	Y
N_3_30	2	2	0	1	28	-2	Y	N_3_40	1	1	0	1	31	-1	Y
N_4_30	5	5	0	3	20	20	Y	N_4_40	7	7	0	4	45	-10	Y
N_5_30	5	5	0	2	7	-1	Y	N_5_40	7	5	0	2	67	8	Y
N_6_30	18	12	0	2	52	-1	Y	N_6_40	12	10	0	2	32	-2	Y
N_7_30	13	7	0	2	33	-11	Y	N_7_40	13	12	0	3	79	10	Y
N_8_30	5	5	0	2	1	-7	Y	N_8_40	11	11	0	2	44	-14	Y
N_9_30	7	7	0	2	4	-5	Y	N_9_40	26	17	27	2	3	-37	Y
N_10_30	1	1	0	1	280	254	Y	N_10_40	37	24	130	5	27	0	N
N_11_30	11	11	0	2	17	-25	Y	N_11_40	29	18	92	6	38	-23	N
N_12_30	5	5	0	3	22	-4	Y	N_12_40	20	16	20	3	8	-21	Y
N_13_30	6	6	0	1	20	-28	Y	N_13_40	5	5	0	1	22	1	Y
N_14_30	17	12	0	3	59	24	Y	N_14_40	30	22	97	6	41	-27	N
N_15_30	7	7	0	2	18	-21	Y	N_15_40	7	7	0	1	51	-4	Y
N_16_30	2	1	0	1	43	25	Y	N_16_40	21	16	15	3	27	7	Y
N_17_30	3	3	0	2	10	-16	Y	N_17_40	2	2	0	1	28	-35	Y
N_18_30	1	1	0	1	88	79	Y	N_18_40	19	17	6	3	17	-27	Y
N_19_30	17	13	0	3	10	-15	Y	N_19_40	25	18	0	3	20	-17	Y
N_20_30	1	1	0	1	41	37	Y	N_20_40	5	5	0	1	30	-16	Y
N_21_30	3	1	0	1	75	75	Y	N_21_40	13	13	0	2	22	-4	Y
N_22_30	21	13	2	1	56	39	Y	N_22_40	11	11	0	4	16	-19	Y
N_23_30	3	2	0	1	228	228	Y	N_23_40	3	3	0	1	73	40	Y
N_24_30	2	2	0	1	22	-4	Y	N_24_40	12	12	0	2	36	-4	Y
N_25_30	10	10	0	2	5	-25	Y	N_25_40	35	21	103	4	88	-3	N
N_26_30	9	9	0	2	2	-31	Y	N_26_40	5	5	0	1	32	-14	Y
N_27_30	11	9	0	1	62	25	Y	N_27_40	4	4	0	2	28	-18	Y
N_28_30	10	10	0	2	30	-24	Y	N_28_40	30	19	29	3	20	1	Y
N_29_30	8	7	0	2	36	13	Y	N_29_40	6	6	0	2	62	-9	Y
N_30_30	11	10	0	2	43	27	Y	N_30_40	10	10	0	2	14	0	Y
N_31_30	15	12	0	4	28	17	Y	N_31_40	13	13	0	1	81	59	Y
N_32_30	1	1	0	1	60	60	Y	N_32_40	13	8	0	4	54	-24	Y
N_33_30	12	8	0	1	37	21	Y	N_33_40	16	15	0	3	69	36	Y
N_34_30	2	2	0	1	45	-3	Y	N_34_40	13	13	0	2	5	-6	Y
N_35_30	16	11	1	4	26	7	Y	N_35_40	2	2	0	1	101	61	Y
N_36_30	12	11	0	3	26	-5	Y	N_36_40	34	22	136	3	12	-52	N
N_37_30	2	1	0	1	78	52	Y	N_37_40	3	3	0	2	30	-12	Y
N_38_30	25	16	3	4	38	-35	Y	N_38_40	18	13	0	3	13	-2	Y
N_39_30	1	1	0	1	341	341	Y	N_39_40	2	2	0	2	2	-1	Y
N_40_30	7	7	0	1	53	36	Y	N_40_40	9	8	0	1	39	38	Y
N_41_30	27	19	79	3	7	-16	Y	N_41_40	18	17	13	2	13	-2	Y
N_42_30	2	2	0	1	46	19	Y	N_42_40	9	9	0	2	80	-1	Y
N_43_30	4	3	0	1	42	32	Y	N_43_40	5	5	0	1	58	33	Y
N_44_30	8	8	0	5	31	-19	Y	N_44_40	21	18	0	2	44	4	Y
N_45_30	14	12	0	3	54	-8	Y	N_45_40	30	18	33	3	52	11	Y
N_46_30	5	5	1	1	13	-3	Y	N_46_40	30	25	142	3	84	13	N
N_47_30	9	8	0	2	22	-30	Y	N_47_40	1	1	0	1	10	10	Y
N_48_30	1	1	0	1	213	185	Y	N_48_40	6	6	0	2	2	-12	Y
N_49_30	1	1	0	1	8	-1	Y	N_49_40	6	6	0	2	41	-1	Y
N_50_30	2	2	0	1	73	73	Y	N_50_40	1	1	0	1	550	527	Y

TABLE 3 Table of results of instances with 50 and 100 jobs. The instance name has the format N_X_J where X is the number of the instance and J is the number of jobs. In the column C will have a Y if the program was able to terminate or a N otherwise.

Instances with 50 jobs								Instances with 100 jobs							
Instance	Depth	|E|	Time	κ	σ	Best	C	Instance	Depth	|E|	Time	κ	σ	Best	C
N_1_50	25	19	198	4	15	-11	N	N_1_100	40	38	216	4	52	2	N
N_2_50	2	2	0	1	178	175	Y	N_2_100	11	11	0	1	17	-61	Y
N_3_50	1	1	0	1	359	357	Y	N_3_100	43	35	187	9	39	21	N
N_4_50	28	24	150	4	42	17	N	N_4_100	58	47	224	5	34	0	N
N_5_50	2	2	0	1	19	17	Y	N_5_100	30	29	381	4	8	-13	N
N_6_50	28	23	15	3	33	29	Y	N_6_100	23	23	3	3	3	-29	Y
N_7_50	35	22	115	4	47	6	N	N_7_100	48	41	391	3	15	-7	N
N_8_50	31	28	2	4	11	-41	Y	N_8_100	2	1	0	1	106	83	Y
N_9_50	9	9	0	2	8	-2	Y	N_9_100	77	47	317	6	40	-18	N
N_10_50	39	28	157	4	51	-6	N	N_10_100	26	25	413	2	25	-1	N
N_11_50	22	20	28	4	30	-3	Y	N_11_100	58	50	211	4	23	-9	N
N_12_50	4	4	0	1	3	-21	Y	N_12_100	4	4	0	1	7	-65	Y
N_13_50	28	15	0	3	5	-10	Y	N_13_100	43	39	265	3	40	-6	N
N_14_50	24	21	24	4	7	-12	Y	N_14_100	58	41	300	3	69	15	N
N_15_50	1	1	0	1	515	515	Y	N_15_100	50	33	208	5	30	-6	N
N_16_50	12	12	0	3	32	-35	Y	N_16_100	49	41	187	2	17	4	N
N_17_50	31	26	25	4	66	-14	Y	N_17_100	54	44	405	5	14	-27	N
N_18_50	26	22	18	6	16	-5	Y	N_18_100	20	20	0	1	3	-54	Y
N_19_50	22	22	6	3	20	-6	Y	N_19_100	27	27	185	2	40	10	N
N_20_50	3	3	0	2	23	-16	Y	N_20_100	1	1	0	1	45	41	Y
N_21_50	26	23	164	6	8	-18	N	N_21_100	57	39	428	3	39	-30	N
N_22_50	18	16	2	3	17	-11	Y	N_22_100	52	24	152	4	13	-12	N
N_23_50	16	12	0	2	37	-5	Y	N_23_100	47	46	257	5	20	-22	N
N_24_50	9	9	0	1	31	-1	Y	N_24_100	49	41	158	4	32	-5	N
N_25_50	2	2	0	1	53	53	Y	N_25_100	33	33	258	3	56	-16	N
N_26_50	2	2	0	1	83	43	Y	N_26_100	39	30	572	3	41	-20	N
N_27_50	2	2	0	1	149	149	Y	N_27_100	57	52	307	4	9	-2	N
N_28_50	20	16	0	4	40	-21	Y	N_28_100	2	2	0	1	216	215	Y
N_29_50	7	7	0	2	66	0	Y	N_29_100	44	41	206	2	12	0	N
N_30_50	12	9	0	2	61	13	Y	N_30_100	6	6	1	2	9	-27	Y
N_31_50	2	2	0	1	53	48	Y	N_31_100	48	44	234	5	28	-45	N
N_32_50	24	24	100	3	18	-25	N	N_32_100	53	43	166	4	1	-48	N
N_33_50	6	5	0	1	102	98	Y	N_33_100	58	46	294	4	5	-31	N
N_34_50	21	19	168	2	63	9	N	N_34_100	44	33	298	2	5	-25	N
N_35_50	9	9	0	1	4	-32	Y	N_35_100	31	30	557	2	10	-39	N
N_36_50	28	20	3	3	80	41	Y	N_36_100	44	37	166	2	78	12	N
N_37_50	2	1	0	1	282	282	Y	N_37_100	51	44	192	4	35	-7	N
N_38_50	30	29	122	2	46	-6	N	N_38_100	40	36	338	3	36	-21	N
N_39_50	2	2	0	1	342	342	Y	N_39_100	21	20	0	3	4	-40	Y
N_40_50	8	8	0	2	51	-11	Y	N_40_100	28	27	194	2	22	-6	N
N_41_50	29	25	75	4	52	-13	Y	N_41_100	37	32	482	4	13	-17	N
N_42_50	19	19	0	1	79	-6	Y	N_42_100	62	50	287	4	40	-1	N
N_43_50	20	19	1	4	61	-1	Y	N_43_100	49	38	344	4	43	0	N
N_44_50	23	14	108	1	61	39	N	N_44_100	26	26	479	1	49	42	N
N_45_50	3	3	0	1	129	77	Y	N_45_100	47	45	366	4	36	32	N
N_46_50	47	28	144	5	42	0	N	N_46_100	11	8	0	2	6	1	Y
N_47_50	17	16	0	2	64	9	Y	N_47_100	52	50	260	3	32	13	N
N_48_50	18	17	0	3	27	-24	Y	N_48_100	45	37	267	4	47	-2	N
N_49_50	6	6	0	1	19	-19	Y	N_49_100	14	14	0	1	21	-44	Y
N_50_50	24	19	108	4	8	-6	N	N_50_100	47	39	238	4	3	-4	N

TABLE 4 Table of results of instances with 200 jobs and 300 jobs. The instance name has the format N_X_J where X is the number of the instance and J is the number of jobs. In the column C will have a Y if the program was able to terminate or a N otherwise.

	Instances with 200 jobs								Instances with 300 jobs						
Instance	Depth	|E|	Time	κ	σ	Best	C	Instance	Depth	|E|	Time	κ	σ	Best	C
N_1_200	2	2	0	1	30	-4	Y	N_1_300	133	132	1031	3	36	-2	N
N_2_200	121	90	667	4	30	-18	N	N_2_300	206	166	907	7	14	-1	N
N_3_200	129	85	355	4	38	-1	N	N_3_300	79	78	298	3	32	-10	N
N_4_200	100	77	409	3	13	-10	N	N_4_300	81	45	401	4	68	-1	N
N_5_200	111	103	466	6	23	-28	N	N_5_300	207	152	760	5	55	-1	N
N_6_200	50	44	43	3	34	-4	Y	N_6_300	80	80	3074	2	81	1	N
N_7_200	143	110	1162	5	37	9	N	N_7_300	120	93	2009	3	26	-12	N
N_8_200	67	67	0	1	10	-10	Y	N_8_300	155	110	380	5	26	0	N
N_9_200	68	66	494	4	55	-9	N	N_9_300	18	18	0	1	19	-5	Y
N_10_200	31	31	594	2	37	-16	N	N_10_300	7	7	0	1	70	0	Y
N_11_200	84	68	759	5	18	-27	N	N_11_300	100	94	808	4	42	-4	N
N_12_200	73	67	1137	6	4	-36	N	N_12_300	36	36	755	2	20	-5	N
N_13_200	2	2	0	1	25	-15	Y	N_13_300	176	104	832	3	63	-17	N
N_14_200	34	34	444	2	21	-10	N	N_14_300	32	27	528	3	11	-13	N
N_15_200	88	86	694	3	20	-31	N	N_15_300	136	100	288	5	33	-36	N
N_16_200	78	62	648	3	17	-35	N	N_16_300	107	99	320	3	31	-18	N
N_17_200	53	53	0	1	27	-26	Y	N_17_300	117	100	3079	2	45	19	N
N_18_200	82	73	411	4	39	-16	N	N_18_300	122	92	2497	5	44	0	N
N_19_200	21	21	0	1	42	-2	Y	N_19_300	70	70	1099	1	58	33	N
N_20_200	48	48	0	1	66	-7	Y	N_20_300	23	23	0	1	13	-1	Y
N_21_200	90	76	447	6	4	-15	N	N_21_300	123	119	689	4	4	-5	N
N_22_200	54	44	354	5	55	-11	N	N_22_300	111	111	2593	4	25	-3	N
N_23_200	56	40	500	3	57	-9	N	N_23_300	98	98	1336	2	14	-8	N
N_24_200	114	93	967	3	24	0	N	N_24_300	59	43	428	3	62	0	N
N_25_200	33	33	1057	2	4	-31	N	N_25_300	121	110	1105	6	37	-7	N
N_26_200	137	93	1014	5	38	5	N	N_26_300	81	81	1	1	2	-2	Y
N_27_200	74	65	182	5	25	-21	N	N_27_300	25	25	492	1	13	-7	N
N_28_200	78	66	674	2	60	-6	N	N_28_300	1	1	0	1	73	-9	Y
N_29_200	48	48	847	3	8	-21	N	N_29_300	5	5	0	1	72	-9	Y
N_30_200	146	118	516	7	65	-7	N	N_30_300	98	92	1400	6	44	-11	N
N_31_200	49	49	568	5	18	-25	N	N_31_300	53	53	1	1	38	-1	Y
N_32_200	27	22	1992	2	43	14	N	N_32_300	140	126	1696	5	46	-27	N
N_33_200	78	77	1112	4	16	-28	N	N_33_300	136	89	444	3	20	-2	N
N_34_200	115	79	468	3	32	-8	N	N_34_300	77	77	2915	3	14	-2	N
N_35_200	79	77	661	3	12	-7	N	N_35_300	174	126	801	6	7	-18	N
N_36_200	103	54	1123	4	82	0	N	N_36_300	102	86	2726	2	60	6	N
N_37_200	17	17	0	1	29	-5	Y	N_37_300	56	56	3878	3	9	-32	N
N_38_200	78	77	1358	3	41	-13	N	N_38_300	173	152	835	5	17	-7	N
N_39_200	45	45	0	1	69	-7	Y	N_39_300	101	91	549	6	27	-13	N
N_40_200	5	5	0	1	32	-5	Y	N_40_300	65	65	3387	2	5	-10	N
N_41_200	81	75	315	3	52	-17	N	N_41_300	92	90	473	3	51	-15	N
N_42_200	5	5	0	1	8	-39	Y	N_42_300	117	104	1147	3	55	-2	N
N_43_200	103	91	1187	5	38	-1	N	N_43_300	49	49	0	1	1	-18	Y
N_44_200	10	10	0	2	19	0	Y	N_44_300	87	58	603	2	17	-9	N
N_45_200	1	1	0	1	179	151	Y	N_45_300	130	106	290	3	78	-7	N
N_46_200	66	66	1295	3	36	-27	N	N_46_300	76	75	2858	2	79	-2	N
N_47_200	89	81	484	3	22	-2	N	N_47_300	153	130	410	5	38	-41	N
N_48_200	130	98	510	2	53	-12	N	N_48_300	35	35	1723	1	59	22	N
N_49_200	45	38	1728	3	2	-23	N	N_49_300	7	6	0	1	41	39	Y
N_50_200	125	93	625	3	42	20	N	N_50_300	178	156	715	5	36	-15	N

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TABLE 5 Table of results of instances with 400 and 500 jobs. The instance name has the format N_X_J where X is the number of the instance and J is the number of jobs. In the column C will have a Y if the program was able to terminate or a N otherwise.

| | Instances with 400 jobs | | | | | | | | Instances with 500 jobs | | | | | | |
Instance	Depth	|E|	Time	κ	σ	Best	C	Instance	Depth	|E|	Time	κ	σ	Best	C
N_1_400	137	128	294	2	44	-6	N	N_1_500	271	219	2460	3	77	0	N
N_2_400	230	172	1221	4	23	-66	N	N_2_500	265	185	947	2	20	-42	N
N_3_400	62	62	0	1	4	-49	Y	N_3_500	419	214	2959	3	28	-15	N
N_4_400	88	88	3960	1	70	27	N	N_4_500	318	262	1774	5	43	-6	N
N_5_400	157	137	1851	4	23	-10	N	N_5_500	174	164	1095	4	43	-10	N
N_6_400	226	191	1707	6	52	-7	N	N_6_500	127	127	1634	2	10	-15	N
N_7_400	1	1	0	1	502	502	Y	N_7_500	95	92	620	5	48	-1	N
N_8_400	170	167	2901	5	39	0	N	N_8_500	239	185	4395	4	38	-17	N
N_9_400	105	105	4418	2	21	-3	N	N_9_500	237	230	1463	2	54	-10	N
N_10_400	99	56	947	3	46	-22	N	N_10_500	193	191	3363	3	49	-1	N
N_11_400	191	179	2256	4	33	-20	N	N_11_500	254	244	2687	3	43	21	N
N_12_400	238	132	1189	4	60	-4	N	N_12_500	275	257	1350	3	44	0	N
N_13_400	227	148	778	3	38	-1	N	N_13_500	298	274	3227	5	49	-4	N
N_14_400	378	168	1041	5	38	-2	N	N_14_500	241	226	2320	4	66	0	N
N_15_400	85	85	3796	3	6	-22	N	N_15_500	127	127	5152	1	38	27	N
N_16_400	108	82	2587	4	2	-26	N	N_16_500	248	180	4323	3	2	-16	N
N_17_400	182	162	2513	3	4	-25	N	N_17_500	206	203	2286	4	58	0	N
N_18_400	293	218	851	6	58	-3	N	N_18_500	127	117	4237	4	39	-33	N
N_19_400	86	73	660	3	26	-27	N	N_19_500	111	110	3639	2	77	0	N
N_20_400	194	192	1325	3	31	-11	N	N_20_500	158	140	610	4	48	31	N
N_21_400	144	144	1322	2	51	9	N	N_21_500	317	259	1073	4	66	-3	N
N_22_400	151	138	2944	3	17	-5	N	N_22_500	1	1	0	1	579	579	Y
N_23_400	242	222	1328	8	36	0	N	N_23_500	305	238	1277	4	42	-12	N
N_24_400	148	144	2440	5	25	-25	N	N_24_500	232	224	3251	5	26	-4	N
N_25_400	2	2	0	1	1472	1448	Y	N_25_500	133	107	1040	3	37	-1	N
N_26_400	1	1	0	1	337	290	Y	N_26_500	172	166	1707	3	21	-25	N
N_27_400	142	125	664	4	48	0	N	N_27_500	276	264	1437	6	57	-6	N
N_28_400	214	168	1617	4	30	-24	N	N_28_500	262	235	3117	4	47	-1	N
N_29_400	266	191	832	4	11	-9	N	N_29_500	129	111	367	4	43	-9	N
N_30_400	266	142	1205	4	16	-13	N	N_30_500	52	51	10631	2	15	-6	N
N_31_400	2	1	1	1	625	614	Y	N_31_500	140	140	1267	3	71	-7	N
N_32_400	102	72	4150	4	30	-9	N	N_32_500	115	110	1332	4	61	10	N
N_33_400	217	160	2103	2	32	-5	N	N_33_500	193	193	3709	1	6	4	N
N_34_400	31	31	3526	4	27	-5	N	N_34_500	292	227	2288	5	33	-9	N
N_35_400	101	101	816	2	40	-7	N	N_35_500	77	77	4774	3	27	-3	N
N_36_400	160	154	1154	4	50	-26	N	N_36_500	202	187	1178	5	31	-32	N
N_37_400	178	146	1808	5	50	-10	N	N_37_500	201	168	453	4	7	-29	N
N_38_400	156	150	1183	5	36	-3	N	N_38_500	25	25	753	1	50	43	N
N_39_400	110	110	4	1	27	-13	Y	N_39_500	316	258	1342	5	44	-2	N
N_40_400	9	9	0	1	21	-13	Y	N_40_500	135	135	6124	1	64	39	N
N_41_400	153	150	1003	3	6	-7	N	N_41_500	212	124	1303	2	48	-41	N
N_42_400	267	181	1157	4	43	-19	N	N_42_500	84	84	1239	2	46	16	N
N_43_400	180	159	770	5	39	-34	N	N_43_500	238	213	3375	3	39	-3	N
N_44_400	148	143	1361	5	60	-4	N	N_44_500	72	69	458	3	8	-28	N
N_45_400	205	162	559	5	10	-18	N	N_45_500	34	34	0	1	37	-4	Y
N_46_400	281	179	960	4	27	-13	N	N_46_500	60	60	3	1	46	-8	Y
N_47_400	1	1	0	1	105	29	Y	N_47_500	121	99	1026	3	63	-3	N
N_48_400	67	66	5494	7	32	6	N	N_48_500	33	33	0	1	49	-2	Y
N_49_400	163	149	1044	4	28	-8	N	N_49_500	7	7	0	2	68	0	Y
N_50_400	1	1	0	1	349	344	Y	N_50_500	183	183	619	3	62	0	N

TABLE 6 Table of results of instances with 600 and 700 jobs. The instance name has the format N_X_J where X is the number of the instance and J is the number of jobs. In the column C will have a Y if the program was able to terminate or a N otherwise.

	Instances with 600 jobs								Instances with 700 jobs						
Instance	Depth	|E|	Time	κ	σ	Best	C	Instance	Depth	|E|	Time	κ	σ	Best	C
N_1_600	211	181	1154	3	2	-7	N	N_1_700	116	116	1573	2	24	-23	N
N_2_600	238	223	3633	5	28	-1	N	N_2_700	126	112	2187	2	6	5	N
N_3_600	240	240	3608	3	38	0	N	N_3_700	43	43	6	1	31	-5	Y
N_4_600	417	284	1827	5	69	-8	N	N_4_700	190	190	5751	2	46	3	N
N_5_600	121	121	2855	3	28	0	N	N_5_700	186	168	2824	3	4	-20	N
N_6_600	51	51	5	1	70	0	Y	N_6_700	316	241	1017	7	35	-19	N
N_7_600	180	180	2928	2	59	-6	N	N_7_700	149	147	4192	4	20	-25	N
N_8_600	154	154	7153	3	37	-27	N	N_8_700	252	251	5430	4	84	-2	N
N_9_600	219	213	2661	2	36	-38	N	N_9_700	160	160	8900	4	22	-27	N
N_10_600	64	63	12589	5	78	-4	N	N_10_700	24	24	11565	3	49	-7	N
N_11_600	14	14	0	1	4	-27	Y	N_11_700	192	175	3857	5	33	-7	N
N_12_600	50	49	8090	3	34	-3	N	N_12_700	122	122	233	2	3	-3	Y
N_13_600	154	154	15	1	24	-5	Y	N_13_700	297	213	335	3	23	-29	N
N_14_600	335	306	2462	4	19	-25	N	N_14_700	127	127	2123	2	8	-23	N
N_15_600	52	52	8015	3	33	-11	N	N_15_700	149	135	1284	5	60	-3	N
N_16_600	182	182	3028	3	40	-11	N	N_16_700	194	194	1785	2	24	-11	N
N_17_600	79	79	1553	3	78	19	N	N_17_700	216	214	2505	5	42	-25	N
N_18_600	118	96	820	5	38	-1	N	N_18_700	43	43	2083	4	29	0	N
N_19_600	122	122	3633	3	12	-29	N	N_19_700	363	213	2632	4	28	-15	N
N_20_600	201	201	3190	3	61	-23	N	N_20_700	240	207	2450	5	28	-7	N
N_21_600	324	278	1703	7	17	-14	N	N_21_700	82	65	919	5	35	-4	N
N_22_600	152	146	7196	2	55	-10	N	N_22_700	152	152	9302	2	10	-21	N
N_23_600	189	165	2033	4	55	-9	N	N_23_700	253	246	5394	3	86	5	N
N_24_600	13	13	1	1	13	-20	Y	N_24_700	170	161	719	5	14	-28	N
N_25_600	90	90	11932	3	4	-15	N	N_25_700	86	85	2538	2	15	-2	N
N_26_600	71	71	620	2	10	-51	N	N_26_700	265	214	4700	5	61	0	N
N_27_600	210	203	2599	4	28	-9	N	N_27_700	122	122	2736	2	34	-39	N
N_28_600	208	208	4358	3	65	-8	N	N_28_700	24	24	1	1	33	-9	Y
N_29_600	33	33	2	1	37	-33	Y	N_29_700	49	49	9800	2	4	-3	N
N_30_600	303	258	1396	5	11	-46	N	N_30_700	139	106	2525	3	31	-17	N
N_31_600	227	184	1818	4	23	-12	N	N_31_700	285	214	721	5	65	0	N
N_32_600	372	267	754	4	51	-13	N	N_32_700	143	139	5659	3	9	-44	N
N_33_600	99	86	9941	2	62	-2	N	N_33_700	276	246	3427	4	13	-3	N
N_34_600	201	201	4331	2	21	-8	N	N_34_700	52	52	4682	4	56	-3	N
N_35_600	22	22	0	2	34	-6	Y	N_35_700	68	65	2	3	50	-3	Y
N_36_600	116	116	3	1	36	-18	Y	N_36_700	387	263	723	5	36	-28	N
N_37_600	143	143	2540	2	9	-43	N	N_37_700	179	168	576	7	57	-5	N
N_38_600	160	98	1285	2	14	-23	N	N_38_700	212	188	536	2	5	-60	N
N_39_600	240	218	1710	4	28	-22	N	N_39_700	127	100	1354	4	27	-7	N
N_40_600	268	216	1301	4	19	-12	N	N_40_700	199	197	7626	3	34	-19	N
N_41_600	433	243	1968	5	80	0	N	N_41_700	211	142	1717	4	81	-2	N
N_42_600	199	191	355	3	21	-5	N	N_42_700	65	58	795	4	27	-8	N
N_43_600	180	180	2998	1	67	27	N	N_43_700	305	206	817	4	43	-2	N
N_44_600	203	202	2544	3	11	-19	N	N_44_700	29	29	0	1	7	-8	Y
N_45_600	23	23	1	1	43	-41	Y	N_45_700	207	185	2218	6	56	-19	N
N_46_600	133	118	3487	4	30	0	N	N_46_700	145	145	10011	2	52	-2	N
N_47_600	51	51	4	1	28	-7	Y	N_47_700	197	192	7389	4	55	-4	N
N_48_600	242	211	1257	5	40	-14	N	N_48_700	212	203	6296	4	17	-2	N
N_49_600	201	159	1075	3	3	-5	N	N_49_700	323	192	857	4	26	-34	N
N_50_600	101	100	4976	4	42	-18	N	N_50_700	179	179	5396	4	16	-20	N

TABLE 7 Table of results of instances with 800 and 900 jobs. The instance name has the format N_X_J where X is the number of the instance and J is the number of jobs. In the column C will have a Y if the program was able to terminate or a N otherwise.

Instances with 800 jobs								Instances with 900 jobs							
Instance	Depth	$|E|$	Time	κ	σ	Best	C	Instance	Depth	$|E|$	Time	κ	σ	Best	C
N_1_800	410	260	2563	7	11	-34	N	N_1_900	234	165	1605	3	37	-3	N
N_2_800	188	188	8404	4	10	-11	N	N_2_900	327	292	1859	5	43	-9	N
N_3_800	129	125	890	6	58	-15	N	N_3_900	143	139	1955	2	27	-54	N
N_4_800	134	134	14195	2	15	0	N	N_4_900	255	252	6413	3	71	1	N
N_5_800	16	16	23279	2	17	-2	N	N_5_900	243	213	1268	6	72	-12	N
N_6_800	176	158	666	3	31	0	N	N_6_900	2	1	0	1	140	140	Y
N_7_800	232	219	7577	6	30	-42	N	N_7_900	194	189	1251	5	43	0	N
N_8_800	351	282	1510	4	28	-27	N	N_8_900	167	165	11108	2	10	-5	N
N_9_800	157	148	2008	4	27	-17	N	N_9_900	141	137	1689	2	34	0	N
N_10_800	126	124	4354	3	48	-11	N	N_10_900	139	135	668	5	32	-8	N
N_11_800	240	236	2537	4	6	-58	N	N_11_900	316	288	4882	7	27	-41	N
N_12_800	105	105	1218	2	57	-5	N	N_12_900	315	274	3838	4	15	-20	N
N_13_800	62	62	1516	5	17	-23	N	N_13_900	61	61	30813	2	78	-1	N
N_14_800	138	138	9945	2	32	-24	N	N_14_900	318	201	3987	4	74	-4	N
N_15_800	238	209	2755	5	8	-11	N	N_15_900	507	279	1942	5	52	-10	N
N_16_800	230	176	1270	6	44	-2	N	N_16_900	367	257	2307	5	54	-1	N
N_17_800	7	7	6	2	51	-1	Y	N_17_900	226	216	969	5	25	-20	N
N_18_800	89	89	2737	2	26	-5	N	N_18_900	251	191	4935	2	75	-2	N
N_19_800	311	295	6845	6	11	-30	N	N_19_900	331	285	3950	4	57	-9	N
N_20_800	227	219	1888	3	44	-5	N	N_20_900	267	260	4329	6	9	0	N
N_21_800	284	217	4229	5	10	-41	N	N_21_900	300	279	2276	5	24	0	N
N_22_800	43	36	944	3	13	-44	N	N_22_900	273	263	5753	7	1	-25	N
N_23_800	246	189	1119	5	29	-6	N	N_23_900	275	206	730	4	49	-8	N
N_24_800	1	1	0	1	765	719	Y	N_24_900	42	42	1	1	45	-2	Y
N_25_800	121	119	1903	3	65	-5	N	N_25_900	316	246	543	5	1	-16	N
N_26_800	345	253	641	5	18	-38	N	N_26_900	90	89	8209	3	59	-7	N
N_27_800	291	231	1043	4	28	-13	N	N_27_900	18	18	6	1	44	-20	Y
N_28_800	190	178	619	2	13	-18	N	N_28_900	231	215	3370	3	56	-5	N
N_29_800	189	178	2565	2	43	3	N	N_29_900	313	189	505	3	22	-13	N
N_30_800	138	121	574	5	28	0	N	N_30_900	255	255	6099	5	30	-20	N
N_31_800	26	26	1	1	27	-10	Y	N_31_900	232	211	2434	6	26	-26	N
N_32_800	87	87	30	1	49	-24	Y	N_32_900	92	92	23852	2	19	-14	N
N_33_800	12	12	1	1	12	-8	Y	N_33_900	181	181	11994	3	26	-10	N
N_34_800	283	201	3591	3	34	-26	N	N_34_900	368	293	2645	4	47	-2	N
N_35_800	220	216	6599	5	31	-4	N	N_35_900	129	128	7918	2	60	-8	N
N_36_800	379	297	1956	3	28	-5	N	N_36_900	194	194	4606	2	43	-10	N
N_37_800	157	154	814	3	20	-45	N	N_37_900	2	1	0	1	137	137	Y
N_38_800	287	277	2442	6	44	-4	N	N_38_900	44	44	15001	2	16	0	N
N_39_800	405	292	1898	6	74	-8	N	N_39_900	436	194	1709	5	76	-8	N
N_40_800	356	256	748	6	37	-12	N	N_40_900	158	158	6343	2	38	-36	N
N_41_800	163	163	5209	2	52	-17	N	N_41_900	242	222	1881	4	6	-10	N
N_42_800	121	102	685	4	5	-69	N	N_42_900	123	123	3397	3	21	-28	N
N_43_800	249	204	642	6	49	-17	N	N_43_900	217	165	2447	5	31	-8	N
N_44_800	195	183	7037	5	7	-9	N	N_44_900	184	168	1550	4	3	-33	N
N_45_800	201	192	2575	4	56	-8	N	N_45_900	190	136	1612	3	39	-8	N
N_46_800	420	260	1055	5	40	7	N	N_46_900	143	106	1314	4	23	-3	N
N_47_800	266	216	3043	5	53	-2	N	N_47_900	370	270	1079	8	41	-32	N
N_48_800	265	263	2936	3	44	-15	N	N_48_900	101	101	22253	2	24	-18	N
N_49_800	253	224	3858	4	25	-8	N	N_49_900	201	177	3642	4	42	-4	N
N_50_800	92	92	5850	3	31	-4	N	N_50_900	281	249	1520	4	22	-18	N

TABLE 8 Table of results of instances with 1000 jobs.

Instance	Nodes	Width	Depth	BS Level	$|E|$	Time	κ	σ	Best	completed
N_1_1000	7300000	1827878	93	8	91	20466	4	18	-9	N
N_2_1000	4500000	1637850	178	81	174	14830	4	14	-38	N
N_3_1000	3500000	784021	259	51	235	3767	4	37	-6	N
N_4_1000	1047	350	3	3	3	2	1	66	-2	Y
N_5_1000	3200000	1095129	274	129	259	1813	4	57	-7	N
N_6_1000	3300000	700590	290	51	254	2970	7	28	-28	N
N_7_1000	3800000	1133961	322	150	217	3771	3	63	-11	N
N_8_1000	3300000	864204	339	79	251	1385	5	42	-14	N
N_9_1000	3300000	814044	274	10	251	1116	7	36	-46	N
N_10_1000	4000000	1222356	243	12	199	1166	5	37	-6	N
N_11_1000	3600000	1206878	234	126	233	5900	4	19	-26	N
N_12_1000	2	1	1	1	1	0	1	1723	1659	Y
N_13_1000	4300000	1366462	191	33	187	5160	3	49	-3	N
N_14_1000	3600000	1207397	277	95	228	5332	5	64	-1	N
N_15_1000	8100000	2655744	76	43	76	1165	3	44	-1	N
N_16_1000	3600000	1357287	230	178	228	11353	5	25	-7	N
N_17_1000	3700000	1099348	241	16	228	8036	5	1	-50	N
N_18_1000	3300000	997169	442	104	251	2622	3	25	-10	N
N_19_1000	5200000	1779095	147	29	142	2443	5	21	-49	N
N_20_1000	3500000	1081445	271	78	240	3652	3	24	-16	N
N_21_1000	4000000	980019	255	7	204	6881	4	52	-8	N
N_22_1000	6400000	1851574	157	26	135	11015	4	57	-1	N
N_23_1000	4000000	1039016	219	41	196	654	5	60	-1	N
N_24_1000	3800000	1152049	267	77	216	3617	5	12	-38	N
N_25_1000	9000000	3095121	63	53	63	9536	3	36	-18	N
N_26_1000	3000000	684607	336	55	285	4242	6	5	-46	N
N_27_1000	3400000	561176	339	87	249	6133	5	1	-12	N
N_28_1000	4200000	1203968	235	76	189	3441	3	71	-1	N
N_29_1000	3300000	1041637	396	182	247	1465	6	63	-4	N
N_30_1000	3900000	1108718	230	115	204	2416	3	28	-23	N
N_31_1000	3500000	878813	305	100	237	5300	4	16	-22	N
N_32_1000	3500000	1175448	238	98	235	2605	4	30	-7	N
N_33_1000	2900000	382027	357	73	313	4762	5	60	-14	N
N_34_1000	3200000	1243031	259	124	258	7788	3	40	-18	N
N_35_1000	3400000	1016296	335	25	242	5732	7	21	-2	N
N_36_1000	4000000	1074365	274	58	202	1851	6	21	-23	N
N_37_1000	3800000	1192985	214	9	214	5810	2	20	-40	N
N_38_1000	3700000	1055122	238	19	220	1244	4	19	-13	N
N_39_1000	3300000	757691	375	137	257	1289	5	28	-46	N
N_40_1000	4400000	1546947	179	31	178	5616	4	14	-26	N
N_41_1000	4600000	1416884	169	26	169	14725	5	46	-12	N
N_42_1000	6300000	1010318	119	34	115	2333	3	59	-15	N
N_43_1000	2900000	463979	457	52	290	2401	5	33	-4	N
N_44_1000	3000000	924324	367	9	284	1242	5	35	0	N
N_45_1000	3900000	999908	323	145	206	4191	2	16	-5	N
N_46_1000	4000000	1110255	274	11	206	2168	4	49	-5	N
N_47_1000	4400000	967949	202	157	183	1196	4	20	-4	N
N_48_1000	4000000	894788	219	7	200	14185	5	48	6	N
N_49_1000	5000000	1764221	150	56	150	2251	4	50	-16	N
N_50_1000	3900000	1235316	211	31	206	7708	3	21	0	N

TABLE 9 Table of results of instances with 2000 jobs. The instance name has the format N_X_J where X is the number of the instance and J is the number of jobs

Instance	σ	Time 10 seconds					Time 30 seconds					Time 60 seconds				
		Depth	BSL	$\lvert E \rvert$	κ	Best	Depth	BSL	$\lvert E \rvert$	κ	Best	Depth	BSL	$\lvert E \rvert$	κ	Best
N_1_2000	8	276	15	271	3	-4	516	15	511	3	-4	516	15	511	3	-4
N_2_2000	76	93	85	93	3	-2	99	85	99	3	-2	583	85	582	3	-2
N_3_2000	12	226	226	226	1	-7	251	226	251	3	-7	270	226	265	3	-7
N_4_2000	29	318	228	296	3	-6	715	228	588	3	-6	845	228	651	3	-6
N_5_2000	29	171	140	171	2	-5	200	140	200	2	-5	200	140	200	2	-5
N_6_2000	59	92	87	92	5	-8	105	87	105	5	-8	112	87	111	6	-8
N_7_2000	33	27	3	27	2	9	30	3	30	2	9	31	3	31	2	9
N_8_2000	32	40	40	40	1	-2	58	40	58	2	-2	58	40	58	2	-2
N_9_2000	70	13	4	13	2	1	15	4	15	3	1	15	4	15	3	1
N_10_2000	5	124	124	124	2	-24	124	124	124	2	-24	124	124	124	2	-24
N_11_2000	5	136	44	136	2	-7	136	44	136	2	-7	136	44	136	2	-7
N_12_2000	1	553	98	506	3	-25	891	98	607	4	-25	891	98	608	4	-25
N_13_2000	20	456	76	440	4	-15	456	76	440	4	-15	458	76	440	4	-15
N_14_2000	23	681	124	619	4	-7	684	124	620	4	-7	684	124	620	4	-7
N_15_2000	48	14	5	14	2	-3	558	5	558	3	-3	558	5	558	3	-3
N_16_2000	24	161	73	134	5	-15	438	73	409	4	-15	823	73	671	6	-15
N_17_2000	15	52	48	52	3	-17	52	48	52	3	-17	52	48	52	3	-17
N_18_2000	56	96	96	96	2	-23	208	96	206	3	-23	208	96	206	3	-23
N_19_2000	3	39	24	35	2	-1	39	24	35	2	-1	39	24	35	2	-1
N_20_2000	17	318	61	318	6	-15	318	61	318	6	-15	318	61	318	6	-15
N_21_2000	26	85	44	85	3	-5	178	44	169	3	-5	497	44	462	4	-5
N_22_2000	22	124	124	124	2	-39	124	124	124	2	-39	124	124	124	2	-39
N_23_2000	9	330	241	330	3	-2	529	241	488	4	-2	531	241	489	4	-2
N_24_2000	16	45	40	45	3	-3	53	40	53	3	-3	68	40	68	3	-3
N_25_2000	19	54	54	54	2	-34	54	54	54	2	-34	54	54	54	2	-34
N_26_2000	24	6	6	6	1	-23	6	6	6	1	-23	6	6	6	1	-23
N_27_2000	50	91	88	91	3	-1	91	88	91	3	-1	92	88	92	3	-1
N_28_2000	45	12	8	12	2	8	13	8	13	2	8	13	8	13	2	8
N_29_2000	30	496	29	496	3	-3	498	29	498	3	-3	498	29	498	3	-3
N_30_2000	17	135	130	135	2	-18	185	130	185	2	-18	241	130	241	3	-18
N_31_2000	57	150	150	130	3	-17	150	150	130	3	-17	150	150	130	3	-17
N_32_2000	13	59	53	59	4	-4	59	53	59	4	-4	59	53	59	4	-4
N_33_2000	38	69	65	69	4	-8	70	65	70	4	-8	70	65	70	4	-8
N_34_2000	50	272	40	271	2	-13	277	40	276	2	-13	277	40	276	2	-13
N_35_2000	51	348	25	322	4	-9	348	25	322	4	-9	351	25	325	4	-9
N_36_2000	36	158	93	122	4	-1	158	93	122	4	-1	158	93	122	4	-1
N_37_2000	1	302	302	302	1	-2	321	302	310	2	-2	340	302	329	2	-2
N_38_2000	46	35	9	35	2	-5	522	9	520	3	-5	526	9	524	3	-5
N_39_2000	43	51	51	51	2	-8	51	51	51	2	-8	51	51	51	2	-8
N_40_2000	43	333	221	306	4	0	841	221	753	5	0	887	221	772	5	0
N_41_2000	23	153	91	151	3	-27	589	91	587	3	-27	968	91	592	3	-27
N_42_2000	27	360	85	277	4	-49	716	85	576	4	-49	717	85	577	4	-49
N_43_2000	66	10	10	10	2	-11	10	10	10	2	-11	10	10	10	2	-11
N_44_2000	10	476	225	470	3	-3	628	225	621	3	-3	628	225	621	3	-3
N_45_2000	21	256	237	254	4	-32	322	237	300	4	-32	414	237	363	4	-32
N_46_2000	26	335	219	293	5	-15	335	219	293	5	-15	335	219	293	5	-15
N_47_2000	86	20	20	20	1	-3	20	20	20	1	-3	40	20	40	2	-3
N_48_2000	41	202	202	202	4	-14	202	202	202	4	-14	202	202	202	4	-14
N_49_2000	8	87	64	87	4	-34	95	64	95	4	-34	100	64	100	4	-34
N_50_2000	8	116	29	116	3	-27	560	29	508	3	-27	561	29	508	3	-27

TABLE 10 Table of results of instances with 5000 jobs. The instance name has the format N_X_J where X is the number of the instance and J is the number of jobs

Instance	σ	Time 300 seconds					Time 900 seconds					Time 3600 seconds				
		Depth	BSL	|E|	κ	Best	Depth	BSL	|E|	κ	Best	Depth	BSL	|E|	κ	Best
N_1_5000	52	1237	125	1237	3	-4	1248	125	1248	3	-4	1354	125	1354	3	-4
N_2_5000	32	1220	41	1220	2	-7	1224	41	1224	2	-7	1224	41	1224	2	-7
N_3_5000	57	162	162	162	1	-2	162	162	162	1	-2	162	162	162	1	-2
N_4_5000	20	82	42	82	4	-43	82	42	82	4	-43	84	42	84	4	-43
N_5_5000	9	35	35	35	2	-7	35	35	35	2	-7	889	35	888	3	-7
N_6_5000	29	97	97	97	1	-6	150	97	150	2	-6	152	97	152	2	-6
N_7_5000	8	7	5	7	3	-18	11	5	11	3	-18	34	5	34	3	-18
N_8_5000	11	847	82	838	2	-25	1125	82	1109	2	-25	1126	82	1110	2	-25
N_9_5000	27	835	75	814	3	-4	836	75	815	3	-4	836	75	815	3	-4
N_10_5000	57	729	16	728	2	-10	729	16	728	2	-10	729	16	728	2	-10
N_11_5000	58	3	3	3	1	-10	3	3	3	1	-10	3	3	3	1	-10
N_12_5000	21	15	2	15	3	-1	1005	2	1005	3	-1	1005	2	1005	3	-1
N_13_5000	48	240	163	239	6	-17	408	163	398	8	-17	1083	163	1008	8	-17
N_14_5000	42	125	62	125	3	-5	125	62	125	3	-5	125	62	125	3	-5
N_15_5000	20	31	31	31	1	-13	31	31	31	1	-13	31	31	31	1	-13
N_16_5000	29	405	289	390	3	-17	527	289	487	3	-17	1479	289	1302	4	-17
N_17_5000	10	146	113	146	3	-16	150	113	150	3	-16	150	113	150	3	-16
N_18_5000	53	41	41	41	1	-7	41	41	41	1	-7	41	41	41	1	-7
N_19_5000	57	491	149	404	2	0	1040	149	952	2	0	1044	149	956	2	0
N_20_5000	38	70	70	70	2	-31	70	70	70	2	-31	70	70	70	2	-31
N_21_5000	38	239	239	239	1	-33	239	239	239	1	-33	239	239	239	1	-33
N_22_5000	52	60	8	60	3	-22	69	8	69	3	-22	69	8	69	3	-22
N_23_5000	6	149	147	149	2	-3	149	147	149	2	-3	152	147	152	2	-3
N_24_5000	67	1	1	1	1	-8	1	1	1	1	-8	1	1	1	1	-8
N_25_5000	31	106	106	106	1	-24	106	106	106	1	-24	106	106	106	1	-24
N_26_5000	5	256	248	256	2	-38	256	248	256	2	-38	1510	248	1495	4	-38
N_27_5000	59	28	28	28	1	-37	28	28	28	1	-37	28	28	28	1	-37
N_28_5000	43	1076	35	1074	4	-29	1077	35	1074	4	-29	1077	35	1074	4	-29
N_29_5000	36	164	59	164	3	-9	164	59	164	3	-9	164	59	164	3	-9
N_30_5000	58	333	2	333	3	-15	595	2	595	3	-15	1203	2	1200	4	-15
N_31_5000	21	427	154	427	4	-30	1565	154	1512	5	-30	1639	154	1584	5	-30
N_32_5000	28	305	305	305	3	-33	305	305	305	3	-33	1207	305	1207	3	-33
N_33_5000	24	197	14	197	3	-6	199	14	199	3	-6	199	14	199	3	-6
N_34_5000	6	101	101	101	2	-8	101	101	101	2	-8	101	101	101	2	-8
N_35_5000	65	38	12	38	3	-8	38	12	38	3	-8	39	12	39	3	-8
N_36_5000	30	49	49	49	1	-26	49	49	49	1	-26	49	49	49	1	-26
N_37_5000	23	290	285	289	3	-14	290	285	289	3	-14	291	285	290	3	-14
N_38_5000	27	34	34	34	1	-45	34	34	34	1	-45	34	34	34	1	-45
N_39_5000	26	82	82	82	2	0	82	82	82	2	0	82	82	82	2	0
N_40_5000	47	159	31	159	3	-4	660	31	652	4	-4	1334	31	1313	5	-4
N_41_5000	1	191	116	189	2	-13	318	116	316	2	-13	808	116	806	2	-13
N_42_5000	62	1086	123	1079	4	-3	1197	123	1190	4	-3	1198	123	1191	4	-3
N_43_5000	37	952	50	952	2	0	1076	50	1075	3	0	1078	50	1077	3	0
N_44_5000	10	752	45	746	3	-1	755	45	749	3	-1	755	45	749	3	-1
N_45_5000	18	205	63	205	4	-23	222	63	222	4	-23	277	63	277	4	-23
N_46_5000	7	1138	46	1121	3	-5	1142	46	1124	3	-5	1144	46	1127	3	-5
N_47_5000	18	534	236	508	7	-4	1873	236	1748	9	-4	1875	236	1749	9	-4
N_48_5000	11	63	63	63	1	-10	63	63	63	1	-10	63	63	63	1	-10
N_49_5000	52	27	27	27	2	-7	27	27	27	2	-7	27	27	27	2	-7
N_50_5000	21	71	71	71	1	-4	71	71	71	1	-4	71	71	71	1	-4

TABLE 11 Table of results of instances with 10000 jobs. The instance name has the format N_X_J where X is the number of the instance and J is the number of jobs

Instance	σ	Time 300 seconds					Time 900 seconds					Time 3600 seconds				
		Depth	BSL	|E|	κ	Best	Depth	BSL	|E|	κ	Best	Depth	BSL	|E|	κ	Best
N_1_10000	49	90	90	90	3	0	90	90	90	3	0	121	90	121	4	0
N_2_10000	64	149	149	149	2	-20	153	149	153	2	-20	1055	149	1053	3	-20
N_3_10000	25	327	67	327	2	-7	890	67	890	2	-7	1508	67	1508	2	-7
N_4_10000	60	177	172	177	4	-13	177	172	177	4	-13	177	172	177	4	-13
N_5_10000	31	6	5	6	3	-12	13	5	13	4	-12	25	5	25	5	-12
N_6_10000	42	47	28	47	2	-5	50	28	50	2	-5	328	28	317	3	-5
N_7_10000	6	42	42	42	4	-25	42	42	42	4	-25	64	42	64	4	-25
N_8_10000	15	1042	42	1042	3	-20	1043	42	1043	3	-20	1043	42	1043	3	-20
N_9_10000	29	369	357	366	2	-19	1656	357	1601	2	-19	2810	357	2753	2	-19
N_10_10000	74	280	30	280	3	0	1200	30	1198	3	0	2619	30	2616	4	0
N_11_10000	46	157	157	157	2	-1	297	157	297	2	-1	924	157	924	2	-1
N_12_10000	14	155	155	155	4	-6	435	155	435	4	-6	1337	155	1189	6	-6
N_13_10000	11	1277	35	1277	2	-17	1277	35	1277	2	-17	1277	35	1277	2	-17
N_14_10000	68	496	496	496	5	0	496	496	496	5	0	496	496	496	5	0
N_15_10000	65	235	235	235	2	-9	254	235	254	2	-9	260	235	260	3	-9
N_16_10000	25	36	17	36	5	-7	37	17	37	5	-7	1616	17	1338	8	-7
N_17_10000	15	352	11	352	2	8	1044	11	1039	3	8	3274	11	3263	3	8
N_18_10000	32	95	95	95	1	-7	95	95	95	1	-7	95	95	95	1	-7
N_19_10000	29	36	36	36	2	-20	36	36	36	2	-20	65	36	65	3	-20
N_20_10000	32	45	45	45	2	-4	45	45	45	2	-4	45	45	45	2	-4
N_21_10000	24	293	187	279	5	-12	484	187	470	5	-12	693	187	655	5	-12
N_22_10000	68	584	198	584	3	-9	2032	198	2032	3	-9	3459	198	2910	3	-9
N_23_10000	40	28	26	28	2	-30	28	26	28	2	-30	43	26	43	2	-30
N_24_10000	51	34	29	34	3	-19	34	29	34	3	-19	1592	29	1584	3	-19
N_25_10000	43	216	216	216	4	0	1090	216	1090	5	0	2932	216	2816	7	0
N_26_10000	18	164	17	164	3	-11	230	17	230	4	-11	461	17	455	4	-11
N_27_10000	10	148	139	148	6	-31	149	139	149	6	-31	2235	139	2233	8	-31
N_28_10000	16	61	61	61	2	-4	61	61	61	2	-4	70	61	70	2	-4
N_29_10000	10	3	3	3	1	-3	3	3	3	1	-3	88	3	88	4	-3
N_30_10000	28	19	19	19	3	-5	19	19	19	3	-5	19	19	19	3	-5
N_31_10000	22	60	57	59	4	-6	60	57	59	4	-6	294	57	273	4	-6
N_32_10000	26	390	390	390	1	-20	390	390	390	1	-20	390	390	390	1	-20
N_33_10000	17	4	4	4	1	-3	4	4	4	1	-3	4	4	4	1	-3
N_34_10000	43	1189	17	1189	2	-3	2427	17	2278	3	-3	2430	17	2279	3	-3
N_35_10000	6	199	48	199	3	-28	928	48	928	3	-28	928	48	928	3	-28
N_36_10000	54	232	232	232	5	-20	232	232	232	5	-20	253	232	253	6	-20
N_37_10000	68	121	121	121	1	0	124	121	124	2	0	2541	121	2523	2	0
N_38_10000	17	106	106	106	2	-10	106	106	106	2	-10	182	106	182	3	-10
N_39_10000	19	158	158	158	2	-12	158	158	158	2	-12	400	158	400	2	-12
N_40_10000	17	340	340	340	3	-30	351	340	351	3	-30	366	340	366	3	-30
N_41_10000	3	203	195	203	2	-17	203	195	203	2	-17	203	195	203	2	-17
N_42_10000	26	83	20	80	2	-1	318	20	315	2	-1	1905	20	1900	2	-1
N_43_10000	61	27	9	27	1	-8	27	9	27	1	-8	27	9	27	1	-8
N_44_10000	16	1234	72	1234	3	-12	1837	72	1770	4	-12	2094	72	2017	4	-12
N_45_10000	38	275	147	275	3	-1	1123	147	1123	3	-1	2657	147	2657	4	-1
N_46_10000	12	125	125	125	3	-30	125	125	125	3	-30	130	125	130	3	-30
N_47_10000	20	46	46	46	2	-52	48	46	48	3	-52	51	46	51	3	-52
N_48_10000	43	21	21	21	1	-52	21	21	21	1	-52	21	21	21	1	-52
N_49_10000	16	19	19	19	2	-5	21	19	21	3	-5	21	19	21	3	-5
N_50_10000	26	141	141	141	2	-23	141	141	141	2	-23	141	141	141	2	-23

TABLE 12 Table of results of instances with 12 and 21 jobs. The instance name has the format E_X_J where X is the number of the instance and J is the number of jobs. In the column C will have a Y if the program was able to terminate or a N otherwise.

Instances with 12 jobs							Instances with 21 jobs						
Instance	Depth	Time	κ	σ	Best	C	Instance	Depth	Time	κ	σ	Best	C
E_1_12	17	1	4	193	0	Y	E_1_21	44	10	7	168	5	N
E_2_12	15	0	4	106	0	Y	E_2_21	43	10	7	161	1	N
E_3_12	16	0	4	100	0	Y	E_3_21	42	10	7	118	13	N
E_4_12	16	0	4	146	0	Y	E_4_21	40	10	7	88	19	N
E_5_12	12	0	4	179	0	Y	E_5_21	36	10	7	114	15	N
E_6_12	18	0	4	159	0	Y	E_6_21	37	10	7	173	23	N
E_7_12	18	0	4	152	0	Y	E_7_21	36	10	7	162	7	N
E_8_12	17	0	4	140	0	Y	E_8_21	42	10	7	170	12	N
E_9_12	17	0	4	142	0	Y	E_9_21	39	10	7	133	38	N
E_10_12	15	1	4	106	0	Y	E_10_21	43	10	7	151	8	N
E_11_12	14	0	4	112	0	Y	E_11_21	45	10	7	172	6	N
E_12_12	17	0	4	194	0	Y	E_12_21	37	10	7	138	29	N
E_13_12	17	0	4	112	0	Y	E_13_21	41	10	7	138	6	N
E_14_12	16	0	4	159	0	Y	E_14_21	34	10	7	131	36	N
E_15_12	19	31	4	47	0	Y	E_15_21	38	10	7	115	16	N
E_16_12	16	0	4	121	0	Y	E_16_21	35	10	7	138	30	N
E_17_12	15	0	4	94	0	Y	E_17_21	39	10	7	191	13	N
E_18_12	13	0	4	167	0	Y	E_18_21	35	10	7	112	34	N
E_19_12	16	0	4	101	0	Y	E_19_21	32	0	7	170	0	Y
E_20_12	18	1	4	81	0	Y	E_20_21	38	10	7	131	16	N
E_21_12	18	0	4	114	0	Y	E_21_21	30	10	7	140	39	N
E_22_12	16	0	4	47	0	Y	E_22_21	26	10	7	121	45	N
E_23_12	16	1	4	57	0	Y	E_23_21	33	10	7	116	24	N
E_24_12	15	0	4	89	0	Y	E_24_21	38	10	7	147	17	N
E_25_12	17	0	4	120	0	Y	E_25_21	35	10	7	107	17	N
E_26_12	16	0	4	184	0	Y	E_26_21	34	10	7	154	33	N
E_27_12	17	0	4	97	0	Y	E_27_21	38	10	7	134	13	N
E_28_12	12	0	4	100	0	Y	E_28_21	34	10	7	140	45	N
E_29_12	16	0	4	128	0	Y	E_29_21	38	10	7	162	29	N
E_30_12	13	0	4	151	0	Y	E_30_21	38	10	7	197	21	N
E_31_12	20	1	4	78	0	Y	E_31_21	45	10	7	186	17	N
E_32_12	19	0	4	139	0	Y	E_32_21	40	10	7	71	13	N
E_33_12	17	0	4	152	0	Y	E_33_21	45	0	7	184	0	Y
E_34_12	20	0	4	154	0	Y	E_34_21	42	10	7	167	4	N
E_35_12	14	0	4	164	0	Y	E_35_21	41	10	7	113	28	N
E_36_12	16	0	4	155	0	Y	E_36_21	40	0	7	193	0	Y
E_37_12	15	0	4	119	0	Y	E_37_21	42	10	7	149	14	N
E_38_12	16	0	4	114	0	Y	E_38_21	41	10	7	159	6	N
E_39_12	17	0	4	111	0	Y	E_39_21	35	10	7	149	15	N
E_40_12	14	0	4	107	0	Y	E_40_21	39	10	7	197	6	N
E_41_12	16	0	4	140	0	Y	E_41_21	36	10	7	100	15	N
E_42_12	15	0	4	184	0	Y	E_42_21	37	10	7	160	18	N
E_43_12	17	0	4	105	0	Y	E_43_21	46	1	7	160	0	Y
E_44_12	13	0	4	161	0	Y	E_44_21	43	10	7	174	10	N
E_45_12	15	0	4	159	0	Y	E_45_21	48	10	7	150	9	N
E_46_12	12	0	4	81	0	Y	E_46_21	36	10	7	137	21	N
E_47_12	19	0	4	127	0	Y	E_47_21	37	0	7	138	0	Y
E_48_12	12	1	4	166	0	Y	E_48_21	42	10	7	154	18	N
E_49_12	17	0	4	113	0	Y	E_49_21	48	0	7	172	0	Y
E_50_12	14	0	4	137	0	Y	E_50_21	41	10	7	160	18	N

TABLE 13 Table of results of instances with 30 and 42 jobs. The instance name has the format E_X_J where X is the number of the instance and J is the number of jobs. In the column C will have a Y if the program was able to terminate or a N otherwise.

	Instances with 30 jobs							Instances with 42 jobs					
Instance	Depth	Time	κ	σ	Best	C	Instance	Depth	Time	κ	σ	Best	C
E_1_30	63	10	10	166	14	N	E_1_42	95	10	14	158	10	N
E_2_30	63	10	10	143	22	N	E_2_42	84	10	14	155	59	N
E_3_30	50	10	9	145	27	N	E_3_42	102	10	13	150	33	N
E_4_30	72	10	10	153	6	N	E_4_42	85	10	14	98	37	N
E_5_30	55	10	10	162	26	N	E_5_42	91	10	14	161	23	N
E_6_30	58	10	10	118	57	N	E_6_42	98	10	14	185	50	N
E_7_30	77	10	10	181	8	N	E_7_42	86	10	14	153	33	N
E_8_30	64	10	10	145	20	N	E_8_42	117	10	14	137	32	N
E_9_30	67	10	10	107	17	N	E_9_42	97	10	14	160	13	N
E_10_30	63	10	10	138	30	N	E_10_42	97	10	14	143	44	N
E_11_30	62	10	10	158	44	N	E_11_42	99	10	14	176	36	N
E_12_30	71	10	10	167	20	N	E_12_42	102	10	14	166	20	N
E_13_30	55	10	10	135	43	N	E_13_42	115	10	14	178	23	N
E_14_30	63	10	10	125	8	N	E_14_42	81	10	14	161	48	N
E_15_30	64	10	10	163	19	N	E_15_42	96	10	14	77	36	N
E_16_30	75	10	10	167	10	N	E_16_42	99	10	13	175	25	N
E_17_30	58	10	10	134	9	N	E_17_42	108	10	14	171	12	N
E_18_30	58	10	10	143	44	N	E_18_42	94	10	14	126	27	N
E_19_30	69	10	10	171	11	N	E_19_42	110	10	14	128	47	N
E_20_30	70	10	10	145	17	N	E_20_42	105	10	14	176	36	N
E_21_30	57	10	10	166	43	N	E_21_42	101	10	14	133	35	N
E_22_30	62	10	10	189	17	N	E_22_42	73	10	13	191	54	N
E_23_30	61	10	10	160	24	N	E_23_42	112	10	14	136	24	N
E_24_30	62	10	10	119	23	N	E_24_42	115	10	14	175	46	N
E_25_30	56	10	10	119	15	N	E_25_42	105	10	14	158	18	N
E_26_30	56	10	9	178	32	N	E_26_42	105	10	14	191	13	N
E_27_30	66	10	10	159	17	N	E_27_42	103	10	14	130	16	N
E_28_30	65	10	10	158	8	N	E_28_42	111	10	14	172	42	N
E_29_30	53	10	10	160	36	N	E_29_42	107	10	14	166	11	N
E_30_30	63	10	10	153	25	N	E_30_42	111	10	14	186	18	N
E_31_30	69	10	10	193	9	N	E_31_42	101	10	14	181	25	N
E_32_30	69	10	10	161	6	N	E_32_42	107	10	14	183	20	N
E_33_30	64	10	10	143	16	N	E_33_42	92	10	14	135	44	N
E_34_30	71	10	10	173	31	N	E_34_42	102	10	14	141	19	N
E_35_30	67	10	10	145	29	N	E_35_42	111	10	14	154	21	N
E_36_30	67	10	10	163	23	N	E_36_42	90	10	13	157	33	N
E_37_30	66	10	10	182	16	N	E_37_42	111	10	14	159	27	N
E_38_30	70	10	10	156	10	N	E_38_42	87	10	14	206	18	N
E_39_30	74	10	10	193	7	N	E_39_42	94	10	14	184	39	N
E_40_30	61	10	10	125	8	N	E_40_42	119	10	14	147	22	N
E_41_30	67	10	10	148	25	N	E_41_42	109	10	14	187	9	N
E_42_30	62	10	10	144	22	N	E_42_42	109	10	14	160	24	N
E_43_30	64	10	10	122	28	N	E_43_42	108	10	14	145	20	N
E_44_30	61	10	10	162	10	N	E_44_42	109	10	14	177	14	N
E_45_30	78	10	10	192	5	N	E_45_42	106	10	13	147	41	N
E_46_30	67	10	10	176	19	N	E_46_42	70	10	13	146	44	N
E_47_30	66	10	10	136	27	N	E_47_42	113	10	14	157	25	N
E_48_30	59	10	10	203	32	N	E_48_42	115	10	14	188	29	N
E_49_30	54	10	10	168	26	N	E_49_42	110	10	14	146	12	N
E_50_30	90	10	10	179	4	N	E_50_42	100	10	14	178	25	N

TABLE 14 Table of results of instances with 51 and 102 jobs. The instance name has the format E_X_J where X is the number of the instance and J is the number of jobs. In the column C will have a Y if the program was able to terminate or a N otherwise.

Instances with 51 jobs							Instances with 102 jobs						
Instance	Depth	Time	κ	σ	Best	C	Instance	Depth	Time	κ	σ	Best	C
E_1_51	123	10	16	185	54	N	E_1_102	381	10	34	199	48	N
E_2_51	162	10	17	179	28	N	E_2_102	364	10	34	161	31	N
E_3_51	126	10	17	142	29	N	E_3_102	357	10	34	188	40	N
E_4_51	134	10	17	168	24	N	E_4_102	345	10	33	196	39	N
E_5_51	124	10	17	157	44	N	E_5_102	387	10	33	185	44	N
E_6_51	104	10	17	186	28	N	E_6_102	434	10	34	195	43	N
E_7_51	146	10	17	187	14	N	E_7_102	403	10	34	191	55	N
E_8_51	147	10	17	180	37	N	E_8_102	415	10	32	195	39	N
E_9_51	143	10	17	174	36	N	E_9_102	371	10	34	161	36	N
E_10_51	150	10	17	197	21	N	E_10_102	356	10	33	176	58	N
E_11_51	102	10	16	181	33	N	E_11_102	414	10	34	179	32	N
E_12_51	129	10	17	164	25	N	E_12_102	366	10	32	186	53	N
E_13_51	130	10	17	153	33	N	E_13_102	366	10	33	186	52	N
E_14_51	133	10	16	157	41	N	E_14_102	394	10	33	192	46	N
E_15_51	127	10	16	127	20	N	E_15_102	407	10	34	193	39	N
E_16_51	150	10	17	142	38	N	E_16_102	453	10	33	171	30	N
E_17_51	124	10	17	149	36	N	E_17_102	420	10	33	148	40	N
E_18_51	139	10	17	168	40	N	E_18_102	385	10	33	194	52	N
E_19_51	145	10	17	183	37	N	E_19_102	414	10	34	190	37	N
E_20_51	152	10	17	181	33	N	E_20_102	405	10	34	158	35	N
E_21_51	139	10	17	142	21	N	E_21_102	405	10	34	181	25	N
E_22_51	109	10	17	161	47	N	E_22_102	380	10	34	172	31	N
E_23_51	146	10	17	182	26	N	E_23_102	372	10	33	192	47	N
E_24_51	175	10	17	189	30	N	E_24_102	401	10	34	193	36	N
E_25_51	110	10	15	154	46	N	E_25_102	375	10	34	191	32	N
E_26_51	137	10	17	170	39	N	E_26_102	437	10	33	183	40	N
E_27_51	78	10	17	120	49	N	E_27_102	419	10	34	180	40	N
E_28_51	135	10	17	140	31	N	E_28_102	375	10	33	161	44	N
E_29_51	121	10	17	169	24	N	E_29_102	340	10	33	185	36	N
E_30_51	161	10	17	174	34	N	E_30_102	378	10	34	156	32	N
E_31_51	104	10	17	173	54	N	E_31_102	423	10	34	179	34	N
E_32_51	125	10	17	147	12	N	E_32_102	364	10	34	185	47	N
E_33_51	121	10	17	119	49	N	E_33_102	364	10	31	189	44	N
E_34_51	151	10	17	171	26	N	E_34_102	395	10	33	202	40	N
E_35_51	139	10	17	145	33	N	E_35_102	437	10	34	163	32	N
E_36_51	133	10	17	146	37	N	E_36_102	408	10	34	174	39	N
E_37_51	135	10	17	182	48	N	E_37_102	420	10	34	179	45	N
E_38_51	144	10	17	188	50	N	E_38_102	463	10	34	195	39	N
E_39_51	135	10	16	166	43	N	E_39_102	445	10	34	162	39	N
E_40_51	137	10	17	158	22	N	E_40_102	416	10	34	168	21	N
E_41_51	137	10	17	177	24	N	E_41_102	357	10	33	186	28	N
E_42_51	151	10	17	187	37	N	E_42_102	406	10	34	195	38	N
E_43_51	145	10	17	138	32	N	E_43_102	376	10	34	193	41	N
E_44_51	162	10	17	182	27	N	E_44_102	416	10	34	183	47	N
E_45_51	154	10	17	192	26	N	E_45_102	407	10	34	194	38	N
E_46_51	154	10	16	171	29	N	E_46_102	381	10	33	173	46	N
E_47_51	136	10	17	176	13	N	E_47_102	373	10	34	192	50	N
E_48_51	144	10	17	183	22	N	E_48_102	401	10	34	180	28	N
E_49_51	141	10	17	181	32	N	E_49_102	455	10	34	195	30	N
E_50_51	147	10	17	178	35	N	E_50_102	431	10	34	179	34	N

TABLE 15 Table of results of instances with 201 jobs.

Instance	Nodes	Width	Depth	BSL	Time	κ	σ	Best	Completed
E_1_201	8362	958	1218	1011	10	67	172	46	N
E_2_201	6987	1007	1344	1286	10	67	173	37	N
E_3_201	8139	2709	1156	992	10	66	193	47	N
E_4_201	7687	1926	1232	1154	10	66	192	30	N
E_5_201	7971	1250	1181	1119	10	67	197	40	N
E_6_201	7967	2604	1246	1084	10	67	190	37	N
E_7_201	7626	2989	1293	1232	10	67	198	43	N
E_8_201	7311	1182	1274	1195	10	65	198	34	N
E_9_201	7576	854	1356	1318	10	67	190	34	N
E_10_201	7888	2219	1144	1060	10	66	172	36	N
E_11_201	7882	2735	1280	1196	10	67	194	46	N
E_12_201	7209	1229	1306	1228	10	67	196	43	N
E_13_201	8567	1544	1125	1031	10	67	183	47	N
E_14_201	8197	3738	1147	1063	10	66	205	44	N
E_15_201	8682	1764	1150	1119	10	65	196	33	N
E_16_201	6846	886	1410	1328	10	66	190	27	N
E_17_201	7409	2161	1169	1129	10	67	185	41	N
E_18_201	7442	1242	1140	1077	10	67	187	48	N
E_19_201	7532	1261	1299	1248	10	66	199	37	N
E_20_201	7860	2189	1157	1029	10	67	180	42	N
E_21_201	8283	1100	1335	1171	10	67	200	46	N
E_22_201	7808	1991	1258	1094	10	65	195	52	N
E_23_201	7897	1121	1237	1053	10	67	189	40	N
E_24_201	6962	1060	1427	1328	10	66	205	39	N
E_25_201	6874	1020	1375	1291	10	67	196	36	N
E_26_201	7622	2251	1309	1138	10	67	197	42	N
E_27_201	7017	1885	1352	1253	10	67	188	34	N
E_28_201	7856	1335	1373	1240	10	67	175	38	N
E_29_201	7766	2187	1255	1154	10	67	188	48	N
E_30_201	8413	2167	1233	1112	10	66	170	41	N
E_31_201	8286	1041	1162	1145	10	67	206	37	N
E_32_201	7941	1507	1303	1179	10	67	199	34	N
E_33_201	7605	798	1271	1137	10	67	200	44	N
E_34_201	6858	456	1405	1306	10	67	194	31	N
E_35_201	7133	1197	1363	1120	10	66	180	40	N
E_36_201	8033	1814	1115	948	10	67	184	46	N
E_37_201	7269	1255	1328	1237	10	67	179	33	N
E_38_201	7164	2062	1308	1281	10	66	180	24	N
E_39_201	7381	1024	1322	1245	10	66	190	37	N
E_40_201	7141	888	1256	1132	10	67	201	32	N
E_41_201	7946	934	1211	1150	10	65	199	33	N
E_42_201	8454	1190	1125	1061	10	67	174	40	N
E_43_201	7681	1291	1266	1038	10	67	194	38	N
E_44_201	7469	1208	1383	1336	10	66	190	32	N
E_45_201	6822	1661	1421	1280	10	66	187	45	N
E_46_201	8469	1403	1140	1043	10	65	197	46	N
E_47_201	7700	2183	1264	1239	10	67	195	29	N
E_48_201	8784	861	1226	1142	10	66	193	46	N
E_49_201	7126	2576	1374	1277	10	67	195	41	N
E_50_201	8220	1146	1293	1012	10	66	196	51	N

TABLE 16 Table of results of instances with 402 jobs.

Instance	Nodes	Width	Depth	BSL	Time	κ	σ	Best	Completed
E_1_402	3839	21	3771	3655	10	134	199	50	N
E_2_402	3754	1	3753	3719	10	133	185	42	N
E_3_402	3885	1	3884	3858	10	134	197	55	N
E_4_402	3806	1	3805	3599	10	131	208	56	N
E_5_402	3670	1	3669	3598	10	132	193	51	N
E_6_402	3941	1	3940	3934	10	132	189	47	N
E_7_402	3822	1	3821	3704	10	133	199	48	N
E_8_402	3864	1	3863	3747	10	134	201	46	N
E_9_402	3894	6	3843	3818	10	134	200	52	N
E_10_402	3734	1	3733	3667	10	134	200	63	N
E_11_402	3764	1	3763	3715	10	133	199	45	N
E_12_402	3860	1	3859	3788	10	134	206	52	N
E_13_402	3770	1	3769	3702	10	134	190	39	N
E_14_402	4036	1	4035	4024	10	133	195	48	N
E_15_402	3800	1	3799	3784	10	133	197	48	N
E_16_402	3842	1	3841	3764	10	133	207	48	N
E_17_402	3904	1	3903	3873	10	132	199	52	N
E_18_402	3733	1	3732	3651	10	133	185	41	N
E_19_402	3792	1	3791	3753	10	134	181	41	N
E_20_402	3810	1	3809	3805	10	133	201	48	N
E_21_402	3741	1	3740	3388	10	134	189	50	N
E_22_402	3779	1	3778	3774	10	133	196	52	N
E_23_402	3803	1	3802	3746	10	132	195	46	N
E_24_402	3957	1	3956	3649	10	133	204	51	N
E_25_402	3814	1	3813	3738	10	132	193	43	N
E_26_402	3739	1	3738	3676	10	133	168	40	N
E_27_402	3870	1	3869	3851	10	133	205	46	N
E_28_402	3730	1	3729	3693	10	132	201	55	N
E_29_402	3779	1	3778	3664	10	133	202	49	N
E_30_402	3795	1	3794	3669	10	132	208	48	N
E_31_402	3872	18	3838	3754	10	134	183	46	N
E_32_402	3911	1	3910	3899	10	133	195	49	N
E_33_402	3773	1	3772	3727	10	133	187	48	N
E_34_402	3781	1	3780	3727	10	134	186	47	N
E_35_402	3749	1	3748	3729	10	133	204	43	N
E_36_402	3858	51	3671	3648	10	134	192	44	N
E_37_402	3872	1	3871	3863	10	133	206	50	N
E_38_402	3849	1	3848	3427	10	132	199	46	N
E_39_402	3879	1	3878	3828	10	133	189	42	N
E_40_402	3644	1	3643	3530	10	133	195	49	N
E_41_402	3703	1	3702	3695	10	132	196	51	N
E_42_402	3601	1	3600	3558	10	134	199	53	N
E_43_402	3780	1	3779	3766	10	132	195	42	N
E_44_402	3854	1	3853	3799	10	133	195	48	N
E_45_402	3730	1	3729	3712	10	132	197	45	N
E_46_402	3784	1	3783	3723	10	132	204	42	N
E_47_402	3772	1	3771	3667	10	134	195	37	N
E_48_402	3751	1	3750	3720	10	133	196	49	N
E_49_402	3754	1	3753	3710	10	133	199	49	N
E_50_402	3836	1	3835	3750	10	133	200	48	N

TABLE 17 Table of results of instances with 501 jobs.

Instance	Nodes	Width	Depth	BSL	Time	κ	σ	Best	Completed
E_1_501	2944	1	2943	2915	10	165	192	85	N
E_2_501	3309	1	3308	3303	10	166	197	77	N
E_3_501	3415	1	3414	3348	10	166	195	83	N
E_4_501	3233	1	3232	3174	10	167	202	82	N
E_5_501	3371	1	3370	3366	10	166	185	82	N
E_6_501	3354	1	3353	3030	10	165	196	85	N
E_7_501	3327	1	3326	3187	10	165	200	92	N
E_8_501	3366	1	3365	2964	10	164	188	85	N
E_9_501	3283	1	3282	2970	10	167	207	85	N
E_10_501	3371	1	3370	3249	10	166	203	85	N
E_11_501	3324	1	3323	3300	10	166	195	79	N
E_12_501	3373	1	3372	3154	10	167	204	94	N
E_13_501	3495	1	3494	3389	10	166	205	83	N
E_14_501	3551	1	3550	3294	10	166	195	76	N
E_15_501	3232	1	3231	3169	10	164	204	92	N
E_16_501	3414	1	3413	3275	10	165	192	78	N
E_17_501	3509	1	3508	3230	10	163	205	84	N
E_18_501	3186	1	3185	2952	10	166	201	82	N
E_19_501	3451	1	3450	3448	10	165	174	85	N
E_20_501	3385	1	3384	3298	10	167	194	85	N
E_21_501	3382	1	3381	3269	10	165	199	87	N
E_22_501	3365	1	3364	3257	10	167	201	77	N
E_23_501	3302	1	3301	3117	10	163	203	78	N
E_24_501	3274	1	3273	3239	10	166	202	81	N
E_25_501	3507	1	3506	3457	10	163	189	78	N
E_26_501	3334	1	3333	3079	10	167	189	79	N
E_27_501	3384	1	3383	3340	10	166	201	77	N
E_28_501	3389	1	3388	3359	10	166	187	73	N
E_29_501	3403	1	3402	3386	10	165	196	86	N
E_30_501	3394	1	3393	3272	10	166	204	85	N
E_31_501	3209	1	3208	3115	10	165	202	81	N
E_32_501	3480	1	3479	3400	10	165	196	84	N
E_33_501	3369	1	3368	3225	10	164	200	81	N
E_34_501	3312	1	3311	3070	10	166	204	86	N
E_35_501	3367	1	3366	3290	10	167	202	83	N
E_36_501	3384	1	3383	3366	10	166	191	86	N
E_37_501	3282	1	3281	3204	10	166	197	83	N
E_38_501	3246	1	3245	2954	10	166	192	82	N
E_39_501	3291	1	3290	3239	10	163	204	80	N
E_40_501	3426	1	3425	3302	10	166	196	86	N
E_41_501	3389	1	3388	3243	10	166	197	85	N
E_42_501	3292	1	3291	3041	10	166	204	87	N
E_43_501	3264	1	3263	2954	10	167	197	81	N
E_44_501	3284	1	3283	3283	10	165	194	80	N
E_45_501	3484	1	3483	3240	10	165	190	78	N
E_46_501	3391	1	3390	3271	10	166	193	81	N
E_47_501	3281	1	3280	3143	10	164	205	90	N
E_48_501	3314	1	3313	3205	10	166	199	79	N
E_49_501	3503	1	3502	3489	10	166	183	80	N
E_50_501	3429	1	3428	3428	10	166	203	86	N

TABLE 18 Table of results of instances with 600 jobs.

Instance	Nodes	Width	Depth	BSL	Time	κ	σ	Best	Completed
E_1_600	3026	1	3025	2954	10	198	197	113	N
E_2_600	3092	1	3091	2805	10	195	204	108	N
E_3_600	3003	1	3002	2969	10	196	197	113	N
E_4_600	2941	1	2940	2830	10	196	194	105	N
E_5_600	3047	1	3046	3012	10	197	204	107	N
E_6_600	2881	1	2880	2816	10	197	195	101	N
E_7_600	3046	1	3045	2867	10	195	197	107	N
E_8_600	3056	1	3055	3007	10	197	199	100	N
E_9_600	2938	1	2937	2923	10	197	190	104	N
E_10_600	2577	1	2576	2576	10	193	200	111	N
E_11_600	2673	1	2672	2458	10	193	192	108	N
E_12_600	2620	1	2619	2362	10	193	198	115	N
E_13_600	2642	1	2641	2555	10	195	196	116	N
E_14_600	3104	1	3103	3031	10	195	190	100	N
E_15_600	3051	1	3050	3010	10	196	199	104	N
E_16_600	2981	1	2980	2904	10	199	198	106	N
E_17_600	2901	1	2900	2668	10	196	199	107	N
E_18_600	3073	1	3072	3028	10	195	200	105	N
E_19_600	2996	1	2995	2962	10	195	198	107	N
E_20_600	3018	1	3017	2527	10	198	193	107	N
E_21_600	2983	1	2982	2771	10	197	198	100	N
E_22_600	2925	1	2924	2577	10	196	194	107	N
E_23_600	2912	1	2911	2665	10	198	191	107	N
E_24_600	2834	1	2833	2818	10	197	198	107	N
E_25_600	3005	1	3004	2950	10	196	195	109	N
E_26_600	3098	1	3097	3058	10	198	199	105	N
E_27_600	2904	1	2903	2582	10	193	189	114	N
E_28_600	2875	1	2874	2813	10	195	195	107	N
E_29_600	2915	1	2914	2851	10	198	197	105	N
E_30_600	2964	1	2963	2815	10	197	194	105	N
E_31_600	2945	1	2944	2868	10	197	203	111	N
E_32_600	2788	1	2787	2763	10	194	198	109	N
E_33_600	2896	1	2895	2539	10	199	199	112	N
E_34_600	2947	1	2946	2885	10	196	200	98	N
E_35_600	3072	1	3071	2493	10	199	202	102	N
E_36_600	3037	1	3036	3004	10	198	192	109	N
E_37_600	3083	1	3082	3070	10	192	203	109	N
E_38_600	3156	1	3155	3085	10	198	199	107	N
E_39_600	3085	1	3084	3083	10	192	201	106	N
E_40_600	3188	1	3187	3185	10	196	194	96	N
E_41_600	3135	1	3134	2780	10	193	197	107	N
E_42_600	2782	1	2781	2683	10	197	201	112	N
E_43_600	3092	1	3091	3087	10	197	202	103	N
E_44_600	3054	1	3053	2983	10	198	202	109	N
E_45_600	2998	1	2997	2907	10	192	193	115	N
E_46_600	2884	1	2883	2744	10	190	198	106	N
E_47_600	2981	1	2980	2692	10	196	194	111	N
E_48_600	3072	1	3071	2721	10	196	205	108	N
E_49_600	3026	1	3025	2921	10	199	198	117	N
E_50_600	2981	1	2980	2851	10	197	201	109	N

TABLE 19 Table of results of instances with 1002 jobs. The instance name has the format E_X_J where X is the number of the instance and J is the number of jobs

Instance	σ	Time 10 seconds				Time 30 seconds				Time 60 seconds			
		Depth	BSL	κ	Best	Depth	BSL	κ	Best	Depth	BSL	κ	Best
E_1_1002	200	1388	1249	227	157	2972	2971	318	146	4523	4082	322	136
E_2_1002	198	1243	1003	252	160	2891	2517	324	148	4406	4397	330	134
E_3_1002	199	1181	1014	230	162	2871	2564	312	144	4452	4440	315	129
E_4_1002	198	979	956	201	160	2825	2528	312	144	4506	4485	324	129
E_5_1002	195	1140	1069	238	166	3024	2801	312	150	4424	3993	317	137
E_6_1002	203	1368	1214	253	160	2917	2752	320	144	4482	3986	327	133
E_7_1002	198	1189	1112	236	162	2938	2817	318	144	4458	4442	326	133
E_8_1002	204	1386	1362	259	158	2865	2764	318	147	4436	4197	324	134
E_9_1002	198	1224	1224	258	154	2834	2814	315	148	4471	4266	321	126
E_10_1002	205	1134	1008	230	157	2861	2597	317	143	4580	4569	331	135
E_11_1002	206	978	740	226	163	2809	2438	315	145	4368	4272	324	137
E_12_1002	196	1021	795	217	164	2850	2542	323	144	4465	3998	327	131
E_13_1002	199	978	548	203	165	2907	2885	317	144	4418	4242	326	127
E_14_1002	206	1154	905	235	164	2856	2648	318	144	4492	4463	323	134
E_15_1002	199	1258	1250	226	162	2900	2464	322	146	4404	4161	325	132
E_16_1002	197	999	774	208	159	2960	2518	317	139	4483	4203	328	127
E_17_1002	198	1066	835	215	156	2821	2758	325	141	4518	3833	331	132
E_18_1002	206	1715	1211	276	152	2897	2557	322	142	4395	3521	327	136
E_19_1002	207	1655	1653	279	152	2874	2839	320	141	4396	4123	327	135
E_20_1002	204	1664	1529	292	152	2856	2743	325	143	4363	4115	331	128
E_21_1002	198	1706	1504	281	159	2919	2918	319	150	4292	4035	323	130
E_22_1002	206	1684	1429	270	155	2816	2410	319	141	4366	4325	321	130
E_23_1002	205	1639	1213	278	159	2864	2826	311	145	4378	4368	319	134
E_24_1002	205	1739	1721	284	161	2924	2844	320	146	4381	4035	325	137
E_25_1002	204	1684	1214	284	154	2917	2787	315	138	4397	4276	320	131
E_26_1002	193	1678	1329	284	158	3076	3065	316	144	4371	4247	322	132
E_27_1002	201	1753	1611	270	160	2941	2843	301	145	4404	4269	323	133
E_28_1002	203	1651	1572	291	155	2852	2792	321	141	4335	3928	330	133
E_29_1002	202	1728	1447	287	156	2883	2774	323	148	4332	4288	330	129
E_30_1002	200	1671	1518	300	158	2819	2633	320	144	4433	4277	328	136
E_31_1002	201	1727	1724	293	149	2872	2602	319	141	4388	4230	325	129
E_32_1002	191	1710	1706	301	153	3054	2296	321	144	4539	3974	326	130
E_33_1002	206	1701	1697	286	150	2850	2696	319	144	4339	4083	321	129
E_34_1002	200	1734	1718	293	159	2902	2872	314	149	4360	4272	320	134
E_35_1002	202	1699	1491	294	161	2990	2967	320	153	4341	4264	327	138
E_36_1002	204	1692	1616	287	156	2988	2956	321	137	4644	4581	327	127
E_37_1002	206	1609	1420	294	154	2875	2864	322	144	4325	3936	327	138
E_38_1002	195	1712	1426	269	155	2901	2870	320	142	4403	4168	325	128
E_39_1002	200	1616	1323	298	163	2807	2349	322	153	4472	4184	327	132
E_40_1002	201	1658	1499	267	158	2871	2656	322	152	4353	4056	325	136
E_41_1002	207	1688	1445	285	154	2881	2644	321	140	4351	4159	324	134
E_42_1002	205	1672	1405	280	155	2859	2657	312	143	4353	4304	322	134
E_43_1002	200	1731	1707	290	159	2866	2371	314	145	4391	4292	327	128
E_44_1002	201	1687	1681	279	158	2826	2489	318	150	4380	4110	325	135
E_45_1002	205	1698	1611	301	158	2850	2765	319	145	4480	4414	329	128
E_46_1002	197	1736	1669	288	152	2900	2194	309	146	4376	3462	324	139
E_47_1002	204	1709	1461	284	158	2816	2803	325	146	4241	3781	330	138
E_48_1002	198	1677	1667	284	151	2872	2461	320	141	4351	4337	324	128
E_49_1002	195	1642	1527	288	147	2815	1799	327	144	4417	4356	329	125
E_50_1002	203	1617	1225	277	156	2837	2535	327	141	4412	3836	330	127

TABLE 20 Table of results of instances with 2001 jobs. The instance name has the format E_X_J where X is the number of the instance and J is the number of jobs

Instance	σ	Time 10 seconds				Time 30 seconds				Time 60 seconds			
		Depth	BSL	κ	Best	Depth	BSL	κ	Best	Depth	BSL	κ	Best
E_1_2001	202	314	213	64	186	978	862	206	176	2031	2026	332	166
E_2_2001	205	306	288	49	187	1003	870	195	175	2026	1971	354	167
E_3_2001	205	337	324	54	184	1009	947	218	178	2067	2066	346	168
E_4_2001	205	310	297	57	188	975	897	197	177	1933	1916	333	170
E_5_2001	197	329	317	55	181	1011	958	213	172	2156	1537	344	169
E_6_2001	205	308	269	58	190	971	765	200	184	1954	1605	358	171
E_7_2001	206	296	285	52	186	993	827	206	180	1962	1919	333	169
E_8_2001	204	324	316	52	186	992	930	186	178	1988	1936	333	169
E_9_2001	201	290	173	57	188	973	796	217	177	1961	1557	344	171
E_10_2001	203	293	293	44	184	991	844	202	176	1974	1757	323	172
E_11_2001	203	318	272	61	186	990	758	219	177	1935	1893	334	169
E_12_2001	201	283	158	68	184	963	733	208	175	1933	1695	315	166
E_13_2001	201	285	137	49	191	993	884	196	181	2147	1844	336	171
E_14_2001	204	311	180	54	184	1053	958	209	175	2079	1968	367	170
E_15_2001	202	300	260	58	189	997	622	202	180	2058	1965	352	168
E_16_2001	207	310	270	52	184	963	891	196	175	2016	1872	344	165
E_17_2001	208	295	194	44	187	1056	727	217	177	2214	1891	373	170
E_18_2001	205	319	310	48	185	1000	979	218	174	2010	1949	353	167
E_19_2001	201	297	248	57	187	1073	1073	208	179	2003	1824	323	171
E_20_2001	197	303	295	43	187	1037	1013	201	175	2008	1952	314	169
E_21_2001	204	303	253	48	187	987	653	194	183	1990	1481	317	175
E_22_2001	205	309	255	47	186	1059	889	228	176	1982	1932	343	173
E_23_2001	203	316	311	60	182	1019	927	233	175	1993	1287	356	173
E_24_2001	198	318	293	47	186	1077	1043	211	175	1959	1838	338	169
E_25_2001	202	294	202	59	188	1012	790	198	177	2076	1745	344	168
E_26_2001	204	313	296	52	188	1001	943	227	178	2004	1419	356	173
E_27_2001	203	307	266	55	186	1050	1024	237	176	1955	1950	359	174
E_28_2001	202	312	279	43	184	1038	813	212	179	1973	1778	335	171
E_29_2001	205	297	296	37	188	1014	882	208	179	2004	1803	352	173
E_30_2001	204	293	263	53	183	1029	929	208	174	1988	1800	341	167
E_31_2001	203	292	292	35	187	993	822	195	179	1991	1818	327	173
E_32_2001	207	300	241	47	189	987	909	209	176	2052	1996	353	168
E_33_2001	201	292	248	38	182	1001	949	164	176	1999	1558	326	172
E_34_2001	202	307	274	52	187	982	867	204	179	1996	1590	350	173
E_35_2001	200	334	252	54	185	1021	861	196	179	1991	1751	339	172
E_36_2001	205	308	235	47	190	1023	909	210	180	1985	1793	343	170
E_37_2001	202	360	356	59	190	1013	996	205	181	2123	1717	359	174
E_38_2001	206	346	211	59	191	1009	964	201	178	1984	1854	352	171
E_39_2001	204	384	360	59	187	992	866	198	176	2043	1937	334	169
E_40_2001	205	368	327	52	180	1024	902	210	171	2021	1877	331	169
E_41_2001	204	320	320	46	183	992	793	205	174	2086	1953	332	166
E_42_2001	202	404	267	85	187	1009	903	213	180	1994	1891	361	171
E_43_2001	204	413	408	61	186	1016	961	193	184	2098	2009	349	174
E_44_2001	197	356	227	71	182	1014	871	228	172	2088	1904	365	168
E_45_2001	204	390	381	43	187	975	844	183	182	1995	1873	325	174
E_46_2001	204	318	218	47	186	1006	963	202	177	1986	1677	325	170
E_47_2001	205	345	306	70	188	1021	1006	219	177	2003	1910	346	171
E_48_2001	204	383	233	60	187	1041	1033	213	178	2008	1968	338	171
E_49_2001	207	391	364	61	184	1027	961	206	175	1970	1719	352	170
E_50_2001	201	400	283	90	181	1022	987	229	169	1945	1852	311	166