

# Solução do Problema scrs8 - Solver HiGHS

Análise Computacional

16 de setembro de 2025

## 1 Informações do Problema

### Informações do Problema:

- Nome: scrs8
- Número de Variáveis: 1169
- Número de Restrições: 490
- Inviabilidade Primal: 0.000e+00
- Inviabilidade Dual: 0.000e+00
- Valor Primal: 9.043e+02
- Valor Dual: 9.043e+02
- Gap: 3.474e-19
- Número de Iterações: 21

## 2 Variáveis Primais e Custos Reduzidos

Tabela 1: Variáveis primais e custos reduzidos do problema scrs8

Coordenada x	Valor x	Coordenada z	Valor z
1	0.000000	1	1316.687390
2	-0.000000	2	0.000000
3	-0.000000	3	0.000000
4	-0.000000	4	0.000000
5	0.000000	5	12.393385
6	0.000000	6	20.131370
7	-0.000000	7	0.000000
8	0.000000	8	0.000000
9	0.086595	9	0.000000
10	0.000000	10	0.000000
11	-0.000000	11	0.000000
12	-0.000000	12	0.000000

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
13	-0.000000	13	0.000000
14	0.017319	14	0.000000
15	0.064900	15	0.000000
16	0.220000	16	0.000000
17	0.000000	17	0.000000
18	0.000000	18	49.382823
19	0.000000	19	67.698123
20	0.000000	20	87.844953
21	0.000000	21	106.160253
22	0.000000	22	123.254533
23	0.000000	23	139.127793
24	0.000000	24	153.169523
25	0.000000	25	165.990233
26	0.000000	26	176.979413
27	0.000000	27	186.747573
28	-0.000000	28	0.000000
29	-0.000000	29	0.000000
30	-0.000000	30	0.000000
31	-0.000000	31	0.000000
32	-0.000000	32	0.000000
33	-0.000000	33	0.000000
34	-0.000000	34	0.000000
35	-0.000000	35	0.000000
36	-0.000000	36	0.000000
37	-0.000000	37	0.000000
38	0.030551	38	0.000000
39	0.071285	39	0.000000
40	-0.000000	40	0.000000
41	-0.000000	41	0.000000
42	1.191100	42	0.000000
43	0.000000	43	8.646706
44	-0.000000	44	0.000000
45	0.000000	45	325.465350
46	0.073086	46	0.000000
47	0.000000	47	0.000000
48	0.006110	48	0.000000
49	0.014257	49	0.000000
50	0.238220	50	0.000000
51	-0.000000	51	0.000000
52	0.000000	52	0.000000
53	0.141986	53	0.000000
54	0.424705	54	0.000000
55	0.000000	55	0.000000
56	0.092670	56	0.000000
57	0.000000	57	28.932477
58	0.000000	58	61.932477
59	0.000000	59	91.932477
60	0.000000	60	119.932477
61	0.000000	61	145.932477

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
62	0.000000	62	168.932477
63	0.000000	63	189.932477
64	0.000000	64	207.932477
65	0.000000	65	223.932477
66	0.018534	66	0.000000
67	-0.000000	67	0.000000
68	-0.000000	68	0.000000
69	-0.000000	69	0.000000
70	-0.000000	70	0.000000
71	-0.000000	71	0.000000
72	-0.000000	72	0.000000
73	-0.000000	73	0.000000
74	-0.000000	74	0.000000
75	-0.000000	75	0.000000
76	0.048386	76	0.000000
77	0.112901	77	0.000000
78	-0.000000	78	0.000000
79	-0.000000	79	0.000000
80	11.242630	80	0.000000
81	-0.000000	81	0.000000
82	-0.000000	82	0.000000
83	0.000000	83	198.021607
84	0.061685	84	0.000000
85	0.000000	85	0.000000
86	0.004520	86	0.000000
87	0.010547	87	0.000000
88	2.047468	88	0.000000
89	0.000000	89	23.467248
90	0.000000	90	0.000000
91	0.226931	91	0.000000
92	0.653869	92	0.000000
93	0.060592	93	0.000000
94	0.203657	94	0.000000
95	-0.000000	95	0.000000
96	-0.000000	96	0.000000
97	-0.000000	97	0.000000
98	-0.000000	98	0.000000
99	-0.000000	99	0.000000
100	-0.000000	100	0.000000
101	-0.000000	101	0.000000
102	-0.000000	102	0.000000
103	-0.000000	103	0.000000
104	0.022197	104	0.000000
105	0.000000	105	87.800585
106	0.000000	106	190.252605
107	0.000000	107	283.390795
108	0.000000	108	370.319785
109	0.000000	109	451.039555
110	0.000000	110	522.445505

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
111	0.000000	111	587.642245
112	0.000000	112	643.525165
113	0.000000	113	693.198875
114	0.386942	114	0.000000
115	54.476630	115	0.000000
116	0.000000	116	0.378146
117	0.000000	117	0.099086
118	1.000000	118	0.000000
119	0.000000	119	0.076610
120	0.000000	120	0.324844
121	0.000000	121	0.740957
122	0.000000	122	0.436242
123	0.000000	123	0.217943
124	0.000000	124	0.177677
125	0.000000	125	0.311232
126	0.000000	126	0.614609
127	0.000000	127	1.084122
128	0.000000	128	0.555812
129	0.000000	129	0.397212
130	0.000000	130	0.414750
131	0.000000	131	0.604267
132	0.000000	132	0.961830
133	0.000000	133	1.483814
134	0.000000	134	0.736358
135	0.000000	135	0.636428
136	0.000000	136	0.710758
137	0.000000	137	0.955266
138	0.000000	138	1.366077
139	0.000000	139	1.939625
140	0.000000	140	0.977368
141	0.000000	141	0.935091
142	0.000000	142	1.065243
143	0.000000	143	1.363794
144	0.000000	144	1.826933
145	0.000000	145	2.451155
146	0.000000	146	1.278369
147	0.000000	147	1.292763
148	0.000000	148	1.477772
149	0.000000	149	1.829436
150	0.000000	150	2.344003
151	0.000000	151	3.018028
152	0.069972	152	0.000000
153	0.163269	153	0.000000
154	-0.000000	154	0.000000
155	-0.000000	155	0.000000
156	22.804710	156	0.000000
157	-0.000000	157	0.000000
158	-0.000000	158	0.000000
159	0.000000	159	118.889071

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
160	0.052062	160	0.000000
161	0.000000	161	0.000000
162	0.005827	162	0.000000
163	0.013596	163	0.000000
164	2.663186	164	0.000000
165	0.000000	165	11.276116
166	0.000000	166	0.000000
167	0.320517	167	0.000000
168	0.909392	168	0.000000
169	0.156558	169	0.000000
170	0.359230	170	0.000000
171	-0.000000	171	0.000000
172	-0.000000	172	0.000000
173	-0.000000	173	0.000000
174	-0.000000	174	0.000000
175	-0.000000	175	0.000000
176	-0.000000	176	0.000000
177	-0.000000	177	0.000000
178	-0.000000	178	0.000000
179	-0.000000	179	0.000000
180	0.031115	180	0.000000
181	0.000000	181	52.493885
182	0.000000	182	116.108525
183	0.000000	183	173.940015
184	0.000000	184	227.916075
185	0.000000	185	278.036705
186	0.000000	186	322.374185
187	0.000000	187	362.856225
188	0.000000	188	397.555125
189	0.000000	189	428.398585
190	0.437789	190	0.000000
191	60.442010	191	0.000000
192	0.000000	192	1.181597
193	0.000000	193	0.327457
194	1.000000	194	0.000000
195	0.000000	195	0.178985
196	0.000000	196	0.845763
197	0.000000	197	1.983129
198	0.000000	198	1.044694
199	0.000000	199	0.372763
200	0.000000	200	0.216587
201	0.000000	201	0.556610
202	0.000000	202	1.374812
203	0.000000	203	2.654591
204	0.000000	204	1.089179
205	0.000000	205	0.593709
206	0.000000	206	0.603407
207	0.000000	207	1.099371
208	0.000000	208	2.064213

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
209	0.000000	209	3.481906
210	0.000000	210	1.313513
211	0.000000	211	0.988953
212	0.000000	212	1.159289
213	0.000000	213	1.806285
214	0.000000	214	2.913146
215	0.000000	215	4.464409
216	0.000000	216	1.716325
217	0.000000	217	1.557292
218	0.000000	218	1.883231
219	0.000000	219	2.676515
220	0.000000	220	3.920935
221	0.000000	221	5.601575
222	0.000000	222	2.296401
223	0.000000	223	2.297712
224	0.000000	224	2.774376
225	0.000000	225	3.709366
226	0.000000	226	5.087037
227	0.000000	227	6.892992
228	0.096350	228	0.000000
229	0.224816	229	0.000000
230	-0.000000	230	0.000000
231	-0.000000	231	0.000000
232	33.398473	232	0.000000
233	-0.000000	233	0.000000
234	-0.000000	234	0.000000
235	0.000000	235	67.821413
236	0.043940	236	0.000000
237	0.000000	237	0.000000
238	0.007459	238	0.000000
239	0.017403	239	0.000000
240	2.830260	240	0.000000
241	0.000000	241	3.803744
242	0.000000	242	0.000000
243	0.423518	243	0.000000
244	1.179635	244	0.000000
245	0.295336	245	0.000000
246	0.569530	246	0.000000
247	-0.000000	247	0.000000
248	-0.000000	248	0.000000
249	-0.000000	249	0.000000
250	-0.000000	250	0.000000
251	-0.000000	251	0.000000
252	-0.000000	252	0.000000
253	-0.000000	253	0.000000
254	-0.000000	254	0.000000
255	-0.000000	255	0.000000
256	0.042060	256	0.000000
257	0.000000	257	30.571185

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
258	0.000000	258	70.070875
259	0.000000	259	105.979685
260	0.000000	260	139.494575
261	0.000000	261	170.615535
262	0.000000	262	198.145625
263	0.000000	263	223.281785
264	0.000000	264	244.827075
265	0.000000	265	263.978435
266	0.495318	266	0.000000
267	66.354873	267	0.000000
268	0.000000	268	0.879353
269	0.243731	269	0.000000
270	0.756269	270	0.000000
271	0.000000	271	0.833957
272	0.000000	272	2.462033
273	0.000000	273	4.849363
274	0.000000	274	0.594243
275	0.000000	275	0.018570
276	0.000000	276	0.295740
277	0.000000	277	1.382733
278	0.000000	278	3.241875
279	0.000000	279	5.840266
280	0.000000	280	0.610212
281	0.000000	281	0.324359
282	0.000000	282	0.866050
283	0.000000	283	2.194536
284	0.000000	284	4.274203
285	0.000000	285	7.074027
286	0.000000	286	0.924649
287	0.000000	287	0.915447
288	0.000000	288	1.709621
289	0.000000	289	3.268613
290	0.000000	290	5.558774
291	0.000000	291	8.550867
292	0.000000	292	1.535568
293	0.000000	293	1.790456
294	0.000000	294	2.825670
295	0.000000	295	4.604712
296	0.000000	296	7.095818
297	0.000000	297	10.271462
298	0.000000	298	2.441553
299	0.000000	299	2.948580
300	0.000000	300	4.213927
301	0.000000	301	6.203066
302	0.000000	302	8.886028
303	0.000000	303	12.236916
304	0.149732	304	0.000000
305	0.303766	305	0.000000
306	0.045609	306	0.000000

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
307	-0.000000	307	0.000000
308	28.188312	308	0.000000
309	10.934668	309	0.000000
310	-0.000000	310	0.000000
311	0.000000	311	48.357572
312	0.037086	312	0.000000
313	0.000000	313	12.320004
314	0.013683	314	0.000000
315	0.022804	315	0.000000
316	0.009122	316	0.000000
317	0.000000	317	0.720652
318	2.186934	318	0.000000
319	-0.000000	319	0.000000
320	-0.000000	320	0.000000
321	0.000000	321	0.000000
322	0.616320	322	0.000000
323	1.377326	323	0.000000
324	0.395213	324	0.000000
325	0.851568	325	0.000000
326	-0.000000	326	0.000000
327	-0.000000	327	0.000000
328	-0.000000	328	0.000000
329	-0.000000	329	0.000000
330	-0.000000	330	0.000000
331	-0.000000	331	0.000000
332	-0.000000	332	0.000000
333	-0.000000	333	0.000000
334	-0.000000	334	0.000000
335	0.056408	335	0.000000
336	0.000000	336	16.958935
337	0.000000	337	41.485135
338	0.000000	338	63.781675
339	0.000000	339	84.591785
340	0.000000	340	103.915455
341	0.000000	341	121.009475
342	0.000000	342	136.617055
343	0.000000	343	149.994985
344	0.000000	344	161.886475
345	0.629795	345	0.000000
346	66.130580	346	0.000000
347	0.000000	347	0.604923
348	0.000000	348	1.079353
349	0.000000	349	2.780371
350	0.000000	350	5.638764
351	0.000000	351	9.597539
352	0.000000	352	14.610645
353	0.000000	353	0.108877
354	0.000000	354	0.980537
355	0.000000	355	3.033584

Continua na próxima página



Coordenada x	Valor x	Coordenada z	Valor z
356	0.000000	356	6.204049
357	0.000000	357	10.439574
358	0.000000	358	15.698192
359	1.000000	359	0.000000
360	0.000000	360	1.245290
361	0.000000	361	3.629434
362	0.000000	362	7.093420
363	0.000000	363	11.589244
364	0.000000	364	17.078778
365	0.000000	365	0.274564
366	0.000000	366	1.871332
367	0.000000	367	4.566950
368	0.000000	368	8.307057
369	0.000000	369	13.047750
370	0.000000	370	18.754513
371	0.000000	371	0.930154
372	0.000000	372	2.857625
373	0.000000	373	5.846306
374	0.000000	374	9.846214
375	0.000000	375	14.817301
376	0.000000	376	20.728451
377	0.000000	377	1.965663
378	0.000000	378	4.204343
379	0.000000	379	7.468812
380	0.000000	380	11.713207
381	0.000000	381	16.901108
382	0.000000	382	23.004598
383	0.203923	383	0.000000
384	0.333928	384	0.000000
385	0.141892	385	0.000000
386	-0.000000	386	0.000000
387	23.790935	387	0.000000
388	24.029837	388	0.000000
389	0.152029	389	0.000000
390	-0.000000	390	0.000000
391	0.043494	391	0.000000
392	0.000000	392	7.651509
393	0.015510	393	0.000000
394	0.015510	394	0.000000
395	0.020680	395	0.000000
396	0.000000	396	3.393265
397	2.960195	397	0.000000
398	0.030406	398	0.000000
399	0.000000	399	143.267212
400	0.002439	400	0.000000
401	0.908643	401	0.000000
402	1.496281	402	0.000000
403	0.460756	403	0.000000
404	1.166022	404	0.000000

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
405	-0.000000	405	0.000000
406	-0.000000	406	0.000000
407	-0.000000	407	0.000000
408	-0.000000	408	0.000000
409	-0.000000	409	0.000000
410	-0.000000	410	0.000000
411	-0.000000	411	0.000000
412	-0.000000	412	0.000000
413	-0.000000	413	0.000000
414	0.062891	414	0.000000
415	0.000000	415	8.506785
416	0.000000	416	23.735625
417	0.000000	417	37.580025
418	0.000000	418	50.501465
419	0.000000	419	62.499945
420	0.000000	420	73.113985
421	0.000000	421	82.805065
422	0.000000	422	91.111705
423	0.000000	423	98.495385
424	0.733656	424	0.000000
425	71.241420	425	0.000000
426	0.000000	426	0.595143
427	0.000000	427	0.431640
428	0.000000	428	1.630466
429	0.000000	429	4.096066
430	0.000000	430	7.753472
431	0.000000	431	12.545747
432	0.000000	432	0.074993
433	0.000000	433	0.366449
434	0.000000	434	1.956740
435	0.000000	435	4.759328
436	0.000000	436	8.706950
437	0.000000	437	13.749271
438	1.000000	438	0.000000
439	0.000000	439	0.713167
440	0.000000	440	2.666325
441	0.000000	441	5.781278
442	0.000000	442	9.997911
443	0.000000	443	15.272007
444	0.000000	444	0.365896
445	0.000000	445	1.470045
446	0.000000	446	3.759628
447	0.000000	447	7.164185
448	0.000000	448	11.630227
449	0.000000	449	17.119209
450	0.000000	450	1.170759
451	0.000000	451	2.637490
452	0.000000	452	5.239052
453	0.000000	453	8.912169

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
454	0.000000	454	13.609498
455	0.000000	455	19.297753
456	0.000000	456	2.415000
457	0.000000	457	4.218036
458	0.000000	458	7.108971
459	0.000000	459	11.031190
460	0.000000	460	15.943046
461	0.000000	461	21.816138
462	0.216967	462	0.000000
463	0.281835	463	0.000000
464	0.299180	464	0.000000
465	-0.000000	465	0.000000
466	20.079549	466	0.000000
467	24.025787	467	0.000000
468	0.472974	468	0.000000
469	-0.000000	469	0.000000
470	0.039967	470	0.000000
471	0.000000	471	4.752738
472	0.008971	472	0.000000
473	0.000000	473	36.139059
474	0.035885	474	0.000000
475	0.000000	475	4.890804
476	0.748921	476	0.000000
477	0.068932	477	0.000000
478	0.000000	478	70.656084
479	0.000652	479	0.000000
480	1.215663	480	0.000000
481	1.596679	481	0.000000
482	0.429735	482	0.000000
483	1.433901	483	0.000000
484	-0.000000	484	0.000000
485	-0.000000	485	0.000000
486	-0.000000	486	0.000000
487	-0.000000	487	0.000000
488	-0.000000	488	0.000000
489	-0.000000	489	0.000000
490	-0.000000	490	0.000000
491	-0.000000	491	0.000000
492	-0.000000	492	0.000000
493	0.053576	493	0.000000
494	0.000000	494	3.258672
495	0.000000	495	12.714582
496	0.000000	496	21.310862
497	0.000000	497	29.334062
498	0.000000	498	36.784172
499	0.000000	499	43.374652
500	0.000000	500	49.392052
501	0.000000	501	54.549822
502	0.000000	502	59.134512

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
503	0.854646	503	0.000000
504	76.747240	504	0.000000
505	0.000000	505	1.104987
506	0.000000	506	0.480765
507	0.000000	507	1.250814
508	0.000000	508	3.297331
509	0.000000	509	6.532220
510	0.000000	510	10.892848
511	0.000000	511	0.328446
512	0.000000	512	0.183873
513	0.000000	513	1.354648
514	0.000000	514	3.736132
515	0.000000	515	7.251168
516	0.000000	516	11.846216
517	1.000000	517	0.000000
518	0.000000	518	0.293578
519	0.000000	519	1.830417
520	0.000000	520	4.517894
521	0.000000	521	8.288845
522	0.000000	522	13.098038
523	0.000000	523	0.113223
524	0.000000	524	0.807170
525	0.000000	525	2.678498
526	0.000000	526	5.645575
527	0.000000	527	9.650366
528	0.000000	528	14.655231
529	0.000000	529	0.665152
530	0.000000	530	1.725025
531	0.000000	531	3.902069
532	0.000000	532	7.124695
533	0.000000	533	11.343213
534	0.000000	534	16.526918
535	0.000000	535	1.656128
536	0.000000	536	3.050538
537	0.000000	537	5.507075
538	0.000000	538	8.963328
539	0.000000	539	13.377239
540	0.000000	540	18.724445
541	0.199720	541	0.000000
542	0.237869	542	0.000000
543	0.401909	543	0.000000
544	-0.000000	544	0.000000
545	16.947139	545	0.000000
546	28.289945	546	0.000000
547	0.997267	547	0.000000
548	-0.000000	548	0.000000
549	0.042761	549	0.000000
550	0.000000	550	2.659713
551	0.003320	551	0.000000

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
552	0.000000	552	23.778344
553	0.029880	553	0.000000
554	0.000000	554	5.628781
555	1.602436	555	0.000000
556	0.119615	556	0.000000
557	0.000000	557	45.237209
558	0.001806	558	0.000000
559	1.557474	559	0.000000
560	1.681414	560	0.000000
561	0.463238	561	0.000000
562	1.500000	562	0.000000
563	0.214280	563	0.000000
564	-0.000000	564	0.000000
565	-0.000000	565	0.000000
566	-0.000000	566	0.000000
567	-0.000000	567	0.000000
568	-0.000000	568	0.000000
569	-0.000000	569	0.000000
570	-0.000000	570	0.000000
571	-0.000000	571	0.000000
572	0.013220	572	0.000000
573	0.042856	573	0.000000
574	0.000000	574	5.871380
575	0.000000	575	11.208990
576	0.000000	576	16.190770
577	0.000000	577	20.816700
578	0.000000	578	24.908870
579	0.000000	579	28.645200
580	0.000000	580	31.847770
581	0.000000	581	34.694500
582	0.899053	582	0.000000
583	91.675590	583	0.000000
584	0.000000	584	1.248593
585	0.000000	585	0.333973
586	0.000000	586	0.769345
587	0.000000	587	2.420466
588	0.000000	588	5.191566
589	0.000000	589	9.019045
590	0.000000	590	0.436588
591	1.000000	591	0.000000
592	0.000000	592	0.823158
593	0.000000	593	2.789042
594	0.000000	594	5.815791
595	0.000000	595	9.851031
596	0.000000	596	0.062452
597	0.000000	597	0.056235
598	0.000000	598	1.228504
599	0.000000	599	3.477760
600	0.000000	600	6.734661

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
601	0.000000	601	10.956943
602	0.000000	602	0.118511
603	0.000000	603	0.499857
604	0.000000	604	1.986517
605	0.000000	605	4.490962
606	0.000000	606	7.955125
607	0.000000	607	12.345846
608	0.000000	608	0.601598
609	0.000000	609	1.332068
610	0.000000	610	3.101936
611	0.000000	611	5.836260
612	0.000000	612	9.487129
613	0.000000	613	14.029584
614	0.000000	614	1.512956
615	0.000000	615	2.558019
616	0.000000	616	4.583083
617	0.000000	617	7.524549
618	0.000000	618	11.343657
619	0.000000	619	16.022837
620	0.168564	620	0.000000
621	0.200761	621	0.000000
622	0.591624	622	0.000000
623	0.063103	623	0.000000
624	14.303386	624	0.000000
625	29.782257	625	0.000000
626	1.339697	626	0.000000
627	-0.000000	627	0.000000
628	0.036090	628	0.000000
629	0.000000	629	1.977456
630	0.000000	630	38.008751
631	0.000000	631	11.303034
632	0.050482	632	0.000000
633	0.012621	633	0.000000
634	0.000000	634	5.859665
635	1.181109	635	0.000000
636	0.099601	636	0.000000
637	0.000000	637	29.022919
638	0.000000	638	0.000000
639	1.913002	639	0.000000
640	1.752931	640	0.000000
641	0.285194	641	0.000000
642	1.500000	642	0.000000
643	0.428524	643	0.000000
644	-0.000000	644	0.000000
645	-0.000000	645	0.000000
646	-0.000000	646	0.000000
647	-0.000000	647	0.000000
648	-0.000000	648	0.000000
649	-0.000000	649	0.000000

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
650	-0.000000	650	0.000000
651	-0.000000	651	0.000000
652	0.000000	652	2.023375
653	0.042849	653	0.000000
654	0.000000	654	3.645662
655	0.000000	655	6.959902
656	0.000000	656	10.053192
657	0.000000	657	12.925532
658	0.000000	658	15.466452
659	0.000000	659	17.786422
660	0.000000	660	19.774962
661	0.000000	661	21.542552
662	1.086643	662	0.000000
663	100.228820	663	0.000000
664	0.000000	664	1.372669
665	0.000000	665	0.357630
666	0.000000	666	0.604354
667	0.000000	667	1.969176
668	0.000000	668	4.354469
669	0.000000	669	7.700301
670	0.000000	670	0.557623
671	0.573094	671	0.000000
672	0.000000	672	0.606998
673	0.000000	673	2.255785
674	0.000000	674	4.865052
675	0.000000	675	8.387663
676	0.000000	676	0.151795
677	0.426906	677	0.000000
678	0.000000	678	0.926643
679	0.000000	679	2.827371
680	0.000000	680	5.635354
681	0.000000	681	9.314809
682	0.000000	682	0.146119
683	0.000000	683	0.354510
684	0.000000	684	1.564850
685	0.000000	685	3.689185
686	0.000000	686	6.673536
687	0.000000	687	10.492196
688	0.000000	688	0.537036
689	0.000000	689	1.065218
690	0.000000	690	2.527436
691	0.000000	691	4.850299
692	0.000000	692	7.991237
693	0.000000	693	11.933490
694	0.000000	694	1.326337
695	0.000000	695	2.138540
696	0.000000	696	3.824465
697	0.000000	697	6.323651
698	0.000000	698	9.603661

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
699	0.000000	699	13.655682
700	0.142268	700	0.000000
701	0.169442	701	0.000000
702	0.652276	702	0.000000
703	0.155223	703	0.000000
704	12.072058	704	0.000000
705	25.136225	705	0.000000
706	1.972079	706	0.000000
707	-0.000000	707	0.000000
708	0.039983	708	0.000000
709	0.000000	709	0.639198
710	0.000000	710	22.970011
711	0.000000	711	6.404292
712	0.030589	712	0.000000
713	0.020393	713	0.000000
714	0.000000	714	5.759412
715	0.000000	715	0.025749
716	0.168275	716	0.000000
717	0.000000	717	17.994285
718	0.001905	718	0.000000
719	2.245258	719	0.000000
720	1.813291	720	0.000000
721	0.333352	721	0.000000
722	1.500000	722	0.000000
723	0.682865	723	0.000000
724	-0.000000	724	0.000000
725	-0.000000	725	0.000000
726	-0.000000	726	0.000000
727	-0.000000	727	0.000000
728	-0.000000	728	0.000000
729	-0.000000	729	0.000000
730	-0.000000	730	0.000000
731	-0.000000	731	0.000000
732	0.000000	732	3.279733
733	0.050868	733	0.000000
734	0.000000	734	2.263670
735	0.000000	735	4.321552
736	0.000000	736	6.242246
737	0.000000	737	8.025736
738	0.000000	738	9.603446
739	0.000000	739	11.043966
740	0.000000	740	12.278696
741	0.000000	741	13.376236
742	1.184994	742	0.000000
743	109.580050	743	0.000000
744	0.000000	744	1.501677
745	0.000000	745	0.317586
746	0.000000	746	0.259145
747	0.000000	747	1.176124

Continua na próxima página



Coordenada x	Valor x	Coordenada z	Valor z
748	0.000000	748	2.969902
749	0.000000	749	5.583078
750	0.000000	750	0.758810
751	1.000000	751	0.000000
752	0.000000	752	0.266798
753	0.000000	753	1.432703
754	0.000000	754	3.417150
755	0.000000	755	6.176485
756	0.000000	756	0.392984
757	0.000000	757	0.006028
758	0.000000	758	0.557207
759	0.000000	759	1.940767
760	0.000000	760	4.091930
761	0.000000	761	6.979063
762	0.000000	762	0.394637
763	0.000000	763	0.332950
764	0.000000	764	1.132880
765	0.000000	765	2.706827
766	0.000000	766	5.003819
767	0.000000	767	8.002740
768	0.000000	768	0.760600
769	0.000000	769	0.983541
770	0.000000	770	2.001144
771	0.000000	771	3.741690
772	0.000000	772	6.166291
773	0.000000	773	9.263031
774	0.000000	774	1.493911
775	0.000000	775	1.966013
776	0.000000	776	3.174165
777	0.000000	777	5.060551
778	0.000000	778	7.596860
779	0.000000	779	10.779231
780	0.120074	780	0.000000
781	0.143009	781	0.000000
782	0.662538	782	0.000000
783	0.579074	783	0.000000
784	10.188817	784	0.000000
785	30.694206	785	0.000000
786	2.174254	786	0.000000
787	-0.000000	787	0.000000
788	0.033746	788	0.000000
789	0.000000	789	0.636716
790	0.000000	790	12.094841
791	0.000000	791	1.828309
792	0.022403	792	0.000000
793	0.089613	793	0.000000
794	0.000000	794	5.336276
795	1.895847	795	0.000000
796	0.101964	796	0.000000

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
797	0.000000	797	9.573049
798	0.000000	798	0.000000
799	2.626037	799	0.000000
800	1.864236	800	0.000000
801	0.455551	801	0.000000
802	1.500000	802	0.000000
803	0.824815	803	0.000000
804	-0.000000	804	0.000000
805	-0.000000	805	0.000000
806	-0.000000	806	0.000000
807	-0.000000	807	0.000000
808	-0.000000	808	0.000000
809	-0.000000	809	0.000000
810	-0.000000	810	0.000000
811	-0.000000	811	0.000000
812	0.000000	812	4.059832
813	0.028390	813	0.000000
814	0.000000	814	1.405561
815	0.000000	815	2.683344
816	0.000000	816	3.875941
817	0.000000	817	4.983352
818	0.000000	818	5.962986
819	0.000000	819	6.857434
820	0.000000	820	7.624105
821	0.000000	821	8.305585
822	1.573836	822	0.000000
823	119.803740	823	0.000000
824	0.000000	824	1.437898
825	0.000000	825	0.347140
826	0.000000	826	0.259654
827	0.000000	827	1.027012
828	0.000000	828	2.556434
829	0.000000	829	4.798639
830	0.000000	830	0.737944
831	0.000000	831	0.033419
832	0.000000	832	0.232729
833	0.000000	833	1.213235
834	0.000000	834	2.901206
835	0.000000	835	5.261449
836	0.000000	836	0.371706
837	1.000000	837	0.000000
838	0.000000	838	0.446446
839	0.000000	839	1.610622
840	0.000000	840	3.435216
841	0.000000	841	5.897174
842	0.000000	842	0.328517
843	0.000000	843	0.243728
844	0.000000	844	0.903224
845	0.000000	845	2.225740

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
846	0.000000	846	4.168115
847	0.000000	847	6.717759
848	0.000000	848	0.604654
849	0.000000	849	0.767318
850	0.000000	850	1.610561
851	0.000000	851	3.069636
852	0.000000	852	5.113591
853	0.000000	853	7.738860
854	0.000000	854	1.203121
855	0.000000	855	1.579293
856	0.000000	856	2.581076
857	0.000000	857	4.157979
858	0.000000	858	6.289579
859	0.000000	859	8.980099
860	0.101342	860	0.000000
861	0.120700	861	0.000000
862	0.559182	862	0.000000
863	0.979489	863	0.000000
864	8.599361	864	0.000000
865	40.691624	865	0.000000
866	2.208458	866	0.000000
867	-0.000000	867	0.000000
868	0.028481	868	0.000000
869	0.000000	869	0.135924
870	0.000000	870	10.937850
871	0.000000	871	4.586209
872	0.000000	872	4.459402
873	0.098150	873	0.000000
874	0.000000	874	4.711390
875	2.957143	875	0.000000
876	0.074678	876	0.000000
877	0.000000	877	5.954988
878	0.000000	878	0.000000
879	3.089001	879	0.000000
880	1.907232	880	0.000000
881	0.782496	881	0.000000
882	1.500000	882	0.000000
883	0.914487	883	0.000000
884	-0.000000	884	0.000000
885	-0.000000	885	0.000000
886	-0.000000	886	0.000000
887	-0.000000	887	0.000000
888	-0.000000	888	0.000000
889	-0.000000	889	0.000000
890	-0.000000	890	0.000000
891	-0.000000	891	0.000000
892	0.000000	892	4.544212
893	0.017934	893	0.000000
894	0.000000	894	0.872743

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
895	0.000000	895	1.666145
896	0.000000	896	2.406654
897	0.000000	897	3.094270
898	0.000000	898	3.702545
899	0.000000	899	4.257927
900	0.000000	900	4.733968
901	0.000000	901	5.157116
902	1.833381	902	0.000000
903	130.981300	903	0.000000
904	0.000000	904	1.395896
905	0.000000	905	0.373337
906	0.000000	906	0.221946
907	0.000000	907	0.797711
908	0.000000	908	2.014230
909	0.000000	909	3.829100
910	0.000000	910	0.746379
911	0.000000	911	0.068328
912	0.000000	912	0.165320
913	0.000000	913	0.920339
914	0.000000	914	2.266345
915	0.000000	915	4.174840
916	0.000000	916	0.385486
917	1.000000	917	0.000000
918	0.000000	918	0.307927
919	0.000000	919	1.215172
920	0.000000	920	2.671141
921	0.000000	921	4.659146
922	0.000000	922	0.301449
923	0.000000	923	0.164534
924	0.000000	924	0.651676
925	0.000000	925	1.688257
926	0.000000	926	3.237654
927	0.000000	927	5.293213
928	0.000000	928	0.489713
929	0.000000	929	0.564091
930	0.000000	930	1.203572
931	0.000000	931	2.350093
932	0.000000	932	3.978907
933	0.000000	933	6.091888
934	0.000000	934	0.952680
935	0.000000	935	1.206748
936	0.000000	936	1.975783
937	0.000000	937	3.215800
938	0.000000	938	4.912152
939	0.000000	939	7.073967
940	0.085533	940	0.000000
941	0.101871	941	0.000000
942	0.471949	942	0.000000
943	1.400000	943	0.000000

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
944	7.257861	944	0.000000
945	60.005214	945	0.000000
946	1.863939	946	0.000000
947	-0.000000	947	0.000000
948	0.024038	948	0.000000
949	-0.000000	949	0.000000
950	0.000000	950	5.941251
951	0.000000	951	1.438683
952	0.000000	952	2.640813
953	0.114662	953	0.000000
954	0.000000	954	3.875352
955	5.132297	955	0.000000
956	0.000000	956	0.207387
957	0.000000	957	4.692828
958	0.000000	958	0.000000
959	3.700542	959	0.000000
960	1.943522	960	0.000000
961	1.058437	961	0.000000
962	1.500000	962	0.000000
963	0.914487	963	0.000000
964	-0.000000	964	0.000000
965	-0.000000	965	0.000000
966	-0.000000	966	0.000000
967	-0.000000	967	0.000000
968	-0.000000	968	0.000000
969	-0.000000	969	0.000000
970	-0.000000	970	0.000000
971	-0.000000	971	0.000000
972	0.000000	972	5.830255
973	0.000000	973	0.985281
974	0.000000	974	1.527186
975	0.000000	975	2.019826
976	0.000000	976	2.479624
977	0.000000	977	2.906579
978	0.000000	978	3.284270
979	0.000000	979	3.629119
980	0.000000	980	3.924703
981	0.000000	981	4.187445
982	2.135728	982	0.000000
983	143.201700	983	0.000000
984	0.000000	984	1.236646
985	0.000000	985	0.307226
986	0.000000	986	0.123940
987	0.000000	987	0.550068
988	0.000000	988	1.506741
989	0.000000	989	2.958266
990	0.000000	990	0.678940
991	0.000000	991	0.052458
992	0.000000	992	0.081242

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
993	0.000000	993	0.655984
994	0.000000	994	1.716912
995	0.000000	995	3.241647
996	0.000000	996	0.372945
997	1.000000	997	0.000000
998	0.000000	998	0.206270
999	0.000000	999	0.905390
1000	0.000000	1000	2.053570
1001	0.000000	1001	3.639577
1002	0.000000	1002	0.307126
1003	0.000000	1003	0.146481
1004	0.000000	1004	0.501370
1005	0.000000	1005	1.304639
1006	0.000000	1006	2.525881
1007	0.000000	1007	4.163194
1008	0.000000	1008	0.477390
1009	0.000000	1009	0.494608
1010	0.000000	1010	0.974009
1011	0.000000	1011	1.864533
1012	0.000000	1012	3.146984
1013	0.000000	1013	4.827281
1014	0.000000	1014	0.886819
1015	0.000000	1015	1.053124
1016	0.000000	1016	1.636893
1017	0.000000	1017	2.600555
1018	0.000000	1018	3.934314
1019	0.000000	1019	5.650640
1020	0.072190	1020	0.000000
1021	0.085979	1021	0.000000
1022	0.398325	1022	0.000000
1023	1.625750	1023	0.000000
1024	6.125635	1024	0.000000
1025	96.368847	1025	0.000000
1026	1.573164	1026	0.000000
1027	-0.000000	1027	0.000000
1028	0.020288	1028	0.000000
1029	-0.000000	1029	0.000000
1030	0.000000	1030	2.681587
1031	0.000000	1031	0.741500
1032	0.000000	1032	1.487925
1033	0.088830	1033	0.000000
1034	0.000000	1034	2.825393
1035	9.144889	1035	0.000000
1036	0.000000	1036	0.776643
1037	0.000000	1037	4.093081
1038	0.000000	1038	0.000000
1039	4.578891	1039	0.000000
1040	1.974150	1040	0.000000
1041	1.291332	1041	0.000000

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
1042	1.500000	1042	0.000000
1043	0.914487	1043	0.000000
1044	-0.000000	1044	0.000000
1045	-0.000000	1045	0.000000
1046	-0.000000	1046	0.000000
1047	-0.000000	1047	0.000000
1048	-0.000000	1048	0.000000
1049	-0.000000	1049	0.000000
1050	-0.000000	1050	0.000000
1051	-0.000000	1051	0.000000
1052	0.000000	1052	5.643506
1053	0.000000	1053	0.611782
1054	0.000000	1054	0.948262
1055	0.000000	1055	1.254153
1056	0.000000	1056	1.539651
1057	0.000000	1057	1.804757
1058	0.000000	1058	2.039273
1059	0.000000	1059	2.253397
1060	0.000000	1060	2.436932
1061	0.000000	1061	2.600074
1062	2.262515	1062	0.000000
1063	173.890682	1063	0.000000
1064	0.000000	1064	1.028913
1065	0.000000	1065	0.203733
1066	0.000000	1066	0.010566
1067	0.000000	1067	0.321947
1068	0.000000	1068	1.067062
1069	0.000000	1069	2.216395
1070	0.000000	1070	0.576088
1071	0.000000	1071	0.014202
1072	0.525084	1072	0.000000
1073	0.000000	1073	0.433163
1074	0.000000	1074	1.261241
1075	0.000000	1075	2.467157
1076	0.000000	1076	0.344721
1077	0.474916	1077	0.000000
1078	0.000000	1078	0.133407
1079	0.000000	1079	0.667015
1080	0.000000	1080	1.563523
1081	0.000000	1081	2.816108
1082	0.000000	1082	0.324585
1083	0.000000	1083	0.159082
1084	0.000000	1084	0.414306
1085	0.000000	1085	1.030808
1086	0.000000	1086	1.983786
1087	0.000000	1087	3.274886
1088	0.000000	1088	0.513121
1089	0.000000	1089	0.495602
1090	0.000000	1090	0.851411

Continua na próxima página

Coordenada x	Valor x	Coordenada z	Valor z
1091	0.000000	1091	1.536360
1092	0.000000	1092	2.535969
1093	0.000000	1093	3.858870
1094	0.000000	1094	0.915185
1095	0.000000	1095	1.019927
1096	0.000000	1096	1.458839
1097	0.000000	1097	2.200338
1098	0.000000	1098	3.238470
1099	0.000000	1099	4.587646
1100	0.060928	1100	0.000000
1101	0.072566	1101	0.000000
1102	0.336187	1102	0.000000
1103	1.372133	1103	0.000000
1104	5.170036	1104	0.000000
1105	137.276962	1105	0.000000
1106	1.327751	1106	0.000000
1107	-0.000000	1107	0.000000
1108	0.017123	1108	0.000000
1109	0.000000	1109	0.000000
1110	0.000000	1110	0.841035
1111	0.000000	1111	0.650198
1112	0.000000	1112	1.113669
1113	0.000000	1113	0.369653
1114	0.000000	1114	1.544489
1115	11.188331	1115	0.000000
1116	0.000000	1116	1.249855
1117	0.000000	1117	3.568989
1118	0.000000	1118	0.000000
1119	5.759628	1119	0.000000
1120	2.000000	1120	0.000000
1121	1.487894	1121	0.000000
1122	0.000000	1122	5.527549
1123	0.000000	1123	0.379869
1124	0.000000	1124	0.588796
1125	0.000000	1125	0.778730
1126	0.000000	1126	0.956002
1127	0.000000	1127	1.120612
1128	0.000000	1128	1.266228
1129	0.000000	1129	1.399182
1130	0.000000	1130	1.513143
1131	0.000000	1131	1.614441
1132	1.926179	1132	0.000000
1133	210.321390	1133	0.000000
1134	0.000000	1134	1.026052
1135	0.000000	1135	0.253722
1136	1.000000	1136	0.000000
1137	0.000000	1137	0.145205
1138	0.000000	1138	0.623401
1139	0.000000	1139	1.406618

Continua na próxima página



Coordenada x	Valor x	Coordenada z	Valor z
1140	0.000000	1140	0.842949
1141	0.000000	1141	0.297257
1142	0.000000	1142	0.193108
1143	0.000000	1143	0.437147
1144	0.000000	1144	0.980730
1145	0.000000	1145	1.807257
1146	0.000000	1146	0.893685
1147	0.000000	1147	0.532215
1148	0.000000	1148	0.549647
1149	0.000000	1149	0.874024
1150	0.000000	1150	1.470756
1151	0.000000	1151	2.332488
1152	0.000000	1152	1.178318
1153	0.000000	1153	0.966683
1154	0.000000	1154	1.083002
1155	0.000000	1155	1.472721
1156	0.000000	1156	2.112681
1157	0.000000	1157	3.003047
1158	0.000000	1158	1.706567
1159	0.000000	1159	1.616872
1160	0.000000	1160	1.813668
1161	0.000000	1161	2.256563
1162	0.000000	1162	2.931704
1163	0.000000	1163	3.845373
1164	0.000000	1164	2.498010
1165	0.000000	1165	2.507612
1166	0.000000	1166	2.769940
1167	0.000000	1167	3.256138
1168	0.000000	1168	3.959928
1169	0.000000	1169	4.892572

### 3 Variáveis Duais (Multiplicadores de Lagrange)

Tabela 2: Variáveis duais do problema scrs8

Coordenada y	Valor y
1	1061.076460
2	647.722559
3	701.288735
4	855.939081
5	-0.000000
6	-0.000000
7	96.795349
8	-0.000000
9	-0.000000
10	-0.000000

Continua na próxima página

Coordenada y	Valor y
11	-0.000000
12	-0.000000
13	-314.565320
14	-0.000000
15	-0.000000
16	-0.000000
17	-0.000000
18	-0.000000
19	48.315300
20	96.630600
21	149.777430
22	198.092730
23	243.187010
24	285.060270
25	322.102000
26	355.922710
27	384.911890
28	410.680050
29	448.969206
30	983.940530
31	1050.352352
32	1139.132087
33	-0.000000
34	-0.000000
35	246.971191
36	-0.000000
37	-0.000000
38	606.789701
39	7.814565
40	-0.000000
41	-314.565320
42	-0.000000
43	-155.337615
44	-0.000000
45	-0.000000
46	1499.112814
47	-1.067523
48	28.932477
49	61.932477
50	91.932477
51	119.932477
52	145.932477
53	168.932477
54	189.932477
55	207.932477
56	223.932477
57	-376.994716
58	-4.971475
59	428.728799

Continúa na próxima página

Coordenada y	Valor y
60	279.833536
61	610.698145
62	661.804088
63	708.344059
64	-0.000000
65	-4.693450
66	166.414859
67	-0.000000
68	-0.000000
69	376.994716
70	4.971475
71	-0.000000
72	-314.565320
73	-0.000000
74	-98.475815
75	-0.000000
76	-0.000000
77	923.266955
78	-1.067523
79	-0.000000
80	-0.000000
81	-0.000000
82	-0.000000
83	-0.000000
84	-0.000000
85	-0.000000
86	-0.000000
87	-0.000000
88	-234.310111
89	-3.206140
90	310.994383
91	174.741494
92	378.974886
93	422.056069
94	440.781627
95	-0.000000
96	-2.255223
97	115.614896
98	-0.000000
99	-0.000000
100	234.310111
101	3.206140
102	-0.000000
103	-314.565320
104	-0.000000
105	-63.169105
106	-0.000000
107	-0.000000
108	566.226959

Continua na próxima página

Coordenada y	Valor y
109	-1.067523
110	-0.000000
111	-0.000000
112	-0.000000
113	-0.000000
114	-0.000000
115	-0.000000
116	-0.000000
117	-0.000000
118	-0.000000
119	-148.618575
120	-2.231652
121	236.790111
122	109.402183
123	235.129584
124	274.980377
125	274.555220
126	-0.000000
127	-0.760749
128	83.146980
129	-0.000000
130	-0.000000
131	148.618575
132	2.231652
133	-0.000000
134	-314.565320
135	-0.000000
136	-41.246425
137	-0.000000
138	-0.000000
139	345.143362
140	-1.067523
141	-0.000000
142	-0.000000
143	-0.000000
144	-0.000000
145	-0.000000
146	-0.000000
147	-0.000000
148	-0.000000
149	-0.000000
150	-91.051681
151	-1.858045
152	197.771656
153	65.289192
154	142.415143
155	167.739204
156	167.792447
157	-0.144130

Continúa na próxima página

Coordenada y	Valor y
158	-0.000000
159	58.647887
160	0.542298
161	-0.000000
162	91.051681
163	1.858045
164	-0.000000
165	-314.565320
166	-0.000000
167	-27.634155
168	-0.000000
169	-12.320004
170	208.590825
171	86.030102
172	-1.067523
173	-0.000000
174	-0.000000
175	-0.000000
176	-0.000000
177	-0.000000
178	-0.000000
179	-0.000000
180	-0.000000
181	-0.000000
182	-58.177172
183	-1.153700
184	139.429082
185	38.866234
186	85.985823
187	102.049803
188	102.460810
189	-0.678653
190	-0.000000
191	36.503133
192	-28.025149
193	-0.000000
194	58.177172
195	1.153700
196	-0.000000
197	-314.565320
198	-0.000000
199	-19.182015
200	-0.000000
201	-7.651509
202	124.659007
203	56.128258
204	-1.067523
205	-0.000000
206	-0.000000

Continua na próxima página

Coordenada y	Valor y
207	-0.000000
208	-0.000000
209	-0.000000
210	-0.000000
211	-0.000000
212	-0.000000
213	-0.000000
214	-33.148131
215	-0.716357
216	95.027651
217	20.205785
218	48.896767
219	58.926461
220	59.631548
221	-0.978161
222	-0.000000
223	22.752984
224	-13.484806
225	-0.000000
226	33.148131
227	0.716357
228	-0.000000
229	-314.565320
230	-0.000000
231	-13.933898
232	-0.000000
233	-4.752738
234	109.697931
235	-0.000000
236	-1.067523
237	-0.000000
238	-0.000000
239	-0.000000
240	-0.000000
241	-0.000000
242	-0.000000
243	-0.000000
244	-0.000000
245	-0.000000
246	-20.009671
247	-0.444801
248	65.897893
249	11.418512
250	28.907275
251	35.200357
252	35.825980
253	-1.125756
254	-0.000000
255	14.215222

Continua na próxima página

Coordenada y	Valor y
256	-7.257730
257	-0.000000
258	20.009671
259	0.444801
260	-0.000000
261	-314.565320
262	-0.000000
263	-10.675230
264	-0.000000
265	-2.659713
266	66.810532
267	-1.067523
268	-0.000000
269	-0.000000
270	-0.000000
271	-0.000000
272	-0.000000
273	-0.000000
274	-0.000000
275	-0.000000
276	-0.000000
277	-11.942557
278	-0.280533
279	45.915375
280	6.432443
281	17.288812
282	20.504031
283	21.501266
284	-1.171933
285	-0.000000
286	8.826534
287	-3.863633
288	-0.000000
289	11.942557
290	0.280533
291	-0.000000
292	-314.565320
293	-0.000000
294	-6.628478
295	-0.000000
296	-1.977456
297	13.073476
298	-1.067523
299	-0.000000
300	-0.000000
301	-0.000000
302	-0.000000
303	-0.000000
304	-0.000000

Continua na próxima página

Coordenada y	Valor y
305	-0.000000
306	-0.000000
307	-0.000000
308	-7.397583
309	-0.166340
310	31.174877
311	3.785885
312	10.523550
313	12.397148
314	13.040198
315	-1.151882
316	-0.005150
317	5.480583
318	-2.393679
319	-0.000000
320	7.397583
321	0.166340
322	-0.000000
323	-314.565320
324	-0.000000
325	-4.115764
326	-0.000000
327	-0.639198
328	8.236829
329	-1.067523
330	-0.000000
331	-0.000000
332	-0.000000
333	-0.000000
334	-0.000000
335	-0.000000
336	-0.000000
337	-0.000000
338	-0.000000
339	-4.386598
340	-0.106482
341	21.868885
342	2.125204
343	6.304868
344	7.038576
345	7.750264
346	-1.067255
347	-0.000000
348	3.403010
349	-1.166289
350	-0.000000
351	4.386598
352	0.106482
353	-0.000000

Continua na próxima página



Coordenada y	Valor y
354	-314.565320
355	-0.000000
356	-2.555565
357	-0.000000
358	-0.636716
359	6.676452
360	-1.067523
361	-0.000000
362	-0.000000
363	-0.000000
364	-0.000000
365	-0.000000
366	-0.000000
367	-0.000000
368	-0.000000
369	-0.000000
370	-2.557910
371	-0.066117
372	14.995390
373	1.297292
374	3.887921
375	4.141810
376	4.646482
377	-0.942278
378	-0.000000
379	2.113002
380	-0.726349
381	-0.000000
382	2.557910
383	0.066117
384	-0.000000
385	-314.565320
386	-0.000000
387	-1.586805
388	-0.000000
389	-0.135924
390	-1.067523
391	-0.000000
392	-0.000000
393	-0.000000
394	-0.000000
395	-0.000000
396	-0.000000
397	-0.000000
398	-0.000000
399	-0.000000
400	-1.588261
401	-0.041053
402	10.495234

Continúa na próxima página

Coordenada y	Valor y
403	0.975576
404	2.597363
405	2.597363
406	2.885100
407	-0.775070
408	-0.000000
409	1.227967
410	-0.650056
411	-0.000000
412	1.588261
413	0.041053
414	-0.000000
415	-314.565320
416	-0.000000
417	-0.000000
418	-0.000000
419	-0.000000
420	-1.067523
421	-0.000000
422	-0.000000
423	-0.000000
424	-0.000000
425	-0.000000
426	-0.000000
427	-0.000000
428	-0.000000
429	-0.000000
430	-1.048583
431	-0.025491
432	7.511140
433	0.807248
434	1.643120
435	1.643120
436	1.791420
437	-0.565079
438	-0.000000
439	0.632896
440	-0.639474
441	-0.000000
442	1.048583
443	0.025491
444	-0.000000
445	-314.565320
446	-0.000000
447	-0.000000
448	-0.000000
449	-0.000000
450	-1.067523
451	-0.000000

Continua na próxima página

Coordenada y	Valor y
452	-0.000000
453	-0.000000
454	-0.000000
455	-0.000000
456	-0.000000
457	-0.000000
458	-0.000000
459	-0.000000
460	-1.112645
461	-0.014169
462	5.796755
463	0.666041
464	0.982291
465	0.982291
466	1.038400
467	-0.308898
468	-0.000000
469	0.239455
470	-0.602565
471	-0.000000
472	1.112645
473	0.014169
474	-0.000000
475	-314.565320
476	-0.000000
477	-0.000000
478	-0.000000
479	-0.000000
480	-1.067523
481	-0.000000
482	-0.000000
483	-0.000000
484	-0.000000
485	-0.000000
486	-0.000000
487	-0.000000
488	-0.000000
489	-0.000000
490	-62.913064

## 4 Observações

- O solver HiGHS foi configurado com o método IPM (Interior Point Method).
- Este arquivo contém a solução detalhada para o problema scrs8.
- As variáveis duais representam os multiplicadores de Lagrange das restrições.
- Os custos reduzidos (z) indicam o impacto de forçar variáveis não-básicas na base.