```
 1 /Users/Johnson/anaconda/envs/py27/bin/python "/Users/Johnson/
   Desktop/Courses/Applications Programming for Financial
   Engineering/projects/HW1/testerpy/arbtest8.py" big.dat.txt
   test-b.lp
 2
 3
 4 number of securities: 1000 number of scenarios 100 r 0.02
 5
 6
 7 now writing LP to file test-b.lp
 8 closing lp file
 9 wrote LP to file test-b.lp with code 0
10 solving LP in file test-b.lp with log file test.log
11 Academic license - for non-commercial use only
12 Optimize a model with 100 rows, 1001 columns and 100100
   nonzeros
13 Coefficient statistics:
14   Matrix range     [6e-02, 3e+01]
15   Objective range  [1e-01, 3e+01]
16   Bounds range     [1e+00, 1e+00]
17   RHS range        [0e+00, 0e+00]
18
19 Concurrent LP optimizer: dual simplex and barrier
20 Showing barrier log only...
21
22 Presolve time: 0.02s
23 Presolved: 100 rows, 1001 columns, 100100 nonzeros
24
25 Ordering time: 0.00s
26
27 Barrier statistics:
28  AA' NZ      : 4.950e+03
29  Factor NZ  : 5.050e+03
30  Factor Ops : 3.384e+05 (less than 1 second per iteration)
31  Threads    : 1
32
33                  Objective              Residual
34 Iter       Primal          Dual      Primal    Dual
   Compl     Time
35    0   7.33358834e+03 -1.86040752e+04  3.20e-01 3.55e-15  1.
   33e+01     0s
36    1   5.81186634e+00 -1.87292656e+03  0.00e+00 4.26e-14  8.
   94e-01     0s
37    2  -8.69373432e+01 -3.44307719e+02  0.00e+00 3.20e-14  1.
   22e-01     0s
38    3  -1.83306841e+02 -2.24363016e+02  0.00e+00 2.49e-14  1.
   95e-02     0s
```

```
39      4  -2.03231821e+02 -2.10876509e+02   0.00e+00 2.49e-14  3.64e-03      0s
40      5  -2.07202082e+02 -2.08519480e+02   0.00e+00 3.20e-14  6.27e-04      0s
41      6  -2.07950178e+02 -2.08260690e+02   0.00e+00 2.49e-14  1.48e-04      0s
42      7  -2.08128826e+02 -2.08207558e+02   0.00e+00 3.20e-14  3.75e-05      0s
43      8  -2.08169605e+02 -2.08195023e+02   0.00e+00 3.55e-14  1.21e-05      0s
44      9  -2.08184078e+02 -2.08192349e+02   0.00e+00 2.84e-14  3.94e-06      0s
45     10  -2.08189905e+02 -2.08191240e+02   0.00e+00 2.49e-14  6.35e-07      0s
46     11  -2.08191013e+02 -2.08191029e+02   0.00e+00 3.91e-14  7.81e-09      0s
47     12  -2.08191021e+02 -2.08191021e+02   8.08e-09 2.49e-14  1.41e-11      0s
48
49 Barrier solved model in 12 iterations and 0.11 seconds
50 Optimal objective -2.08191021e+02
51
52 Crossover log...
53
54         0 DPushes remaining with DInf 0.0000000e+00                 0s
55
56         0 PPushes remaining with PInf 0.0000000e+00                 0s
57
58   Push phase complete: Pinf 0.0000000e+00, Dinf 7.9507668e-13      0s
59
60 Iteration      Objective        Primal Inf.     Dual Inf.      Time
61         3  -2.0819102e+02   0.000000e+00    0.000000e+00       0s
62         3  -2.0819102e+02   0.000000e+00    0.000000e+00       0s
63
64 Solved with barrier
65 Solved in 3 iterations and 0.12 seconds
66 Optimal objective -2.081910212e+02
67 x0 = 1.0
68 x1 = 1.0
69 x2 = 0.269768268821
70 x3 = -1.0
```

```
 71  x4 = 1.0
 72  x5 = −1.0
 73  x6 = 1.0
 74  x7 = 1.0
 75  x8 = 1.0
 76  x9 = 1.0
 77  x10 = 1.0
 78  x11 = −1.0
 79  x12 = 1.0
 80  x13 = 1.0
 81  x14 = −1.0
 82  x15 = −1.0
 83  x16 = −1.0
 84  x17 = 1.0
 85  x18 = −1.0
 86  x19 = 1.0
 87  x20 = 1.0
 88  x21 = −1.0
 89  x22 = −1.0
 90  x23 = −1.0
 91  x24 = −0.77187918791
 92  x25 = 1.0
 93  x26 = −1.0
 94  x27 = −1.0
 95  x28 = 1.0
 96  x29 = 1.0
 97  x30 = 1.0
 98  x31 = −1.0
 99  x32 = −1.0
100  x33 = −1.0
101  x34 = −1.0
102  x35 = −1.0
103  x36 = 1.0
104  x37 = −0.0519325506711
105  x38 = −1.0
106  x39 = 1.0
107  x40 = 1.0
108  x41 = 1.0
109  x42 = −1.0
110  x43 = 1.0
111  x44 = 1.0
112  x45 = 1.0
113  x46 = −1.0
114  x47 = −1.0
115  x48 = 0.662189061519
116  x49 = 1.0
117  x50 = 1.0
```

```
118 x51 = -1.0
119 x52 = 1.0
120 x53 = -0.65899484462
121 x54 = -1.0
122 x55 = 1.0
123 x56 = 1.0
124 x57 = 1.0
125 x58 = 1.0
126 x59 = -1.0
127 x60 = 1.0
128 x61 = 1.0
129 x62 = 1.0
130 x63 = 1.0
131 x64 = -1.0
132 x65 = 1.0
133 x66 = 1.0
134 x67 = -1.0
135 x68 = -1.0
136 x69 = 1.0
137 x70 = 1.0
138 x71 = 1.0
139 x72 = 0.824173914079
140 x73 = -1.0
141 x74 = -1.0
142 x75 = 1.0
143 x76 = -1.0
144 x77 = -1.0
145 x78 = -1.0
146 x79 = 1.0
147 x80 = 1.0
148 x81 = -1.0
149 x82 = -1.0
150 x83 = -1.0
151 x84 = -1.0
152 x85 = 0.6441241019
153 x86 = 1.0
154 x87 = 1.0
155 x88 = -1.0
156 x89 = -1.0
157 x90 = 1.0
158 x91 = 1.0
159 x92 = -1.0
160 x93 = -1.0
161 x94 = 1.0
162 x95 = 1.0
163 x96 = -1.0
164 x97 = -1.0
```

```
165 x98 = −1.0
166 x99 = −0.858786230239
167 x100 = −1.0
168 x101 = −1.0
169 x102 = 1.0
170 x103 = 1.0
171 x104 = 1.0
172 x105 = 1.0
173 x106 = −1.0
174 x107 = 1.0
175 x108 = 1.0
176 x109 = 1.0
177 x110 = 1.0
178 x111 = 1.0
179 x112 = −0.0960738576863
180 x113 = −1.0
181 x114 = −1.0
182 x115 = −1.0
183 x116 = −1.0
184 x117 = 1.0
185 x118 = 1.0
186 x119 = −1.0
187 x120 = 1.0
188 x121 = 1.0
189 x122 = 1.0
190 x123 = −1.0
191 x124 = 1.0
192 x125 = 1.0
193 x126 = −1.0
194 x127 = −1.0
195 x128 = 1.0
196 x129 = 0.307913558053
197 x130 = −1.0
198 x131 = 1.0
199 x132 = 1.0
200 x133 = 1.0
201 x134 = 1.0
202 x135 = −0.667308288743
203 x136 = −1.0
204 x137 = 1.0
205 x138 = −1.0
206 x139 = 0.183832751502
207 x140 = 0.649050744229
208 x141 = 1.0
209 x142 = 1.0
210 x143 = −1.0
211 x144 = −0.110035567979
```

```
212  x145 = −1.0
213  x146 = 1.0
214  x147 = −1.0
215  x148 = 1.0
216  x149 = 1.0
217  x150 = −1.0
218  x151 = −1.0
219  x152 = 1.0
220  x153 = 1.0
221  x154 = 1.0
222  x155 = 1.0
223  x156 = −0.451214562115
224  x157 = 1.0
225  x158 = 1.0
226  x159 = 1.0
227  x160 = 1.0
228  x161 = 1.0
229  x162 = −0.138104526388
230  x163 = −1.0
231  x164 = 1.0
232  x165 = 1.0
233  x166 = −1.0
234  x167 = −1.0
235  x168 = −1.0
236  x169 = −1.0
237  x170 = −1.0
238  x171 = 1.0
239  x172 = 1.0
240  x173 = −0.651092357715
241  x174 = 1.0
242  x175 = 1.0
243  x176 = −1.0
244  x177 = −1.0
245  x178 = −1.0
246  x179 = −1.0
247  x180 = −1.0
248  x181 = 1.0
249  x182 = 1.0
250  x183 = 1.0
251  x184 = 1.0
252  x185 = 1.0
253  x186 = 0.132790268874
254  x187 = −1.0
255  x188 = 1.0
256  x189 = −1.0
257  x190 = −1.0
258  x191 = −1.0
```

```
259 x192 = 1.0
260 x193 = −1.0
261 x194 = 1.0
262 x195 = −1.0
263 x196 = 1.0
264 x197 = −1.0
265 x198 = 1.0
266 x199 = 1.0
267 x200 = 1.0
268 x201 = 1.0
269 x202 = 1.0
270 x203 = 1.0
271 x204 = −1.0
272 x205 = −1.0
273 x206 = 1.0
274 x207 = 1.0
275 x208 = 1.0
276 x209 = 1.0
277 x210 = 1.0
278 x211 = 1.0
279 x212 = −1.0
280 x213 = −1.0
281 x214 = 1.0
282 x215 = −1.0
283 x216 = 1.0
284 x217 = 1.0
285 x218 = 1.0
286 x219 = 1.0
287 x220 = −1.0
288 x221 = 1.0
289 x222 = 1.0
290 x223 = 1.0
291 x224 = −1.0
292 x225 = 1.0
293 x226 = 1.0
294 x227 = 1.0
295 x228 = −1.0
296 x229 = 1.0
297 x230 = −1.0
298 x231 = −1.0
299 x232 = −1.0
300 x233 = −1.0
301 x234 = 1.0
302 x235 = −1.0
303 x236 = −1.0
304 x237 = −0.186214736616
305 x238 = −1.0
```

```
306 x239 = −0.376082912262
307 x240 = 1.0
308 x241 = 1.0
309 x242 = −0.826268111753
310 x243 = 1.0
311 x244 = 1.0
312 x245 = 1.0
313 x246 = 1.0
314 x247 = −1.0
315 x248 = −1.0
316 x249 = −1.0
317 x250 = 1.0
318 x251 = 1.0
319 x252 = 1.0
320 x253 = 1.0
321 x254 = 1.0
322 x255 = 1.0
323 x256 = 1.0
324 x257 = −1.0
325 x258 = 1.0
326 x259 = −1.0
327 x260 = 1.0
328 x261 = −1.0
329 x262 = 1.0
330 x263 = −1.0
331 x264 = −1.0
332 x265 = −1.0
333 x266 = 1.0
334 x267 = −1.0
335 x268 = 1.0
336 x269 = −1.0
337 x270 = −1.0
338 x271 = −1.0
339 x272 = −0.138792199454
340 x273 = 1.0
341 x274 = −1.0
342 x275 = −1.0
343 x276 = 1.0
344 x277 = 1.0
345 x278 = 1.0
346 x279 = −1.0
347 x280 = 1.0
348 x281 = 1.0
349 x282 = −1.0
350 x283 = 1.0
351 x284 = −1.0
352 x285 = 1.0
```

```
353 x286 = -0.592062012861
354 x287 = -1.0
355 x288 = 1.0
356 x289 = 1.0
357 x290 = -1.0
358 x291 = 1.0
359 x292 = 0.766427270383
360 x293 = 1.0
361 x294 = -1.0
362 x295 = 1.0
363 x296 = -1.0
364 x297 = -1.0
365 x298 = 0.30654009555
366 x299 = 1.0
367 x300 = -1.0
368 x301 = 1.0
369 x302 = -1.0
370 x303 = -1.0
371 x304 = 1.0
372 x305 = 1.0
373 x306 = 0.872090639475
374 x307 = -1.0
375 x308 = -1.0
376 x309 = 1.0
377 x310 = -1.0
378 x311 = -1.0
379 x312 = 1.0
380 x313 = -1.0
381 x314 = -1.0
382 x315 = -1.0
383 x316 = -1.0
384 x317 = 1.0
385 x318 = -1.0
386 x319 = 1.0
387 x320 = 1.0
388 x321 = -1.0
389 x322 = 1.0
390 x323 = 1.0
391 x324 = 0.206932292211
392 x325 = -1.0
393 x326 = -1.0
394 x327 = -1.0
395 x328 = -0.60444107123
396 x329 = 1.0
397 x330 = -1.0
398 x331 = 1.0
399 x332 = -1.0
```

```
400  x333 = 1.0
401  x334 = −1.0
402  x335 = 1.0
403  x336 = 1.0
404  x337 = −1.0
405  x338 = −0.0352055315999
406  x339 = −1.0
407  x340 = 1.0
408  x341 = 1.0
409  x342 = −0.614514149737
410  x343 = −0.0132153787047
411  x344 = −1.0
412  x345 = 1.0
413  x346 = −1.0
414  x347 = 0.120279457131
415  x348 = −0.66494697068
416  x349 = −1.0
417  x350 = −1.0
418  x351 = −1.0
419  x352 = 1.0
420  x353 = −1.0
421  x354 = 1.0
422  x355 = −1.0
423  x356 = 1.0
424  x357 = 1.0
425  x358 = −1.0
426  x359 = 1.0
427  x360 = 1.0
428  x361 = 1.0
429  x362 = 1.0
430  x363 = −1.0
431  x364 = 1.0
432  x365 = 1.0
433  x366 = −1.0
434  x367 = −1.0
435  x368 = −1.0
436  x369 = −1.0
437  x370 = −1.0
438  x371 = 1.0
439  x372 = 1.0
440  x373 = 1.0
441  x374 = 1.0
442  x375 = −0.994683441086
443  x376 = 1.0
444  x377 = 1.0
445  x378 = 1.0
446  x379 = 1.0
```

```
447  x380 = −1.0
448  x381 = −1.0
449  x382 = −1.0
450  x383 = 0.981174091629
451  x384 = 0.600660624818
452  x385 = −1.0
453  x386 = −0.286032406524
454  x387 = −1.0
455  x388 = 1.0
456  x389 = 1.0
457  x390 = −1.0
458  x391 = 1.0
459  x392 = −1.0
460  x393 = −1.0
461  x394 = 1.0
462  x395 = 1.0
463  x396 = −1.0
464  x397 = −1.0
465  x398 = 1.0
466  x399 = 1.0
467  x400 = 1.0
468  x401 = 1.0
469  x402 = −1.0
470  x403 = 1.0
471  x404 = 1.0
472  x405 = 1.0
473  x406 = 0.820474337955
474  x407 = −1.0
475  x408 = 1.0
476  x409 = −1.0
477  x410 = −1.0
478  x411 = −1.0
479  x412 = −1.0
480  x413 = −1.0
481  x414 = 1.0
482  x415 = −1.0
483  x416 = −1.0
484  x417 = 1.0
485  x418 = 1.0
486  x419 = −1.0
487  x420 = 1.0
488  x421 = 1.0
489  x422 = −1.0
490  x423 = −1.0
491  x424 = 1.0
492  x425 = 1.0
493  x426 = −1.0
```

```
494 x427 = −1.0
495 x428 = 1.0
496 x429 = −1.0
497 x430 = −1.0
498 x431 = 1.0
499 x432 = −1.0
500 x433 = 0.923512534415
501 x434 = 1.0
502 x435 = 1.0
503 x436 = 1.0
504 x437 = −1.0
505 x438 = −1.0
506 x439 = −1.0
507 x440 = −1.0
508 x441 = 1.0
509 x442 = −1.0
510 x443 = 1.0
511 x444 = 1.0
512 x445 = 1.0
513 x446 = 1.0
514 x447 = −1.0
515 x448 = −1.0
516 x449 = 0.184655227731
517 x450 = 1.0
518 x451 = 1.0
519 x452 = −1.0
520 x453 = 1.0
521 x454 = −1.0
522 x455 = 1.0
523 x456 = 1.0
524 x457 = −1.0
525 x458 = 1.0
526 x459 = −0.82163734841
527 x460 = −1.0
528 x461 = 1.0
529 x462 = 0.843095321283
530 x463 = 0.77684028036
531 x464 = −1.0
532 x465 = −1.0
533 x466 = −1.0
534 x467 = 1.0
535 x468 = −1.0
536 x469 = 0.896539941072
537 x470 = −1.0
538 x471 = −1.0
539 x472 = 1.0
540 x473 = −1.0
```

```
541 x474 = 1.0
542 x475 = 0.043111223404
543 x476 = 1.0
544 x477 = −1.0
545 x478 = 1.0
546 x479 = 1.0
547 x480 = 1.0
548 x481 = −1.0
549 x482 = 1.0
550 x483 = 1.0
551 x484 = 1.0
552 x485 = −0.061850336873
553 x486 = −1.0
554 x487 = −1.0
555 x488 = 1.0
556 x489 = −1.0
557 x490 = 1.0
558 x491 = 1.0
559 x492 = −1.0
560 x493 = 1.0
561 x494 = 1.0
562 x495 = −1.0
563 x496 = 1.0
564 x497 = −1.0
565 x498 = 0.174111493468
566 x499 = −1.0
567 x500 = −1.0
568 x501 = −1.0
569 x502 = −1.0
570 x503 = −0.197782396766
571 x504 = 1.0
572 x505 = 1.0
573 x506 = 1.0
574 x507 = −1.0
575 x508 = 1.0
576 x509 = −1.0
577 x510 = −1.0
578 x511 = −1.0
579 x512 = −1.0
580 x513 = −1.0
581 x514 = −1.0
582 x515 = −1.0
583 x516 = −1.0
584 x517 = −1.0
585 x518 = −1.0
586 x519 = −1.0
587 x520 = −1.0
```

```
588 x521 = 1.0
589 x522 = -1.0
590 x523 = -1.0
591 x524 = 1.0
592 x525 = -1.0
593 x526 = 1.0
594 x527 = 1.0
595 x528 = -1.0
596 x529 = -1.0
597 x530 = -1.0
598 x531 = -1.0
599 x532 = -1.0
600 x533 = -1.0
601 x534 = -1.0
602 x535 = -1.0
603 x536 = -1.0
604 x537 = 0.202437232843
605 x538 = -1.0
606 x539 = -1.0
607 x540 = 1.0
608 x541 = -1.0
609 x542 = 0.112158127005
610 x543 = 1.0
611 x544 = -1.0
612 x545 = -1.0
613 x546 = 1.0
614 x547 = 1.0
615 x548 = -1.0
616 x549 = 1.0
617 x550 = 1.0
618 x551 = 1.0
619 x552 = 1.0
620 x553 = 1.0
621 x554 = -1.0
622 x555 = -1.0
623 x556 = -0.873728847816
624 x557 = -1.0
625 x558 = -0.841173855761
626 x559 = 1.0
627 x560 = 1.0
628 x561 = -1.0
629 x562 = -1.0
630 x563 = 1.0
631 x564 = -1.0
632 x565 = 1.0
633 x566 = -1.0
634 x567 = 1.0
```

```
635 x568 = −1.0
636 x569 = −1.0
637 x570 = −1.0
638 x571 = 1.0
639 x572 = −1.0
640 x573 = −1.0
641 x574 = −1.0
642 x575 = −1.0
643 x576 = −1.0
644 x577 = −1.0
645 x578 = −1.0
646 x579 = −1.0
647 x580 = −0.819395583299
648 x581 = 1.0
649 x582 = −1.0
650 x583 = 0.825275493773
651 x584 = −0.43457686946
652 x585 = −0.261332495608
653 x586 = −1.0
654 x587 = 1.0
655 x588 = 1.0
656 x589 = 1.0
657 x590 = −1.0
658 x591 = 0.707983590917
659 x592 = 1.0
660 x593 = 1.0
661 x594 = 1.0
662 x595 = 1.0
663 x596 = −1.0
664 x597 = −0.476890876725
665 x598 = 1.0
666 x599 = −1.0
667 x600 = −1.0
668 x601 = 1.0
669 x602 = −1.0
670 x603 = −1.0
671 x604 = 0.532169556507
672 x605 = 0.048709593936
673 x606 = 1.0
674 x607 = −1.0
675 x608 = 1.0
676 x609 = −1.0
677 x610 = −1.0
678 x611 = −1.0
679 x612 = 0.124749208353
680 x613 = −1.0
681 x614 = 1.0
```

```
682 x615 = −1.0
683 x616 = −1.0
684 x617 = −1.0
685 x618 = 1.0
686 x619 = −1.0
687 x620 = −1.0
688 x621 = 1.0
689 x622 = 1.0
690 x623 = 1.0
691 x624 = 1.0
692 x625 = 1.0
693 x626 = 1.0
694 x627 = −1.0
695 x628 = −1.0
696 x629 = 1.0
697 x630 = 1.0
698 x631 = −1.0
699 x632 = 1.0
700 x633 = −1.0
701 x634 = −1.0
702 x635 = −1.0
703 x636 = −1.0
704 x637 = −1.0
705 x638 = 1.0
706 x639 = −1.0
707 x640 = −1.0
708 x641 = 1.0
709 x642 = −1.0
710 x643 = 1.0
711 x644 = −1.0
712 x645 = −1.0
713 x646 = −1.0
714 x647 = −1.0
715 x648 = −1.0
716 x649 = −0.317802903225
717 x650 = −1.0
718 x651 = −1.0
719 x652 = −1.0
720 x653 = −1.0
721 x654 = 1.0
722 x655 = −1.0
723 x656 = −1.0
724 x657 = 1.0
725 x658 = 0.731739265295
726 x659 = −1.0
727 x660 = 1.0
728 x661 = −1.0
```

```
729  x662 = 1.0
730  x663 = -1.0
731  x664 = -1.0
732  x665 = 1.0
733  x666 = 1.0
734  x667 = -0.218621103476
735  x668 = 1.0
736  x669 = -1.0
737  x670 = 1.0
738  x671 = 1.0
739  x672 = 1.0
740  x673 = -1.0
741  x674 = 1.0
742  x675 = -1.0
743  x676 = 1.0
744  x677 = -1.0
745  x678 = -1.0
746  x679 = 1.0
747  x680 = 1.0
748  x681 = 1.0
749  x682 = 1.0
750  x683 = 0.529820920869
751  x684 = 1.0
752  x685 = -0.421921705857
753  x686 = 1.0
754  x687 = 1.0
755  x688 = -1.0
756  x689 = 1.0
757  x690 = -1.0
758  x691 = -1.0
759  x692 = -0.203988654443
760  x693 = 1.0
761  x694 = -1.0
762  x695 = 1.0
763  x696 = 1.0
764  x697 = 1.0
765  x698 = -1.0
766  x699 = 1.0
767  x700 = -1.0
768  x701 = 1.0
769  x702 = -1.0
770  x703 = 1.0
771  x704 = 1.0
772  x705 = -1.0
773  x706 = 1.0
774  x707 = -1.0
775  x708 = 1.0
```

```
776  x709 = 1.0
777  x710 = 1.0
778  x711 = 1.0
779  x712 = 0.0927302610826
780  x713 = 0.485296427228
781  x714 = −1.0
782  x715 = −0.962863287937
783  x716 = 1.0
784  x717 = −1.0
785  x718 = 0.349482259058
786  x719 = −1.0
787  x720 = 1.0
788  x721 = −0.0112480687256
789  x722 = 1.0
790  x723 = 0.41667428137
791  x724 = −1.0
792  x725 = −1.0
793  x726 = −1.0
794  x727 = 1.0
795  x728 = −1.0
796  x729 = 1.0
797  x730 = 1.0
798  x731 = 1.0
799  x732 = 1.0
800  x733 = −1.0
801  x734 = 0.565789350902
802  x735 = −1.0
803  x736 = −1.0
804  x737 = 1.0
805  x738 = 1.0
806  x739 = −1.0
807  x740 = 0.695844379856
808  x741 = 0.551129014912
809  x742 = −1.0
810  x743 = 1.0
811  x744 = −1.0
812  x745 = −1.0
813  x746 = −1.0
814  x747 = −1.0
815  x748 = 1.0
816  x749 = −1.0
817  x750 = 1.0
818  x751 = −1.0
819  x752 = 1.0
820  x753 = 1.0
821  x754 = −1.0
822  x755 = 1.0
```

```
823  x756 = -1.0
824  x757 = 1.0
825  x758 = 1.0
826  x759 = -1.0
827  x760 = -0.137566612044
828  x761 = 1.0
829  x762 = 1.0
830  x763 = -0.897711523158
831  x764 = -1.0
832  x765 = 1.0
833  x766 = -1.0
834  x767 = -1.0
835  x768 = 1.0
836  x769 = -1.0
837  x770 = -1.0
838  x771 = -0.962369752943
839  x772 = 1.0
840  x773 = -1.0
841  x774 = -1.0
842  x775 = 1.0
843  x776 = 1.0
844  x777 = -0.890564128133
845  x778 = -1.0
846  x779 = -1.0
847  x780 = 1.0
848  x781 = -1.0
849  x782 = -1.0
850  x783 = -1.0
851  x784 = 1.0
852  x785 = -0.214132736151
853  x786 = 1.0
854  x787 = 1.0
855  x788 = -1.0
856  x789 = 1.0
857  x790 = -1.0
858  x791 = -1.0
859  x792 = -0.749660526254
860  x793 = 1.0
861  x794 = -0.889972596274
862  x795 = 1.0
863  x796 = -1.0
864  x797 = -1.0
865  x798 = 1.0
866  x799 = -1.0
867  x800 = 1.0
868  x801 = -0.847258715238
869  x802 = -1.0
```

```
870 x803 = 1.0
871 x804 = 1.0
872 x805 = -1.0
873 x806 = -1.0
874 x807 = 1.0
875 x808 = -1.0
876 x809 = -1.0
877 x810 = 1.0
878 x811 = -1.0
879 x812 = -1.0
880 x813 = 1.0
881 x814 = -0.98491981339
882 x815 = 1.0
883 x816 = 1.0
884 x817 = 1.0
885 x818 = 1.0
886 x819 = 1.0
887 x820 = 1.0
888 x821 = -0.393433768612
889 x822 = -1.0
890 x823 = 1.0
891 x824 = 1.0
892 x825 = -1.0
893 x826 = 1.0
894 x827 = -1.0
895 x828 = 1.0
896 x829 = -1.0
897 x830 = 1.0
898 x831 = 1.0
899 x832 = 1.0
900 x833 = 1.0
901 x834 = 1.0
902 x835 = 1.0
903 x836 = -1.0
904 x837 = -1.0
905 x838 = 1.0
906 x839 = 1.0
907 x840 = 1.0
908 x841 = -1.0
909 x842 = 1.0
910 x843 = 1.0
911 x844 = 1.0
912 x845 = -0.647397548809
913 x846 = -1.0
914 x847 = -1.0
915 x848 = 1.0
916 x849 = -1.0
```

```
917 x850 = -1.0
918 x851 = -1.0
919 x852 = -1.0
920 x853 = 1.0
921 x854 = -1.0
922 x855 = 1.0
923 x856 = -1.0
924 x857 = -1.0
925 x858 = 1.0
926 x859 = -1.0
927 x860 = 1.0
928 x861 = 1.0
929 x862 = 1.0
930 x863 = -1.0
931 x864 = 1.0
932 x865 = 1.0
933 x866 = 1.0
934 x867 = 1.0
935 x868 = -1.0
936 x869 = -1.0
937 x870 = -1.0
938 x871 = -0.227165873056
939 x872 = -0.723583833674
940 x873 = 1.0
941 x874 = -1.0
942 x875 = -1.0
943 x876 = -1.0
944 x877 = 1.0
945 x878 = -1.0
946 x879 = -1.0
947 x880 = -1.0
948 x881 = 1.0
949 x882 = -0.702414531598
950 x883 = -1.0
951 x884 = -1.0
952 x885 = -1.0
953 x886 = 1.0
954 x887 = -1.0
955 x888 = -1.0
956 x889 = -1.0
957 x890 = 1.0
958 x891 = -1.0
959 x892 = 1.0
960 x893 = -1.0
961 x894 = 1.0
962 x895 = 1.0
963 x896 = -1.0
```

```
 964  x897 = 1.0
 965  x898 = −0.799818602113
 966  x899 = −1.0
 967  x900 = −1.0
 968  x901 = −0.13291545496
 969  x902 = 1.0
 970  x903 = 1.0
 971  x904 = −1.0
 972  x905 = −1.0
 973  x906 = 1.0
 974  x907 = −1.0
 975  x908 = 0.946574509274
 976  x909 = −1.0
 977  x910 = −1.0
 978  x911 = −1.0
 979  x912 = −1.0
 980  x913 = −1.0
 981  x914 = 1.0
 982  x915 = 1.0
 983  x916 = 1.0
 984  x917 = −1.0
 985  x918 = −1.0
 986  x919 = −1.0
 987  x920 = 1.0
 988  x921 = 0.446083791684
 989  x922 = −1.0
 990  x923 = 1.0
 991  x924 = 1.0
 992  x925 = −1.0
 993  x926 = 1.0
 994  x927 = −1.0
 995  x928 = −1.0
 996  x929 = −1.0
 997  x930 = 1.0
 998  x931 = 1.0
 999  x932 = −1.0
1000  x933 = −0.870375282309
1001  x934 = −1.0
1002  x935 = −1.0
1003  x936 = 1.0
1004  x937 = 1.0
1005  x938 = −1.0
1006  x939 = −1.0
1007  x940 = −1.0
1008  x941 = −1.0
1009  x942 = −1.0
1010  x943 = −1.0
```

```
1011 x944 = −1.0
1012 x945 = −1.0
1013 x946 = −1.0
1014 x947 = 1.0
1015 x948 = 1.0
1016 x949 = −1.0
1017 x950 = −1.0
1018 x951 = 1.0
1019 x952 = 1.0
1020 x953 = 0.485805414622
1021 x954 = −1.0
1022 x955 = 1.0
1023 x956 = −1.0
1024 x957 = 1.0
1025 x958 = −1.0
1026 x959 = 1.0
1027 x960 = 1.0
1028 x961 = −1.0
1029 x962 = −1.0
1030 x963 = −1.0
1031 x964 = 1.0
1032 x965 = 1.0
1033 x966 = 1.0
1034 x967 = −0.815341259216
1035 x968 = 1.0
1036 x969 = 1.0
1037 x970 = −1.0
1038 x971 = 1.0
1039 x972 = 1.0
1040 x973 = −1.0
1041 x974 = −1.0
1042 x975 = 1.0
1043 x976 = 1.0
1044 x977 = −1.0
1045 x978 = −1.0
1046 x979 = 1.0
1047 x980 = 1.0
1048 x981 = −1.0
1049 x982 = 1.0
1050 x983 = −1.0
1051 x984 = 1.0
1052 x985 = 1.0
1053 x986 = 1.0
1054 x987 = 1.0
1055 x988 = 0.0724356680648
1056 x989 = −0.793102412478
1057 x990 = 1.0
```

```
1058 x991 = -1.0
1059 x992 = 1.0
1060 x993 = -1.0
1061 x994 = 1.0
1062 x995 = 1.0
1063 x996 = -1.0
1064 x997 = -1.0
1065 x998 = -1.0
1066 x999 = 1.0
1067 x1000 = 1.0
1068 solved LP at test-b.lp with code 0
1069 score     counts
1070 0         0    |
1071 1         0    |
1072 2         0    |
1073 3         0    |
1074 4         0    |
1075 5         0    |
1076 6         0    |
1077 7         0    |
1078 8         0    |
1079 9         0    |
1080 10        0    |
1081 11        0    |
1082 12        0    |
1083 13        0    |
1084 14        0    |
1085 15        0    |
1086 16        0    |
1087 17        0    |
1088 18        0    |
1089 19        0    |
1090 20        0    |
1091 21        0    |
1092 22        0    |
1093 23        0    |
1094 24        0    |
1095 25        0    |
1096 26        0    |
1097 27        0    |
1098 28        0    |
1099 29        0    |
1100 30        0    |
1101 31        0    |
1102 32        0    |
1103 33        0    |
1104 34        0    |
```

```
1105  35        0    |
1106  36        1    |=
1107  37        1    |=
1108  38        1    |=
1109  39        0    |
1110  40        0    |
1111  41        1    |=
1112  42        5    |=====
1113  43        6    |======
1114  44        3    |===
1115  45        5    |=====
1116  46        4    |====
1117  47        1    |=
1118  48        6    |======
1119  49        7    |=======
1120  50        9    |=========
1121  51       15    |===============
1122  52        9    |=========
1123  53       11    |===========
1124  54        6    |======
1125  55        0    |
1126  56        4    |====
1127  57        2    |==
1128  58        1    |=
1129  59        1    |=
1130  60        0    |
1131  61        1    |=
1132  62        0    |
1133  63        0    |
1134  64        0    |
1135  65        0    |
1136  66        0    |
1137  67        0    |
1138  68        0    |
1139  69        0    |
1140  70        0    |
1141  71        0    |
1142  72        0    |
1143  73        0    |
1144  74        0    |
1145  75        0    |
1146  76        0    |
1147  77        0    |
1148  78        0    |
1149  79        0    |
1150  80        0    |
1151  81        0    |
```

```
1152 82        0      |
1153 83        0      |
1154 84        0      |
1155 85        0      |
1156 86        0      |
1157 87        0      |
1158 88        0      |
1159 89        0      |
1160 90        0      |
1161 91        0      |
1162 92        0      |
1163 93        0      |
1164 94        0      |
1165 95        0      |
1166 96        0      |
1167 97        0      |
1168 98        0      |
1169 99        0      |
1170 100       0      |
1171
1172 Process finished with exit code 0
1173
```